European Commission
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International IDEA

Joint Training on
Effective Electoral Assistance

DAY 3

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Introduction of Electronic Voting Machines The Indian Case

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STRUCTURE OF PRESENTATION

- THE GENESIS
- INTRODUCTION OF EVMs
- TECHNOLOGICAL FEATURES
- USE IN THE FIELD
- ADVANTAGES
- ISSUES IN ADOPTION OF NEW TECHNOLOGY
- DEMONSTRATION

GENESIS - CONCEPT

- Problems with conventional marking system in vogue since 1962:

  - many times invalid votes exceeded margin of victory.

  - huge requirement of paper, a scarce commodity, for printing millions of ballot papers.

  - storage and upkeep of ballot boxes during non election period.

GENESIS - CONCEPT

- 1977 : Election Commission of India (ECI) asked Electronic Corporation of India to design an EVM to suit Indian conditions while retaining the basic features of the conventional marking system.
- 1979 : Prototype developed.
- 1980 : Demonstrated to Political Parties.
- 1981 : Bharat Electronics Limited co-opted.

INTRODUCTION OF EVMs

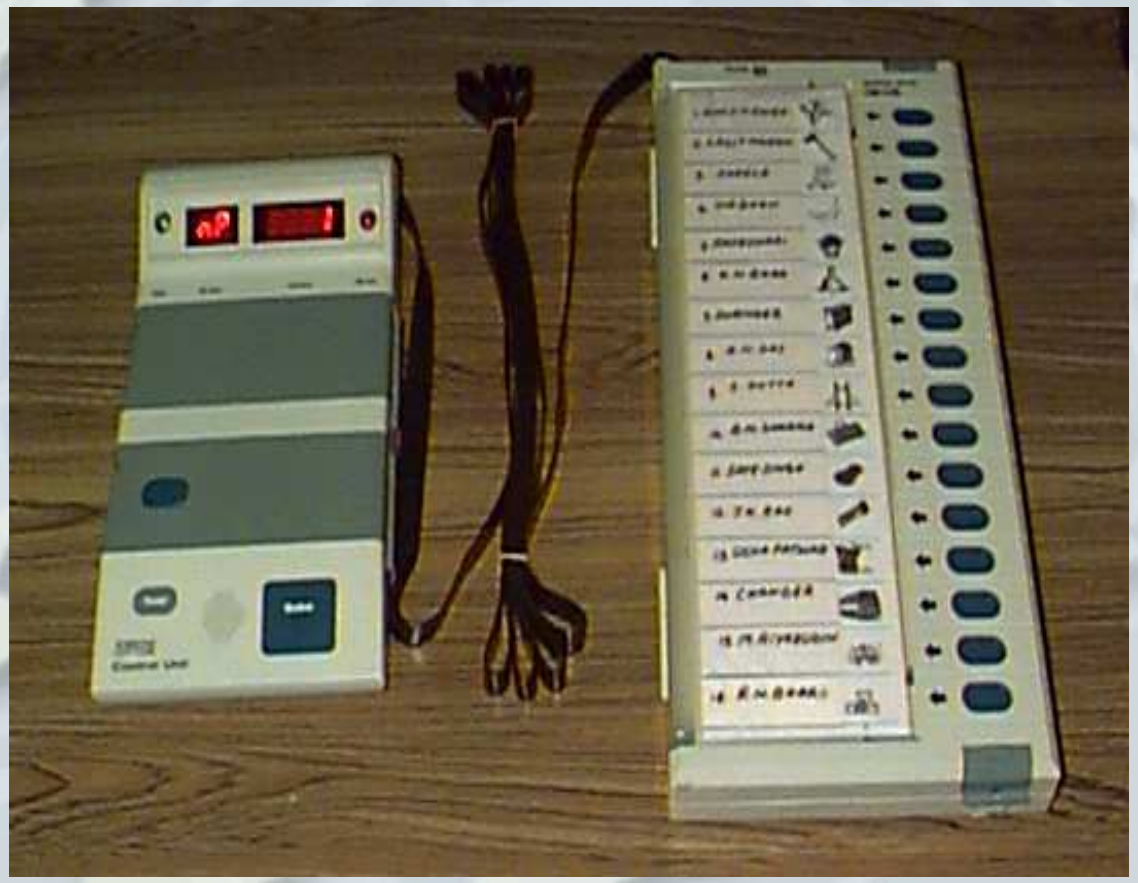
- ECI submitted a proposal to amend the law.
- May 1982 : EVMs used for the first time.
- 1984 : Supreme Court struck down use of EVMs in absence of enabling law.
- Dec. 1988 : Law was amended.
- 1990 : A high powered committee examined technical and functional aspects of EVMs.
- EVMs not used till 1998 - Considered unwise to use them before establishing credibility in the minds of various stakeholders.

INTRODUCTION OF EVMS

- 1998 : EVMs used in 16 Assembly Constituencies in three states.
- 1999 : EVMs used in 46 Parliamentary Constituencies in 17 states for approx. 60 million voters.
- 2004 : First Electronic Parliamentary Election using one million machines.
- 2006 : EVMs being used in local bodies elections also.

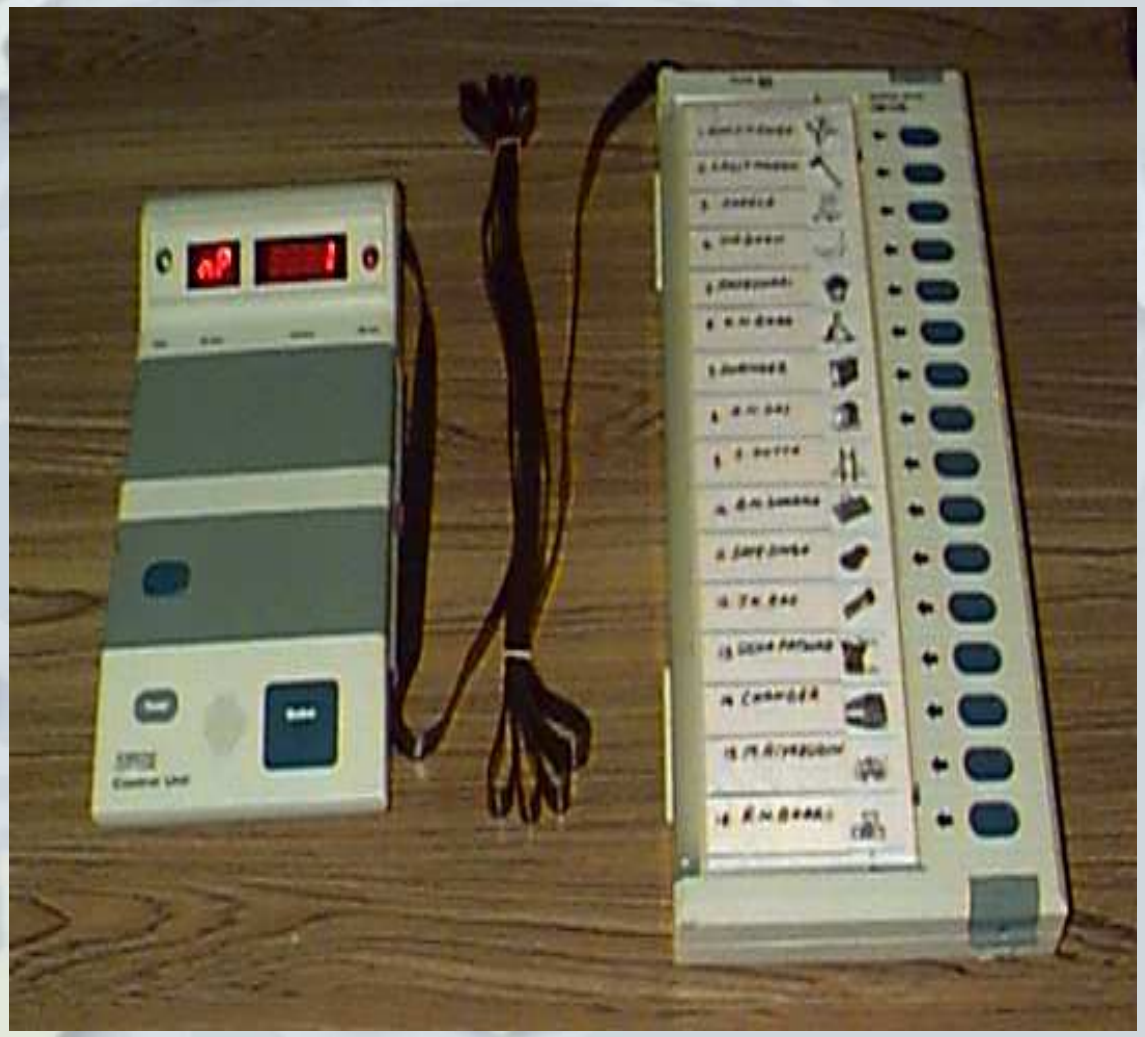
TECHNOLOGICAL FEATURES

- Two sub units:
  - Control.
  - Balloting.
- Linked with 5 meter long cable.
- 7.5 volt single alkaline battery.



TECHNOLOGICAL FEATURES

- Provision for conventional ballot paper.
- Voting by pressing button *instead* of marking.
- Can be used for 64 candidates and 3840 voters.



TECHNOLOGICAL FEATURES

- Can be used for first past the post system. Developing PR model.
- State-of-the-art microprocessor with 'burnt in' software which cannot be retrieved or altered. No need to change software with election.
- Data recorded on non-volatile redundant memory chips and can be retained even if the battery is removed.
- Portable and user friendly with easy operation sequence.
- Normal operational life 15 years. Cost around USD 300.

NEW FEATURES

- Time stamping with the help of built-in real time clock to detect rigging.
- Paper trail can be generated for results and court use.
- Detachable memory.
- Power save mode and power status display.
- Multiple machines can be linked for aggregate result.
- Features for biometric verification, wireless result transmission can be introduced.

USE IN THE FIELD

- 1st technological check 3 months before the election.
- 2nd check at the time of preparing EVMs for the polls.
- EVMs prepared and 'candidate set section' sealed (setting no. of candidates) in presence of all political parties & election observers.
- Mock poll must on election day – result compartment sealed after mock poll.

USE IN THE FIELD

- Reserve kept for replacing malfunctioning machines.
- Failure rate below 0.5%.
- EVMs stored in a central place for counting on designated day to allow re-polls, adjourned polls.
- ECI, political parties and CSOs do voter education.
- EVMs engaged in election petitions not reused.

ADVANTAGES

- Modernizes election process – makes it more credible and transparent making rigging difficult.
- Simple to operate and install.
- User friendly – can be used even by illiterates / blinds.
- No invalid votes. Multiple voting not possible.
- Preserves voting secrecy.
- Facilitates quick and accurate counting.
- Re-usable by simply erasing the memory.

ADVANTAGES

- Can be used in remote areas without electricity.
- Huge savings in terms of man and material cost:

  - for printing, checking, storing, security, transportation and counting of ballot papers.

  - for storing ballot boxes.

  - at the time of counting.

- Lower operating costs and more efficient in terms of time.

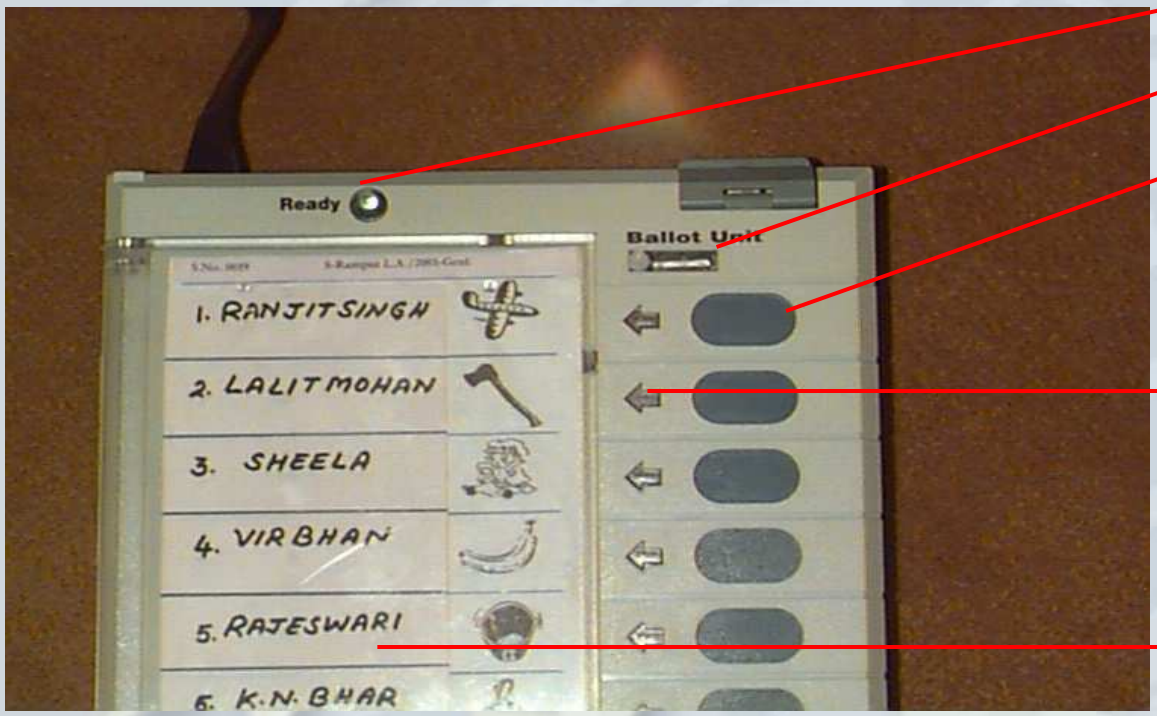
ADOPTION OF NEW TECHNOLOGY

- Make true assessment of the need – should not be driven by vendors or any other consideration.
- Must be APPROPRIATE considering educational, social, economic and technological development of the country.
- Do cost benefit analysis.
- Amend law to enable use of technology.
- Must be introduced gradually building confidence among stakeholders.
- Proper voter information – to counter mis-information.

COULD IT HAVE BEEN USED IN NIGERIA

- Yes, as First Past the Post System followed.
- Most of the areas do not have regular electric supply.
- Could have saved huge cost for printing ballot papers.
- Could have saved time in printing new ballot papers after Vice President's candidature was allowed.
- Enabled quicker counting.

BALLOT UNIT - DETAILS



Ready Lamp

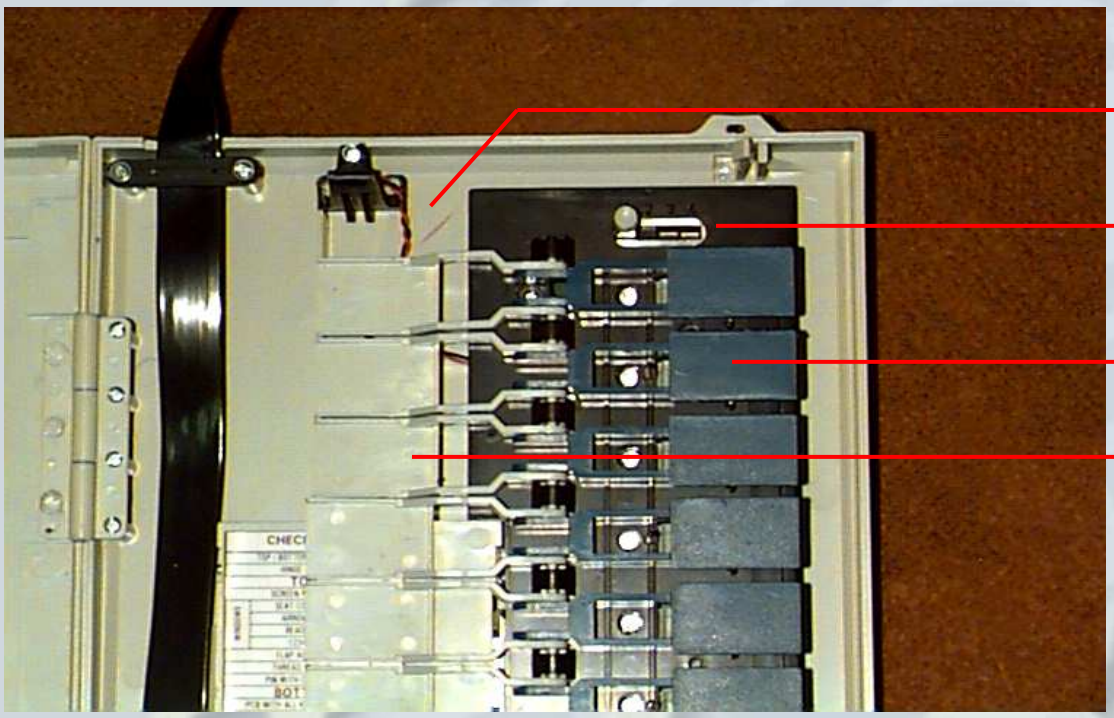
Slide Switch Window

Candidate's Button

Candidate's Lamp

Ballot Paper Screen

BALLOT UNIT - INTERNAL PARTS



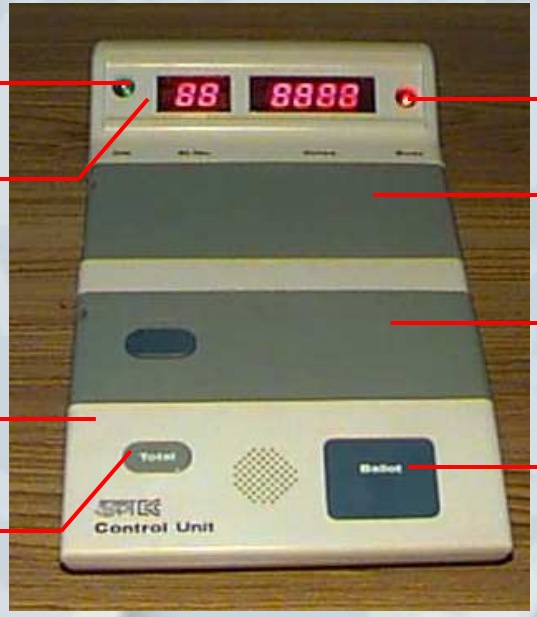
Ready Lamp

Slide Switch

Candidate's Button

Masking Tab

CONTROL UNIT



ON Lamp

Display Section

Busy Lamp

Candidate Set Section

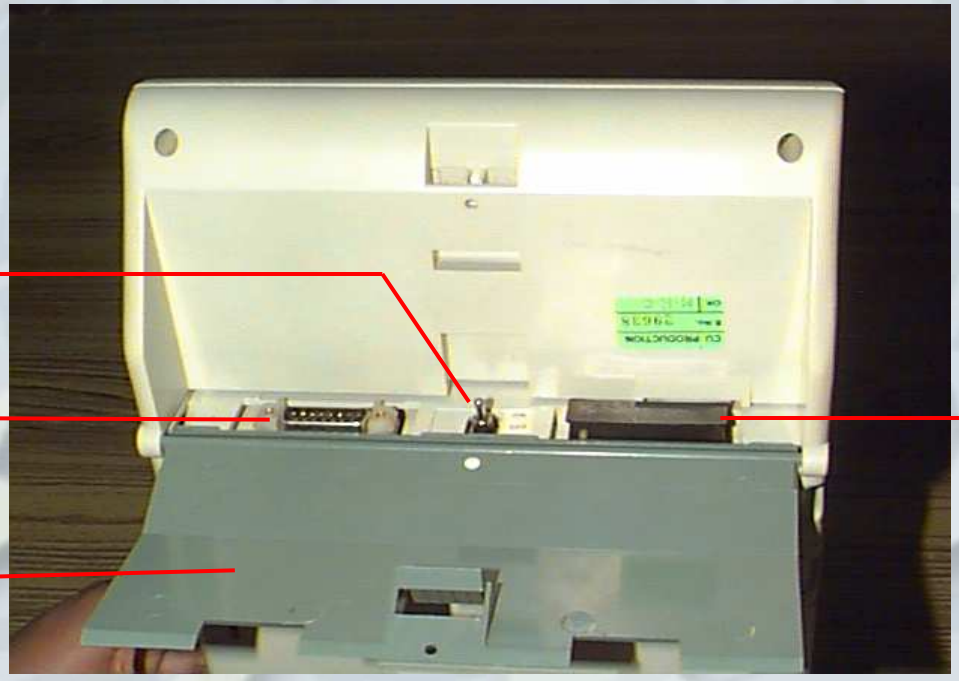
Result Section

Ballot Section

Ballot Button

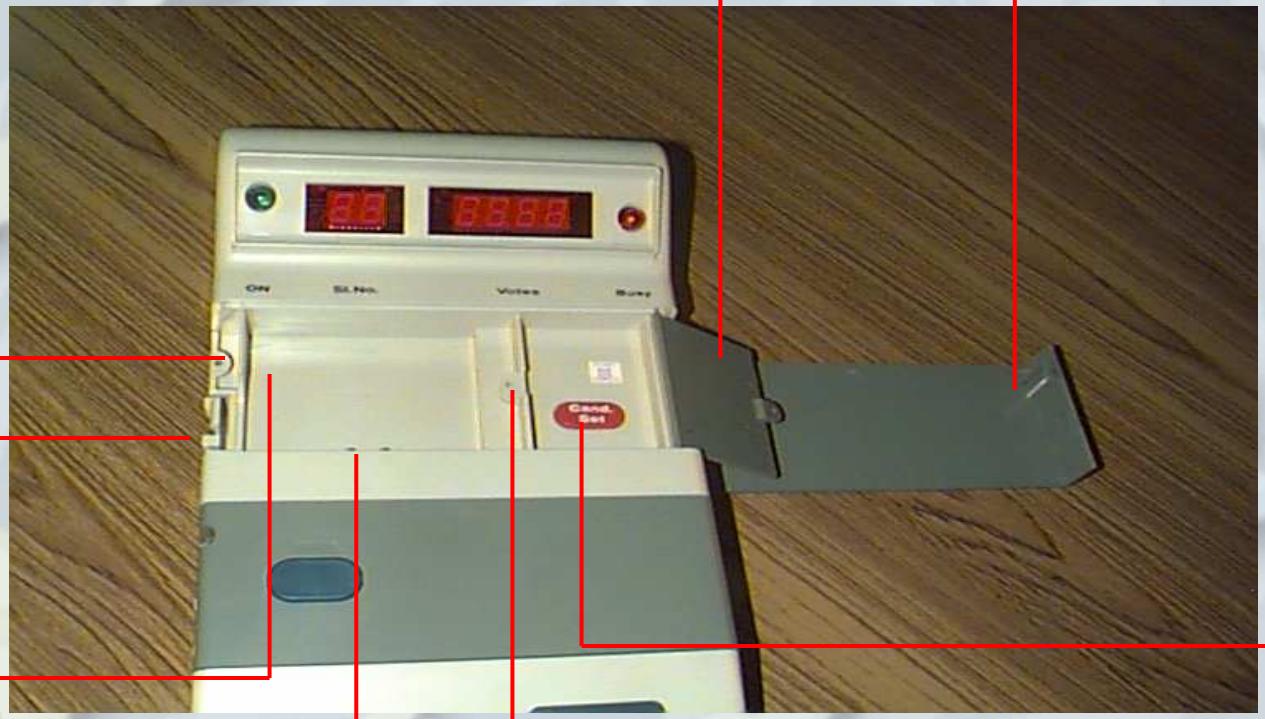
Total Button

CONTROL UNIT - BOTTOM COMPARTMENT

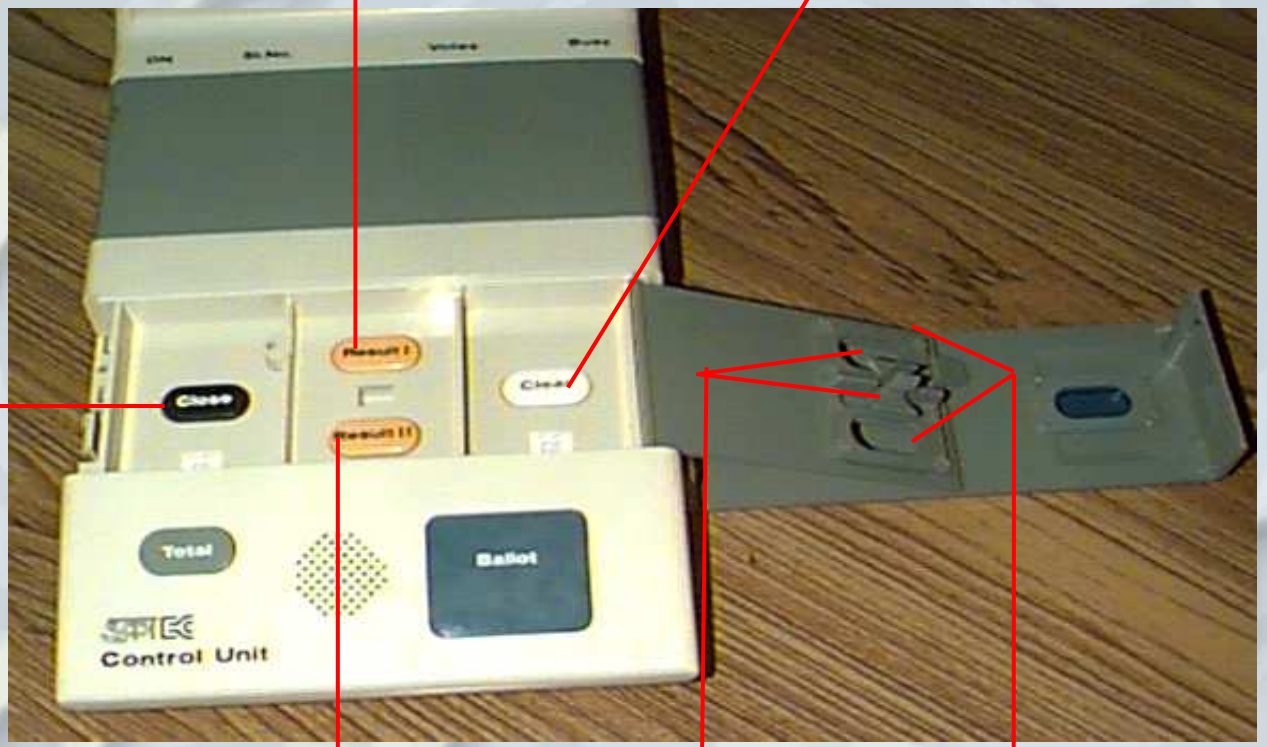


CONTROL UNIT - DISPLAY SECTION

CONTROL UNIT - CANDIDATE SET SECTION



CONTROL UNIT - RESULT SECTION



Control Unit - Ballot Section

Total button

Ballot button

THANK YOU