

भारत निर्वाचन आयोग सचिवालय SECRETARIAT OF THE ELECTION COMMISSION OF INDIA

निर्वाचन सदन, अशोक रोड, नई दिल्ली-110001. Nirvachan Sadan, Ashoka Road, New Delhi-110001.

No. 51/8/INST/2023-EMS

Dated: 16th October, 2023

To

The Chief Electoral Officers of all States/UTs.

Subject: EVM Brochure for Electors on use of EVM and VVPAT -regarding.

Sir/Madam,

I am directed to forward herewith the EVM Brochure for Electors, which elucidated various aspects of EVMs & VVPATs viz. components of EVMs & VVPATs, Technical Security Features, Administrative Measure and Role of Candidates and their Agents, Randomizations, various layers of Security of Polled EVMs/VVPATs and How to Cast Your Vote, for necessary action.

The said brochure shall also be made uploaded on the CEO's website.

Yours faithfully,

(Rakesh Kumar) Under Secretary

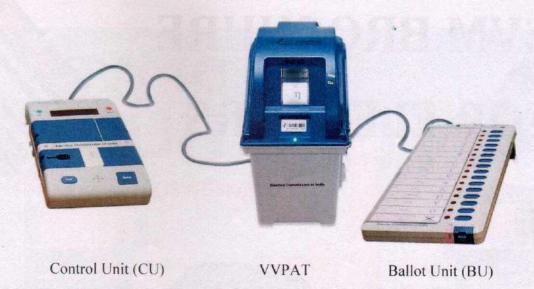
EVM BROCHURE FOR ELECTORS





OCTOBER, 2023

ELECTION COMMISSION OF INDIA



Electronic Voting Machine (EVM): An EVM consists of two units, namely, Control Unit (CU) and Ballot Unit (BU) with a cable (5mt.long). A Ballot Unit caters upto 16 candidates. 24 (Twenty-four) Ballot Units can be cascaded together for catering to 384 candidates (including NOTA) which can be used with one Control Unit. On the right side of the BU along the candidates' vote button, digits 1 to 16 are embossed in Braille signage for guidance of visually impaired electors. It runs on a power pack (Battery) having 7.5 volts.

Voter Verifiable Paper Audit Trail (VVPAT): Voter Verifiable Paper Audit Trail is an independent system attached with the Electronic Voting Machines that allows the voters to verify that their votes are cast as intended. VVPAT runs on a power pack (Battery) of 22.5 volts.

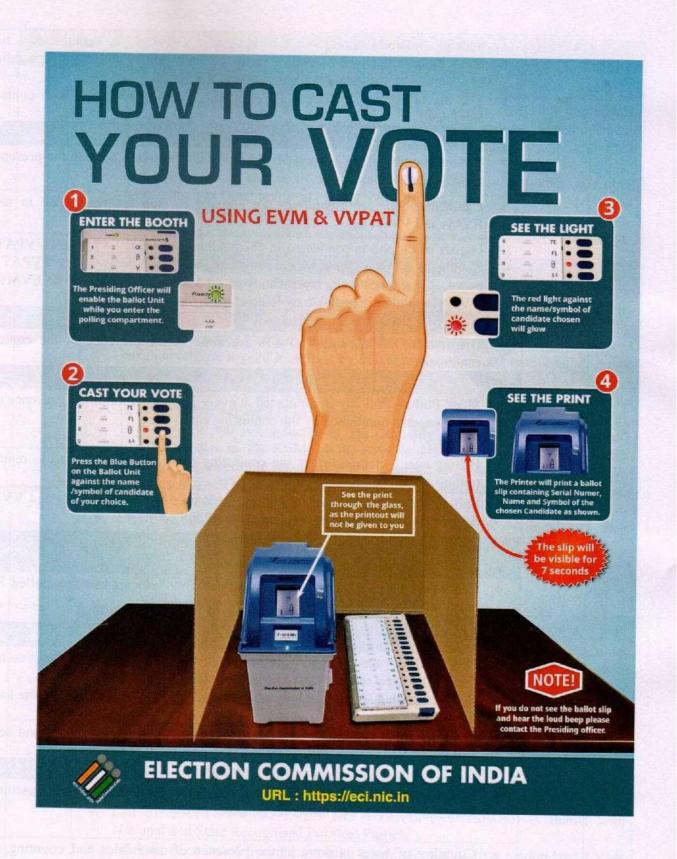
Functioning of EVM and VVPAT:

- Control Unit is kept with the Presiding Officer/Polling Officer and Ballot Unit and VVPAT are kept in the Voting Compartment.
- When a vote is cast on Ballot Unit by pressing candidate button (Blue Button) of his/her choice, RED light is glow against that particular candidate button.
- On other hand, a slip is printed on the VVPAT printer containing the serial number, name and symbol
 of the candidate and remains exposed through a transparent window for about 7 seconds.
- Thereafter, this printed slip automatically gets cut and falls in sealed drop-box of the VVPAT.
- Thereafter, a beep sound is heard from the Control Unit to ensure vote has been registered successfully.

| | Technical Security Features | |
|---|---|--|
| Features | Purpose | Ruled Out |
| Standalone | EVM used by the Commission is a stand-alone non- networked machine which can be connected to EVM components only (e.g. CU, BU, VVPAT, SLU, P-FLCU). | Any connection with external world through wire or wireless |
| One Time Programmable (OTP) Chip | The machine is electronically protected to prevent any tampering/manipulation. The programme (software) used in these machines is burnt into a One Time Programmable (OTP) chip so that it cannot be altered or tampered with. | Any alteration or tampering |
| Unauthorized Access Detection Module (UADM) | Software as well as polled data is stored in the micro-controller of the Control Unit of EVM, which is protected by a Secure Module. Any attempt to open the Secure Module at any time whether the machine is on or off, renders the machine in factory mode and the machine becomes inoperative. | Any access to microcontroller or memory |
| No Radio Frequency Transmission or Reception Capability | Any tampering of ECI-EVM by coded signals by wireless, Bluetooth or WiFi is ruled out as EVM does not have any radio frequency (RF) communication capability, hence, cannot communicate through Wifi, Bluetooth etc. | Any tampering by coded signals by wireless like Bluetooth or Wifi |
| Dynamic Coding of Key Presses | Every key press is coded dynamically making it impossible for anyone to decode the signals between Control Unit and Ballot Unit. | Any decoding of the signal between Control Unit, Ballot Unit and VVPAT |
| Most Advanced Encryption Techniques | Standards used are proven to work effectively in modern systems | Any deciphering by tapping cables |
| Strong Mutual Authentication Capability | The strong mutual authentication capability ensures that any unauthorized devices cannot interact with EVMs | Any interaction with any unauthorized devices |
| Real Time Clock for date and time stamping key presses | Every authorised or un-authorised key press is recorded with date and time stamp on real time basis. | Any malpractice |

| S. No. | Various activities related to EVMs/VVPATs with the involvement of the |
|--------|---|
| 1. | representatives of National & State Recognised Political Parties and Candidates Opening and Closing of EVM warehouse |
| | During non-election period till finalization of list of the contesting candidates EVM-VVPAT warehouses are opened/closed (for any purpose like movement inspection etc.) in the presence of the representatives of National and State Recognised Political Parties. With finalization of list of the contesting candidates, candidates and their representatives are involved while opening and closing of EVM-VVPAT warehouses/strong room. Opening and Closing of EVM warehouse/strong room is done under videography |
| 2 | First Level Checking of EVMs and VVPATs |
| | First Level Checking of EVMs and VVPATs is conducted before every election by the authorised engineers of Bharat Electronics Limited (BEL) and Electronic Corporation of India Limited (ECIL) at DEO level. For this purpose, National and State Recognised Political Parties at district headquarters are invited in writing by DEO concerned at least two days before the beginning of FLC and a copy is endorsed to state headquarters. The representatives of National and State Recognised Political Parties are involved to oversee entire FLC process. Higher mock poll is conducted in 5% randomly selected EVMs and VVPAT (i.e. 1200 votes in 1% EVMs, 1000 votes in 2% EVMs and 500 votes in 2% EVMs). The electronic result of EVM is tallied with the VVPAT slips count They are allowed to pick 5% EVMs and VVPATs randomly and also to do moch poll. List of FLC ok EVMs and VVPATs is shared with all National and State Recognised Political Parties. The representatives of National and State Recognised Political Parties are allowed to sign the seals, forms register during FLC. |
| 3 | Taking out of EVMs and VVPATs for Training and Awareness after FLC |
| | After completion of FLC, maximum up to 10% EVMs and VVPATs are taken ou for awareness and training purpose in the presence of National and State Recognised Political Parties. The list of awareness and training EVMs and VVPATs is shared with them. |
| 4 | Randomizations of EVMs and VVPATs |
| | First randomization of EVMs and VVPATs is conducted in the presence of National and State Recognised Political Parties to allocate EVMs and VVPATs Assembly constituency/ segment-wise. List of first randomized EVMs and VVPATs (AC/AS-wise) is shared with National and State Recognised Political Parties. After finalization of list of contesting candidate, list of first randomized EVMs and VVPATs (AC/AS-wise) is also shared with contesting candidate. |

| | Second randomization of EVMs and VVPATs is conducted, before commissioning of EVMs and VVPATs, in the presence of contesting candidates to allocate polling station wise and reserve machines. The list of second randomized EVMs and VVPATs is shared with contesting candidates. |
|----|---|
| 5 | Commissioning of EVMs and VVPATs |
| | Commissioning of EVMs and VVPATs for use in poll is done in the presence of contesting candidates. |
| | Candidates/their representatives are allowed to sign the seals used in sealing EVMs and VVPATs. |
| | Higher mock poll is conducted in 5% randomly selected EVMs and VVPATs by casting 1000 votes. The electronic result of EVM is tallied with the VVPAT slips count. Candidates/their representatives are allowed to pick 5% EVMs and VVPATs randomly and also to do mock poll. |
| 6 | Dispersal of EVMs and VVPATs with Polling Parties |
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| 7 | Mock Poll and Actual Poll on Poll Day |
| | Mock Poll on Poll day is conducted at every polling station in the presence of the polling agents nominated by the contesting candidates. |
| | Polling agents nominated by the contesting candidates are allowed to remain in polling stations to observe polling process. |
| | Polling agents are allowed to sign the seals used in sealing EVMs and VVPATs (before commencement of poll and close of poll). |
| 8 | Transportation of polled EVMs and VVPATs from Polling Stations to Collection Centre |
| | Candidates/Polling agents are allowed to follow vehicles carrying polled EVMs and VVPATs from polling station to collection centre. |
| 9 | Storage of Polled EVMs and VVPATs |
| | Polled EVMs and VVPATs are stored in the strong room in the presence of Candidates/their representatives. |
| | Candidates/their representatives are also allowed to put their seals on the locks of the strong room. |
| | Candidates/their representatives are also allowed to monitor storage and security of polled EVMs and VVPATs. |
| 10 | Counting Day |
| | Polled Strong Room is opened in the presence of Candidates/their representatives, Returning Officer, ECI Observer on counting days. |
| | Counting of votes is done in the presence of candidates and counting agents appointed by them. |



EVM BROCHURE FOR ELECTORS

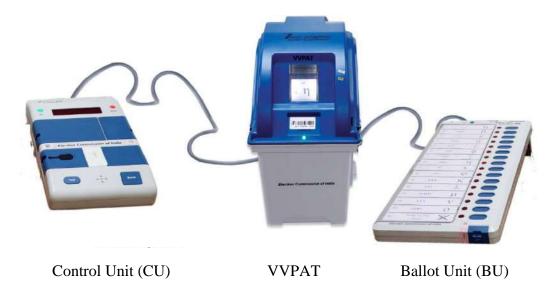




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EVM Brochure for Electors Page 1



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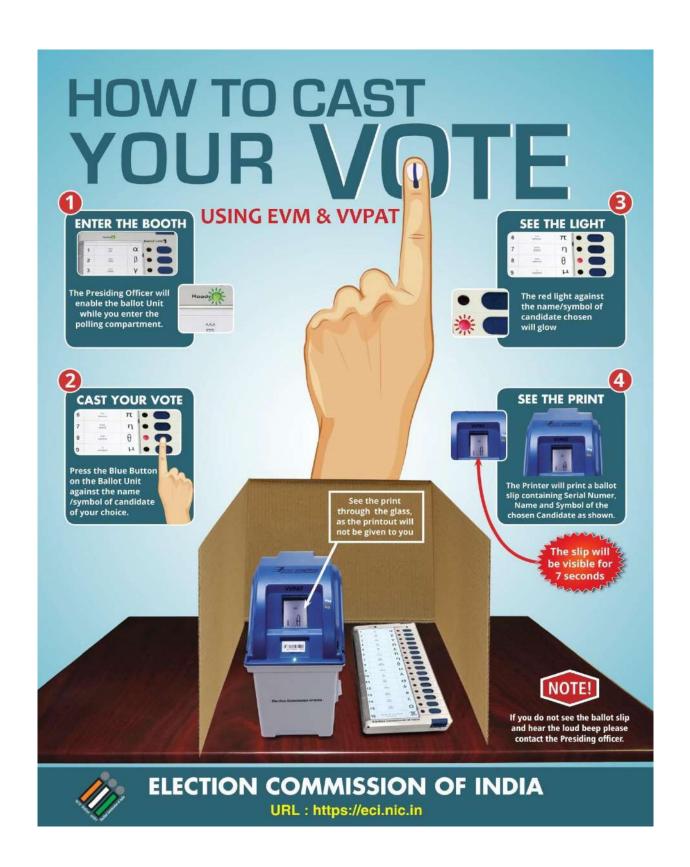
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| Unauthorized Access Detection Module (UADM) | Software as well as polled data is stored in the micro-controller of the Control Unit of EVM, which is protected by a Secure Module. Any attempt to open the Secure Module at any time whether the machine is on or off, renders the machine in factory mode and the machine becomes inoperative. | Any access to microcontroller or memory |
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| 8 | Transportation of polled EVMs and VVPATs from Polling Stations to Collection |
| | Centre |
| | Candidates/Polling agents are allowed to follow vehicles carrying polled EVMs and VVPATs from polling station to collection centre. |
| 9 | Storage of Polled EVMs and VVPATs |
| | • Polled EVMs and VVPATs are stored in the strong room in the presence of |
| | Candidates/their representatives. |
| | • Candidates/their representatives are also allowed to put their seals on the locks of |
| | the strong room.Candidates/their representatives are also allowed to monitor storage and security |
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| | • Counting of votes is done in the presence of candidates and counting agents appointed by them. |



EVM Brochure for Electors Page 6

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BROCHURE FOR PRESIDING OFFICER (ON USE OF EVM & VVPAT) OCTOBER 2023



Preliminary Checks on Dispersal Day

1. Remove Ballot Unit(s), Control Unit and VVPAT carefully from the respective carrying case.

2. WHAT TO CHECK ON EVM AND VVPAT?

Ballot Unit(s)

- Address Tags of BU to ensure BU(s) is pertaining to your assigned polling station.
- Pink Paper Seals of BU are intact.
- Ballot Paper is installed properly.
- Ballot buttons upto NOTA (Candidate Blue Buttons) are unmasked.
- Thumb wheel position is 01 for first BU (If more than 01 BU is used, Thumb wheel position for 2nd BU is 02, for 3rd BU is 03 and so on).

Control Unit

- Address Tags of CU to ensure CU is pertaining to your assigned polling station.
- Pink Paper Seals of CU are intact.
- Switch ON the CU (without connecting to BU and/or VVPAT) to check Battery status and number of contesting candidates. Thereafter, Switch OFF the CU.

VVPAT

- Address Tags of VVPAT to ensure that VVPAT is pertaining to your assigned polling station.
- Power Pack (Battery) is installed.
- VVPAT knob is horizontal (i.e. Transportation mode). If VVPAT knob is vertical (i.e. Working mode), keep the knob horizontal.

3. WHAT NOT TO DO?

- Don't connect Ballot Unit, Control Unit and VVPAT during dispersal.
- Don't keep BU, CU and VVPAT outside their respective carrying case after checking.
- Don't take away EVM & VVPAT to any unauthorised place like residence, hotel etc.
- Don't remove/damage any seal from BU, CU and VVPAT.
- Don't use vehicle other than vehicle provided for dispersal.
- Don't setup Voting Compartment near open window or door.
- Don't setup Voting Compartment just below the high illusion bulb/light.

Setting up of BU, CU & VVPAT at Polling Station before starting mock poll

- 1. Remove Ballot Unit(s), Control Unit and VVPAT carefully from the respective carrying case.
- 2. Place BU(s) and VVPAT in Voting Compartment. VVPAT must be left side of BU.
- 3. Place CU on Table of Presiding/Polling Officer (In-Charge of CU), so that these are not moved after setting up or after mock poll.



4. Connect Cable of BU with VVPAT and Cable of VVPAT with CU without pressing latches of the connector.





5. Un-lock (Working position i.e. Vertical position) paper roll knob of VVPAT before Switching ON the Control Unit.



- 6. Tape the connecting cables of BU/CU/VVPAT to the leg of the table with "Transparent Adhesive Tape"
- 7. WHAT NOT TO DO?
 - Don't Switch ON the CU while connecting or disconnecting the EVM and VVPAT using cables.
 - Don't press both side latches of connector while connecting the cable.
 - Don't disconnect cables without pressing both side latches of connector.
 - Don't forget to keep VVPAT knob in vertical position (i.e. working mode), before switching on the CU.
 - Don't keep VVPAT right side of Ballot Unit.
 - Don't left cables untapped (transparent tape)

Conduct of Mock Poll

Mock Poll must be conducted 90 minutes before scheduled actual poll time. If one or no polling agent is present, wait for 15 minutes to start mock poll.

- 1. Show VVPAT slips compartment is empty.
- 2. Switch ON the CU.
- 3. Press **TOTAL** button and show '0' vote in CU. If there is any pre-vote, clear the vote.
- 4. Cast atleast 50 votes and record manually on paper/register number of votes given to each candidate including NOTA.
- 5. After mock poll votes, press **CLOSE** button of CU.
- 6. Thereafter, press **RESULT** button of CU to ascertain mock poll result and tally with manual record.
- 7. Remove mock poll VVPAT slips from VVPAT compartment and tally with votes in CU.
- 8. Mock poll tallies ONLY if 6 & 7 above are both satisfied.
- 9. Press **CLEAR** button of CU to clear mock poll result from CU and show '0' vote to polling agents.
- 10. Stamp mock poll VVPAT slips with stamp 'MOCK POLL SLIP'
- 11. Keep mock poll VVPAT slips in Black Envelope and then seal with Pink Paper Seal.
- 12. Switch OFF the CU.
- 13. Show empty drop box of VVPAT to polling agents.
- 14. Fill Mock Poll Certificate (**Presiding Officer's Report- Part-I**) carefully. Obtain signatures of all Polling Officers and Polling Agents on it.

Replacement Protocol for Mock Poll: All 'ERROR' massages for BU, CU & VVPAT will be displayed on CU only. Please read message and act accordingly.

- In case BU or CU or VVPAT not functioning, replace the respective unit only i.e.
 - (i) If BU is non-functional, replace only BU.
 - (ii) If CU is non-functional, replace only CU.
 - (iii) If VVPAT is non-functional, replace only VVPAT.

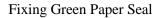
WHAT NOT TO DO?

- Don't stop mock poll without casting atleast 50 votes.
- Don't start actual poll without clearing mock poll data from CU and without removing mock VVPAT slips from the drop box of VVPAT.
- Don't keep VVPAT mock slips unstamped.
- Don't Switch OFF and ON CU while mock poll is going on.
- Don't disconnect and connect cables while mock poll is going on.

Sealing of CU and VVPAT after Mock Poll

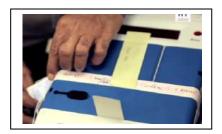
1. Seal the CU with Green Paper Seal, Special Tag and Address Tag and obtain signatures of polling agents on them.







Sealing inner Result Section with Special Tag



Sealing outer Result Section with Address Tag



Affixing Green Paper Seal

2. Seal the drop box of VVPAT with Address Tag and ask polling agents also to sign it.



Sealing of Drop Box of VVPAT with Address Tag

Start of Actual Poll

- 1. Switch ON the Control Unit.
- 2. Press **TOTAL** button of CU to confirm Zero vote and show to polling agents.
- 3. Before the first voter signs in Form 17A (Register for Voters), the Polling Officer-1 shall check with the Presiding Officer and record in INK in Form 17A that "Total in the Control Unit checked and found to be Zero".

Replacement Protocol for Actual Poll: All 'ERROR' massages for BU, CU & VVPAT will be displayed on CU only. Please read message and act accordingly.

- In case CU shows Error "Replace VVPAT", switch OFF the CU and replace only VVPAT. **No MOCK POLL** is required.
- In case BU or CU not functioning, replace the whole set of BU, CU and VVPAT. In case
 of replacement of whole set, mock poll shall again be conducted by cast of 01 vote to each
 contesting candidates including NOTA. Follow mock poll process including clearing of
 mock poll vote from CU and removal of mock poll VVPAT slips etc. Also make separate
 mock poll certificate.
- In case CU shows Error "Replace Power Pack of VVPAT", switch OFF the CU and replace only Power Pack of VVPAT. **No MOCK POLL** is required.
- In case CU shows Error "Replace Power Pack of CU", switch OFF the CU and replace only Power Pack of CU and seal the power pack compartment of CU. **No MOCK POLL** is required.

WHAT NOT TO DO?

- Don't Switch OFF and ON CU while actual poll is going on.
- Don't disconnect and connect cables while actual poll is going on.
- Don't conduct mock poll when only VVPAT or Power Pack of CU/VVPAT/BU is replaced.

Closing of poll procedure

- 1. Press **CLOSE** button of CU
- 2. Press **TOTAL** button of CU to note total polled votes in CU in Form 17C and Presiding Officers' Diary and also Poll Start Time (PST) and Poll End Time (PET).
- 3. **Switch OFF** the CU.
- 4. Disconnect cable of BU from VVPAT and VVPAT cable from CU.
- 5. Remove Power Pack (Battery) from VVPAT.
- 6. Keep BU, CU and VVPAT in the respective carrying case.
- 7. Seal each carrying case with Address Tags and obtain signature of polling agents on them.

WHAT NOT TO DO?

- Don't press CLOSE button of CU before notified poll close time or completion of poll.
- Don't disconnect cables without Switch OFF the CU.
- Don't left Power Pack of VVPAT in VVPAT after completion of poll.
- Don't left carrying cases without sealing and obtaining signature of Polling Agents after poll.
- Don't use other vehicle for depositing polling materials at collection centre.