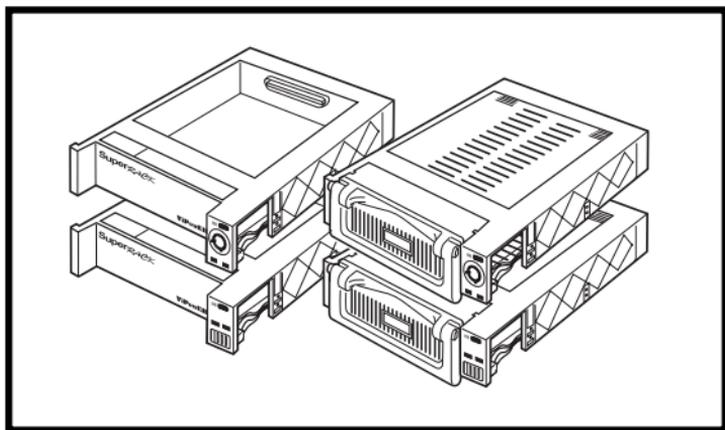


Super *RACK*

Removable Docking Modules
for IDE or USB Devices



Installation Manual

ViPower
www.vipower.com

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Patent: USA: 5694290
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1-1 Introduction

Congratulations on your purchase of an ATA 33/66/100/133 Super Rack Removable Docking Module. The Super Rack is a convenient, versatile solution for portable, interchangeable usage of both IDE and USB devices with your USB-equipped PC or Mac computer.

The Super Rack is form-fitted for a standard 5.25" half-height bay. When installed in your computer, it provides the ATA 33/66/100/133 interface for hot-swapping any IDE in-tray box (with IDE devices such as 3.5"/2.5" HDD, LS-120, MO, TR-4 tape, ATA flash memory reader, and zip drives installed) or any USB in-tray box (such as hub, fax/modem, memory card readers and TV/FM/capture/cable models).

The Super Rack includes an IDE interface in-tray (VP-15) which can accept most half-height 3.5" and 2.5" drives (with separately purchased adapter cables). Not being limited by memory size, you can install any capacity drive. USB interface in-tray box models must be purchased separately.

This manual will guide you through the installation of the following Super Rack Removable Docking Modules.

Model Number Code Descriptions for Ordering Information:

V P - 1 0 L S F U - X

1 2 3 4 5 6 7 8

- 1** ViPower **VP**
- 2** Interface Type **1** = IDE, **2** = SCSI, **3** = Wide SCSI
- 3** Body **2** = Out-Frame, **5** = In-Tray Box, **0** = Frame + Tray
- 4** Lock Type **L** = Latch-lock, **K** = Key-lock
- 5** Power Switch **S** = Latch Switch, **P** = Power Switch
- 6** Cooling Fan **F** = Fan
- 7** USB Solution **U** = USB
- 8** UDMA..... **X** =UDMA 33/66/100/133

Super Rack Models:

VP-10KU	IDE/USB interface, Key-lock
VP-10KFU	IDE/USB interface, Key-lock with One Fan
VP-10KPFU	IDE/USB interface, Key-lock Power Switch with One Fan
VP-10KP2FU	IDE/USB interface, Key-lock Power Switch with Two Fans
VP-10LSU	IDE/USB interface, Latch-lock/Slide Switch
VP-10LSFU	IDE/USB interface, Latch-lock/Slide Switch with One Fan
VP-10LS2FU	IDE/USB interface, Latch-lock/Slide Switch with Two Fans
VP-410KP2FU	IDE/USB interface, Key-lock Power Switch with Two Fans
VP-410LS2FU	IDE/USB interface, Latch-lock/Slide Switch with Two Fans
VP-410LX	IDE/USB interface, Latch-lock/Slide Switch with Two Fans
VP-410KPFU	IDE/USB interface, Key-lock Power Switch with Ball Fan
VP-410LSFU	IDE/USB interface, Latch-lock/Slide Switch with Ball Fan
VP-15	IDE interface, In-Tray Box
VP-15F	IDE interface, In-Tray Box with One Fan

Super Rack Compatible USB In-tray Models

(Optional USB Accessories):

VP-15H	USB 1.1 4-port Hub
VP-15H2	USB 2.0 4-port Hub (requires USB 2.0 equipped computer)
VP-15R	USB CF/MS/MMC/SM/SD/MD Memory Card Reader
VP-15TV	USB TV/FM/Capture/Cable TV
VP-1528	USB 2.0 to IDE Mobile RACK Shuttle

Optional IDE Accessories:

VP-1536	3.5" to 2.5" HDD converter
VP-1564H2AT	IDE Ultra DigiREADER (Flash Card Reader)

Super Rack Features

- Compatible with PC or Mac tower or desktop models, external subsystem & RAID system cases
- Form-fitted for a standard 5.25-inch half-height bay
- IDE in-tray box (VP-15) enables portable use of fixed 3.5-inch and 2.5-inch (with separately purchased adapter cables) hard disk drives, LS-120, MO, TR-4 tape, zip and other IDE and ATAPI devices
- USB support for portable use of USB hub, fax/modem, CF/SM/MS/MMC/Micro Drive/SD memory card readers and TV/FM/Capture in-tray modules
- Convenient pull-out handle
- Safety lock feature
- Power on/off feature
- LED indicator for power and drive activity
- Built-in cooling fan
- The in-tray box is interchangeable between all models
- Fully compatible with Windows® 98 or later; Mac OS 8.6 or later
- Dimensions: 8.4" (D) x 5.8" (W) x 1.6" (H)

System Requirements

- Tower or desktop models, external subsystem & RAID system cases with standard 5.25-inch half-height drive bay
- USB feature requires a USB-equipped PC or Mac computer with available USB port

Unpacking Your Super Rack

Before installing the Super Rack, verify that the following items are included in the carton. If any parts are damaged or missing, please contact your local dealer or sales representative immediately.

1. One Super Rack Removable Docking Module
2. Twelve mounting screws
3. 2 keys (for key-lock models only)
4. I/O expansion bracket with USB connectors
(for USB accessory package:VP-1528, VP-15R, VP-15H, VP-15H2, VP-15TV)
5. One user's guide

IDE Basics

IDE is an acronym for Integrated Device (Drive) Electronics and is sometimes referred to as an ATA (AT Attachment) interface. It is the most commonly used interface for hard disk drives installed on personal computers. Other devices like CD-ROM, tape, optical drives, and so on have adapted a variation called ATAPI (ATA Packet Interface) and can be intermixed with standard IDE drives because they use the same cabling and electrical interface.

Most systems today have two IDE channel connectors that are typically referred to as primary and secondary ports. Each IDE port can have a maximum of two devices that must be uniquely identified, typically by the setting of a jumper as a 'master' or 'slave' device.

USB Basics (USB function only come with USB accessory)

USB is an acronym for Universal Serial Bus, a standard developed to replace the aging serial and parallel ports on existing computers. Using only one IRQ and designed as a hub architecture, it can support up to 127 devices. After loading the appropriate device driver(s), USB offers true plug-n-play and hot-swapping capability. A USB device can be plugged and unplugged from most systems at any time and anywhere on the USB network. All connected devices on the bus can run simultaneously.

First release version USB 1.1 is defined as an intermediate speed bus and operates at either 12 Mbps or 1.5 Mbps, depending on the attached device. Typical USB devices include printers, modems, pointing devices, scanners, cameras, keyboards, memory card readers, speakers and more.

The latest release version USB 2.0 is designed to increase data throughput up to 480 Mbps... 40 times faster than USB 1.1. Supporting multiple high-speed peripherals without worrying about a bandwidth bottleneck, it is also backward compatible with all USB 1.1 hardware.

2-1 Hardware Installation

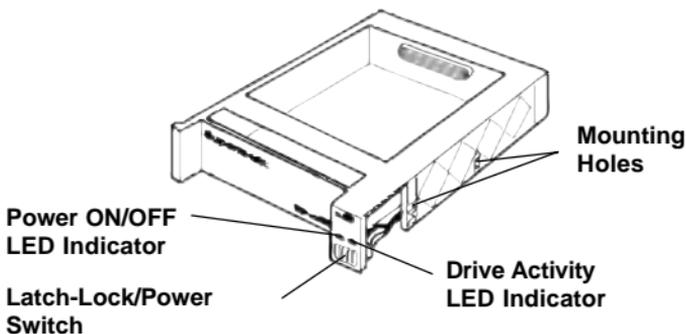
The Super Rack Docking Module is designed to install in any PC or Mac computer with an available 5.25-inch half-height drive bay. General instructions for installing the Super Rack are given since the design of computer cases varies. Refer to your computer's manual whenever in doubt.

Super Rack Components

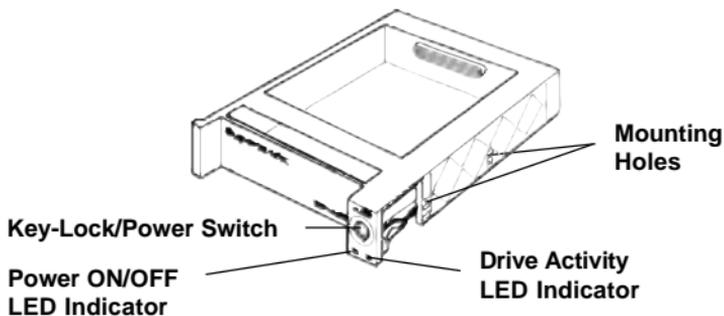
The Super Rack is comprised of two components:

Out-Frame [VP-12LS (KP) FU]

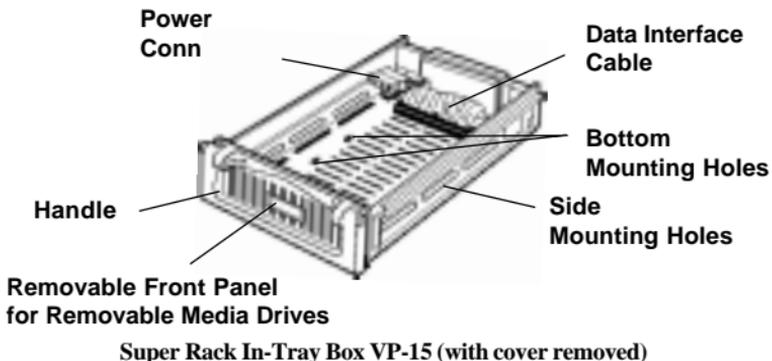
In-Tray Box (VP-15)



Latch-Lock Super Rack Out-Frame Model (VP-12LSFU)

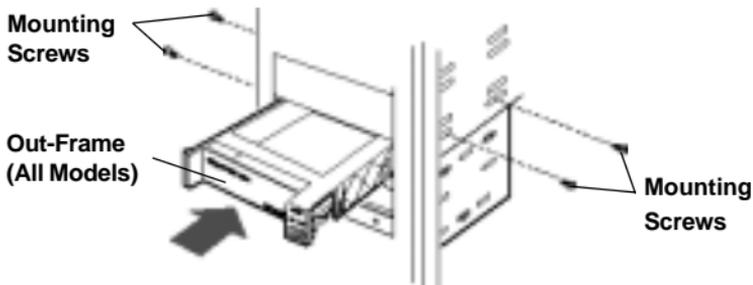


Key-Lock Super Rack Out-Frame Model (VP-12KPFU)



Installing the Super Rack Out-Frame

1. Turn OFF the power to your computer and any other connected peripheral devices. Follow the precautions for static electricity discharge:
 - Discharge any static electricity build up in your body by touching a grounded metal surface such as the computer case, if plugged in.
 - During installation procedures, avoid any contact with internal parts.
2. Unplug the power cord from the back of the computer.
3. Remove your computer's cover.
4. Remove the computer's front cover plate from the 5.25-inch drive bay you plan to install your Super Rack into.
5. Remove (separate) the Super Rack in-tray box from the out-frame by lifting the handle and pulling it out.
6. Slide the out-frame into the selected 5.25-inch drive bay of your computer.

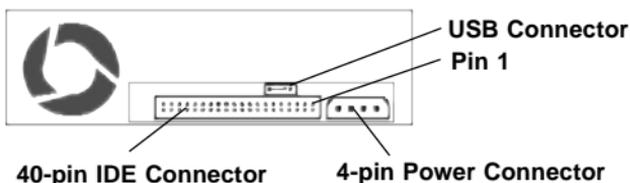


Install the Super Rack Out-Frame into the Drive Bay

- Position the out-frame so its mounting holes align with the drive bay's mounting holes. Secure with the supplied mounting screws (two on each side.)
- Attach an existing IDE 40-pin data cable from the system motherboard (or IDE controller card) to the 40-pin connector on the back of the out-frame.

Most connectors are keyed for proper insertion. If there is no key, orient the cable so the pin-1 colored stripe edge is closest to the power connector.

- Connect an available 4-pin power cable from the system's power supply to the 4-pin connector on the back of the out-frame. The power connector is 'D' shaped to ensure proper orientation when making the connection.



Out-Frame Data Cable and Power Connectors

Continue to the next section before replacing the computer's cover and reconnecting the power and other external cabling.

Installation for USB Interface (optional)

Your computer must be USB-ready in order to implement the USB feature of your Super Rack. An I/O expansion slot bracket with a USB interface cable is supplied for connecting the Super Rack out-frame to an available USB port on your computer.



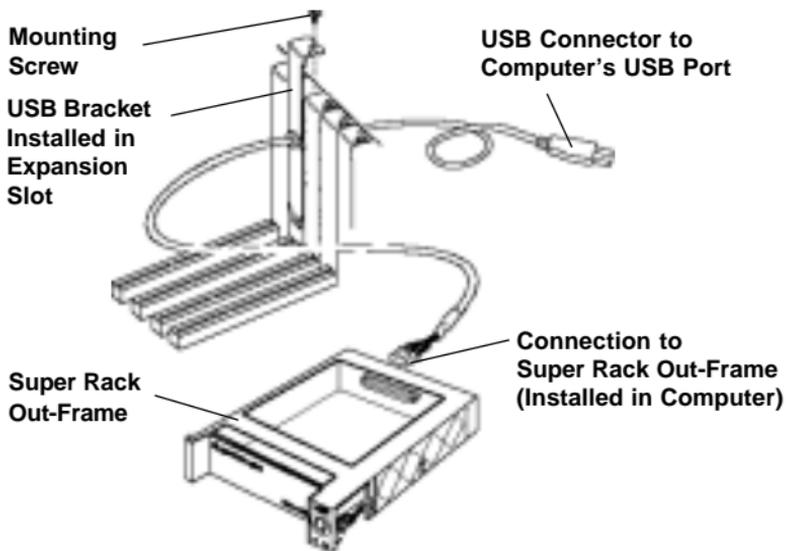
USB I/O Expansion Slot Bracket (optional)

(for USB accessory package: VP-1528, VP-15R, VP-15H, VP-15H2, VP-15TV)

Perform the following steps to enable the USB function of the Super Rack.

1. With the computer cover removed, ensure the power is OFF, and all power cords and cables from the back of the computer are unplugged.
2. Select an unused I/O expansion slot at the back of your computer and remove its slot cover. Save its screw for securing the USB slot bracket.
3. Install the USB slot bracket and secure with the previously removed screw.
4. Connect the small 5-pin connector on the bracket to the USB connector on the back of the Super Rack out-frame.
5. Replace the computer's cover and reconnect the power and other cable connections.
6. Plug the bracket mounted USB connector into any available USB port on your computer.

The following figure illustrates the USB connectors used to connect the installed Super Rack to the USB port on the computer.



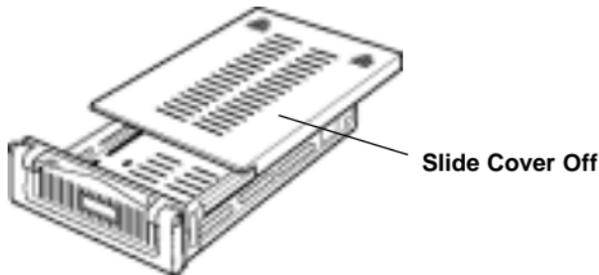
USB Connections Between Computer and Super Rack

(for USB accessory package: VP-1528, VP-15R, VP-15H, VP-15H2, VP-15TV)

Mounting a Drive in the In-Tray Box (VP-15)

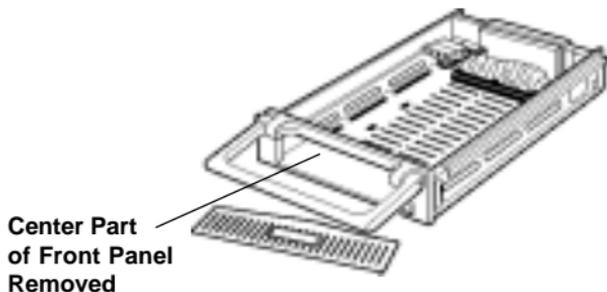
Proceed with the following steps to install a 3.5-inch drive device in the in-tray box. (Note: a special adapter kit is required in order to install a 2.5-inch drive.)

1. Remove the in-tray box cover by sliding it towards the back of the unit.



Remove the In-Tray Box Cover

2. If you plan to install a drive that features removable media such as a zip, TR-4 tape, MO, LS-120 drive, or ATA Flash memory reader, remove the center part of the front panel.



Remove Front Panel for Removable Media Drives

IMPORTANT

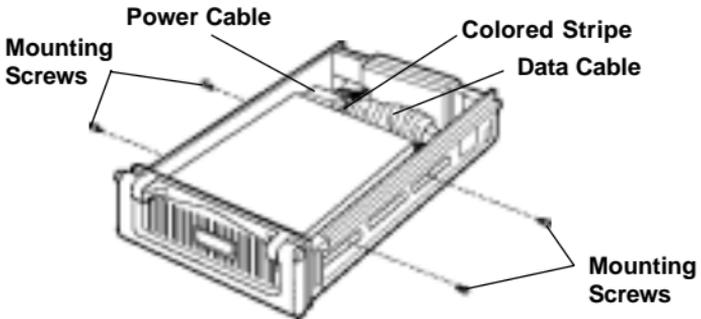
3. If you are installing a new hard drive into the in-tray box, you may need to configure the drive before you install it. Refer to the drive manufacturer's documentation and configure the drive as 'Master', 'Cable Select', or 'Slave' depending on the configuration of your computer. After you complete this installation, you may also need to re-configure the computer's BIOS Setup to make the drive functional in the system.

4. Connect the cables from the in-tray box to the appropriate pin connectors of the drive.

The in-tray box's 40-pin IDE cable supports 3.5-inch drives. Attach the power and IDE cables from the in-tray box to the drive. The power connector is 'D' shaped to correctly orient the connector. The colored stripe on the IDE cable should be closest to the power connector.

To install a 2.5-inch drive, you must purchase a '44-pin to 40-pin' connector adapter from your local computer dealer.

5. Carefully position the drive inside the in-tray box.
6. Secure the drive in place using the supplied mounting screws. Use the mounting holes on the sides or bottom, depending on the design of the drive.



Install the Drive in the In-Tray Box

7. Slide the in-tray box's cover back on.



In-Tray Box Ready for Use

The hardware installation is complete. Your in-tray box is ready to use.

3-1 Using the Super Rack

Latch-Lock models **VP-10LSFU/VP-410LS2FU**, and Key/Power Lock models **VP-10KPFU/VP-410LS2FU** support hot-swapping. The power to your computer can be ON when the drive is inserted or removed. Use the Latch-Lock switch or Key/Power Lock keyswitch to turn power to the drive ON after inserting it, and OFF before removing it.

To insert the in-tray box:

1. Insert the in-tray box (with drive installed) into the installed Super Rack out-frame and push firmly until the drive is seated.
2. For Latch-Lock models, slide the latch-lock *left*, to the **lock** position. For Key/Power Lock models, insert the key and turn key to the *right* to **lock**. The LED on the Super Rack should light after a slight delay. The installed in-tray's device is ready to use.

Slide-lock
Lock Position



Key-lock
Lock Position

To remove the Super Rack in-tray box:

1. For Latch-Lock models, slide the latch-lock *right*, to the **unlock** position. For Key/Power Lock models, insert the key and turn key to the *left* to **unlock**. Note that the power LED on the Super Rack's out-frame should now be OFF.
2. Gently pull on the out-frame box's handle to slide it out.

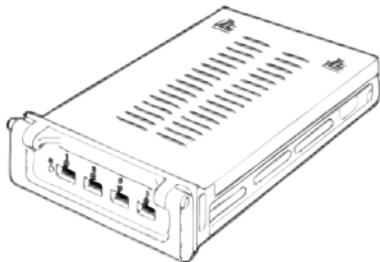
Slide-lock
Unlock Position



Key-lock
Unlock Position

Example:

4-1 Using the Super Rack with USB In-Trays



Example USB 1.1 4-port Hub (VP-15H)
(Comes with USB I/O Expansion Slot Bracket)

Latch-Lock models **VP-10LS series/VP-410LS series** and Key models **VP-10K series/VP-410K series** support plug-n-play, hot-swapping of USB in-tray devices such as USB hub, fax/modem, memory card readers and TV/FM/capture/Card Reader models. The power to your computer can be ON when the in-tray is inserted or removed. Use the Latch-Lock switch or Key/Power Lock keyswitch to turn power to the in-tray box ON after inserting it, and OFF before removing it.

To insert the in-tray box:

1. Insert the in-tray box into the installed Super Rack out-frame and push firmly until the in-tray is seated.
2. For model VP-10LSFU, slide the latch-lock *left*, to the **lock** position. For model VP-10KPFU, insert the key and turn key to the *right* to **lock**. The LED on the Super Rack should light after a slight delay and you may be prompted for a onetime installation of its USB device driver when first used. Follow the prompts and the device is ready for plug-n-play use from then on. Note that any device used with a USB Hub model (VP-15H/VP-15H2) is hot-swappable.

To remove the Super Rack in-tray box:

1. For Latch-Lock models, slide the latch-lock *right*, to the **unlock** position. For Key/Power Lock models, insert the key and turn key to the *left* to **unlock**. Note that the power LED on the Super Rack's out-frame should now be OFF.
2. Gently pull on the out-frame box's handle to slide it out.

Remark:

**The USB I/O Expansion Slot Bracket come with accessory only
(VP-1528, VP-15R, VP-15H, VP-15H2, VP-15TV)**



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