

Cable AML News

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DIGITAL INTER-ISLAND MICROWAVE LINK



Microwave Antennas from Maui Headend.

US Cable Operator Time Warner has recently installed an 18 GHz digital microwave system to transport 256-QAM modulated carriers from the Hawaiian island of Maui to three separate receiving points

The islands of Molokai and Lanai and the isolated town of Hanna in Hawaii receive Cable TV signals (54 to 600MHz) from the

main Headend in Maui via 13GHz broadband microwave links from Cable AML. Time Warner wanted to expand this carriage to include the 256-QAM digital video services (with carriers above 600MHz on the Maui cable system), but regulatory bandwidth limitations in the 13 GHz band made it necessary to use the 18 GHz band for the digital carriers.

The 15 mile link to Lanai and the 13 mile link to Molokai, both over water, were straightforward for

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UNIVISA UPGRADES TO DIGITAL MMDS

Univisa, the largest MMDS Company in Ecuador, has recently completed the upgrade of two of its largest MMDS systems from Analog to Digital using Cable AML broadband high power transmitters.

Univisa had been operating for several years an analog MMDS system in Quito and Guayaquil, the two largest cities of Ecuador, and decided to upgrade to digital to increase the number of TV programs from 31 to more than 68.

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Univisa Headend in Guayaquil showing new broadband digital MMDS transmitter (center) right next to older channelized analog transmitter array.

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MICROWAVE AML LINKS UPGRADED IN MEXICO

Grupo Caliente, a leading video distribution company in Tijuana, Mexico, has recently upgraded a microwave point-to-point distribution system with hardware manufactured by Cable AML.

The system was designed for local distribution of 25 TV programs from the originating point at Pueblo Amigo to three receiving points and to a relay (repeater) station located at Hipodromo, from where



Arturo Perez from Grupo Caliente adjusting one of the new AML receivers.

it is further distributed to four additional receiving points.

Grupo's Microwave Engineering group lead by Ing. Jose Manuel Sanchez performed the installation and commissioning of the links. According to Ing. Sanchez, "the new Cable AML microwave equipment has resulted in a very high quality multichannel video signal with excellent reliability at all of our terminal distribution centers. We are very pleased with Cable AML's microwave equipment and we look forward to continuing to expand our system to additional hubs".



Carlos Barajas, Osbaldo Hernandez and Mauricio Gordiano training on the new AML system.

TV ZAC EXPANDS MMDS SYSTEMS

TV ZAC, the fastest growing MMDS operator in Mexico and perhaps in the world, has continued to expand coverage by installing a stand-alone broadband



Erick Rodriguez and Jose Hernandez of TV ZAC following the installation of the MMDS transmitter and the Rio Grande Headend.

MMDS transmitter in the city of Rio Grande, at the northern corner of the state of Zacatecas, Mexico.

Rio Grande, a city of population 60,000 is the sixth city to have MMDS service in the state of Zacatecas (central Mexico). In addition to the system at Rio Grande, TV ZAC is installing a broadband repeater to provide coverage to the city of Villa de Cos from the existing headend at Fresnillo, 54 Kms away and



View of the city Rio Grande from the roof of the new MMDS Headend building.

two broadband repeaters to expand coverage near the main transmitter in the city of Zacatecas.

TV ZAC General Manager, Licenciado Francisco Aguirre said, "Cable AML continues to provide TV ZAC with MMDS equipment of the highest quality and reliability."

Univisa cont. from front cover...



Ing. William Arcentales and Ing. Angel Vacacela during system acceptance testing at Cable AML.

The upgrade consisted of a digital Headend feeding a broadband 1000 Watt transmitter capable of reaching over 40 kilometers with a load of 10 digital carriers (60 to 80 TV programs) modulated in 64-QAM.

According to Ing. Angel Vacacela, “The switch-over from analog to digital went very well thanks to Cable AML’s assistance in identifying possible problems and issues ahead of time and preparing a comprehensive plan which included training at their facilities in Los Angeles.”



Univisa MMDS transmitter tower in Guayaquil, Ecuador

LOW-COST 65 KMS TVLINK IN CANCUN

A two-hop microwave link transporting one video channel for a total distance of 65 Kms has been installed in the Mexican resort town of Cancun to carry one TV channel from the Cancun TV station to Playa del Carmen, where it feeds a re-transmitting station broadcasting over the areas around Playa del Carmen and the island of Cozumel.

The link was implemented by installing two TVLINKS in series. The transmitter was installed in Cancun at a height of 80 meters and it feeds a relay station in Puerto Morelos, where a receiver and a second transmitter are mounted on a 28 meter tower. The second receiver is at Playa del Carmen at a height of 50 meters.

Ing. Melvin Gonzalez, Chief Engineer of Televisora Cancun, said that “The microwave link has been a complete success. It has been operating since the day it was installed with a very good quality signal and excellent reliability.”



Two TVLINKS in series transport the broadcast TV signal from Cancun to Puerto Morelos and Playa del Carmen on Mexico’s Riviera Maya.

Time Warner Cont. from front cover...

the 256-QAM digital video. The link to Hanna was more demanding due to two factors: a longer distance and the existing double passive reflector (billboards) in the path. The reflectors were designed for 13 GHz and had unknown performance characteristics at 18GHz.

An additional requirement was that the link had to work using existing 13 GHz antennas at the transmitter site in Maui due to size restrictions imposed by National Park authorities. This was accomplished by using specially designed dual-frequency feed horns sharing the same antenna aperture.



Link from Holoakala transmitter to Hanna (both in Maui, Hawaii) through a double passive reflector.

Howard Feig was the Time Warner Engineer who designed, installed and commissioned the microwave hardware manufactured by Cable



Links from Maui to Molokai and Lanai (Hawaii).

AML for this link. According to Howard, "Cable AML once again has provided an excellent solution for a very demanding link, continuing a tradition of good quality equipment and service lasting for over 15 years".

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