UCP4131 RSU RAID Module User Guide

1. Overview

   The RSU RAID module is built around the ASM1062R controller. It provides a PCIe 2.0 x1 interface and two 6 Gbps SATA ports.

2. Operating Mode / Mode Switching

   • Supported mode: RAID 1 (disk mirroring with real-time redundancy).

   • Mode selection: via jumper

   – Position 0: AHCI Clear Mode (used to delete an existing RAID).

   – Position 1: RAID 1 Mode (normal operation).

3. Front-Panel Switches & Indicators

   PWR – Power LED

   • Steady ON when power is applied.

   HDD-L – Left Hard-Disk LED

   • Normal: green blinks when data is accessed; OFF when idle.

   • Fault: red blinks.

   • Synchronizing: red solid, while the right HDD LED breathes green.

   HDD-R – Right Hard-Disk LED

   • Normal: green blinks when data is accessed; OFF when idle.

   • Fault: red blinks.

   • Synchronizing: red solid, while the left HDD LED breathes green.

   RST – RAID Clear Button

   • Press and hold ≈10 s to delete the RAID array.

   Buzzer Switch

   • When a disk fails, the buzzer sounds.

   • Toggle this switch to mute the buzzer temporarily.

   • Remember to re-enable the switch after the fault is resolved.

4. RAID 1 Deletion & Rebuild Procedure

   4.1 Delete RAID 1
   a) Power down, unplug the RAID card.
   b) Move the jumper to position 0 (AHCI).
   c) Re-install the card and power on. Press and hold RST for ~10 s.
   d) Release when HDD-L / HDD-R LEDs change from slow red blinks to fast green blinks or turn OFF. Deletion is complete.

   4.2 Rebuild RAID 1
   a) Power down, unplug the RAID card.
   b) Return the jumper to position 1 (RAID 1).
   c) Re-install the card and power on. Press Esc or Delete to enter BIOS and confirm the boot list contains "ASMT-DI_Safe".
   d) Select "ASMT-DI_Safe" as the first boot device and proceed with OS installation. Rebuild is complete.
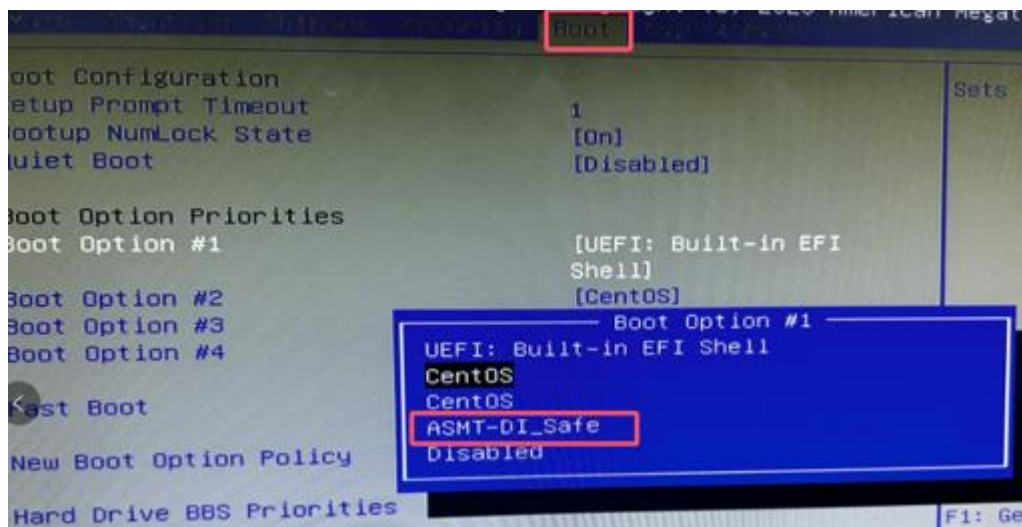
5. Daily Operation

   5.1 Replacing a Failed Drive
   a) Identify the failed drive by the red LED on HDD-L or HDD-R.
   b) Power down, remove the failed drive, insert a new drive of identical model and capacity, then power on.
   c) The system will automatically synchronize data and the buzzer will stop.

   ⚠ Never hot-swap drives or the RAID card!

6. Quick-Fault Reference

Fault 1 – Buzzer keeps beeping (single-disk failure)
a) Locate the failed drive via the red LED.
b) Power down, replace with a same-model/same-capacity drive, then power on.
c) Automatic rebuild will silence the buzzer.

Fault 2 – Buzzer keeps beeping (both drives failed)
a) Identify the failed drives via the red LEDs.
b) Follow the "Delete RAID 1 → Rebuild RAID 1" procedure, then reinstall the OS.

7. Important Notes
   • Never hot-swap drives or the RAID card under power.
   • Use drives of identical or larger capacity that have never been configured in another RAID array.