

ShuttleX – Qube Clone

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We are evaluating a replacement for the Qube. The original Cobalt Qube was installed in some of our field offices and satellite offices, but unfortunately Sun Microsystems has discontinued the Qube from their product line. We've begun our search for a new/replacement for the Qube.

The ShuttleX (or XPC) is our suggested replacement for the Qube. That is why we call it **Qube Clone**. However, I propose we call it **ShuttleX** rather than Qube Clone.

ShuttleX is a CPU/Motherboard that is designed by Shuttle Inc. You can find them at www.shuttle.com. Shuttle is a manufacturer of motherboards and small form factor computers. Their product line is designed mainly for a small office or home use.



What differentiates the (real) Qube and ShuttleX is the Qube runs on special edition of Linux that was modified by Sun. The ShuttleX or XPC is a PC based computer which we can set it up to run Windows 2000/2003, or Linux.

Here is what I purchased: ShuttleX model SB65G2
http://us.shuttle.com/specs2.asp?pro_id=387

Specifications

Form Factor

- Shuttle Form Factor

Processor

- Intel Pentium 4/Celeron in the 478 pin package with 400/533/800MHz FSB

Chipsets

- Intel 865PE/ICH5

Memory

- Two x 184 pin DDR 266/333/400 Dual Channel DDR DIMM slots up to 2GB

On board header

- 2 x UDMA100 IDE Ports
- 1 x FDD Port
- CD_In header
- SPDIF_In/Out header

IEEE 1394a

- VIA VT6307, complies with 1394 OHCI specification revision 1.0, up to 400Mb/s data transfer rate

Audio

- On board Realtek ALC650 six channel audio

Fast Ethernet

- On board Realtek 8100B supports 10 Mb/s and 100 Mb/s LAN operation

Front Panel

- 2 x USB ports 1 x mini1394 port
- 1 x Line-in 1 x Mic-In
- 1 x Power-On button
- 1 x Reset button

Serial ATA

- Intel ICH5 built in supports two Serial ATA ports

AGP Slots

- 1 AGP V3.0 , 1.5V , 4X/8X mode Slot

PCI Slots

- 1 PCI

Wireless Module build in

- 802.11b WLAN USB Module
- multi-data transfer rate
- small and compact, easy to install on XPC unit
- 360° all direction antenna

Back panel

- 4 USB2.0 Ports
- 1 PS/2 Keyboard Port, 1 PS/2 Mouse Port
- 1 IEEE1394 connector
- 1 Rear out, 1x Front out, 1x Center/Bass connectors
- 1 RJ45 LAN Port
- 1 Serial Ports
- 1 PCI slot, 1 AGP 8X/4X mode slot
- 1 SPDIF_In/Out

Extension Bay

- 2 x 3.5" bays 1 x 5.25" bay

Dimension

- 300(L)x200(W)x185(H)mm, 2.85Kg (N.W.), 4.65Kg (G.W.)

Material

- Aluminum

Power

- Dimension: 82(W) x 43(H) x 190(D) mm (Max)
- Input: 110 / 230V AC
- Output: 220W(PFC)
- EMI Certified: FCC, CE, BSMI
- Safty Certified: UL, TUV, CB
- Power Cord: Depends on specific region demand

Accessories

- 1 x Mainboard User manual
- 1 x Mainboard CD-Driver
- 1 x XPC Installation Guide
- 1 x I.C.E Technology CPU heat-pipe
- 1 x FDD Cable
- 1 x HDD Cable
- 1 x CD-ROM Cable
- 1 x SATA Cable
- 1 x SATA Power cord
- Screws
- Twin Adhesive

We picked the Pentium 4 2.6Ghz for the CPU, 1GB Memory, 2 units of Western 120GB HDD, and 1 Sony DVD-RW Drive. Because it has a small form factor and we needed two HDDs, we chose to eliminate the 1.44 Floppy disk drive. (The 2nd HDD was installed in the disk drive bay).

ShuttleX Close-Up.



The case of ShuttleX is made from thin Aluminum material all in black. In the picture you will see one part with cream color. That is DVD-RW which we purchased separately.

Front panel:

1st row - LED status of HDD, LED Power, Reset Button and Power Button.

2nd row – Line In, Microphone, Headphone, 2 USB 2.0 port, and 4 Pin FireWire port.

Note: The blue LED will light up when ShuttleX is on.



Back Panel:

The back of ShuttleX contained an extra port and a Fan/Cooling system. Here we've got 4 more USB 2.0 port, 1 6 pin FireWire Port, RJ-45, Keyboard and Mouse connector, 1 Rear out, 1x Front out, 1x Center/Bass connectors (Surround Sound System) 1 Serial port and SPDIF in/out.



The SB65G2 doesn't have VGA built-in, but uses the ASUS P9200SE 64MB VGA Card. The card provides extra ports, which are TV and Audio Out.

Compare Size



These two pictures are just to compare size with the US Robotics V.Everything modem. As you can see, the ShuttleX size a bit bigger than V.Everything modem. It's a very small unit.

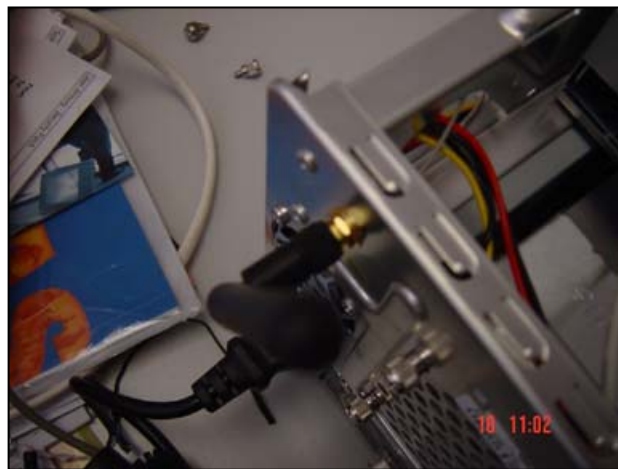
Wireless LAN



On the top left at the back of ShuttleX, you may see a Wireless Antenna for Wireless Network. This is 802.11b WLAN USB Module connected internally with the ShuttleX Case. Its antenna can rotate 360° all direction



The Bangkok Office doesn't have WiFi Access Point, so we couldn't test that feature. I hope we can get WiFi very soon. ☺



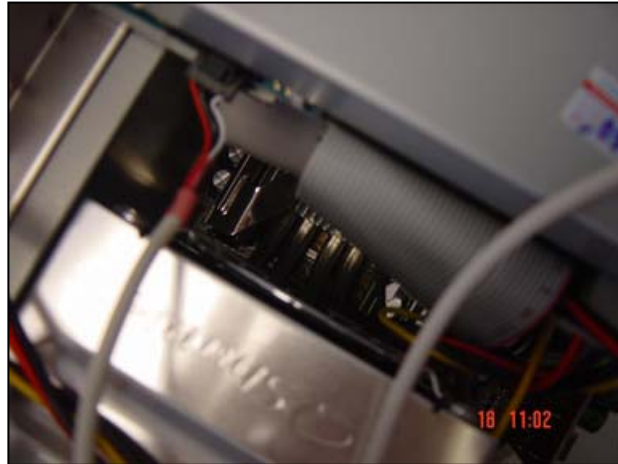
The 802.11b WLAN USB Module located at the side of the case.

Cooling System

ShuttleX Integrated with cooling system call ICE (Integrated Cooling Engine). The “head pipe” can cool down the CPU temperature similar to fridge system, flow the cool liquid pass trough the CPU copper base then flow back to the fan and let the heat, flow out and then recycle the liquid again.



It's very difficult for me to take picture for you to see the "head pipe" so here is the best I can do with this (stupid) Sony digital camera ☺



I left the ShuttleX on all day long but I never heard the cooling system create any noise. It's very quiet cooling system, just like they wrote on the box.

The Right side



These two pictures show how the ASUS PCI VGA Card attaches to the motherboard. In the right picture you can see a PAL sticker on the Video out port. Only the PAL system is support by this VGA Card.



And this shows the two-memory slot now occupied with two Transcend DDR RAM 400Mhz, each of them is 512MB.

DVD-RW

ShuttleX is very quiet but Sony DVD-RW is very noisy. The Sony DVD-RW drives has read speed 4X (DVD-R) up to 32X (CD-RW) and write speed is 2.4X (DVD-R) up to 24X CD-R. Support disc size 12cm for read and write but for 8cm only for read.

I've given this DVD-RW drive a hard time to burn SOP's CD 30 copies (for Bangladesh and India SOP's training on Jan 2004). The drive came with Veritas RecordNow DX Version 4.6. I started with create the Master SOP CD from network which is size 450MB. RecordNow DX grabs all folders and files, and then burned the master with slow speed due to overall network speed. Once the master had been done, the next 30 copies were done at 24X speed. It took about 1.5 hours to do all 30 copies.

I did random check on the 30 copies just to check the outcome. I didn't find any copy that couldn't be read from my CD drive, and during the burn process, none of them stopped responding, as often happens. This may because the HDD still has lots of empty space that RecordNow DX used to create a temporary image file while copying.

RecordNow DX is very stable and does a wonderful job, similar to an expensive NeroBurning ROM does.

We didn't have DVD-R/DVD-RW disc, so that I didn't test it.

Testing with Windows 2000

The install of Windows 2000 is very simple, same as what we all know. ShuttleX provided CD driver that works on Windows 2000 and XP. I've had only a few problems trying to get the sound driver to work at the beginning. It conflicted with USB 2.0 drivers. It happened because I installed the USB 2.0 driver and sound driver at the same time without a restart on each driver.

What about Windows 2003??

My knowledge of Windows 2003 is very little, so for now, I do need to learn more about it and will do more test with Windows 2003 later. Perhaps I may need to get full/real training on Windows 2003.

Then more testing may come....