

## Computers, Electronic Waste and Media

Surplus or obsolete computers and other electronic devices (“e-waste”) as well as hard drives, thumb drives, CD’s, DVD’s, photographic slides, transparencies, and tapes of all kinds (“e-media”) generated at Harvard University must be discarded properly. Harvard Recycling Services advocates reuse as the best and highest disposition policy. What one department no longer wants may be useful to another Harvard department, outside organization or individual. So we have taken the measures detailed below to donate or re-sell computers whenever feasible. When no reuse or re-sale is possible for e-waste, recycling is necessary. Recycling is always required for e-media.

### Handling Procedures

Once you and your department’s Information Technology manager have authorized you to remove your electronic devices, notify Harvard Recycling and we will come get them. For larger devices (CPU’s, monitors, printers, projectors, and other items), we use blue wheeled laundry hampers. We can send you empties in advance to help you stage the goods if you’d prefer. For hand-held devices (cell phones, PDA’s, memory sticks, cameras, DVD’s, CD’s, tapes of all kinds, as well as batteries, inkjets, pieces and parts) we use white 5-gallon buckets. Many buildings use the “Blue Tubes” (see photo below) provided by Battery Solutions available here:

[http://www.batteriesplus.com/store\\_details/392.aspx](http://www.batteriesplus.com/store_details/392.aspx)

### Process for Cleaning and Refurbishment of Computers

For the first part of the process, we work with two organizations which come to our Allston warehouse every Monday and Thursday, Semi-New Computers <http://www.semi-newcomputers.com/index.html> and the LABBB Collaborative’s “School to Work” program <http://www.labbb.com/schoolToWork.html>. Semi-New Computers recovers, refurbishes and sells surplus Harvard computers. They give significant discounts to any member of the Harvard community. The LABBB Collaborative’s “School to Work” program gives vocational training to special needs students of high school age from sixty-two greater Boston public school districts. LABB’s students, under the direction of Semi-New Computers, pick through collected hampers of e-waste looking for *Intel*<sup>®</sup> *Pentium*<sup>®</sup> 4 or newer PC’s and their accessories.

The computers are tested, physically cleaned and the memory purged using “*Darik’s Boot and Nuke*” program (DBAN) <http://www.dban.org/>. Nearly all the computers Harvard Recycling picks up either have had their hard drives removed for shredding or have already undergone the DBAN memory purge by the donor’s local IT staff. After the memory purge, Semi-New and LABBB staff refurbish the computers in the warehouse, install operating software and ready the units for resale.



Customers are welcome from 10 AM—2 PM Mondays and Thursdays (unless a University holiday) at our warehouse at 156 Western Avenue, Allston. The devices rejected by Semi-New go to Harvard Recycling’s weekly Thursday Surplus Distribution, where visitors (including Harvard staff as well as others from the community) are free to take away any electronics without memory components for reuse or recycling. The remainder (about half, nearly all of it CRT monitors, cords, accessories, all e-media and plastic pieces) goes to the Institution Recycling Network <http://www.ir-network.com>, which sub-contracts with Allied Computer Brokers <http://www.acbrecovery.com/> to shred and recycle e-scrap into its component commodities (roughly equal volumes of plastic, ferrous metal, non-ferrous metal and glass) using R2 certified facilities [ <http://www.epa.gov/osw/conserves/materials/recycling/certification.htm> ]

### Regulatory Requirements

We recycle equipment deemed unusable as well as all e-media. State and federal laws, including 310 CMR 19.017 (requiring recycling of CRT monitors) and 40 CRF part 273 (requiring recycling of rechargeable batteries, contained in every computer) require that we recycle certain e-wastes.

### Management of Potentially Confidential Data

In addition to complying with environmental regulations, e-waste generators must protect confidential information. A wide range of electronic devices contain data, including but not limited to computers, printers, photocopiers, fax machines, scanners, external hard drives, memory sticks, cell phones, personal digital assistants, cameras, projectors, CD players, DVD players, MP3 players and others. Generators of e-waste are responsible for determining which devices might conceivably contain personal data files and removing them. Secure shredding by a bonded vendor is usually the best option for keeping data confidential. Harvard University’s current Preferred Vendor for shredding e-waste as well as paper documents is DataShredder (1-800-622-1808 or [info@datashredder.net](mailto:info@datashredder.net)). Just as with paper recycling, e-waste recycling requires a judgment by the generator as to whether or not the materials contain confidential data. Harvard Recycling takes no special measures to protect the confidentiality of either the printed nor the digital information on the products it recovers for reuse or recycling, and assumes that the generator has taken steps necessary to shred or otherwise destroy any confidential information.

### Cell Phones, PDAs and Handheld Devices (including batteries)

For cell phones, PDAs and other hand-held e-wastes, FMO Recycling uses resealable lidded 5-gallon buckets which comply with our Environmental Health & Safety department standards. "Universal Waste Accumulation Area" signs explain use and specifications for rechargeable batteries found in all PC’s, laptops and other appliances. The sign directs donors to bag or tape their batteries before putting them into the bucket. The sign also tells donors to erase all sensitive data. To download and print the sign, go to the Office for Sustainability website:

<http://green.harvard.edu/topics/waste/signage>

# UNIVERSAL WASTE ACCUMULATION AREA

USED BATTERIES



\*SEAL BATTERIES WITH STICKERS OR TAPE

CHARGERS & CORDS



ELECTRONICS & DATA STORAGE



\*DELETE ALL DATA

TONER & INKJETS





**HARVARD UNIVERSITY**

Sustainability



**HARVARD**  
Campus Services  
ENVIRONMENTAL HEALTH & SAFETY

ACCUMULATION START DATE: \_\_\_\_\_

—Call2Recycle <http://www.call2recycle.org/> pays for UPS shipping of their boxes back to their dismantling and recycling facility. Though Call2Recycle would also take data devices such as cell phones and PDA's, these go to another vendor.

--Lithium batteries (produced in AA, AAA and button formats) are used most often in cameras, hearing aids, watches once bagged up as above go into a lidded 5-gallon bucket. We generate about a pound of these per week.

--Cell phones, PDA's, chargers & accessories go into a basket for packing up & free shipping to Corporate Renew <http://www.corporaterenew.com/>. FMO Recycling earns a modest sum (under \$10 per month) for these goods. Corporate Renew's website describes their data management practices: "*The protection of our customer's confidential information is our highest priority. CorporateRenew employs a stringent series of procedures during which every device is:*

*Data wiped both manually and with our automated software.*

*Handled in a secure environment by our trained technicians and individually inspected at the end of the process.*

*Shredded and recycled by our NAID certified partner recycler if the device does not turn on and data cannot be removed."*

### **Ballasts, Lamps, e-media and other e-waste**

--PCB Ballasts (pre-1981—we still see them well into the 21st century!) go loose and unbagged into a lidded bucket. Non-PCB ballasts are recycled with scrap metal.

--Inkjets and toner cartridges are palletized and shipped to PCR [ <http://mail.printcartridgecycle.com/index.htm> ] for reuse or recycling.

--Fluorescent lamps (straight tubes, compact CFL's, U-tubes, circlites, sodium & other mercury-containing lamps) get bagged up if small & boxed up if large for shipment to the IRN. These cost around \$.50-\$5 each to recycle. The IRN subcontracts with Complete Recycling Solutions in Fall River MA to recover and recycle the mercury, glass, metal and phosphor powder in the lamps. Please let us know if you need boxes or "Universal Waste" labels. For current regulations regarding mercury lamps, please download "Universal Waste" PDF at Harvard Environmental Health & Safety website here:

<http://www.ehs.harvard.edu/programs/chemical-waste>

--CD's, DVD's, memory sticks, audio tapes, video tapes, data tapes, jewel boxes, tape cases, random cords, chargers and all other handheld e-wastes and e-media are mixed into our hampers for computers & electronics recycling through the IRN. These materials are eventually shredded for recycling into their component films, fibers or resins.

**Thanks for recycling your e-waste and e-media the right way!**

