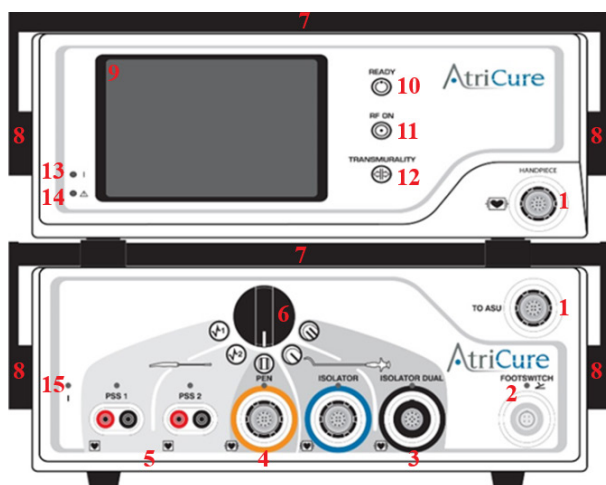


# ASU/ASB

## Quick Start Guide

### ASU/ASB Front Panel



- |  |                                   |
|--|-----------------------------------|
| 1. RF Interface Cable Receptacles              | 7. Handles Error LED indicator    |
| 2. Footswitch Receptacle                       | 8. Handle Rotation Knobs          |
| 3. Isolator Synergy Clamp Handpiece Receptacle | 9. LCD Graphical Display          |
| 4. Isolator Pen Handpiece receptacle           | 10. READY Indicator               |
| 5. Pace-Sense Receptacles                      | 11. RF ON Indicator               |
| 6. Device Selection Knob                       | 12. TRANSMURALITY Indicator       |
|  | 13. ASU Power LED                 |
|  | 14. FAULT Indicator LED Connector |

### ASU/ASB Back Panel



- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 15. ASB Power LED                    | 23. Input Voltage Selector Switch    |
| 16. Footswitch Receptacles           | 24. ASB Power Switch                 |
| 17. Speaker Volume Control           | 25. ASB AC Power Connector           |
| 18. ASU Power Switch                 | 26. ASB Fuse Box                     |
| 19. ASU AC Power Connector           | 27. ASB Equipotential Grounding Stud |
| 20. ASU Fuse Box                     |                                      |
| 21. ASU Equipotential Grounding Stud |                                      |
| 22. Data Port                        |                                      |



## POWERING UP THE ASU/ASB



**WARNING**

**CONNECT COMPONENTS AND DEVICES TO THE ELECTROSURGICAL UNIT ONLY WHEN RF ENERGY IS OFF. FAILURE TO DO SO MAY RESULT IN AN INJURY OR ELECTRICAL SHOCK TO THE PATIENT OR OPERATING ROOM PERSONNEL.**

### USE GLOVES WHEN OPERATING THE ASU/ASB

1. Connect the provided power cord to the back of the ASU/ASB back panel(s).
  - i. Make sure that power cord is fully seated in the receptacle.
2. Plug the ASU/ASB into a grounded power outlet.
  - i. Do not use multiple-outlet sockets, extension cords or three-prong to two-prong adapters. Periodically check the power cord assembly for damaged insulation or connectors.
  - ii. Ensure that access to the power cord outlet is maintained, so that the power cord can be quickly removed in the event of an emergency.
3. Plug the Footswitch Interface Cable into the ASU/ASB back panel(s) footswitch receptacles. Plug the Footswitch into the Footswitch receptacle on the ASB front panel.
  - i. To start delivering RF energy (to perform ablations), press and hold the footswitch. Release the footswitch to stop the RF energy delivery.
4. Plug the RF Interface Cable into the ASU/ASB front panel(s) receptacles (labeled “Handpiece” and “To ASU”).
5. Turn the power ON using the ON/OFF switch located on the ASU/ASB back panel(s).
  - i. After it has been powered up, the ASU/ASB performs System Self-Tests. The Self- Tests generate two quick beeps at startup.
6. Verify that the beeps are generated.
  - i. If all Self-Tests pass, the ASU/ASB transitions to the STANDBY mode.
  - ii. If any Self-Test fails, the ASU/ASB will emit a constant audible tone and will go into the FAULT mode.
7. Connect the Handpiece and any needed accessories, such as the Pace-Sense (PSS) Cables. Connecting the Handpiece transitions the ASU/ASB to the READY mode.



### FAULT MODES

1. If the ASU/ASB fails a Self-Test after it is powered up or if a non-recoverable error condition is detected at any time, the ASU/ASB enters FAULT mode. A FAULT code number will be displayed on screen.
2. The ASU/ASB is inoperable in the FAULT mode. RF energy is disabled during the FAULT Mode.
3. FAULT messages will stay on the Liquid Crystal Display (LCD) until the FAULT is cleared.
4. To clear the FAULT Mode, turn the ASU/ASB power OFF and then ON again. Cycling power will clear a FAULT condition and restore RF power output capability.
5. Warnings will stay on the LCD until RF energy is initiated by the footswitch

## TROUBLESHOOTING ERROR CODES

### No RF Output

NUMBER	CAUSE	REMEDY
1	ASU and/or ASB were not turned ON	Turn power ON for ASU and/or ASB
2	ASU and/or ASB were not plugged in	Confirm electrical connections for ASU and/or ASB and then turn the power ON
3	No handpiece connected to ASB	Connect handpiece to ASB
4	Incorrect handpiece selected on ASB	Rotate ASB Selector Switch to the desired handpiece
5	No Footswitch connected to ASB	Connect the Footswitch to the ASB Front Panel
6	Footswitch Interface Cable not connected	Connect the Footswitch Interface Cable between ASU and ASB back panels
7	RF Interface Cable not connected	Connect RF Interface Cable between ASU and ASB front panels
8	Fault in Footswitch	Replace Footswitch
9	Internal ASU Failure	Contact AtriCure Customer Service
10	ASU in FAULT mode	Turn the power OFF and then ON
11	ASU in STANDBY mode	Ensure that Handpiece and Footswitch are properly connected (no blinking LEDs)
12	Broken Handpiece	Replace handpiece
13	Fault in Handpiece	Replace handpiece
14	Expired Handpiece	Replace handpiece

### Warnings (Recoverable Error Messages)

NUMBER	CAUSE	REMEDY
1	On Screen: Code E01 Meaning: Low Impedance Error: Handpiece electrodes are shorted	Check electrodes or reposition jaws
2	On Screen: Code E02 Meaning: High Impedance Error: Handpiece jaws are open	Close handpiece jaws Replace Handpiece or ASU/ASB RF Interface Cable
3	On Screen: Code E03 Meaning: Low Impedance Error: Handpiece* electrodes are shorted *If the Handpiece is Coolrail Linear Pen (MCR1), check if the Pump box LED is illuminated	Check electrodes or reposition jaws. The end effector has overheated, or the cooling system has malfunctioned. Ensure the fluid cable is not kinked or occluded. If the error persists more than 2 minutes, replace the Handpiece.
4	On Screen: Code E04 Meaning: Low Impedance Error: Handpiece* electrodes are shorted *If the Handpiece is Coolrail Linear Pen (MCR1), check if the Pump box LED is illuminated	Check electrodes or reposition jaws. The end effector has overheated, or the cooling system has malfunctioned. Ensure the fluid cable is not kinked or occluded. If the error persists more than 2 minutes, replace the Handpiece.
5	On Screen: Code E06 Meaning: Switch Stuck Test Error: Footswitch closed while connecting	Replace footswitch
6	On Screen: Code E10 Meaning: Handpiece electrodes are shorted	Check electrodes or reposition jaws



NUMBER	CAUSE	REMEDY
7	On Screen: Code H01 Meaning: Invalid handpiece error	Replace Handpiece or ASU/ASB RF Interface Cable or ASB
8	On Screen: Code H02 Meaning: Time Expired Error: Handpiece expiration date has been exceeded	Replace Handpiece
9	On Screen: Code H03 Meaning: Handpiece electrical problem	Replace Handpiece
10	On Screen: Code H04 Meaning: Invalid Handpiece version	Replace Handpiece
11	On Screen: Return ASU for Maintenance Meaning: ASU Clock Battery has failed	ASU will continue to operate, but the message and tone will repeat. Return ASU for battery replacement.

### Faults during Power ON Self-Test (POST) (Non-Recoverable Error Messages detected at start up)

NUMBER	CAUSE	REMEDY
1	On Screen: Code P01 Meaning: Power Generation / Measurement Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
2	On Screen: Code P02 Meaning: Impedance Generation / Measurement Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
3	On Screen: Code P03 Meaning: Voltage Generation / Measurement Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
4	On Screen: Code P04 Meaning: Current Generation / Measurement Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
5	On Screen: Code P05 Meaning: Watchdog Test Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
6	On Screen: Code P06 Meaning: ROM Test Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
7	On Screen: Code P07 Meaning: RAM Test Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
8	On Screen: Code P08 Meaning: Configuration Register Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
9	On Screen: Code P09 Meaning: MCU COP Timer Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
10	On Screen: Code P10 Meaning: Switch Stuck Test Error (Check footswitch as it was activated during POST)	Deactivate the footswitch. Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
11	On Screen: Code P12 Meaning: Reference Voltage Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service



## Faults during ASU/ASB Operation (Non-Recoverable Error Messages)

NUMBER	CAUSE	REMEDY
1	On Screen: Code F01 Meaning: Illegal CPU Instruction	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
2	On Screen: Code F02 Meaning: Duplicate Variable Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
3	On Screen: Code F03 Meaning: Software Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
4	On Screen: Code F05 Meaning: Reference Voltage Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
5	On Screen: Code F06 Meaning: Power Limit Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
6	On Screen: Code F07 Meaning: Voltage Limit Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
7	On Screen: Code F09 Meaning: Vrms Offset Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
8	On Screen: Code F10 Meaning: Irms Offset Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
9	On Screen: Code F11 Meaning: Power Offset Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
10	On Screen: Code F12 Meaning: System Sync Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
11	On Screen: Code F13 Meaning: Power Measurement Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service
12	On Screen: Code F14 Meaning: Relay Stuck Closed Error	Cycle power off and back on and allow start-up self-diagnostics If the problem persists, contact AtriCure Customer Service

For additional information on the Warnings and Faults, see the ASU/ASB Instructions for Use.

For other concerns or detailed information, consult the ASU/ASB Instructions for Use or contact the AtriCure Customer Service Hotline at +1 866 349 2342.



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