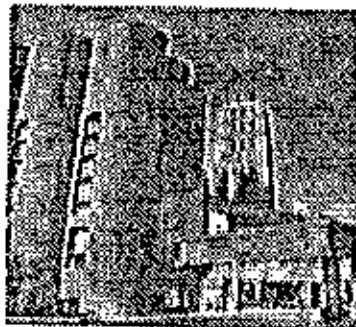


SUCCESS

BRANDON - COMSE/CUSTOMER PROFILE

QUAKER SQUARE - AN ENTERTAINMENT COMPLEX AHEAD OF ITS TIME



HILTON INN AT QUAKER SQUARE

The Quaker Square consists of a hotel, restaurants, a shopping mall, and entertainment complex constructed on the site of the historic 1872 Quaker Oats Mill. Located in the center of downtown Akron, Ohio, people come to Quaker Square to shop...to dine... to be entertained...or just to browse. In July of 1980 the newest addition to Quaker Square came into existence with the opening of the Hilton Hotel complex. The transformation of 36 grain silos into the Quaker Square Hilton was an extraordinary renovation which had never before been attempted. The four star hotel is best known for its rounded and spacious rooms with fifty percent more space than the average hotel. As a National Historic site people travel from all ends of the country to see the restored Quaker Oats factory. Even today, the modern Quaker Square, has been able to preserve an era which has gone by in American history.

COMMITMENT TO ENERGY MANAGEMENT

Jay Nusbaum, the President of the Quaker Square Management Company has been an innovator in his commitment toward energy management. Unlike their predecessors of the 19th century, businessmen such as Nusbaum no longer have the luxury of cheap energy costs. Smart businessman, realizing the long term effects of oil shortages in the seventies, began to investigate ways to save energy. In 1978, Quaker Square installed its first energy management system. By today's standards it may be considered feeble. However, the end result was an actual cash savings of approximately \$3000 per month.

APPLYING POWER LINE CARRIER TECHNOLOGY

In 1980, Quaker Square took the next step in its commitment to energy management. It installed a Honeywell energy management control system which utilized Honeywell power line carrier transceivers. This system integrated the energy management needs of the entire complex together utilizing one source of incoming power.

HONEYWELL/FACMAN™ ENERGY MANAGEMENT SYSTEM

In 1985 Quaker Square installed the new Brandon/Comse energy management system which integrates power line carrier

hardware from Honeywell with customized software from Brandon Associates, with the installation and engineering of the system being performed by Comse Energy Managers. Quaker Square Management estimates it has saved in



excess of \$1,000,000 in electric costs since the installation of

energy management in 1980. In May of 1991 an updated Brandon/Comse system was installed. According to Nusbaum, the Brandon/Comse energy management system has fulfilled the two main objectives of any energy management system, namely dollars and comfort!

HOW DOES FACMAN™ WORK?

Facman™, utilizes the buildings existing wiring to communicate to remote transceivers. These remote transceivers are connected to the controlled equipment in hotel rooms, banquet halls, restaurants, and other areas throughout the facility. Equipment such as air conditioners, heaters, lighting, and applied equipment are controlled by the FACMAN™ computer. Standard features of the FACMAN™ system include:

- Remote communications
- Interactive graphics
- Holiday programming
- Demand limiting
- Background duty cycling
- Remote reset

- Direct Digital Control
 - Alarming
 - Graphical, user-friendly control screens
 - Data logging and trending
 - Graphical trending analysis
- As well as a world of other energy saving and control algorithms.

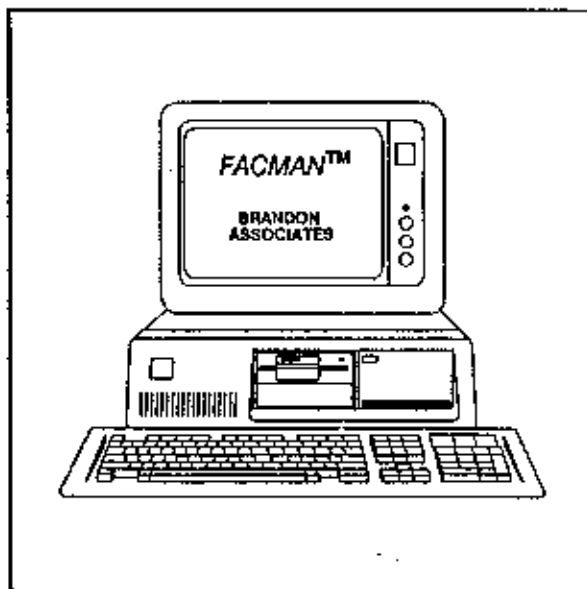
HOTEL CHECK-IN'S

When a guest checks in, his room number is entered on the FACMAN™ computer. The computer informs the HVAC equipment that the room will be occupied and it automatically adjusts the equipment accordingly. Through the exact scheduling of occupied rooms, the system is able to substantially reduce operating costs over traditional methods: maintenance or the house keeping staff turning equipment off in unoccupied rooms.

DUTY CYCLING/DEMAND SHEDDING

Duty cycling is another FACMAN™ feature which reduces energy consumption. It involves shutting off a piece of equipment in an occupied room for a small time interval so that the guest is unaware of any change. These short, unnoticeable "shut offs" can save an appreciable amount of energy. To compliment the overall energy savings of duty cycling, demand shedding is applied during periods where duty cycling can not keep the utility cost low

enough. The demand shedding algorithms of the FACMAN™ system examine the current utility company demand and shed (turn off) loads on a priority basis, in order to keep under a demand goal. This demand goal was chosen for Quaker Square based on a computerized load analysis of the entire facility, and it is continually examined and modified for optimum energy savings.



The front desk FACMAN™ computer is used to check rooms in and out.

high as 1344. As of this year, the kw has dropped to 867. The reduction in kw has meant a \$12,000+ savings for the month.

SUCCESS

The Quaker Square Management Co. energy management installation provides a perfect example of how businesses can substantially reduce their energy costs through energy management. Brandon Associates, together with Comse Energy Managers, has created the software and installed the necessary hardware for successful energy management. Nusbaum, President of Quaker Square Management expresses it best for his facility by stating, "that without energy management, Quaker Square's total bill would be approximately \$600,000 annually whereas with energy management, it is less than \$350,000."

NEW PROJECTS

Recently, Ohio Edison, the Quaker Square electric utility company, offered a special demand rate for electric heating equipment. In order to take advantage of this rate, a dual demand metering system was developed for the hotel portion of the complex. It worked! In May of 1990, Quaker Square had a kw as

For more information, please contact:

FACMAN MANUFACTURER • BRANDON ASSOCIATES • Engineering Consultants • 26 Sarah Drive • Farmingdale, NY 11735
• (516) 293 - 1414, or

FACMAN DISTRIBUTOR • COMSE ENERGY MANAGERS • 8413 Tower Park Drive • Twinsburg, Ohio 44087
• (216) 650 - 1911

FACMAN is a registered trademark of BRANDON ASSOCIATES • Designers of computerized energy management systems for over 10 years.