



SERVICE MANUAL

Combo Washer Dryer
Convertible Condensing/Venting Dryer



Factory Model – 4000 / 4400 CV

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WARRANTY INFORMATION

Geographic Exception: If the product is installed at a location more than 50 miles from an urban area (minimum population 25,000), Equator Advanced Appliances may, at its option, offer a 2-year parts only Warranty, if a service agent cannot be found. Responsibility for labor, in such instances will be that of the consumer-owner. Equator Advanced Appliances will, however provide free technical assistance for repairs.

GENERAL

Since it is the responsibility of the consumer-owner to establish the warranty period by verifying the original purchase date, Equator Advanced Appliances recommends that a bill of sale, delivery slip or some other appropriate payment record be kept for that purpose. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

EXCLUSIONS

In no event shall Equator Advanced Appliances be liable for incidental or consequential damages or for damages resulting from external causes such as abuse, misuse, incorrect voltage or acts of God.

This warranty does not cover service calls which do not involve defective workmanship or materials covered by this warranty. Accordingly, diagnosis and repair costs for a service call which does not involve defective workmanship or materials will be the responsibility of the consumer-owner.

In addition, the following work is not covered under warranty and does not constitute warranty work:

- Installation - improper hook-up or leveling
- Maintenance - cleaning of air and/or water filter.
- Damage - replacing broken door handle Most work is covered. The defining factor is, has the machine malfunctioned (Equator is responsible) or has the customer omitted or done something to cause machine to malfunction (customer is responsible.)

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.

Please Note : The warranty is provided by Appliance Desk and hence for service on any of units please contact Appliance Desk.

CONTACT INFORMATION

APPLIANCE DESK

10216 Georgibelle Dr, Suite 900D

Houston, TX 77043

Phone: 800-490-8018

Fax : 832-201-0854

E-Mail

Service: service@appliancedesk.com

Parts: parts@appliancedesk.com

Tech : techsupport@appliancedesk.com

SAFE SERVICING PRACTICES

To avoid the possibility of personal injury and/or property damage, it is important that safe servicing practices be observed. The following are examples, but without limitation, of such practices:

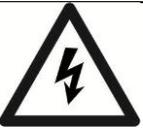
1. Do not attempt a product repair if you have any doubts as to your ability to complete it in a safe and satisfactory manner.
2. Before servicing or moving an appliance:
 - remove fuse.
 - turn off gas supply.
 - turn off water supply.
3. Never interfere with the proper operation of any safety device.
4. USE ONLY REPLACEMENT PARTS CATALOGED FOR THIS APPLIANCE. SUBSTITUTIONS MAY DEFEAT COMPLIANCE WITH SAFETY STANDARDS SET FOR HOME APPLIANCES.
5. GROUNDING: The standard color coding for safety ground wires is GREEN or GREEN with YELLOW STRIPES. Ground leads are not to be used as current carrying conductors.

IT IS EXTREMELY IMPORTANT THAT THE SERVICE TECHNICIAN RE-ESTABLISH ALL SAFETY GROUNDS PRIOR TO COMPLETION OF SERVICE. FAILURE TO DO SO WOULD CREATE A POTENTIAL HAZARD.

6. Prior to returning the product to service ensure that:

- all electric, gas, and water connections are correctly and securely connected.
- all gas and water connections are tested for leaks. DO NOT TEST FOR GAS LEAKS WITH A FLAME.
- all electrical leads are properly dressed and secured away from sharp edges, high-temperature components and moving parts.
- all uninsulated electrical terminals, connectors, heaters, etc. have adequate spacing from all metal parts and panels.
- all safety grounds (both internal and external to the product) are correctly and securely connected.
- all panels are properly and securely reassembled.

CAUTION! When servicing a water-using appliance in a location where the water supply has not been in use for an extended time (such as vacation) open the hot water faucet at the sink and allow the water to run for several minutes allowing water and accumulated hydrogen gas to escape. Make sure there are no open flames (pilots) or cigarettes near the faucet.

	CAUTION			A lightning flash symbol, within a triangle. Is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER OR BACK. DO NOT EXPOSE TO RAIN OR MOISTURE. NO USER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>				An exclamation point within a triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.
			<p>WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.</p>	

IMPORTANT PRESERVICE INSTRUCTIONS

► It is advisable for anyone to go through the following points before one actually works on the unit.

- **Shipping Rods:** The unit is shipped with 2 shipping rods and spacers to avoid any damage to the unit during shipping. Make sure that all the shipping rods and the spacers have been removed from the unit.
- **Height of drain hose:** The drain hose should be placed in such a way that the height of the drain hose does not exceed 36" and is not lower than 28" inches from the bottom of the unit.
- **Water inlets:** In this unit two water inlets are required to be connected for hot as well as for cold water (Note that Valves are Matrix Size & L Connector of the inlet hose supplied with the machine is also Matrix. The straight connector is US Thread). Make sure that water supply is provided to both the inlets. In case hot water supply is not available cold water supply should be connected to the hot water inlet valve.
- **Leveling:** The unit must be leveled properly for proper working of the unit. There are 4 leveling feet which can be individually leveled.
- **Flooring:** The unit should be installed on strong and leveled floor, installation on carpet or wood increases vibrations. In case of wooden flooring, proper bracings should be made and the unit should be installed on a sheet of plywood.

※Please note: *All the above instructions are mentioned in the Owner's Manual and if the unit is found to be malfunctioning due to any of the above points not been taken care of, the customer will be liable to pay for the complete service call along with the parts. If the customer is not willing to pay for the service we will be paying for the same but the customers warranty will be voided then.*

INSTALLATION (EZ 4000 CV)

Inlet Hoses

The inlet hoses must be fitted with the special rubber washers. These rubber washers ensure a water tight seal between the hoses and the water inlet valves to prevent water leaks. Water should flow freely into the machine, be sure that the inlet hoses are not bent or kinked.

Please read the following steps carefully (Fig.1, Fig.2)

1. Connect the *straight* end of the hot-water hose to the hot-water faucet (Fig.1).
2. Connect the *straight* end of the cold-water hose to the cold-water faucet (Fig.1).
4. Connect the *L-shaped* end of hot-water hose to the inlet valve which has a red strainer. (Or connect to the pressure-reducing valve if necessary). (Fig.2).
5. Connect the *L-shaped* end of cold-water hose to the inlet valve which has a white strainer. (Or connect to the pressure-reducing valve if necessary). (Fig.2).

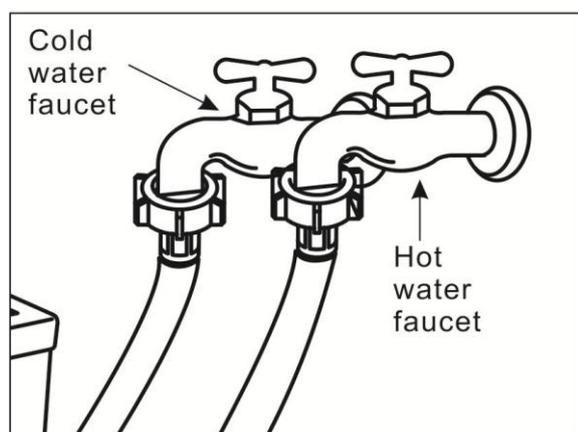


Fig.1

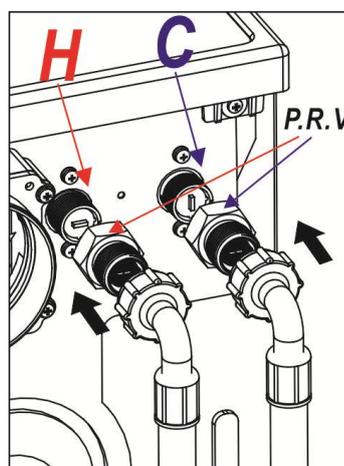


Fig.2

Drain Hose

Connect the drain hose to a drain duct (with internal diameter of at least 1.6 inches) or place it for drainage in to a sink or a tub, ensuring that there are no kinks or bends. The free end must be at a height of at least 24" from the floor (max 40"), the hose must be fixed in the appropriate hook on the upper part of the back panel (see figure below).

U-Connector

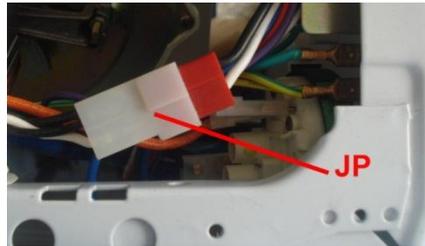
The end of the outlet hose must be passed through the U-Connector (included). This creates an upside-down U which is put into the drain pipe or over the edge of the sink. Failure to use the U-Connector may cause the drain hose to pop-up during drainage of the water, which may cause water damage to the surrounding area.

DIAGNOSIS AND TROUBLE SHOOTING

WASH CYCLE

1. Unit won't power on

- 1.1 **No power input:** Check that the cord is plugged in, and circuit breaker or fuse is OK.
- 1.2 **Poor connection with the power terminals:** Check for the condition of terminal (JP) located on the right rear corner of the cabinet when looking from front. Re-plug and test them again. (See figure below)

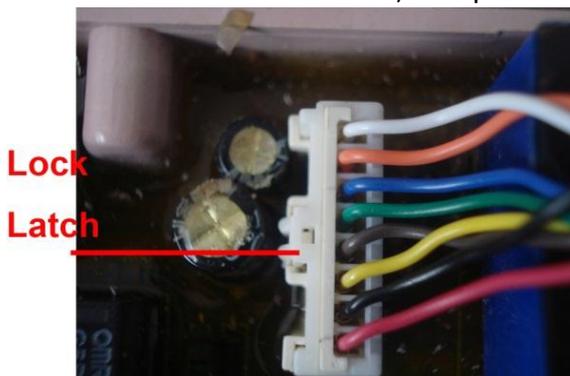


- 1.3 **No power on Electronic Module:** Check for the condition of plug housing JW1 on the electronic module. (EM located on the bottom left corner of machine when looking from back. To remove EM, remove back panel & screws located on outside of cabinet.)

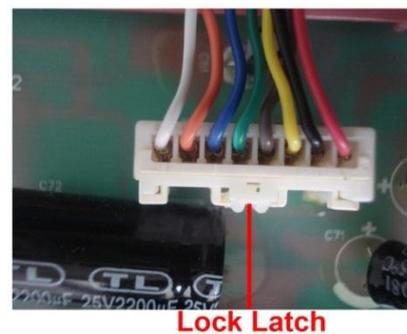


JW1

- 1.4 **No communication between two panels:** Check for the condition of the communication cable between two boards, or replace another one to test.



Cable Plug on EM



Cable Plug on DP

How to Replace A Communication Cable?

- Power off and unplug the unit.
- Remove two screws and washers on the rear side of work top. Lift the work top up a little by holding its rear side, and then push it towards the door to remove the work top.

- Remove the rear cover by unscrewing three screws, which fix the cover with the cabinet.
- Press the lock latch, and unplug the plug housing from the cap housing on the PCB(DP or/and EM).
- Extract the communication cable from the harness.
- Replace a new one and then re-assemble the unit by following the reserve steps.

1.5 If you can't find the trouble shooting refer to the above mentioned, please replace a new electronic module. See ***How To Replace A New Electronic module.***

2. Door won't close

After all the options are ready, and press START button, but the door will not close, and the error code **E1** will be displayed on VFD.

- 2.1 **Door not closed well:** Close the door firmly, then E1 will be off, and the unit will run your washing cycle.
- 2.2 **Poor wiring connection:** Disassemble the electronic module and check the brown wire loose from the white plug housing JW2 on the electronic module. Or check the white wire loose from the white plug housing J1 on the electronic module (**See Appendix 1**).
- 2.3 **Door lock is defective:** Disassemble the door lock and test it by following the next steps:
 - 2.3.1 Check for the resistance of terminals of 1&3, the reading should be about 1KΩ. (see figure below).
 - 2.3.2 In drying cycle, check for the continuity between the terminals 6&7 (micro switch), it should be closed when push the slide panel towards left by hand.
 - 2.3.3 In washing cycle, check for the continuity between the terminals 6&7, it should be closed when push the slide panel towards left by hand. Also there is continuity between the terminals 2&3.
 - 2.3.4 If not, the door lock is defective. Please replace a same new one.



How To Replace A New Door Lock?

- Power off and unplug the unit.
- Open the door, and then disassemble the door gasket from the cabinet by removing the spring clamp.
- Disassemble the door lock by removing two screws and washers.
- Replace a new door lock, and wire it again.
- Re-assemble the door lock by following the reverse steps.

3. Unit won't drain

This machine can drain the water out using 85W drain pump. However if the water can't drain out in the limited time, the error code **E2** will be displayed on VFD.

3.1 ***The filter of pump is block by foreign objects.***

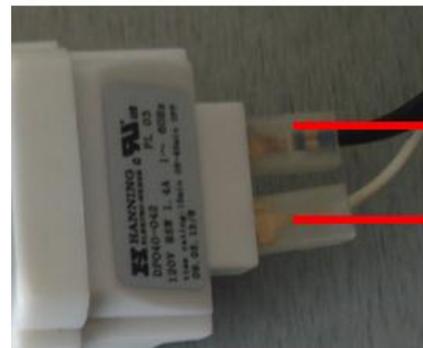
- 3.1.1 Lay the drain hose down on the ground, and place the hose end near a floor drain, then let the water flow out the unit.
- 3.1.2 Open the coin trap cover to check for the filter or impeller of pump is blocked by some foreign objects, such as coins, pins or keys.
- 3.1.3 Remove all the foreign objects, and then insert the filter into the drain pump, E2 will be off and the washing program will be continued from the interrupt point.
- 3.1.4 Please advise the customer to look through the manual and clean the coin trap every some washing cycles.

3.2 ***The pump or the drain hose is frozen:*** During the winter, please check for the water in the pump and drain hose is frozen when you read E2 on the display. If it is, please advise the customer to winterize the washer/combo according to the instruction in manual.

3.3 ***Poor wiring connection to the pump:*** Disassemble the drain pump and check for the wiring to it as following.

- 3.3.1 Check the wire lost from the terminal DP-1 or DP-2 of the drain pump (see figure below).
- 3.3.2 Check the wire lost from the terminal housing JWL1-P1 (white wire), and/or P17 (black wire) (**See Appendix 1**).

3.4 ***The drain pump is defective:*** Check for the resistance of the drain pump, the reading should be 11.4Ω, if not, the pump is defective, please replace a new one.



How To Replace A New Drain Pump?

- Power off and unplug the unit.
- Open the coin trap cover.
- Make sure there is no water in the unit.
- Remove four screws and washer, which hold the pump on the cabinet.
- Disassemble the bottom panel by removing four adjustable legs.
- Disconnect the drain hose and tub-pump hose by removing two clamps, which hold the hoses on the pump.
- Replace a new pump, and wire it again.
- Re-assemble the pump by following the reverse steps.

4. Unit won't fill

If the water can't reach the set level in the limited time, the error code **E3** will be displayed on VFD. Please check it by following next steps:

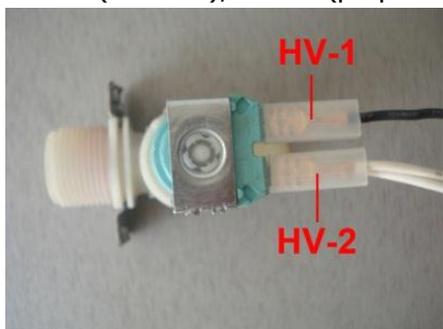
- 4.1 **Drain outlet below 24"**: Make sure the drain hose is hang up, and the free end of it must be at a height of 24" - 40" from the floor. Otherwise the filling water will flow out the machine, and the washer/combo will not work because the water can't reach the set level.
- 4.2 **The water faucet closed**: Turn on the water faucet.
- 4.3 **The water faucet is frozen**: Defrost the faucet in winter.
- 4.4 **No water pressure**: Check all the hoses are connected and not kinked or trapped.
- 4.5 **Air leakage on hoses**: Check for any air leakage on the hoses, which connected with the pressure switch (See figure below).



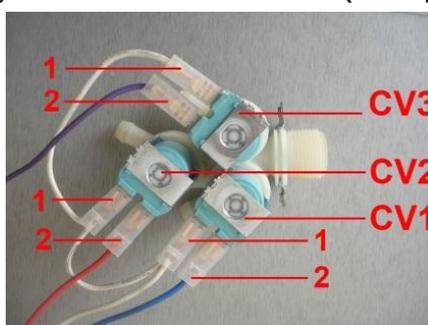
- 4.6 **The strainer blocked**: The strainer in the valve is blocked by the foreign substance in the water, if you can feel a light vibration when you touch the working valve. Please unscrew the inlet hose, and pull the strainer out, then rinse it under the running water. Insert the strainer cap into the valve, and reconnect the hose.



- 4.7 **Poor wiring connection to valves**: Disassemble the valve and check for the wire on the valve (see figure below). Or check the wire loose from the plug housing JW1-P19 (black wire), P18 (red wire), or P20 (purple wire) on the electronic module. (See Appendix 1)



1-way valve for hot water



3-way valve for cold water

CV1: Condenser
 CV2: Wash
 CV3: Pre-wash
 CV2+CV3: Softener

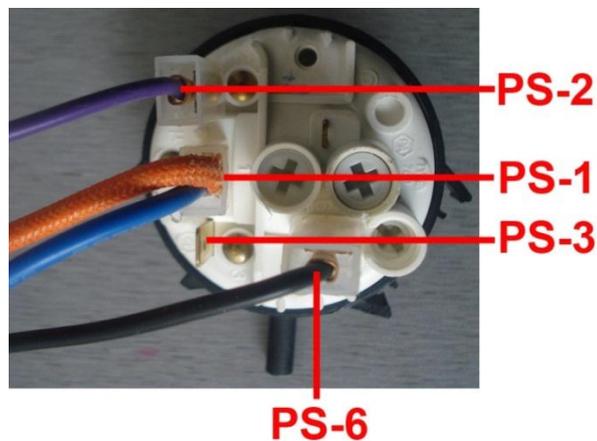
- 4.8 **The valve is defective**: Check for the resistance of the coil of the valve, the reading should

be about 1KΩ, if not, the valve is defective, please replace a new one.

How To Replace A New Valve?

- Power off and unplug the unit.
- Disconnect the inlet hose on the bad valve.
- Remove two screws and washers on the rear side of work top. Lift the work top up a little by holding its rear side, and then push it towards the door to remove the work top.
- Disconnect all the rubber hoses by removing the clamps, which hold the hoses on the valves.
- Disassemble the bad valve by removing two screws and all the spacers.
- Replace a new same one, and then wire it again.
- Re-assemble the new valve by following the reverse steps.

- 4.9 ***The pressure switch is defective:*** Disassemble the pressure switch and check for the continuity between the terminals PS-1 & PS-2(see figure below). If it is not, please check for there is any air leakage on the hose, which is connected with this switch. Or replace a new pressure switch.



How To Replace A New pressure Switch?

- Power off and unplug the unit.
- Remove two screws and washers on the rear side of work top. Lift the work top up a little by holding its rear side, and then push it towards the door to remove the work top.
- Disassemble the metal bracket from the cabinet by unscrewing two screws and washers on the rear side of the unit.
- Disconnect the hose by removing the spring clamp.
- Replace a new pressure switch, and then wire it again.
- Re-assemble the new pressure switch by following the reverse steps.

5. Unit will overflow.

The machine can't stop to fill after the water level reaches the set value, this unit will overflow. And the error code **E4** will be displayed on VFD.

- 5.1 ***Air leakage on the hose:*** Check for the air leakage on the hoses, which are connected with the pressure switch, and test it by re-filling water.
- 5.2 ***Inlet valve is defective:*** Please replace a new inlet valve, if water fills into the tub with the unit off.

- 5.3 **The electronic module is defective:** Please replace a new electronic module, if water fills into tub with the unit pausing.
- 5.4 **The pressure switch is defective:** Check for the continuity between the terminals of pressure switch as following.
- 5.4.1 When the drum is empty, the terminals PS-1 & PS-2 should be closed. And when the water reaches to the set level, PS-1 & PS-2 will be open, and PS-1 & PS-3 will be closed. If not, please replace a new one.
- 5.4.2 If the terminals PS-1 & PS-6 are closed with the tub empty, please replace a new pressure switch.

How To Replace A New Electronic module?

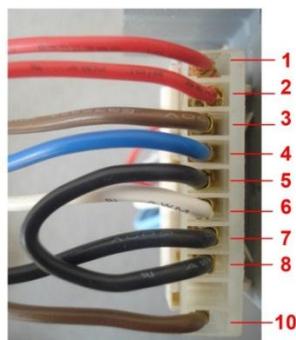
- Power off and unplug the unit.
- Remove the rear panel by unscrewing three screws.
- The electronic module is located at the bottom right corner of the unit.
- Disassemble the electronic module by removing three screws and washers on the rear side of the cabinet.
- Replace a new one and re-plug all the terminal plugs.
- Re-assemble the electronic module by following the reverse steps.

※Please note: Pressing the lock latch, and pull the plug housing out from the cap housing on the PCB. Not to pull the plug housing out by holding the wire or harness.

6. Malfunction with the universal motor

If the motor will not rotate, or agitate in high speed, the error code **E5** will be displayed on VFD.

- 6.1 **Poor wire connection to the motor:** Disassemble the rear cover of cabinet and check for the wiring to the motor (see figure below).
- 6.2 **Poor wire connection to the electronic module:** Check for the wiring to the electronic module (see appendix 1).
- 6.3 **The electronic module is defective:** If the drum will agitate in high speed, or the controller can't sense the feedback from the motor, or the triac used to drive the motor was broken down. Replace a new electronic module.
- 6.4 **Water splashed on the electronic module:** Check for the water splashed on the electronic module, please dry it, and then test it again.
- 6.5 **The motor is defective:** Have a cold test on the motor. Check for the resistance between the following terminals. If the readings match near about, the motor is good. Otherwise please replace a new one.



Sr. No.	Function	Terminals	Resistance
1	Tacho Generator	1-2	44Ω
2	Rotator	3-4	4.3Ω
3	Winding for Low Speed	5-6	1.8Ω
4	Winding for High Speed	5-10	0.8Ω
5	Thermal Protector	7-8	0.6Ω

How To Replace the Motor?

- Power off and unplug the unit.
- Make sure there is no water in the unit.
- Tilt the unit towards the door, and lay the unit down on a soft cushion.
- Remove the rear cover by unscrewing three screws, which fix the cover with the cabinet.
- Remove the belt.
- Disassemble the bottom panel by removing the four leveling legs.
- Disassemble the bad motor by removing two bolts, nuts and all the spacers.
- Replace a new motor, and re-assemble the unit by following the reserve steps.

※Please Note:

- 1. Adjust the belt tension after replacing the motor.**
- 2. Not to pull the plug housing out by holing the wire or harness.**

7. Communication error between two boards.

If there is some problem with the communication between the display panel and electronic module, the error code **E6** will be displayed on VFD.

- 7.1 ***Poor connection to modules:*** Disassemble the work top and the rear cover, and check for the connection of the cable with two boards, unplug, and then re-plug two connectors again.
- 7.2 ***The cable is defective:*** Replace a new cable, and test it again.

8. Unit vibrates or vibrating noise.

The tub-drum unit of this washer/combo is a most optimized system, and the software features interval spin-cycle. It should have a low vibration during washing and spinning cycles, even it revolves in the highest spin speed. If this washer/combo vibrates very high, please work with it as following points.

- 8.1 ***Shipping rods not removed:*** There are 2 shipping rods which must be removed with all the spacers when the washer/combo was installed
- 8.2 ***This machine not level properly:*** Re-level this unit by adjusting the feet, and then tighten the lock nuts against the unit housing.
- 8.3 ***Unstable floor:*** move this unit to, and re-install it on the stable floor.
- 8.4 ***Poor condition of springs:*** Check for three springs which hinge the tub on the unit housing.
- 8.5 ***Poor connection between the absorbers and cabinet:*** Check for two shock absorber

units to support the tub unit to stand on the cabinet.

9. Suds coming out of the detergent dispenser

- 9.1 ***Not appropriate detergent:*** Use a detergent, which has low suds, and is suitable to the front loading washing machine.
- 9.2 ***Too much detergent:*** Pour right amount detergent according to the instruction of detergent manufacture, or the manual of this washer/combo.

10. Poor result with the softener

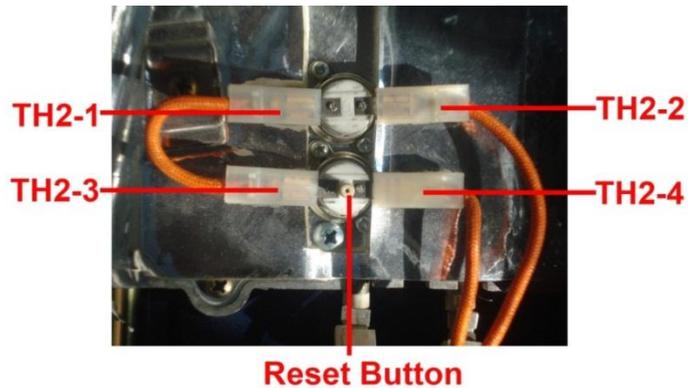
- 10.1 ***Wrong chamber:*** Pour the softener in the right chamber of detergent dispenser.
- 10.2 ***Detergent drawer open:*** Push back the detergent drawer.
- 10.3 ***The siphon block:*** Take out the siphon cap from the drawer, and clean the drawer recess by an old toothbrush, then wash it under the running water.

DRY CYCLE

11. Combo will not dry

If the laundry is cold and wet at the end of the dry cycle, please check for as following.

- 11.1 **Thermostats are open:** Disassemble the work top and check for the continuity between the terminals of TH2-3 & TH2-4 at room temperature (see figure below). If it is closed, then check for the dryer heaters. If it is opened, check for the turbo fan, and then push down the reset button.

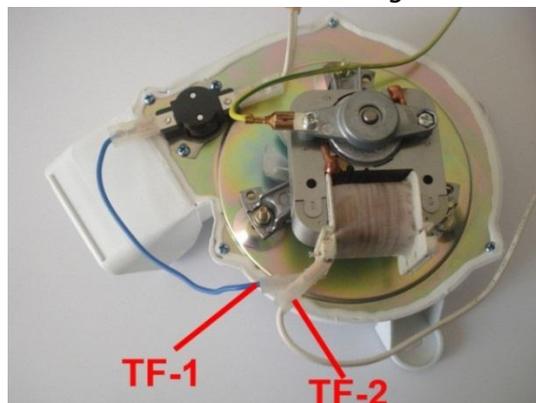


- 11.2 **Turbo fan not work.**

- 11.2.1 **Thermostat open:** Check for the continuity between the terminals of TH1-1 & TH1-2 at room temperature (see figure below). It should be closed, if not, replace a new one.



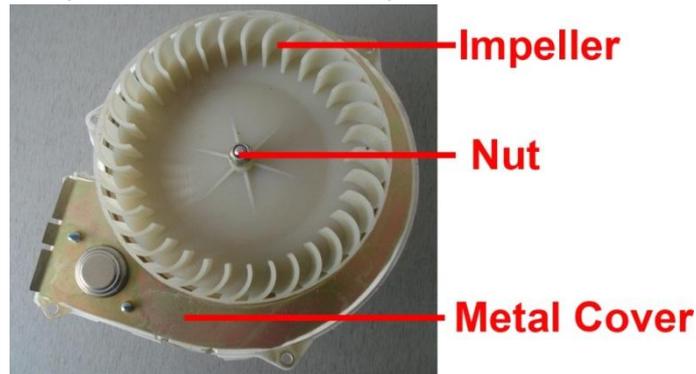
- 11.2.2 **Poor wire connection:** Check for the wiring to the turbo fan (see figure below).



- 11.2.3 **The turbo fan is defective:** Check for the resistance between two terminals of TF-1 &

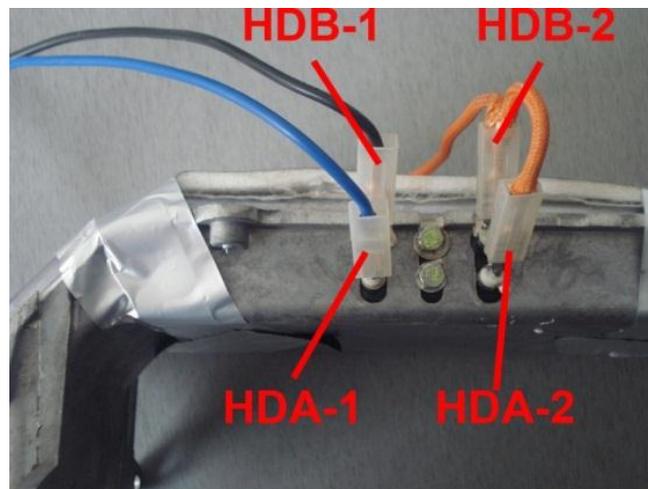
TF-2, the reading should be about 33Ω .

- 11.2.4 **The impeller is blocked:** Disassemble the turbo fan unit from the blast chamber, and check there is any deformation with the impeller and metal cover.



11.3 **The dryer heaters not work**

- 11.3.1 **Poor wire connection:** Check for the wiring to the heating elements (see figure below), and to the plug of JW2 on the electronic module (see Appendix 1).

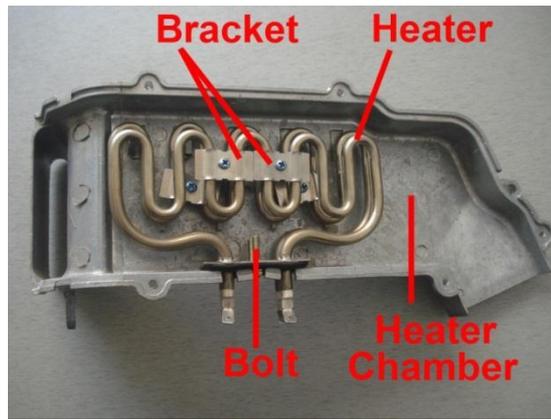


- 11.3.2 **The dryer heater is defective:** Check for the resistance between the terminals of HDA-1 & HAD-2(750W), and HDB-1 & HDB-2(550W) at room temperature, and the reading of A should be 17Ω ; the reading of B should be 24Ω . If not, please replace the new heater(s).

How To Replace The Dryer Heater?

- Power off and unplug the unit.
- Remove two screws and washers on the rear side of work top. Lift the work top up a little by holding its rear side, and then push it towards the door to remove the work top.
- Disassemble the top counterweight by removing two nuts and washers.
- Disassemble the top cover of the chamber by removing five screws.
- Unscrew the screws and remove the metal bracket on the heaters.
- Disassemble the defective heater by removing the bolt.
- Replace a new heater and re-assemble the unit by following the reserve steps.

※Please Note: To prevent the hot air from leaking out of the heater chamber, some silicon sealant should be painted on the mating faces of heater chamber.



Heater chamber without the top cover

11.3.3 If you can't find the trouble shooting refer to the above mentioned, please replace a new electronic module.

12. Poor dry result

If the laundry is hot and damp at the end of the dry cycle, please check for:

- 12.1 **Wrong dry mode:** Make sure the dry mode is condensing or venting dry.
- 12.2 **The cold faucet is off:** Turn on the cold faucet in condensing dry operation.
- 12.3 **No condensing water intake:** Check for the inlet valve for cold water in condensing dry operation.
- 12.4 **Venting fan is covered:** Remove the metal cover on the venting fan, and connect the exhaust duct in venting dry operation.

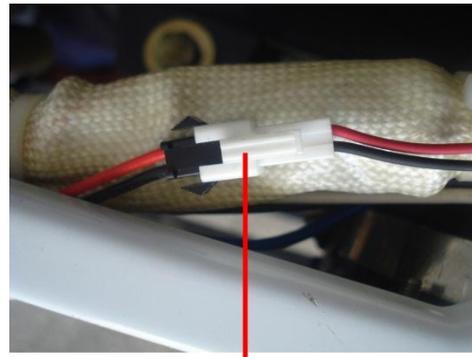
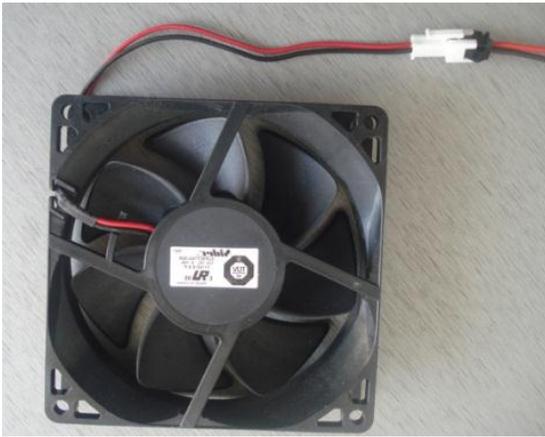
13. Venting fan won't rotate

In the venting dry cycle, if the venting fan will not rotate, please check for it as following:

- 13.1 **Fan's impeller blocked:** Turn the impeller of the venting fan by hand, when the unit is power off, to check the impeller is blocked by some foreign objects. Clean it, and test it again.



- 13.2 **Poor wire connection to fan:** Check for the wiring between the following two mating terminals.

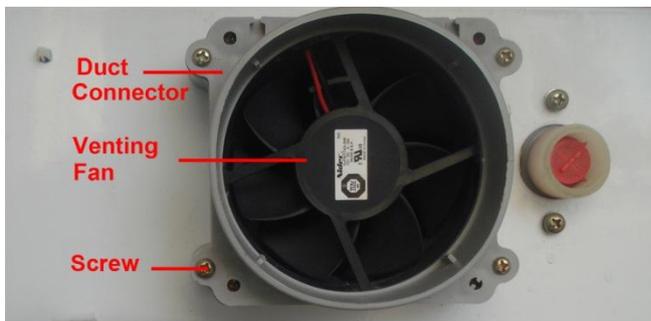


Terminals

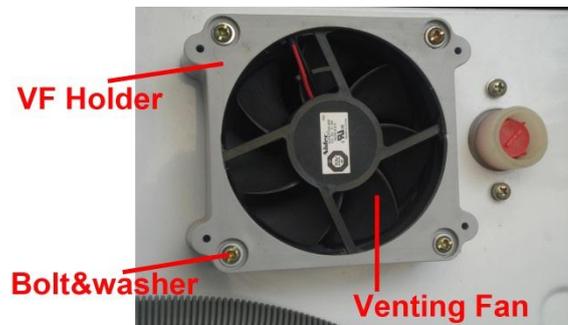
13.3 **The venting fan is defective:** Check for the resistance of this fan, the readings should be about 1.2MΩ (forward resistance) or 144MΩ (backward resistance). If not, please replace a new venting fan.

How To Replace A New Venting Fan?

- Power off and unplug the unit.
- Remove two screws and washers on the rear side of work top. Lift the work top up a little by holding its rear side, and then push it towards the door to remove the work top.
- Remove the exhaust duct from the connector, and disconnect the terminals.
- Remove the duct connector by removing four screws (see figure below).
- Disassemble the venting fan and its holder by removing four bolts, which fix them on the cabinet.
- Replace a new one and re-assemble the venting fan and its holder carefully, and then connect its terminals.



Before removing the connector



After removing the connector

14. Condensing moisture on VFD/Lens.

- 14.1 **Ambient humidity too high:** Re-install the unit in a dry and ventilated place.
- 14.2 **Hot air escapes from the heater chamber:** Disassemble the top section of heater chamber by unscrewing five screws, and then re-assemble them with painting some silicon sealant on the mating surfaces.

15. Unreadable display on VFD

- 15.1 **Bad connection with the communication cable:** Check for this cable, and re-insert the terminals on the display board and electronic module.

- 15.2 **The display board is affected with damp:** Dry the display board, and test it again.
 15.3 If not, replace a new display board.

How To Replace A New Display Panel?

- Power off and unplug the unit.
- Remove two screws and washers on the rear side of work top. Lift the work top up a little by holding its rear side, and then push it towards the door to remove the work top.
- Disassemble the front panel group by removing two screws and washers which assemble the front panel on the cabinet, and two screws and washers which assemble the detergent box.
- Unplug the communication cable.
- Disassemble the display panel by removing five screws and washers.
- Replace a new display panel, and then re-assemble it by following the reverse steps.

16. Some notes or warnings with operation

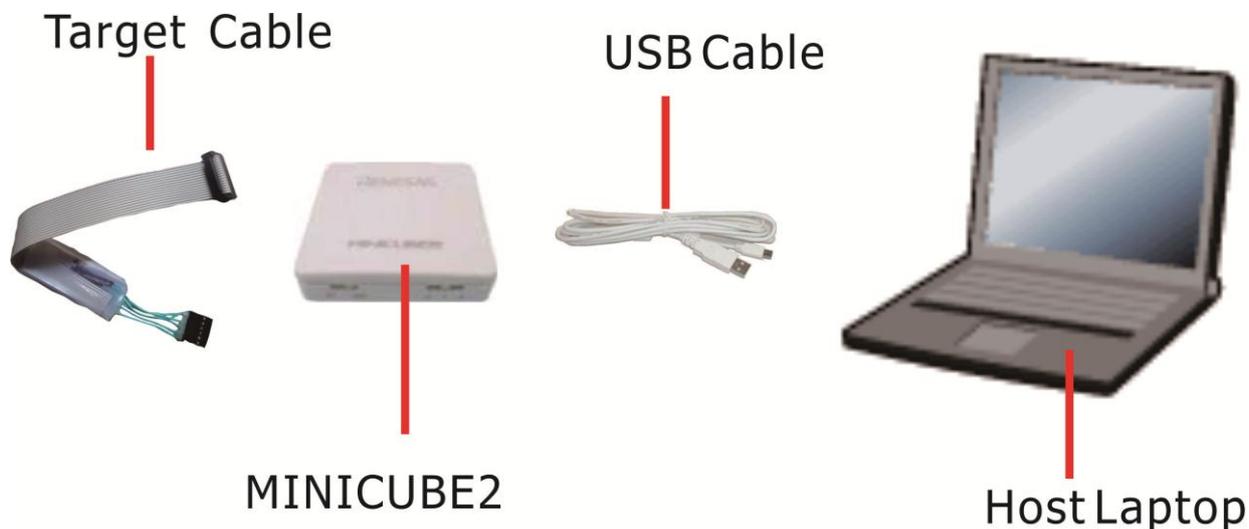
- 16.1 To this washer/combo, the free end of drain hose must be higher than the water surface in the sink, if it is not, the water in the sink will be siphoned in to the washer/combo after the pump stops to work.
- 16.2 In dry cycle, please close the loading door firmly if the remaining time is not reduced, and the washer/combo is not running.
- 16.3 If you have much condensing moisture in drum or have a poor dry result, please check the cold water faucet is on.
- 16.4 If you have a poor spin result, it is because of heavy unbalance caused by over load or too less laundry in drum.
- 16.5 In venting operation, there will be 5 minutes before the venting fan working, in order to increasing the temperature quickly.
- 16.6 To get a good dry result, the combo would run a spinning cycle. The time of this spinning cycle depends on the dry time the customer set (see the table below). If the customer pause the running dry cycle and reprogram it by pressing the buttons of "Time +" / "Time -", the new cycle will be started from the beginning.

Dry time (T)	Spinning time (t)
$T \geq 90$ min	t = 10 min
$90 \text{ min} > T \geq 60$ min	t = 5min
$T < 60$ min	t = 0

Update Software

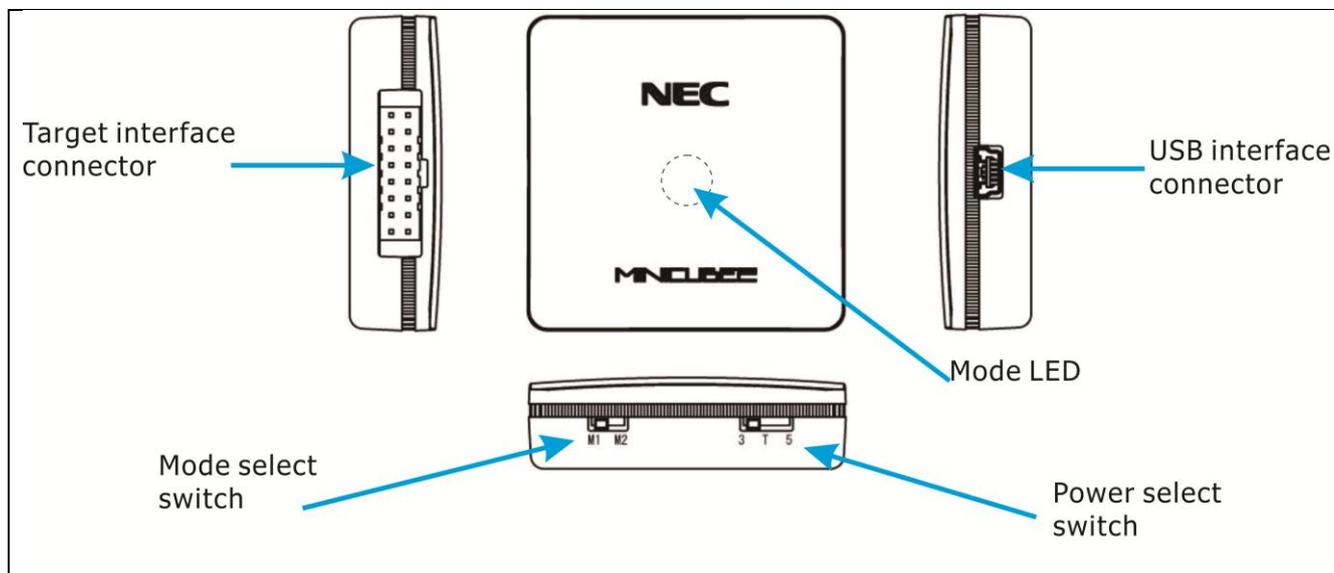
Introduce

The software of the display panel (DP) and the electronic module (EM) can be updated separately. The updating work should be done by a qualified person.
The tools used to update software are figured below.



As showed in the above figure, the USB cable is used to connect the laptop and MINICUBE2 main unit, and the target cable is used to connect the MINICUBE2 and the target device (such as DP, or EM).

The following figure shows the parts name of MINICUBE 2 main unit.

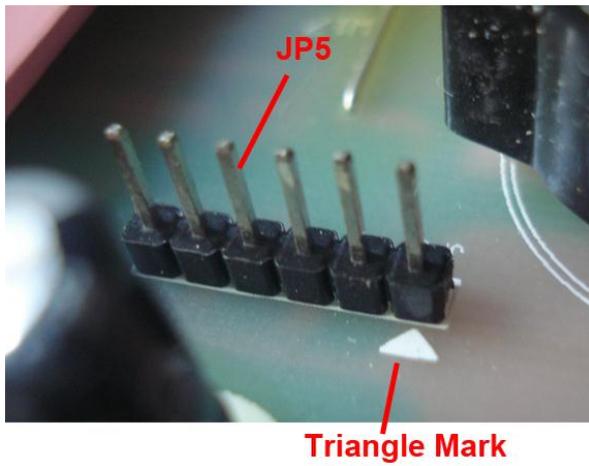


How to update the software?

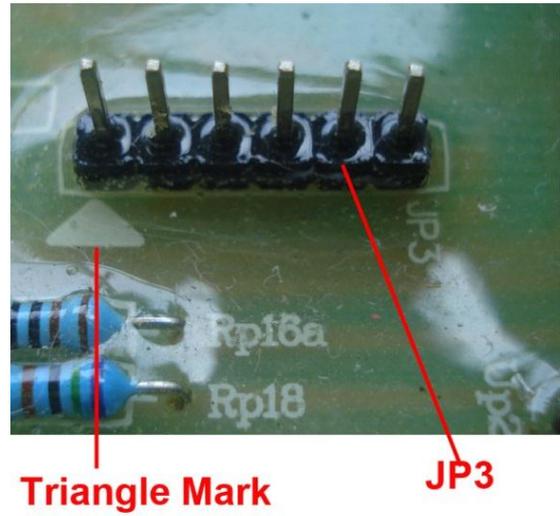
1. Set the mode select switch to M2, and the power select switch to 5 on the MINICUBE2 unit.
2. Power off the washing machine, and unplug the communication cable from DP or EM.
3. Connect the laptop and MINICUBE2 using the USB cable. And connect the MINICUBE2 and DP or EM using the target cable. The triangle mark on the target cable connector should be aligned with the similar mark on the PCB of DP or EM (see figure below), in order to make sure to mate the connectors

in the right direction.

※Please note: Do not change the switch setting while the USB cable is connected.



Connector JP5 on DP



Connector JP3 on EM

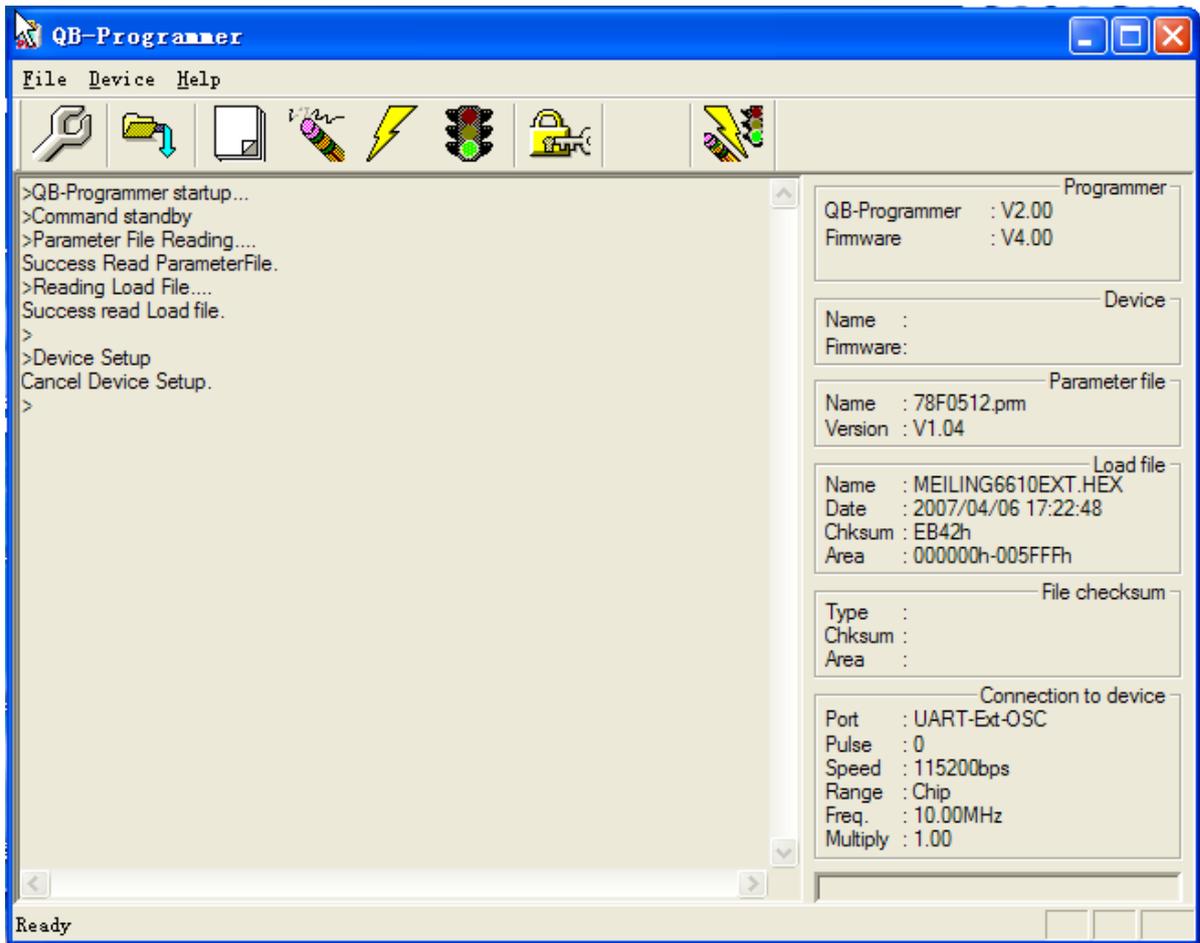


Tartget cable

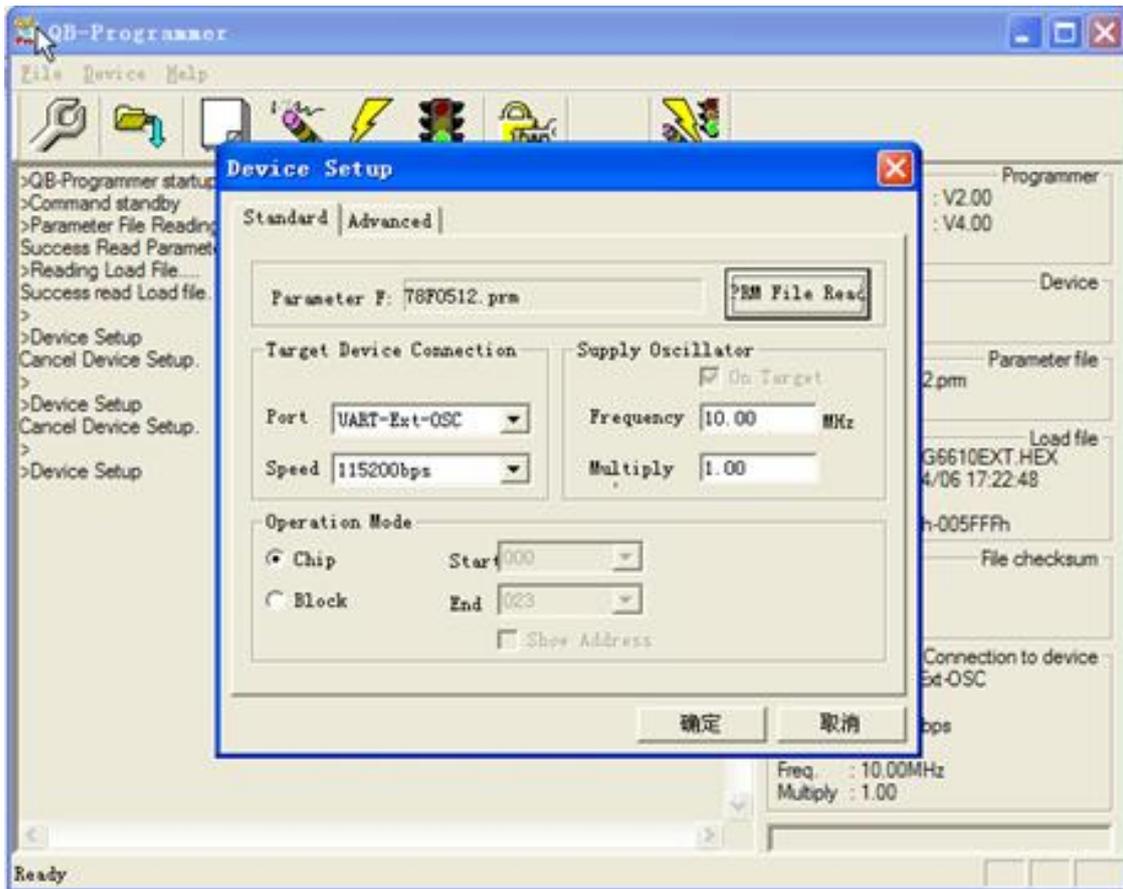


Connector of target cable

4. Start the application QBP V2.00 QB-Programmer on the host laptop, the mode LED is glowing green after the QB-Programmer startup, the main window of this application appears as below.

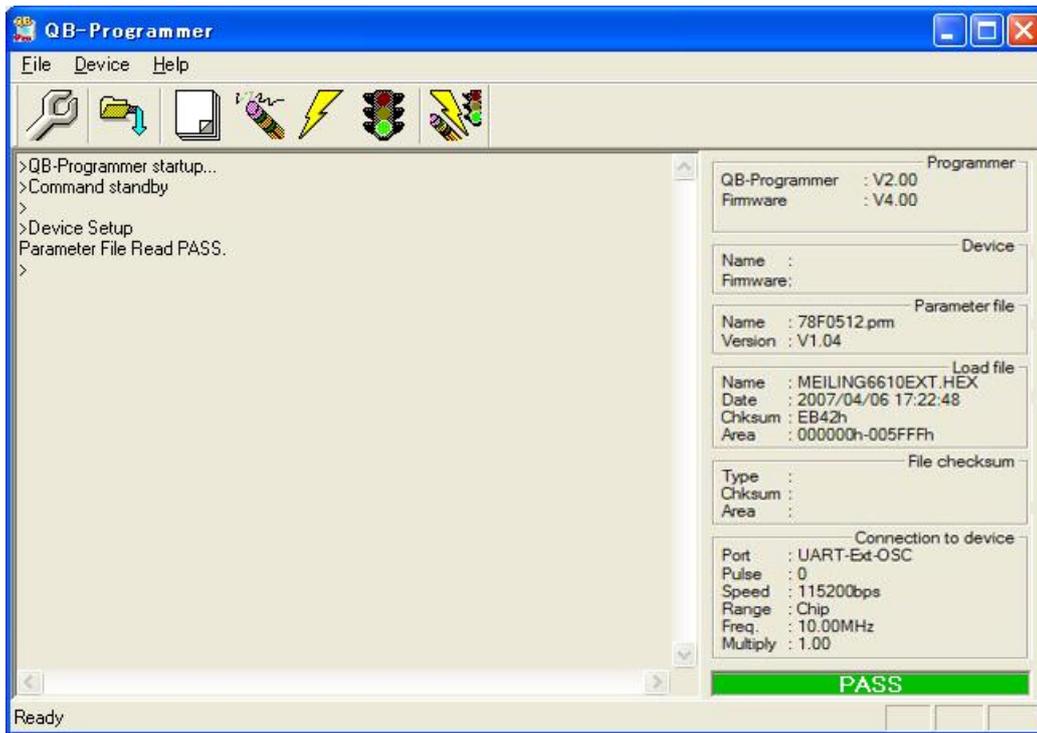


5. Click the [Device] menu on the menu bar and then click [Setup...], or click the button . The Device Setup dialog box appears, in which the [Standard] tab is active.

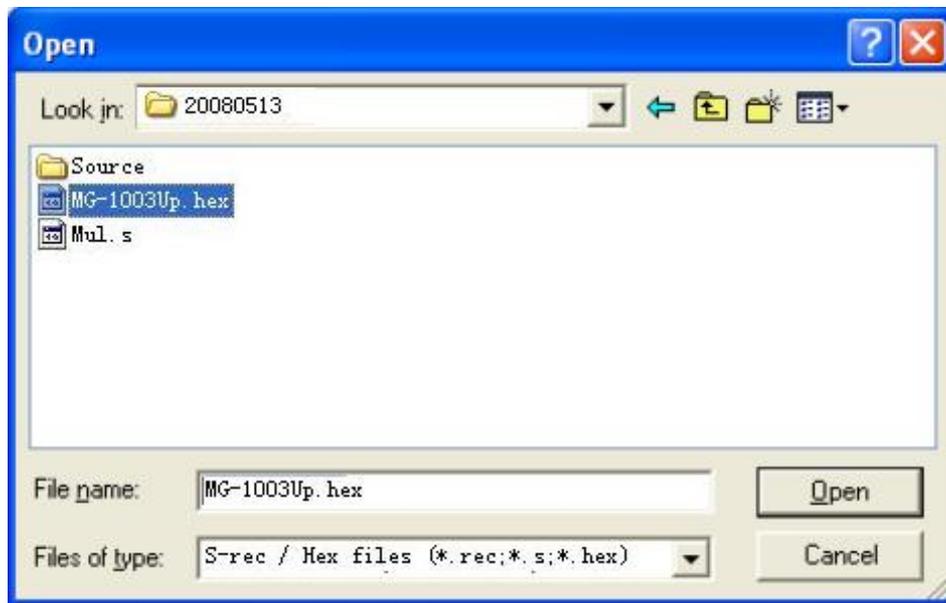


6. Click [PRM File Read] button to open the Parameter File Select dialog box. Select the parameter file named **78F0512.prm** and then click the [Open] button.

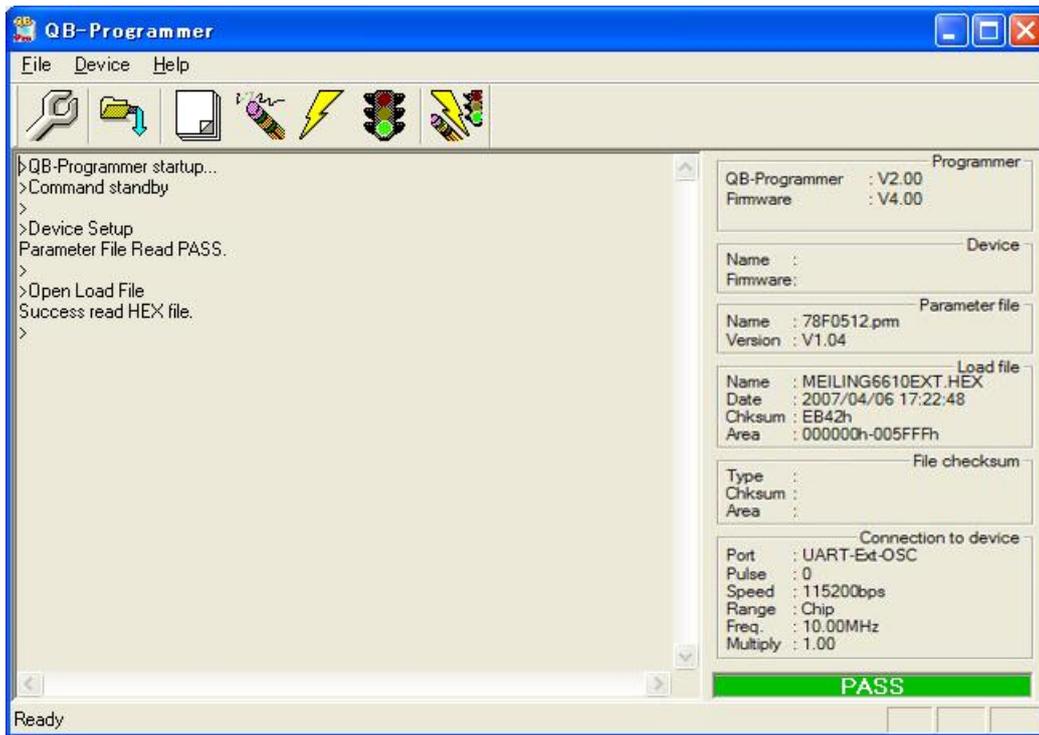
7. Change the frequency in the Supply Oscillator area from  to . The other settings remain the default, and then click the [ok] button to complete the setting of programming environment, and the Device setting dialog box is closed and the main window appears as follows.



8. Click the [File] menu on the menu bar and then click [Load...], or click  button, the program file select dialog box appears.

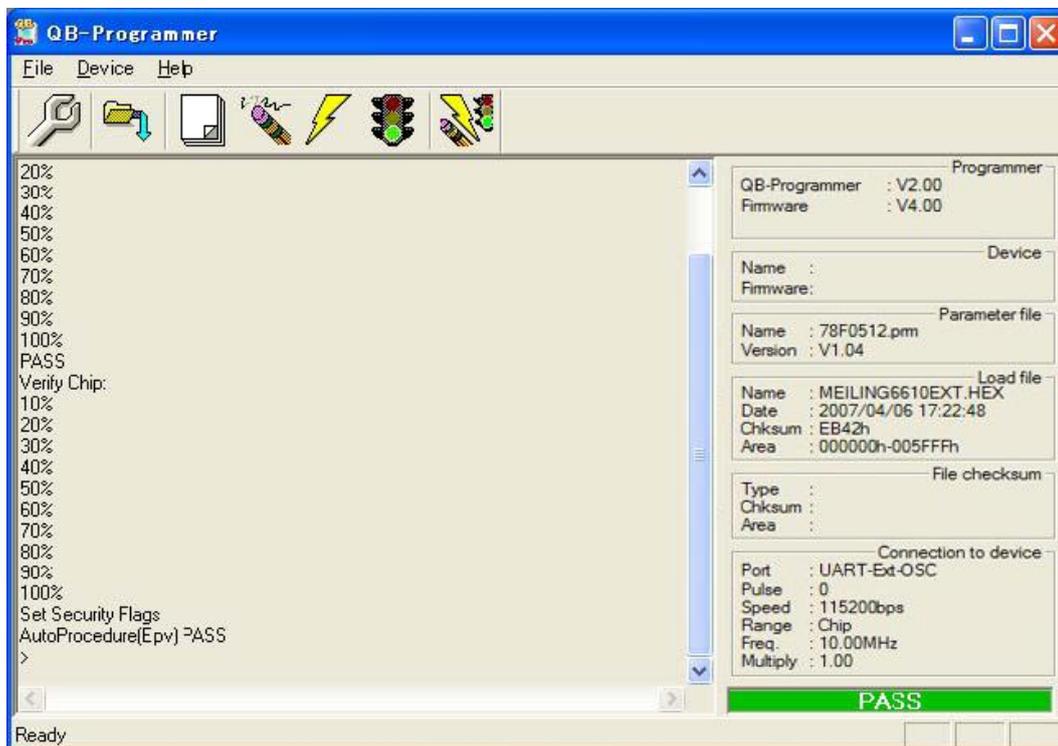


9. Select the program file for DP or EM, and then click the [Open] button.



10. Click the [Device] menu on the menu bar and then click [Autoprocedure(EPV)], or click button to execute EPV command to update the software.

The mode LED on MINICUBE2 flashes yellow during execution. When the command execution is complete normally, the mode LED glows green and the following window appears.



11. System shutdown

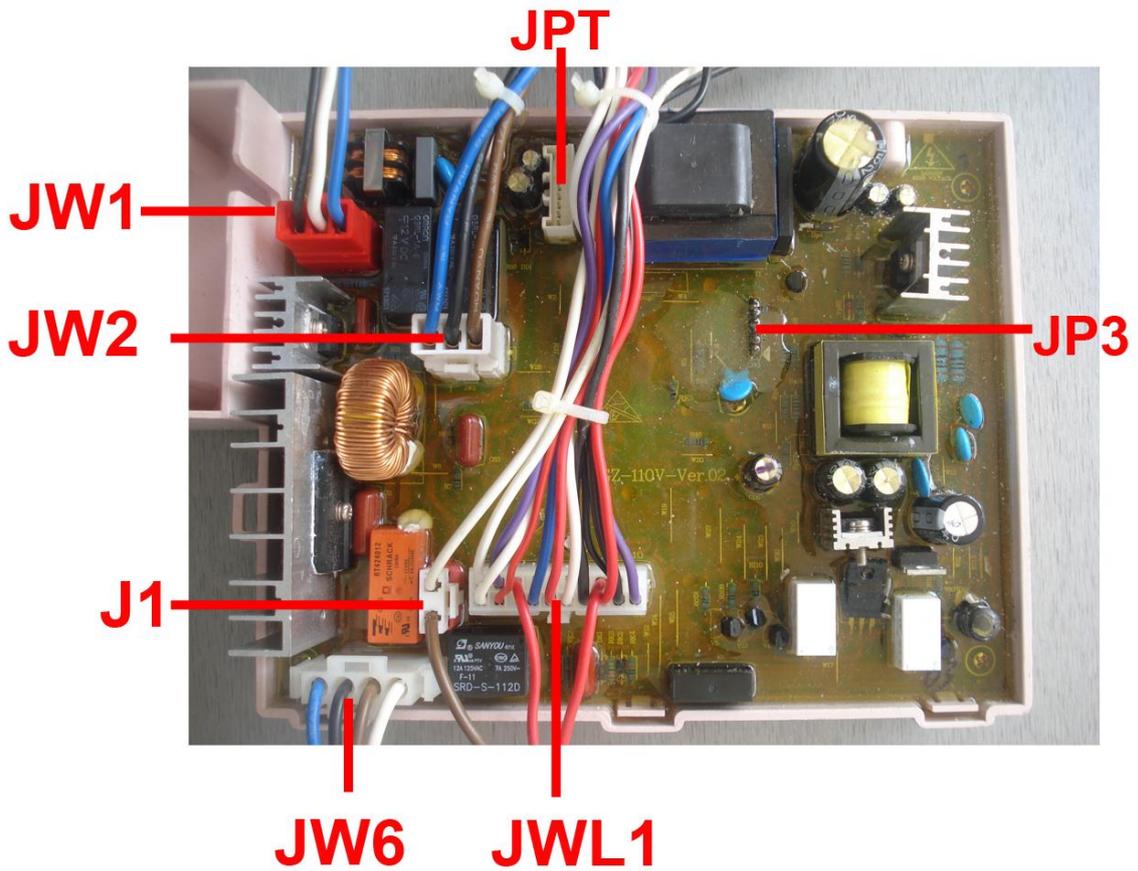
- 11.1 Terminate QB-Programmer: Terminate QB-Programmer if you are not going to perform programming other DP or EM.
- 11.2 Unplugging the USB cable: Unplug the USB cable from MINICUBE2 or host laptop.
- 11.3 Unplugging the target cable: Unplug the target cable from MINICUBE2 or DE/EM.

APPENDIX

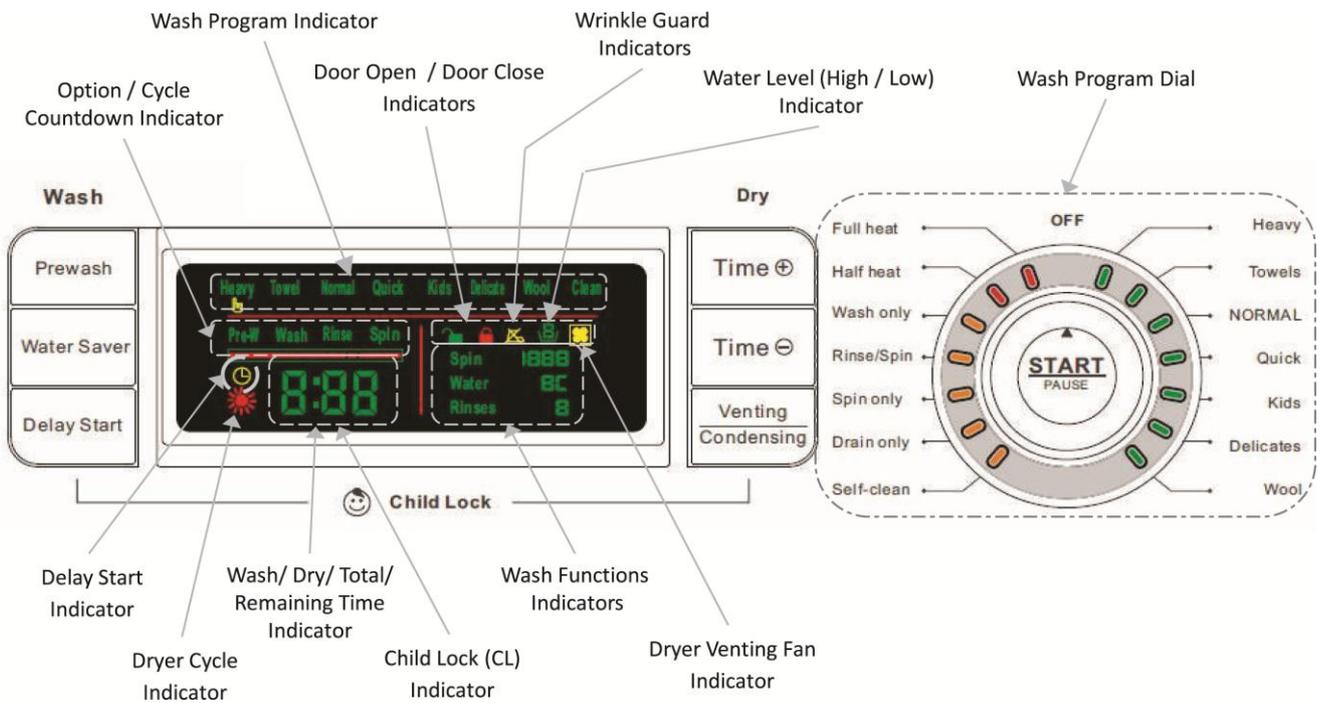
Appendix 1 Terminal Specification on Electronic module

Code	JW1	JW2
Picture		
Color Of Housing	Red	White
Wiring	1 (Black): JP-L(Power) 2 (White): JP-N(Power) 3 (Blue): Water Level	1 (Brown): Door Lock 2 (Black): Heater for Drying 3 (Blue): Heater for Drying

Wiring On JWL1																
1	2	3	4	5	6	7	8	9	10							
白 排水泵	紫 水位	红 电机					红 电机	黑 排气扇								
白 烘干单温	红 排气扇		蓝 进水阀	红 门锁	白 鼓风机	黑 排水泵	红 进水阀	黑 进水阀	紫 进水阀							
11	12	13	14	15		17	18	19	20							
1(White): Drain Pump	2(Purple): Water Level	3(Red): Motor	4/5/6/7: N/C	8(Red): Motor	9(Black): Venting Fan –	10: N/C	11(White): Single-Contract Thermostat.	12(Red): Venting Fan +	13: N/C	14(Blue): Valve	15(Red): Door Lock	16(White): Turbo Fan	17(Black): Drain Pump	18(Red): Valve	19(Black): Valve	20(Purple): Valve



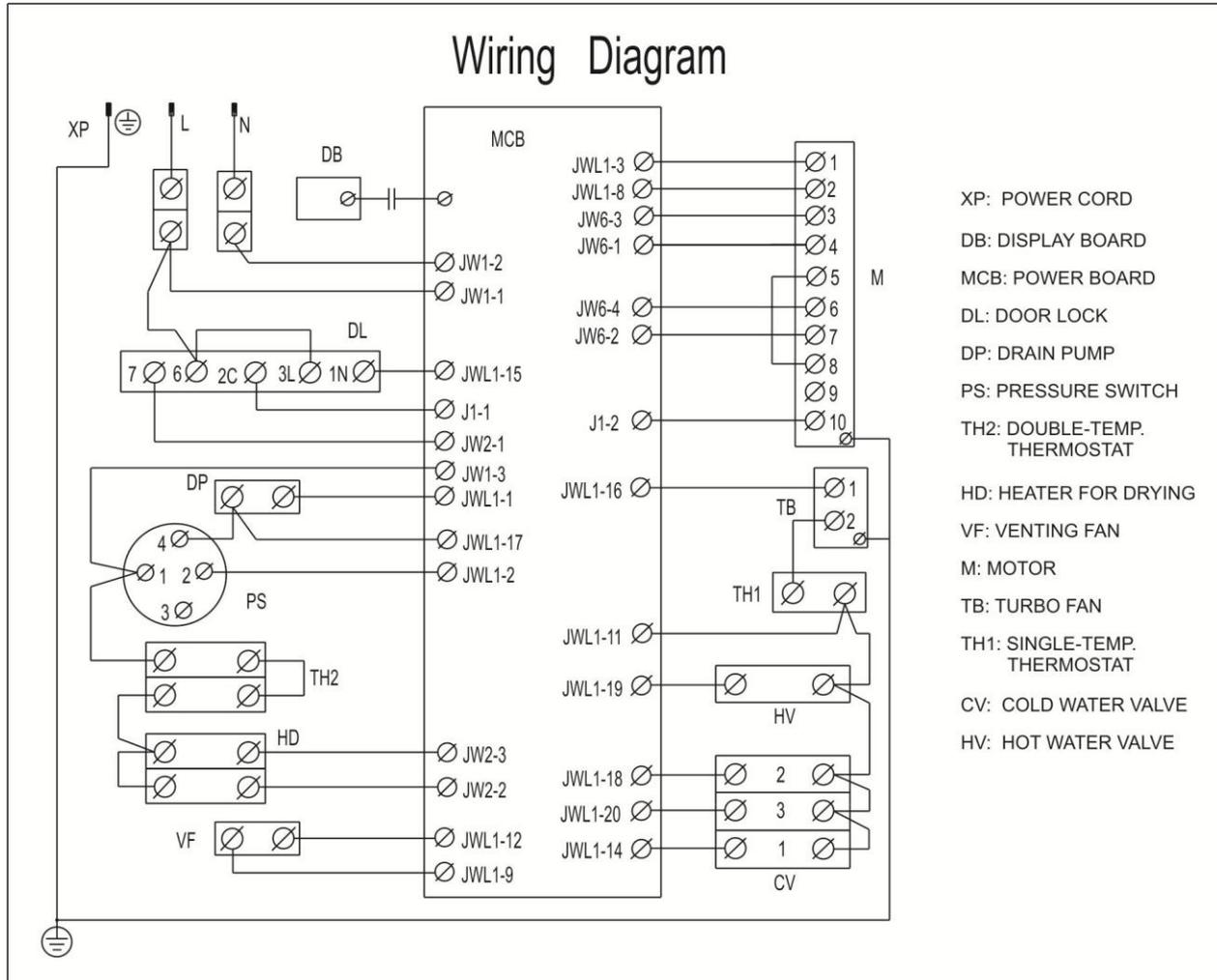
Appendix 2 Option Buttons and Graphic Display



DIAGNOSTIC MENU

Code	Description	Component
E1	Door close	Door Switch
E2	Drain	Drain Pump
E3	Water inlet	Inlet Valves
E4	Water overflow	Pressure Switch
E5	Motor	Thermal Protector +Electronic Module
E6	Communication between display & electronic module	Communication Cable
E8	Dryer Malfunction	Temp. sensor (@rear-bottom of tub)
E9	Dryer Malfunction	Temp. sensor (@front of heater housing)
E10	Water overflow	Water level sensor
E11	Dryer Malfunction	Temp. sensor (near the blow fan motor)
E12	Dryer Malfunction	Fan Motor
E13	Dryer Malfunction	Heating Element

Appendix 4 Wiring Diagram



Appendix 5 Wiring List Table

Sr. No.	Color	Length	Terminal 1	Terminal 2	Note
1	Black	80	Door Lock-3	Door Lock-6	
2	Black	780	Door Lock-6	JP-L	
3	Black	880	JP-L	JW1-1	
4	Red	1630	JWL1-15	Door Lock-1	
5	White	1630	J1-1	Door Lock-2	
6	Black	1440	JWL1-19	Hot water Valve HV-1	
7	White	1160	JWL1-11	Single-temp. Thermostat TH1-1	
8	White	580	Single-temp. Thermostat TH1-1	Hot Valve HV-2	
9	White	200	Hot Valve HV-2	Cold Valve CV1-1	
10	White	80	Cold Valve CV1-1	Cold Valve CV3-1	
11	White	140	Cold Valve CV3-1	Cold Valve CV2-1	
12	White	880	JW1-2	JP-N	
13	Blue	870	JW1-3	Pressure Switch PS-1	
14	Orange	480	Pressure Switch PS-1	Double-temp. Thermostat TH2-2	
15	Purple	910	JWL1-2	Pressure Switch PS-2	
16	Black	350	JWL1-17	Drain pump DP-1	
17	Black	1160	Drain Pump DP-1	Pressure Switch PS-6	
18	Purple	1560	JWL1-20	Cold Valve CV2-2	
19	Red	1510	JWL1-18	Cold Valve CV3-2	
20	Blue	1490	JWL1-14	Cold Valve CV1-2	
21	Black	1120	JWL1-9	Venting Fan(-)	
22	Red	1120	JWL1-12	Venting Fan(+)	
23	Brown	390	J1-2	Motor-10	
24	Red	400	JWL1-3	Motor-1	
25	Red	400	JWL1-8	Motor-2	
26	Black	90	Motor-5	Motor-8	
27	Blue	390	JW6-1	Motor-4	

Sr. No.	Color	Length	Terminal 1	Terminal 2	Note
28	Black	390	JW6-2	Motor-7	
29	Brown	390	JW6-3	Motor-3	
30	White	390	JW6-4	Motor-6	
31	Blue	1180	JW2-3	Heater for Drying HDA-1	
32	Black	1180	JW2-2	Heater for Drying HDB-1	
33	Brown	1590	JW2-1	Door Lock-7	
34	White	1250	JWL1-16	Turbo Fan TF-1	
35	White	350	JWL1-1	Drain Pump DP-2	
36	Yellow/Green	260	Turbo Fan-GND	Pressure Switch Holder -GND	
37	Yellow/Green	1020	Pressure Switch Holder -GND	Tub-GND	
38	Orange	80	Heater for Drying HDB-2	Heater for Drying HDA-2	
39	Orange	170	Heater for Drying HDA-2	Double-temp. Thermostat TH2-4	
40	Orange	80	Double-temp. Thermostat TH2-1	Double-temp. Thermostat TH2-3	
41	Blue	140	Single-temp. Thermostat TH1-2	Turbo Fan TF-2	
42	Yellow/Green	200	Motor-GND	Tub-GND	

QUICK CHECK

After replacing any components, you should have a quick check without laundry in the unit, in order to make sure the unit will work normally by following the next steps.

Checking the Wash Cycle: Turn the program dial to Towels position, and then press the START/PAUSE button. The unit will start to filling in with the water from both inlet valves. After some minutes, it will stop to fill when the water level reaches to the set value, and the drum will start to agitate. Then press the START/PAUSE button again, turn the program dial to the Spin only position and press the START/PAUSE button, the unit will pump the water out and begin to spin simultaneously.

Checking the Dry Cycle: Select the venting dry function by pressing the Venting/Condensing button. Turn the program dial to Full Heat position, and press the Time- button to reduce the dry time until it is less than 60 minutes, then press the START/PAUSE button. The unit will start to heat up and you can sense the hot air nearby the venting fan.

※Please Note: In this unit the door can't be opened in washing cycle unless and until the unit is power off and in 2 minutes. However the door can be opened at any time after the lock-opening symbol displayed on the VFD in the drying cycle.