

Radio Unit Description

Description

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1 Product Overview

This document describes the Radio Units (RUs) for RBS 6000 systems.

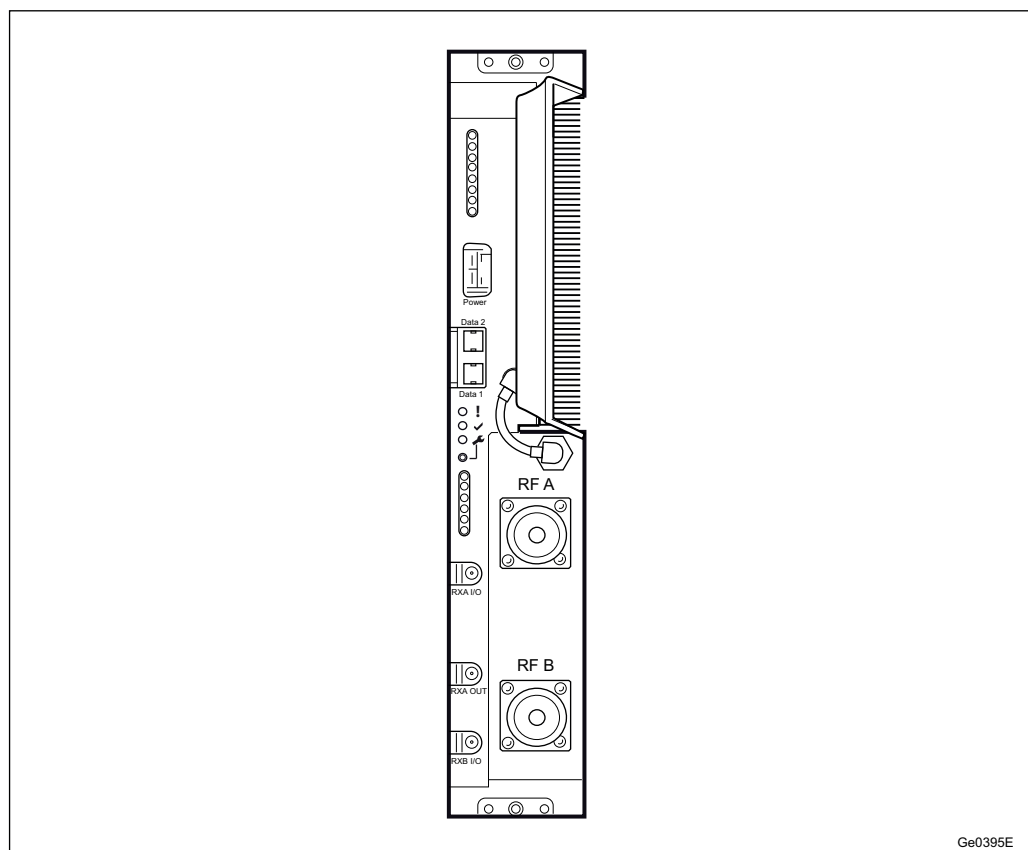
For information on location in the RBS cabinet, see *RBS Description*.

1.1 Purpose

The main purpose of the RU is to send and receive signals.

The RU receives digital data and converts it to analog radio signals. It also receives radio signals and converts these to digital signals.

Figure 1 and Figure 2 shows the interface of the RU.



Ge0395E

Figure 1 RU Front

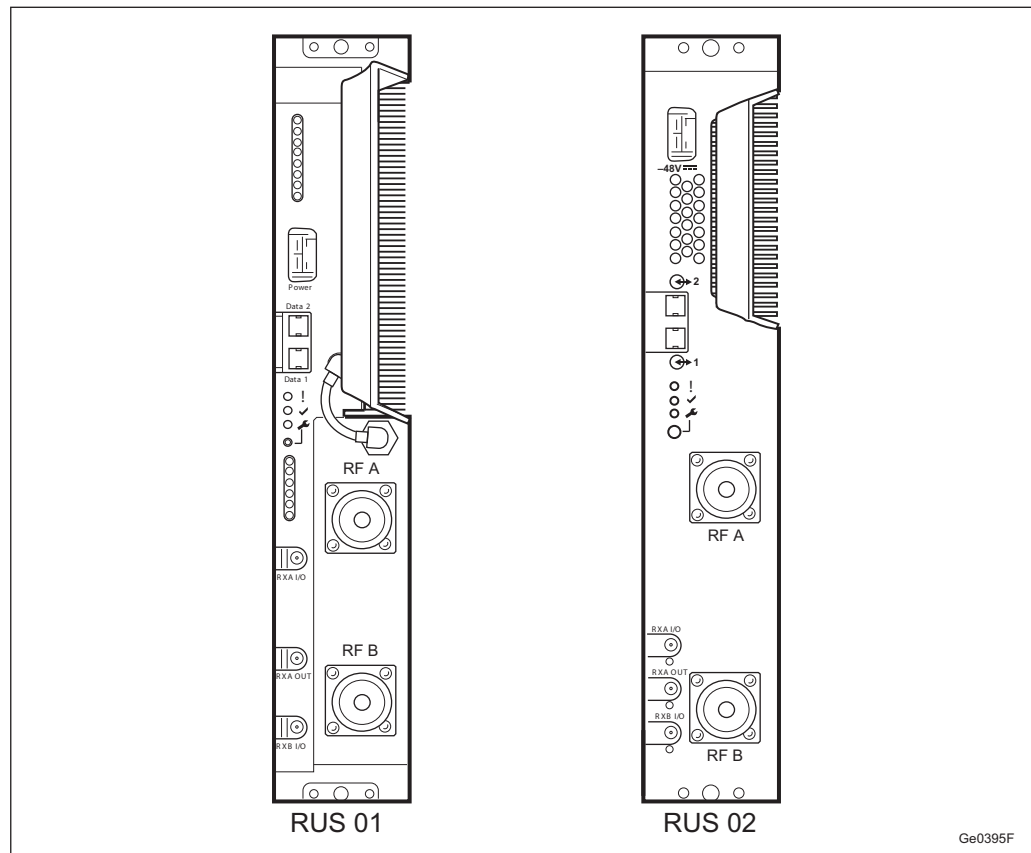


Figure 2 RUS Front

1.2 Variants

The following variants are available:

- RUS 01 B0
- RUS 01 B1
- RUS 01 B2
- RUS 01 B3
- RUS 01 B4
- RUS 01 B5
- RUS 01 B8
- RUS 01 B8A
- RUS 02 B1



- RUS 02 B2
- RUS 02 B3
- RUS 02 B5
- RUS 02 B8
- RUW 01 B1
- RUW 02 B11

Note: RUW 02 B11 can deploy 1 to 2 carriers LTE + LTE / WCDMA mixed mode configurations.

1.2.1 Naming Conventions

The name convention can be expressed as:

RU<t> <gg> <bb>

t = G | L | W | S; G for GSM, L for LTE, W for WCDMA, S for Multistandard

gg = generation; 01 and so on

bb = 3GPP band; B1 and so on

1.3 Warranty Seal

The unit is equipped with a warranty seal sticker.

Note: Seals that have been implemented by Ericsson shall not be broken or removed, as it otherwise will void warranty.

2 Function Description

The RU is certified for 60 W and 80 W. The default output power without license keys is 20 W. License keys are used to set the output power to 40 W, 60 W or 80 W.

Note: For 80 W output power, besides a license key, it is required that the hardware has 80 W capability.

The RU has the following functions:

- Transceiving Processing
- Uplink and downlink filtering
- Power Amplifier (PA) functions
- Up to four carriers downlink and uplink with 2-RX diversity
- Supports the function Remote Electrical Tilt (RET)
- Support for external antenna equipment such as Antenna System Controller (ASC), Tower Mounted Amplifier (TMA), Frequency Shifting Tower Mounted Amplifier (TMF), and RETU Interface Unit (RIU)

Figure 3 shows a general example of the block diagram of an RU.

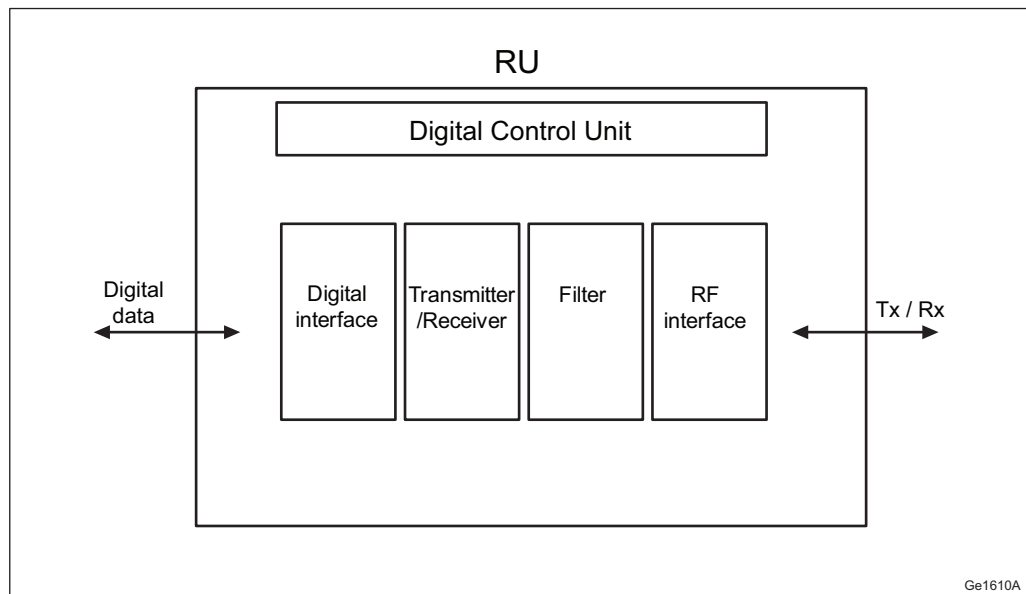


Figure 3 RU Block Diagram



2.1 Maintenance Button

See *Indicators, Buttons, and Switches* for information about the maintenance button.



3 Technical Data

Table 1 lists the technical data for the RUs.

Table 1 *RU Technical Data*

Technical Data	Maximum Nominal Output Power			Frequency			Maximum Heat Dissipation [W] (Extended Output)	Dimensions			
	Without license [W]	With license [W]	Extended Output with License [W]	Uplink [MHz]	Downlink [MHz]	Band		Height [mm]	Width [mm]	Depth [mm]	Weight [kg]
RUS 01 B0	20	60	-	890 to 915	935 to 960	0	310	350	61	310	7.7
RUS 01 B1	20	60	80	1920 to 1980	2110 to 2170	1	300 (310)	350	61	310	7.61
RUS 01 B2	20	60	80	1850 to 1910	1930 to 1990	2	310 (350)	350	61	310	7.56
RUS 01 B3	20	60	80	1710 to 1785	1805 to 1880	3	310 (350)	350	61	310	7.8
RUS 01 B4	20	60	80	1710 to 1755	2110 to 2155	4	310	350	61	310	7.50
RUS 01 B5	20	60	80	824 to 849	869 to 894	5	310 (350)	350	61	310	7.95
RUS 01 B7	20	40	-	2500 to 2570	2620 to 2690	7	310	350	62	280	<7.5
RUS 01 B8	20	60	80	880 to 915	925 to 960	8	310	350	61	310	7.65
RUS 01 B8A	20	60	80	889 to 915	934 to 960	8A	310	350	61	310	7.83
RUS 02 B1	20	80	100	1930 to 1990	2110 to 2170	1	400	350	61	326	7.13
RUS 02 B2	20	80	-	1850 to 1910	1930 to 1990	2	420 ⁽¹⁾	350	61	326	7.3
RUS 02 B3	20	80	-	1710 to 1785	1805 to 1880	3	420 ⁽¹⁾	350	61	326	7.3
RUS 02 B5	20	80	100	824 to 849	869 to 894	5	400	350	61	326	7.13
RUS 02 B8	20	80	100	880 to 915	925 to 960	8	400	350	61	326	7.3
RUW 01 B1	20	60	-	1920 to 1980	2110 to 2170	1	310	350	62	280	<7.5
RUW 02 B11	20	60	-	1427 to 1437	1475 to 1485	11	310	350	62	280	<7.5

(1) For 80 W license.



4 Signal and Power Interfaces

Table 2 lists the details for the external interfaces on the RU.

Table 2 RU Front Interfaces

Marking	Description	Connector
RF A	Transmitting/Receiving RF DC power to ASC, TMA, TMF, RIU; modem data	7/16
RF B	Receiving RF DC power to ASC, TMA, TMF, RIU; modem data	
RXA I/O	RXA cross connect output, external input	QMA
RXA Out	RXA co-site output	
RXB I/O	RXB cross connect input, RXB co-site output	
F	Fault. Red optical indicator. Renamed to  in later versions	—
O	Operational. Green optical indicator. Renamed to  in later versions	
I	Information. Yellow optical indicator. Renamed to M or  and changed color to blue in later versions. Do not touch the Maintenance button when this indicator is blinking	
	Fault. Red optical indicator.	
	Operational. Green optical indicator.	
	Information. Blue optical indicator. Do not touch the Maintenance button when this indicator is blinking	
	Maintenance button. Do not touch when the Information indicator is blinking	
Data 1	BBCLK, BFN, ECP, gamma data, modem data ASC/RET and electrical CPRI	FCI 20 pin
Data 2		
Power	-48 V DC	Power

More information about optical indicators can be found in *Indicators, Buttons, and Switches*.



RXA and RXB Port Usage in Typical Cross-connect and Co-siting Configurations

Cross-connect RX A I/O (out): RF A RX signal to cross-connected unit.
RX B I/O (in): RX signal from cross-connected unit.

Co-site RX A out: RF A RX signal to co-sited RBS.
RX B I/O (out): RF B RX signal to co-sited RBS.

The I/O ports are configured individually by software as input or output.