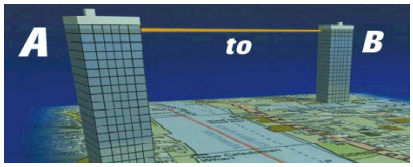
PRESS RELEASE



Cable*free*

Secure High Performance Wireless Connectivity

Point-to-Multipoint LMDS using Laser/IR from Cable*free* Solutions

Cablefree IR/laser offers environmentally-friendly, high-bandwidth V-PMP solution

Surrey, 27 June 2000 – Leading manufacturer of Laser/Infra-Red (IR) wireless connectivity systems, Cable*free* Solutions Limited**, (Stand K120, Hall 19)**, has launched its Virtual-Point-to-Multipoint (V-PMP™) Laser/IR system for Local Multi-point Distribution Service (LMDS) applications for both developed and developing markets.

The Cable*free*™ V-PMP solution for corporate, urban and sub-rural communities enables licence-free LMDS networks to be implemented using optical wireless Laser technology, cutting months from operators' network roll-out schedules through having no spectrum allocation/frequency planning requirements. As a result, operators can begin revenue-generating services much faster.

V-PMP combines point-to-point line-of-sight laser with intelligent routers to create extremely high-performance cellular networks offering high symmetrical bandwidths of up to 1.5Gbps to users within the LMDS coverage area. That area can have a cell radius of between 500m and 2,000m, with V-PMP deployment dependent on the geography in the region of operations and local climate. Using true 1+1 link resilience, network availability using V-PMP is aimed at no less than 99.97%.

Unlike microwave at between 26 and 40GHz, Cable*free's* V-PMP is immune to rain-fade with only atmospherics such as the densest and most extreme fog, snow, sand storms and thermal shimmer limiting transmission over extremely long distances.

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V-PMP is expected to be used by microwave LMDS operators where either licensing delays or saturated radio bandwidth affect customer service. In a competitive world, early subscribers to a new network can be connected using laser/IR before the microwave roll-out even begins. In addition, cost-of-start-up for LMDS operators can be dramatically reduced using laser/IR to delay the deployment of costly microwave base stations until an adequate subscriber base is built up. Using microwave and laser/IR together, customers in high-rainfall regions can enjoy greater network reliability – and for the operator, reduced costs through increased cell size. Network coverage in urban areas can be dramatically increased by using laser/IR to fill in microwave 'black spots' caused by multipath effects and tall buildings.

Stephen Patrick, Technical Director at Cable*free* Solutions, said, "The use of Laser/IR technology for LMDS networks, is a perfect fit of technology and application. Prospective LMDS operators around the globe are competing with vast amounts of money to gain spectrum and licences to build LMDS networks based on radio technology with limited bandwidth. Operators who choose Cable*free* V-PMP will discover a whole new world – one in which a complete LMDS network can be built and operated with this cost-effective, sophisticated and reliable technology, with no bandwidth, interference, frequency or licensing concerns.

"Increasing environmental objections to dense microwave deployment in populated areas do not affect optical wireless – unlike multipoint microwave systems, which irradiate entire urban areas, Cable*free's* modest power infrared beams are directional, and meet stringent European and USA safety standards," Patrick concluded.

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NOTES FOR EDITORS

About LMDS

Local Multipoint Distribution Service (LMDS) is a wireless, bi-directional broadband technology designed to allow network operators and communication service providers to rapidly and cost-effectively deliver a wide range of high-value, quality services to homes and businesses. Uses for LMDS technology include high-speed Internet access, real-time multimedia file transfer, corporate local area network

extensions, interactive video, video-on-demand, video conferencing, and telephony along with many other applications.

LMDS systems use a cellular architecture to send very high frequency signals over short line-of-sight distances. These cells are typically spaced 4-5 kilometres apart. The layout of the LMDS cells determines the cost of building a network of base sites and the number of subscribers covered.

Cell size is also influenced by weather conditions. Conventionally, for microwave LMDS, this is limited by the amount of local rainfall – the microwave signals are attenuated by water and lose strength. To correct this, LMDS operators can either increase the power of their transmissions during heavy rainfall to try and ensure an adequate signal reaches its destination, or to deploy networks with reduced cell size. For microwave signals, leaves, trees and branches can also cause signal loss, but overlapping cells and roof-mounted antennas generally overcome this problem.

The original concept for LMDS was centred about the transmission of video to residential customers. However, the recent explosion of Internet usage has created a demand for digital bandwidth, which now appears as the greatest application for LMDS technology.

Cablefree – Optical Wireless LMDS

Cablefree Solutions believes that optical wireless technology offers a perfect alternative to microwave in LMDS applications. The use of optical, rather than microwave, technology adds many key benefits, including:

- License-free operation
- Non-shared bandwidth for each subscriber
- High speed symmetric bandwidths up to 1.5Gbps per subscriber
- Rapid network deployment and fast new-user connection
- Low cost of start-up
- No frequency planning
- Data Security against interference and interception
- Redundant 1+1 connection options including equipment and path diversity

N.B.
Both V-PMP™ and Cable*free*™ are trademarks of Cable*free* Solutions Limited

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