



teletrol
building value

Project Profile

Southwest Airlines



Dallas, TX. Southwest Airlines was founded twenty-nine years ago and since that time has grown to be the fifth largest major airline in America serving 57 cities. The company headquarters is located at Love Field in Dallas, Texas. Steady growth has driven headquarters expansion from one building to a campus environment including an aircraft maintenance facility and a flight training facility housing six 737 simulators.

The original 3-story headquarters building was controlled by an Andover AC256+ system with over 200 unitary controllers on variable air vol-

ume terminals. With the AC256+ out of production and a major 5-story office expansion looming in the near future, Southwest was searching for a state of the art system for the upcoming project that was flexible enough to incorporate the existing control system. The Teletrol Integrator line was chosen as a perfect fit for this scenario.

Aire Design Systems (ADS) of Carrollton, Texas is the local distributor for Teletrol products in the Dallas/Ft. Worth area and also had a history of working with Southwest with other projects. ADS proposed installing an Integrator 486 panel to control the two new 400 ton Trane centrifugal chillers as well as the pumps and cooling tower in the new central plant. Also proposed was an Integrator 186 controller for each mechanical room to monitor and control air handlers and their associated VAV terminal units. Using pushbuttons and the integral liquid crystal display on the I186, technicians can monitor conditions of not only the connected equipment but also global information such as chiller percentage load and outside air temperature and humidity without the use of a terminal. Each variable air volume terminal box (a total of 406) received a Teletrol TSC-LE AF controller along with a RSM II room sensor with setpoint adjustment, occupancy override and an integral RS-232 communications jack.

An engineering decision was made to connect the piping from the new central plant with the old plant allowing the new plant to provide chilled water to both the original headquarters building and the new expansion. Automating this process required gathering and evaluating information from both plants. While the new plant was controlled by the Teletrol I486, the original



plant was still controlled by the Andover system. To solve this problem, a Teletrol I486 controller was installed in the old plant. The Andover Mode 1 Driver from Control Engineering Corp. was installed allowing the new Teletrol controller to directly control the existing Andover I/O. Thanks to advance testing of the interface, the actual plant changeover from Andover to Teletrol took less than one hour with no down-time to the customer.

Since completion of the headquarters expansion, several other projects have been integrated with the new system:

SWA Data Center : Home of the iflyswa.com website. Two I486 controllers monitor not only the mechanical systems, but also the fire alarm system, switchgear, UPS system, and generator status and fuel level. A network of Liebert Computer Room Air Conditioners were integrated with the Teletrol control system using the Open System Port of the controller with a software driver written by Aire Design Systems. The Teletrol system in the Data Center is connected to the primary workstation (located at the headquarters expansion) via fiber optic cable. Due to the critical nature of this facility, a high-speed network connection to Building Services was vital to reduce response time to problems.

SWA Flight Training Facility : This facility houses the classrooms and flight simulators used to keep Southwest's pilots the best in the business. In addition to the building mechanical system, the Teletrol system monitors the Hydraulic Power Units used to operate the flight simulators. The simulators are operated twenty-four hours a day, seven days a week. With such a busy schedule, downtime is not an option. This facility is also connected to headquarters via fiber optic network.

Power Monitoring Project : With utility de-regulation on the horizon, SWA needed a way of collecting power usage data to bring to the bargaining table. Utilizing the existing Teletrol network, Veris 8036 Modbus power meters were installed on each utility feed at each building. Data retrieved from the meters with the CEC Veris Driver was stored in the Teletrol controller. This data is retrieved on a weekly basis and compiled for study. An added benefit of using the control system to monitor the Veris power meters is that the energy data could be used to control mechanical systems campus-wide to comply with utility performance contracts.



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