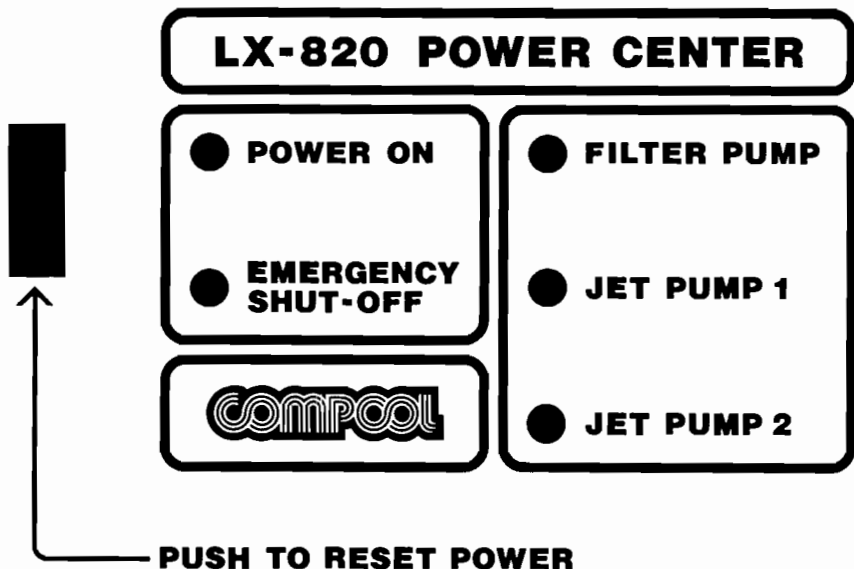




EMERGENCY SHUT-OFF CONTROL FOR COMMERCIAL SPAS



INTRODUCTION

The **LX-820 Control System** offers economy and ease of installation for commercial spas which require an emergency shut-off switch. It is applicable to both new and existing installations.

The system includes a **Power Center** and an **Emergency Shut-off Switch**, which is available with or without an audio alarm.

In the event of an emergency, the spa can be shut off by pushing the red emergency button. This action interrupts power to the filter pump, jet pump, and optional auxiliary pump or air blower. Pulling the emergency button back out will return the pumps to normal operation, and shut off the alarm (if applicable).

IMPORTANT SAFETY INSTRUCTIONS

Basic safety precautions should always be followed when operating and servicing this electrical equipment, and when using the spa.

READ AND FOLLOW ALL INSTRUCTIONS.

Prolonged immersion in hot water may induce hyperthermia.

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6 ° F. The symptoms of hyperthermia include dizziness, fainting, drowsiness, lethargy, and an increase in the internal temperature of the body.

The effects of hyperthermia include:

- 1) unawareness of impending hazard;
- 2) failure to perceive heat;
- 3) failure to recognize the need to exit the spa;
- 4) physical inability to exit the spa;
- 5) fetal damage in pregnant women; and
- 6) unconsciousness, resulting in a danger of drowning.

WARNING: The use of alcohol, drugs or medication can greatly increase the risk of fatal hyperthermia in hot tubs and spas.

The water in a spa or hot tub should never exceed 104 ° F.

Water temperatures between 100 ° F and 104 ° F are considered safe for a healthy adult. Lower temperatures are recommended for extended use (exceeding 15 minutes) and for young children.

Before entering the spa, the user should always check the water temperature with an accurate thermometer.

Since excessive water temperatures have a high potential for fetal damage during the early months of pregnancy, pregnant or possibly-pregnant women should limit spa water temperatures to 100 ° F.

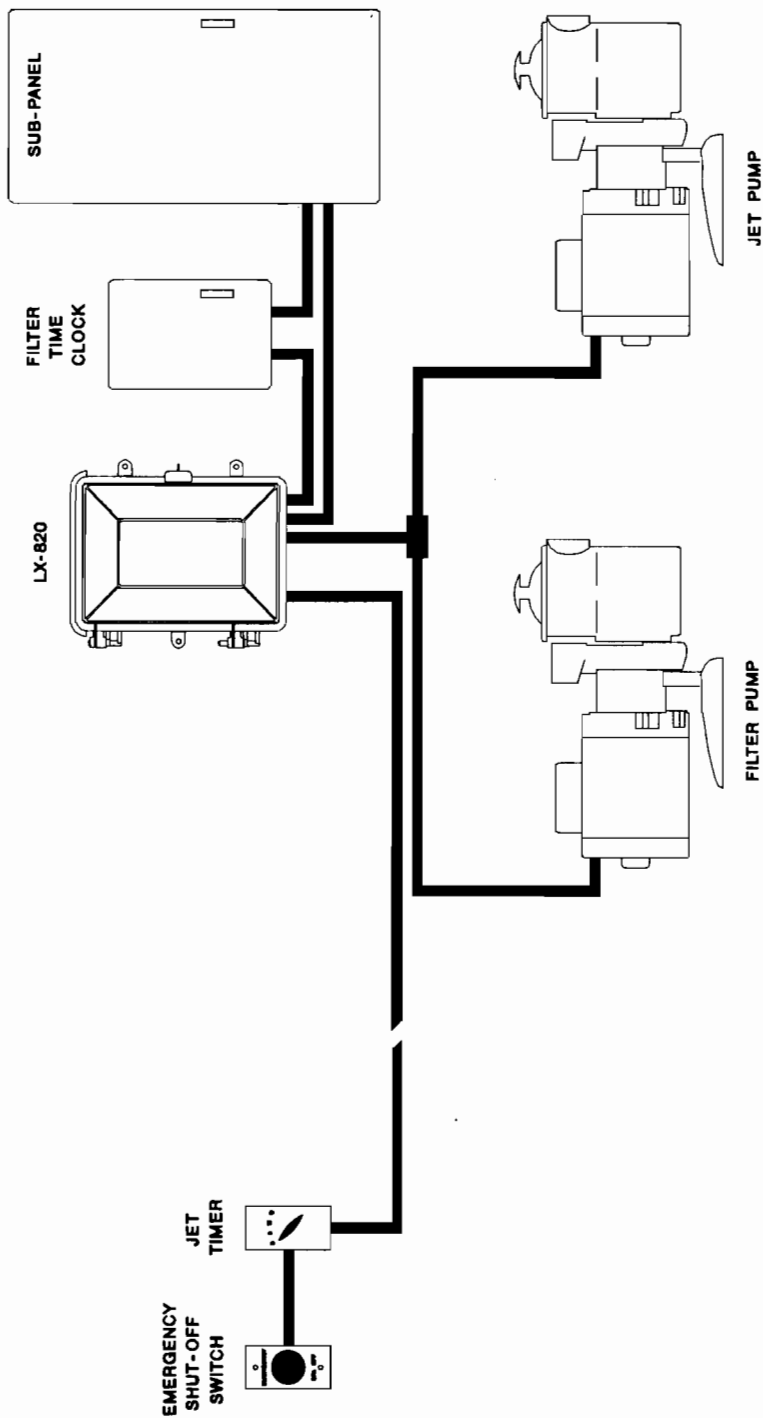
The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.

Persons suffering from obesity or with a medical history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using the spa.

Persons using medication should also consult a physician before using the spa, since some medications may induce drowsiness or affect heart rate, blood pressure or circulation.

SAVE THESE INSTRUCTIONS

ELECTRICAL SCHEMATIC



INSTALLATION INSTRUCTIONS

IMPORTANT SAFETY PRECAUTIONS :

All wiring must be performed by a qualified electrician.

Basic safety precautions and local codes should be observed when installing and using this electrical equipment.

EQUIPMENT LOCATION :

ALL ELECTRICAL EQUIPMENT MUST BE LOCATED FIVE FEET OR MORE FROM THE WATER'S EDGE.

Select a convenient location to mount the LX-820 Power Center.

Wall-mount the LX-820, using appropriate screws through the three external mounting points located on the side of the enclosure.

Install to provide drainage of compartment for electrical components.

NOTE: In climates where direct sunlight can produce temperatures exceeding 130° F, mount the LX-820 in a shaded area.

Select a convenient location to mount the ESO-1 or ESO-2 Emergency Shut-off Switch.

Provide a single-gang electrical box for the ESO-1 (without alarm), or a double-gang electrical box for the ESO-2 (with alarm).

The electrical box must be rated for outdoor use if Emergency Shut-off Switch is located outside.

Provide and install a standard spring-wound timer for the Jet Pump and a mechanical time clock for the Filter Pump.

NOTE: For retrofit applications, the existing spring-wound timer and mechanical time clock can be rewired to the LX-820.

LOW VOLTAGE CABLES :

A separate 2-conductor 22AWG cable is required between the LX-820 and each of the following:

1. Emergency Shut-off Switch.
2. Spring-wound Timer for Jet Pump.
3. Optional second Spring-wound Timer.

Install cable, using plastic or metallic conduit where cables run underground, through concrete, etc.

In retrofit applications, the old wiring can be removed and the existing conduit can be reused for the new low voltage cable.

CAUTION: Never install low voltage and high voltage wires in the same conduit.

LX-820 POWER CENTER :

Loosen **LOCK SCREW** on service panel of LX-820, and swing open to expose the high and low voltage wiring compartments.

Pull low voltage cables through hole on bottom left side of LX-820. Strip wires 1/4", and connect to circuit board at appropriate screw terminals in accordance with low voltage wiring diagram located inside enclosure cover.

NOTE: For the convenience of the serviceperson, the 6 position screw terminal can be unplugged from the circuit board without disconnecting wires.

EMERGENCY SHUT-OFF SWITCH :

At the LX-820, connect 2-conductor cable from the Emergency Shut-off Switch to circuit board at **SHUT OFF screw terminals**.

If model ESO-2 (with alarm) is being installed, connect red wire to the **"-" screw terminal** and green wire to the **"+" screw terminal**.

If model ESO-1 is being installed, color-coding is unimportant.

At the Emergency Shut-off Switch, strip insulation of each wire 1/4", and make appropriate connections to **screw terminals #1 and #2** on switch contact block:

For ESO-2, connect red wire to **screw terminal #2** and green wire to **screw terminal #1**, but do not disconnect factory wiring between contact block and alarm.

For ESO-1, color-coding is unimportant.

Position gasket over back of switchplate, and mount to electrical box using mounting screws provided.

SPRING-WOUND TIMER :

At the LX-820, connect 2-conductor cable from the Spring-wound Timer to circuit board at **JET1 screw terminals**. There is no polarity, so color-coding is unimportant.

For applications where a second Spring-wound Timer is being installed, or if one Spring-wound Timer is being used to control two pumps, consult **SYSTEM OPTIONS** (page 7).

At the Spring-wound Timer(s), make appropriate connections in accordance with manufacturer's instructions.

HIGH VOLTAGE WIRING :

The high voltage wiring section is located behind the service panel in right side compartment of the LX-820 Power Center.

Holes are provided on bottom of enclosure for conduit mounting.

The Power Center can be connected to either 115VAC or 230VAC.

Provide conduit as necessary, and run the appropriate wires to the high voltage wiring compartment.

Connect wires to the transformer primary wires (using wire nuts), in accordance with appropriate diagram located inside enclosure cover.

Note: Transformer is prewired at the factory for 230VAC.

A Grounding Bus is provided within the high voltage wiring compartment.

To reduce the risk of electric shock, connect this screw terminal to the grounding terminal of the electric service or supply panel with a continuous green insulated copper wire, equivalent in size to the circuit conductors supplying this equipment, but no smaller than #12 AWG.

Additionally, a wire connector is provided for bonding to local ground points. To further reduce the risk of electric shock, this connector should be bonded with a #8 AWG copper wire to any metal ladder, water pipes, or other metal within 5 feet of the Pool or Spa.

POWER RELAYS :

The LX-820 is provided with 2 power relays which are located within the high voltage wiring compartment:

RELAY #1 (plugged into circuit board at **SPA PUMP socket**).

Provide conduit and run the appropriate high voltage wires from Filter Pump Time Clock to the LX-820, and from Filter Pump to the LX-820.

At the LX-820, use wire nuts to make the necessary connections to **RELAY #1**, in accordance with diagram located inside enclosure cover: connect **black wires** to LOAD terminals of Time Clock, and **red wires** to Filter Pump.

NOTE: In retrofit applications, make sure that the existing wiring between the Filter Pump and the Time Cock is disconnected.

RELAY #2 (plugged into circuit board at **JET1 socket**).

Provide conduit and run the appropriate high voltage wires from Jet Pump Circuit Breaker to the LX-820, and from Jet Pump to the LX-820.

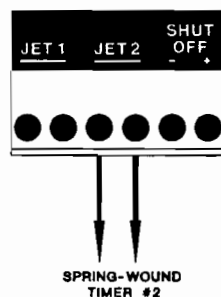
At the LX-820, use wire nuts to make the necessary connections to **RELAY #2**, in accordance with diagram located inside enclosure cover: connect **black wires** to Circuit Breaker, and **red wires** to Jet Pump.

SYSTEM OPTIONS

ADDITIONAL JET PUMP CONTROL :

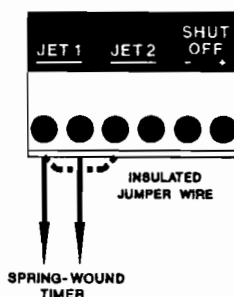
For systems which utilize a second Jet pump or air blower, it is possible to add a power relay so that this equipment can also be inactivated by the Emergency Shut-off Switch.

Install model RLY-SC Relay Kit in the high voltage compartment of the LX-820 in accordance with instructions provided, and plug onto circuit board at **JET2 socket**.



If a separate Spring-wound Timer is being added to control this equipment, provide 2-conductor cable between Spring-wound Timer #2 and low voltage compartment of LX-820, and connect to circuit board at **JET2 screw terminals**.

If only one Spring-wound Timer is being used to control all of the spa equipment, provide an insulated jumper wire between **screw terminals #1 and #3** on LX-820 circuit board.



ADDITIONAL FILTER PUMP CONTROL :

For systems which utilize a second filter pump (for a swimming pool), it is possible to add a power relay so that this equipment can also be inactivated by the Emergency Shut-off Switch.

Install model RLY-SC Relay Kit in the high voltage compartment of the LX-820 in accordance with instructions provided, and plug onto circuit board at **POOL PUMP socket**.

ONE YEAR LIMITED WARRANTY

Compool Corporation warrants to the purchaser of this Electronic Control System, for a period of one (1) year from the date of original purchase for use, that any defective product proved to be caused by faulty workmanship or faulty material, will be repaired or replaced at Compool's option for no charge, providing the product is returned to Compool, with all transportation charges prepaid.

No allowances will be made for labor for the removal or reinstallation of any so-claimed defective products.

This warranty covers the **Power Center and Emergency Shut-off Switch**, including all components and parts.

It extends to the first retail purchaser and any subsequent owners of the Control System.

This limited warranty applies only to Controls which have been installed and maintained in strict accordance with installation and operating instructions provided by Compool Corporation, using installation hardware supplied and/or recommended in writing by Compool, and to Controls which have been connected to the correct supply voltage.

This limited warranty does not apply to any Controls which have been repaired or altered by anyone other than Compool or a person authorized by it; or which have been subject to misuse, neglect, or accident; or which have been damaged by wind, freezing or other cause, thing, person or act of God; or which have been subject to damage in transit, during installation, or by someone other than Compool Corporation; or which have been damaged because of a defect in a component or part which is not part of the Compool Control System; or upon which the serial number or manufacture date has been altered, effaced or removed.

Unless state law provides otherwise, Compool Corporation shall not be liable for consequential or incidental damages resulting from breach of this written warranty or any implied warranty, or for any inconvenience, loss of time, or incidental expenses such as telephone calls.

To exercise this warranty, send defective unit with copy of dated receipt and a brief description of the problems encountered, postage prepaid, to:

COMPOOL CORPORATION
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