

For more information call 800-880-7674, visit smpdata.com or occfiber.com.



CELLULAR DISTRIBUTION SYSTEM

Ordering Information:

PART NO.	DESCRIPTION
CDS8V-75-C4K-XXX*	Cellular Distribution System Kit for 824 - 894 MHz cellular band
CDS8N-75-C4K-XXX*	Cellular Distribution System Kit for 806 – 866 MHz iDEN band
CDS9N-75-C4K-XXX*	Cellular Distribution System Kit for 896 – 901 and 935 – 945 MHz iDEN band
CDS19-75-C4K-XXX*	Cellular Distribution System Kit for 1840 - 1990 MHz PCS band
* Replace "XXX" with length of 50 Ohm cable assembly (available lengths 50' – 300' in increments of 25')	
** Each CDS Kit includes: 1 – CDS Panel 4 – Standard Single-Gang Antenna Faceplates 1 – 50 Ohm Cable Assembly* 1 – Omni-Directional Outdoor Antenna and Mounting Hardware • 50 Ohm low loss external coaxial cable available in 25' increments to 300'	



For more information call 800-880-7674, visit smpdata.com or occfiber.com.



CELLULAR DISTRIBUTION SYSTEM

Overview:

SMP's Cellular Distribution System (CDS) is designed to improve localized cellular coverage within a building that experiences low signal strength, yet service provider coverage is acceptable at a nearby outdoor location. The CDS solution applies structured cabling concepts to support wireless communications within a building using either existing or newly installed 75 Ohm coaxial cable to distribute wireless signals. This is accomplished using a unique Distributed Antenna Technology. Four antenna faceplates are cabled to the rack mount CDS panel, creating signal pathways to an external omni-directional antenna for signals that otherwise would experience heavy propagation losses. Materials that cause such losses often include external metal siding, concrete and rebar which seriously inhibit cellular usage inside your building. These are bypassed using the easy to install CDS Installation Kit, making the cell phone coverage inside your building as good as the coverage you get outside. Each kit includes all the components required to utilize your existing 75 Ohm coaxial cable with easy to follow explicit instructions for fast installation to improve your indoor cellular service. CDS creates more bars in your places.



Applications:

Ideal for building applications where cellular service is readily available external to the building, yet coverage is poor when the mobile user enters the facility. Typical structures that may benefit from the CDS system are often buildings with metal walls, heavy rebar, underground or basement locations. CDS offers product support for all major bands utilized in North America. To find the frequency band used by your service provider please visit www.wirelessadvisor.com

Features:

- "Quick and Easy" install kit with explicit instructions so that a cellular systems background is not required.
- Cost effective method to improve cellular coverage in buildings for all North American major service providers.
- Utilizes 75 Ohm coaxial cable for up to 200 feet.
- Low Loss 50 Ohm cable to an external antenna (included) must be placed external to the building to maximum of 300 feet.
- Each CDS panel supports 4 faceplates.
- Standard single-gang faceplate antenna form factor to be installed in poor coverage regions.
- Uses standard F-connectors.
- Rack mount panel kit is 2RU size form factor.
- Standard 120 VAC required.
- Creates an effective "line of sight condition" between a user near the faceplate and the service provider tower.
- External omni-directional antenna (included) required at an outdoor area of good service provider coverage.
- External inline lightning protection.



CELLULAR DISTRIBUTION SYSTEM

Supported Technologies:

- The CDS Panel is available for the following Provider Bands in North America:
 - 826 – 896 MHz CDMA
 - 806 and 900 MHz TDMA
 - 1840 - 1990 MHz
- Supports voice and data communications, including 3G handsets

Coverage Areas:

- Coverage is highly dependent on the propagation environment.
- Open space installations ~60,000 sq feet per panel coverage established.
- Office space installation ~40,000 sq feet
- Open space coverage is easier to obtain than closed and walled space.
- Materials such as metal and reinforced concrete reduce effective range.
- The longer the coaxial cable-run, the less range at the faceplate.
- At 200' of RG6, approximately 100' range from the faceplate – much greater range than current installation base.
- Antenna placement in the facility is key to successful deployment.

Performance Graphs:

Figures 1 2 and 3 illustrate the signal strength in a CDS supported facility. The innate signal strength is the signal level indicated by a handset with no improvement effects of the distributed antenna technology. As depicted, the CDS system provides an increase of power by 20 – 30 dBm in environments typical of a manufacturing and office environment for a facility on the order of 50,000 sq.ft. Signal strength can be seen to decrease as range increases from the faceplate antenna. The four zones where signal strength was evaluated were fed by cable runs ranging from 50 to 200 feet of 75 Ohm RG6 coaxial cable. Figure 4 illustrates the antenna placement in the hybrid manufacturing office space facility in which the testing was conducted.

CDS Install vs. Innate Office Space Cellular Signal Strength

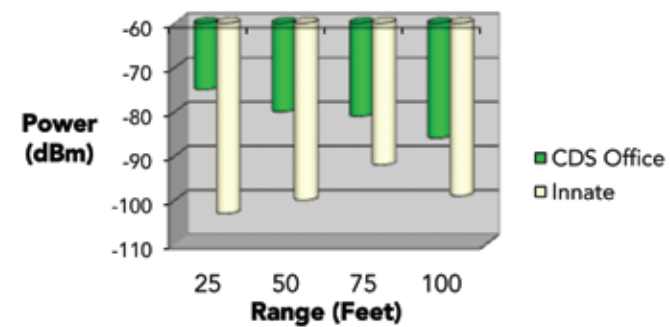


Figure 1

CDS Install vs. Innate Manufacturing Cellular Signal Strength

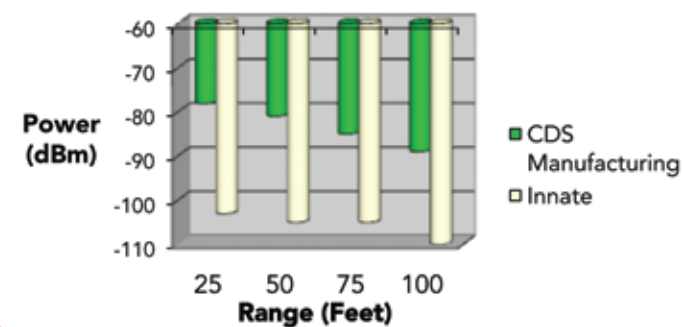


Figure 2

CDS Install vs. Innate Pallet Racking Cellular Signal Strength

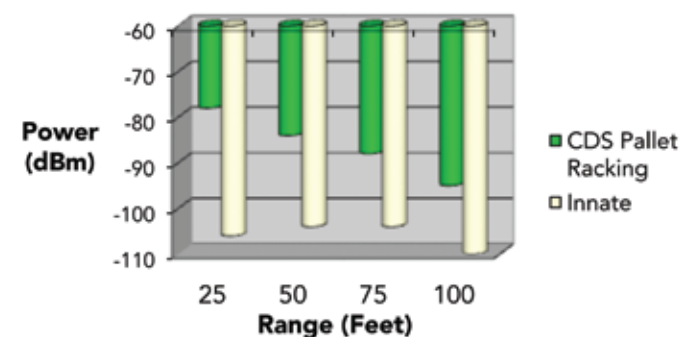


Figure 3

CELLULAR DISTRIBUTION SYSTEM

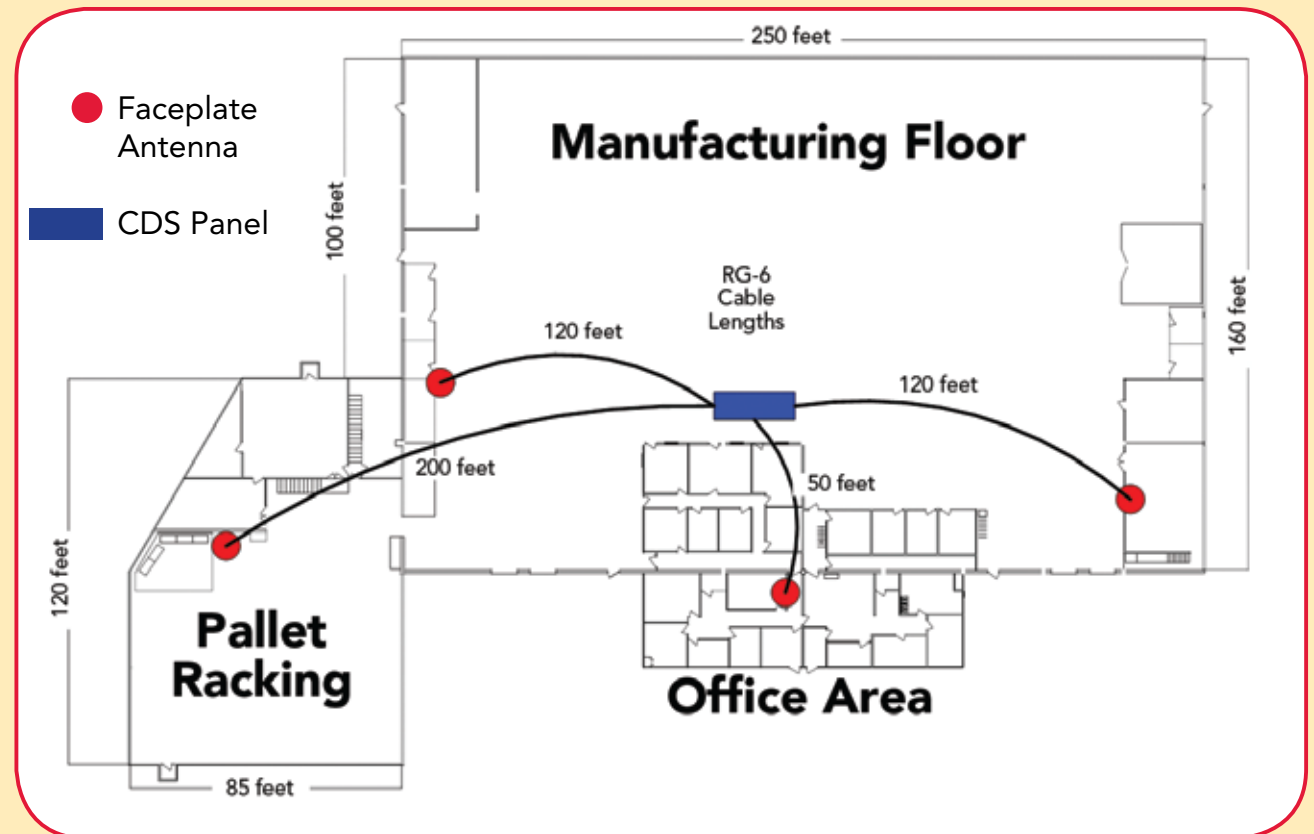


Figure 4

Installation Considerations:

- Faceplate antenna placement and coaxial cable selection and length is critical.
- A good service provider signal strength must be available at the location of the external antenna outside the building.
- Each CDS kit comes standard with an Omni-Directional External Building Antenna, which supports multiple tower locations.
- A High Gain External Antenna may be used, but focuses on only one provider tower.
- In order to achieve optimum cellular coverage, you must know what frequency range you are targeting.
- Lower loss cable translates into increased coverage range from the faceplate. Thicker coaxial cable generally means lower loss cable.

Warranty:

Each CDS kit is backed by a 1 year product warranty from SMP Data Communications. The products must receive normal and proper use, and due care in handling. Normal wear and tear, deterioration due to aging or damage caused by environmental conditions, electromagnetic interference ("EMI") or radio frequency interference ("RFI") shall not constitute a defect or failure under this warranty. These Warranties do not cover defects resulting from accidents, alteration, unauthorized repair, misuse, fire, flood, lightning strike damage, acts of God and or any diverse changes in temperature and climate not considered normal for an interior building infrastructure. All installation records must be updated to reflect any maintenance, movements, additions or changes and such records shall be made available to OCC / SMP upon request.