RBS 2106 is a high capacity, compact outdoor macro radio base station supporting up to twelve transceivers per cabinet. It is possible to build one, two and three sector configurations including dual band configurations in one cabinet.

Being the latest member in the RBS 2000 family, RBS 2106 is to date the most powerful outdoor RBS in the world. Keeping the successful characteristics of the existing RBS 2000 portfolio and improving functionality as well as operation and maintenance makes the RBS 2106 a very cost-effective solution for growing GSM operators.

The RBS 2000 family supports a wide range of applications ranging from extreme coverage to extreme capacity. Being a RBS 2000 member guarantees coexistence with the installed base of RBS 200 and RBS 2000 products. Ericsson’s synchronization based BSS features ensure that transceivers from different generations of radio base stations can easily form common cells. Operators can therefore bridge the past with the future. By making existing sites futureproof, investments are protected while migrating to 3G.

Part of the grow-on-site concept

Since it is becoming increasingly difficult to find new base station sites, it is of great interest to remain on the existing sites as long as possible. Site space is often a limiting factor for capacity growth. The powerful RBS 2106, included in Ericsson’s grow-on-site toolbox, addresses this problem. On many sites, two or more existing cabinets can be replaced by one RBS 2106. This is of major importance, since it makes it possible to reuse the space to rollout WCDMA equipment. The RBS 2106 will pave the way for WCDMA.

Also interesting for new locations, the RBS 2106 offers a complete solution in stand-alone cabinet which rapidly can be implemented outdoors. All the units to run the RBS are included in this single cabinet, there is no need for an extra product.
Doubled capacity – superior performance – same footprint
The 12-transceiver RBS 2106 cabinet has the same footprint as RBS 2102, but has doubled the capacity, thanks to the new double-capacity transceivers and combiners. The RBS 2106 has better power than the current RBS 2000 products, which are the best on the market today. The improved radio performance means increased site-to-site distance, and therefore, fewer sites.

Another example of a cost saving feature is 121 km Extended Range. The RBS 2106 comes with a configuration switch unit, the CXU, and two extremely flexible combiners. Examples of configurations supported by the Filter Combiner (CDU-F) are 3x4, 2x6, 1x12 and dual band 8+4 in one cabinet. CDU-F supports up to 12 transceivers on one dual-polarized antenna. The other combiner (CDU-G) can be configured in two modes: capacity mode and coverage mode, making it very flexible. In coverage mode, the output power from the CDU-G is increased, making it perfect for rural sites or when fast rollout is required at a minimum cost.

Prepared for the future
The RBS 2000 family is prepared for GSM data services, including General Packet Radio Service (GPRS) and High Speed Circuit Switched Data (HSCSD) including 14.4 kbit/s timeslots. To meet the operators’ need for faster datacom solutions, RBS 2106 supports EDGE.

A powerful Distribution Switch Unit (DXU) and fast internal buses guarantee full EDGE support. With the optional BSS feature RBS 2000 synchronization, it is possible to have up to 32 transceivers in one cell. With the optional BSS feature RBS 200 and RBS 2000 in the same cell, it is possible to expand an existing RBS 200 cell with RBS 2106, and thereby introduce EDGE through plug-in units.

Key features
• Six double transceiver units (dTRU); that is, 12 transceivers
• Filter and hybrid combining one, two, or three sectors in one cabinet
• Excellent RF performance
• Synthesized and baseband frequency hopping
• Supports 12 transceiver EDGE on all timeslots
• Supports GSM 800, 900, 1800 and 1900 MHz
• Extended Range 121 km
• Duplexer and TMA support for all configurations
• Four transmission ports supporting up to 8 Mbit/s
• Optional built-in transmission equipment transmission
• Prepared for GPS assisted positioning services
• Internal or external battery backup
• Simple co-siting with WCDMA equipment
• Supports most common power systems
• Hardware independent of transmission interface
• Prepared for outdoor environment (wide range of temperatures / humidity)

Frequency band:
GSM 800, E-GSM 900, P-GSM 900, GSM 1800, GSM 1900
Tx:
Rx:
Number of transceivers (per cabinet):
2–12
Number of sectors:
1–3
Transmission interface:
1.5 Mbit/s (T1), 2 Mbit/s (E1), 75, 100, 120 Ohm
Dimension (H x W x D):
1614 x 1300 x 940 mm (63 1/2 x 51 1/5 x 37 in.) including installation frame
Weight without batteries:
560 kg (1235 lbs.)
Power into antenna feeder:
33 W / 45.2 dBm (GSM 800 / GSM 900)
25 W / 44.0 dBm (GSM 1800 / GSM 1900)
With TCC activated, add 2.5 dBm to above values
Receiver sensitivity:
-110,5 dBm (dynamic, without TMA and diversity gain)
Power supply:
200–250V AC, 50/60 Hz
Integrated battery backup:
30, 90 or 130 minutes when TM space is used
External battery backup:
Up to 6 hours (optional)
Operating temperature:
-33°C – +40°C (-27°F – +104°F) Eco cooling
-33°C – +45°C (-27°F – +113°F) Combo cooling
Weatherproofing:
Min level IP55 according to IEC/EN 60529
Min level 3R according to UL 50 and CSA C22.2 No. 94