

Loea



Broadcasters are retooling their network infrastructure to accommodate the bandwidth demands of HDTV. Traditional fiber cabling is costly. And most wireless solutions require compression. The need for a high-bandwidth, easily-deployable solution that can support uncompressed, real-time HDTV transmission becomes apparent.

Applications

- Wireless connections between HDTV camera and production studio
- Temporary wireless links between HDTV camera and remote satellite truck
- Sporting events
- Live outdoor transmission
- JumboTron video screen transmission

Benefits

- Uncompressed, real-time HDTV video streams
- Rapid installation and re-deployment
- Lower cost compared to fiber runs

Application Brief

The Problem

High-Definition Television (HDTV) is making a major impact in the television broadcast industry.

In 2006, an estimated 50 percent of all televisions in U.S. homes will be HDTV-ready. Recent international regulatory legislation, increased competition and lower television set prices will only further increase HDTV penetration over the next several years.

But with the emergence of HDTV comes the need for sweeping changes in the broadcast industry – from a network infrastructure perspective.

Television broadcasters have begun retooling their infrastructure to accommodate the bandwidth demands and technical requirements of HDTV.

From a bandwidth perspective, these broadcasters are looking for new transmission methods capable of delivering HDTV signals at real-time, uncompressed 1.485Gbps data rates.

These broadcasters are also seeking more flexible alternatives to traditional fiber runs – to simplify the migration from Standard TV to HDTV and to provide HDTV-quality transmission from both studio and remote locations.

While fiber provides adequate bandwidth for HDTV, the deployment of fiber can be costly, time consuming and, in some cases, impossible. As a result, wireless transmission (in particular, microwave technology) has been more recently used.

These traditional wireless options, however, are often lower-speed and therefore use compression or other encoding techniques for transmission. This results in unacceptable latency or other transmission errors.

A new wireless solution – capable of supporting the full 1.485Gbps required for real-time HDTV video and audio feeds is needed.

HDTV Broadcast Solutions

The Loea Solution

Loea's millimeter wave radio products are the ideal solution for broadcasters seeking real-time, uncompressed HDTV video and audio feeds from remote locations.

The Loea solution can transmit high-quality HDTV signals between buildings, from live outdoor locations to broadcast studios or from temporary locations (such as sporting events) to portable broadcast trailers.

Instead of using conventional fiber, leased lines or compression-based wireless technologies, these locations can now be linked with a high-capacity wireless point-to-point solution with data throughput of 1.485Gbps full-duplex – easily handling the bandwidth required for HDTV broadcasts.

Customized to comply with the HDTV Serial Digital Interface (HD-SDI) transmission standard (SMPTE-292M), uncompressed video can be sent with no frame delays at distances over 1 mile.

Based on proven millimeter wave technology used by the military, Loea's products are also highly secure and unaffected by most weather occurrences such as fog.

Transmission is at the upper radio frequencies (70/80GHz) – bands recently approved for commercial use. A simple, web-based licensing process reduces the potential for interference and spectrum saturation issues facing lower, unlicensed frequencies. And, a very narrow beamwidth (0.4 degrees) ensures that data cannot be easily intercepted.

From a cost savings standpoint, installation can take place in the matter of a few hours – a significant reduction compared to fiber runs or trenching. Costly monthly leased lines (approaching several thousands of dollars per month depending on location) are virtually eliminated. And since the technology is wireless, full HDTV networks can be easily redeployed to new locations.

Loea App Brief

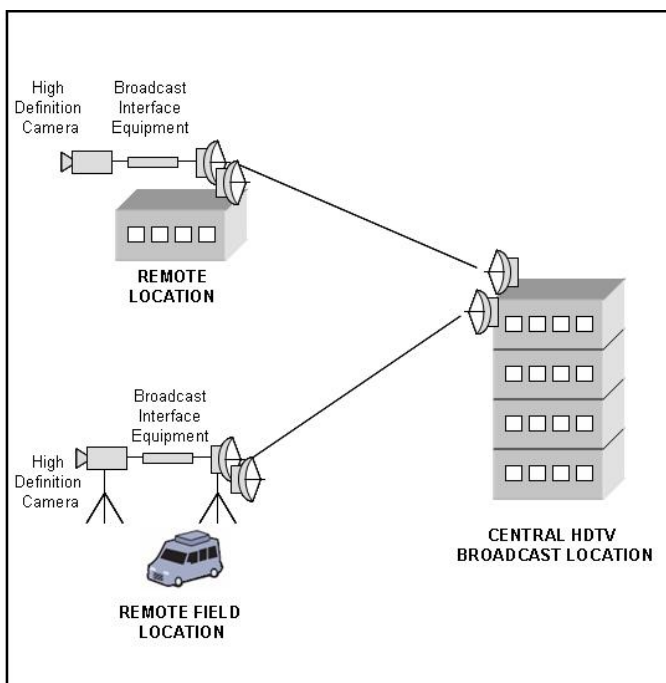
HDTV
Broadcast
Solutions

Benefits

Loea is helping television broadcasters overcome HDTV transmission challenges by providing real-time, uncompressed 1.485Gbps capacity. Benefits include:

- Real-Time HDTV Transmission – 1.485Gbps data rates allow uncompressed HDTV transmission
- Rapid Installation – can be installed in hours.
- Reduced Costs – replaces need for expensive fiber trenching or fiber deployment.
- Expanded Reach – easy deployment to locations where environmental or geographical obstacles make fiber runs or leased lines unavailable.
- Improved Performance – removes throughput constraints, compression and interference issues facing licensed microwave and other RF solutions.
- Minimal Weather Impact – works in environments where FSO technology is impacted (fog).
- Greater Control – eliminates dependency on leased lines or fiber-pulling for connectivity.
- Simplified Licensing – web-based licensing can be completed in a few minutes.

Configuration Example



Loea Products

Loea products have been used as a vital communication link for some of the world's leading Enterprise, Carrier and Government customers.

Based on 70/80GHz millimeter wave technology (also referred to as E-Band), Loea offers the highest-performing, highest-availability wireless solutions available on the market today.

And by leading the successful petitioning of the FCC for commercial use of these frequencies and spectral bandwidth, Loea products will be able to reach up to 10Gbps throughput in the very near future.

Loea solutions are ideal for point-to-point connectivity between buildings, campuses and remote locations – eliminating the need for time-consuming and cumbersome fiber runs.

Unlike other wireless technologies that have performance limitations due to bandwidth, weather and distance, Loea's products provide full-duplex 1.25Gbps throughput (and 1.485Gbps throughput for the HDTV version) with 99.999% availability at link distances exceeding 1km. And Loea's use of upper radio frequencies coupled with its narrow beam width (0.4 degrees) make it one of the most secure forms of wireless transmission today. No other wireless technology can make such a claim.

All Loea millimeter wave solutions include:

- 2 Radios
- 2 Antennas (2-foot diameter for maximum range)
- 2 Radio Mounts and Steering Mechanisms
- Installation and rooftop hardware are not included

About Loea

Loea Corporation is the pioneer of the 70/80 GHz wireless domain and the product, quality and technology leader.

Loea was the first company to release and deploy successful product in the 71-76 and 81-86 GHz bands and has been on the leading edge of technology creation in this space for over 10 years. Loea successfully petitioned the FCC to gain access to this spectrum for commercial use in 2001 and was first to receive commercial FCC approval in July 2005.

Loea is headquartered in Honolulu, Hawaii. R&D and manufacturing locations are located in Kahului, Maui, Hawaii and West Hatfield, Massachusetts.



Loea Corporation
Pacific Guardian Center
733 Bishop Street, Suite 1717
Honolulu, HI 96813

More info:
www.loecom.com
(858) 646-5543 or (808) 521-4908
loeainfo@loecom.com