
VANTAGE
Reference Design
restaurants

restaurants

A well designed lighting and control system creates a warm and inviting environment for restaurant patrons. It could be argued that the restaurant visual atmosphere is as important as the food itself. For those reasons the lighting and controls should be well designed and matched to increase the guest experience. Time delayed fade rates can subtly change aesthetics to create the appropriate ambiance.

Restaurant lighting controls need to be easy to use and flexible enough to handle both last minute and seasonal schedule changes. A single keypad or touch screen should be the only interface needed for staff to control an entire restaurant through various shifts and servings including outdoor lighting, floor area, back of house and meeting rooms. The automation system should be powerful enough to control the HVAC, shading and audio needs of the various zones and spaces within the restaurant as well.

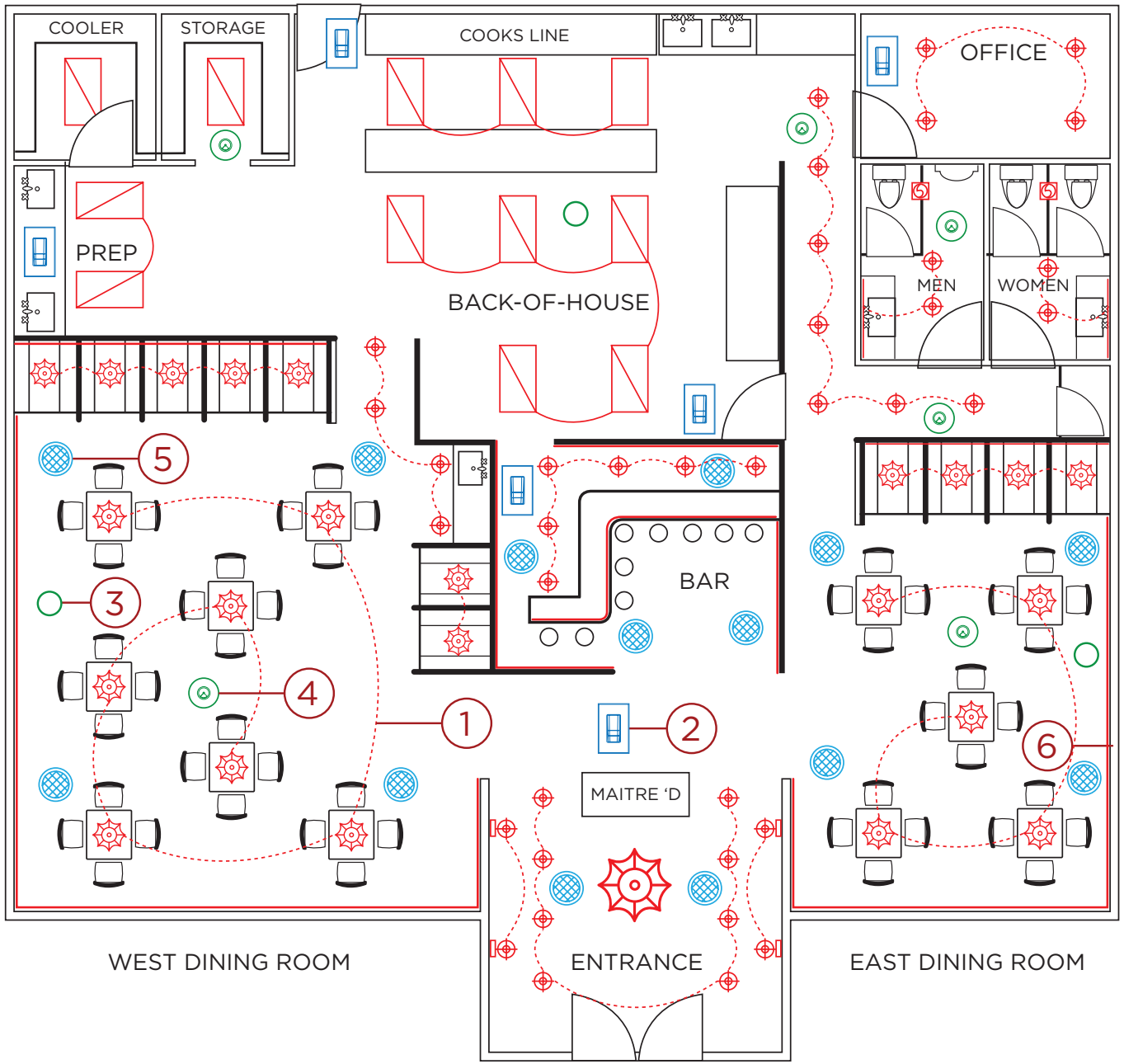
APPLICATION DESCRIPTION

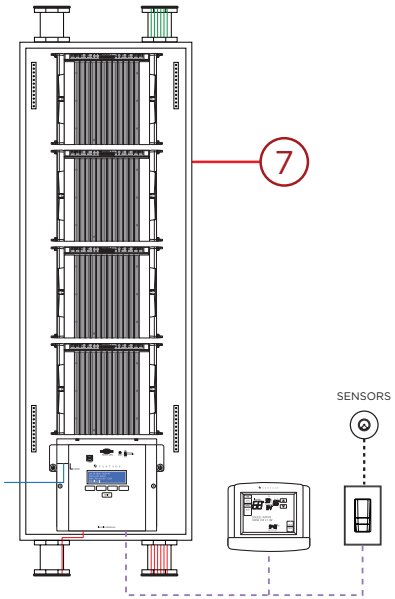
SPACE USE	Restaurant
ACTIVITIES DIMENSIONS	40’ x 40’ Small Restaurant Or Section of Restaurant
CEILING HEIGHT	10’+ Variable
WINDOWS	Along Front of Restaurant
LIGHTING	Incandescent (Can and Pendant), LED Accent and Cove Lighting
LIGHTING APPS	Open and Close Restaurant, Lunch, Dinner, Cocktail Hour, Cleaning

CONTROL NEEDS & SOLUTIONS

LIGHTING	• Control via user, occupancy, timers, light levels. Incandescent, fluorescent and 0-10V lighting. Full on, lunch, or dinner, daylighting. (n.1)
INTERFACE	• Low-voltage keypads discretely placed to move from ON/OFF/Lunch/Dinner modes. Mobile apps or touchscreens in admin areas for overall control. (n.2)
HVAC	• Possible HVAC system or HVAC interface for occupancy (contacts). Control from admin location. (n.3)
SENSORS	• Motion/Occupancy sensors, flush mount temp sensors, light sensors. (n.4)
AUDIO/VIDEO	• Possibility of LCD or LED displays for entertainment. (n.5)
SHADES	• Motorized shades energized via relay or serial interface, controlled via user, mode or timer. (n.6)
INFRASTRUCTURE	• Centralized dimming with 0-10v stations for load control. (n.7)
APPLICATION SPECIFIC NEEDS	• Lunch/Dinner modes (shades closed, lights dim) ON by user, OFF by occupancy or timer.

RESTAURANT FLOOR PLAN





One UN Plaza, New York explore

DESIGN CONSIDERATIONS

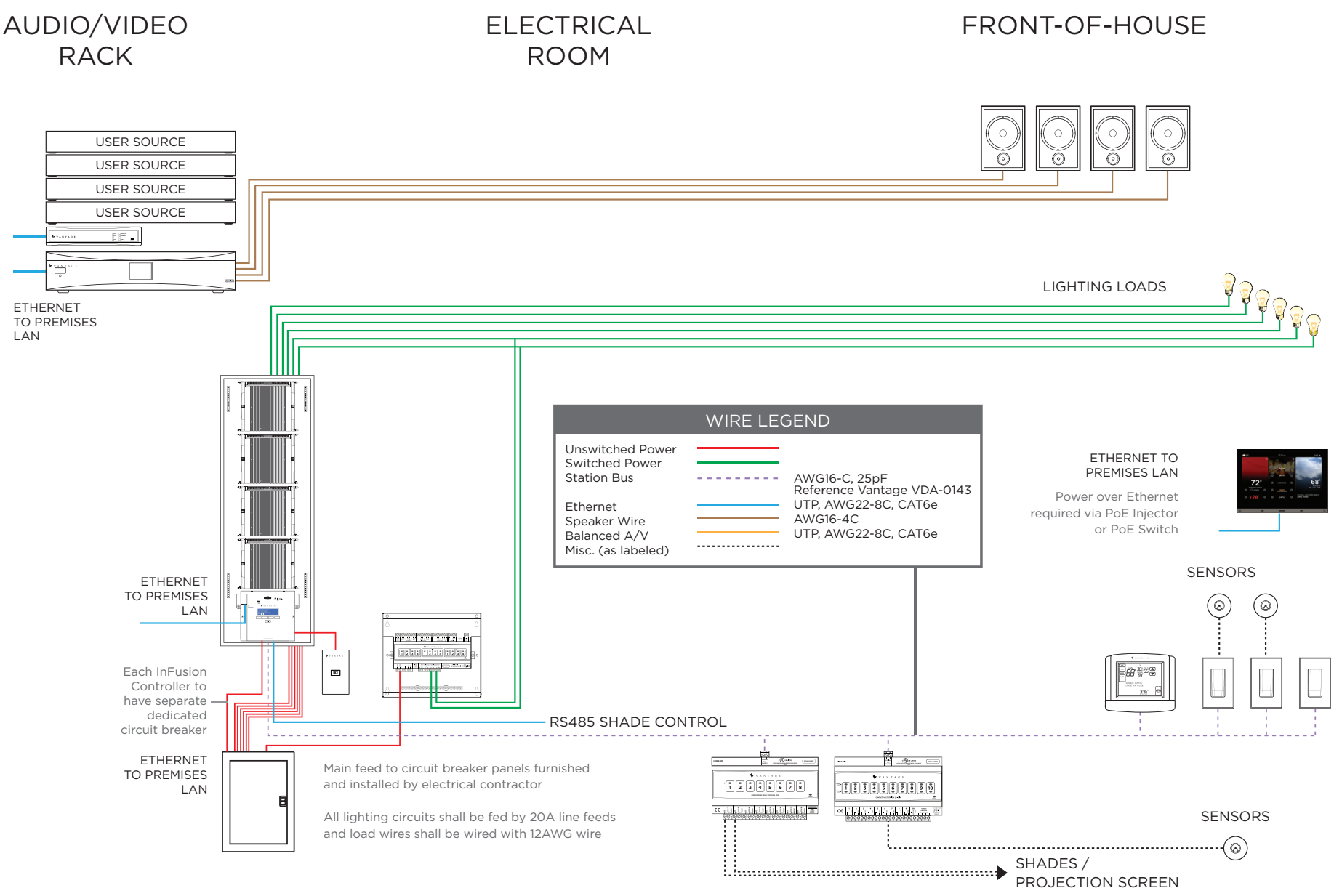
- The Vantage system can provide full control over all aspects of the atmosphere in a restaurant setting. Benefits of having a Vantage system installed in a restaurant include control of lighting scenes based on time of day, HVAC control for maximum comfort, audio distribution, sensors for balancing natural light with artificial light, integrated shade control, and occupancy sensors in the back-of-house to keep energy cost down.

- Lighting in a restaurant is extremely important to maintain the right environment throughout the dining room, service areas, and back-of-house. Timer control, along with local keypads and touchscreens, can change lighting based on time of day, external light levels, and special events. In addition, time based transitions in lighting can manage seamlessly through programmable fade rates.

- Light sensors in the dining room help maintain the lighting levels for scenes based on the natural light or artificial light. Occupancy and motion sensors in the back-of-house can ensure lights turn off when areas (stock rooms, etc.) are not occupied. Or help to turn lights on automatically in areas where needed.

- With the Vantage system audio distribution throughout the dining areas and back-of-house can help to keep the proper ambiance for your guest.

WIRING DIAGRAM



BILL OF MATERIALS

CATEGORY	PART NUMBER	DESCRIPTION	QTY
Enclosures	IMPE-4-IC36	InFusion Main PWR ENCL 4 Module w/Lid Requires an InFusion Controller 36V	1
Controller	IC-36-1	InFusion Controller - 36V Station Bus	1
	Q-MANUAL	Manual Override	1
Modules	SDM12-EM	Standard Dimmer Module 12 Load	4
	TSDM-KIT	Standard Dimmer Module Terminal Board Kit -Left and Right Sides	4
	LVOS-0-10-PWM	Low-voltage 1-10 PWM Station (with Enclosure)	1
Sensors & Integration	EM-LIGHTSENSOR	Ambient Light Level Sensor	2
	FL-MS-MINI-360-16	PIR Motion Sensor - 16 Ft Radius	7
	VDA-0015	Auxiliary Pigtail Cable Assemblies Each	6
	CIS10-DIN	Contact Input Station 10 inputs	1
	LVRS8-DIN	Low Voltage Relay Station (shade control)	1
Keypads Standard (EasyTouch II)	KS15TE-AWYA	KS EASYTOUCH II 5 BTN W/TRM AW ENGRAVED	6
	SR15TE-AWNA	SR EASYTOUCH II 5 BTN W/TRM AW	1
	FP1DTE-AWNP	FP EASYTOUCH II 1-G DEC TrimLine II PLA AW	6
Touchscreens	EQUINOX 73	Vantage Equinox 73 Touchscreen	1
	TPT27-STD-INSTALL	Vantage Equinox 73 Touchscreen Install	1
HVAC	CC-STAT-WL-KIT	Contains STAT plus Q-ETS3	3
	FLUSHSENSOR	Flush Mount Thermostat Sensor	3
Distrubuted Audio	850D-DA 12X8	Digital Distributed Audio Amplifier	1
	IRX II	Infrared Emitter Station With RS232	1
Energy Mgmt.	EM-METER1A-KIT	Energy Meter Kit for Loadcenters Up to 200 Amps (1 Amp Output), EM-METER-1A plus EM-ETHERMOD and Shorting Block	1
	EM-INSTALL	Energy Meter Install Kit (Including Meter Box, Fuses, Fuse Holders, Rigid Nipples and Bushings)	1
	EM-CT200ASOLID	Current Transformer For 200Amp Service – Solid Core (Use With EM-METER-1A KIT)	2

The Hotel, Brussels explore

INSTALLATION NOTES

- Install the InFusion Controller in the main lighting panel a temperature conditioned room back-of-house with 36” front clearance. 0-10V dimming stations are located in auxiliary lighting panels.

- Vantage two-conductor station bus cabling is run from the controller to keypads and thermostats. Topology is completely open, but total bus length limitations and maximum distance limitations exist (2000’ maximum per bus, 1000’ maximum distance).

- An Ethernet port to the InFusion Controller allows for centralized and remote system access as well as enabling interface apps on fixed location and portable devices.

- All low-voltage cabling to lighting panels is to be brought through bottom knockouts where termination boards are located within the low-voltage barrier.

- Occupancy Sensors wire either to low-voltage keypads or Contact Input Stations via 22AWG cable with a minimum of three conductors.

- A variety of window shade motor control options exist. Whether line-voltage or low-voltage, direct drive or serial port controlled, the hardware to affect the solution will vary accordingly.

- Thermostats are located remotely with local flush wall-mount temperature sensor (maximum run 160 ft, 18AWG 2C).

- Ethernet and power availability is required at the fixed location, in-wall touch panels. PoE (Power Over Ethernet) capabilities allow for a single CAT6e cable run to provide both.

- Electrical power cabling runs from each lighting load to a pre-assigned location in a lighting panel.

- Vantage 850D-DA and IRX II connected to Premises LAN via Cat6e, on the same network as the Vantage controller. IRX II is used for control of audio sources (provided by integrator) such as satellite radio, iPod docks, music library devices, tuners, CD players. Speaker placement and zones to be specified by integrator based on requirements of the management.

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The content in Vantage reference designs for restaurants is intended to provide a starting point for designers that are contemplating a restaurant project with lighting control and integrated automation. The photos included, unless labeled, are not exact project replicas but are representative of this type of project.