

Shipboard Broadcast System

BACKGROUND

Defense Media Activity keeps Department of Defense audiences around the world informed. DMA collects and preserves the Department's visual information, records, and trains the Department's Public Affairs and Visual Information professionals. DMA is the DoD's direct line of communication for news and information to U.S. forces deployed worldwide, on land, sea, and air. It presents news, information, and entertainment through media outlets, including radio, TV, Internet, print media, and emerging media technologies. DMA broadcasts radio and television to forces in 177 countries and 279 Navy ships at sea with Department-specific news and information programming.

Shipboard Information Training and Entertainment (SITE) systems provide for closed-circuit television (CCTV) program playback aboard U.S. Navy, Military Sealift Command, and U.S. Coast Guard ships. The program content includes command information and public service announcements, military and technical training, copyright protected commercial movies, and programming derived from the American Forces Radio and Television Service (AFRTS) satellite network. The present generation SITE systems use the standard 8-millimeter (mm) videotape format, which has reached the end of its supportable life-cycle. The Government has chosen encrypted digital versatile disc (NDVD) and hard disc drive (HDD) to replace the 8-mm videotape format.

The SITE system was being powered by low cost "3KVa Ship Board UPS's" which, occupied 6RU of space in a 24" deep cabinet. Operationally the SITE system was experiencing a high number of casualties and significant down-time. DMA engineers suspected that operating directly from ships power rather than the UPS's caused the failures. In almost all cases the ship's crew had by-passed the UPS due to either a UPS battery failure or total UPS failure.

SOLUTION

NOVA Power Solutions personnel were able to identify the in place UPS's were minimally modified consumer grade line-interactive UPS's. These UPS's did not provide conditioned power to either the NDVD or HDD. This was determined to be the root cause of the majority of the failures. Additionally, DMA engineers had identified that while the UPS's were specified to provide 10 minutes of backup the UPS's typically provided less than 3 minutes even when supplied with new battery packs.

NOVA Power Solutions, was requested to design a working solution. While performing a system electrical survey NOVA Power Solutions personnel identified that the in place UPS's would go into an overload condition if the load exceeded approximately 990W. A 2.5KVA Power Conditioning UPS was developed in a 2U package that when used with a 2U external battery assembly and 0U power distribution was capable of providing sufficient power to replace both 3KVa Ship Board UPS's. This resulted in both a space and weight saving.

The acquisition cost of the NOVA Power solution was slightly higher than the two 3KVa Ship Board UPS's. However, it is estimated that DMA is able to save more than \$1.5million annually in repair and labor costs while at the same time delivering higher quality product and service to their customers.



Case Study



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