

# Assembly Instructions for **Lopoco** LP-2220 Microserver

## ***Parts and Tools List***

Requisite parts in every model:

1. Case
2. Power supply
3. Motherboard
4. Processor
5. Processor Heat Sink and backing bracket
6. SATA cables
7. Drives (SSD or HDD)
8. Memory
9. Case fans
10. Power Supply cover panel

Optional parts, either by case designation or customer specified configuration:

1. 2 port SATA controller
2. Ethernet LAN PCIe card
3. PCIe flexible extender cable
4. Extension 4-wire power cable
5. SATA DOM (Disk On Module) and DOM power cable
6. Bluetooth USB Dongle
7. Silicone cement or double sided foam adhesives for installing internal HDDs or expansion cards

Tools:

1. Phillips #2 screw driver. Power screw driver may be used, however with no more than 5 ft/lbs of torque.

## ***Assembly Instructions***

1. Chassis preparation
  - i. Remove top panel from the case, and put aside
  - ii. Remove existing PSU and case fans
  - iii. Prepare plastic motherboard shield for type of motherboard
  - iv. Remove extraneous motherboard mounting points
  - v. Add needed motherboard mounting points
2. Replace standard external power cable with Lopoco power cable in chassis kit
3. Install motherboard in chassis
  - i. Install processor heat sink backing bracket on bottom of motherboard before fastening motherboard into the chassis.
4. Install processor
5. Install processor heat sink
  - i. Start each of the four heat sink screws just a couple of turns in each captured nut of the heat sink backing bracket.
  - ii. Continue by turning each screw just a few turns and then moving on to the next screw, until finally all screws are hand-tight.
6. Install DC/DC power supply onto motherboard
  - i. Remove any unneeded cables from the DC/DC power supply
7. Install power supply cover panel
8. Install AC/DC power supply
9. Install SSDs and/or HDDs
  - i. If a hot plug drive chassis, remove plastic disk spacers from drive caddies
  - ii. Install SSD or HDD into each caddies as per configuration of system
  - iii. If internal drives, adhere drives to chassis
  - iv. If DOM, insert DOM into first available SATA port on the motherboard, then connect DOM power cable (if necessary) to DOM and header on the motherboard.
10. Connect front panel cable to motherboard header
11. Insert memory modules on motherboard
12. Install case fans according to the number of drives and the processor and memory configuration
13. Connect case fan power cables to motherboard headers

14. Route and connect SATA cables.
  - i. Connect SATA cables to SATA ports on the motherboard and then to the internal drives or hot plug backplane SATA ports.
  - ii. In the case of internal drives that are stacked, the bottom most drive should be connected to the lowest numbered SATA port on the motherboard.
  - iii. In the case of hot plug drives, facing the front of the chassis, the drives should be connected to the lowest numbered SATA port on the motherboard, starting from the upper left drive slot, then progressing to the next lower slot. When all the drives in a vertical are connected, then progress to the top most drive in the next vertical stack of drive slots to the right.
  - iv. SATA expansion cards will always be used last in the order.
15. Connect any necessary 4-wire power extension cables to bring power from the DC/DC adapter to the hot plug backplane or internal drives.
16. Install any PCIe expansion cards (LAN or SATA controllers; FC controllers; SAS controllers) utilizing PCIe flex extender cable.
  - i. LAN expansion cards must be installed in the external card bracket to allow LAN cables to be connected w/o removing the case covers.
17. Connect the AC/DC power supply to the DC/DC power supply, and power on the system.
18. Verify that all components and cable connections are working.
  - i. If any are not functioning, diagnose and fix the problem before continuing
19. Dress all SATA cables, power cables and PCIe flex extender cables in the chassis.
20. Affix the serial number stick to the appropriate place inside the chassis (outside on 2U or larger chassis).
21. Install the top cover panel on the case
22. Remove any pre-existing case badges from the case, and replace with the correct Lopoco case badge.
23. System is now ready for Software Installation.