

# UltraWAVE BS Plus

GSM Base Station Controller and Base Transceiver Station



UltraWAVE MSC, BSC and BTS work hand-in-hand to reduce the total cost of network ownership, providing a network growth path for existing and future customers, and expand the addressable markets of ADC's GSM products. They serve as the flagship GSM product line for ADC.

The UltraWAVE BS Plus is an integrated Base Station Controller (BSC) and Base Transceiver Station (BTS) in a single enclosure. A BS Plus can support up to seven external base stations with the total capacity of a few hundred to a couple of thousand subscribers depending on the traffic profile.

## Features:

- Integrated TRAU function
- Star or daisy chain configuration
- SMS and cell broadcasting
- Encryption (A5/0, A5/1, A5/2)
- Frequency hopping supported
- Sectorization supported
- GPRS supported (CS-1, CS-2, CS-3, CS-4)
- 2-way and 3-way combining options available

SPEC SHEET



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# UltraWAVE BS Plus

## GSM Base Station Controller and Base Transceiver Station

The UltraWAVE BS Plus supports up to twelve TRXs in one chassis or up to nine TRXs with external BTSs. With a single compact chassis, it can support an S444 site. It has the industry leading power amplifier at 50 Watts when configured for 850 MHz and 900 MHz GSM networks. UltraWAVE supports all the key BTS features, such as frequency hopping, sectorization, and GPRS. It provides sufficient capacity for urban high capacity coverage (up to S666) and is flexible enough to scale from S222 to S666 supporting the popular BTS configurations, S222 and S333. It increases the BTS coverage with industry leading power output (50W measured at antenna port without combining). Receive sensitivity with antenna diversity is up to -114 dBm. Designed for easy expansion of the BTS capacity, the UltraWAVE BS Plus is field upgradable. Operators can start with a small system and pay as they go to add capacity.

The UltraWAVE BS Plus is designed for low cost maintenance with remote monitoring, external alarms, overheating protection, redundant power supply, field replaceable modules, and easy front access. It can reduce the on-going operation expenses for the operators. An integrated turn-key BTS package option is available with transmission, battery, and other site equipment.

### Features

- Available in 850, 900, 1800 and 1900 MHz frequency bands
- Frequency hopping
- Sectorization
- General Packet Radio Service (GPRS)
- Dynamic power control (uplink and downlink)
- Significantly improved BTS sensitivity: -114 dBm (optimal combining diversity) or -111 dBm (no diversity)
- Remote monitoring: Temperature, fan, power supply (PSU), power amp, VSWR can be monitored from central office enabling remote diagnosis and quick recovery
- External alarms for third party equipment are also supported
- Optional redundant power supply with PSU failure alarm support
- -48 VDC power supply
- Integrated full rack solution available: UltraWAVE integrated with additional on-site equipment such as transmission, battery backup, etc. in one rack
- Common hardware modules: single slot TRX, ICP, RFU

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## Specifications

**BTS Configurations (single cabinet):** S222, S333, S444, O4, O6, O12  
**Frequency Support:** GSM 850 MHz, GSM 900 MHz, DCS 1800 MHz  
**Two Cabinets:** S666

### CAPACITY

**Number of TRXs:** 12 internal, 0 external; 6 internal, 30 external  
**Number of Traffic Channels:** 294  
**Traffic Capacity:** 238 Erlangs @ 2% GoS  
 9520 Subscribers @ 25 m Erlangs per subscriber  
**Output Power:** 50 Watts (antenna port)  
**RF Receiver Sensitivity:** -111dBm without diversity  
 -114 dBm with diversity

### INTERFACES

**MSC Link:** GSM Compliant A Interface; GSM Spec. 04.08, 08.08; ANSI 1992 CCITT 1988, 1992; BSSMAP, GSM 08.08 DTAP, GSM 04.07, 04.08, SCCP and MTP GSM spec 08.06  
**RF Interface:** GSM Compliant Um Interface; GSM Spec. 04.06, 04.08, 05.01- 05.05, 05.08 and 05.10; GSM spec 03.64, 04.60 (Rel 98)  
**BTS Link:** Abis Interface, GSM spec. 04.08, 08.58, 12.21  
**Transmission :** Dual Port G7.03 compliant E1 75/120 Ohm;  
 Dual Port T1.403 compliant T1 100 Ohm  
**Ethernet:** 10/100 Mbps Ethernet, RJ-45 connector  
**Serial Port:** RS232, RJ-45 connector

### OPERATION

**Remote Monitoring:** Monitor temperature, PA, fan, PSU, VWSR from central office;  
 External alarms supported  
**Overtemp Protection:** Automatic detection and intervention  
**Access to Equipment:** Front and rear access  
**Field Support:** All modules are field replaceable  
**Capacity Expansion:** Field upgradable support of various upgrades

### POWER SUPPLY

**Input Voltage:** -48 VDC  
**Redundancy:** Redundant power supply  
**Alarm:** PSU failure alarm reported OMC

### MECHANICAL

**Rack Mount:** Versatile mounting options for 19", 23" and 24" racks  
**Dimensions (HxWxD):** 1051 x 560 x 647 mm (41.8 x 22.05 x 25.5 inches)  
**Weight:** 213 kg (470 lbs)

### OPERATING ENVIRONMENT

**Temperature:** -5° to 55° C (23° to 113° F)  
**Humidity (non-condensing):** 10% to 90%

### COMPLIANCE

Part 15 and Part 22 of the FCC Rules. FCC ID OEWAUAC85  
 Industry Canada RS132 and SRPS-503. IC: 3300AUAC85  
 UL60950:2000, CAN/CSA-C22.2 No. 60950:2000; EN60950:2000;  
 CU and GS Approved; TUV file: 30368294.001; 30800294.002

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