

# Cable AML News

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## DIGITAL MMDS SYSTEM POWERED BY CABLE AML TRANSMITTERS AND REPEATERS

A digital MMDS system based in Gulang, Gansu province, People's Republic of China, has been recently installed using Cable AML outdoor broadband transmitters and repeaters. The systems marks the first extensive use of outdoor MMDS transmitters and repeaters in a digital MMDS system.

The system, designed and installed by GS Enterprises, has a total reach of 100 Kms. A 4 Km fiber link connects the digital headend to the main transmitter, which is an

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*MMDS Relay Station at  
Qingshansi of Gulang County,  
Gansu Province, China.*



## MMDS SYSTEM UPGRADES DIGITAL REPEATERS

Frequency-translating MMDS Repeaters from Cable AML were installed by the Caribbean Broadcasting Corporation in Barbados to mitigate interference between adjacent overlapping repeater cells within the service area of the digital MMDS system operating in the Island.

When the coverage area of adjacent repeaters overlaps, interference between repeater cells can present problems. Digital MMDS systems have less tolerance than analog systems for this type of same-frequency interference, so Maurice Bailey of CBC devised a fre-

quency-shift scheme to eliminate interference by alternating the 9-carrier spectrum between adjacent repeaters. The subscriber set-tops are channel-mapped to select the appropriate channels in each repeater area and to ignore the undesired carriers.

Cable AML has provided CBC with several frequency-translating broadband repeaters to implement this solu-

tion in all areas where there is suspected overlap between repeater cells. ✦



*CBC personnel during installation of a repeater antenna.*

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## MVS MULTIVISION UPGRADES MMDS SYSTEM IN PACHUCA

MVS Multivision, the world's largest MMDS operator, has upgraded the MMDS system in Pachuca (Hidalgo, Mexico) by installing a higher power transmitter module from Cable AML.

Pachuca is a city about 90 Kms from Mexico City with a large and growing market for multichannel TV service. The city has an estimated 30,000 TV homes in an area of about 60 square kilometers.

The upgrade and expansion project consisted of installing a high-power amplifier module to increase the output power of an existing broadband transmitter to a total of 500 Watts. Additional channels were also added to provide full 31-channel service.

“With the new transmitter, an excellent quality picture is delivered to the entire metropolitan area

as well as the surrounding suburbs,” said Ingeniero David Velazquez of MVS Multivision. ✦



*From left to right, Guillermo Sumalla, Ing. David Velazquez, Ing. Alejandro Cordero and Ing. Artemio Hidalgo at MVS Pachuca's new transmitter site.*

## INDOOR TRANSMITTER IMPROVES RELIABILITY OF MMDS SYSTEM

Ramiro Lobecio, General Manager of CCV in Carmelo, Uruguay, decided to upgrade his

MMDS system with an Indoor 100 Watt transmitter from Cable AML, replacing outdoor units from another manufacturer that had reliability problems.

The pictures are perfect. We are very happy with the purchase of the Cable AML equipment”.



*Laura and Ramiro Lobecio during commissioning of Cable AML transmitter.*

Said Mr. Lobecio, “We installed the transmitter and met with total success. The equipment did not give us any problems, all we did is to connect it to 220 VAC and feed the input signal at the correct level.



*CVC Facilities in Carmelo, Uruguay.*

## OUTDOOR UPSTREAM RECEIVERS FOR WIRELESS DOCSIS SERVICE

Cable AML has supplied several custom-frequency upstream base station receivers to wireless DOCSIS systems in Siauliai and Panevezys, Lithuania.

According to Jevgenij Plaksin of Balticum TV, the outdoor base station receivers make it possible to increase system capacity in a cost-effective manner by sectorizing the upstream portion of the system. Balticum TV Ltd is one of the larg-

est Cable TV operators in Lithuania, providing “triple play” (TV, Internet and IP Telephony) service. The company has been providing DOCSIS cable modem service in its cable plant since 1999 and wireless Internet in is Kalipeda MMDS service since 2002.

The Cable AML receivers were installed In November of 2005 in Siauliai and in December in Panevezys. Both places are now in operation with commercial subscribers. ✦



*Outdoor wireless DOCSIS upstream receivers installed in Lithuania.*

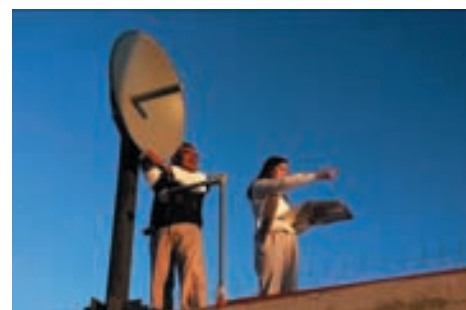


## 5.8 GHz PTP LINK ENTERS SERVICE IN MEXICO

A Point to point TVLINK was purchased and installed by Ultravision to interconnect the studio and transmitters in Aguascalientes, Mexico.

According to Ingeniero Mario Tulio Santos, “The 15 Km link was extremely easy to install and align. We had it operating perfectly in less than 20 minutes”.

Ultravision is a leading MMDS and television service provider in Mexico, with operations in several cities throughout the country. ✦



*Engineers Marisol Martinez and Leonardo Dircio performing antenna alignment on the TVLINK in Aguascalientes, Mexico.*

## MMDS SYSTEM EXPANDS WITH REPEATERS

Rio Vision of San Luis Colorado, Sonora, Mexico has initiated a system expansion by installing a high power repeater at 30 Kms from the main transmitter to provide service to two new markets.

The repeater signal is fed from a point-to-point link powered by the main MMDS transmitter, which was simultaneously upgraded from 250 to 500 Watts.

A 60-meter tower is used for both the point-to-point repeater input antenna and the repeater output

cardioid antenna.

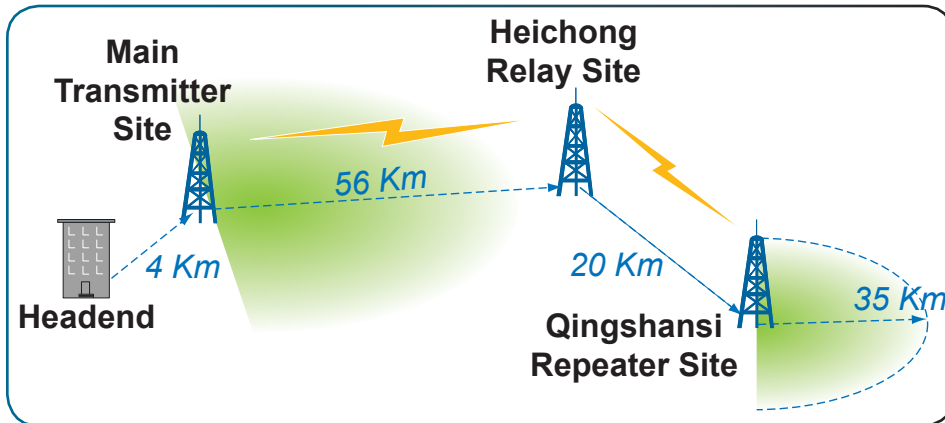
The system expansion will provide service to more than 4,000 homes in two main cities without any previous access to multichannel TV service. ✦



*Repeater site 30 Kms from San Luis Colorado houses an Indoor Repeater fed by a Point-to-Point MMDS link from the main transmitter.*



Digital from page 1

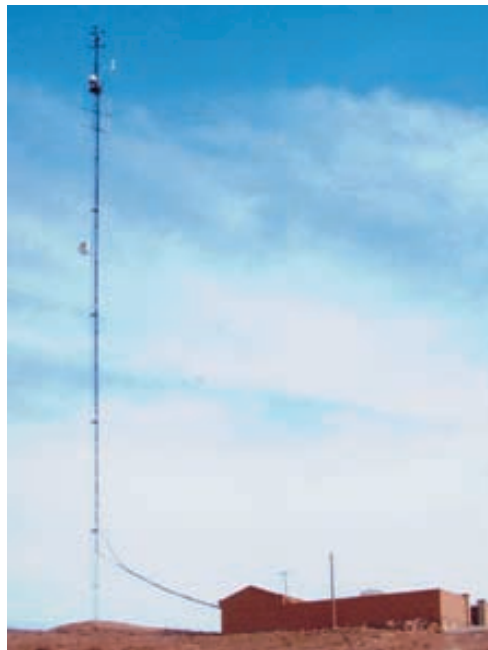


*Gulang Digital MMDS System Diagram.*

outdoor 100-Watt unit providing service to an area of more than 50 Kms radius.

At 45 Kms from the main transmitter, an in-band point-to-point repeater link, implemented with an outdoor transmitter, transports the signals from Heichong to Qingshansi, 20 Kms away. In the final leg of the system, an outdoor 50-Watt repeater is used to provide service to customers in an area of more than 35 Kms radius.

Cable AML's technology has made it possible to implement digital MMDS systems at a fraction of the cost of channelized analog systems installed only a few years ago. ✦



*Outdoor Transmitter for the Digital MMDS Relay Station at Pingdingshan of Gulang County, Gansu Province, China.*

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