

Application Solutions

C A B L E H E A D E N D

Majorpower Inverters Deployed in Cable Head-End Upgrade

The cable industry is deeply involved in a technology shift for power conversion configurations as it introduces telephony services to their customers. A cable company implementing a head-end upgrade realized that the shift in power architecture could not only support the new equipment, but also benefit the reliability and cost of the entire site.

Traditional cable head-end sites are designed with alternating current (ACV) backup utilizing a single 150,000 VA UPS. The new telephony equipment installation is direct-current (DCV) powered and requires the addition of a large DCV power system with stationary battery strings to achieve multiple hours of run-time. The network planning engineer realized that by moving the critical ACV loads to the DCV system he could increase reliability and reduce annual maintenance expense.

The Majorsine Power Inverter was implemented to supply the power to the ACV equipment from the DCV system. This configuration allowed for reduction in capacity of the UPS and created annual maintenance savings of \$3150.

The most critical ACV powered infrastructure in the system is the forward and return optics equipment supporting customer traffic. Each optical transport device is equipped with a redundant AC power supply to mitigate possible input power failures.

By setting up an A-side & B-side configuration using two Majorsine inverters, the optical transport equipment redundant ACV supplies are supported for multiple hours on battery during long-term utility outages. In addition, the Majorsine integrated static by-pass increases the system reliability because during anomalies of primary DCV loss the inverter will switch the optical equipment to the alternate ACV power source.

The implementation of the Majorsine Power Inverter to support the critical loads allows the cable company to significantly reduce its recurring maintenance contract expense while enhancing the reliability of the network.