

MAKING UPGRADES EASY

Before You Begin

We recommend that you contact your **SAHARA** System reseller for carrying out any system upgrades. The following upgrades to the system are best if attempted only by a qualified technician.

Make sure you have a stable and clean working environment. Dust and dirt can get into computer components and cause malfunction. Use containers to keep small components separated. Many of the screws on the computer are of different sizes; if you place them together you may spend a lot of time trying to track down the correct screw when you are assembling the computer back together. Also, placing all small components in a safe container keeps them from getting lost. Having adequate lighting and using proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

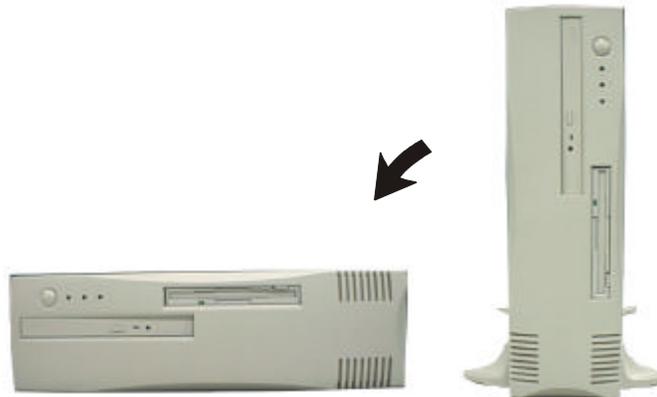
- A Philips screwdriver
- A flat tipped screwdriver
- A set of jeweler's screwdriver
- A multimeter (not always required)
- A grounding strap

Most of the electrical connections can be disconnected by using your fingers. It is recommended that you do not use needle-nosed pliers to disconnect connections as this can damage the soft metal or plastic parts of the connectors. Many connectors have tabs to keep them secure. After the tabs are disengaged the connector should easily slide out. You can use a small screwdriver to gently pry some of the connectors loose. If the connector does not come out easily, make sure that nothing is obstructing it, and gently rock it back and forth in its slot until it loosens enough to come out. Do not force it!

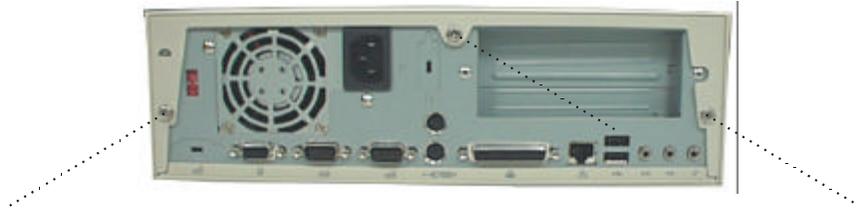
Before working on internal components, make sure that the computer's power is off. Ground yourself before touching any internal components by touching a metal object. Static electricity can damage many of the computer's electronic components. Humid environments tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

Removing the Chassis Cover

1. Turn the power of the system unit off and all connected peripherals.
2. Disconnect all power cords and cables from the system unit.
3. Remove the system unit from its base and place it on a flat and stable surface.



4. Loosen the three screws securing the chassis cover with a Philips screwdriver.



5. Grasp the cover with both hands. Slide the cover towards you and pull upward until it slides off the chassis.



Removing the Front Panel Chassis

The **SAHARA** System's innovative design features a slide out front panel chassis giving direct access to the mainboard for optimized final configuration, while making upgrades and servicing quick and easy. Utilizing the highest quality, industry-standard components, the **SAHARA** System eases the workload of the system administrator while increasing up-time for the corporate user.

1. Using a screwdriver, remove the two screws holding the front panel chassis.



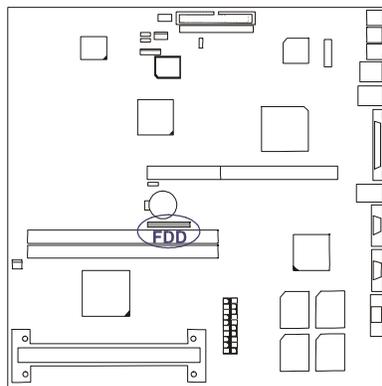
2. Slide the front panel chassis away and place it slightly in front of the main body, taking care not to damage the sensitive FFC-cable of the slim floppy disk drive and other system and mainboard components.



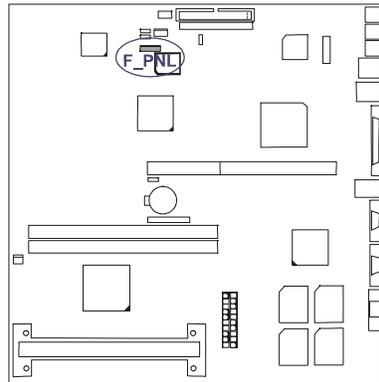
Installing the Hard Disk Drive (HDD)

To install a Hard Disk Drive, please refer to the following steps:

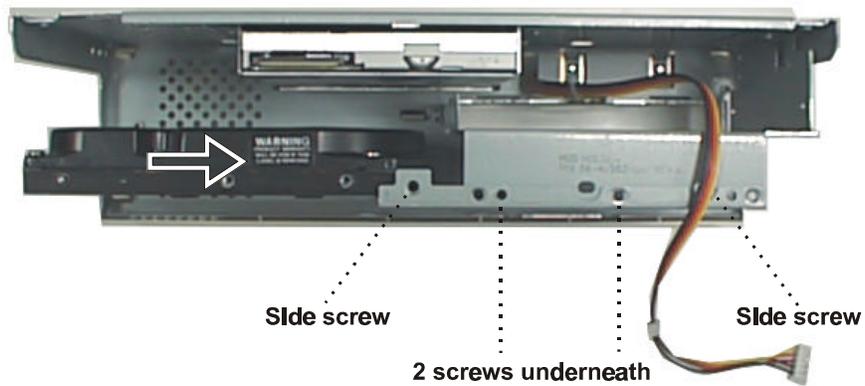
1. Remove the front panel chassis (see previous section “**Removing the Front Panel Chassis**”).
2. Disconnect the FFC-cable of the slim floppy disk drive from the mainboard by pulling up both sides of the 26 pin block connector to release it.



3. Pull out the LED wires plugged to the F_PNL connector.



4. Slide the new HDD on to the HDD holder and secure the four screws (two screws on one side and two screws underneath) to hold the hard disk drive in place.

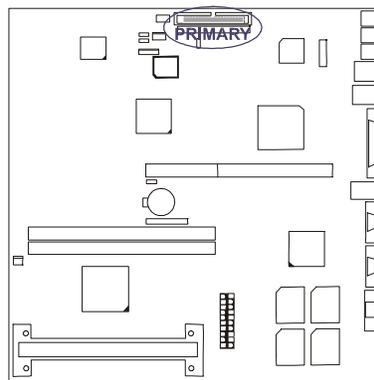


5. Connect one end of the IDE ribbon cable onto the hard disk drive, taking care to align the ribbon cable with the red stripe on to pin-1 of the hard disk drive connector (the side nearest the power plug connector).

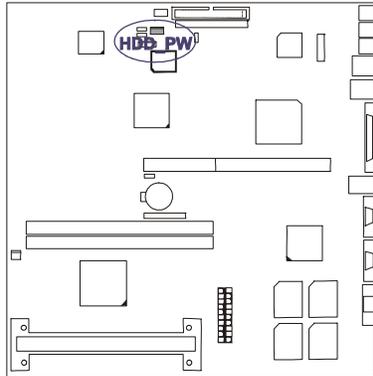
6. Connect the power cord coming from the power supply to the DC power connector located at the back of the HDD.



7. Place the front panel chassis slightly in front of the main chassis.
8. Connect the other end of the provided IDE hard disk ribbon cable onto the PRIMARY connector on the mainboard, taking care to align the ribbon cable with the red stripe on to pin-1 of the PRIMARY connector. Pin-20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin-20 plugged.



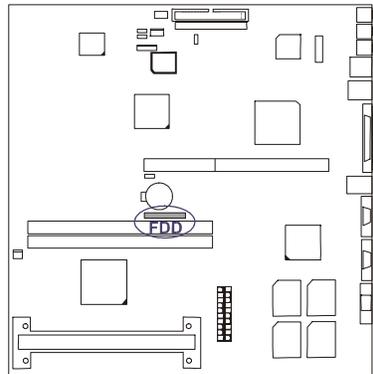
9. Connect the power cord coming from the DC power connector located at the back of the HDD to the HDD_PW connector.



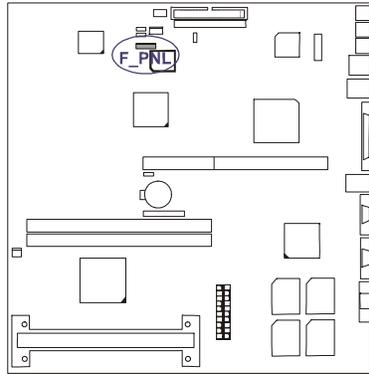
10. Connect the FFC-cable of the slim floppy disk drive to the 26-pin FDD block connector on the mainboard by inserting the silver-finger contact and press down the FDD connector on both sides to lock it in place.



The FFC-cable should always be inserted with the side with the exposed silver-finger in contact with the FDD connector pins.



- 11.** Plug in the LED wires to the F_PNL connector.



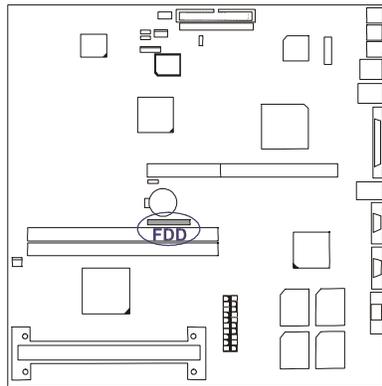
- 12.** Push the front panel chassis all the way into the main chassis and secure the two screws to fix the front panel chassis in place.



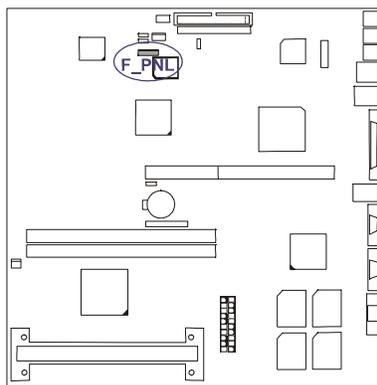
Installing the CD-ROM Drive

To install a CD-ROM drive, refer to the following steps:

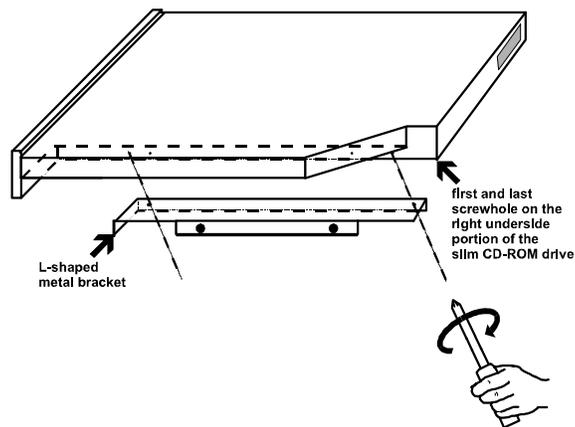
- 1.** Remove the front panel chassis (see previous section “**Removing the Front Panel Chassis**”).
- 2.** Disconnect the FFC-cable of the slim floppy disk drive from the main-board by pulling up both sides of the 26 pin block connector to release it.



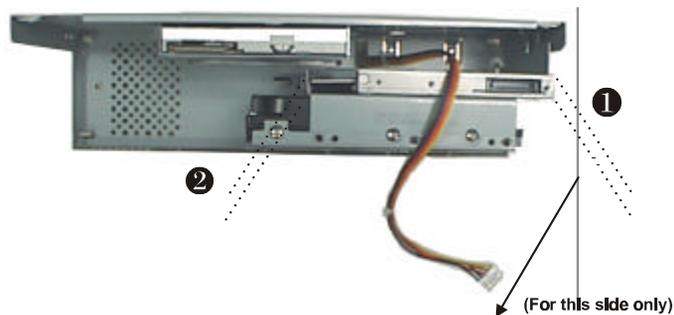
- 3.** Pull out the LED wires plugged to the F_PNL connector.



4. Attach the L-shaped metal bracket by matching the two screw holes of the metal bracket to the first and last screw holes of the group of four screw holes on the right underside portion of the slim CD-ROM drive and securing the two screws to it.

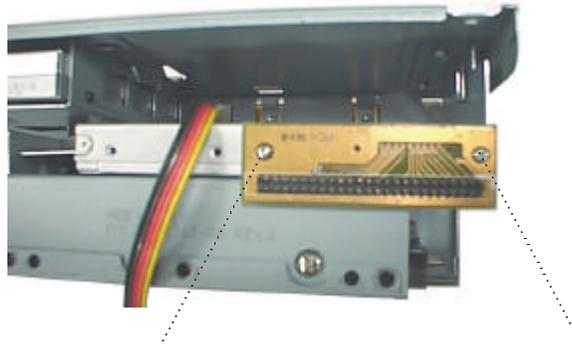


5. In case this is the first time that a CD-ROM drive is to be installed into the system, remove the front panel plastic cover of the CD-ROM drive bay by pushing outwards from the inside with your fingers.
6. Slide the new slim CD-ROM drive on to the CD-ROM drive holder, from the inside of the front panel chassis towards the front, and secure the four screws (two mini-screws on one side first and then the two regular-size-screws on the other) to hold the CD-ROM drive in place.

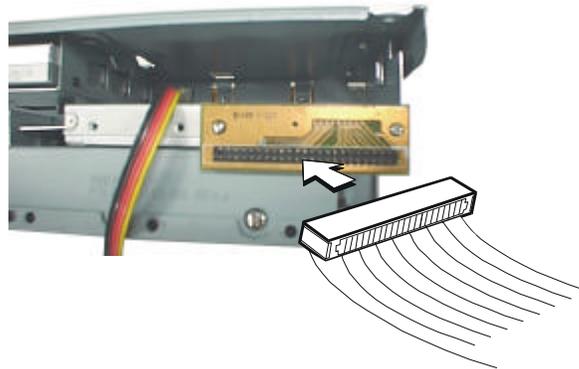


NOTE: Use P2 * 3(L) Nickel (color: Black)
for Panasonic (Matsushita) brand.
Use P2 * 2(L) Nickel Stainless
for Mitsumi brand.

7. Attach the CD-ROM drive adaptor to the CD-ROM drive adaptor connector located at the back of the slim CD-ROM drive, by (a.) first securing the copper hexagonal bolt to the rear of the slim CD-ROM drive by hand and, (b.) securing the two mini-screws from the CD-ROM drive adaptor into the copper hexagonal bolt with a mini-screwdriver.

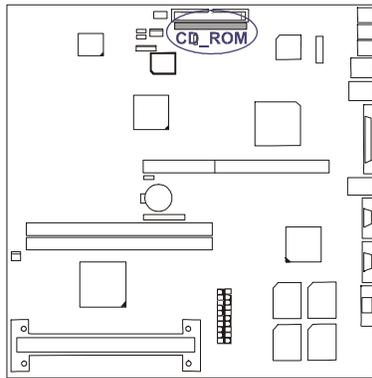


8. Connect one end of the CD-ROM drive ribbon cable onto the slim CD-ROM drive, taking care to align the ribbon cable with the red stripe on to pin-1 of the CD-ROM drive adaptor connector.



9. Place the front panel chassis slightly in front of the main chassis.

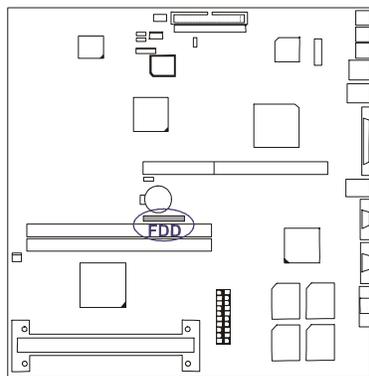
10. Connect the other end of the provided CD-ROM drive ribbon cable onto the CD-ROM connector on the mainboard, taking care to align the ribbon cable with the red stripe on to pin-1 of the CD-ROM connector.



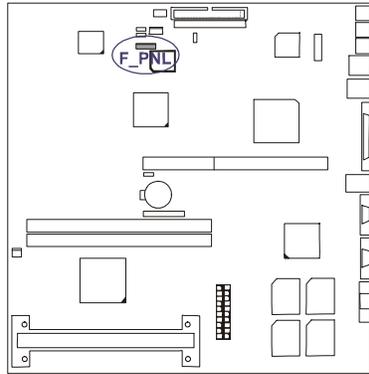
11. Connect the FFC-cable of the slim floppy disk drive to the 26-pin FDD block connector on the mainboard by inserting the silver-finger contact and press down the FDD connector on both sides to lock it in place.



The FFC-cable should always be inserted with the side with the exposed silver-finger in contact with the FDD connector pins.



12. Plug in the LED wires to the F_PNL connector.



13. Push the front panel chassis all the way into the main chassis and secure the two screws to fix the front panel chassis in place.



Re-installing the Chassis Cover

To re-install the chassis cover follow these steps:

1. Place the chassis cover onto the chassis until it is positioned in place.



2. Fasten the three screws to secure the chassis cover with a Philips screwdriver.



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