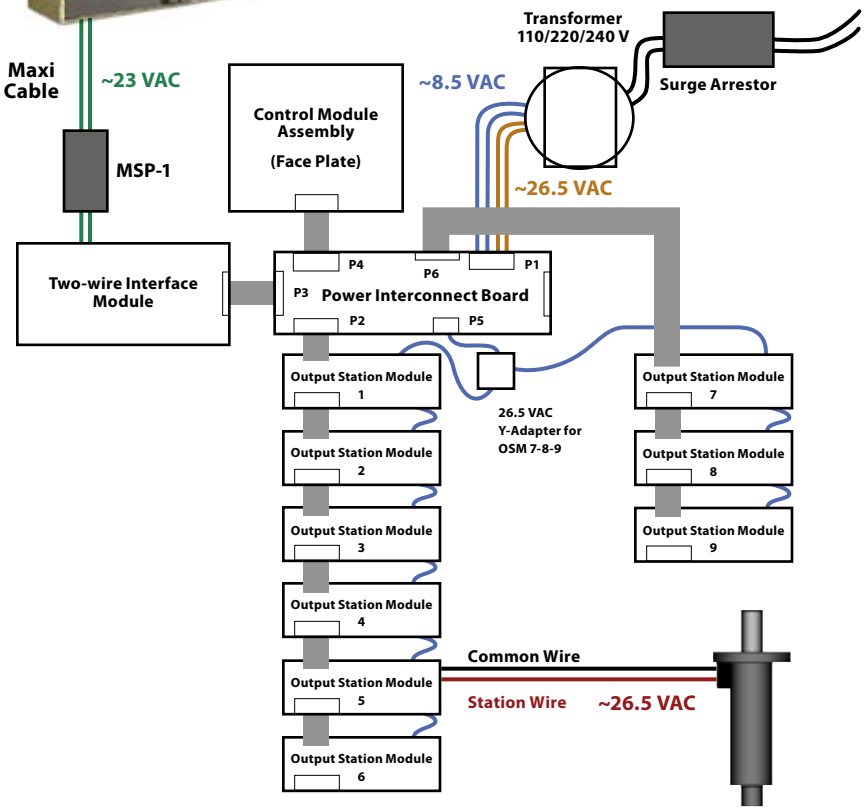
Rain Bird® Two-Wire PAR+ES Controllers

Two-Wire PAR+ES Controllers install quickly, boast the best-in-class user interface pedestal enclosure and are durably constructed. The base configuration of 16 stations can be upgraded at any time — in eight-station increments up to 72 stations — to accommodate changing course irrigation requirements. In the central control mode, an unlimited number of irrigation schedules can be programmed to further enhance watering flexibility and precision. To safeguard the controller investment, a choice of pedestals in either green or grey are available to provide superior environmental protection.

In this section are the recommended Rain Bird troubleshooting procedures for these performance challenges:

- Controller Does Not Power Up Properly
- Front Panel Does Not Power Up Properly
- Tripping Circuit Breaker
- Stations Not Working
- Key Pad Not Responding
- Controller Not Responding To MAXI® Signal

Component Flow Chart



Tools Required

- Flat head screwdriver
- Philips screwdriver
- Digital multi-meter
- Clip-on fuse holder and set of alligator clips

Error Codes

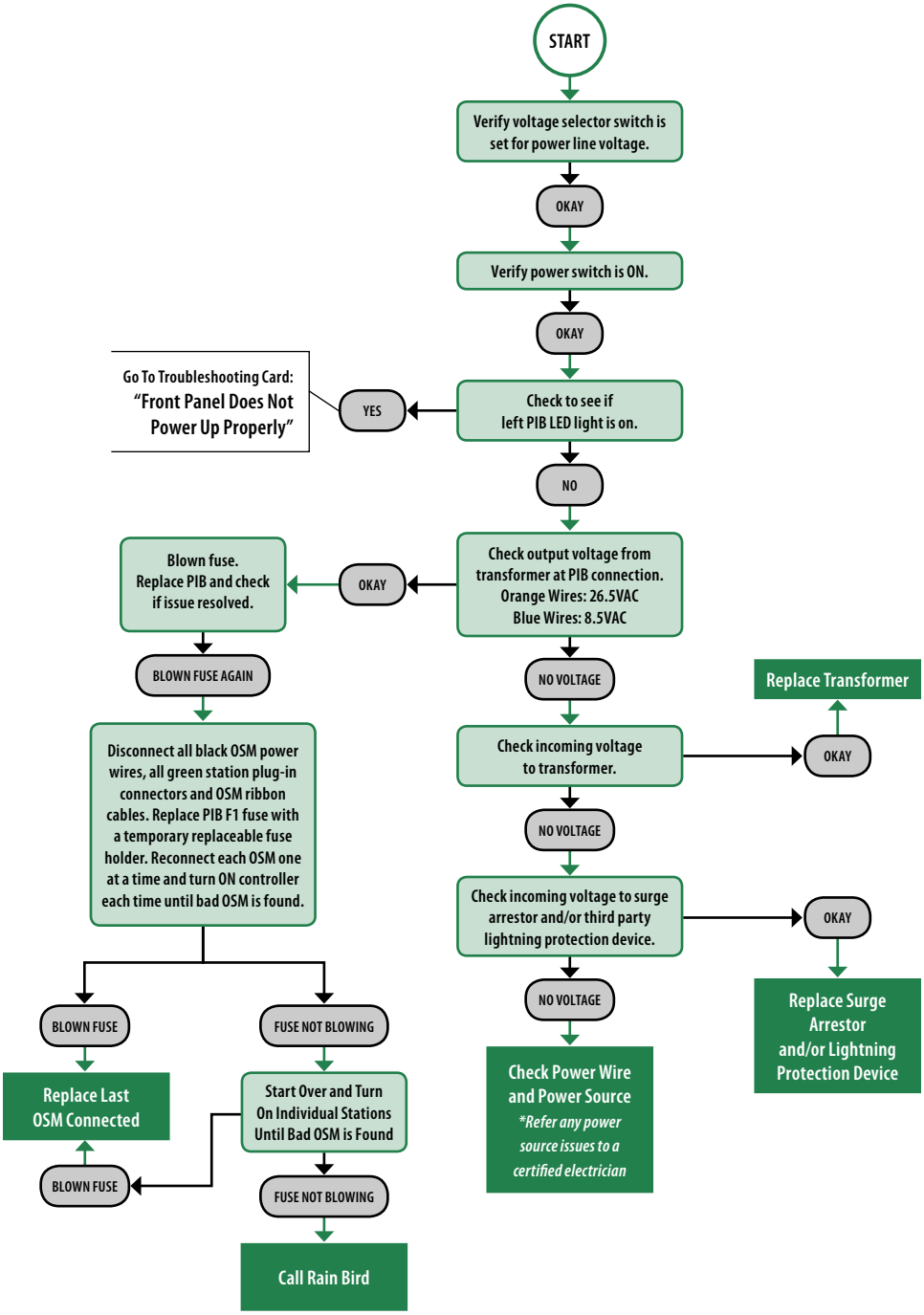
- **Error. Incompatible OSM:** ROM-8 being used or damaged OSM
- **ROM Memory Error**: EPROM is defective
- **RAM Memory Error**: Dallas Chip is defective
- **Breaker Tripped**: Circuit breaker is open
- **RT Clock Error:** Dallas Chip is defective
- **No Boards Found:** No OSM installed or first OSM is damaged
- **Hardware Failure**: PIB is defective or main power not clean

Terminology and Acronyms

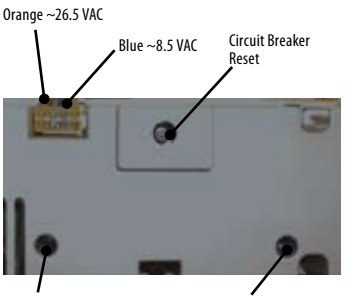
- Control Module Assembly = Front Panel = Faceplate
- Erasable Programmable Read-only Memory: **EPROM**
- Light Emitting Diode: **LED**
- Liquid Crystal Display: **LCD**
- Main Logic Board: **MLB**
- Maxi Interface Module: **MIM**
- Output Station Module: **OSM**
- Power Interconnect Board: **PIB**
- Random Access Memory: **RAM**, e.g. Dallas Chip
- Relay Output Module: **ROM-8**
- Two-wire Interface Module: **IFB**

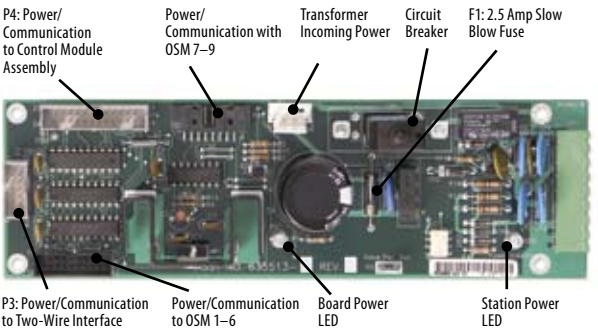
Recommended Rain Bird® Troubleshooting Procedure for

"Controller Does Not Power Up Properly"



POWER INTERCONNECT BOARD (PIB)





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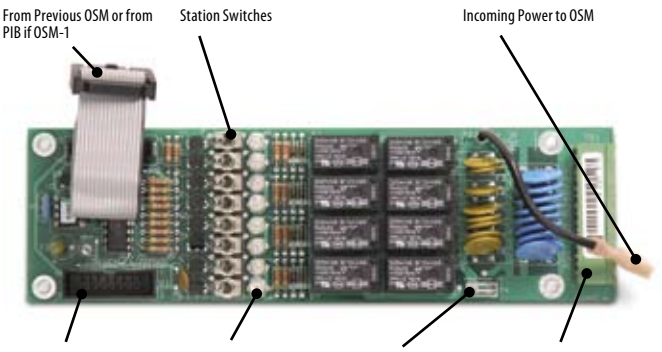
OUTPUT STATION MODULE (OSM)



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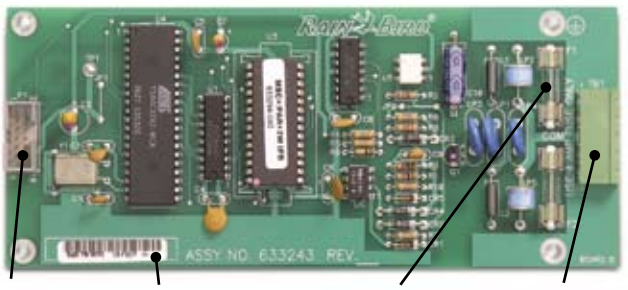
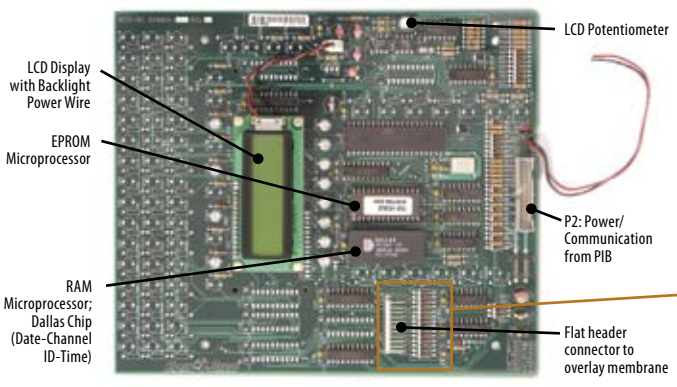
TWO-WIRE INTERFACE MODULE (IFB)

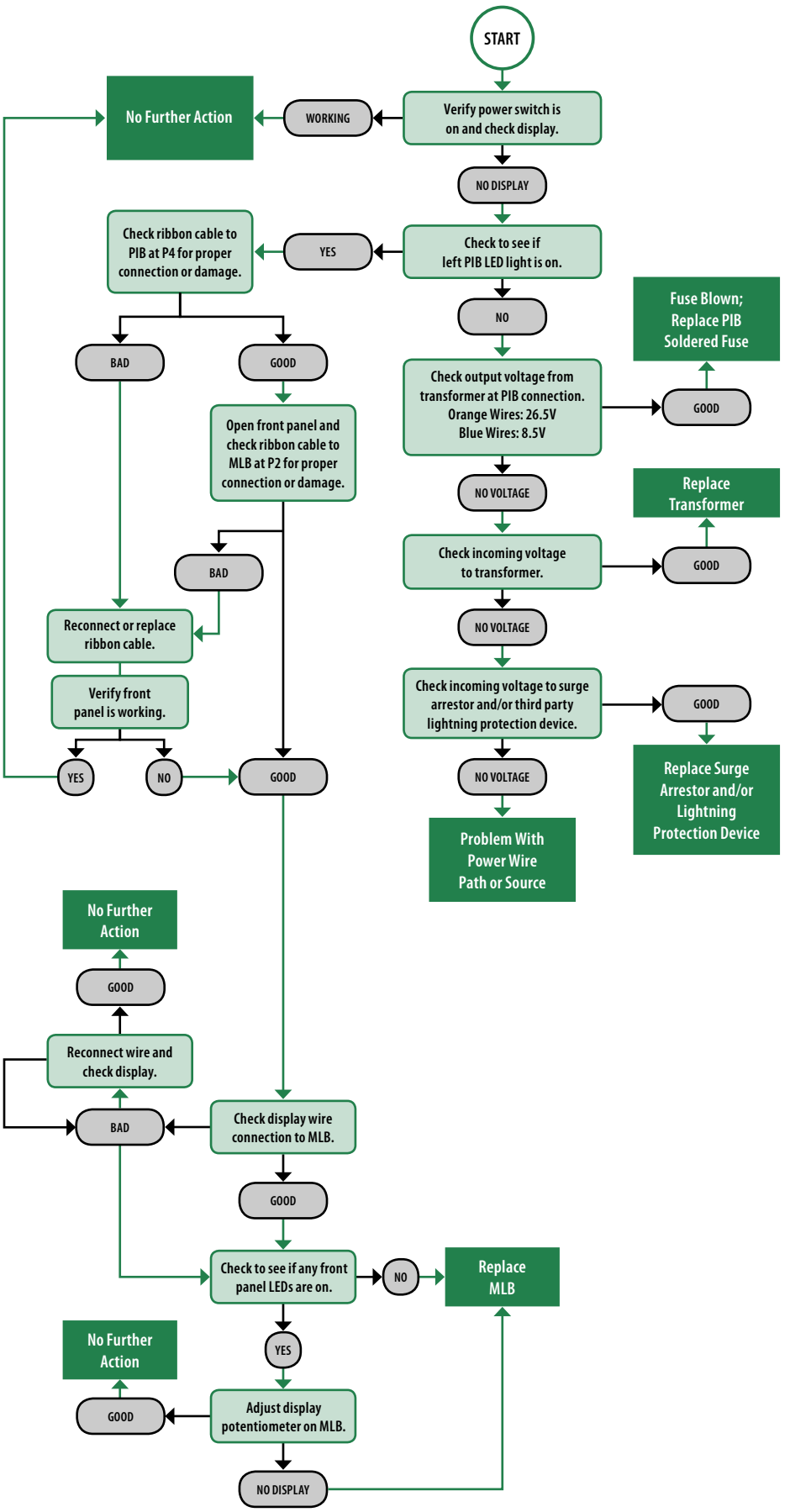


MAIN LOGIC BOARD (MLB)

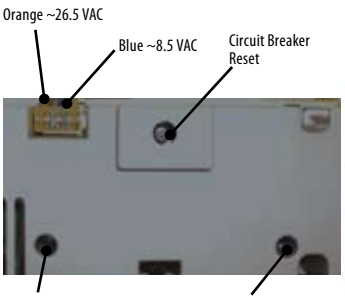


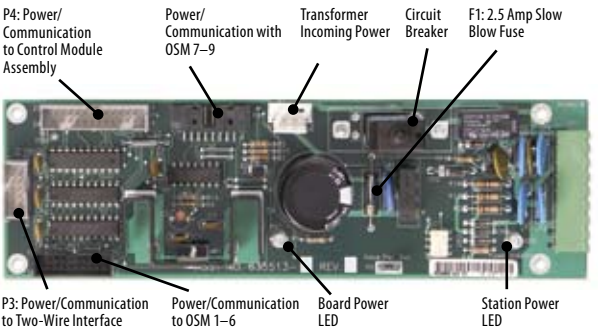
Recommended Rain Bird® Troubleshooting Procedure for

"Front Panel Does Not Power Up Properly"



POWER INTERCONNECT BOARD (PIB)





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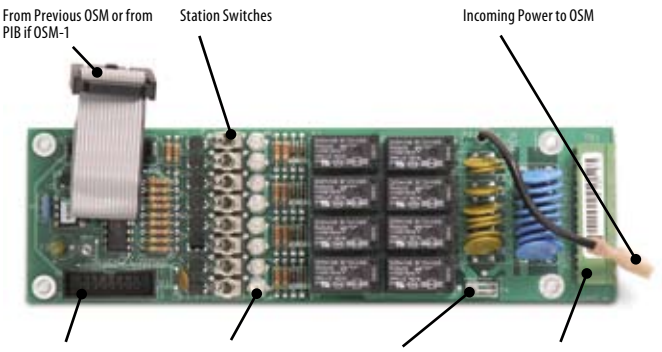

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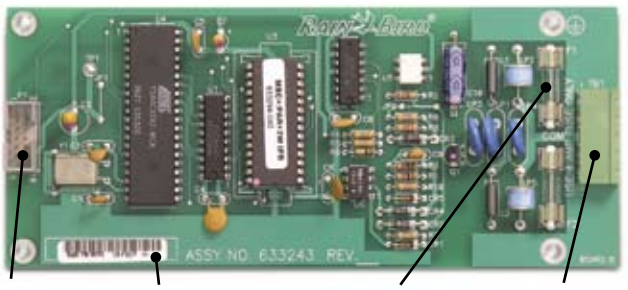

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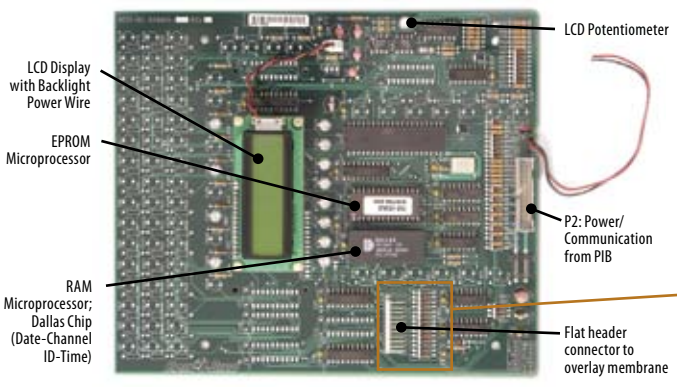
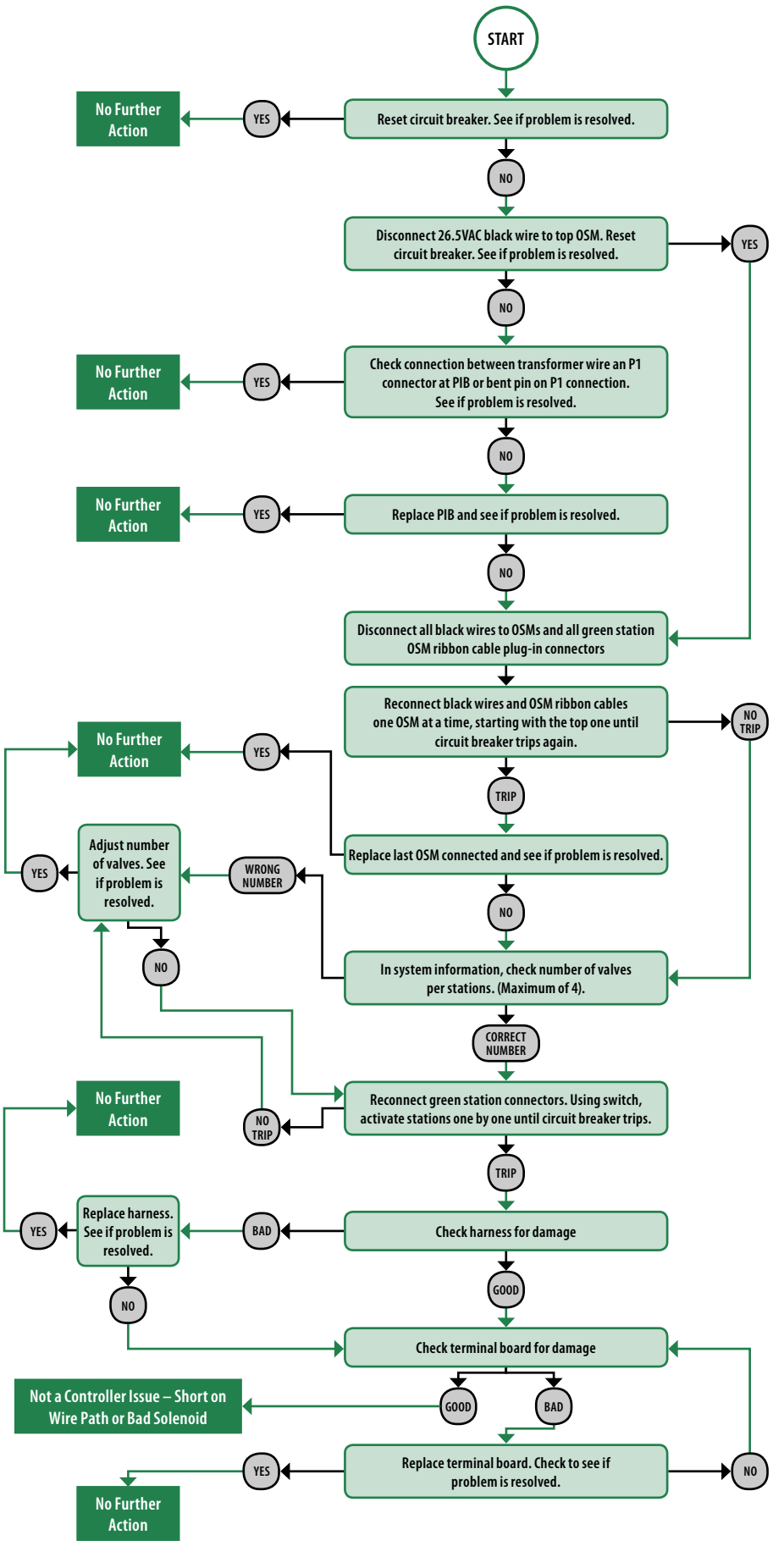


Recommended Rain Bird®
Troubleshooting Procedure for

"Tripping Circuit Breaker"



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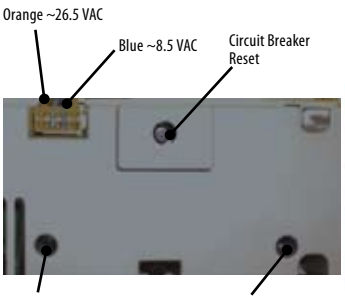

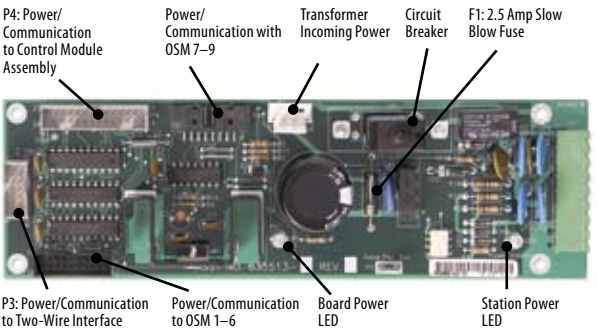

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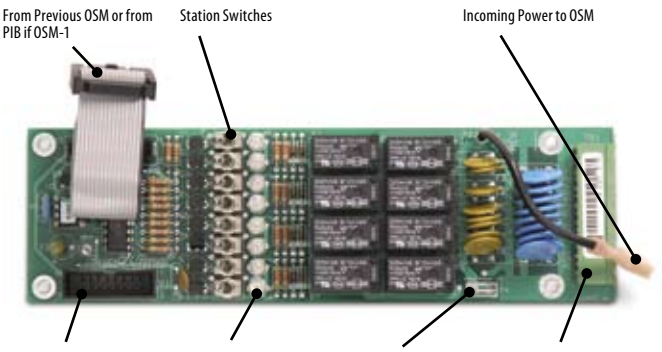

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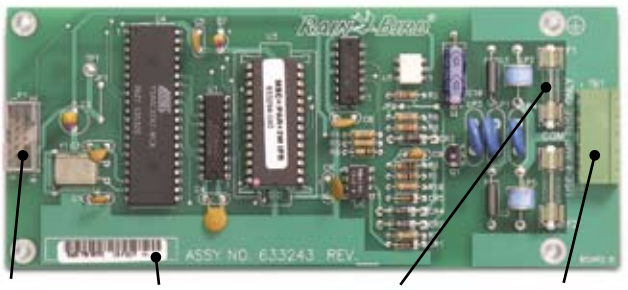

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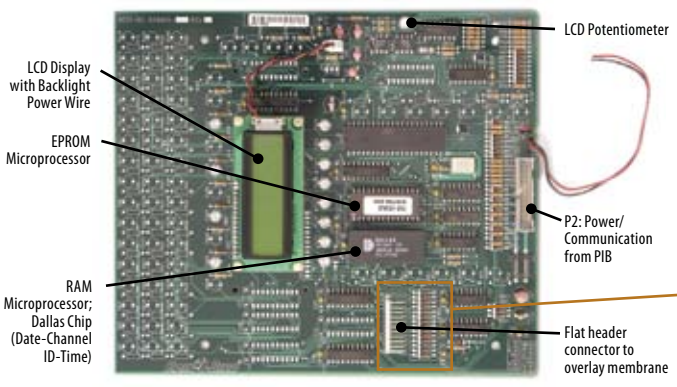
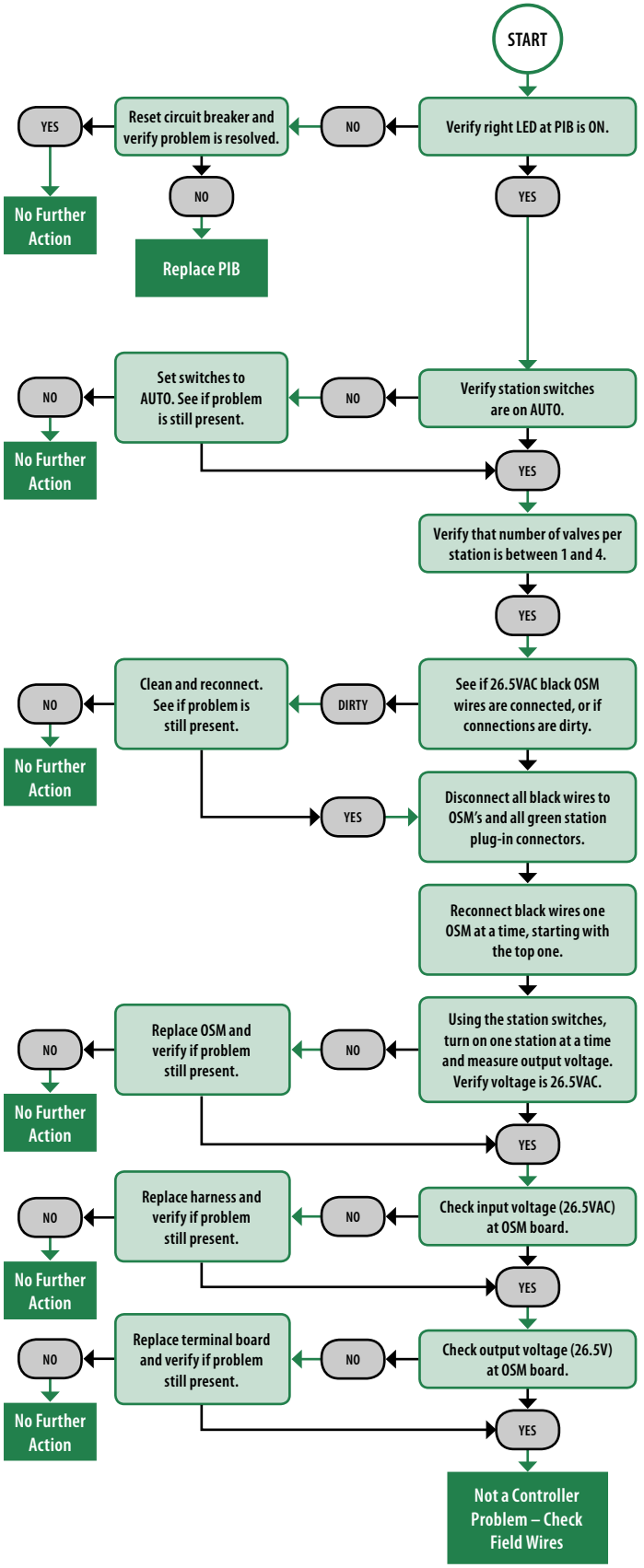


Recommended Rain Bird® Troubleshooting Procedure for

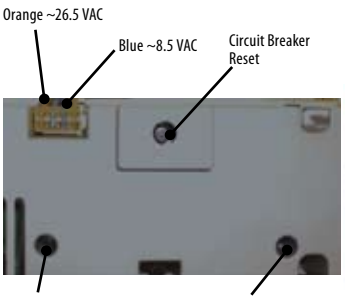
"All/Some Stations Not Working"

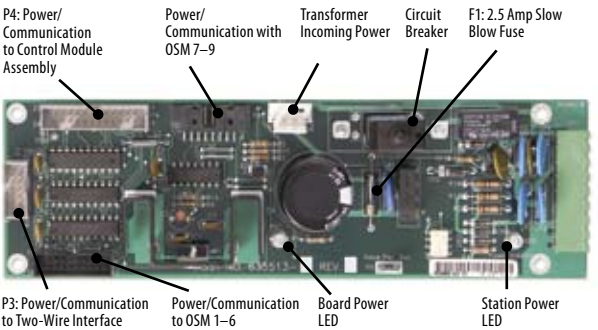
Front panel indicates that stations are running but no irrigation

»» **Note:** This troubleshooting card assumes that water and pressure are ok.



POWER INTERCONNECT BOARD (PIB)





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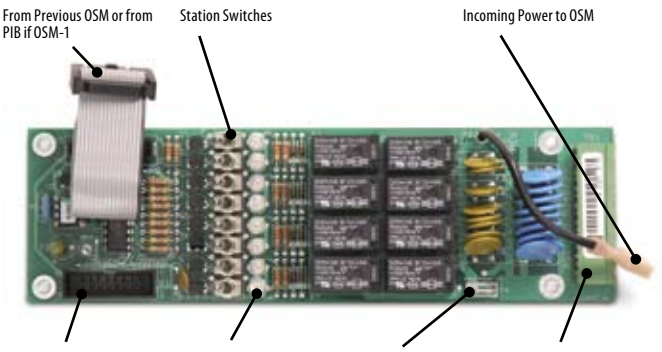

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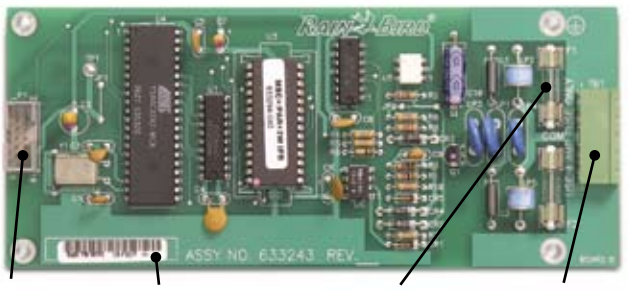

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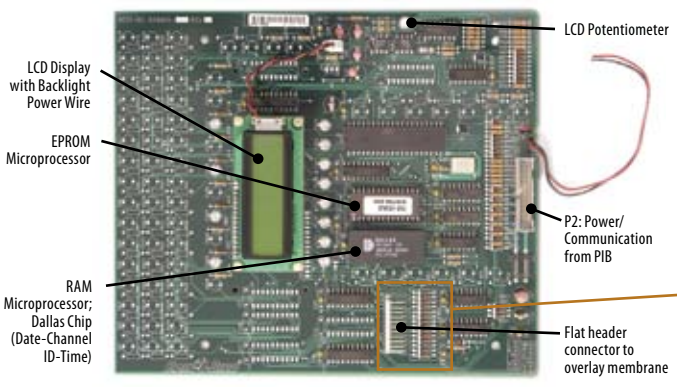
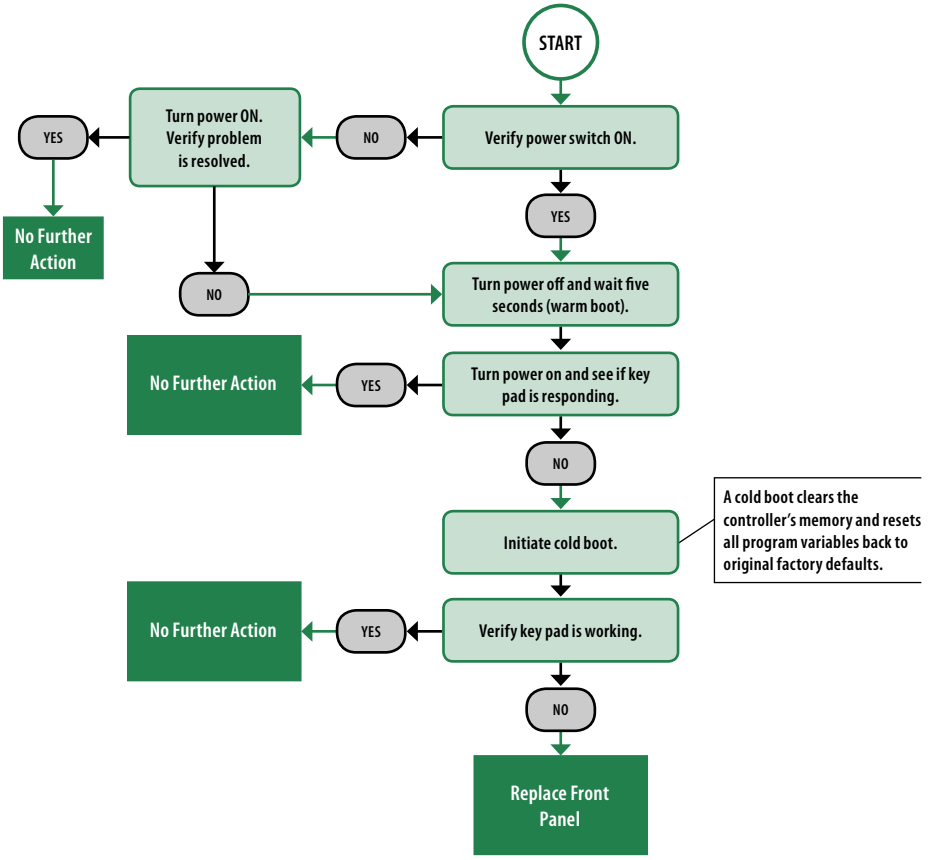


Recommended Rain Bird® Troubleshooting Procedure for

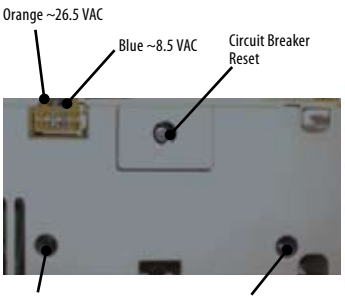
"Key Pad Not Responding"

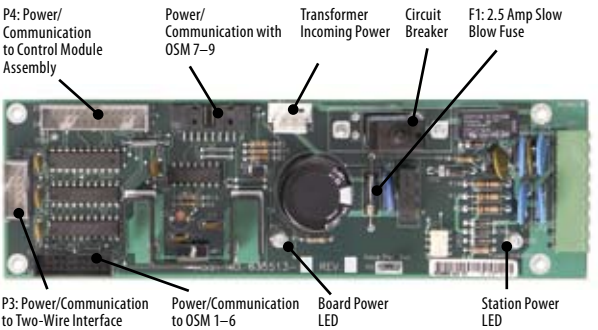


How to perform a Factory Reset/Cold Boot with a non-responding key pad

1. Turn Power **OFF**
2. Hold **COPY PASTE** and **SYSTEM INFORMATION**
3. Turn Power **ON**
4. Hold button down until **NEW SYSTEM SETUP** appears in display

POWER INTERCONNECT BOARD (PIB)





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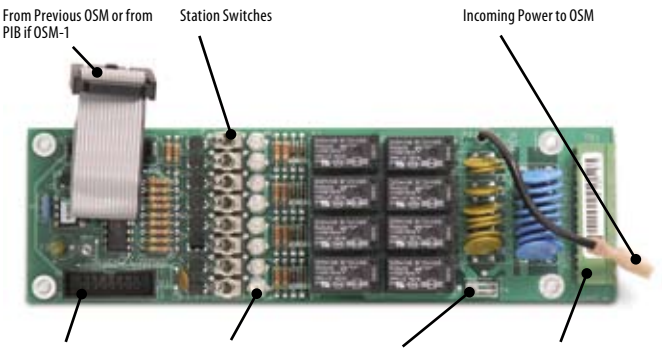

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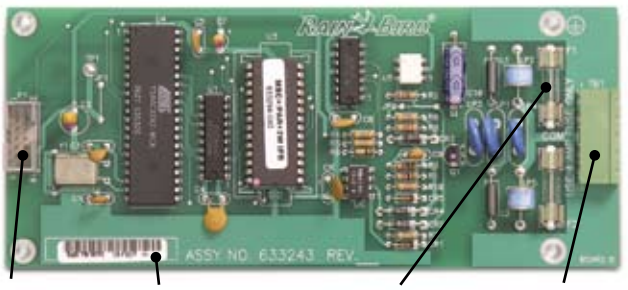

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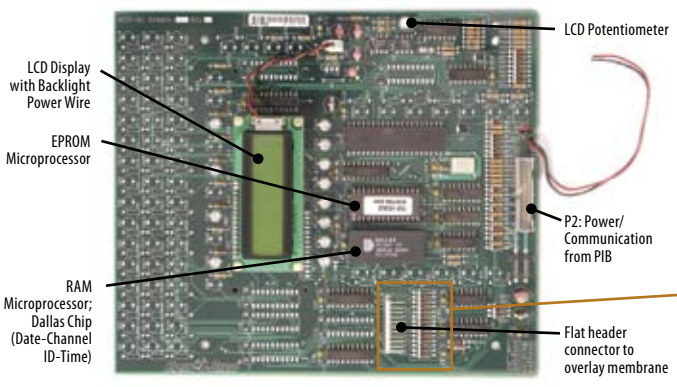
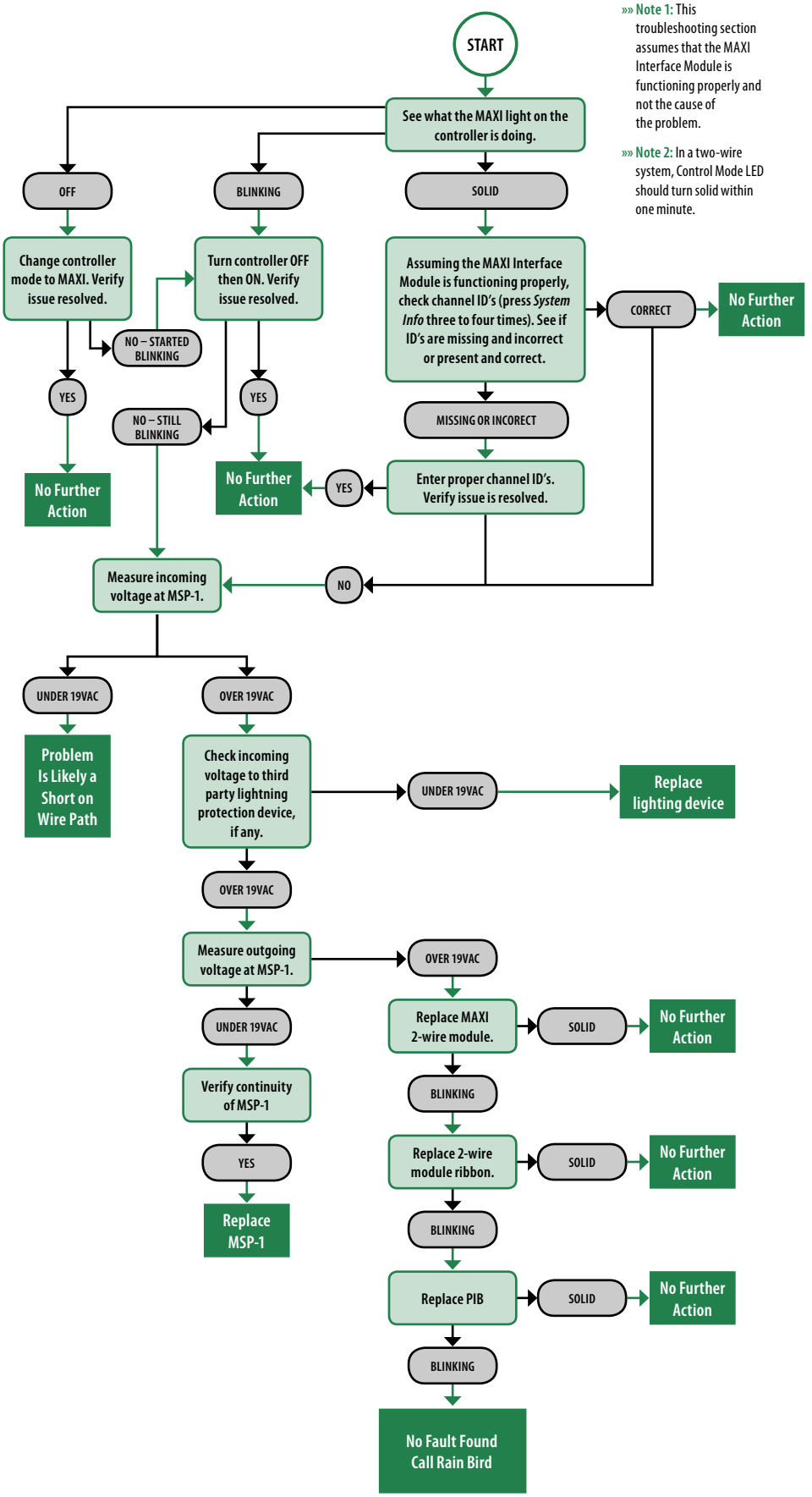


Recommended Rain Bird® Troubleshooting Procedure for

"Controller Not Responding to MAXI® Signal"

»» **Note 1:** This troubleshooting section assumes that the MAXI Interface Module is functioning properly and not the cause of the problem.

»» **Note 2:** In a two-wire system, Control Mode LED should turn solid within one minute.



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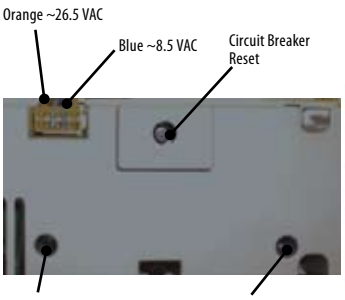

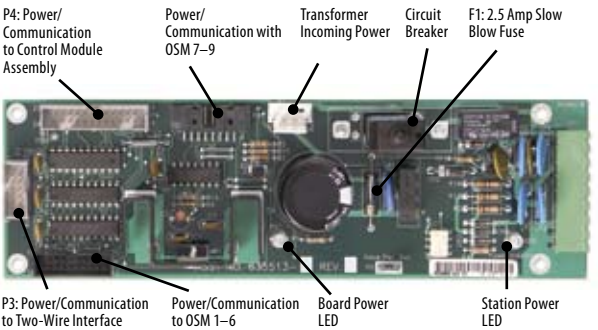

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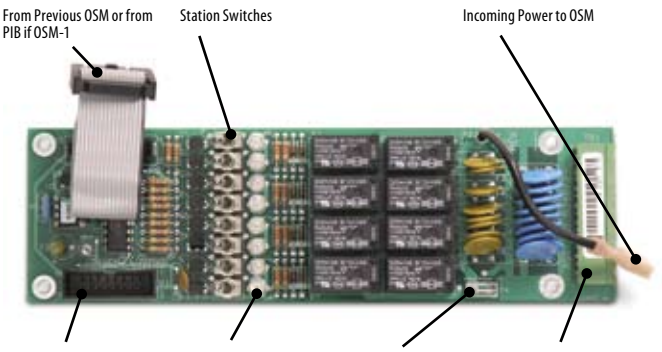

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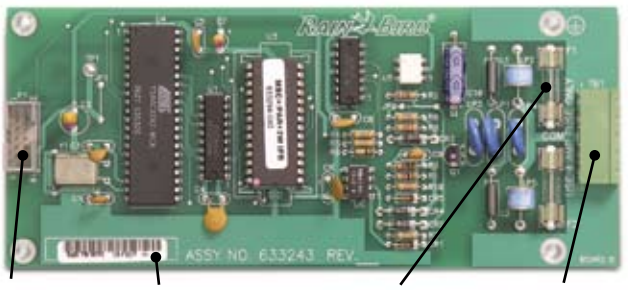

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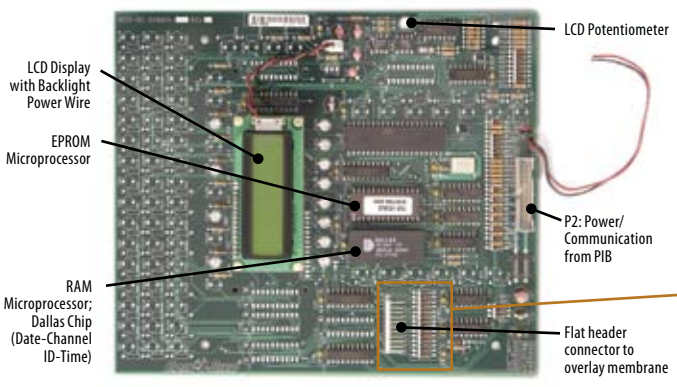

Testing of MSP-1 Surge Arrestor

When installed properly:

- All three wires are a continuous path through the LINE and EQUIP ends
- The green wire from both ends must be physically grounded together
- The MSP-1 surge arrestor unit is directional and the end marked LINE must be connected to the two-wire path coming from the field.

Test procedure:

Use digital multi-meter on its Ohm setting

- Check for continuity through red to red, black to black, and green to green. Reading should be ~ 0Ω.
- There should NOT be continuity between any wire of mixed colors. Reading should be ~ 750Ω.

The failure of any of the above tests indicates a malfunctioning surge arrestor and will not provide any further protection and necessitates the replacement of the current MSP-1