




# IntelliChlor™ Power Center (For IntelliChlor™ Model IC20, IC40)



 ETL Listed  
Conforms to  
UL Standard 1081  
3077230  
Patents Pending

## Installation Guide

IMPORTANT SAFETY INSTRUCTIONS  
READ AND FOLLOW ALL INSTRUCTIONS  
SAVE THESE INSTRUCTIONS



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1620 Hawkins Ave., Sanford, NC 27330 • (919) 566-8000  
10951 West Los Angeles Ave., Moorpark, CA 93021 • (805) 523-2400

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May 2005

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# IMPORTANT SAFETY PRECAUTIONS

SAVE THESE INSTRUCTIONS



**Important Notice: Attention Installer:** This manual contains important information

about the installation, operation and safe use of this product. This information should be given to the owner and/or operator of this equipment.

**⚠ WARNING - IMPORTANT SAFETY INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS. READ AND FOLLOW ALL INSTRUCTIONS.**



Before installing this product, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.

**⚠ WARNING -** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.



**⚠ WARNING -** When mixing acid with water, **ALWAYS ADD ACID TO WATER. NEVER ADD WATER TO ACID.**



**⚠ WARNING -** To reduce the risk of injury, service should only be attempted by a qualified Pool Service Professional.

**⚠ WARNING -** Do not operate electrolytic cell without proper flow or water circulation. A build-up of flammable gases will result in hazardous conditions.



**⚠ WARNING -** In order to comply with UL1081 Section 53.5 and UL1795 (Hydro-massage Bathtubs) Sections 21.1, 59.5 and 63.1 and some local electrical codes: "Connect only to a circuit that is protected by a ground fault circuit-interrupter (GFCI)." Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, there is ground current flowing, indicating the possibility of an electric shock. Do not use this unit. Disconnect this unit and contact a qualified service representative before using. A green colored terminal (or a wire connector marked "G", "GR", "Ground" or "Grounding") is provided within the terminal compartment in the transformer enclosure. To reduce risk of electric shock, connect this terminal or connector to the grounding terminal of your electric service or supply panel with a conductor equivalent in size to the circuit conductors supplying this equipment. Power supply must be interconnected with Pool Pump motor power source. This insures the chlorinator and pool pump will turn on and off together. Use of chemicals other than those recommended may be hazardous. Follow the Chemical Manufacturer's Instructions.

**CAUTION -** Install the IntelliChlor unit a minimum of two (2) feet from the heater outlet.

## Installation Steps Summary

The recommended Power Center installation steps are:

- ➊ **Review Important Safety Precautions (page ii and 2):** Review this important information.
- ➋ **Review Power Center Overview (page 1):** Review the Power Center overview information.
- ➌ **Installing the IntelliChlor Power Center (page 2):** Installation information.
- ➍ **Operating Instructions (page 2):** Operating information.

## Technical Support

Contact Technical Support at:

**Sanford, North Carolina** (8 A.M. to 5 P.M.)

Phone: (800) 831-7133

Fax: (919) 566-8920

**Moorpark, California** (8 A.M. to 5 P.M.)

Phone: (800) 831-7133 (Ext. 6502)

Fax: (805) 530-0194

## Web site

visit [www.pentairpool.com](http://www.pentairpool.com) and [www.starite.com](http://www.starite.com)

**SAVE THESE INSTRUCTIONS**

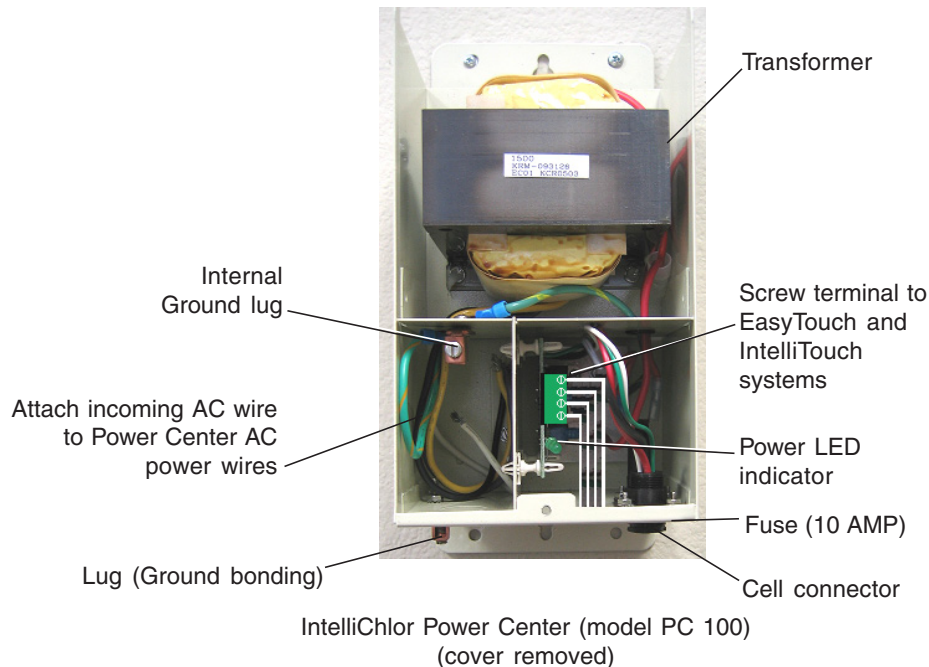
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## Introduction

### Power Center Overview

The IntelliChlor™ system comprises of a Power Center and electrolytic Cell. The Power Center converts AC electrical current to a low voltage DC current required by the IntelliChlor electrolytic cell to operate and create chlorine for the swimming pool and spa. The Power Center is connected with the pool circulation pump electrical source so that the electrolytic cell only operates when the pool pump is on. It is recommended that a pool pump timer be used to save on energy and prolong the service life of your pool pump and IntelliChlor. A timer is not included as part of the Power Center kit. The IntelliChlor Power Center can be connected to an IntelliTouch system for automation control.

The Power Center enclosure can be mounted vertically on a flat surface such as a wall or post no more than 15 feet away from the cell controller. The Power Center houses the transformer, fuse, and connector to the cell. 110 VAC and 220 VAC wiring is connected at this box, with 35 VDC output to the cell controller. A 10 AMP fuse is mounted on the bottom of the enclosure for additional protection. There are no other controls or lights on the outside of the Power Center. A green power LED indicator is mounted on the inside main board. When the Power Center is switched on, the power LED is lit.



### IntelliChlor Models

The IntelliChlor salt chlorinator system models are:

- PC 100 (P/N 520556): Power Center Kit.
- IC 20 Cell (P/N 520534): Designed for pools up to 20,000 U.S. gallons (75 liters), this cell will produce approximately 0.70 pounds of chlorine per 24 hour period. This cell uses two terminal blades and five bi-polar blades making this system more cost competitive.
- IC 40 Cell (P/N 520555): Designed for pools up to 40,000 U.S. gallons (151 liters), the cell will produce approximately 1.40 pounds of chlorine per 24 hour period. This cell uses 3 terminal blades and ten bi-polar blades, five on each side of the center terminal blade. This will supply more than enough chlorine for almost any residential and many smaller commercial pools.
- IntelliChlor pass-through cell (P/N 520588): For new pool start-up.

## Operating Instructions

**When using a pool pump timer:** The Association of Pool and Spa Professionals (APSP) recommends that all water in a residential pool pass through the filtration system at least once every 12 hours (referred to as pool water turnover). However, many factors have an effect on actual pump and filter system run times. Pool size, source of water, direct sun light, indoor/outdoor, screened and unscreened, filtration system, cold or hot weather, swimmer load, rain, organic debris, algae, etc., are all factors which contribute to either more or less pool pump and filter system run times. Because of these differences, it is extremely difficult to set an initial run time (starting point) for the pool pump and chlorinating system.

Try initially setting the pool pump timer to 12 hours. It will take a few days to get just the right amount pool pump operating time. When the Chlorinator is wired with a pool pump timer (see page 6) **results will vary greatly from one pool installation to the next, so this should be discussed with either the pool builder or your pool professional.**

## Installation

The following information describes how to install the IntelliChlor Power Center. Before installing, review the IntelliChlor kit contents and required tools. For cell installation instructions, see the “IntelliChlor User’s Guide” (P/N 520584).

### Kit Contents

- 1 Power Center
- 4 Anchors and screws
- 1 Installation Guide (This manual)

### Required Tools

- Phillips & Flathead Screwdrivers
- Voltmeter. (To determine AC line voltage to Power Center)
- Electric drill and 1/4" masonry drill bit. (To mount Power Center)

## SAFETY PRECAUTIONS - PLEASE READ THE FOLLOWING



When using electrical products, basic precautions should always be followed, including the following:

- **DANGER: RISK OF ELECTRIC SHOCK, WHICH CAN RESULT IN SERIOUS INJURY OR DEATH.** Before attempting installation of service, ensure that all power to the circuit supplying power to the system is disconnected/turned off at the circuit breaker. Connect only to a circuit protected by a ground fault circuit-interrupter (GFCI).
- Grounding (earth bonding) is required. The unit should be installed by a qualified service person and grounded.
- Install IntelliChlor assembly to allow access to control panel buttons and the Power Center.
- **Read Safety Precautions and Important Instructions on page 3 Before attempting any electrical wiring, be sure to read and follow Safety Instructions. Wiring should only be performed by a qualified professional.**
- Install the IntelliChlor unit a minimum of two (2) feet from the heater outlet.
- Pipe couplings: Schedule 80, maximum pressure 150 psi at 70° F.
- **Note:** Operate unit with minimum flow of 20 gpm. For high flow applications, use a bypass loop.

## Installing the Power Center

Install the Power Center at eye level as close to the IntelliChlor pump and filtration as possible.

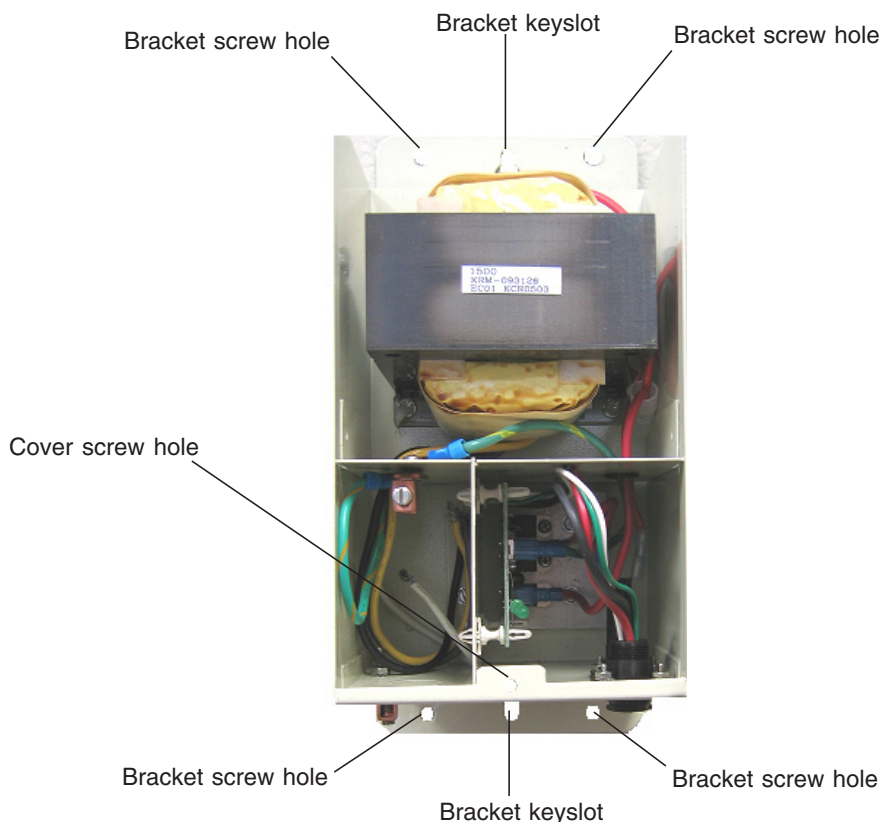
**CAUTION: The Power Center must be installed more than 8 ft. (2.44 m) from the pool edges.**

Leave sufficient clearance on all sides of the Power Center. Ensure that the 15 ft. (4.61 m) DC power cord from the Cell assembly pipe location can reach the Power Center location. The Power Center enclosure can be mounted on the wall up to 15 feet away from the cell controller.

*Note: For installation instructions about connecting the cell to Power Center, see the “IntelliChlor User’s Guide” (P/N 520589).*

### Mount the Power Center enclosure:

1. Remove the screw securing the Power Center cover and remove the cover.
2. Mount the Power Center on a flat surface such as a wall or post and mark each mounting bracket screw hole location. There are two (2) screw holes and a keyslot for the top and lower bracket.
3. Drill six ¼ inch (6.35 mm) holes. Install anchors (provided) if necessary and one screw for each bracket keyslot location.
4. Position each Power Center keyslot (top and lower) slot over the two mounting screws just installed. Tighten the two screws to secure the enclosure.
5. Install and tighten four mounting screws (two in the top and two in the lower bracket).

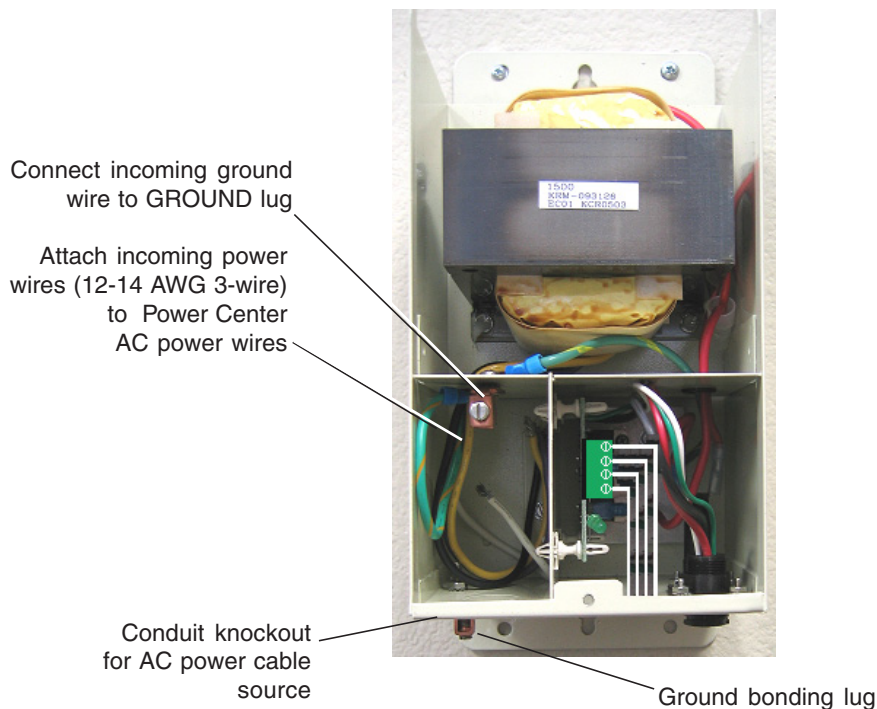


### Connect AC power to the Power Center:

6. Use 12-14 AWG three conductor insulated wire for the main AC power connection. Connect the Power Center to pool pump AC power source. The Power Center should be connected to the pump motor switch or automatic timer. For system wiring information, see page 6.
7. Attach incoming GROUND wire to the ground lug inside the Power Center.
8. **Earth Bonding (Grounding):** Connect the earth wire to the **GROUND BONDING LUG** located on the bottom of the Power Center enclosure. Earth bonding is necessary to ensure personal safety and safety of equipment.

**IMPORTANT:** A number 8-gauge (8.4 mm) wire is recommended when connecting the power supply to a Permanent Earth Ground connection that is acceptable to the local inspection authority. Attach the bonding point located on bottom of the Power Center to a Common Earth Bonding Point. Do not use the IntelliChlor as the Common Bonding Point. Each piece of non-chlorinator pool equipment requiring a ground should be bonded to the Common Approved Earth Bonding Point. **Never ground pool pump to Power Center.**

9. Reinstall the Power Center cover and secure with the cover screw.
10. The Power Center installation is complete. For IntelliChlor operating information, refer to the IntelliChlor User's Guide (P/N 520589).



## Troubleshooting

**Note:** Turn off power to unit before attempting to service or repair.

Problem	Possible Cause	Corrective Action
The IntelliChlor green power light on the control panel is not on.	Fuse in Power Center is open.	Replace 10 AMP fuse, located at bottom of Power Center.
	No AC power to Power Center.	Verify time clock is providing 110 VAC or 220 VAC to Power Center when active.
	Transformer leads not wired correctly in Power Center.	Verify transformer leads wired to AC source by referring to wiring diagram decal on inside of Power Center cover.

# Electrical Specifications and 110 VAC and 220 VAC Wiring

**Circuit Protection:** Two-pole 20 AMP device at the electrical panel.

## IntelliChlor Model IC20

Input: 115 VAC, 50/60 Hz, 220 Watts or 230 VAC, 50/60 Hz, 100 Watts.

Output: 22-39 VDC @ 6 AMPS maximum from the Power Center.

Chlorine: 0.70 lb. / 24 hour. (317 gm / 24 Hour).

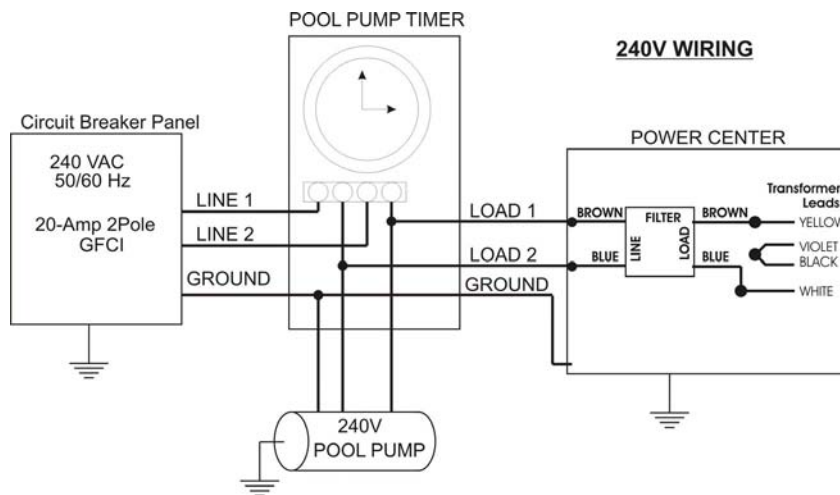
## IntelliChlor Model IC40

Input: 115 VAC, 50/60 Hz, 220 Watts or 230 VAC, 50/60 Hz, 100 Watts.

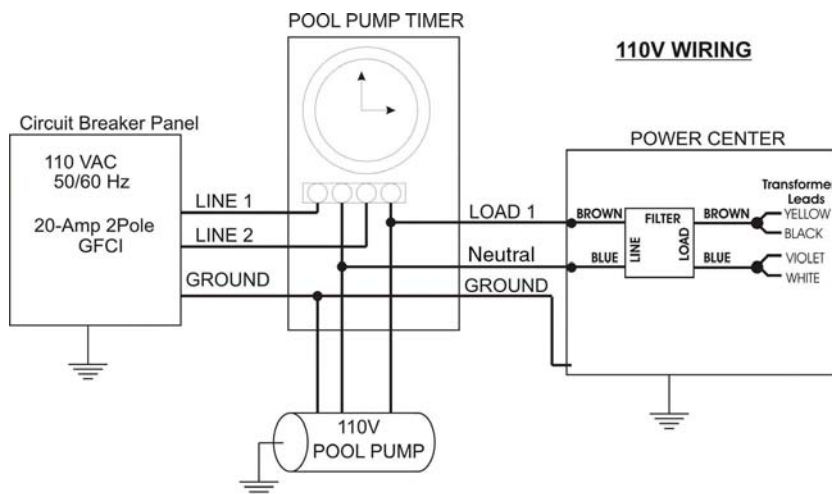
Output: 22-39 VDC @ 6 AMPS maximum from the Power Center.

Chlorine: 1.40 lb. / 24 Hour (635 gm / 24 Hour).

## 220 VAC Basic System Wiring



## 110 VAC Basic System Wiring



# Notes

## Notes

## LIMITED WARRANTY

Pentair Water Pool and Spa, Inc. ("Pentair Water") manufactures its products with the highest standards of workmanship, using the best materials available through state of the art process. Pentair Water warrants its products as follows:

**Limited Warranty:** Pentair Water warrants its products to be free from defects in material and/or workmanship for a period of three (3) years or 8,000 hours (parts only) from the original date of installation.

*Exceptions that could result in denial of a warranty claim:*

1. Damage caused by careless handling, improper repackaging, or shipping.
  2. Damage due to misapplication, misuse, abuse or failure to operate equipment as specified in the owners manual.
  3. Damage caused by failure to install products as specified in the owners manual.
  4. Damage due to unauthorized product modifications or alterations, or failure to use Pentair Water original replacement parts.
  5. Damage caused by negligence, or failure to properly maintain products as specified in the owners manual.
  6. Damage caused by failure to maintain water chemistry in conformity with the standards of the swimming pool industry for any length of time.
  7. Damage caused by water scaling, freezing or other conditions causing inadequate water circulation.
  8. Accidental damage, fire, acts of God, or other circumstances outside the control of Pentair Water.
- This warranty extends to the original retail owner only, beginning on the date of installation and is not enforceable by any other party. Proof of purchase and/or date of installation will be required to execute a warranty claim. Original owner agrees to repay all shipping charges to Pentair Water Pool and Spa Inc.
  - Warranties by others: Some products incorporate components manufactured by other manufacturers. Some of these provide warranties in addition to the warranty provided herein. In all such cases a copy of that warranty will be provided with the product. To the extent protection provided under any such third party warranty exceeds the Limited Warranty provided herein, the Customer will have to look to that manufacturer for the additional warranty protection.

**Warranty Obligations of Pentair Water:** Should a defect in workmanship and/or material in any item covered by this warranty become evident during the term of the warranty, then upon the consumer following the procedures set forth below, Pentair Water will, at its option, repair or replace such item or part at its own cost and expense.

Pentair Water is not, however, responsible under this warranty for any cost of shipping or transportation of the equipment or parts thereof to or from the Technical Service Department. Also, Pentair Water is not liable for any loss of time, inconvenience, incidental expenses such as telephone calls, labor or material charges incurred in connection with the removal or replacement of the equipment, or any other incidental or consequential damages.

PLEASE NOTE: Some states do not allow the exclusion or limitation of incidental, or consequential damages, so the above limitation or exclusion may not apply to you.

No Other Warranties: TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, PENTAIR WATER DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**Procedure for Obtaining Performance:** In order to obtain the benefits of this warranty, the consumer who made the original retail purchase must contact the Pentair Water Technical Service Department upon discovery of the defect, but in no event later than the expiration date of the warranty period provided in this warranty. Upon receipt of this communication, Pentair Water will promptly notify the customer of the address to which the defective item may be shipped. The customer shall then ship the item, freight prepaid, to the address indicated, together with a "RETURN GOODS AUTHORIZATION" form obtained from Technical Service and a brief description of the problems encountered. Unauthorized returns will not be accepted. Freight must be prepaid by customer.

**Warranties or Representations by Others:** No dealer or other person has any authority to make any warranties or representations concerning Pentair Water or its products. Accordingly, Pentair Water is not responsible for any such warranties or representations.

**Other Rights:** This warranty gives you specific legal rights and you may also have other rights, which vary from state to state. This warranty supersedes all previous publications.

PENTAIR WATER POOL AND SPA, INC.

1620 Hawkins Ave. Sanford, NC 27330 - 10951 W. Los Angeles Ave. Moorpark, CA 93021 - Phone 800-831-7133 - Fax 800-284-4151

