

Communication Components Inc.



**Cell Extender for
Ericsson RBS 2301
Micro Base Stations**

**Communication
Components Inc.**

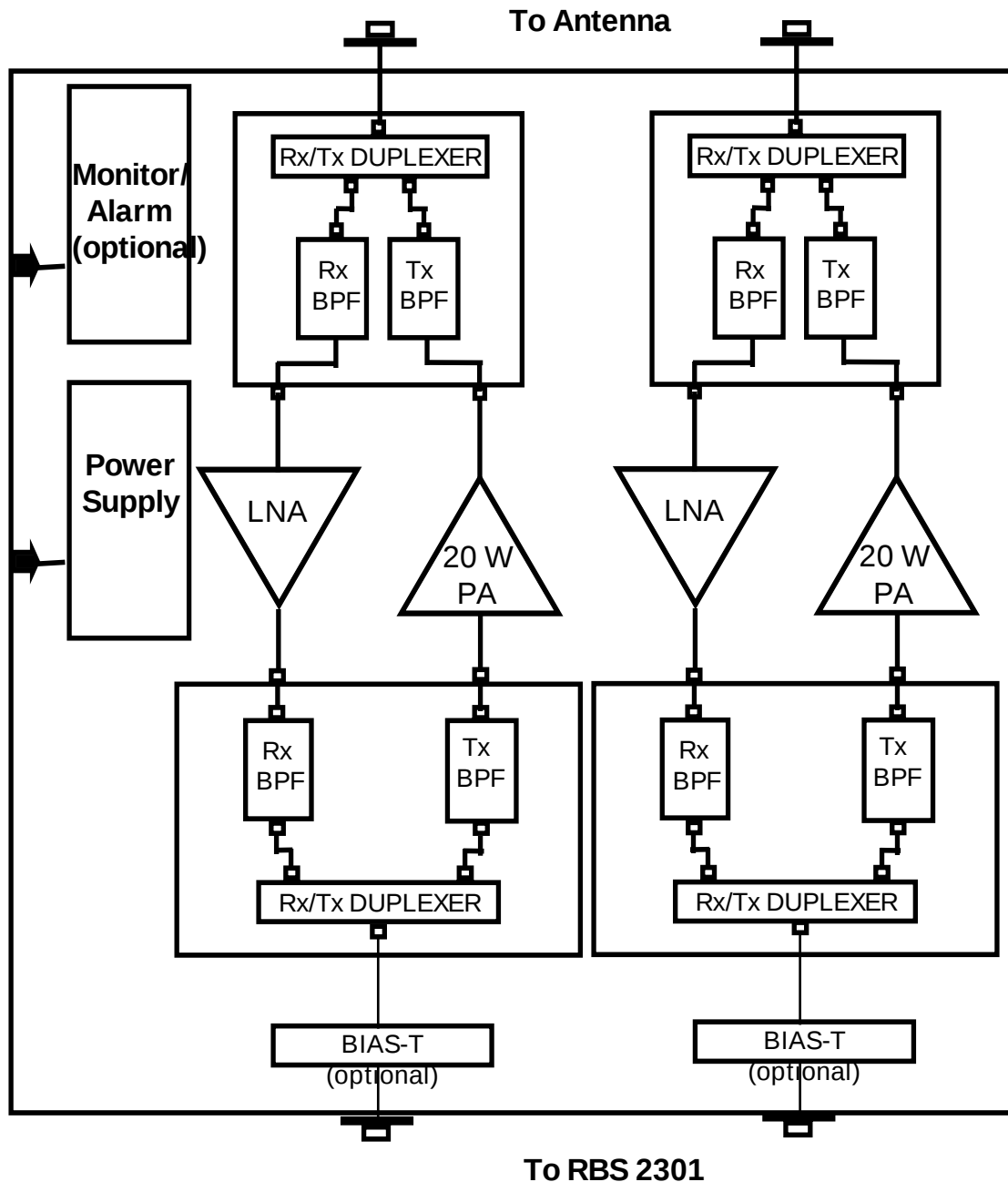
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RBS 2301 Cell Extender

BLOCK DIAGRAM



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CE-1819-20 Cell Extender System Specification

General Information:

Communication Component Inc.'s Cell Extender products are designed to extend the range and coverage area of Ericsson RBS 2301 Micro Base Stations in all GSM PCS applications. The Cell Extender boosts the output power of the RBS 2301 to match the levels of conventional Base Stations such as the RBS-2000 allowing for cost efficient implementation of high capacity radio networks. It also provides low-noise amplification of the receive signal to improve system sensitivity and to maintain a balanced link of the transmit and receive signals.

The Cell Extender is easy to install, requires no maintenance, and is fully compatible with Ericsson Base Station equipment. The Cell Extender offers the maximum installation flexibility by allowing the RBS2301 to be physically distanced from the antenna and mounting structure. This overcomes the key key installation drawback of the RBS2301 which requires both a T1 connection and an AC connection on the mounting structure. Three installation options are available:

- **Configuration 1** - The CE-1819-20 can be mounted on the same mounting structure directly underneath the Micro Base Station. This option is ideal when an existing RBS2301 site is being upgraded with a Cell Extender or when both AC and T1 connections are available on the mounting structure.
- **Configuration 2** - The RBS2301 is installed at ground level or indoors and the Cell Extender is mounted on the mounting structure, in close proximity to the antenna. This configuration is ideal for environments where AC lines and T1-connections are not easily available on the mounting structure or when it is desired to keep the RBS2301 indoors. For this configuration, the Cell Extender should be ordered with the *Remote Power Option* which includes a Bias-T and Remote Power Supply module to provide DC power to the Cell Extender over the Coax cable.
- **Configuration 3** - Both the RBS2301 and the Cell Extender are installed at the ground level or indoors. This is intended for applications where it is impractical to install any equipment other than the antenna on the mounting structure.

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Cell Extender System Specification

Description:

The Cell Extender is specifically designed for compatibility with the Ericsson RBS 2301 Base Station Equipment and is ensured to maintain the integrity of the GSM signal amplification. This is achieved by utilizing state-of-the-art LDMOS technology for amplification, monolithic Gallium-Arsenide technology low noise receive particular emphasis on low system group delay to minimize Bit-Error-Rate (BER) of transmissions.

The Cell Extender block consists of a single compact unit with four RF connectors single AC line for power. It is housed in a moisture proof NEMA 4X aluminum enclosure with integrated heat sinks and is suitable for either outdoor or indoor. The Cell Extender is designed to boost both low power transceivers (both cells) provided with RBS 2301. It contains redundant low noise amplifiers to boost the signals, redundant LDMOS-based high power amplifiers to boost the transmit signal, duplexers, an integrated power supply and alarm/control circuitry to monitor the the unit. The Cell Extender is powered by a conventional 110/220 VAC source or optionally DC-powered via the Coax cable using *Remote Power* .

Ordering

Model CE-1819-20

Options:

01: Single Channel
02: Monitoring
03: Remote Power Option (with internal
AD: A & D Block Operation
B: B Block Operation
C: C Block Operation

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Cell Extender System Specification

Electrical Specification

	<u>Up-Link</u>	<u>Down-Link</u>
• Model CE-1819-20 A&D Block:	1850-1870 MHz	1930-1950MHz
• Model CE-1819-20 B Block:	1870-1885 MHz	1950-1965MHz
• Model CE-1819-20 C Block:	1895-1910 MHz	1975-1990MHz
• Downlink:		
• System Gain	10 dB	
• Gain Flatness	± 0.5 dB Max	
• Output	20 Watts Min	
• 1 dB Compression	15 Watts Min	
• Input/Output	1.5:1 Max	
• Up-link	90 dB Min	
• Uplink:		
• System Gain	10 dB	
• Gain Flatness	± 0.5 dB Max	
• Noise Figure:	2.5 dB Max.	
• Output Third Order Intercept	+31 dBm Min.	
• Input/Output	1.5:1 Max	
• Down-link	90 dB Min	
• Operating	115/220VAC or 28VDC	
• Current	1.3 A @	

Mechanical Specifications

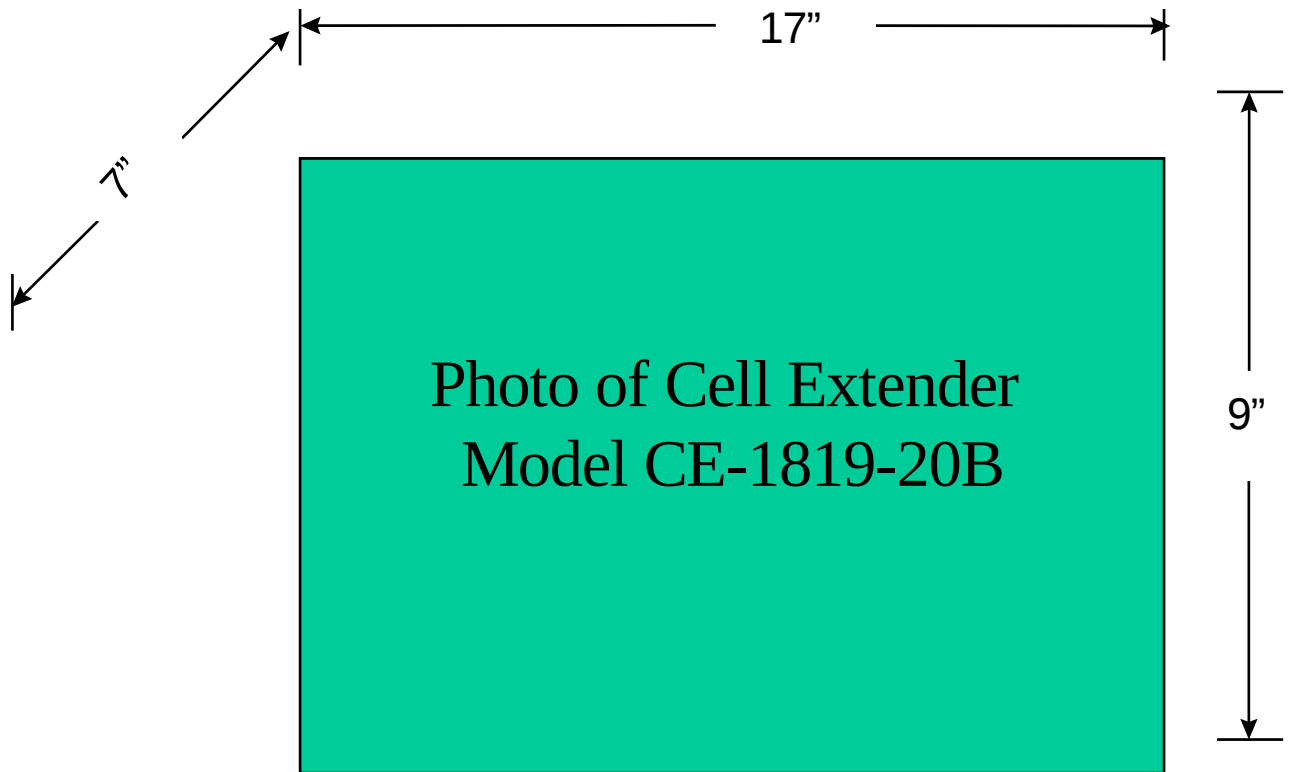
• Dimensions:	17"x 9"x 7"
• Enclosure:	NEMA 4X Aluminum Die-cast
• Connectors:	2 N Type female to RBS 2 7/16 DIN to Antenna
• Weight:	20 Lbs. Max.
• Mounting:	Mounting Studs

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Cell Extender Model CE-1819-20



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