



Application Guide

Power Management Solution for Network Base Stations

Concurrent with the development of network technology, internet providers are rapidly expanding the numbers of installed network base stations enabling personal devices to access wireless internet virtually anywhere. Furthermore observation stations that, for example, monitor: weather, debris flow, and stream flow are often located in remote and secluded areas to gather data for valuable research or forecasts. What all of these stations have in common is that they are widely distributed in various geographical and building locations. Administrators are encumbered with wasted travel time and costs in order to implement maintenance tasks at these diverse locations. Not only does this equate to high maintenance costs it could also result in damage during a fault or accident when necessary recovery actions are not effected in a timely enough manner.

There may be multiple critical equipment located in a station for data storage and processing, so any device downtime (particularly the station's power supply) could cause enormous losses. Administrators are not co-located at each station 24x7x52, so a solution that offers the ability to remotely control the power of devices as well as provide a remote monitor function will be of great benefit.

Solutions

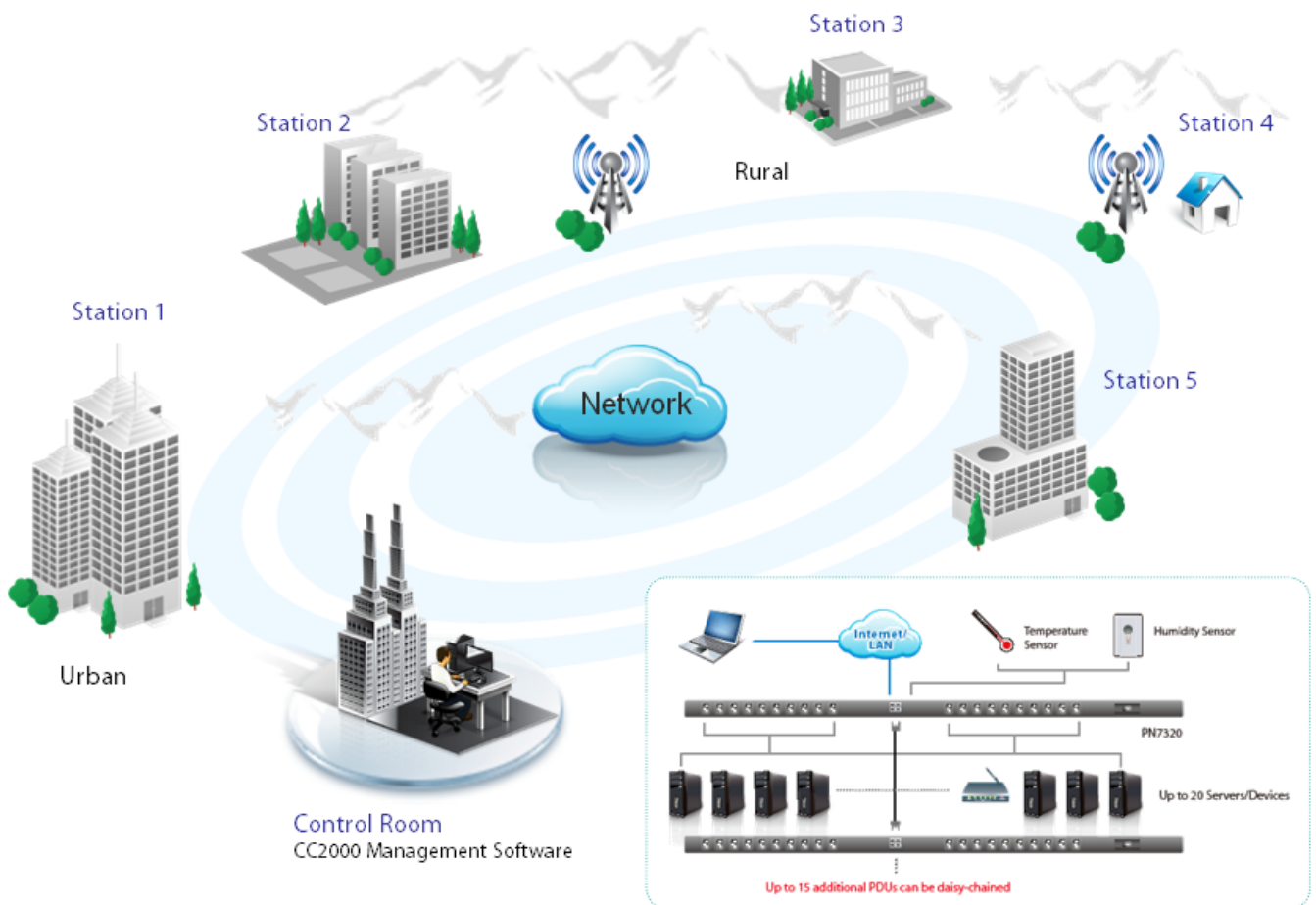
ALTUSEN Power Over the NET™ products are Power Distribution Units (PDUs) that offer outlet level control combined with remote access capability. These PDUs give Remote Station administrators the ability, over TCP/IP, to power control devices attached to the unit from practically any location. With support for power status measurement, PDUs enable administrators to monitor the current, voltage and power consumption of their remote equipment. Administrators can monitor at either the PDU or outlet level helping them minimize their equipment power costs and ensuring a high level of system availability.

	PN5212	PN5320	PN7212	PN7320
Max. Current	20 A	30 A	20 A	30 A
# of Outlets	12	20	12	20
Rack Space Req'd	0U	0U	0U	0U
LAN Port	V	V	V	V
Daisy-chain	V	V	V	V
Switching Capability	Per Outlet	Per Outlet	Per Outlet	Per Outlet
Metering Capability	PDU Level	PDU Level	Outlet & PDU Level	Outlet & PDU Level
Thresholds & Alarms	V	V	V	V
Environment Monitoring			V	V
Digital Output Port			V	V
Modem Support			V	V

*Please see www.aten.com for more details

Application

With an ALTUSEN Power Over the NET™ Solution a user can install a Power Distribution Unit onto a rack to remotely power on and off their critical equipment and monitor power status. In order to have remote access and control of servers setup at a station, an IP-Based KVM Switch can also be integrated with a Power over the NET™ installation. Furthermore, integrated and centralized control room access from a single user interface can be achieved by combining the remote access control devices with ALTUSEN's CC management software.



Benefits

◆ **Power Management**

ALTUSEN's Power Over the NET™ / Power Distribute Unit products are designed with up to 20 outlets. Outlets can be individually controlled so that you can separately set each outlets power on/off sequence and delay time. On/off scheduling allows you to configure start, shutdown, and restart times on a daily, weekly, or monthly basis. You no longer need to travel to remote stations turning equipment on and off.

◆ **Remote Monitoring**

With PDU/Outlet level metering you can, via a browser-based UI, easily monitor the current, voltage, and power consumption status of all connected Remote Station equipment. With the addition of temperature and humidity sensors, even the status of the station environment can be monitored from just about anywhere in the world.

◆ **High Amperage Capacity**

With a high amperage capacity (20 or 30 A), and IEC320-C19 outlet support, the PDUs deliver plenty of power to any typical equipment rack. You can safely connect a larger number of devices than you generally could with ordinary power bars.

◆ **Early Warning Notification**

The PDU permits you to set custom thresholds for current, voltage, power consumption, humidity, and temperature. When levels exceed the defined thresholds, designated recipients can receive alarm notifications via SMTP email, SNMP traps, or SMS sender (connected to the Digital Output port). Necessary steps can be taken to avoid equipment damage due to abnormalities such as circuit overload thereby reducing the mean time of recovery and minimizing loss.

◆ **Centralized Management**

ALTUSEN's CC (Control Center Over the NET™) management software can be integrated with a Power Over the NET™ installation such that you can centralize the control of all

remote PDUs. You can easily control all the multi-located PDU stations through a single centralized web portal.

◆ **API Support**

With API support the ALTUSEN PDU solutions provide you with the highest possible system integration. You are free to integrate third-party management software in any installation with centralized control.

◆ **Redundant Power Management**

For high availability, the ALTUSEN PDU supports daisy-chaining and outlet grouping to provide redundant power management. Equipment with dual power supplies can be assigned to outlet groups for convenient control of their redundant power sources. Since up to 15 additional units can be daisy chained from the master unit, Remote Station administrators can connect a device's power cords to different units - each of which is connected to a separate power source - for failsafe operation. Moreover the power status of both outlets can be monitored and controlled from the same portal ultimately resulting in an improvement of management efficiency.

About Control Center Over the NET™

Control Center Over the NET™ Management Software offers the convenient, economical centralized access and management of your IT devices located in remote data centers and branch offices anywhere in the world. When used in conjunction with any Over the NET™ product (KVM Over the NET™, Serial Over the NET™, Power Over the NET™), the CC2000 management software allows IT administrators to remotely monitor and control all installed devices. A strong centralized management solution provides benefits in many ways:

- *It lets you quickly and smoothly take control of your installation through a single portal that is accessible at any time from anywhere in the world.*
- *It enables a faster response to mission-critical data center emergencies.*
- *It eliminates the distance restrictions of traditional server room management.*