

Although the company is yet to announce any sales figures, it has revealed that there have been 425,000 unique visitors to the Firefox OS Marketplace since July 2013. This demonstrates at least a promising level of interest from consumers, and certainly more than the other alternative OSs can currently claim.

In-and-Out External Storage

Product name: MiniSwap/U3 external drive enclosure

Manufacturer: Firmtek, LLC

Web site: www.firmtek.com

Price: \$99.95 (without a drive)

External storage prices are so ridiculously low nowadays that computer users can more readily than ever before afford to accumulate sizable collections of digital music, movies, homemade videos, digipix, etc. and back them up on multiple devices. With the acquisition of multiple external storage devices, one problem that pops up is how to make them readily accessible and portable. Putting each one in its own enclosure would be convenient, but could become costly. An alternative would be to get one enclosure and swap multiple storage devices in and out of it. However, that could become time-consuming and inconvenient. Firmtek's elegant answer to this problem is their MiniSwap/U3 enclosure.

The MiniSwap/U3 is an easy installation (aka "trayless"), hot-swappable, 2.5" external, bus powered, USB 3.0 enclosure (we'll come back to what all this means in a moment). It is packaged in a no-frills white cardboard box (5.25 x 1.5 x 7.25 inches) that prominently features a picture of this product connected to a notebook computer. Additional pictures of the MiniSwap/U3 illustrating its set up process, specs, highlights (features), and usages are included on the box's bottom.

The box's contents include the enclosure, a black USB 3.0 shielded data cable (type A connector at one end; micro-B at the other), four white rubber feet that the user sticks to the enclosure's underside, and a CD containing the miniSwap/U3's English-only user manual (PDF format).

Unlike some competing products, the MiniSwap/U3's construction and appearance complement Apple desktop and notebook computers (Figure 1). It is made of high quality aluminum that should resist damage to which plastic counterparts could be susceptible and it has side perforations for ventilation that precludes needing an internal fan. The aluminum chassis measures 6.7 (L) x 0.94 (H) x 3.8 (W) inches and the whole enchilada weighs in at 13 oz. (without a supplied storage device)—readily portable but a bit larger and heavier than a smartphone.



Figure 1A.



Figure 1B. Firmtek's MiniSwap/U3 is an external enclosure for 2.5" storage devices (solid state or hard drive). One of its most compelling and distinctive features is support for hot-swapping—just push the unit's sole button on the left side of the door (red circle in A), slide a drive into the trayless chassis (B), close the door and boom—it's ready to go.

The enclosure has several compelling and distinctive features in addition to its durable aluminum construction and Apple-complementary style. Perhaps most important is its trayless design which makes this product optimally easy to equip with a bare bones external storage device. Unlike many competing counterparts, the MiniSwap/U3 does not require any disassembly/reassembly to install a storage device. In fact, it does not have any screws that the user must deal with; consequently, installing a 2.5" 1.5G, 3G, or 6G [SATA](#) solid state drive or conventional (hard) drive in the enclosure is accomplished without a single tool. Road warrior users potentially could leave their toolkits behind when taking the MiniSwap/U3 on the go.

Ease of use is another compelling feature of the MiniSwap/U3. In fact, this product is at least as easy to use as it is to install a storage device (as described above). After plugging the type A end of the included USB 3.0 cable into a computer's or Microsoft Surface's USB port and the notched micro-B end into the enclosure's port, just boot up or wake the computer (as needed)

—your external storage is now powered and accessible as indicated by the illuminated (blue) LED on the enclosure's door (this LED additionally blinks while data are transferred to/from the enclosed drive). The only limitation/restriction is the amount of bus power supplied by the computer or Surface; if too many USB devices are connected simultaneously and the MiniSwap/U3 gets too little power from its connected USB port, one of the other devices would need to be disconnected or juiced by an external power supply.

Need to use a different 2.5" external drive? Piece of cake—the MiniSwap/U3 is hot swappable. This means that, without powering down the computer, you can just open the enclosure's door, physically pull out the previously installed drive, insert another one, close the door, and now the other drive is accessible. Hot swapping external drives could be a compelling convenience for users whose computer has limited internal storage upgradability (e.g., the most recent iMacs, Mac Pro, and MacBook Pros) and users with external RAID backup needs. Of course, when hot swapping the MiniSwap/U3, appropriate precautionary steps (save and close any files on the previously installed drive; close any associated programs; unmount the previously installed drive's volumes) should be performed to prevent inadvertent data corruption/loss. During testing, I took the additional step of unplugging the USB cable even though doing so might be unnecessary ("an ounce of precaution...").

Additional compelling features include a single USB 3 port (which supports speedy data transfer to and from the enclosed storage device), a standard Kensington-style security slot (to discourage theft), and a port for an external power supply—all located on the MiniSwap/U3's back end (Figure 2).



Figure 2. The MiniSwap/U3's posterior has a USB 3 port, power port, security slot, and vents.

Regarding the MiniSwap/U3's USB 3 support, this feature is noteworthy because of the superior performance it provides relative to USB 2 or FireWire 400 standards on older computers. USB 3's big advantage is potential time savings when transferring large files (such as video) and backups to or from external storage. It delivers maximum performance when matched with a high speed solid state drive (Firmtek officially recommends SanDisk Extreme and Samsung's 840 Pro; officially lists OCZ's Vertex 4 and Mushkin's Cronos as incompatible). Readers who are interested in benchmarks can consult [Firmtek's](#) (the company claims data transfer rates up to 500 Mbytes/second or 5 Gbps burst data) or [Bare Feat's](#).

During testing for this review, I cloned my early 2013 MacBook Pro's Mavericks bootup volume from the internal 480GB flash drive to a 1TB 2.5" 5400 rpm Western Digital bare bones hard drive (this drive was a total piece of cake to install in the MiniSwap/U3). It took one hour and five minutes—during which time write speeds ranged from 60 to 90 MB/s—to clone 291GB (Figure 3).

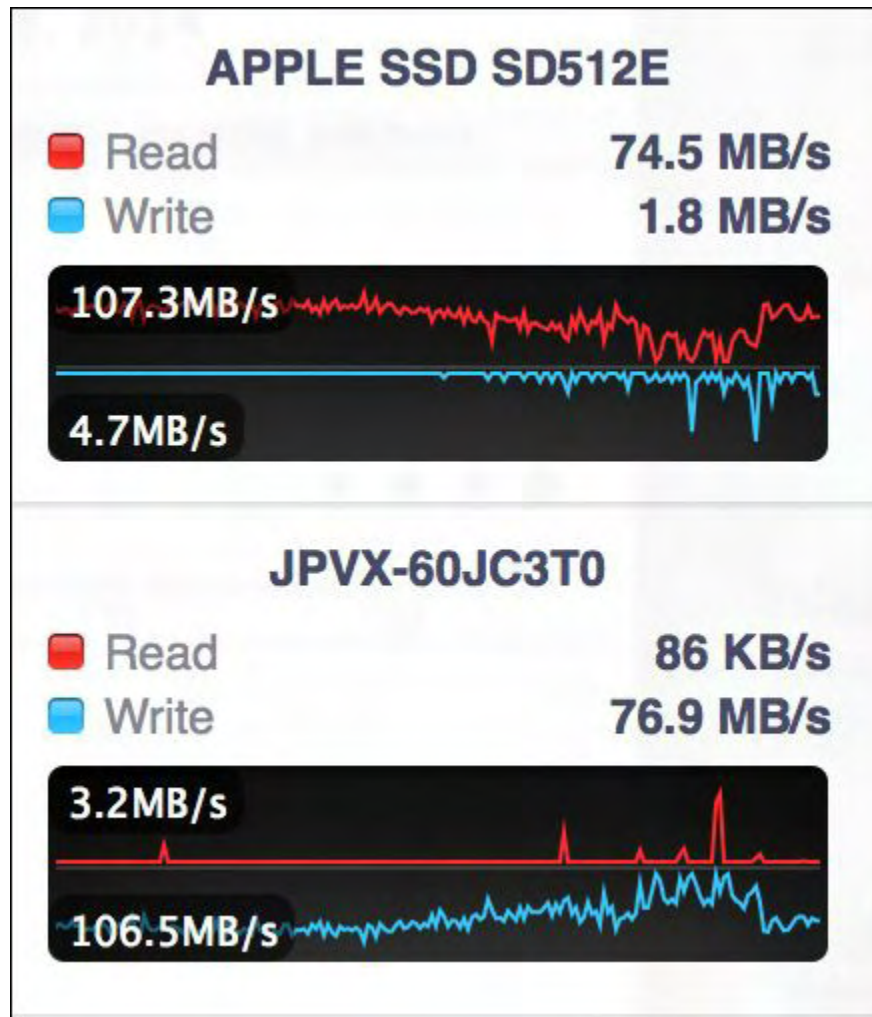


Figure 3. Write speeds ranged from 60 to 90 MB/s while cloning an OS X Mavericks bootup volume from a MacBook Pro's internal flash drive to a 1TB 5400 rpm bare bones drive installed in the MiniSwap/U3.

My only hesitancy in highly recommending this product is its price. Cost conscious readers likely will note that MiniSwap/U3's \$99.95 price tag is almost double the price of a bare bones 500GB hard drive and roughly equal to the price of a 128GB solid state drive. True. However, the convenience of this product's hot swapping feature combined with its superior USB 3 performance relative to competitors with slower read/write speeds will save time that in short order could offset the MiniSwap/U3's price tag.

A minor quibble with this product is that two of the four white feet did not stick to the MiniSwap/U3's underside. My workaround was to apply a dab of rubber cement (gluestick) to the two misbehaving feet's underside.

In conclusion, the MiniSwap/U3 enclosure has highly compelling features—durable materials, quality construction, stylish, hot-swappable, bus powered, speedy USB 3.0 support—which will make life with multiple external storage devices much more convenient and time efficient than would be the case with competing products.

Review contributed by Barry Fass-Holmes



Wasteland 2 for PC/Mac—Early Access

Title: Wasteland 2

Developer: inXile Entertainment

Publisher: inXile Entertainment

Web sites: wasteland.inxile-entertainment.com, store.steampowered.com

Price: \$59.99 (Steam price)

Rating: M for Mature

Wasteland 2, the sequel to the 1988 role-playing game (RPG) Wasteland—which was the inspiration for the Fallout series—was just released in an open beta for pre-purchasers on Steam.

The game is being produced by inXile entertainment, and was funded last year by Kickstarter after receiving a massive \$2.9 million from the community...so it's safe to say that this game is back by popular demand. It's a top down RPG set in post-apocalyptic America, that puts you in control of a squad of 4 fighting for survival.