



CHAPTER 12: ELECTION EQUIPMENT AND VOTING SYSTEMS¹

Section 12.01 Election Equipment and Voting Systems Introduction

Chapter 12 explains Ohio's election equipment,² including voting machines³ and electronic pollbooks, and why they need special handling as critical infrastructure.⁴ It covers rules for testing and approving voting equipment before use in elections. The chapter outlines how each county chooses its own voting system⁵ but must follow specific rules to keep elections secure. It also explains what the board can do when it needs to replace equipment.

Section 12.02 Types of Voting Equipment and Systems

Ballot Marking Device (BMD) is a type of voting machine used by voters to record votes on physical ballots. In general, ballot marking devices neither store nor tabulate ballots but only allow the voter to record votes on ballots that are then stored and tabulated elsewhere. ES&S Express Vote and Unisyn FreedomVote are examples of a BMD voting system.

Ballots-on-demand voting systems print ballots as needed. Election officials print ballots at the board office for voters, either in person or by mail. Counties often use this system for absentee voting.⁶

¹[Directive 2026-39](#).

²**Equipment** - a voting machine, marking device, automatic tabulating equipment, software, an electronic pollbook, a voter registration system, or a ballots on demand voting system. See also [R.C. 3506.05\(A\)\(2\)](#).

³**Voting machines** - equipment that records and counts votes (see [R.C. 3506.01\(E\)](#)). They are part of a voting system.

⁴**Critical Infrastructure** - systems and assets vital to the United States. If these systems were damaged, it could debilitate our security, economy, or public health. Since 2017, the U.S. Department of Homeland Security has designated our election systems as part of the nation's critical infrastructure.

⁵ **Voting system** - a set of equipment used to define ballots, cast and count votes, and report results. It connects to voter registration systems and produces audit trails. The Election Assistance Commission (EAC) tests and certifies voting systems that meet its standards. The board can find information on each certified system on the EAC website.

⁶[R.C. 3506.01\(J\)](#).

Direct Recording Electronic (DRE) machines are touchscreen voting machines. They record votes through a display with buttons that voters can press. DRE machines process data with computer programs and store voting data in memory.⁷ DRE machines have a Voter-Verified Paper Audit Trail (VVPAT), which is a paper printout showing the voter's ballot choices.⁸ Liberty Vote ImageCast X is an example of a DRE voting machine.

Electronic pollbook is an electronic list of registered voters that can be transported to a precinct or polling location.⁹ In Ohio, electronic pollbooks must pass testing by an independent voting system test laboratory¹⁰ approved by the Election Assistance Commission (EAC). The Board of Voting Systems Examiners (BVSE) must examine them. The Secretary of State must certify them.¹¹

Optical Scan¹² systems use automatic equipment to count votes by reading marks made on a ballot card. Voters can mark their ballots by hand or with a ballot marking device. The optical scan system scans the marked ballots and counts the results. This is the most common voting system used in Ohio. ES&S DS300, Unisyn FreedomVote, Clear Ballot ClearCast, Liberty Vote Clear Ballot ClearCast, and Hart Verity are examples of Optical Scan systems.

Precinct Count Optical Scanner (PCOS) is a portable scanner. It reads marks on paper ballots and records results. Voters feed their ballot into the scanner. The ballot goes into a locked ballot box. One or more PCOS are used in each precinct in counties with optical scan voting systems.

Voter registration systems are software and equipment used by a board of elections or the Secretary of State to process, store, organize, maintain, or retrieve voter registration records.¹³

⁷[R.C. 3506.01\(F\)](#).

⁸[R.C. 3506.01\(H\)](#).

⁹[R.C. 3506.05\(A\)\(1\)](#).

¹⁰[OAC 111:3-9-08\(B\)\(2\)](#).

¹¹[R.C. 3506.05\(B\)](#).

¹²[R.C. 3506.21](#). As used in this section, "optical scan ballot" means a ballot that is marked by using a specified writing instrument to fill in a designated position to record a voter's candidate, question, or issue choice and that can be scanned and electronically read in order to tabulate the vote.

¹³[R.C. 3506.01\(I\)](#).

Section 12.03 Voting Systems in Ohio

Each county selects its voting system for use in all elections. The voting system and its machines are selected by the board, county commissioners (with a recommendation from the board of elections), or by vote of the county's voters.¹⁴ The county may buy or lease the voting equipment.¹⁵

Each board is responsible for:

- Getting and maintaining its voting system and equipment.
- Managing all vendor support arrangements.
- Properly storing and securing its voting equipment.

The board should talk to the county prosecutor before getting a voting system or voting equipment. The county prosecutor or procurement department should be able to help with bidding and contracts.

Vendor - the person (or their agent) who owns, manufactures, distributes, or has the legal right to control the use of equipment. See also [R.C.3506.05\(A\)\(3\)](#).

The Secretary of State has guidelines for proper storage and security of voting equipment and supplies. That information is in [Chapter 3, Security](#) of this manual. Contact the Secretary of State's Elections Division with questions.

The BVSE examines voting systems equipment to ensure they meet requirements of Ohio law before use in elections. If the BVSE determines they meet those requirements, it recommends the Secretary of State certify it.¹⁶ For a current list of certified voting systems and equipment, visit the [Secretary of State's website](#) or contact the Elections Division.

The **Ohio Board of Voting System Examiners (BVSE)** is a bipartisan, five-member board that examines and approves voting systems and equipment for Ohio elections. The Ohio Board of Voting Machine Examiners (BVME) was renamed effective April 9, 2025. See [R.C. 3506.05](#).

¹⁴[R.C. 3506.02](#).

¹⁵[R.C. 3506.03](#).

¹⁶[R.C. 3506.05](#); [O.A.C. 111:3-9-08](#).

Section 12.04 Voting Equipment Vendor Relations

Boards are required to have at least one coordination call with each voting equipment or system vendor to ensure that all documents, training material, and a 24/7 point of contact have been established. This call must occur before the start of early voting and a follow up call should occur before Election Day.

Each of the board's vendors must submit a plan to the board to ensure support during early voting and on Election Day. The plan must detail, at a minimum:

- Staffing plans for early voting and Election Day.
- Virtual communications options if the vendor is not on-site.
- Pre-election meetings to be scheduled.
- Training plans and training materials provided prior to Election Day.
- Any other information that establishes support procedures for a successful election.

Although election vendors play a significant role in the election process, the board should not be solely dependent on the vendor to complete important election processes such as election management system programming, ballot creation, logic and accuracy (L&A) testing, report generation, and other vendor-supported tasks.

Section 12.05 Laws Governing the Sale, Transfer, or Disposal of Voting Equipment

[R.C. 307.12](#) sets rules for how county commissioners can dispose of unneeded, obsolete, or unfit county property. Talk to both the county prosecutor and county commissioners to develop a plan if the board wants to transfer or dispose of voting equipment.

[R.C. 3599.27](#) prohibits unauthorized people from having voting machines or their parts. The law also bans unauthorized people from having marking devices or tabulating equipment. Breaking this law is a fifth-degree felony. Therefore, the Secretary of State prohibits selling or donating voting equipment to private individuals, non-governmental entities, or governmental entities other than county boards of elections. The board may only transfer voting equipment (including voting machines, marking devices, automatic

tabulating equipment, software, voter registration systems, or a ballots-on-demand voting system) and election supporting technologies to other Ohio county boards of elections.

If the board chooses DRE/BMD machines as its primary voting system, it must keep the minimum number of DRE/BMD machines required by [R.C. 3506.22\(B\)](#). Calculate the number according to the formula in [R.C. 3506.22](#).

FEDERAL REQUIREMENTS RELATED TO HAVA FUNDS

For Help America Vote Act (HAVA) compliance, federal law defines “equipment” as personal property with a useful life of over one year that have a per unit cost of \$10,000 or more.¹⁷ This includes capital assets, computing devices, general-purpose equipment, information technology systems, special-purpose equipment, and supplies used for election purposes. Note: This definition is used for HAVA compliance and doesn’t apply to other uses of “equipment” and “voting equipment” in this chapter or other chapters of the Election Official Manual (EOM).

DRE/BMD Formula (R.C. 3506.22):

The higher number between (1) registered voters in the last presidential election or (2) the average of registered voters in the last two presidential elections minus the absentee ballots cast in the last presidential election. Then divide by 175. Round up to whole numbers.

¹⁷[2 CFR 200.1](#) “Equipment”

[EAC Funding Advisory Opinion 08-006](#) states the board may sell voting equipment purchased with HAVA funds and use the money for new voting equipment and other items or activities authorized under HAVA. [The Disposition of Equipment Purchased with HAVA Funds](#) offers more details on this topic.¹⁸ [2 C.F.R. 200.313\(e\)](#) states that items purchased with federal funds worth less than \$10,000 can be sold or disposed of with no further steps. Items worth \$10,000 or more may be sold, but a share equal to the proportion of HAVA funds it used to purchase the items must be set aside to buy new voting equipment or for other HAVA-authorized activities, or deposited to the State Election Fund.¹⁹

U.S. Election Assistance Commission (EAC) - a federal, independent, bipartisan commission established by the Help America Vote Act of 2002 (HAVA). It develops guidance for states to meet HAVA requirements and adopt voluntary voting system guidelines. The EAC shares information on election administration. It also accredits testing labs, certifies voting systems, and audits the states' use of HAVA funds. See EAC.gov/About-the-useac/ for more information.

Under current guidance from the Election Assistance Commission (EAC), the board must determine the value of voting equipment based on the separate value of each item, and not collectively as a voting system.²⁰ The board should consult its county auditor to determine the fair market value of the individual items of equipment using accepted accounting methods.

¹⁸Please note that this guidance document incorrectly references a figure of \$5,000. Although this guidance document is otherwise accurate, please reference the updated figure of \$10,000 that is cited in [2 C.F.R. 200.313\(e\)](#).

¹⁹[2 C.F.R. 200.313\(e\)](#).

²⁰Prior EAC guidance held that individual voting machines and supporting equipment should be valued collectively as voting system, and not based on the value of each item of equipment. See EAC FAO 08-007. However, the EAC retracted this guidance in 2017. *In re Retraction of Funding Advisory Opinion FAO 08-007*, Election Assistance Comm'n (June 27, 2017).

SECRETARY OF STATE'S POLICY ON THE SALE, TRANSFER, OR DISPOSAL OF VOTING EQUIPMENT

The Ohio Secretary of State must ensure election security and manage grants for voting equipment.²¹ The board must follow the policy below before transferring or disposing of any voting equipment (including voting machines, marking devices, automatic tabulating equipment, electronic pollbooks, or other voting system equipment).²² Notify the Elections Division to get authorization before selling, donating, or disposing of equipment.²³

Electronic Pollbook iPad Disposal

iPads must be sanitized by the purge method in [NIST 800-88](#), which renders them non-election equipment, and all identifying markings must be removed (e.g., inventory tags, other stickers a board may use, etc.). After proper sanitization, they can be treated as any other county asset and transferred accordingly.

The proper procedure and necessary [form](#) for approval (Form 429) apply regardless of the source of funds for the initial purchase of the equipment.

The board should always consult its county prosecutor and commissioners before selling or donating county-owned voting equipment. The board may need commissioner approval.

Wiping Data and Other Security Concerns

The board must wipe data from the voting equipment's memory before any sale, transfer, or disposal. The data wipe method must be compliant with [National Institute of Standards and Technology \(NIST\) 800-88 Media Sanitization standards](#) and use the "purge" method. Additionally, remove any identifying markings, such as inventory tags, other stickers, etc., that the board may use.

Work with IT professionals to ensure all data is wiped. If another board won't use the equipment, the EAC advises making it a "non-functioning piece of hardware with no software or firmware remaining on the equipment."²⁴ Before erasing data, the board

²¹[R.C. 3501.05](#); Help America Vote Act of 2002, 52 U.S.C.A § 20901.

²²This does not include E-pollbook iPads. See the call-out box to the right of this section.

²³"Equipment" Code of Federal Regulations (2 CFR 200.313).

²⁴"Wiping Election Equipment before Disposal, Sale, or Destruction." U.S. Election Assistance Commission. https://www.eac.gov/sites/default/files/eac_assets/1/6/Disposal_Sale_Destruction_Voting-Equipment_FINAL_10.13.17.pdf.

must determine if any information stored in the voting equipment must be kept under record retention schedules.

The board may recycle voting equipment that doesn't work. Use a recycling company with expertise in electronic waste management.

Sale of Voting Equipment²⁵

The board may only sell voting equipment to other boards of elections in Ohio. It must get approval from the Secretary of State's office for the sale of voting equipment prior to any sale.

1. Complete [Form 426](#), Agreement of Permanent Transfer via Sale of Voting Equipment.
2. List the quantity, description, and estimated value of the equipment.
3. State how the board will use the money from the sale.
4. Submit the form to the Secretary of State's office at ElectionAdmin@OhioSoS.gov and wait to receive approval before proceeding.
 - a. Submit the form to the Elections Division email box.
5. Keep this form for audits or legal matters regarding the equipment.

The buyer must sign [Form 426](#) Agreement of Permanent Transfer via Sale of Voting Equipment Purchased with HAVA Funds. The cost and delivery terms are between the board and the buyer. Base the price on the current fair market value. Send a copy of the final signed form to the Secretary of State's office.

The board may not sell to:

- Private individuals.
- Non-governmental organizations.
- Any entity that is not another board of elections in Ohio.

Remember, for equipment bought with HAVA funds currently less than \$10,000, the board can use the money as it wishes. If the current per-unit fair market value is \$10,000

²⁵See also [Secretary of State Advisory 2019-05](#).

or more, set aside money equal to the share of HAVA funds used to buy the equipment. Use this money to buy voting equipment or other HAVA-authorized activities.

For example, if the board bought a piece of voting equipment with 80 percent HAVA funds and 20 percent county funds, then 80 percent of the money from the sale of that equipment must be reserved for HAVA purposes. The remaining 20 percent may be used for any board purpose. If HAVA paid for 100 percent, then all money from any sale must be reserved for HAVA purposes.

Before selling, tell the Secretary of State how the board plans to use the HAVA money.

Permanent and Temporary Transfers of Voting Equipment

Donation of Voting Equipment Valued at Less Than \$10,000

A county may donate county property to another county.²⁶ [EAC Funding Opinion No. 08-006](#) says voting equipment worth \$10,000 or more bought with HAVA funds must be sold, not donated. Voting equipment worth less than \$10,000 may be sold or donated. Voting equipment can only be donated to another Ohio board of elections if there is no willing and eligible buyer.

The board must get approval from the Secretary of State's office before it donates voting equipment.

1. Complete [Form 427](#), Agreement of Permanent Transfer via Donation of Voting Equipment.
2. List the quantity, description, and estimated value of equipment.
3. Submit the form to the Secretary of State's office through ElectionAdmin@OhioSoS.gov and wait to receive approval before proceeding.
4. Keep this form for audits or legal matters regarding the equipment.

Under this policy, a board with excess voting equipment may ONLY donate that equipment to another board within Ohio. Both counties' board directors and chairs must sign [Form 427](#). Work out the delivery details between the two counties. Send a final copy of the form to the Secretary of State's office.

²⁶[R.C. 307.12\(D\)](#).

Loan of Voting Equipment

The board must get approval from the Secretary of State's office to loan voting equipment.

1. Complete [Form 428](#), Agreement of Temporary Transfer (Loan) of Voting Equipment.
2. List the quantity, description, and estimated value of the equipment.
3. Submit the form to the Secretary of State's office through ElectionAdmin@OhioSoS.gov and wait to receive approval before proceeding.
4. Keep the form for audits or legal matters regarding the loaned equipment.

Under this policy, a board with excess voting equipment may only loan it to another board within Ohio. Both counties' board directors and chairs must sign [Form 428](#) Agreement of Temporary Transfer (Loan) of Voting Equipment Purchased with HAVA Funds and coordinate the delivery details for the loaned voting equipment between the two counties. Send a final copy of the form to the Secretary of State's office.

Disposal of Voting Equipment

The board must get approval from the Secretary of State's office before disposing of voting equipment. If it has voting equipment that is no longer in working condition due to age or damage, it may dispose of it.

1. Complete [Form 429](#), Voting Equipment Disposal Form.
2. Describe the type, quantity, estimated value, and disposal method of the equipment.
3. The director and chairperson must sign [Form 429](#).
4. Submit the form to the Secretary of State's office through ElectionAdmin@OhioSoS.gov and wait to receive approval before proceeding.
5. Keep this form for audits or legal matters.

Section 12.06 Testing and Certification of Electronic Pollbooks

Any electronic pollbook used in Ohio elections must be approved by the Board of Voting Systems Examiners (BVSE) and certified by the Secretary of State.²⁷ This process follows [R.C. 3506.05](#) and adopted BVSE standards.

Each electronic pollbook must be tested by an independent voting system test lab. It must meet or exceed Ohio's requirements and EAC guidelines.²⁸ After testing, the vendor may apply for BVSE examination. The BVSE reviews the test results and checks the electronic pollbook's functionality. If satisfied, the BVSE recommends the Secretary of State certify the electronic pollbook for use in Ohio elections. The Secretary of State's office notifies boards and the vendor whether the electronic pollbook is certified.

The board can request the standards for the testing and certification. A current list of electronic pollbooks certified for use in Ohio elections is on the [Secretary of State's website](#) or the board can contact the Elections Division.

EVALUATION PRIOR TO THE PROCUREMENT OF ELECTRONIC POLLBOOKS

Before buying an electronic pollbook, the board must evaluate it. The evaluation must include:

- ☐ Review of repair and maintenance policies.
- ☐ Review of training materials and user manuals.
- ☐ Explanation of supplies needed to use the electronic pollbook, their cost, and supply chain.
- ☐ Demonstration of compatibility with board hardware.
- ☐ Demonstration of how it processes and transmits voter records between other board systems.

²⁷[R.C. 3506.05\(B\)](#).

²⁸[O.A.C. 111:3-9-08\(B\)\(2\)](#).

AFTER THE PROCUREMENT OF ELECTRONIC POLLBOOKS

Acceptance Testing by a Board of Elections

After buying an electronic pollbook, the board must conduct acceptance testing using a checklist.

Notification

If the board gets electronic pollbooks, notify the Elections Division of the make/model and vendor selected.²⁹

Communication

Electronic pollbooks with data transmission capability must not use the internet except under a very narrow set of circumstances. If the board transmits data, use a virtual private network (VPN) or a secured access point name (APN). Log all network activity to a security and event management system (SIEM). Networks that electronic pollbooks connect to must implement firewall rules that restrict internet access to only the specific ports, protocols, and endpoints required for electronic pollbook functionality. Never transmit any portion of a voter's Social Security number, driver license number, or state ID number.

The board may send data to the electronic pollbook to update voter information, such as updating records with absentee voting activity.

The board may only transmit data from the electronic pollbook to review preliminary voter turnout statistics, monitor each unit's function, and perform actions approved by the BVSE, using applicable security protocols.

Retention of Records or Images Produced by Electronic Pollbooks³⁰

The board must keep all audit and transaction records from electronic pollbooks, including images of electronic signatures, for at least six years.

²⁹[R.C. 3506.021\(A\)](#).

³⁰[Ohio Secretary of State Retention Schedules, Series CBE-114: Electronic Pollbook Records](#)

Chapter 12 Checklist: Election Equipment and Voting Systems

Equipment Selection and Maintenance

- ❑ Consult the county prosecutor before buying a voting system or equipment.
- ❑ Find a current list of certified systems on the [Secretary of State's website](#).
- ❑ Evaluate the electronic pollbook before buying.
- ❑ Conduct acceptance testing of the electronic pollbook.
- ❑ Notify the Elections Division of the purchase.
- ❑ Properly store and secure all voting equipment.
- ❑ If using DRE/BMD machines as the primary system, maintain the required number ([R.C. 3506.22](#)).

Equipment Sales and Transfers

- ❑ Before selling equipment:
 - Get Secretary of State approval using [Form 426](#).
 - Wipe all data according to [NIST standards](#).
 - If purchased with HAVA funds, calculate the proper amount to set aside.
- ❑ Before donating equipment (valued under \$10,000):
 - Verify it's going to another board in Ohio.
 - Get Secretary of State approval using [Form 427](#).
 - Wipe all data according to [NIST standards](#).
- ❑ Before loaning equipment:
 - Ensure documents are signed by both boards.
 - Get Secretary of State approval using [Form 428](#).
- ❑ Before disposing of equipment:
 - Get Secretary of State approval using [Form 429](#).
 - Wipe all data according to [NIST standards](#).