

AB-Extender™

Point to Point



Key Features

- Bandwidth efficiency
- Extensive statistics
- Easy to set up
- Point-to-Point

Benefits

- Increased range in U-NII band
- Units out-of-box ready
- Wide range of applications supported
- Greater spectrum available

THE AB-EXTENDER NETWORK

AB-Extender is a fixed broadband wireless system providing a high-speed point-to-point channel, for Internet, data, multimedia, video, voice, and other emerging IP and ATM based applications. Combining Time Division Duplexing, Axxcelera's patent pending Packet-on-Demand technology and point-to-point functionality, AB-Extender provides a robust, cost-effective solution to wired alternatives such as T1 and HDSL.

Regardless of application, the AB-Extender provides an inexpensive and convenient connection. The AB-Extender system is based upon the same successful integrated, outdoor, and spectrally efficient AB-Access platform used today in many point to multipoint fixed wireless access applications.

An AB-Extender link consists of a Master Unit (MU) and a Slave Unit (SU) each of which houses an integrated antenna-transceiver-modem-control unit. Each of these units contains a high-gain patch array antenna with a beam width of 10 by 10. Both MU and SU have ATM or Ethernet wired end connectivity options. The AB-Extender link can be used to backhaul any number of data streams over a single logical connection.

Management of the AB-Extender link is performed by the AB-Access Element Management System, providing a GUI-based interface for monitoring network performance and reporting alarms.

MAXIMIZING BANDWIDTH USE

AB-Extender supports two key technologies that result in exceptional bandwidth efficiency:

Packet-on-Demand.

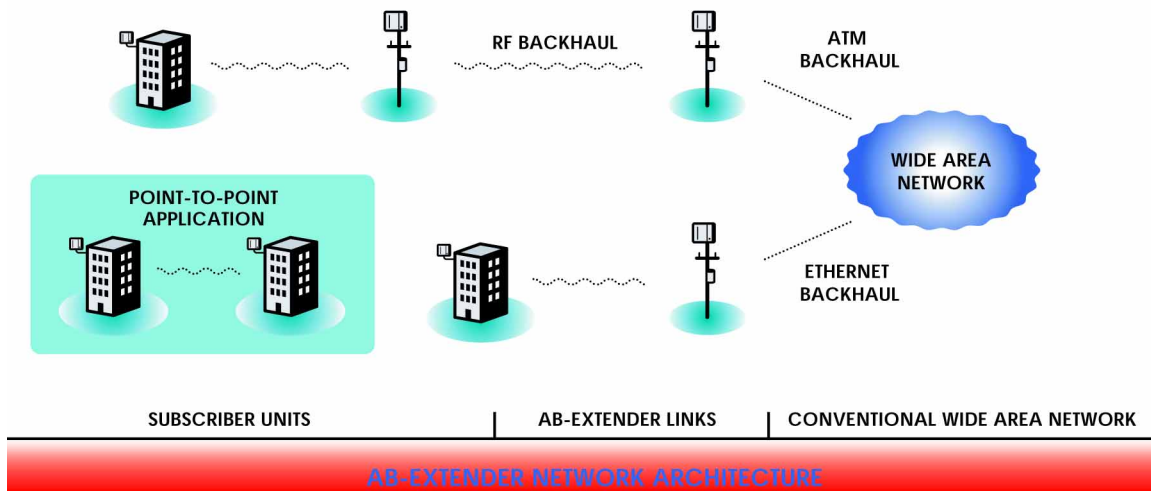
Much more than mere bandwidth-on-demand, AB-Extender allocates bandwidth to either side of the AB-Extender link at the granularity of a single cell or packet. Packet-on-Demand, coupled with very fast turn around time, virtually eliminates wasted bandwidth and greatly increases network efficiency and aggregate throughput.

Time Division Duplexing.

AB-Extender system optimizes expensive RF spectrum by using Time Division Duplexing (TDD). TDD uses one shared RF channel for both upstream and downstream traffic. Because bandwidth direction is variable depending upon application usage, all available network bandwidth is deployed to support any mix of network traffic direction, be it upstream intensive, downstream intensive, or anywhere in between. Compared with wireline (cable, DSL, dial-up) and legacy wireless (FDD) systems, wireless TDD provides a much more efficient network solution by:

- eliminating the need to reengineer the entire network as traffic patterns change.
- simultaneously supporting symmetric and asymmetric patterns without wasting spectrum.
- eliminating the need for a guard band between up and downstream RF channels.

INTERNET • VOICE • VIDEO • DATA



AB-EXTENDER SPECTRUM

AB-Extender operates in the 200MHz as specified in the unlicensed U-NII bands (5.3 and 5.8GHz, or mid and upper as regulated by the FCC for outdoor operation). Managed from a single network management platform, the AB-Access product family enables carriers to readily combine PMP and PTP services. The chief benefit is greater spectrum availability and higher cell capacities. In addition, the use of license-free U-NII networks allows otherwise licensed operators to provide service where licenses are not yet available.

SERVICES

Axxcelera Broadband also offers an array of support services, both direct and via our service partners. These include training, installation, and maintenance. We also support regulatory and homologation efforts in countries which have not yet received approval for usage in or near these bands.

RADIO LINK COMPONENTS

- One environmentally sealed AB-Extender Master Unit (MU), with an integrated 10° by 10° beam
- One environmentally sealed AB-Extender Slave Unit (SU), with an integrated 10° by 10° beam width patch antenna
- Other third party equipment as required

SPECIFICATION SUMMARY - AB-EXTENDER PTP PRODUCTS

Dimension	14.6"W x 15.4"H x 2.6"D (370x390x65mm)
Weight	AB-Extender Unit: 13.4lbs (6.1kg)
FCC Certification	AB-Extender Unit: OJBEXF058
Canadian Certification	AB-Extender Unit: TBA
Operating Frequency Range	5.25 - 5.35 GHz and 5.725 - 5.825 GHz (middle and high bands per U-NII specification)
Throughput	(raw) up to 12.5 Mbps per AB-Extender link
Channel Bandwidth	15MHz per channel
Range	7 miles (11.4 km)
Protocols	RFC 1577 (CLIP), RFC 1483 (MultiProtocol Encapsulated over ATM), Native ATM
Interfaces	RJ45 socket offering either ATM 25 or Ethernet (10BaseT)
Error Control	Fast turnaround MAC-layer multiple ARQ for virtually error-free communications

NETWORK MANAGEMENT

Network management system provides a GUI based interface for configuring subscribers, monitoring network performance and reporting alarms. The GUI may reside on either a Windows or a Linux platform.

ENVIRONMENTAL CHARACTERISTICS

Temperature Range	-40°C to +50°C ambient temperature
Humidity	Up to 100% at 45°C
Wind Loading	120mph



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