

Cable AML News

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TIME WARNER UPGRADES HIGH DATA RATE MICROWAVE TRUNK



Repeater tower at King Mountain

When Time Warner needed to increase data transmission speed between its headends at Libby and Troy, Montana, Cable AML came up with the perfect solution.

Cable AML designed an 18GHz bidirectional transmission system between the Libby and Troy headends through a repeater site on King Mountain. The previous system data interconnect delivered a capacity of 24.7 Mbps, transmitted over sixteen T1 lines. The new transmission system provides a rate of 80 Mbps and can be increased to 155 Mbps by changing the modulation format through a software upgrade from 16QAM to 256QAM.

King Mountain posed a more formidable challenge than spanning the 18 mile distance between the two headends. The 4,160 foot high mountain stood directly between the two microwave towers. Dense forests of mostly mature, fir trees covered the high and low lands

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WIRELESS TRIPLE PLAY SYSTEM REACHES 18,000 SUBSCRIBERS

After only two years of commercial operation, AR Telecom's Wireless Triple Play System in Lisbon (Portugal) has reached the 60,000 billed services mark and is expected to reach 75,000 services before the end of the year.

The system, designed by Cable AML, is the largest wireless triple-play (digital TV, voice and data) system in the world. Operating in the 28 GHz frequency band, it features state of the art equipment transmitting over 40 digital video channels and providing broadband In-



Base Station Transceiver Antennas installed on a rooftop in Lisbon, Portugal.

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WORLD'S LARGEST MMDS SYSTEM CHOOSES CABLE AML FOR EXPANSION

Servicing the broadband needs of Mexico's 110 million people is no small task. "Everything flows from reliable equipment, which is why we chose Cable AML," said Ing. Fernando Villaseñor of Multivision.

Multivision's most recent purchase of Cable AML transmitters was part of an on-going program to install new transmitters as well as upgrade some of the 31 transmitters installed by Cable AML in 2003. The upgrades were designed to boost the output power so as to increase the coverage area.

"The ability to upgrade transmitters in the field is a result of Cable AML's deliberate adoption of the modular design concept, which is based on common blocks of discrete components to ensure not only upgradability but also long life and ease of service and repair," said Dr. Francisco Bernues, President of Cable AML.

Multivision serves markets that are often separated by hundreds or thousands of kilometers in places like



Headquarters of MVS Multivision in Mexico City

Acapulco, Culiacan, Durango, Hermosillo and Mazatlan. The distance alone can make it difficult to coordinate shipping and installation.

Cable AML relied on its years of experience delivering products and services worldwide to meet the challenge. "We provided the customer with fast delivery,

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MICROWAVE BEATS FIBER IN QUIROGA (MEXICO)

When cable operator Sistema de Comunicaciones de Quiroga (Mexico) needed to feed 65 channels to two nearby towns in the Mexican state of Michoacan, the company chose Cable AML links to carry the signal 11 km and 25 km in different directions (San Andres and Eronguaricaro) from an existing headend at Quiroga.

At the time, General Manager Alejandro Baltazar

said, "we are extremely pleased with the performance of the Cable AML system."

Less than a year later Sistema decided to start delivering service to San Jose, a town about 22 km away. The same transmitter originally installed to service San Andres and Eronguaricaro provided the signal required to the new town of San Jose through a Repeater, allowing the company to start cable service in San Jose from the Quiroga headend without the expense of a new

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Microwave distribution network: transmitter at Cerro Quiroga powers three receivers at 11, 24.5 and 18.9 Kms (one of them through a repeater).

WIRELESS TRIPLE PLAY PLATFORM INSTALLED IN CAMEROON

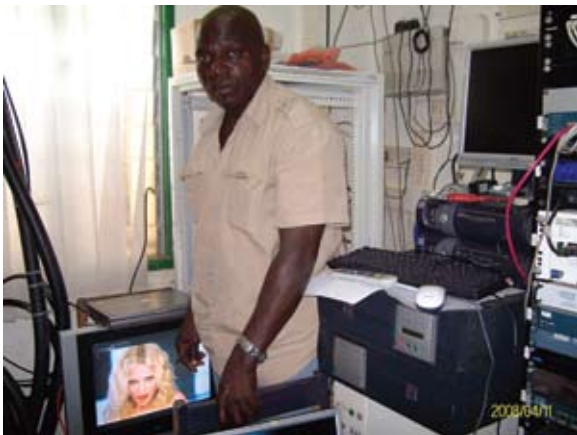
DISAT Ingenierie and Informatique has installed some of the most technically advanced equipment in the world for the company's integrated MMDS and Wireless Internet service in Bertoua, capital of the east province of Cameroon (Africa). Bertoua has a population of approximately 175,000 people.

The system delivers broadband MMDS services in a point-to-multipoint configuration in the 2,500 to 2,686 MHz band, broadcasting digital TV channels in the standard PAL B format through Cable AML's 250 Watt broadband transmitter.

The same transmitter is used to broadcast the downstream carriers of a wireless DOCSIS high-speed Internet access service with capabilities for data and VOIP.

"Each subscriber receives the TV channels and Internet data signals through a downconverter and transmits the upstream Internet data through a transmitter in the 2.3 GHz band. The TV signal is decoded via a set-top box and the Internet signal is fed to a standard DOCSIS Cable Modem," said General Manager G. Togna.

DISAT plans to provide service to 2500 TV subscribers and 500 Internet subscribers in a 10 km radius in the immediate future. As the subscriber base grows and creates more demand, the Cable AML modular design system will make future upgrades simpler and more affordable.



Gerard Togna at the headend of the wireless triple-play system in Cameroon.

Time Warner continued from front cover...



From left to right, Richard Sofaly, Tom Tantriella of Time Warner Coeur d'Alene and Dan Taasevigen, Timwe Warner Libby.

in between.

In addition, snow and ice accumulations remain on the mountain for much of the fall, winter and spring. "Even in June the weather impedes access to the King Mountain site, so the job was completed in

July after clearing some of the trees that were blocking the path", said Ted Chesley, Sr. Microwave Field Engineer.

According to Corey Robertson, Network Engineer of Time Warner, "The high-capacity link is by far the most economical and best performing solution for high data rate trunking between remote headends."

Quiroga (Mexico) continued from page two...



Installation technician adjusts one of the two repeater antennas.

headend.

Ing. Alejandro Baltazar said, "The capability to expand the microwave system is creating opportunities for our company to provide Cable TV service to nearby towns in a very cost effective way, without the expense of a long fiber run or a new headend."

AR Telecom continued from front cover...

ternet access as well as VoIP over standard DVB and DOCSIS access platforms.

Commercial services include Internet access with up to 10 Mbps, up to two telephone lines and 44 high quality digital TV channels divided in several bouquet and premium packs.

The Lisbon system features 13 base stations and over 1,200 nodes, with each node serving an average of 100 homes and providing around 40 triple play services to subscribers.

The use of standard access platforms has also allowed the seamless integration of a small existing cable plant into the existing wireless system. The cable plant now provides the same services as the wireless system. This is an excellent example of the compatibility and complementary between the HFC cable plant and Cable AML's Wireless Triple Play System.

The commercial success of this system, even in a high infrastructure and competitive country such as Portugal, has prompted plans for expansion to other countries, currently in process.



A single remote transceiver on a rooftop provides wireless triple play service to all units of a large MDU.

Multivision continued from page two...

customized logistics and complete solutions packages including antennas and accessories shipped, pre-packaged to each of the 12 different destinations, plus 24/7 support in Spanish," Dr. Bernues said.



Miguel Aquino of Multivision, following installation of the new Cable AML transmitter at Tultepec.

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