

Specifications

Telephony Services

Voice coding	PCM to EVRC or QCELP
Voice band data	Fax G.3, asynchronous data
Extended services	Full transparency over V5.2 for: TAX Metering (12/16KHz) Reverse Polarity

Always-On Data Services	153.6kbps packet Data
--------------------------------	-----------------------

BS Plus

Frequency bands	450, 850, 1900, 2100MHz
Air protocol	CDMA-1X RTT 3GPP2 Release 0, IS-95
Sectors	Omni, 1 to 3
Carriers per sector	1 or 2 FA (FA-1.25MHz)
Transmit power	20 Watt at Antenna port per carrier per sector
IP network interface	100BaseT
Environmental	0 to +50°C, indoor
Rack dimensions	W-19" H-75" D-31"

Access Gateway

PSTN Interface	V5.2
Capacity	2 to 40E1
IP network interface	100BaseT

Trunk Gateway

PSTN interface	ISUP SS7 / ISDN PRI
Capacity	2 to 72E1 / T1
IP network interface	100BaseT

Operation, Maintenance & Control (OMC)

Platform	Linux / SUN based (Window/ PC optional)
Protocols	SNMP, Web based

Breeze2000™ for the Last Mile

Fixed CDMA-1X RTT

Breeze2000, is a future proof, IP-based CDMA 2000-1XRTT solution that provides wireless telephony and always-on data for mobile and fixed applications.

Focusing on the fixed residential market, the system provides an optimal solution for small to medium scale networks in urban, suburban and rural areas. Its distinctive distributed IP architecture minimizes operators' initial investment and expedites time-to-market.

Operators can profitably address low-end ARPU markets for the last mile by leveraging the low priced CDMA 2000 CPEs available in the market with the economic benefits of Breeze2000.



AIRLINX Communications, Inc.
Box 253
Greenville, NH 03048
E-mail: sales@airlinx.com
Tel: (888) 224-6814
Fax: (603) 878-0530



Product Highlights

Breeze2000 is a wireless solution that supports next generation networks (NGN) for mobile and fixed applications, based on the widely deployed CDMA 2000-1XRTT standard. The system provides carrier-class telephony and always-on data access for residential users requiring fixed or limited mobility connections. Minimizing initial network costs, its IP-based architecture, combined with a distributed structural design, makes the Breeze2000 an unmatched compact infrastructure solution for carriers servicing the local loop in emerging markets.

Key Advantages

Full Range Of Carrier-Class Telephony Services

Ensures subscriber satisfaction by delivering the full range of telephony services as well as data access:

- Class 5 supplementary services
- Fax G.3
- Payphone
- Circuit switched asynchronous data
- Always-on packet data up to 153kbps (upgradeable to future EV-DO services)

Low Total Cost of Ownership

- Reduces end-users' deployment costs using standard CPEs
- Lowers operating costs due to distributed and compact architecture
- Decreases network complexity through voice and data payload convergence
- Uses IP backhaul and off-the-shelf IP core network equipment

Optimal For Rural Deployments and Network Extensions

- Reduces number of cell sites due to wide coverage range
- Enables call termination within the local cell for reduced satellite backhaul costs

Minimal Initial Investment

Provides a scaleable 'pay-as-you-grow' expansion model due to its distributed architecture:

- Grows seamlessly from a self-contained network in a single rack to a nationwide, fully-fledged distributed network
- Scales from a single carrier, omni directional base station into a high-capacity multi-carrier, multi-sector cell

Deployment Flexibility

- Supports connection to PSTN over a variety of interfaces: V5.2, ISUP SS7 and ISDN PRI
- Enables rapid and optimized access for remote cells using both terrestrial and VSAT backhaul

Ready For Next Generation Networks (NGN)

- Grants new operators a solution establishing an IP-based NGN today
- Allows seamless future migration from legacy networks as IP architecture enables the reuse of system building blocks

Future Proof Solution

- Supports easy migration from fixed to mobile services
- Allows for seamless integration of future data services (EV-DO and WiMAX)

Pure Access or Self-Contained Network

Breeze2000 is a future proof, IP-based CDMA 1X-RTT solution delivering cost-effective wireless telephony and always-on data access of up to 153kbps for last mile connections. It efficiently extends the coverage service area of a local class 5 switch while using the V5.2 access interface to ensure full service transparency for fixed and limited mobility voice services. Unlike other traditional fixed cellular solutions, Breeze2000 is a pure access solution that eliminates the need for a mobile switching center (MSC), which reduces the system complexity, time to market and total cost of ownership.

For rural areas where cell sites are typically backhauled over long and costly links for access to the switch, Breeze2000 is a self-contained end-to-end network which can switch local calls within each cell. The result is significant reductions in backhaul bandwidth requirements and lower OPEX (via satellite) and CAPEX (via terrestrial backhaul). The savings are made possible by an optional IP-based MSC interconnecting with the PSTN using SS7 signaling or ISDN PRI.

Flexible IP Architecture for Today and Tomorrow

Breeze2000's distributed architecture effectively integrates legacy BSC/IWF functions and the BTS into a single compact unit. As a result, Breeze2000 is the ideal solution for rural areas and sparsely populated towns. This architecture also minimizes carriers' initial investment for larger network roll-outs while ensuring rapid return on investment.

Taking advantage of the attractive economics of standard IP-based infrastructure technologies, Breeze2000 cuts the total cost of the network. This design approach also enhances system flexibility in addressing various network configurations, including V5.2, SS7 and PRI as well as combinations of them.

Both new and established carriers benefit from deploying Breeze2000. While new operators can immediately establish next generation networks (NGN), established carriers can build upon their legacy systems now with seamless migration in the future.

Breeze2000 is available in all standard CDMA 1X frequency bands: 450, 850, 1900, and 2100MHz.

System Elements

Enabling operators to build networks with a minimal initial investment and expand in relation to demand, Breeze2000 is comprised of the following system elements:

- **BS Plus** - a compact and modular rack mounted, small footprint base station. The BS Plus integrates the BSC/IWF and BTS functions into a single unit. Seamlessly scaleable in both frequency carriers and sectors per cell, it offers maximum coverage and optimal capacity. Eliminating the need for a central BSC results in outstanding cost effectiveness for deployments of small to medium networks. The BS Plus communicates with the access gateway or alternatively with IP MSC or the operator's own call server.



- **Access Gateway** - a modular and scaleable, rack mounted signaling and media gateway. Located at either the class 5 switch or a remote site, the access gateway connects to one or many base stations (BS Plus) over an IP network. In this way, traffic for an entire service area is efficiently aggregated from many base station sites over a backhaul link into one central V5.2 gateway. The trunk gateway performs the same role as the access gateway for use with SS7 or PRI interconnections.



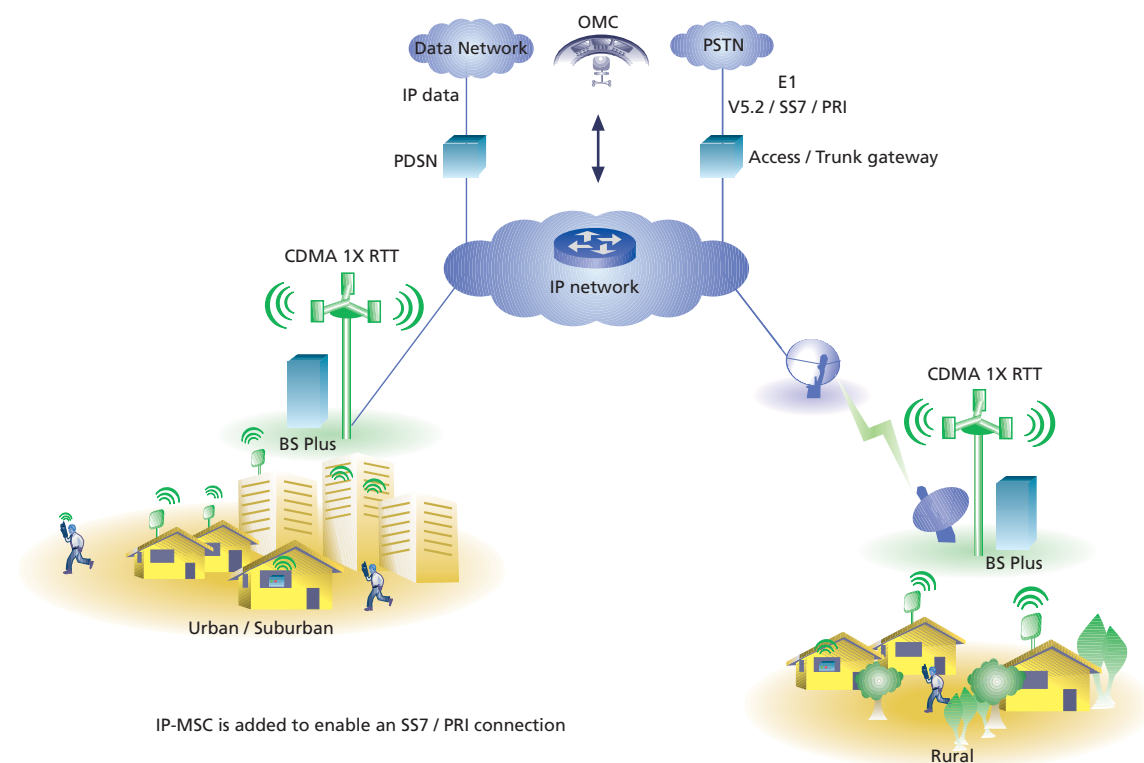
- **OMC** - an easy-to-use and comprehensive network management system. The OMC enables remote monitoring and configuration, which translates to savings in both maintenance time and expenses.



- **PDSN** - an optional rack-mounted unit, used as a service node for packet data transmission for always-on data access. Centrally located, the PDSN efficiently aggregates the data traffic from the radio network and communicates with the operator's AAA server.



- **MSC** - an optional IP-based call server, used specifically for SS7 or PRI interconnections to the PSTN. The MSC enables significant savings on backhaul by providing local termination of intra-cell phone calls. The MSC is a small rack, mounted unit that is centrally located in the network regardless of the voice traffic path and economically fits networks of all sizes up to a 100,000 subscribers.



IP-MSC is added to enable an SS7 / PRI connection