

# Cable AML

Leading the way in world-class wireless solutions

*Broadband  
Wireless  
Solutions  
at 2.5 GHz*

Cable AML

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# The BWA-2002 Broadband Wireless Access System

## **Carrier-class “last mile” solution**

The Broadband Wireless Access System Model BWA-2002 offers telecommunication service providers a carrier-class, cost-effective and profitable “last mile” solution. The BWA-2002 is a high-capacity shared-access system specifically designed as an IP-based system for fixed-wireless applications in the licensed 2.5 GHz band.

## **Broadest Range of Applications**

The BWA-2002 system provides High speed Internet access, LAN Extensions, Virtual Private Networking, Voice over IP, Video Conferencing, Distance Learning and Dedicated High-speed connections in a single, powerful and rugged package.

## **High Capacity**

Shared access based on the latest FDMA/TDM/TDMA technology for maximum flexibility, power and capacity, providing very high speed connectivity to a large number of subscribers (from hundreds to thousands in a single system).

## **Customized Cell Configurations**

With a macro-cell range of up to 50 Km for sparsely populated areas and multi-sector cell configurations available for maximum capacity, the BWA-2002 is designed to be custom-configurable so that operators can optimize networks for different markets.

## **Programmable Modulation**

The system offers programmable modulation formats (QPSK, 16-QAM and 64-QAM downstream and QPSK and 16-QAM upstream) to ensure each subscriber gets the best quality performance within the operating range, using the same subscriber equipment, regardless of location.

## **Sophisticated Quality of Service**

Sophisticated Quality of Service parameters for every type of Service Level Agreement (SLA) can be established and monitored, ensuring that each subscriber has access to the bandwidth contracted and SLAs can be implemented and managed.

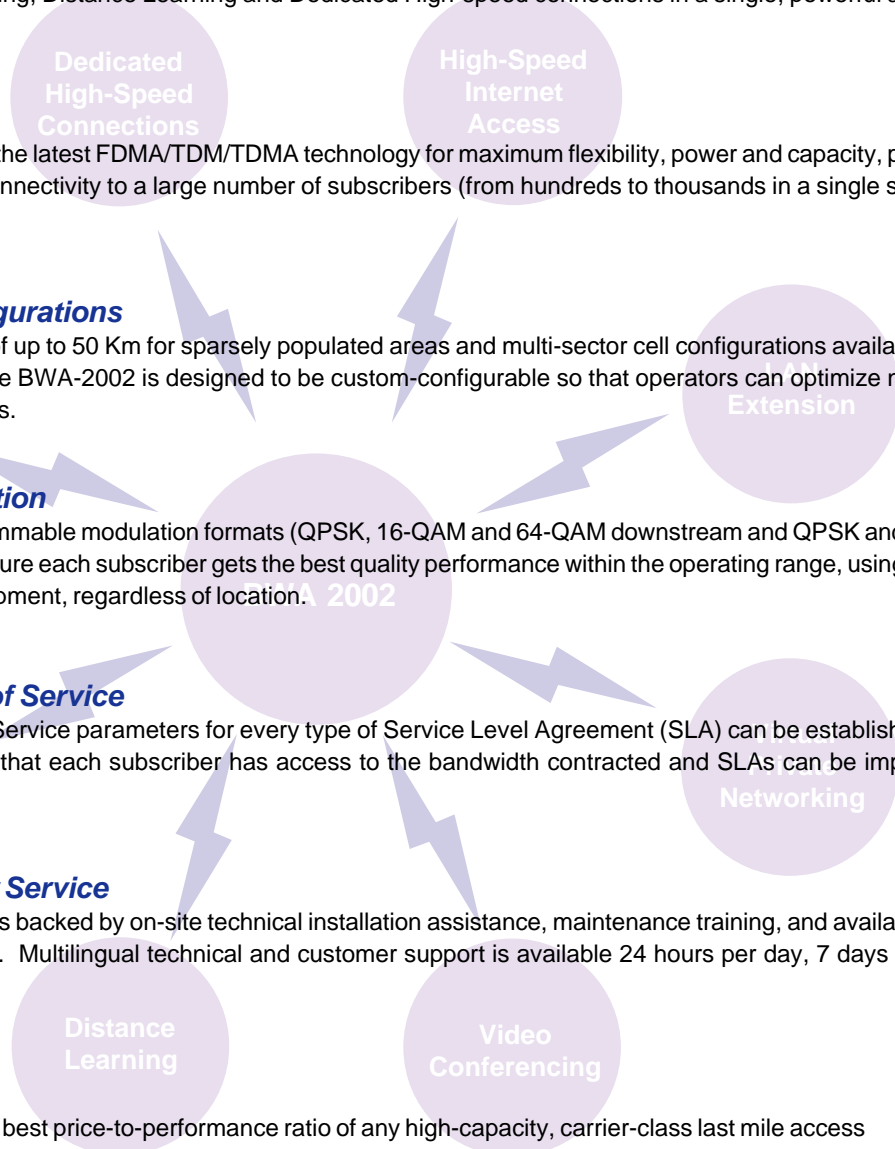
## **Unparalleled Customer Service**

Each BWA-2002 system is backed by on-site technical installation assistance, maintenance training, and available extended service options. Multilingual technical and customer support is available 24 hours per day, 7 days per week.

## **Superior Value**

The BWA-2002 offers the best price-to-performance ratio of any high-capacity, carrier-class last mile access systems operating in licensed bands.

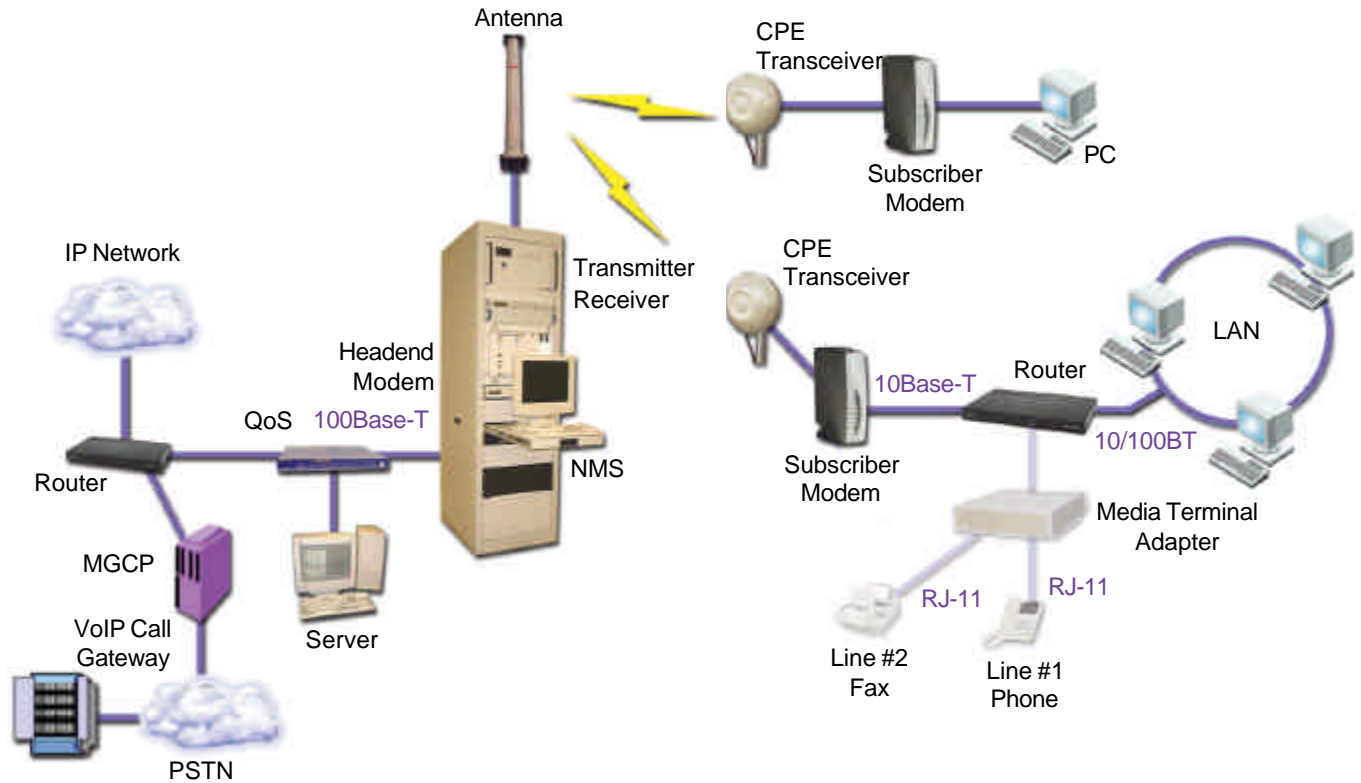
- It can be rapidly deployed, enabling operators to begin generating income very quickly.
- Low cost per subscriber provides operators with shorter payback periods.
- Low initial capital investment. The system can be built as customers are added and not before.
- Reliable and easy to maintain equipment ensures low installation and maintenance costs, allowing the operator to focus on adding content and subscribers.
- Open access system based on proven, standards-based technology. Operators will not be saddled with proprietary technology, which can quickly become obsolete as technology evolves.



# The Complete Wireless Local Loop Network Solution

## Base Station

## CPE Subscriber



## Performance Summary

Downstream Frequency Range	2,500 to 2,626 MHz or 2,500 to 2608 MHz
Downstream Modulation	64-QAM, 16-QAM, or QPSK (programmable)
Upstream Frequency Range	2,150 to 2,162 MHz or 2,668 to 2,686 MHz
Upstream Modulation	16-QAM or QPSK (programmable)
Service Cell Radius	Up to 50 Km for macro-cell (multi-sector cells available)
<b>Access System</b>	
Downstream Data Rate	30 Mbps per 6 MHz channel. Total 120 Mbps maximum in a non-sectorized cell using 64-QAM modulation (16-QAM and QPSK at reduced data rate), FDM/TDM.
Upstream Data Rate	5.12 Mbps per 3.2 MHz channel . Total 40 Mbps maximum in a non-sectorized cell using burst QPSK (16 QAM at doubled data rate), FDM/TDMA.
Applicable Industry Standard	DOCSIS
Network Management System	SNMP compatible (can be co-located at headend or remote)
<b>Network Interface</b>	
Headend to Backbone Interface	100Base-T
Subscriber Interface	10Base-T for data, RJ-11 for telephony

## Open Architecture

Open Architecture is a key premise of Cable AML's design philosophy. When it comes to wireless technology, one size does *not* fit all. The diversity in customer requirements makes it virtually impossible to find any single system flexible enough to satisfy all requirements without compromise.

The BWA-2002 is a communications system engineered to optimize customer requirements by incorporating proven, standards-based access systems in an open-architecture configuration.

By offering key system elements from a variety of existing options, Cable AML reduces any dependency on proprietary systems, which are subject to technological obsolescence.

## Scalability

When properly planned, a broadband wireless system should be easily, rapidly, and cost effectively deployed. The most cost-effective way to deploy systems, whether they are small-scale commercial trials or multi-city roll-outs, is to design for phased implementation and sequential upgrades.

The BWA-2002 is scalable in several ways:

Downstream and Upstream channels can be separately added to existing systems, increasing capacity gradually.

New sectors can be added to existing cells to increase capacity within a given area.

New cells can be added to existing systems to increase geographical coverage.

## Modularity

The BWA-2002 system is comprised of three key functional modules.

- **RF System** - the transceivers and antenna systems at both the base station and subscriber sites, as well as any wireless backhaul or trunking subsystems.
- **Access System** - the base station modem, subscriber modem, and system management software.
- **Network Interface System** – the network management elements used to monitor and control the traffic and interconnection devices for linking the system with the Internet or any other application source.

The BWA-2002 is designed so that the modules can be selected to accommodate diverse power, capacity, or application requirements.

there is no substitute for thorough systems engineering

## About Cable AML...

**Cable AML** is a leader in the fast growing broadband wireless field at frequencies from 1.5 to 42 GHz. We specialize in systems operating in the licensed bands. We have complete point-to-multipoint system design and implementation capability, having developed and delivered state-of-the-art two way fixed wireless systems worldwide.

**Cable AML** operates in more than 26 countries worldwide, and has completed hundreds of microwave wireless installations. More than two million subscribers receive signals through systems and/or hardware designed and manufactured by Cable AML. Our customers include virtually every major multi-channel video operator in the world, including the largest Cable TV companies in the U.S. and Canada.

Cable AML

**C · O · N · T · A · C · T**

**Cable AML Applications Engineering**

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