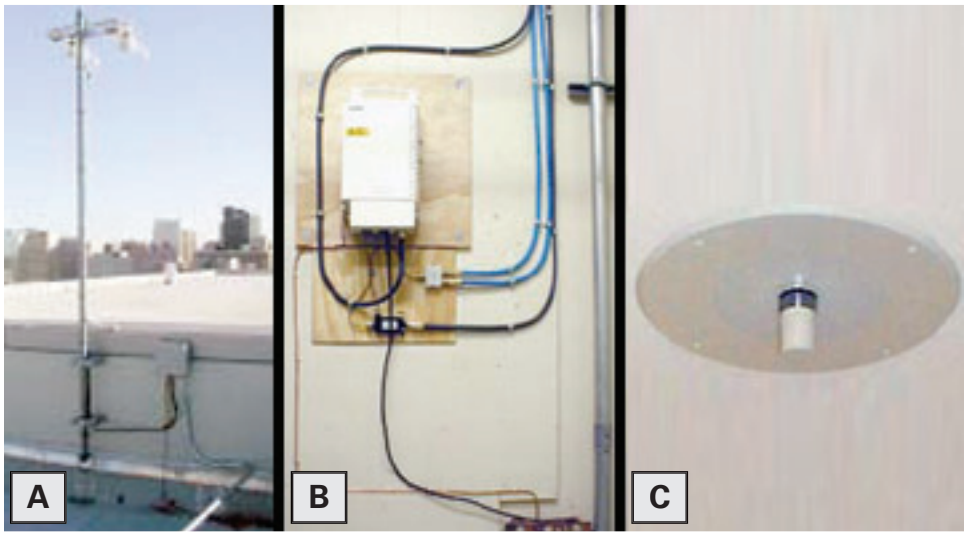
OFW-1900

PCS Wireless Antenna Distribution System



Features

- GPS Satellite Simulator Distribution
- GPS Base Station Antenna-Remoting/ Distribution
- GPS Shipboard Antenna-Remoting/ Distribution
- GPS L1/L2 Dual Frequency Capability
- Low Cost 1310nm DFB Laser
- Simultaneous Multiple GPS RF Outputs
- Exterior EMI/Environmental Enclosures Available

Provides full duplex communications signal transmission between a PCS base station and tower mounted antenna

The OFW-1900L is designed to provide full duplex communications signal transmission between a PCS base station and tower mounted antenna via optical cabling. The OFW-1900L system architecture consists of an Antenna Unit (image A) located on the tower structure, a Receiver Unit (image B) located in a ground based equipment shelter, and optical cable as an interconnect. The OFW-1900L is compatible with PCS Base Station Transceivers and can replace the conventional RF Coax Cables that interconnect the transceivers to their respective antennas. The Low Loss (0.6 dB/km) Optical Fibers permit Transceiver to Antenna separation distance of up to 20 km. The OFW-1900L provides a full duplex RF transmit and receive (including diversity receive) interconnection between the PCS Base Station Antennas and Transceivers. The OFW-1900 PCS Base Station Optical Fiber Waveguide can simultaneously support up to three PCS sectors per subsystem and eliminates the need to install multiple, tower-mounted Heliax Cables. In addition to the cost savings in using a fiber optic interconnect cable versus RF coax cable, wind sheer is greatly reduced allowing for future expansion on the mast of the antenna. This feature facilitates the development of Centralized Multi-Transceiver Distribution System architecture. The integration of the OFW-1900L optically isolates the transceiver equipment from the tower structure thus eliminating the necessity of bonding, grounding, and lighting protection of the uplink and downlink signal lines. Concrete and steel of a buildings structure attenuates radio signals to a point that handheld radios (Trunking) and cellular phones can no longer receive signals. MPS designs, builds and installs systems (image C) to ensure 100% coverage within the structure (or substructure). These systems have been installed in situations where security concerns (police and guard radios in prisons and courthouses) demand 100% coverage. Surveys with real-time signal strength equipment ensures no dropout areas as well as optimizing repeater antenna placement.

Information: Call us toll-free at 888-868-8967 or email info@b2bphotonics.com

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Specifications

BTS RF Parameters

Duplexer - Diversity Receive

TX Band:	1970.0 to 1975.0 MHz
RX / DIVERSITY RX:	1890.0 to 1895.0 MHz
VSWR:	.5:1 (max)
Isolation:	TX to RX 100 dB (min)
Insertion Loss:	0.1 dB (max)

Downlink (TX)

Frequency Range:	1970.0 to 1975.0 MHz
Gain (G):	36.0 dB (typ)
Gain Flatness:	± 0.25 dB (max)
Output 1dB Compression:	45.0 dBm (min)
Output Third Order:	54.0 dBm (min)
Input/Output VSWR:	1.5:1 (max)

Uplink (RX)

Frequency Range:	1970.0 to 1975.0 MHz
Gain (G):	36.0 dB (typ)
Gain Flatness:	± 0.25 dB (max)
Output 1dB Compression:	45.0 dBm (min)
Output Third Order:	54.0 dBm (min)
Input/Output VSWR:	1.5:1 (max)

Optical Parameters

Downlink & Uplink

Wavelength:	1300 nm ± 15 nm
Output Power:	3.0 dBm/CH (typ)

Environmental

Antenna Unit

Operating Temperature:	1300 nm ± 15 nm
Storage Temperature:	3.0 dBm/CH (typ)

Receiver Unit

Operating Temperature:	1300 nm ± 15 nm
Storage Temperature:	3.0 dBm/CH (typ)

Monitor/Control

Downlink & Uplink

Antenna Unit:	Analog and Binary
Receiver Unit:	Analog and Binary

BTS Parameters

Downlink

TX Antenna Gain (G):	15.0 dBi (typ)
EIRP per Channel:	44.5 dBm (typ)
Channel Capacity:	4 (max)
RF Bandwidth per Channel:	.25 MHz (max)
HPA P1dB Backoff (BO):	7.0 dB (min)
Coverage Radius:	4.5 miles (min)

Uplink

RX Antenna Gain (G):	15.0 dBi (typ)
Noise Figure (NF):	5.0 dB (max)
"Minimum" Received Signal Power:	-100.0 dBm (min)
* Path Loss = 114.0 dB @ 4.5 miles	
"Maximum" Received Signal Power:	-57.0 dBm (max)
* Path Loss = 80.5 dB @ 0.1 miles	
Bit Energy per Noise (Eb/N0):	7.0 dB (min)

Mobile Unit

Uplink/Downlink

Antenna Gain (G):	-1.0 dBi (max)
Transmit Power:	23.0 dBm (max)
Noise Figure:	10.7 dB (max)
Bit Energy per Noise (Eb/N0):	7.0 dB (min)

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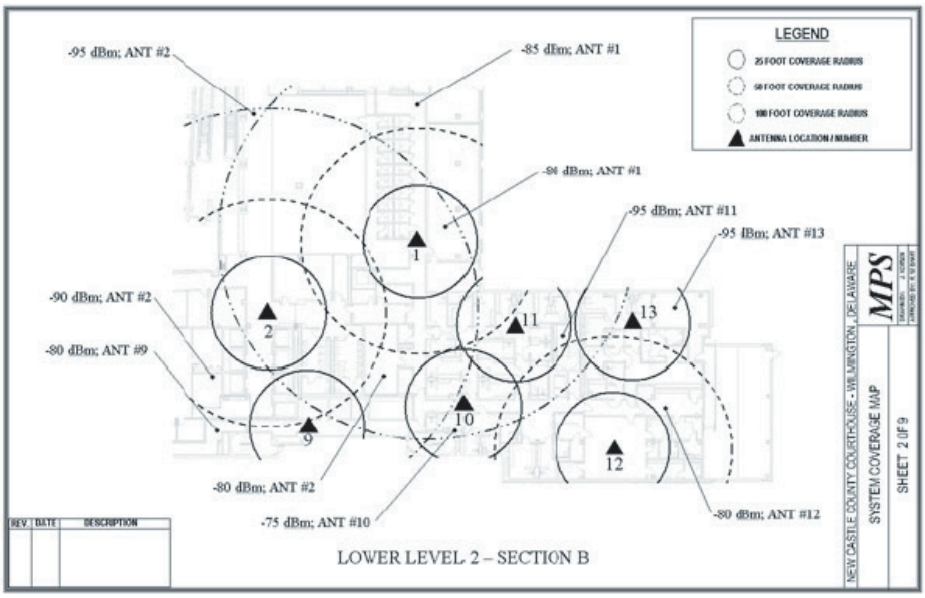
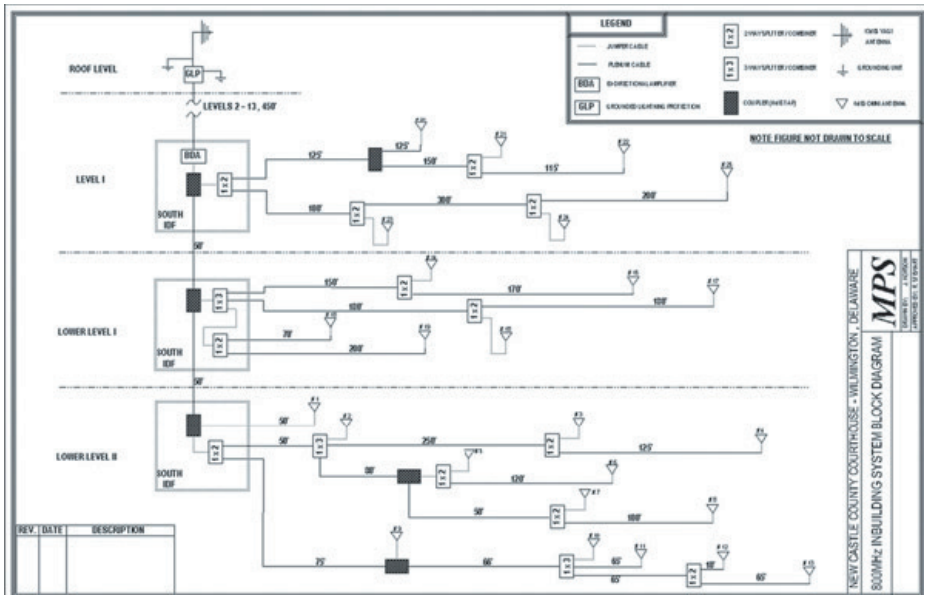
Coverage Map / Antenna Placement Scheme

When MPS does an RF Distribution system, a Complete analysis of the site is performed to get real-time values of propagation, not imaginary "Oh-we assumed it would work" values! This approach entails quite a bit of on site equipment and analysis but we guarantee no "Dead Spots " for our finished installation.

Below are two examples of a coverage map and a system antenna placement scheme with typical values within a steel and concrete multi level structure.





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