

Environmental Fact Sheet

APPROPRIATE MANAGEMENT OF: USED TELEVISIONS & COMPUTER MONITORS (cathode ray tubes)

What is a Cathode Ray Tube?

Cathode Ray Tubes (CRTs) are the vacuum tubes or video displays found in most televisions and computer monitors (see Fig 1.). These CRTs consist of a glass phosphorescent screen, a shadow mask (located directly behind the screen), and a glass funnel and neck (which houses the electron gun that generates the electron beams). A picture is created when electrons travel through the tube from the electron gun to light up the phosphor-coated screen.

Why are CRTs of concern?

In the process of creating an image on the screen, harmful radiation is generated. In order to shield the user or viewer from this radiation, a substantial amount of lead is used in the CRT funnel glass and components (on average 4 pounds). It is this large amount of lead and the growing amount of discarded electronics (EPA estimates 250 million pounds of electronics will be discarded in the next five years) that make CRTs both a health and environmental concern.

Lead exposure can cause several adverse health effects, including behavioral problems, learning disabilities, seizures and death. Since lead affects the central nervous system, children under age 6 (with developing nervous systems) are at a higher risk.

How should CRTs be managed?

Due to the large amount of lead found in CRT glass, and the cadmium, mercury and other heavy metals used in the circuit boards in TVs and computer monitors, it is important to ensure their proper disposal. The Vermont DEC recommends that businesses and households manage CRTs as follows:

Businesses

It is unlawful for businesses to put CRTs into the trash due to the presence of heavy metals noted above. As a result, businesses, in lieu of managing CRTs as hazardous waste, can store CRTs for shipment to a recycler or reuse facility by adhering to the following guidelines:

Store CRTs:

- (i) in a building with a roof, floor and walls;
- (ii) protect CRTs in such a way that they will not be broken or otherwise damaged during storage or transport in order to minimize exposure to the environment (i.e., pallet with shrink wrap, gaylord box, etc.);
- (iii) clearly label or mark each CRT or container in which CRTs are stored with one of the following phrases:

“Used CRTs” or “Waste CRTs”

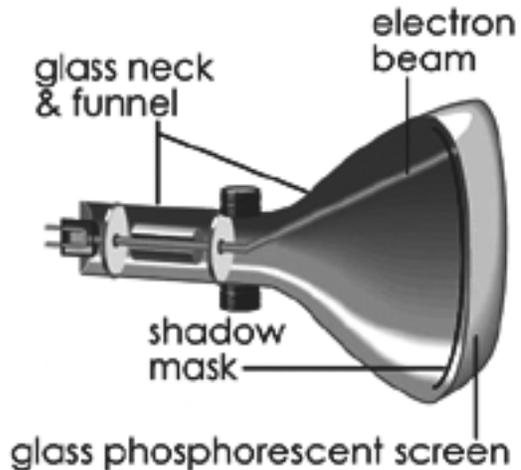


Fig 1. Typical television or computer monitor cathode ray tube.

 Businesses accumulating CRTs should be able to show that the CRTs are destined for recycling. At least 75% of the accumulated CRTs must be sent for recycling within one (1) year of being placed in storage.

Household or Residential

The Vermont DEC strongly recommends keeping CRTs out of household trash in order to prevent the heavy metals contained in them from being released to the environment. Collection events for CRTs, other discarded electronics, and household hazardous waste are available to the majority of Vermont homeowners at least twice a year (in Municipalities, Solid Waste Districts and Alliances). These collections are available to homeowners for a nominal fee. Please contact your local solid waste management organization (listed below) for more information about collection events.

Where can used CRTs be brought for recycling or reuse?

Individuals and businesses should contact their local Solid Waste District, Alliance (listed below) or Town Clerk for information about local recycling options. In addition, many non-profit and private organizations offer recycling services. A listing of these entities can be found at:

www.anr.state.vt.us/dec/wastediv/recycling/compR3.htm

or call
1-800-974-9559

Vermont Solid Waste Organizations	
ADDISON COUNTY SOLID WASTE DISTRICT (802) 388-2333	NORTHEAST KINGDOM WASTE MANAGEMENT DISTRICT 1-800-734-4602 OR (802) 626-3532
BENNINGTON REGIONAL PLANNING COMMISSION (802) 375-2576	NORTHWEST VERMONT SOLID WASTE DISTRICT (802) 524-5986
CENTRAL VERMONT SOLID WASTE DISTRICT 1-800-730-9475 OR (802) 229-9383	RUTLAND COUNTY SOLID WASTE DISTRICT (802) 775-7209 OR 802-773-4083
CHITTENDEN SOLID WASTE DISTRICT (802) 872-8111	SOLID WASTE ALLIANCE COMMUNITIES (518) 854-9702
GREATER UPPER VALLEY SOLID WASTE DISTRICT (802) 296-3688	SOUTHERN WINDSOR/WINDHAM COUNTY SOLID WASTE MANAGEMENT DISTRICT (603) 543-1201 OR (802) 885-5827
LAMOILLE REGIONAL SOLID WASTE DISTRICT (802) 888-7317	WHITE RIVER ALLIANCE (802) 234-9340
MAD RIVER SOLID WASTE ALLIANCE (802) 244-7373	WINDHAM SOLID WASTE DISTRICT (802) 257-0272

For information about Vermont's Hazardous or Solid Waste Management Programs, contact the Waste Management Division at (802) 241-3888. For assistance in determining ways to use less toxic chemicals and in reducing the volume of hazardous wastes produced, contact the Environmental Assistance Division, a non-regulatory division of the Department of Environmental Conservation, at 1-800-974-9559.