



***The Wave of New Technology
in Public Pool Cleaners***



wave
by maytronics ltd

Dolphin Wave Robot Pool Cleaner

MMI User Guide

Version 4.0



By Maytronics

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Safety Precautions

Please adhere strictly to the following warnings:



Do not operate the Dolphin robot when there are people in the swimming pool.



When examining the robot unit, disconnect the main power supply.

Please ensure that the following precautions are implemented:



Only a trained operator should use and operate the Dolphin Wave.



The robot should not be operated out of the pool at distance of more than 3 meters from pool's edge.





Keep the Dolphin Wave out of the reach of children.



When lifting the robot, take care to prevent back injury.

General Notes

- In this user manual, the instruction press "**Start**" is performed by pressing both green buttons -   - simultaneously on the MMI (see Figure 2).
- The MMI is equipped with a screensaver that comes into effect after 5 minutes idle time. Press Pool and Home in that order to unlock the MMI consol.

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Introduction

This user guide describes how to use your MMI operating console for the Dolphin Wave robotic pool cleaner. The interactive, state of the art MMI control console enables full control of the robot and allows you to determine the cycle time, operation delay, and cleaning scan that the robot performs. It also enables diagnosis of various technical functions and parameters. The console houses a remote control unit for manual operation and temporarily overriding automatic cleaning operations.

The Dolphin Wave is designed to handle four different swimming pool configurations and when these are set, the pool configurations are stored in the MMI's memory. The robot is preset in the factory with specific default pool settings, which can be reset. Please refer to the first Main Menu screen, Figure 7 and Customized Settings, page 7.

Dolphin Wave Caddy Assembly

Carefully remove all the items from the shipping box and check them against the packing list.

You should have:

- Documentation and accessories
- Un-assembled caddy for storing and carrying the Dolphin Wave robot
- MMI console
- Dolphin Wave robot and floating cable
- Power supply unit

Assembly instructions

Refer to Figure 1.

1. Attach the caddy handle to the caddy base and fasten with the screws and nuts provided.
2. Place the Dolphin Wave robot on the caddy in front of the power supply as shown in Figure 1.
3. Place the coiled Dolphin Wave's power cable on the caddy's cable support bracket and remove the binding sticker.
4. Connect the MMI communication's cable to the power supply unit.
5. Connect the Dolphin Wave floating cable to the power supply. Tighten the connecting adaptor firmly to ensure proper electrical connectivity.

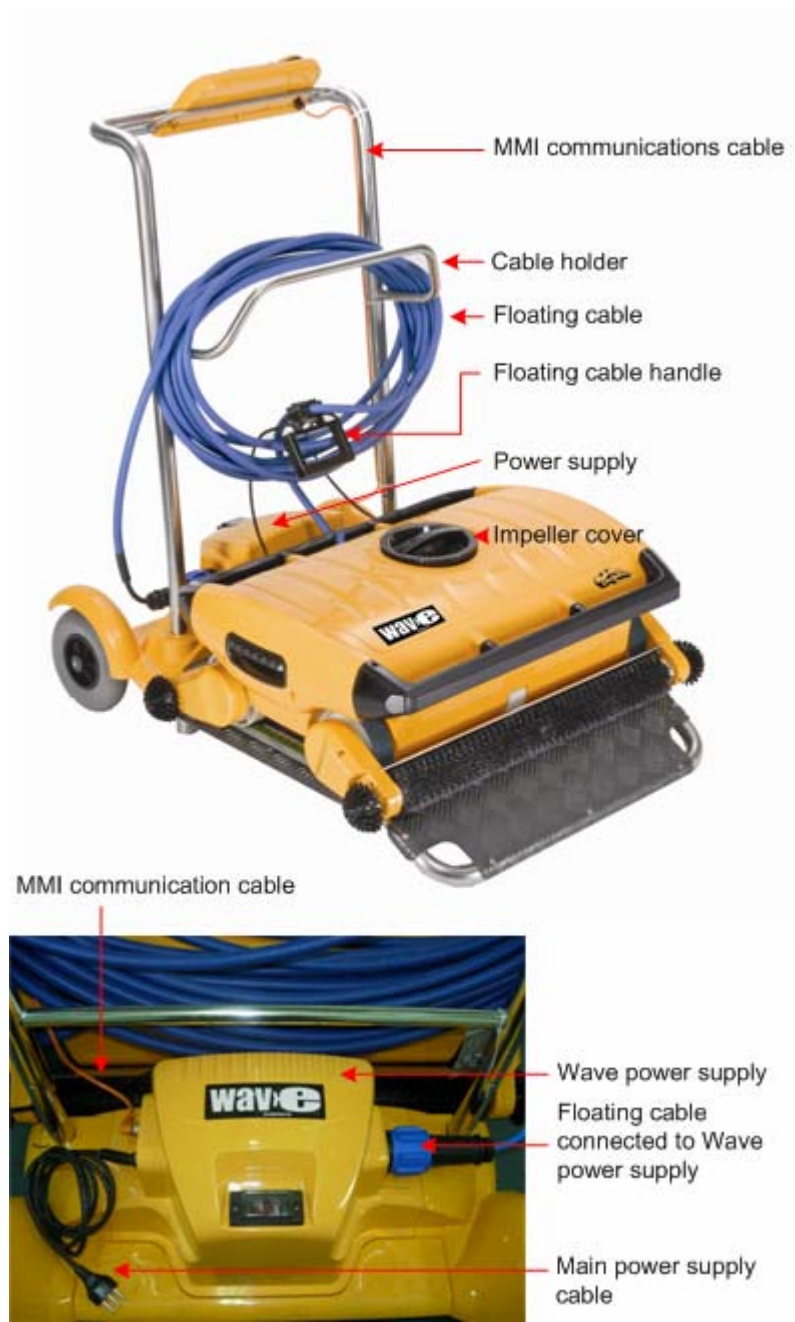


Figure 1: The Dolphin Wave

First Pool Cleaning Session

This section explains how to proceed with the first cleaning session. The robot is preset in the factory with certain configurations that enable you to commence pool cleaning immediately. The settings made during this setup session remain in use until changed by the operator.

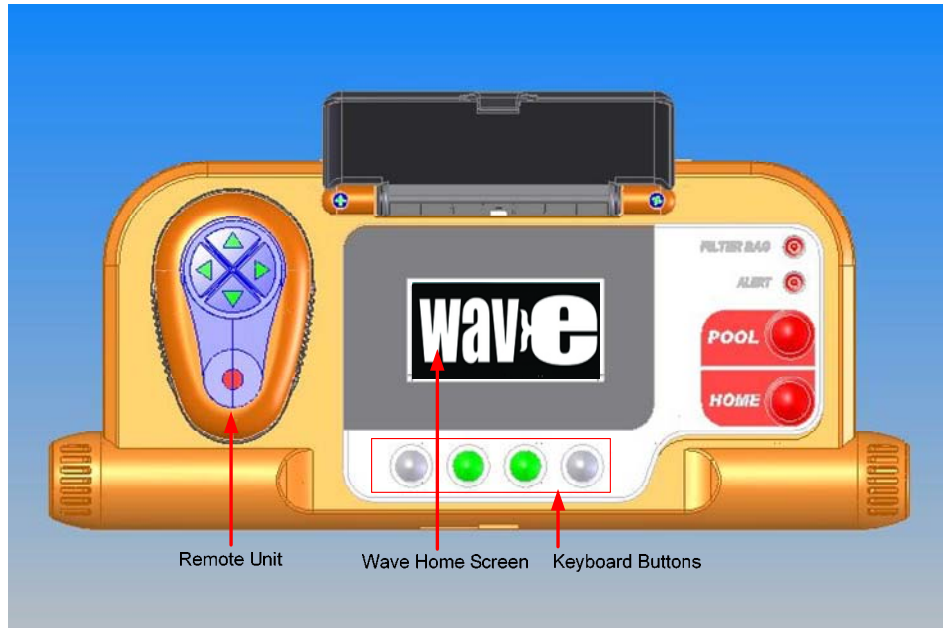


Figure 2: The MMI Dolphin Wave Console

To start a pool cleaning session directly after you have assembled your Dolphin Wave, proceed as follows:

1. Lift the MMI's protective cover.
2. Connect the Wave power supply to the main power supply line.
3. Switch on the power supply. The MMI Wave screen opens in the home window.
4. Position the caddy with robot about 0.5–1.0 meter from the pool edge with its sloping edge facing the swimming pool ensuring that the floating cable is facing the direction of the Dolphin Wave power supply unit.
5. According to the pool's size, release the appropriate length of cable.

Starting the First Cleaning Session

1. On the MMI press **Pool**. The robot starts moving towards the pool and enters the swimming pool positioning itself on the pool floor.
2. Wait for the *WAVE* screen to appear.
3. Press **Start**. "Please select pool length" displays on the screen. After 2 seconds the *Pool Length Set Up* screen appears.

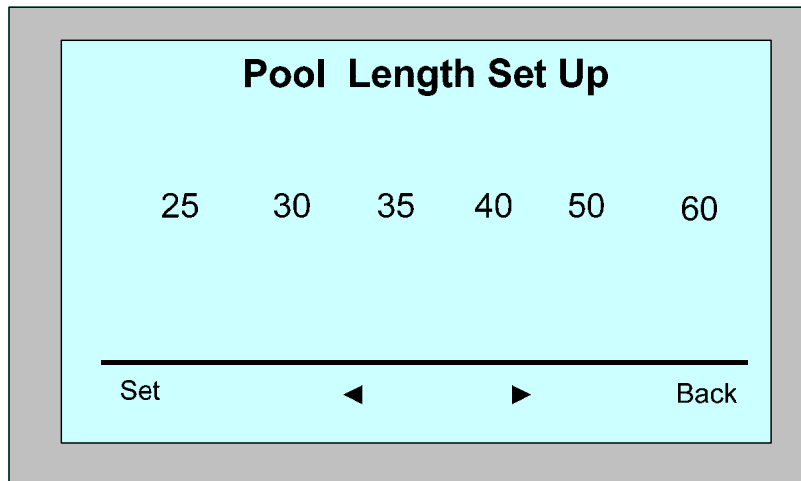


Figure 3: Pool Length Set Up

4. Using the arrows, ◀ ▶ , select the required pool length. Press **Set**.
5. The *Align Robot to Pool Width* screen displays.
6. Using the floating cable, move the robot so that it is parallel to the width of the pool with the cable behind it.
7. Press **Start**. The MMI screen displays "Direction setup please wait". The robot moves forward slowly for 20 seconds and stops. The screen displays "Direction setup completed".
8. Press **Start**. The cleaning session starts.

The robot starts its cleaning cycle and the MMI displays the *Countdown* screen (Figure 4):

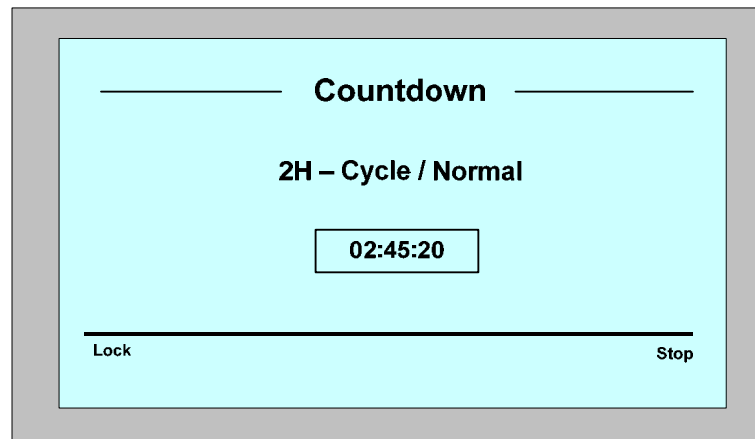


Figure 4: Countdown screen for 3 hour session

The countdown screen shows that a 3 hour cycle time was selected and that the time remaining is 2 hours, 45 minutes and 20 seconds.

At the end of the cleaning session, the robot stops automatically.

To remove the robot from the pool, proceed as explained in **Removing the Robot from the Swimming Pool** on page 5.

Everyday Operation

After you have set up the Dolphin Wave and configured it for the first time, the device is set for everyday operation. When performing your next cleaning session, proceed as follows:

1. Position the caddy about 0.5–1.0 meter from the pool edge with its front sloping edge facing the swimming pool and the floating cable pointing in the direction of the Dolphin Wave power supply unit.
2. Press **Pool** on the MMI. The robot starts moving towards the pool and enters the swimming pool positioning itself on the pool floor.
3. Wait for the Wave screen to display on the MMI.
4. To start the robot, press **Start** on the MMI. The robot starts its cleaning cycle and the *Countdown* screen displays:

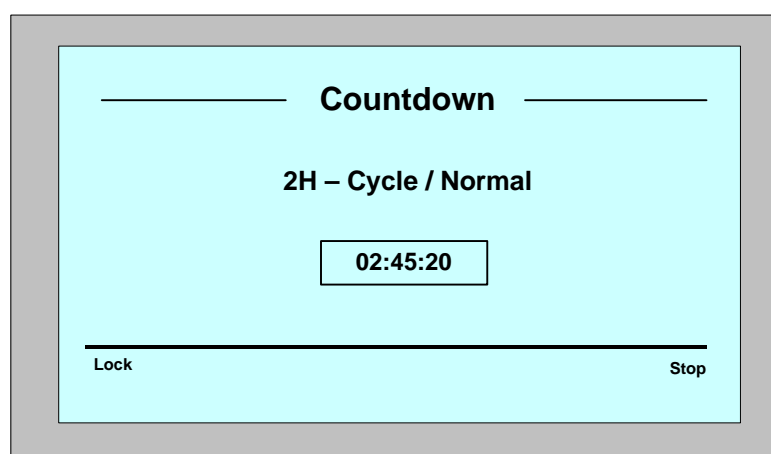


Figure 5: Countdown screen

Tip

To avoid unauthorized changes to the MMI settings you can lock the MMI's keyboard:

From the countdown screen, press **Lock** (Figure 5).

To unlock the keyboard, press **Pool** and then **Home** in that order.

At the end of the cleaning session, the robot stops automatically.

Removing the Robot from the Swimming Pool:

1. Press **HOME**.
The robot starts moving in the direction of the floating cable.
2. Holding the floating cable, gently pull the robot upwards and towards the caddy. As it reaches the side of the pool, pull the cable gently until the floating cable handle emerges. Grasp the handle, tilting the robot slightly to guide it onto the caddy. The robot shuts down.

Manual Stop Control

If necessary, you can stop the robot during the cleaning session.

1. From the countdown screen (Figure 4), press **Stop**. The MMI screen displays the message: "Stopping robot – please wait". After 5 seconds the *Manual Stop* screen is displayed (Figure 6).

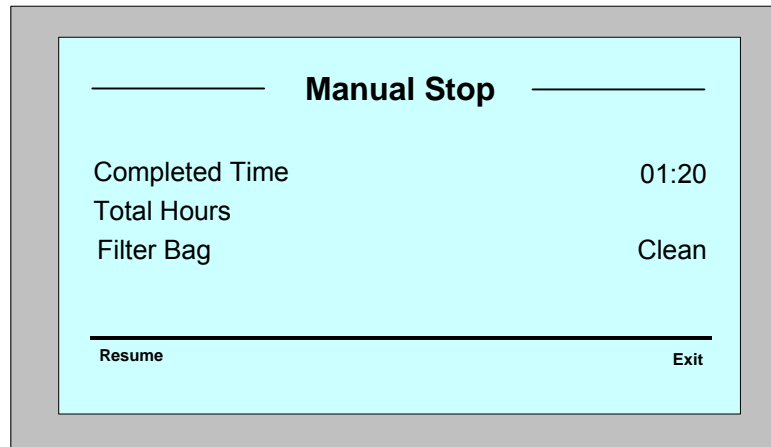


Figure 6: Manual Stop screen

2. To continue the cleaning session, press **Resume**.
3. To stop the cleaning session completely, press **Exit**. The MMI display returns to the Wave screen.


Customized Settings

The Dolphin Wave robot is controlled from the MMI consol. You can customize the robot's settings to match the specific type of swimming pool that is to be cleaned. Four swimming pool configurations can be set and stored in the MMI's memory for future use.

When you configure the pool profile, you can also set the cleaning-cycle time and the delay time before the robot starts its cleaning cycle. The procedure for configuring additional pool profiles is explained in **Configuring Additional Pool Profiles** on page 9.


The MMI keyboard procedures are explained in the next section.

MMI Operations

Use the control buttons, , located on the MMI below the screen, to activate the various commands.

Use the MMI functions that appear in the various screen displays to navigate between the screens and to configure the software.

MMI Functions:

Command	Description
Menu	From the opening screen press Menu to display the Main Menu.
▲	Scroll up.
▼	Scroll down.
 Start	Press both green buttons simultaneously to Start pool cleaning.
Select	Press Select to confirm your selection after using the scrolling buttons.
Modify	Press Modify to change settings after making a selection.
Back	Press to return to the previous screen.
Exit	Press to return to the <i>Wave</i> screen.

Defining the robot's parameters:

1. Switch on the power supply. The MMI *Wave* screen opens in the home window.
2. Press **Menu** to enter the *Main Menu* (Figure 7).

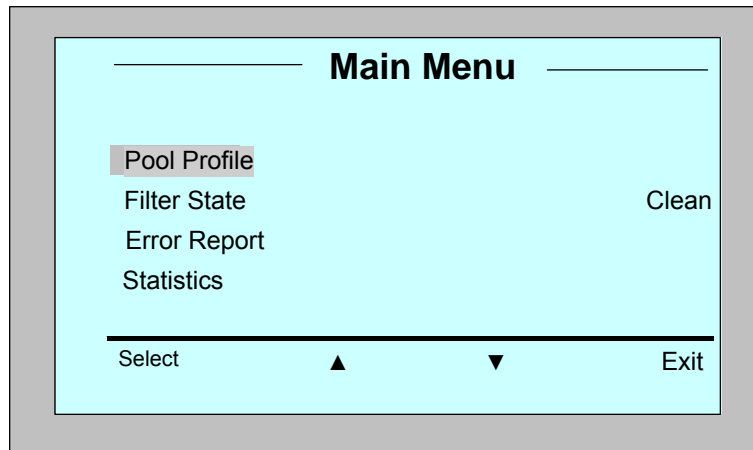


Figure 7: Main Menu

There are two *Main Menu* screens and you access the second screen by pressing the scroll down arrow, ▼.

After "Statistics", scroll down to the second *Main Menu* screen (Figure 8).

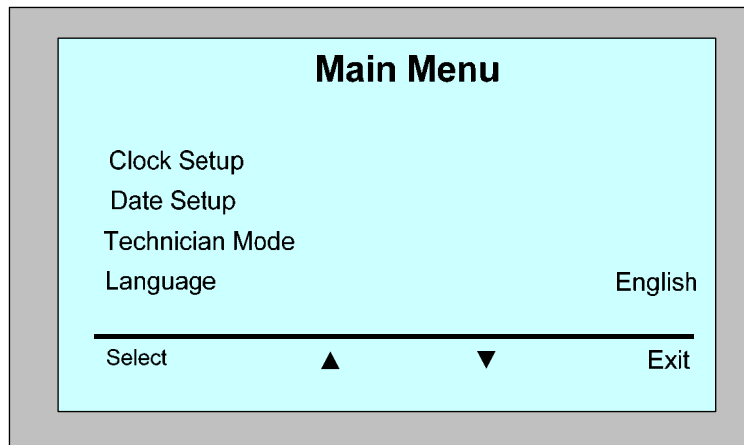


Figure 8: Second Main Menu screen

Main Menu Parameters

The *Main Menu* and the parameters are explained in the table below:

Parameter	Description
Pool Profile	Press Select to go to the <i>Pool Profile</i> screen. Selecting Pool Profile opens the <i>Pool Profile</i> screen for four different pool types. Pool A is the default setting.
Filter State	Reports on the filter's condition. <ul style="list-style-type: none">• Clean: Filter bag is ready for use• Full: Change/clean filter bag The filter bag warning light on the consol will also indicate that the filter bag needs cleaning/replacing.
Error Report	Displays information for Service Technician.
Statistics	Press Select to review data on robot usage.

Second Main Menu screen parameters:

Parameter	Description
Clock Setup	Press Select to enter Clock Setup screen and 12/24 hour mode.
Date Setup	Date setup screen.
Technician Mode	Technician screen with restricted access.
Language	Language interface mode.

Configuring Additional Pool Profiles

As noted previously, the Dolphin Wave can be configured for four different pool types. The configured settings are stored in the MMI's memory. This section describes how to configure additional pool settings.

To add a new pool configuration, proceed as follows:

1. Go to the Wave screen. "Pool A" is displayed as the currently defined setting as shown in Figure 9.

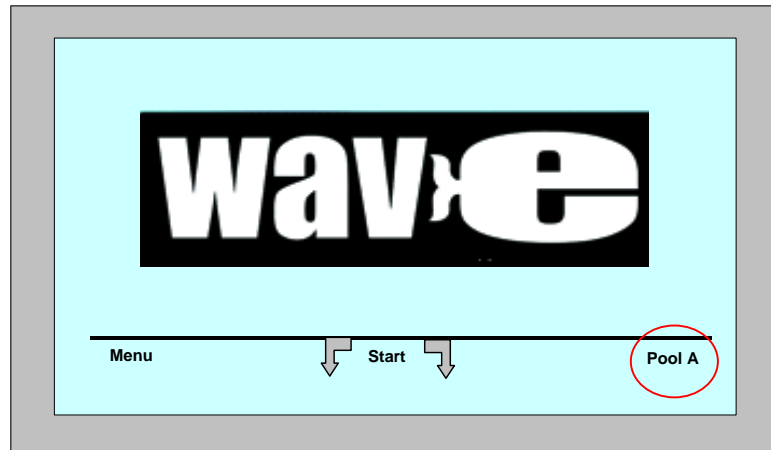


Figure 9: Wave screen showing Pool A as default setting

- From the *Wave* screen, press **Pool A**. The *Pool Profile* screen opens (Figure 10).

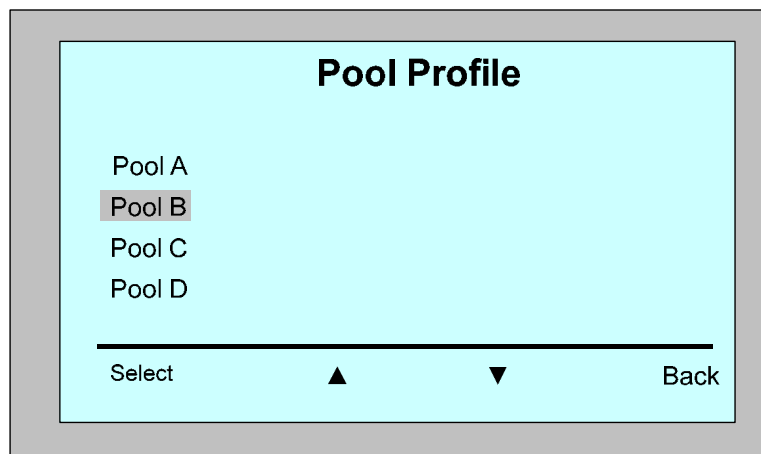


Figure 10: Pool Profile screen

- To select a second pool profile, scroll down to Pool B and press **Select**. The *Wave* screen automatically displays showing that Pool B is the currently defined pool.
- To configure Pool C and Pool D, go to Step 1 of **Configuring Additional Pool Profiles**, above.

To go to a previously defined pool setting:

- From the *Wave* screen, press the currently displayed pool setting at the right side of the screen (see Figure 9) to open the *Pool Profile* screen.
- Scroll to the required pool and press **Select**. The *Wave* screen is displayed with the chosen pool setting.

Manual Procedure for Configuring Pool Profiles

- From the *Main Menu*, with **Pool Profile** highlighted, press **Select** twice to display the current active profile screen.
- Press **Select** to enter the *Pool Length Setup* screen.

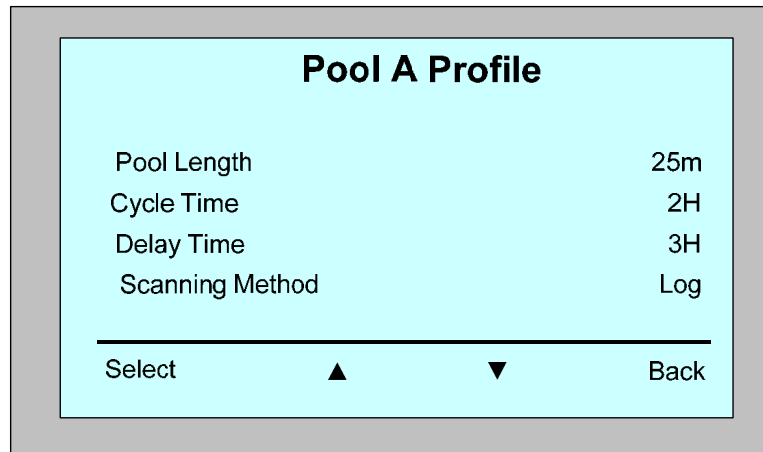


Figure 11: Pool Length Setup screen

- Using the Select and Scrolling buttons ▲ ▼, set each parameter in turn, for example:
- With **Pool Length** highlighted, press **Select**. *The Pool Length Set Up screen is displayed:*

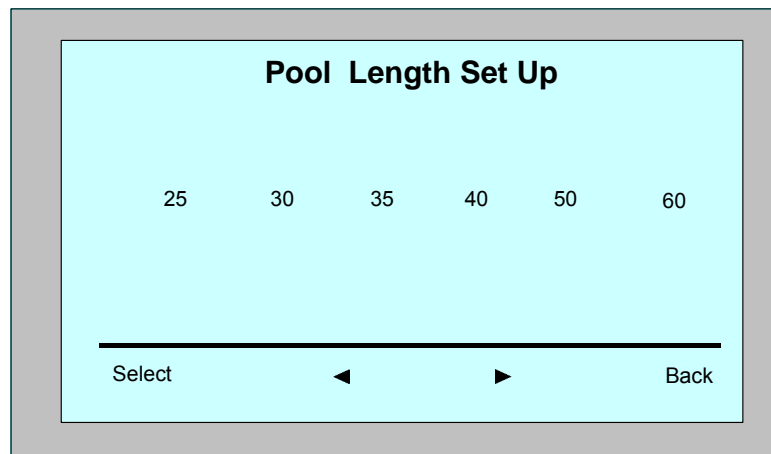


Figure 12: Pool length setup screen

- Using the arrows, ◀ ▶, select the desired pool length. Press **Select** and scroll down to the next parameter, *Cycle Time* and then *Delay Time*.

Cycle Time determines the length of each cleaning cycle.

Setting a Delay Time allows you to delay the start of cleaning operations by a time factor selected from the MMI screen.



To override the Delay Time instruction, from the Wave screen press **Start**.

- Set each parameter and then scroll down to the next screen.
- Set Scanning Method and choose either Logical Scan or Navigation Scan.



Logical Scan: The robot's software directs the robot to clean the pool using its built-in software to determine the cleaning operation.

Navigation Scan: The robot crisscrosses the pool using its built-in navigation system. This is the default and recommended setting.



During parameter setting operations:

- Press **Back** to return to the previous screen
- Press **Home** on the consol, to return to the *Wave* screen

8. After setting the Scanning Method, from the Pool Profile screen, scroll down to the next screen to "Direction Setup" (Figure 13).

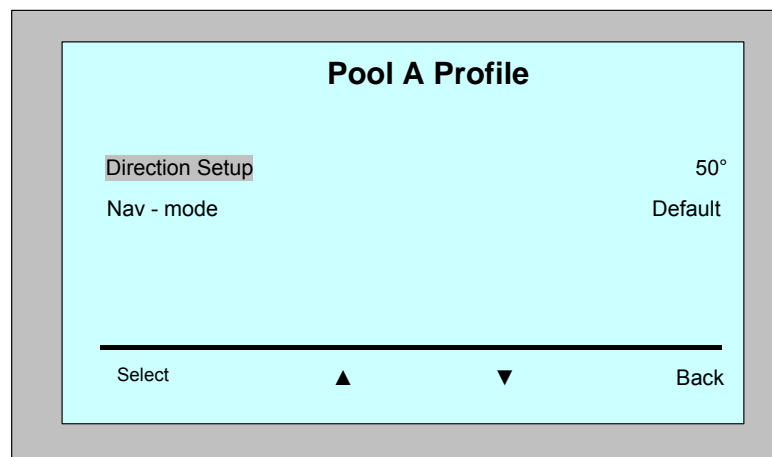


Figure 13: Second pool profile screen

9. Press **Select** to enter Direction Setup.
10. To change the Direction Setup, proceed as explained in **Manual Direction Setup**, below.
11. Press **Select** to enter *Nav-mode*.

Nav-Mode

The *Nav-mode* is set at an optimum default setting as indicated in Figure 13. The default setting is the recommended mode for use in most pools. In rare instances, the robot might be sensitive to surrounding conditions that interfere with its guidance system. If the robot does not move as expected then change the *Nav-mode* setting.

1. From the second Pool Profile screen, navigate to *Nav-mode* and press **Select**.
2. Select **Mode 1**.

Starting Cleaning Operations

Once all the customized settings have been configured, you can proceed to a cleaning session:

1. Prepare the Dolphin Wave for operation and immersion into the pool.
2. Proceed as in **Everyday Operation**, page 5.

If a *Delay Time* has been set (see *Configuring the Dolphin Wave*, above), the countdown commences and the time remaining before automatic cleaning starts is displayed on the screen.

If no delay time is specified, the robot commences cleaning immediately.

Once cleaning operations have started, the MMI screen displays the countdown time as in Figure 5, above.



To override the delay time and commence cleaning immediately, press **Start**. The robot starts working immediately.

Manual Direction Setup

After the cleaning cycle has started, you might find it necessary to set the robot's direction more precisely. This is performed using the *Direction Setup* procedure while the robot is in the pool.

Direction Setup:

1. From the *Countdown* screen press **Stop**.



If the screensaver is displayed, press **Pool** and then **Home to unlock** the MMI.

2. Navigate to the *Pool A Profile* screen and select **Direction Setup** and then **Fine Tuning**.
3. Press **Start**. The robot starts moving along the width of the pool.
4. From the MMI, press "+" or "-" to correct the robot's direction until it moves exactly along the width of the pool.



"+" = clockwise direction
"-" = counter clockwise direction

5. Once the desired width direction is achieved, press **Next**.
6. The Robot will turn 90 degrees to the left and move along the length of the pool.
7. Next, fine tune along the pool's length using "+" or "-", as in step 2 until the robot moves along the pool's length.
8. Once the desired direction is reached, press **Next** to confirm the end of the fine tuning procedure.
9. Press **Home** to return to the Wave screen and then press **Start** to continue the cleaning session.

Operating Guidelines

- A large-sized swimming pool of approximately 300 square meters requires approximately 2–3 hours cleaning time. This is the default setting.

- An Olympic size pool of 1,250 square meters requires approximately 5 hours cleaning time. This is the default setting.

Maintenance

1. Clean and replace filter as needed. When the MMI displays "Filter Bag Full", you should clean/replace the bag before the next operating cycle.



- It is not necessary to stop the Wave in the middle of the cycle when "Filter Full" indication appears. Clean the filter before the next cycle.
- Non-disposable filter bags can be cleaned in a washing machine.
- Under normal working conditions, disposable bags may be used for about 3 cleaning cycles.

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2. Before each operating cycle, clean the robot body, brushes, and driving belt area and remove foreign objects, rubber bands, hair etc.
3. Once a week clean impeller area:
 - Remove the impeller cover securing screw using a No. 2 Philips screw driver.
 - Twist counter-clockwise and open the cylinder cover.
 - Remove foreign objects from the impeller.
 - Close the impeller cover and replace the securing screw.
4. Keep the electrical cable orderly enabling it to be rolled up easily and placed on the caddy's handle.

Important: Every three to four cleaning sessions, disconnect the main power supply, unroll the entire cable and re-arrange it on the caddy handle as required.

Remote Control Unit

The remote control unit (RCU) is located on the MMI consol and held in position by a magnet. Pull it upwards gently to remove it from its base. When the robot is in automatic operation, use the remote control to override the robot's programmed direction settings.



When the robot is moving in a forward direction, the floating cable follows the robot from its tail end.



The remote unit has a control range of 50 meters from the caddy.

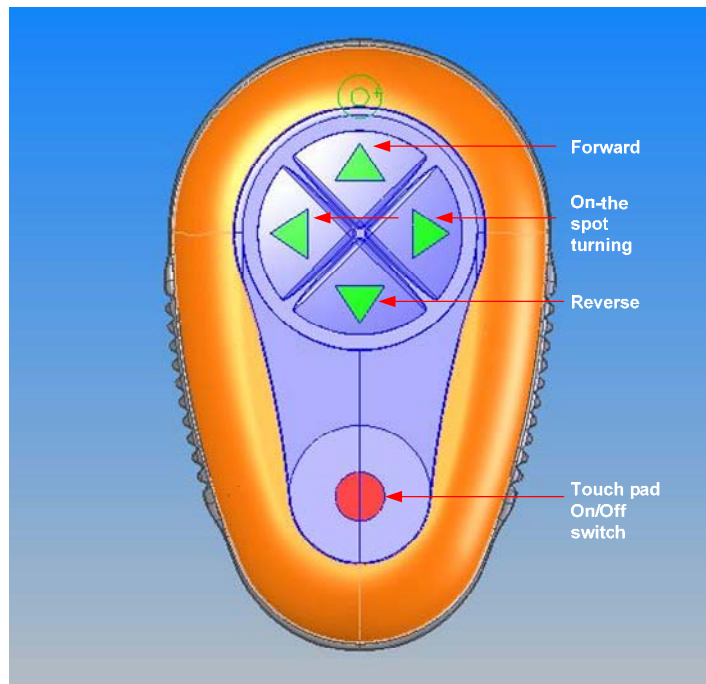


Figure 14: Remote Control Unit


Using the Remote Unit:

1. To activate the remote unit, press the touch pad as indicated in the diagram. Four activation lights are illuminated.
2. Press the forward arrow briefly. The robot commences moving in a forward direction.
To stop the forward movement, briefly press and release the forward arrow.
3. Press the backward arrow briefly. The robot commences moving in a backward direction.
To stop the reverse movement, briefly press and release the backward arrow.

On-the-spot turns:

On-the-spot turns can be carried out while the robot is in motion or executed when the robot stationary.

4. To turn the robot clockwise, press and hold down the right arrow. The robot turns on-the spot.
Release the button to stop the robot from turning.
5. To turn the robot counter-clockwise, press and hold down the left arrow.
Release the button to stop the robot from turning.
6. To deactivate the remote unit, press and hold down the touch pad. The activation lights switch off.
The robot reverts to its programmed direction mode of cleaning after the manual correction.

	<p>The remote unit deactivates automatically after approximately 3 minutes and the indicator lights switch off.</p>
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Maintaining the remote unit:

The remote control unit is powered by two AAA batteries. It is splash-proof and should not be immersed in water.

To replace the batteries, remove the four back-cover securing screws and replace all the batteries with new battery cells.

Troubleshooting

Error Message	Check	Action to Take
Imp over load	Is there dirt or other foreign matter in the impeller?	Unscrew the bolt that secures the protective cover of the impeller. Turn it counter-clockwise slightly, until it is released. Remove any dirt around the impeller. Replace the protective cover.
Imp over load	Does the problem re-occur on every operation?	Contact the Maytronics dealer/distributor.
Imp under load	Does the problem re-occur on every operation?	Contact the Maytronics dealer/distributor.
Drive over load	Is there any interfering dirt in the caterpillar tracks, brushes, or drive axels?	Remove any dirt or foreign bodies that might have become entangled with the caterpillar tracks, brushes, or drive axels.
Drive over load	Does the problem re-occur on every operation?	Contact the Maytronics dealer/distributor.
Drive under load	Does the problem re-occur on every operation?	Contact the Maytronics dealer/distributor.
DC input	<ol style="list-style-type: none"> 1. Is there an electrical short, partial or complete disconnection? 2. Is there a visible rupture in the floating cable? 	Contact the Maytronics dealer/distributor.
Robot stuck on pool wall	<ol style="list-style-type: none"> 1. Has the robot stopped in a vertical position of more than 70°? 2. Has the robot stuck on an obstacle? 	Move the robot from its position and remove the obstacle. Reactivate. If this recurs, contact the Maytronics dealer/distributor.
Out of water	Was the robot operated out of the water for an extended time?	<ol style="list-style-type: none"> 1. Check that the impeller is in order and that its blades are not broken. 2. Reactivate. If this recurs, contact the Maytronics dealer/distributor.

Error Message	Check	Action to Take
Robot is stuck on pool floor	<ol style="list-style-type: none"> 1. Has the robot stopped on an obstacle? 2. Is there an obstruction in the water channel or in the robot's caterpillar tracks? 	<p>Move the robot from its position and remove the obstacle. Reactivate.</p> <p>If this recurs, contact the Maytronics dealer/distributor.</p>
Navigation System	Does the problem re-occur on every operation?	Contact the Maytronics dealer/distributor.
Fuse Fail	Is there an electrical short or rupture in the floating cable?	<p>Repair cable and replace the fuse.</p> <p>Note: The fuse holder is located beneath the power supply on the right hand side.</p> <p>Replace the fuse with the spare provided.</p> <p>Note: This is a special fuse and a replacement can be obtained from your Maytronics dealer.</p>
No Communication	Does the problem occur when pressing Pool or Home on the MMI?	<p>Contact the Maytronics dealer/distributor.</p> <p>Note: You can work temporarily without using the MMI.</p> <p>Disconnect it from the power supply thus disabling the Pool/Home function.</p>