

## AMBIANCE® LIGHTING SYSTEM

INSTRUCTIONS FOR ASSEMBLY AND INSTALLATION OF THE AMBIANCE® 500W (SINGLE OUTPUT) AND 1000W (DUAL 500W OUTPUT) 24V, MULTI-TAP TRANSFORMERS.

**WARNING:** BE SURE THE ELECTRICITY TO THE WIRE YOU ARE WORKING ON IS SHUT OFF; EITHER THE FUSE REMOVED OR THE CIRCUIT BREAKER OFF.

Use of other manufacturers components will void warranty, U.L. listing, and create a potential safety hazard.

**WARNING:** RISK OF ELECTRIC SHOCK. THIS TRANSFORMER IS FOR INDOOR USE ONLY.

**WARNING:** DO NOT ENERGIZE ELECTRICAL SUPPLY CIRCUIT TO TRANSFORMER(S) UNTIL ALL CONNECTIONS HAVE BEEN MADE AND TESTED ACCORDING TO NATIONAL ELECTRICAL CODES AND ALL LOCAL ELECTRICAL CODES. IF YOU ARE UNCLEAR ON HOW TO PROCEED, CONTACT A QUALIFIED ELECTRICIAN.

**CAUTION:** RISK OF FIRE: 12V LAMPS MUST NOT BE USED IN A 24V SYSTEM. INSTALL CABLE SO THAT CAUTION PRINTED ON CABLE IS VISIBLE AFTER INSTALLATION.

**CAUTION:** THE LOCATION AND NUMBER OF TRANSFORMERS INSTALLED ON RESIDENTIAL CIRCUIT BREAKERS MAY CAUSE THE BREAKERS TO TRIP WHEN THE LIGHTING LOAD IS ENERGIZED. IF THIS OCCURS REPLACE THE RESIDENTIAL CIRCUIT BREAKER WITH A BREAKER RATED FOR HIGH IN-RUSH CURRENT.

### TRANSFORMER INSTALLATION

Select desired location to mount TRANSFORMER(S). Not in contact with insulation and away from oven or any other source of intense heat and as close as possible to the lighting system to achieve the most efficient operation. Minimum air space around transformer at least 12" on each side. TRANSFORMER(S) can be mounted vertically or horizontally.

Use MOUNTING BRACKETS on TRANSFORMER(S) as a template to locate MOUNTING SCREWS.

After firmly mounting the TRANSFORMER(S) select a listed CONNECTOR (not furnished) appropriate to the type of ELECTRICAL SUPPLY CABLE at site. Remove cover and desired KNOCKOUTS from TRANSFORMER(S) CASE and fasten CONNECTOR to CASE and secure in place with CONNECTOR.

To control transformer, install ON/OFF switch or good quality line voltage dimmer on 120V side of transformer.

### LINE VOLTAGE WIRING AND GROUNDING

Connect SUPPLY GROUND TO STUD inside TRANSFORMER CASE with HEX NUT with INTEGRAL LOCKWASHER. Connect wire marked "common" on transformer to white supply wire. Connect wire marked "120 volt" to black supply wire. Refer to section for remote installation details.

Use listed wrenuts to make connections.

### LOW VOLTAGE WIRING

Select a listed CONNECTOR (not furnished) appropriate to the type of CONDUIT or Ambiance® cables and fasten CONNECTOR to TRANSFORMER CASE. Slip CONDUIT or cables into TRANSFORMER CASE and secure in place with CONNECTOR.

Push one bare wire under the terminal screw marked COM on the terminal block and tighten screw. Push the other bare wire under the appropriate voltage terminal screw (see figure 2) on terminal block and tighten screw.

**CAUTION:** BE SURE TO TEST THE VOLTAGE AT THE START OF THE LIGHTING SYSTEM TO MAKE SURE IT DOES NOT EXCEED 25V. VOLTAGES HIGHER THAN 25V WILL OVERDRIVE 24V LAMPS WHICH MAY CAUSE SHORT LAMP LIFE, OVERHEATING, DAMAGE TO THE SURROUNDINGS, OR FIRE.

FOR DUAL OUTPUT TRANSFORMERS: BE SURE TO BALANCE YOUR WATTAGE LOAD, AND DO NOT EXCEED THE MAXIMUM WATTAGE FOR EACH OUTPUT (i.e. YOU CAN NOT COMBINE A DUAL OUTPUT TO CREATE A SINGLE OUTPUT).

NOTE: Different voltages (multiple cables) can be used at the same time. The total lamp wattage on the circuit cannot exceed the rated wattage of the transformer. One wire from each cable must be connected to the common (COM) terminal.

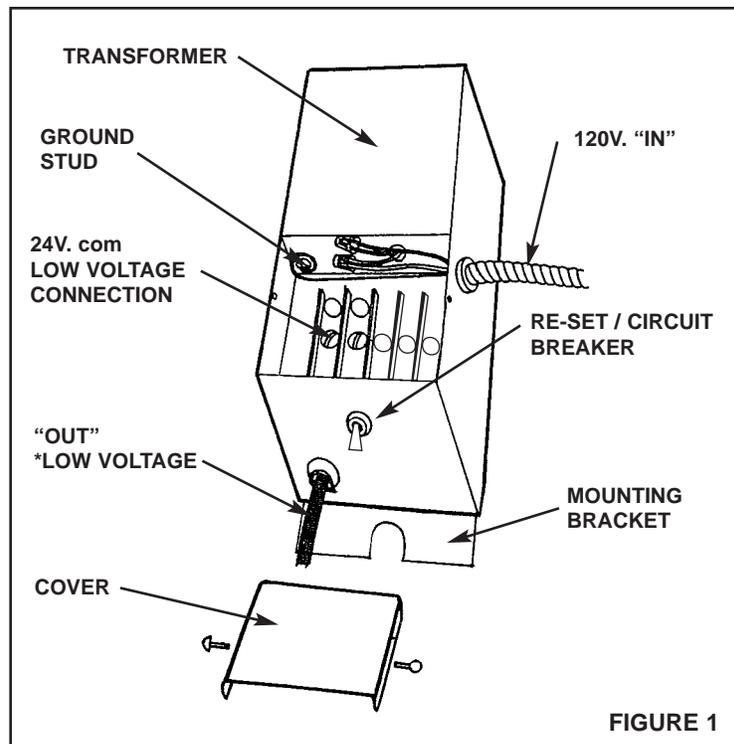
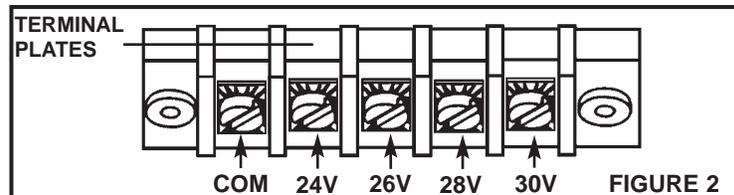


FIGURE 1

\*NOTE: Each low voltage cable from the transformer must be enclosed (see back for detail).

## ELECTRICAL PROTECTION

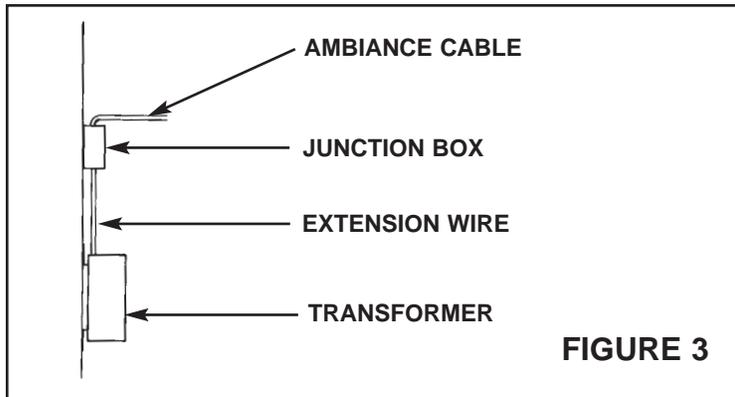
This unit contains dual circuit protection. The primary or 120 volt side of the transformer is thermally protected and will automatically shut off when overheated. If the secondary, (or 24 volt) side is overloaded the circuit breaker on the transformer case will trip. To reset the circuit breaker, just depress the circuit breaker reset button. If there is a short circuit on the low voltage side, the circuit breaker will also trip.

If the total lamp wattage on the circuit exceeds the rated wattage of the transformer, reduce the wattage by lowering the lamp wattage or reduce the number of fixtures on the circuit. If the unit continues to cycle on and off, have the system inspected by a qualified electrician.

**CAUTION: To avoid risk of fire, DO NOT exceed these limits:**

1. 12/2 Ambiance® cable is suitable for 12V only, for 250W consumed load.
2. 10/2 Ambiance® cable is suitable for 500W maximum consumed load when used with 24V system.
3. Wattage load must be a minimum of 50% of transformer capacity; for example, 500W transformer must have a minimum of 250W load. The voltage at the start of the lighting system, or a single fixture, must not exceed 25V for 24V system.
4. The wattage load cannot exceed a maximum of 100% of each of the outputs.

Install COVER on TRANSFORMER CASE and secure in place with COVER SCREW.



**FIGURE 3**

**CAUTION: To avoid risk of fire when using boost tap, DO NOT exceed 90% of rated transformer wattage.**

## REMOTE TRANSFORMER INSTALLATION

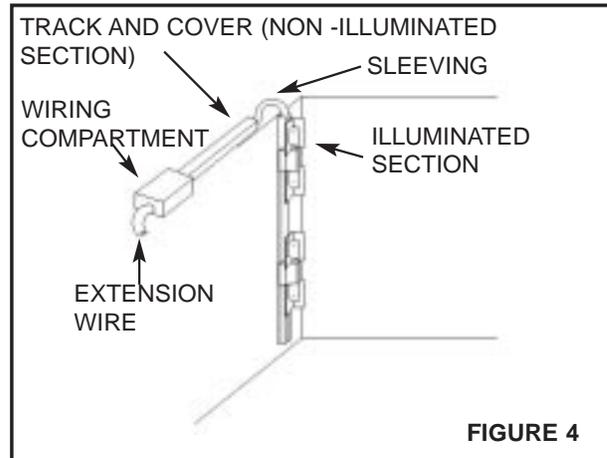
Proper selection of the cable size between remote transformer and first socket is based on the total wattage load and length of the run. (See chart)

Use U.L. listed Junction Box and U.L. listed Terminal Block inside or 9481 or 9459 miniature wiring compartments (see FIG 3).

Each Ambiance® cable from the transformer to the point where the first socket will be installed must be a minimum of 18" long and enclosed in the 9435 track and 9439 cover or listed conduit; or use properly sized U.L. listed extension wire (Romex, BX) between transformer and start of the lighting run; be sure to check your local codes. Cable between illuminated sections must be protected from damage. Enclose the cable in these areas with track and cover or listed conduit.

## INSIDE CABINET INSTALLATION

1. Drill 1/2" diameter hole or notch surfaces where cable will be running through shelving or cabinet partition.  
NOTE: Low Voltage Ambiance Cable must be covered in Sea Gull Lighting Sleeving (#9430) or track and cover (#9435 & #9439).
2. Install lampholders (#9427 & #9428 etc.), space lampholder no closer than 6" center to center.
3. Do not install lampholder closer than 1 1/2" to closed ends (wall surfaces, partitions etc.).
4. Do not install more than 20 watts per cubic foot of cabinet air space.
5. Be sure not to decrease the free air space inside the cabinet.

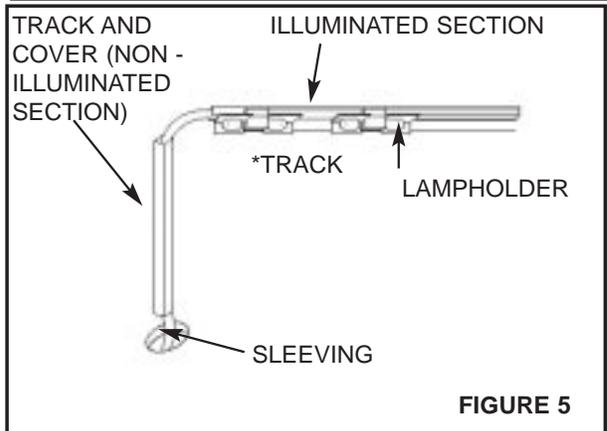


**FIGURE 4**

WIRE SELECTION GUIDE FOR REMOTE TRANSFORMER LOCATION						
TRANSFORMER SIZE (WATTS)	TOTAL CONSUMED LAMP WATTAGE	LENGTH OF WIRE (FT.)				
		20	25	30	35	40
150w (12v)	75	14	14	12	12	12
	100	12	12	12	12	12
	135 max.	12	12	10	10	10
300w (12v)	150	10**	10	10	10	10
	200	10	10	10	2x12†	2x12†
	270 max.*	10	2x12†	2x10†	2x10†	2x10†
(2) 300w (12v)						
500w (23v)	250**	10	10	10	10	10
	350**	10	10	10	10	10
	450 max.*	10	10	10	10	10
(2) 500w (23v)						

WIRE SIZE AWG

\* MAXIMUM WATTAGE BASED ON 10% LINE LOSS, WIRE LENGTH AND SIZE CALCULATED TO PROVIDE 12V (OR) 23V AT FIRST SOCKET ON SYSTEM FROM TRANSFORMER TO FIRST SOCKET, FROM EACH OUTPUT.  
 \*\* MUST NOT USE BOOST TAP, TO PREVENT OVERVOLTAGE AT FIRST SOCKET  
 † 2x12=2 PARALLEL RUNS OF 12 GAUGE CABLE. NOT FOR USE WITH 9481



**FIGURE 5**