IMPORTANT SAFETY INSTRUCTIONS
READ ENTIRE MANUAL BEFORE INSTALLING SPA.
PLEASE SAVE THIS MANUAL.

OWNER'S MANUAL

L-60 Controller & Pack

These instructions apply to:
S & SE PACKS

DM INDUSTRIES, LTD.
2320 N.W. 147th Street Miami, Florida 33054

NOTE: For best results, read each step carefully and entirely before proceeding to the next.

FILLING YOUR SPA

Wipe the interior of the spa with a damp, soft cloth to remove any residue that may be on the surface. Fill with a garden hose by inserting the nozzle of the hose in the filter inlet. (After filling is complete, remember to put the filter cartridge in place prior to starting the spa.) As the spa is filling, check in the equipment access area for any leaks. On occasion, it may be necessary to hand tighten a union fitting that may have come loose during transit. Continue to fill to the water line.

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WATER LINE ————————
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NOTE: If your water is extremely hard, it is preferable to fill the spa halfway with hard water and the rest with softened water. Never fill the spa entirely with softened water.

TESTING THE GFCI

If your spa is a 120v, it should have been provided with a GFCI.

The GFCI is a very important safety device and the National Electric Code requires that all spas are GFCI protected.

The GFCI shuts off the electricity in a fraction of a second if there is a short anywhere in the system. It is recommended that the GFCI be tested prior to each use. Test as follows:

1. Push the TEST button on the GFCI. The RESET button will trip out, the top side digital control LED display will go out. If this does not happen, DO NOT USE spa. CALL your dealer FOR ASSISTANCE.

2. If the GFCI tests properly, firmly push the RESET button back into place. The top side digital control LED display will come back on. If this does not happen, DO NOT USE spa. CALL your dealer FOR ASSISTANCE.

3. If the GFCI trips by itself at any time, firmly press the RESET button back into place and perform the above tests. If this happens more than once, DO NOT USE spa. CALL your dealer FOR ASSISTANCE.

INITIAL START UP

Your spa has been programmed for your convenience. Once properly connected, the pump and heater will automatically come on, heat the spa to 102 F. Initial temperature, day, and time can be set and changed by following these instructions. The Integrated Control System (I.C.S.) has a time clock, with battery backup that is good for months. This allows a log of spa operations over several days to be kept in flash memory.

The L60 Control Panel controls each function directly with a dedicated button. A brief description of each button is as follows:

"UP" - Increases the value on display

"DOWN" - Decreases the value on display

"JET1" - Press once for low speed, again for high speed, again for off

"JET2" - Press once for low speed, again for high speed, again for off

"LIGHT" - Turns light on. If your spa has the Spectra Glow or Aquabrite option, press once for Spectra Glow and a second time for Aquabrite. Use UP/DOWN arrows within 10 seconds of having pressed the button to sequence through color changes.

"AUX1" - Press once to turn on blower if so equipped. Press again for off

"PROG" - Use to enter and process programming functions

Important:

When your spa is activated or adjustment to temperature is made the spa calibrates itself. The spa will balance the temperature between the sensors for 2:30 minutes. During the calibration process you will notice the heater LED flashing.

L-60
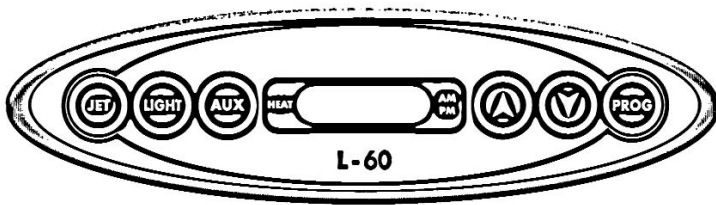
A. DISPLAYING TIME OR TEMPERATURE

Pressing the "PROG" button will switch the display between current time and current water temperature.

B. SETTING TEMPERATURE FOR A DAY.

1. Press the "PROG" button to display water temperature.
2. Press the "UP" or "DOWN" arrow to select the desired temperature.

NOTE: this setting is only valid for the rest of the day. Go to section SETTING PERMANENT TEMPERATURE below to make permanent changes.

C. PROGRAMMING MENU

Press and hold for five seconds to enter the programming menu.
Note that at any point in the sequence; press any other button to exit programming. Alternately, the display will return to normal if no button is pressed within 10 seconds.

D. SELF - DIAGNOSTIC TOOL

Your spa controller offers the latest state-of-the-art diagnostic tool. To start the test, press and hold "PROG" for 5 seconds. The display will show "dISC". Initiate the self-diagnostic test by pressing the "UP" button. This test will run the equipment sequentially for 2.5 minutes. Use the "DOWN" button to cancel the self-test at any time. Once the test is completed, the message "⊂☐☐☐⊃" will be displayed if your spa operates properly. If a problem is found, the malfunction code will be displayed. Please contact your dealer for corrective action.

D. AUTO HEAT AND ECONOMY MODE

(Spas with 2 speed filtration pump and no circulation pump).

Spas with 2-speed filtration pump have been designed to operate in two heater control modes: AUTO HEAT ("AH") and ECONOMY ("ECO"). In the AUTO HEAT mode, the pump and heater will turn on whenever the water temperature falls 1 degree below the chosen temperature. Your spa has been preset to start upon activation in the AUTO HEAT mode. The spa water will be automatically heated to the temperature you choose or to the preset temperature of 102 F. Your selected water temperature and filtration will be maintained automatically 24 hours a day. The spa water will heat about 1 to 3 degrees F per hour for 110 Volt system and 3 to 5 degrees F for 220 Volt systems. The maximum temperature is set at 104 F. The pump hi-speed therapy mode can be activated during those cycles. The heater will stay on if needed to bring up the water temperature.
Note: that for 110 Volt spas, the heater will turn off when you turn on any therapy pump or blower.

In the ECONOMY mode, the pump and heater will only come on during programmed hours. This mode is used for energy conservation, the same way you would control your heat or air conditioning in your house.

To switch to the ECONOMY mode:
1. Press and hold the "PROG" button for 5 seconds until "dISC" is displayed.
2. Press the "PROG" to display "AH" or "ECO".
3. Use "DOWN" arrow to select the "ECO" setting if necessary or the "UP" arrow to select "AH".
4. Press the "DOWN" button one more time to "-" display the hour and the cycle showing either "-" for off or "F" for on.
5. Press the "UP" arrow to cycle through the selected hours of the day.
6. Press the "DOWN" arrow to select the cycle showing either "-" for off or "F" for on. That will represent the filtration cycle desired for that hour.
7. Press the "PROG" button to continue the programming mode or any other button to exit.

The heater will come on as needed during filtration hours to maintain the water temperature. Note that filtration will also be provided during the heating cycles.

E. HEAT DAYS

If your spa is located in a weekend home, or if your schedule allows utilization of the spa only on certain days of the week, you may decide for energy conservation reasons to lower the water temperature on the days you will not use the spa. Your spa is pre-programmed from factory and set to "All" days "hd=A". To choose different temperatures for different days of the week, follow the following steps:

Example: Let's assume that you have selected 100 degrees F as your desired temperature in the "Setting Permanent Temperature" procedure and Sunday as "1." You would now like to lower the water temperature to 80 degrees F on Mondays, Tuesdays, and Wednesdays.

1. Hold down "PROG" for 5 seconds, "dISC" will appear.
2. Press "PROG" to sequence to "hd=A" on the display.
4. Press "UP/DOWN" buttons to select the desired heat day. ("hd=2" (Monday)
5. Press "PROG" to display temperature. Hold down "DOWN" button to lower temperature to 80 degrees F.

Repeat steps 2, 3, & 4 to do the same for Tuesday and Wednesday. Normal display will resume after 10 seconds.

SETTING PERMANET TEMPERATURE:

1. While in the programming menu, press "PROG" to sequence to the display temperature.
2. Press UP/Down to select desired temperature.
NOTE: See procedure above if you would like to choose different temperatures for different days of the week.

F. "F" FAHRENHEIT OR "C" CELSIUS DEGREES

Your spa has been preset to show the temperature in Fahrenheit "F" degrees. If you desire, you can change to Celsius "C" degrees (while in the programming menu) by pressing the UP/DOWN button to switch back and forth between "F" and "C" mode.

G. HOUR AND CALENDAR SETTING.

While in the programming menu ("PROG" pressed for 5 seconds), press "PROG" to sequence through the following displays to set the hour and calendar.

Hour Display- "H=24". Allows you to cycle between 12 and 24 hour time features. Use UP button to select 24 hour display, "H=24" or the Down button to display "H=12"

Hour - "12:00" notice hour flashing. - Use UP/DOWN buttons to change the hour to the current time "12:00". This should not be necessary unless the spa has not been powered up for several weeks.

Minutes - "12:00" notice the minutes flashing.
Use UP/DOWN buttons to change the minutes to the current time

Month - "1 1" notice the month flashing.
Use UP/DOWN buttons to change the month.

Date - "1 1" notice the day flashing.
Use UP/DOWN buttons to change the day.

Year - "2007" notice the year flashing.
Use UP/DOWN buttons to change the year

INVERTING DISPLAY

The topside display can be inverted to allow easier reading from inside the spa. To do so, while in the programming menu ("PROG" pressed for 5 seconds), press "PROG' to sequence to "FLIP" on the display. Use the UP or DOWN buttons to invert the display back and forth.

ADVANCED FEATURES SETUP

Note that at any point in the sequence, press any other button to exit programming. Alternately, the display will return to normal if no button is pressed within 10 seconds.

SETUP ("SU")

Enter programming menu by holding "PROG" button for 5 seconds. Then press "PROG" to sequence to "SU" on the display. To access the advances features menu, while in the "SU" display, hold the "PROG" button for 10 seconds.

PUMP SETUP

Your spa is factory programmed in accordance with the spa model for the number of pumps it offers. To ensure that pump setting is correct or to change it if needed, press "PROG" to sequence to "P= XX. Use UP/DOWN buttons to select the number of pumps installed. (Note: that the "C" following each number designates the inclusion of a circulation pump).
P=3C or 2C or 1C - (3, or 2 or 1 therapy pump plus circulation pump)
P=3 or 2 or 1   -   (3, or 2, or 1 therapy pump)

SETTING THE SERVICE AMPERAGE DRAW

While in "SU" programming menu, press "PROG" to sequence to S=3 on the display.
S=3" is the factory default.   Use the "UP" or "DOWN" arrows to change the pump setting:
S=3 Indicates that the heater will shut off if four pumps are on high speed. (The blower-air pump is included in the count.
S=2 Indicates that the heater will shut off if three pumps are on high speed at the same time.
S=1 Indicates that the heater will shut off if two pumps are turned on high speed at the same time.
S=0 Indicates that the heater will shut off if one pump is turned on high speed.
Service level S=0 is only setting for 120v 60Hz and 230V 3 phase 50Hz spas.

Once the service level has been set, it does not have to be set each time. It will be entered into the system memory.

BLOWER AND JET PURGE

For the self-test function to work properly, the blower setting must be set correctly: "b=b" if there is a blower & "b= -" if there is no blower. If the blower setting is incorrect, while in "SU" programming mode, press "PROG" to sequence to "b=b" or "b=-". Use UP/DOWN buttons to select the correct setting.

Each day, at 10am and 6pm, the blower and jet pump(s) will automatically run for one minute to circulate potential stale water in the piping. This is a normal function of the spa. "BJ2P" will be displayed while this takes place.
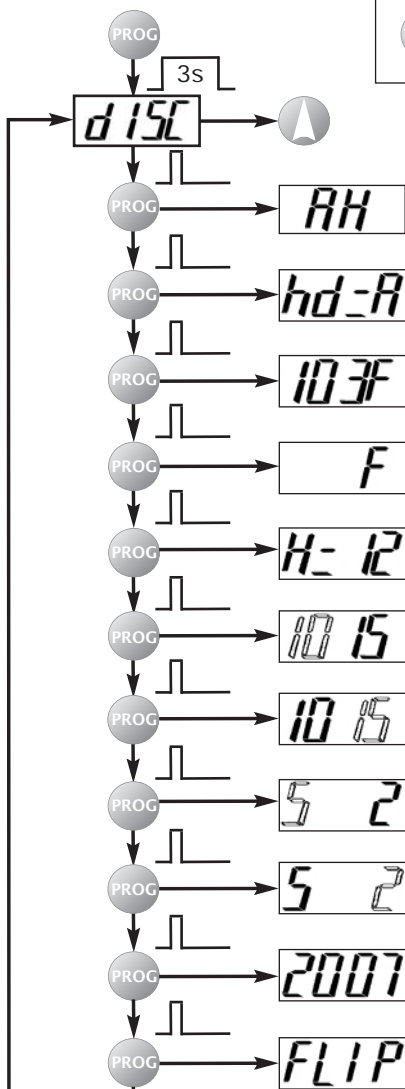Note: Spa will skip sequence if any other function is operating.

PRIMING

Normal setting is "Pr=P" This indicates that all pumps will turn on for 2 minutes to insure proper priming when the spa is powered up, initially or after power interruption. This setting should remain in that mode.

PROGRAMMING CHART

DM INDUSTRIES

I.C.S. PROGRAMMING CHART

PROG ⌐8s⌐ Press hold button for 8 seconds   **AUX** For Blower option   **LIGHT** ⌐⌐ Underwater LEDs

PROG ⌐3s⌐

`d 15C` → ◆   Self Test (2 min.)

PROG → `AH`   Auto Heat (AH) or Economy (ECO)

PROG → `hd_A`   Heating Days: 1 / 2 / 3 / 4 / 5 / 6 / 7 / A

PROG → `103F`   Temp shows: ____°F or ____°C

PROG → `F`   F / C

PROG → `H_12`   Clock Hours Show: 12 / 24

PROG → `10 15`   Clock Hours Set

PROG → `10 15`   Clock Minutes Set

PROG → `5  2`   Calendar: Month setting (1 - 12)

PROG → `5  2`   Calendar: Day setting (1 - 31)

PROG → `2007`   Calendar: Year Set

PROG → `FLIP`   Display Flip: `FLIP` or `d17J`

DISCLAIMER: ADVANCED SETTING
DO NOT ENTER SECTION UNLESS ASKED BY A QUALIFIED TECHNICIAN

PROG → `SU`   Setup Menu

PROG ⌐8s⌐ → `P_2C`   Pumps: 1 / 1C / 2 / 2C / 3 / 3C
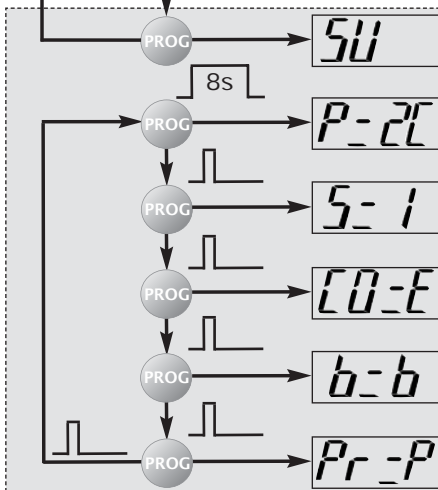
PROG → `S_1`   Service Level: Number of pumps allowed at High Speed with the heater "On"

PROG → `CO_E`   Country (Stereo)   U=US, E=Europe   J=Japan

PROG → `b_b`   Blower: b = Activate, - = Deactivate

PROG → `Pr_P`   Prime Cycle: P = Yes   - = No

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MAINTENANCE LOG

Use this section to keep a record of when you perform any maintenance on your spa.

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