



The KURO-BOX/PRO is a small-footprint Linux-based embedded platform for a personal server. You can boot and run the embedded Linux on the 256 NAND FLASH. If you install a HDD in the KURO-BOX/PRO, you can boot, run and customize the OS from the HDD.

## Installing a HDD



Before beginning the installation, disconnect the AC power cord from the wall outlet. If not avoided, this may result in electric shock.

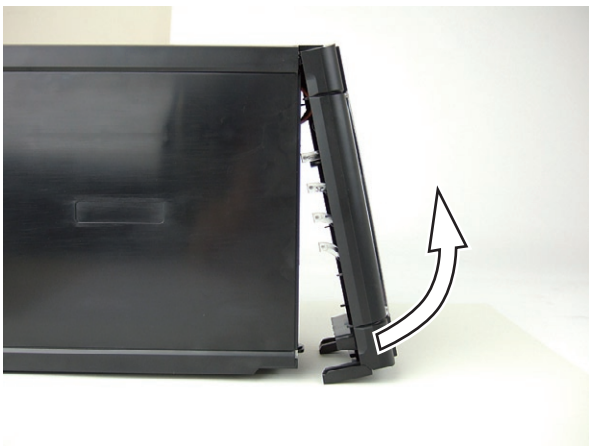
\* Product images may differ from actual product appearances.

1



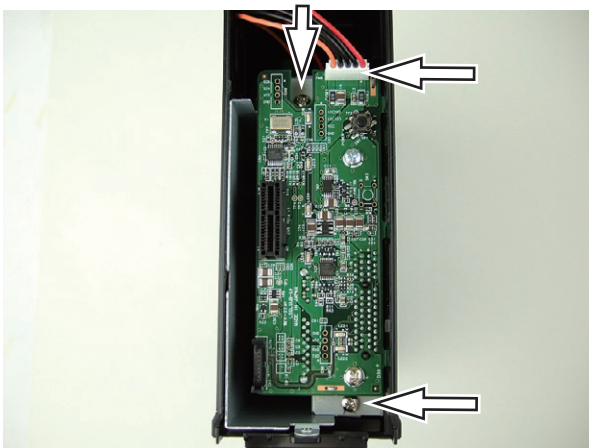
Remove a screw from the bottom of the KURO-BOX/PRO.

2



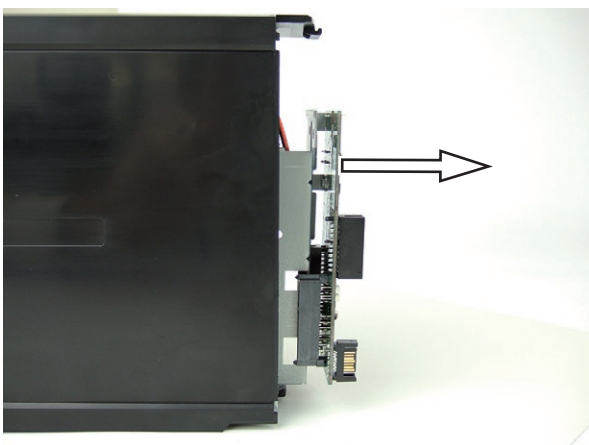
Lift up the front panel to remove it from the chassis.

3



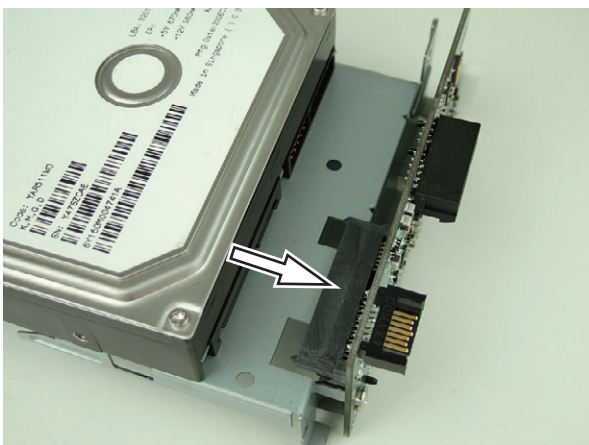
Remove 2 screws and the cable indicated.

4



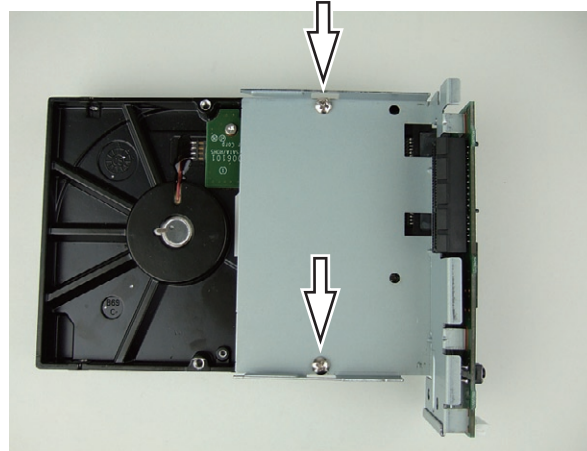
Slide out the mainboard.

5



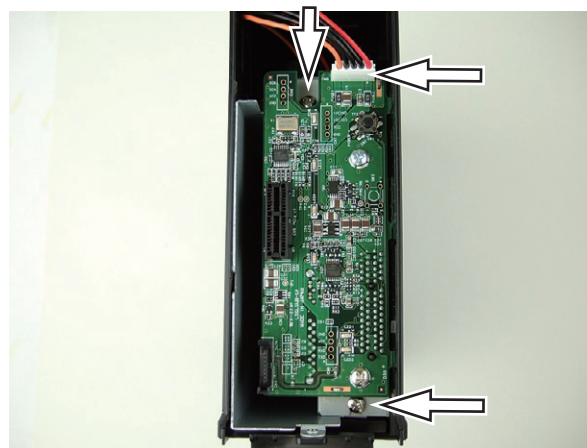
Plug the connector into the mainboard, then into the HDD.

6



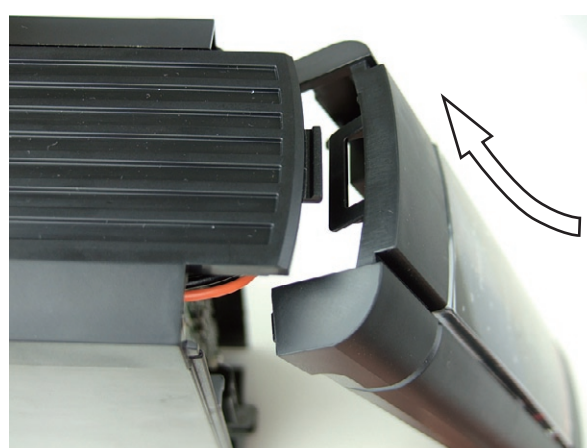
Secure the SATA-HDD with the included 2 screws.

7



Install the mainboard and the SATA-HDD into the KURO-BOX/PRO. Secure the mainboard with the 2 screws removed in step 3, then connect the cable indicated.

8



Insert the front panel, then secure it with the screw removed in step 1.

## Hardware Diagrams



- ① Power LED
- ② Power Button
- ③ LINK/ACT LED
- ④ INFO LED
- ⑤ ERROR LED

① **Power LED**

Green. The POWER LED lights up when the KURO-BOX/PRO is powered on. The LED flashes when the KURO-BOX/PRO starts a shutdown process.

② **Power Button**

Use the power button to start or shut down the KURO-BOX/PRO.  
Hold the Power Button down for 3 seconds to shut down the KURO-BOX/PRO.  
Hold the Power Button down for 9 seconds to force to shut down the KURO-BOX/PRO.

③ **LINK/ACT LED**

Green. The LED lights up when the KURO-BOX/PRO is connected to a device. If the LED is flashing green, the KURO-BOX/PRO is sending or receiving data over that port.

④ **INFO LED**

Orange. The LED flashes when there are any system messages.

⑤ **ERROR LED**

Red. The LED is flashing when the system is not ready.



- ⑥ AC Power Connector
- ⑦ FAN
- ⑧ INIT Button
- ⑨ Wire Hall
- ⑩ LAN Port
- ⑪ USB 2.0 Port
- ⑫ Earth Ground

⑥ **AC Power Connector**

The connector is where you will connect the included AC power cable.

⑦ **FAN**

Cooling FAN

⑧ **INIT Button**

If you are experiencing extreme problems with the KURO-BOX/PRO and have tried all other troubleshooting measures, press and hold in the INIT button for 5 seconds. This will restore the factory defaults and clear all of the settings.

⑨ **Wire Hall**

Works with anti-theft hall.

⑩ **LAN Port**

The port connects to network device.

⑪ **USB 2.0 Port**

The port connects to USB device.

⑫ **Earth Ground**

You can connect to earth cable.

## Package Contents

- KURO-BOX/PRO
- Power Cable
- Ethernet Cable
- KURO-BOX/PRO CD-ROM
- User Guide (this manual)
- Screw x 2 (for HDD mounting)

## Hardware Specifications

• CPU	Marvell 88F5182 (400MHz)
• RAM	128MB (DDR2-SDRAM)
• FlashROM	256KB (NOR), 256MB (NAND)
• Interface	1000BASE-T/100BASE-TX/10BASE-T (RJ-45) x1 (AUTO-MDIX) USB2.0 (Type A) x2
• Internal HDD Bay	3.5" SATA-HDD Bay x1
• Internal Connector	PCI-Express X1 x1, SATA x1, Through Hall (Pin Header) : (UART x1, GPIO x2, I2C x1)
• Power Supply (Internal)	Input:AC100-220V (50/60Hz) Output:Max.25W (5V 1.5A, 12V 1.5A)
• Cooling Mechanism	Internal Cooling FAN
• Dimensions	60(W) x 163.6(H) x 215.5(D) mm



## Safety

To prevent unexpected injury to yourself or others, or damage to the equipment, be sure to follow all the safety precautions given below. To use the LinkTheater correctly, first read these precautions and make sure that you understand the contents. After reading, be sure to store this manual in a safe place so that you can refer to it if necessary.




Please note that our warranty will not cover any damage or failures of the computer, the loss or corruption of data, or damage to the KURO-BOX/PRO due to misuse.

## Meaning of Notations

### Meaning of Notations

 <b>Caution</b>	Indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury.
 <b>Warning</b>	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate personal injury and/or damage to the equipment.

### Meaning of Symbols

	This symbol indicates warnings and cautions
	This symbol indicates actions that must not be performed (prohibited actions)
	This symbol indicates actions that must be performed (essential actions)

## Caution

 **Make sure to observe the instructions of the computer and peripheral manufacturers when installing and using the KURO-BOX/PRO.**

Strongly Recommended

 **Do not attempt to disassemble or repair the KURO-BOX/PRO.**  
This may result in fire or electric shock


Prohibited

 **Only insert the plug into a 100-220V (50/60Hz) AC socket.**  
Using the device with a different voltage may result in a short circuit, smoke or fire.

Prohibited

 **Insert the AC adapter firmly into the AC Socket.**  
Using the equipment without the AC Adapter firmly inserted may cause a short circuit or overheating, or result in fire or electric shock.

Strongly Recommended

 **Do not damage, process, overheat, or attempt to repair the power supply cable.**  
This may result in fire or electric shock.

- When installing the equipment, do not crimp the power supply cable between walls and racks (shelves) etc.
- Do not place heavy objects on the power supply cable, or pull at the cable.
- Do not place the power supply cable close to heat sources, or overheat the cable in any way.
- When removing the power supply cable, be sure to remove it by holding the plug.
- Do not bend the cable past its natural bending radius.
- Do not move the KURO-BOX/PRO while the power supply cable is still connected.

Prohibited

 **Install the equipment in a location where children cannot reach the interior of the electrical equipment, cables, or connectors.**  
Failure to do so may result in injury.


Strongly Recommended

 **A small child should only use the LinkTheater under supervision of an adult.**

Strongly Recommended

 **Do not handle the equipment with wet hands.**  
This may result in electric shock if the KURO-BOX/PRO is connected to the AC power supply. Even when connected it may cause internal damage to the KURO-BOX/PRO.


Strongly Recommended

 **If you see smoke or there is a strange smell or sound, remove the plug from the AC power supply socket.**  
Continuing to use the device under these conditions may result in a short circuit, fire, or electric shock. Consult with your dealer immediately.


Remove Power Plug

 **Do not use the LinkTheater in bathrooms or other locations with a lot of water or humidity.**  
Using the device under these conditions may result in fire or electric shock.


Water Prohibited

 **If the product is dropped or subjected to a severe shock, remove the AC adapter immediately.**  
Continuing to use the device under these conditions may result in a short circuit, fire, or electric shock. Consult with your dealer immediately.


Remove Power Plug

 **If liquid or foreign matter enters the equipment, remove the plug from the power socket.**  
Continuing to use the device under these conditions may result in a short circuit, fire, or electric shock. Consult with your dealer immediately.

Remove Power Plug

 **Only use the power cable and AC adapter provided with the LinkTheater.**  
The polarity and voltage of the terminal may differ between makes. Which may result in smoke and fire.

Prohibited

 **To Prevent damage due to static electricity, before touching the equipment, first touch a nearby metal object (such as a door handle or metal window blinds) to discharge any static electricity from your body.**  
Static electricity from your body may result in damage to the equipment.

Strongly Recommended

## Software Specifications

• Boot Loader	u-boot
• Software	Linux kernel 2.6.12 busybox , samba3.0 , mtd-utils , bash , xfs-progs , e2fsprogs , libtermcap , libncurses , glibc , gcc

\* We may change the Specification for improvement without notice.

## Default Settings

• KURO-BOX/PRO Name	KUROBOX-PRO
• IP Address	DHCP client (If there is not DHCP server, it will default to 192.168.11.150.)
• Workgroup Name	KUROBOX
• Date and Time	Super Capacitor Backup (Initialized value : January 1, 1970)
• Console Administrator Password (root)	kuroadmin
• SWAT Password (root)	kuroadmin
• Share Folder	mtd device (NAND FLASH), share (HDD)

## Warning



Strongly Recommended

**Make sure to observe the instructions of the computer and peripheral manufacturers when installing and using the KURO-BOX/PRO.**



Prohibited

**Do not install the KURO-BOX/PRO in the following locations, as doing so may result in an electric shock or fire, or may adversely affect the equipment.**

- Locations with strong magnetic fields (may result in damage).
- Locations with static electricity (may result in damage).
- Locations prone to vibration (may result in damage).
- Locations that are not level (may result in rolling, falling, or injury).
- Locations in direct sunlight (may result in damage or deformation).
- Locations close to fire or subject to heating (may result in damage or deformation).
- Locations where there is a danger of current leakage (may result in damage or electric shock).
- Locations where there is a danger of water leakage (may result in damage or electric shock).



Strongly Recommended

**Before installing or uninstalling the KURO-BOX/PRO make sure to create backup files of all hard disk data to another media (MO disk, floppy disk etc.).**

When making any change to the PC environment there is always a possibility that the data on the hard disk may be lost or corrupted, therefore it is always advisable to create a backup. Buffalo will not be held responsible for loss or corruption of hard disk data.



Strongly Recommended

**Make sure to create backup files of hard disk data to another media (MO disk, floppy disk etc.).**

Buffalo will not be held responsible for loss or corruption of hard disk data.



Strongly Recommended

**Please remove any dust or dirt from the head of the connectors and do not touch with your hands.**

Dirt on the connector may cause damage.



Prohibited

**Do not place any heavy object on top of the KURO-BOX/PRO.**

Doing so may damage the KURO-BOX/PRO.



Prohibited

**Do not use abrasive or solvent cleaners.**

Use a soft cloth when cleaning the KURO-BOX/PRO. If very dirty, use a slightly damp cloth to remove any dirt.



Prohibited

**If the KURO-BOX/PRO is running, do not remove the AC plug and do not turn the KURO-BOX/PRO off.**

This may result in loss or corruption of hard disk data.



Strongly Recommended

**Please follow local regulations when discarding the KURO-BOX/PRO.**

### GPL/LGPL License Information

The KURO-BOX/PRO uses software applied the GPL/LGPL. These software are designed to take away your freedom to share and change it.

Please see the GPL.TXT , LGPL.TXT in the KURO-BOX/PRO CD-ROM.

Also, the KURO-BOX CD-ROM include in the changed GPL module. If you want to share and change the module, please comply with the GNU General Public License.

### Repair Information

- Please consult with your dealer.
- Please have your proof of purchase receipt to get warranty support.  
All defective products shall be returned with a copy of proof of purchase.
- If none of the above solutions help, then please refer to the following URL.  
<http://www.kurotoshikou.com/bbs/helpme/linux.html>