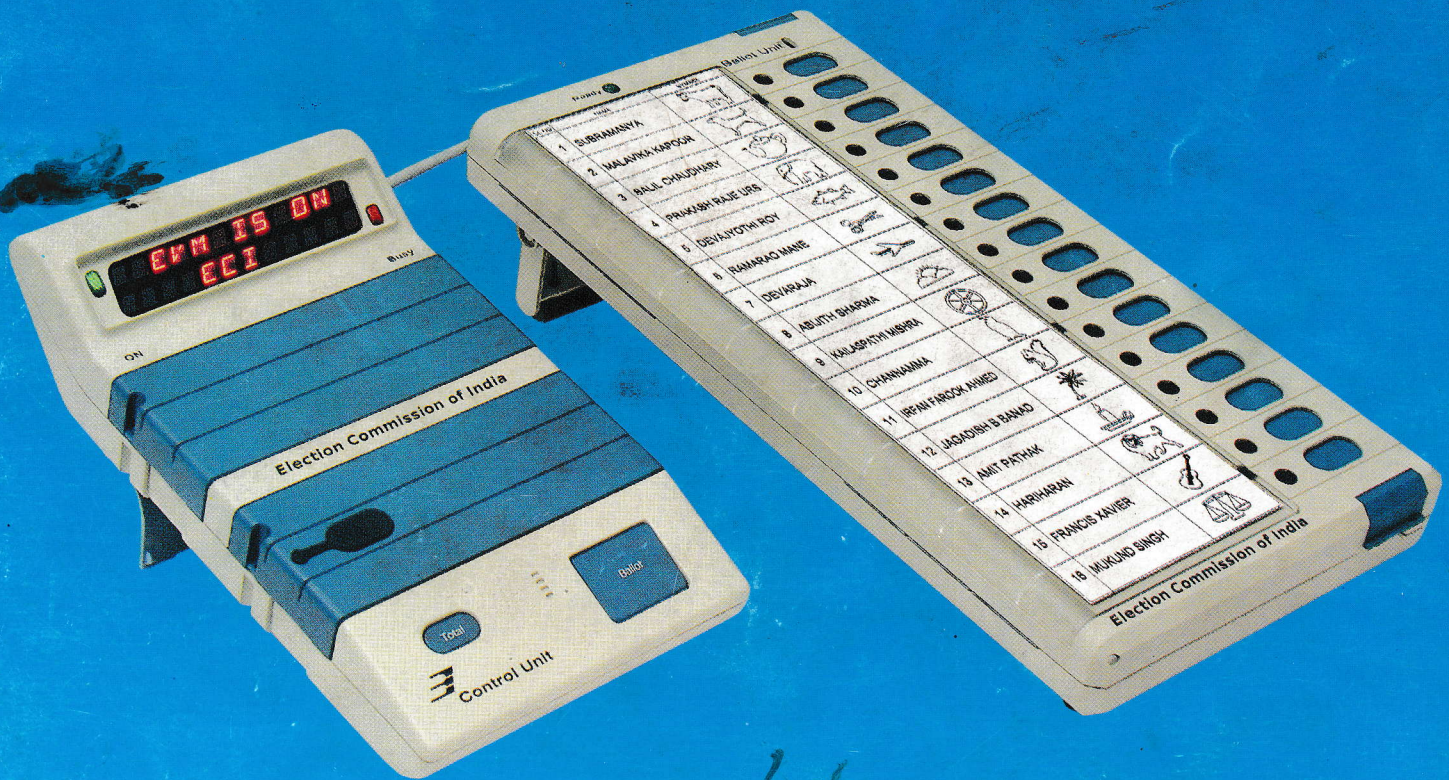




# Electronic Voting Machine Mk IV Instruction Manual



**ELECTION COMMISSION OF INDIA**



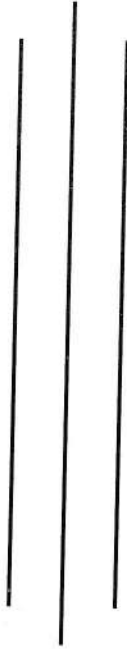




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**ELECTRONIC VOTING MACHINE Mk IV**  
**INSTRUCTION MANUAL**



PREPARED AND PUBLISHED BY  
**BHARAT ELECTRONICS LTD.**  
Jalahalli P.O., Bangalore-560 013.

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## ABBREVIATIONS

BEL	:	Bharat Electronics Ltd.
BU	:	Ballot Unit
CU	:	Control Unit
DI	:	Data Interface
ECI	:	Election Commission of India
ECIL	:	Electronics Corporation of India Ltd.
EVM	:	Electronic Voting Machine
PDT	:	Polling Date
PDY	:	Poll Day
PET	:	Poll End Time
PST	:	Poll Start Time
RTC	:	Real Time Clock



## CHAPTER - 1

### INTRODUCTION

#### PRELIMINARY

1. The Electronic Voting Machine (EVM) is a reliable system for conduct of elections in which one candidate has to be elected out of many candidates. The EVM is designed for single post and single vote.

#### Electronic Voting Machine - Basic Concept

Electronic Voting Machine (EVM) is a portable instrument for conducting elections to Parliament, Legislature, Local Bodies like Panchayats and Municipalities.

The Electronic Voting Machine is a microcontroller-based instrument designed to modernize the Election process. It is simple to operate and can be installed in a short period. There is no scope for invalid votes and total secrecy of voting data is maintained. The EVM facilitates quick and accurate counting. It is possible to declare the results on the same day, at the end of the poll. The voting data stored in EVMs can be retained for years and can be extracted if necessary.

#### Need for Electronic Voting Machines

The Electronic Voting Machine simplifies the Election process for the benefit of both Election Officials and voters. The huge expenditure involved in printing millions of ballot papers, storing and transporting them to booths etc. is obviated by the use of EVMs. In the EVM, one ballot paper per unit is used. This is fixed below the transparent acrylic sheet of the Ballot Unit and lists the names of the candidates and their symbols as in the traditional ballot paper. EVMs can be reused in subsequent elections by simply pressing a button to erase the votes recorded in the earlier poll and changing the ballot paper in the Ballot Unit.

The voter has to only press a button against the candidate of his / her choice to cast a vote. An audio-visual signal confirms to the voter that the vote has been recorded.

2. EVM consists mainly of two units :

- (a) Control Unit (CU)
- (b) Ballot Unit (BU) with cable for connecting it with the Control Unit.

A Ballot Unit caters upto 16 candidates. Four Ballot Units linked together catering in all to 64 candidates can be used with one Control Unit.

#### Special Features of the Electronic Voting Machine (EVM)

- **Unique Serial Number :** Each Control Unit (CU) has a unique Serial Number, which matches with the metal strip number and Bar Code on the rear side of the CU.

- **Real Time Clock (RTC) :** The real time clock is used to display the current time and date. The current date and time is displayed with 'power on' and on pressing the 'Total' button. Any malfunction of the RTC shall be displayed by 'CLOCK ERROR' and all other functions will be working.
  - **Status of Battery Power :** Battery Power status is displayed. If change of battery is required, it also displays 'CHANGE BATTERY'.
  - **Power save mode :** The unit goes into power save mode in idle state, thus enhancing the life of the power pack.
  - **Print :** The result of poll data can be printed, if required.
  - **Braille :** Moulding of Braille on the Ballot Unit for visually challenged persons.
3. EVM operates on a special power pack (commonly known as Battery). It is tamper-proof, error-free and easy to operate. It is easily portable. The polling information once recorded is retained in its memory even when the power pack is removed.
  4. The machine, which is according to the design approved by the Election Commission of India (ECI), is manufactured by Bharat Electronics Limited (BEL) and Electronics Corporation of India Limited. It is the end product of considerable experience and extensive trials in Indian Elections under the guidance of the Election Commission of India.
  5. This chapter aims at introducing the machine and familiarising the electoral officials with its functioning.

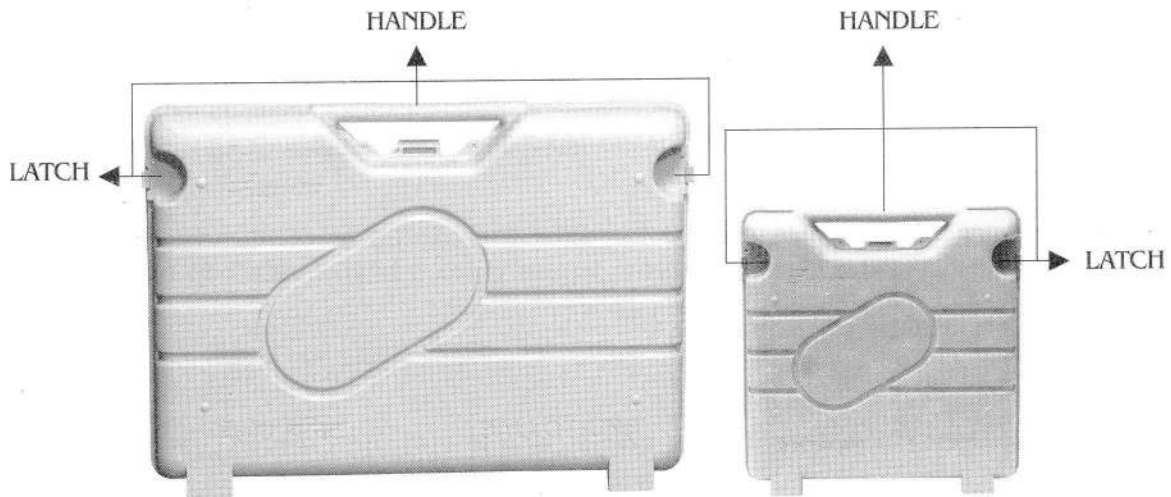


FIG. 1 BU, CU carrying cases (Closed condition)



### OPENING OF CARRYING CASES

6. The Ballot Units and Control Units are supplied in separate carrying cases. A carrying case can be opened by pressing the latches simultaneously, on both sides of the handle, as shown in Open condition of CU and BU carrying cases (Fig. 1(A)).
7. Remove the units from the carrying cases carefully by using both hands.

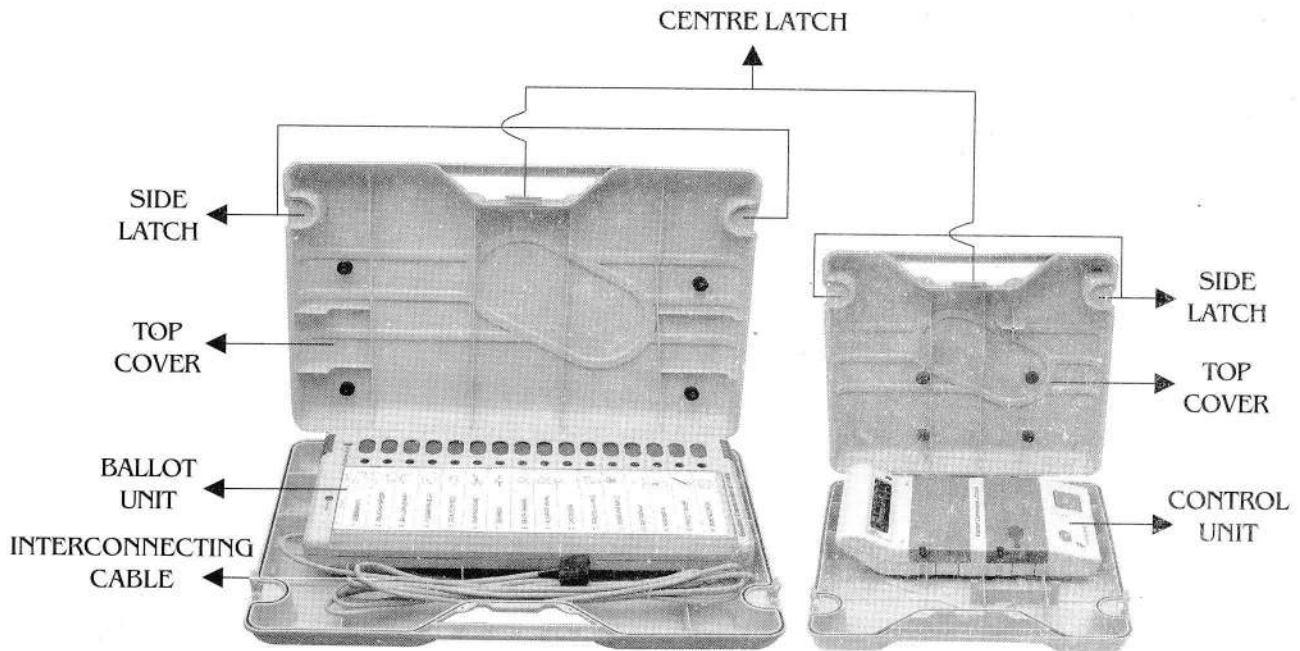


FIG. 1(A) BU, CU carrying cases (Open condition)

### INSPECTION

8. After opening the carrying cases, verify that the cases contain the items shown in Fig. 2 (i.e., Ballot Unit along with the interconnecting cable and Control Unit).

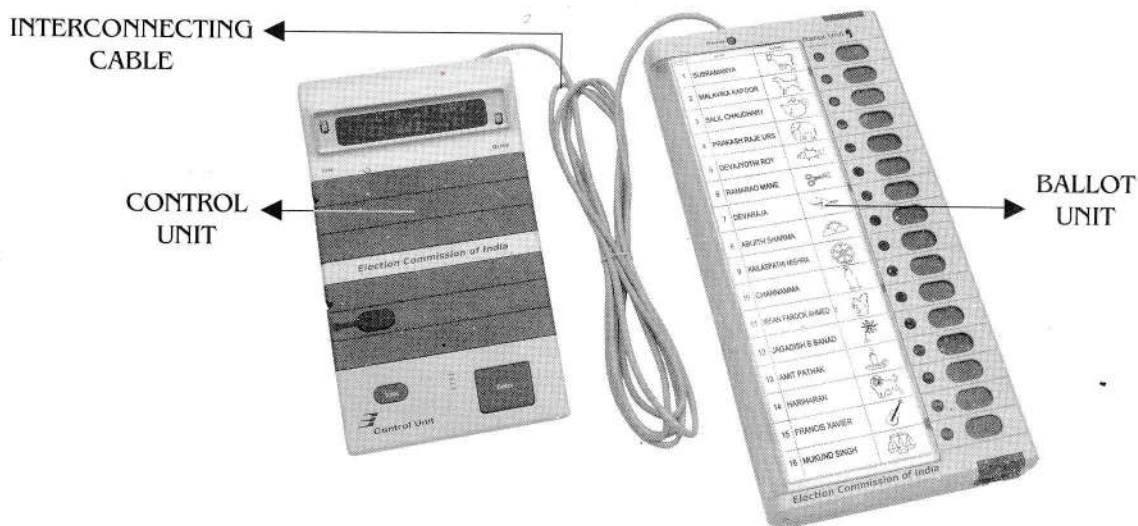


FIG. 2 Items of EVM

Power pack for EVM will be supplied separately (Refer Fig. 2(A)).

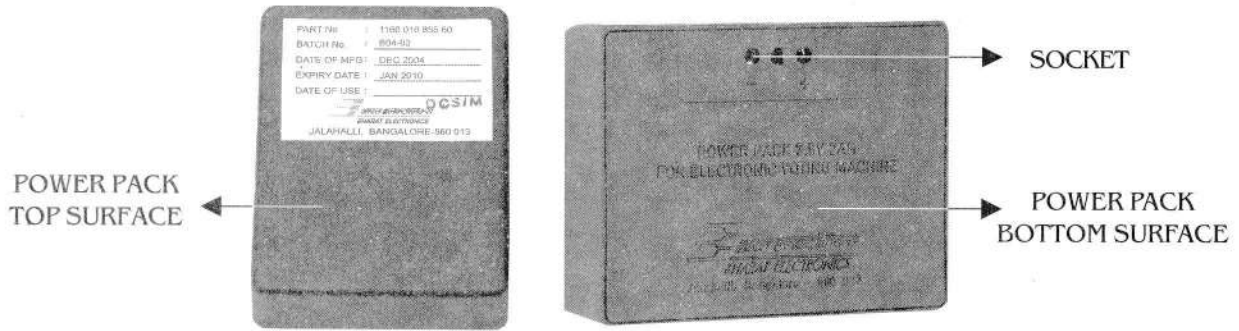


FIG. 2(A) Power Pack of EVM (To be installed in Control Unit)

### BALLOT UNIT

9. The Ballot Unit is that unit of the machine, which the voter operates to exercise his / her franchise.
10. It consists of a rectangular box. The box, which is as shown in Fig. 3, has :
  - (a) Interconnecting cable
  - (b) Ready lamp
  - (c) Slide switch window
  - (d) Sixteen candidates' button
  - (e) Sixteen candidates' lamps
  - (f) Provision for insertion of ballot paper containing the Sl. Nos., Names and Election Symbols of contesting candidates under a transparent acrylic screen (ballot paper screen).

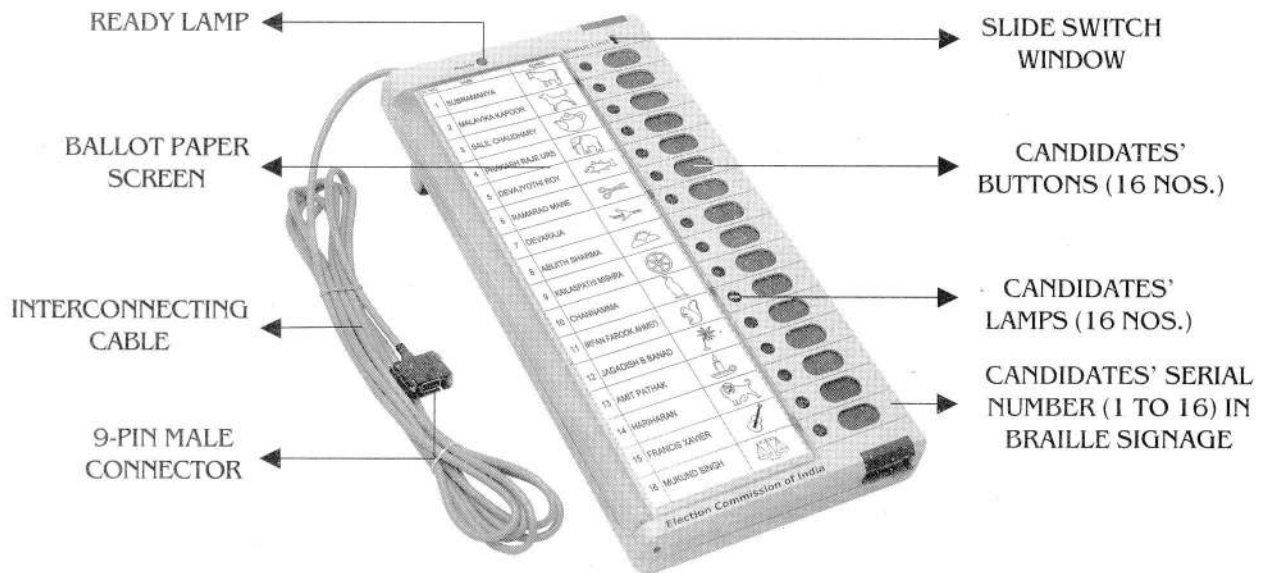


FIG. 3 Ballot Unit



11. The interconnecting cable is a protected round cable, one end of which is permanently attached to the Ballot Unit. To its other end is attached the connector with a hood (Fig. 4) for connecting it to the Control Unit. One side of BU cable spring clip is in **RED** colour. Also one side of the female socket in rear side compartment of CU is in **RED** colour for easy identification at the time of insertion.

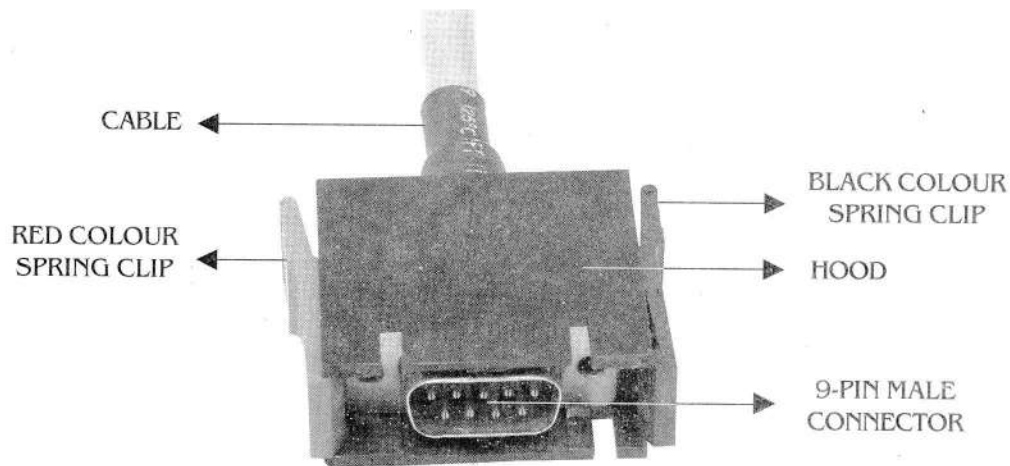


FIG. 4 Interconnecting cable with connector

12. The '**Ready Lamp**' is on the top left side of the Ballot Unit. This lamp glows **GREEN**, when the 'Ballot' button on the Control Unit is pressed by the Presiding Officer to enable the voter to cast his / her vote. It goes **OFF** when the voter has cast his / her vote.
13. The Slide Switch Window is on the top right side. The Slide Switch inside the Ballot Unit can be operated to reveal through the window, the numbers '1', '2', '3' and '4'. When only one Ballot Unit is to be used, the switch is operated to show the number '1' through the window. If a second Ballot Unit is used, the switch in that unit is operated to display the number '2' through the window and so on. The Slide Switch is arrested in its position when top cover of BU is closed.
14. The voter records his / her vote by pressing the Candidate's button against the name and symbol of the candidate of his / her choice. When the button is pressed, the Lamp (**Candidate's Lamp**) on the left side of that button glows **RED** and the voter's choice is recorded.
15. The Ballot Unit has a provision for inserting on its top face the ballot paper in which the Sl. Nos., Names and Symbols of the contesting candidates are printed. A transparent acrylic screen (ballot paper screen) protects the ballot paper.
16. The top cover of the Ballot Unit is opened by pressing simultaneously, towards the right, the latches at the top and bottom of the right edge of the unit. The inside of the unit is as in Fig. 5. Sixteen candidate's buttons are visible, each having an associated masking tab. The buttons, which are required to be used, should not be covered or masked. The buttons not required to be used should be covered or masked with their associated masking tabs.

- (a) The stand of the Ballot Unit can be held in the open condition by moving the stand away from the base of the Ballot Unit.
- (b) A 9-pin socket is provided at the bottom side of the Ballot Unit (Fig. 5(A)) for cascading the Ballot Units (in case of more than 16 contesting candidates).

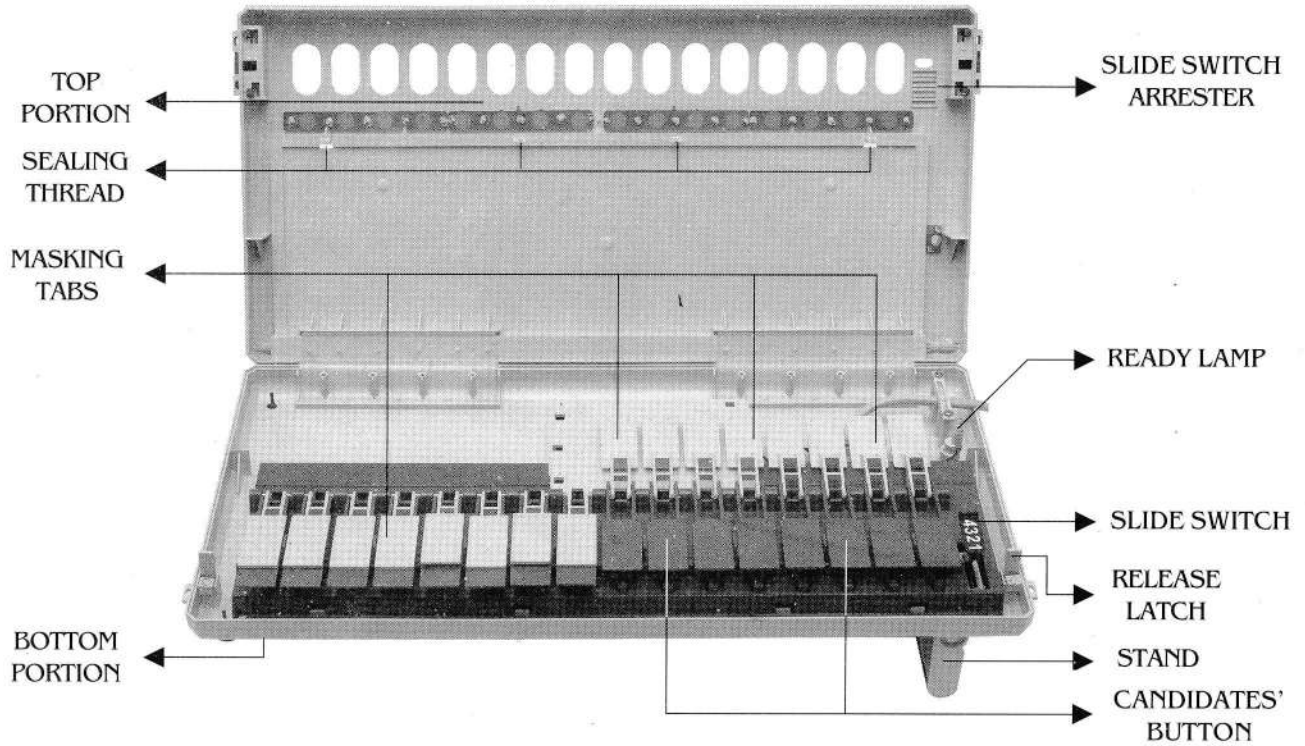


FIG. 5 Inside view of Ballot Unit

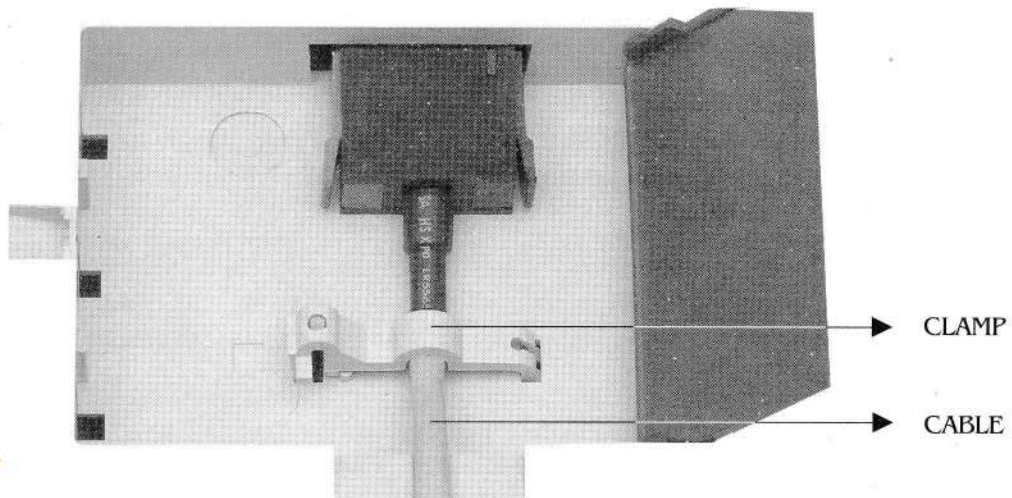


FIG. 5(A) View of cable cascading to Ballot Unit



### CONTROL UNIT

17. The Control Unit controls the polling process. It is operated by the Presiding Officer or the First Polling Officer.

18. Top portion of the Control Unit consists of 4 sections (Fig. 6 and Fig. 7) :

- (a) Display Section,
- (b) Candidate Set Section,
- (c) Result Section and
- (d) Ballot Section

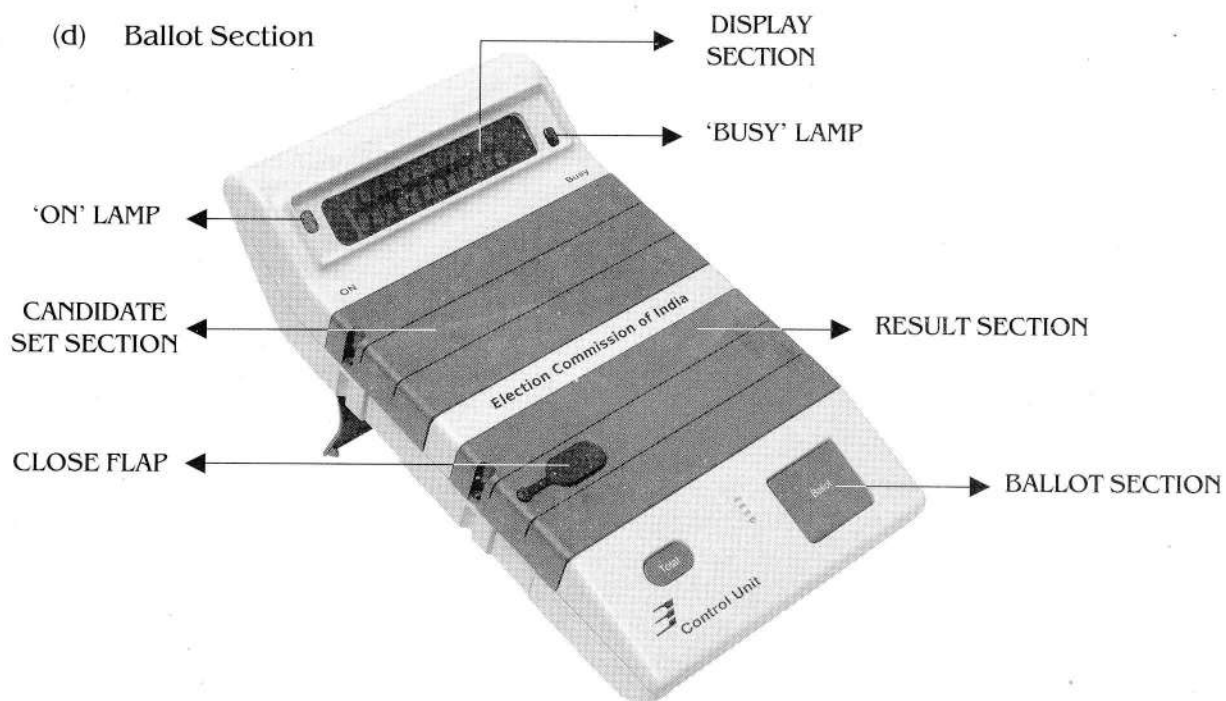


FIG. 6 Front view of Control Unit

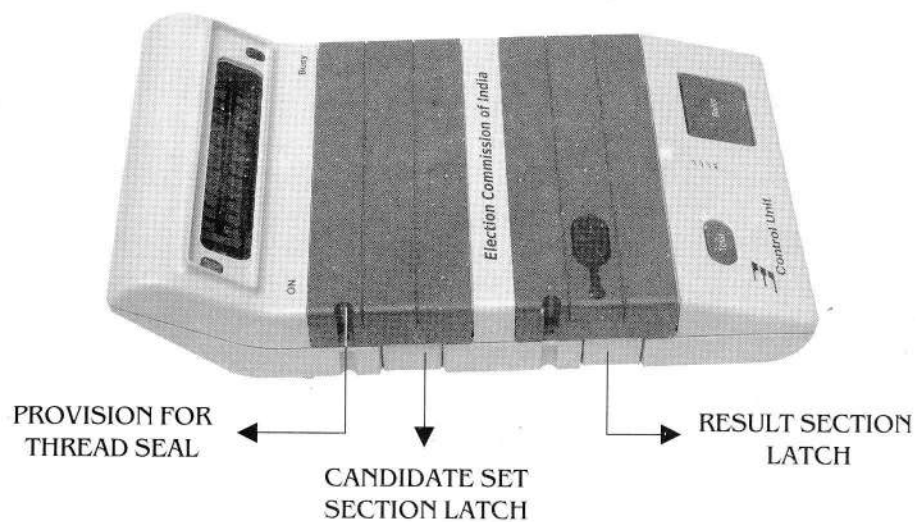


FIG. 7 Side view of Control Unit

19. The Display section consists of two lamps, 'ON' and 'BUSY', and a display panel, which consists of twenty four red coloured seventeen segment alpha-numeric characters in two equal rows (Fig. 13). The functions of the lamps and the display panel are explained in Paras 25, 26 and 27 of this Chapter.
20. The Candidate Set section (Fig. 8) houses a power pack compartment and a 'Cand. Set' button compartment. This section has a cover which opens from left to right. On opening its cover by pressing the latch on the left-hand side, two compartments are seen. The power pack compartment is on the left side of the Candidate Set section and is for fixing the power pack. The 'Cand. Set' button compartment on the right side is covered with a flap which opens from left to right and can be sealed by thread seal (Fig. 8(A)). In this compartment, a black 'Cand. Set' button is located. The Candidate Set section (the outer door) can be closed and sealed by thread seal.

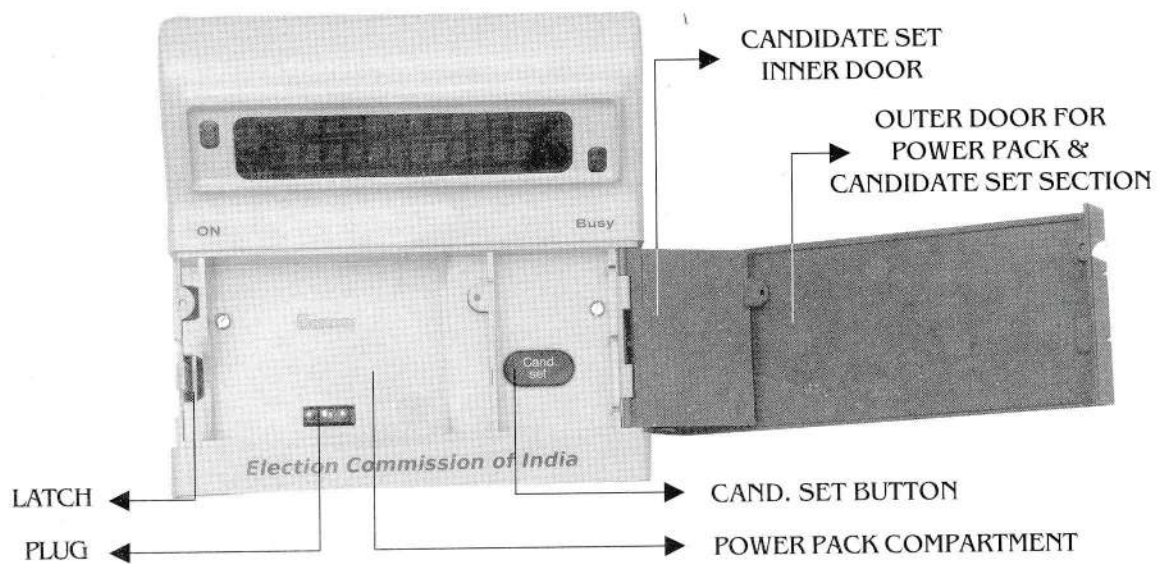


FIG. 8 View of Candidate Set Section

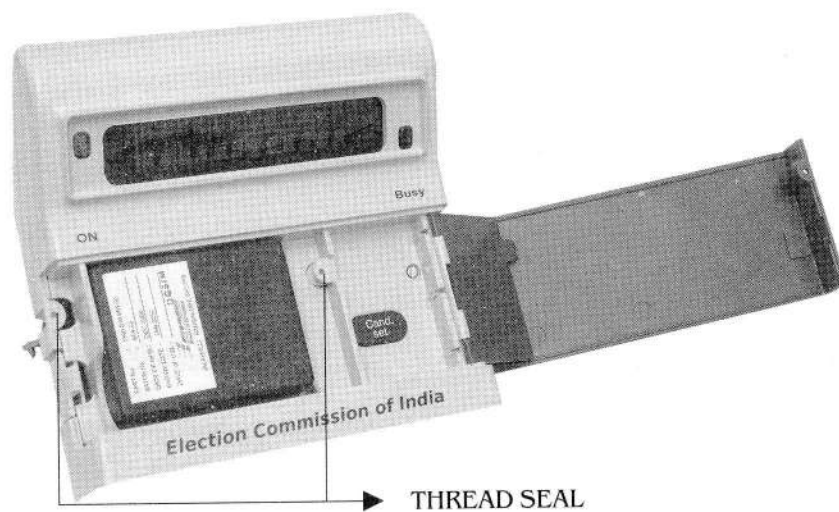


FIG. 8(A) View of Candidate Set Section with power pack and thread seal provision



21. Top cover of the result section has an elliptical aperture covered by a flap on the left hand side under which the 'Close' button is located. The left portion of the result section houses a black 'Close' button and the right portion has an inner compartment with its own door (Fig. 9).

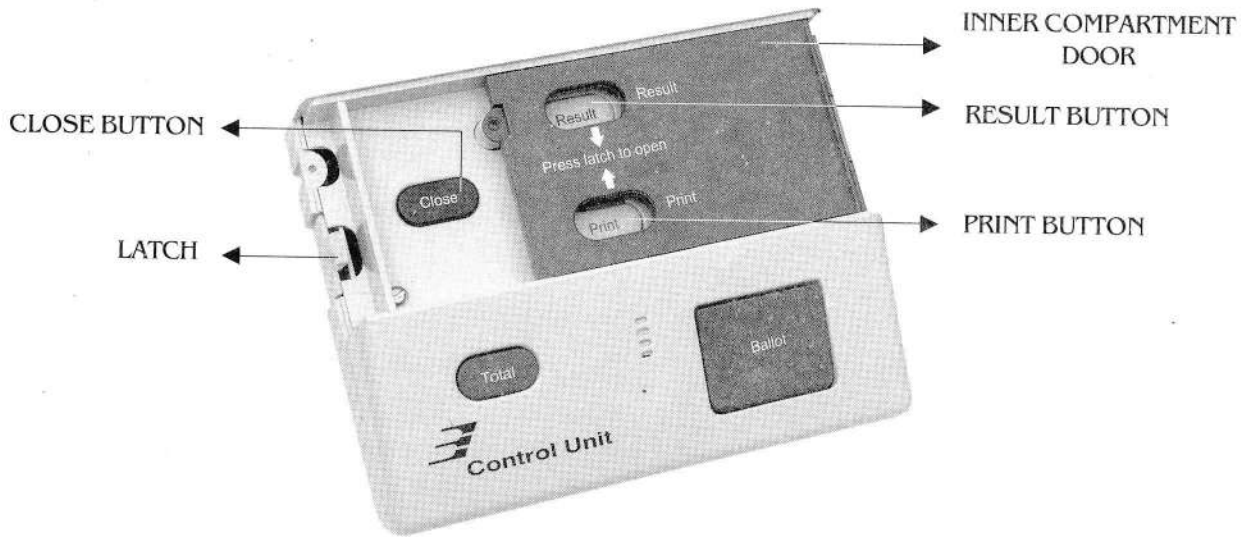


FIG. 9 View of outer compartment of Result Section

22. The door of the inner compartment has two elliptical apertures through which buttons marked 'Result' and 'Print' are seen. The inner door can be opened by inserting the thumb and a finger through the two apertures above the 'Result' and 'Print' buttons and then pressing the inner latches simultaneously, slightly inwards. **In no case, this inner door should be forced open without releasing the latches in the manner described above, to avoid any damage to this most vital compartment.** On opening the door of the inner compartment by inserting forefinger and thumb through the holes which are marked 'Result' and 'Print' and pressing the latches and pulling the cover up, there will be seen on its inner side a frame around the two apertures for fixing green paper seal. This will also reveal three sub-sections with **two yellow buttons marked 'Result' and 'Print' and a white 'Clear' button.** The description of this para refers to Fig. 10.

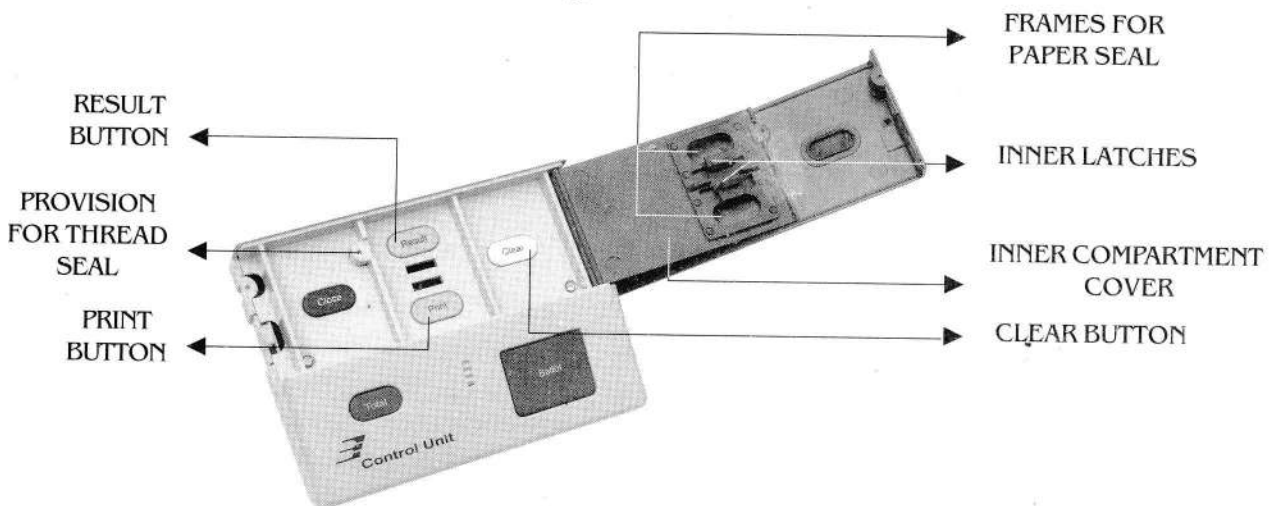


FIG. 10 View of inner compartment of Result Section

23. In the ballot section, there are two buttons - a blue 'Total' button, a large blue 'Ballot' button and a buzzer as indicated in Fig. 11.

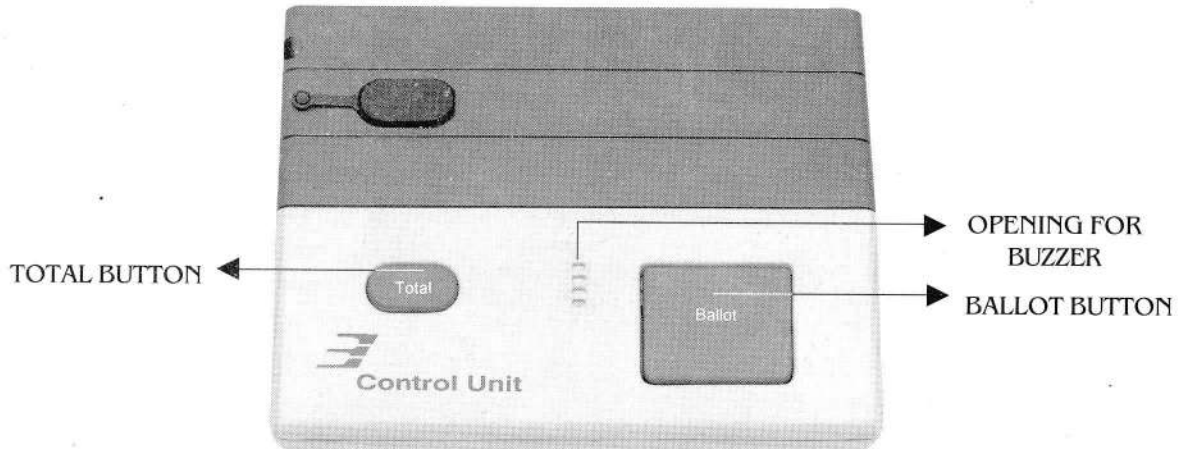


FIG. 11 View of Ballot Section of Control Unit

24. The rear side portion of the Control Unit has also a compartment with a cover. This cover is hinged in the rear side and opens swinging downwards, when the latch in the middle is pressed downwards. The cover, when opened, will reveal a plug on the left hand side for plugging the interconnecting cable from the Ballot Unit and a power switch in the middle, for switching the EVM 'ON' or 'OFF' and a 9-pin male connector on the right hand side for Data Interface connection (Fig. 12).

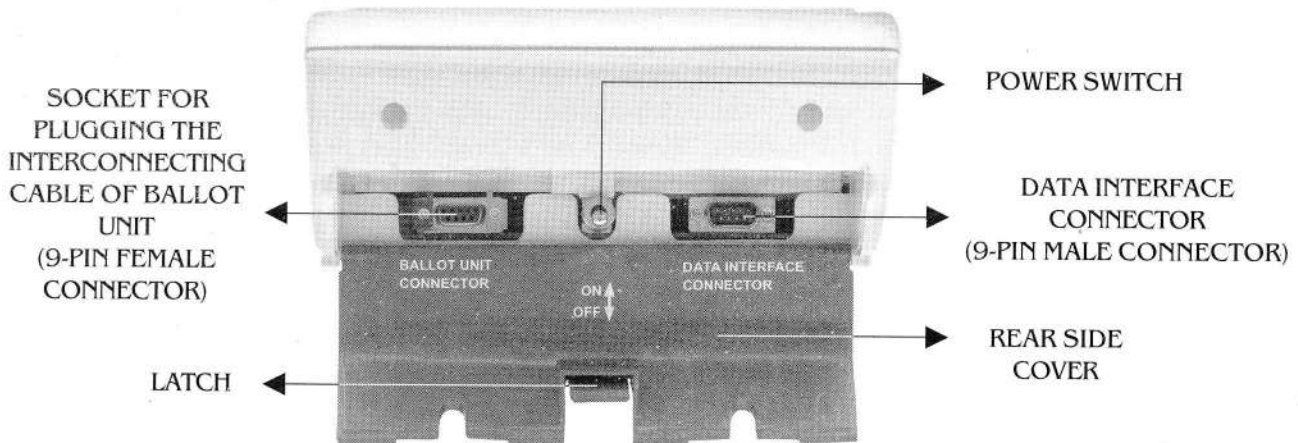


FIG. 12 View of rear compartment of Control Unit

#### 'ON' Lamp

25. The 'ON' lamp is located at the top left corner of the display section. When the power switch is pushed upwards to the 'ON' position, the lamp glows **GREEN** to indicate that the EVM is ready for use (Fig. 13). If no button is operated for 10 minutes, the CU goes to power save mode indicated by flickering of green 'ON' lamp. The system comes out of this mode with the activation of any button on the CU. The unit does not go into power save mode in case of Real Time Clock (RTC) failure.



### 'BUSY' Lamp

26. The red '**Busy**' Lamp is located at the right corner of the Display section. It glows **RED**, when the 'Ballot' button is pressed by the polling official to enable the voter to cast his / her vote. It goes off when the voter has recorded his / her vote (Fig. 13).

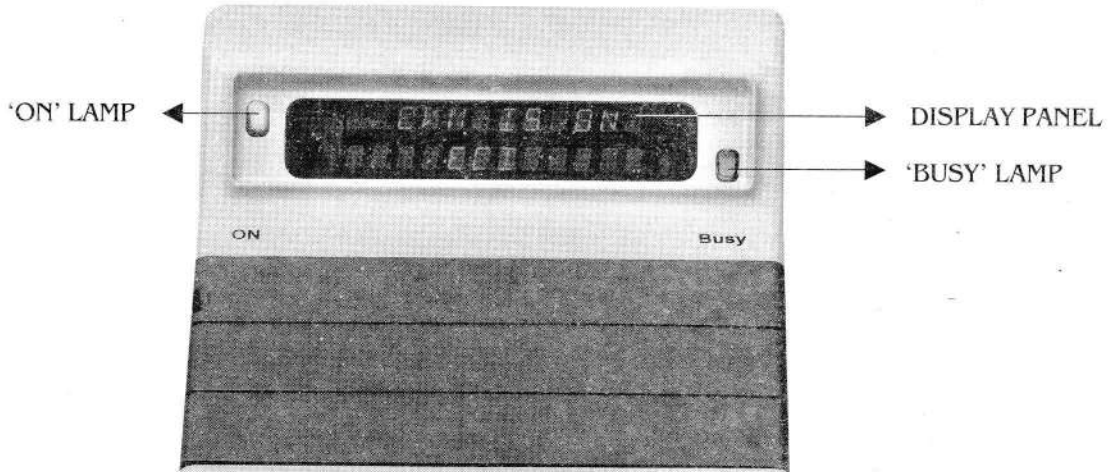


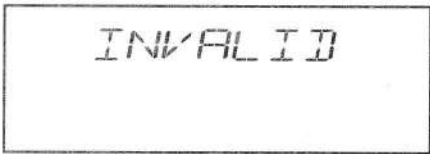
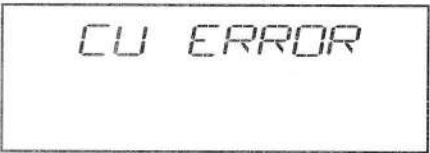
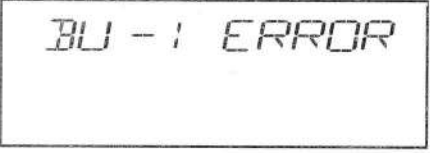
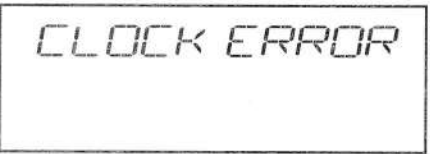
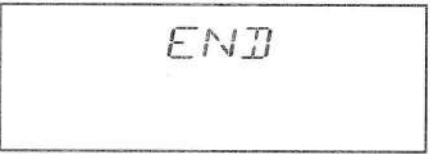
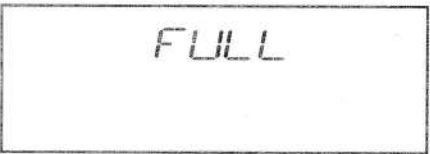
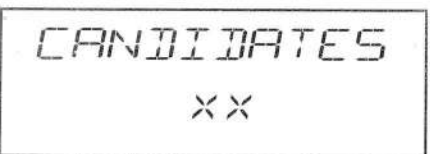
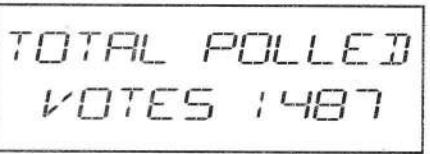
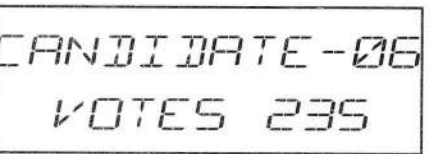
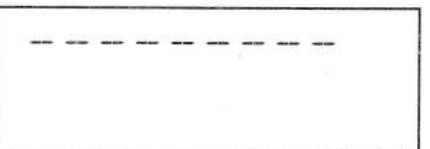
FIG. 13 View of Display Section

### DISPLAY PANEL

27. Display panel displays the data on two rows each having 12 characters.

Various types of display which appear on this display panel and what these mean are indicated below :

- |     |                   |   |
|-----|-------------------|---|
| (a) | LINK ERROR-1      | Indicates 'Link Error' of first BU, i.e., inter-connecting cable is missing, snapped or when only one Ballot Unit is used, 'Slide Switch' in that unit has not been set to position '1' or when more than one Ballot Units are used, those units have not been linked in the proper order as explained in Para 8 of Chapter-3 |
| (b) | PRESSE<br>ERROR-1 | Indicates any of the candidates' buttons in the first Ballot Unit is kept pressed or jammed   |
| (c) | ERROR             | Indicates the Control Unit is not fit for use   |

- |     |   |   |
|-----|---|---|
| (d) |    | Indicates a button on the Control Unit has been pressed out of sequence   |
| (e) |    | Indicates the Control Unit is to be changed   |
| (f) |    | Indicates the Ballot Unit-1 is to be changed  |
| (g) |    | Indicates the malfunction of Real Time Clock (RTC)  |
| (h) |   | Indicates the end of display sequence after pressing of 'Clear' or 'Result' button  |
| (i) |  | Indicates that the maximum number of votes (2000) for which the machine is designed, have been polled. The machine is designed to store 2000 votes in its memory. |
| (j) |  | Indicates that the machine is set for XX candidates. XX can vary from 02 to 64.   |
| (k) |  | Indicates that total number of votes polled is 1487   |
| (l) |  | Indicates that the Candidate No. 6 has polled 235 votes   |
| (m) |  | Indicates that the Power pack is weak   |



- (n) 

CHANGE BATTERY
-------------------

 Indication for change of power pack as battery status reached for replacement
  
- (o) 

BATTERY HIGH
-----------------

 Indicates that the capacity of the battery is High
  
- (p) 

BATTERY MEDIUM
-------------------

 Indicates that the capacity of the battery is Medium
  
- (q) 

BATTERY LOW
----------------

 Indicates that the capacity of the battery is Low
  
- (r) 

DTE 16-01-07 TME 09-43-34
------------------------------

 Indicates the Date and Time
  
- (s) 

SL NO-H00003
--------------

 Indicates the internal serial number of the Control Unit
  
- (t) 

COMPUTING RESULT
---------------------

 Indicates that the RESULT is getting computed
  
- (u) 

PET 15-32-10 PST 09-50-20
------------------------------

 Indicates the Poll Starting Time and Poll End Time
  
- (v) 

RESULT PDT 16-01-07
------------------------

 Indicates the Result and Date of the Poll
  
- (w) 

PRINTING
----------

 Indicates the printing is under progress

- NOTE :**
1. *Real Time Clock (RTC) is set for IST (Indian Standard Time) at the factory before dispatch.*
  2. *During the preparation of the machine for the Election, the Control Unit Date / Time has to be checked. The time should be within the tolerance range of  $\pm 5$  minutes of the local time.*
  3. *The EVM will maintain time with an accuracy of  $\pm 1$  minute / month. However, if drastic change in the time is observed which is more than the expected deviation based on the above accuracy specification, then the machine has to be sent to M/s BEL, Bangalore for calibration.*
  4. *If the Time and Date are within the specified limits, the Date and Time can be reset to the Local Time with the help of the **Time Initializer Unit** provided to the Commission (Procedure is given at **Appendix H**).*
  5. *The **RTC** (Real Time Clock) runs on a Lithium - Ion (that is not rechargeable) coin cell battery placed inside the Control unit (on the Control Unit).*
  6. *Lithium Battery has to be changed once in 5 years.*

#### **BEEP TONES**

- 28.** Whenever the Control Unit displays any information a buzzer in the Unit gives a 'beep' sound. As explained below, the duration of the 'beep' sound varies according to the nature of information displayed :
- (a) A 'beep' of not less than 5 seconds after a voter casts his / her vote.
  - (b) A 'beep' of 2 seconds, after any change in the information as indicated in the display panel, for example, when displaying total, candidate set, individual results, etc.
  - (c) Short interrupted 'beeps' to draw attention to any malfunctioning, disconnection and errors, etc.
  - (d) A beep of 4 seconds when a button is pressed out of sequence.
  - (e) A beep of 14 seconds when the voting data is being cleared.



## CHAPTER - 2

### FUNCTION OF BUTTONS/SWITCHES

#### BALLOT UNIT

##### Candidates' Button (Fig. 3)

1. Against each candidate's name and symbol, there is a **blue button**, the access to which is through an opening in the Ballot Unit. A voter has to press the button against the candidate of his / her choice to record his / her vote for that candidate. When the voter presses the candidate button to record his / her vote, the green '**Ready**' lamp in the Ballot Unit goes **OFF**, and the corresponding **arrow lamp** situated in line with the name and symbol of the candidate glows **RED**. This is a visual indication to the voter that his / her vote has been recorded for the candidate of his / her choice. At the same time, 'beep' sound emanates from the Control Unit informing all present in the polling station that the vote has been recorded. The candidate lamp is **ON** and a 'beep' sound is heard for 5 seconds. After the completion of the voting process '**Busy**' lamp on the CU goes **OFF**.

##### Slide Switch (Figs. 3 and 5)

2. The slide switch has markings 1, 2, 3 and 4. The switch should be kept in position '1', '2', '3', or '4', as explained in Para 8 of Chapter-3. The position of the switch can be seen through the window at the right top side of the Ballot Unit.

#### CONTROL UNIT

##### Power Switch (Fig. 12)

3. To switch on the EVM, the '**Power**' switch is to be pushed upwards to the position marked '**ON**'.

##### Cand. Set Button (Fig. 8)

4. The '**Cand. Set**' button is used for setting the EVM for the number of candidates contesting the election. For details, refer Paras 12 (c) and (d) of Chapter-3.

##### Clear Button (Fig. 10)

5. The '**Clear**' button is required to be pressed before the start of a poll for clearing the machine and showing that no votes are already recorded in favour of any candidate. For details, refer Paras 7 and 9 of Chapter-4.

##### Ballot Button (Fig. 11)

6. '**Ballot**' button has to be pressed for enabling a voter to record his / her vote. When this button is pressed, the '**Busy**' lamp in the Control Unit and the

'Ready' lamp in the Ballot Unit will start glowing upto the time the voter presses the Candidate button on the Ballot Unit. The button will again become operational for the next voter only when the earlier voter has recorded his / her vote.

#### **Total Button (Fig. 11)**

7. The 'Total' button, when pressed, will show the Battery status, Current Date and Time, the number of candidates and the total number of votes recorded till then (this button may be pressed at any time after a voter has recorded his / her vote or before the 'Ballot' button is pressed to enable him / her to record his / her vote, but not when the 'Busy' lamp is ON).

#### **Close Button (Fig. 9)**

8. Once the 'Close' button is pressed, no further voting is possible. This button is to be pressed at the close of the poll. When this button is pressed, machine displays 'Closing', Current Date and Time, Serial number of the Control Unit, the number of candidates and total votes polled. Finally, display terminates with 'POLL CLOSED' message.

#### **Result Button (Fig. 10)**

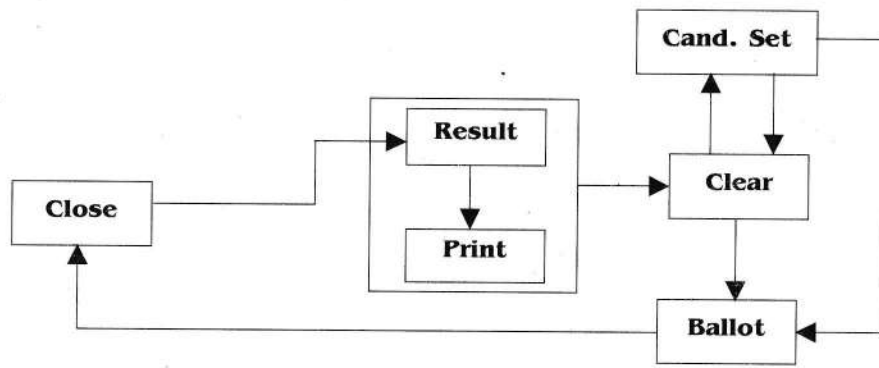
9. When the 'Result' button is pressed, the result of the poll for which it is used shall be displayed in the following sequence :
  - Computing result
  - Poll result with date
  - Poll Start Time (PST) and Poll End Time (PET)
  - Serial number of the Control Unit
  - No. of candidates
  - Total number of votes polled
  - Votes polled for each candidate sequentially.

After the above display, the display panel will show the word 'END'. The result can be seen any number of times by pressing this button. If the result is seen for the second time, the display sequence will start with 'Poll result with date' and terminate with 'END'.

#### **Print Button (Fig. 10)**

- 9a. This button is used for printing the result data. A special gadget is to be attached at Data Interface connector at rear side of CU for printing. When the 'Print' button is pressed, the CU displays 'PRINTING'. **For printing result data, the result has to be seen atleast once.**
10. It is essential to note and fully comprehend the proper sequence in which the various buttons of Control Unit have to be operated. Such proper sequence is shown :





It may be borne in mind that pressing of any button out of proper sequence may not produce the desired effect or result of the Control Unit or the Ballot Unit.

CHAPTER - 3

**COMMISSIONING OF EVM BY RETURNING OFFICER**

**PRELIMINARY**

1. Before supplying the EVMs to the Presiding Officers for use at polling stations, the machines have to be prepared by the Returning Officer for such use. The Returning Officer has to prepare the machine in the presence of the candidates / agents at such place or places and during such hours on such dates prior to the date of poll as he / she may fix, having regard to the number of machines which have to be so prepared, the time required for transporting such machines to the polling stations and other relevant factors. The Returning Officer shall, at least one week before the date of poll or, as the case may be, fix the dates on which the preparation of EVMs is to be taken up by him / her, give notice of the same in writing to each candidate or his / her election agent, intimating him / her the place or places where the machines will be so prepared and the date and time at which such preparation will commence. He / she shall also intimate the candidate / his / her election agent, the number of representatives that every candidate will be permitted to bring with him / her at the aforesaid place or places, depending on the number of machines to be prepared for use.

**BALLOT UNIT**

2. After taking out the Ballot Unit from the carrying case, the top cover of the unit may be opened carefully by pressing simultaneously, towards the right, the latches at the top and bottom on the right edge of the unit (Fig. 14) and swinging the cover up (Fig. 5).
3. The Ballot Unit has to be prepared by the Returning Officer by :
  - (a) Inserting the ballot paper
  - (b) Masking the Candidates' buttons, which are not required to be used.
  - (c) Setting the slide switch at the appropriate position, i.e., 1, 2, 3 or 4, as the case may be, according to the number of such units which are to be used depending upon the number of candidates and the sequence in which they are to be used, and
  - (d) Sealing the unit.

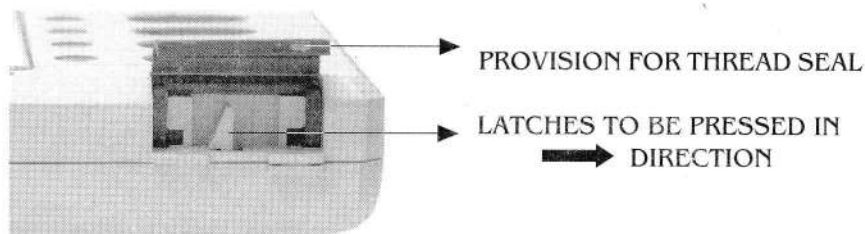


FIG. 14 View of Latches



### OPENING OF BALLOT PAPER SCREEN

4. Open the ballot paper screen, which is a transparent acrylic sheet, hinged to the top cover on the extreme left side. The release latches of the screen are inside of the top cover (Fig. 15). By pressing the latches simultaneously, first slightly towards right and then pushing them downwards, the ballot paper screen will become free for opening on the upper side of the top cover (Fig. 16). While opening the screen, care should be taken to ensure that it is not damaged.

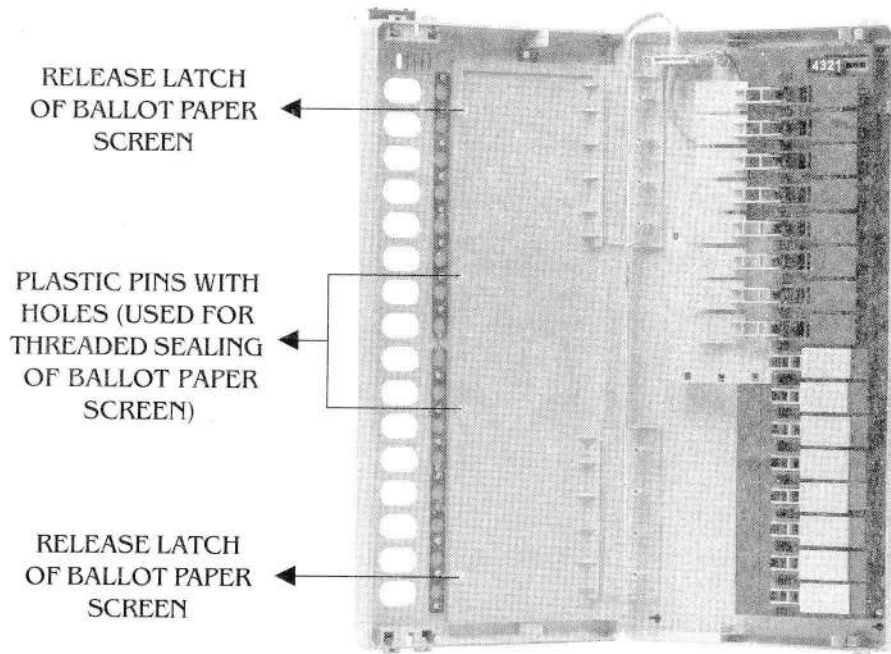


FIG. 15 Inside view of Top Cover

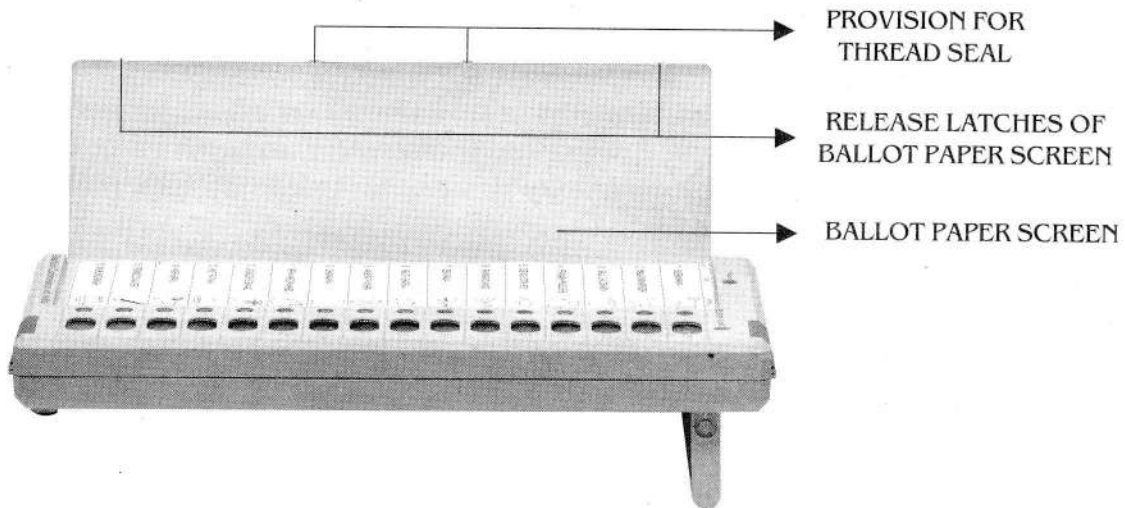


FIG. 16 View of Upper Side of Top Cover

### FIXING OF BALLOT PAPER

5. Place the ballot paper in the space provided for the purpose on the upper side of the top cover. Align the ballot paper properly so that each candidate's name and his / her symbol are in line with the corresponding candidate's lamp and button. After ensuring this alignment, close and press fit the ballot paper screen to secure the ballot paper firmly underneath that screen (Fig. 17).

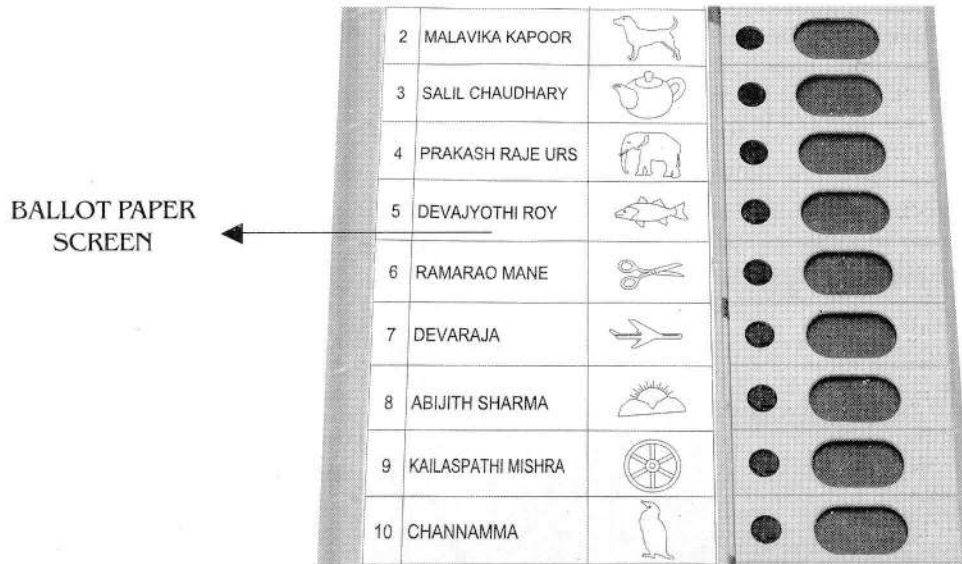


FIG. 17 Properly aligned Ballot Paper

**NOTE :** *Alignment of the ballot paper is an important step. Please do this carefully. There should not be any misalignment, as it will create confusion in the voter's mind.*

6. After the ballot paper has been firmly fixed and the ballot paper screen has been pressed fit on the upper side of the top cover, the screen is to be sealed on the inner side of the top cover. This is to be done by passing the thread through the two holes on the screen specially provided for the purpose (Fig. 15) and by putting the thread seal on the prescribed address tag showing the particulars of the election with the seal of the Returning Officer.

### MASKING OF CANDIDATES' BUTTONS

7. If the number of candidates on the ballot paper is less than 16, the white masking tabs should be moved onto the Candidates' buttons that are not to be used.



**NOTE :** For example, if the number of candidates is nine, the first nine (i.e., 1 to 9) Candidates' buttons are left unmasked and the remaining seven (i.e., 10 to 16) shall be masked as shown in Fig. 18.

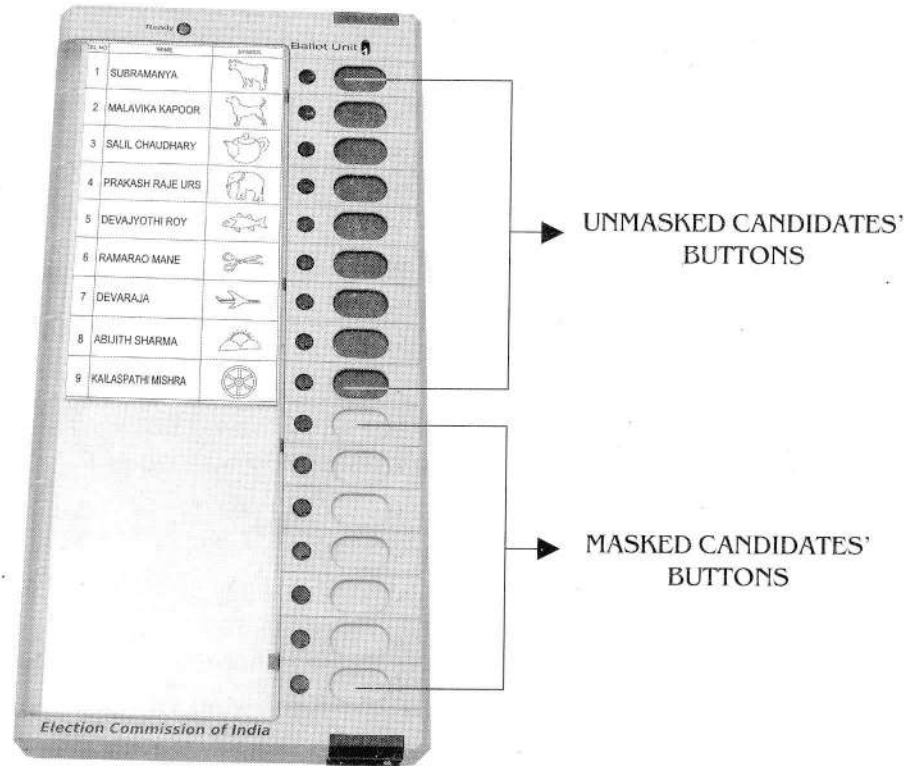


FIG. 18 Ballot Unit set for nine candidates

### SETTING OF SLIDE SWITCH

8. Inside the Ballot Unit on the top right side, there is a slide switch, which has four positions 1, 2, 3 and 4. If only one Ballot Unit is to be used, set this switch to the position marked '1'. If two Ballot Units are to be used, set this switch to the position marked '1' in the Ballot Unit in which the names of the candidates at Sl. Nos. 1 to 16 appear, and in the second Ballot Unit set this switch to the position marked '2'. If three Ballot Units are to be used, the slide switch will be set to the position marked '1' in the first Ballot Unit in which the names of candidates at Sl. Nos. 1 to 16 appear, to the position marked '2' in the second Ballot Unit in which the names of contesting candidates at Sl. Nos. 17 to 32 appear, and to the position marked '3' in the third Ballot Unit in which the names of the contesting candidates at Sl. Nos. 33 to 48 appear. Likewise, if the 4<sup>th</sup> Ballot Unit is also to be used, if the number of contesting candidates exceeds 48, then the slide switch will be set to the position marked '4' in the last Ballot Unit (Fig. 19).

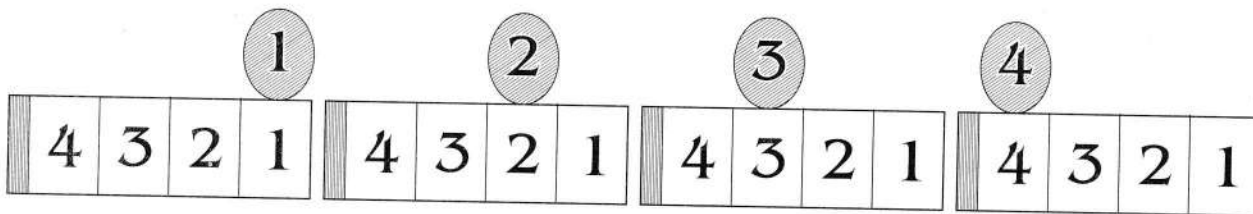


FIG. 19 Slide switch set to position '1', '2', '3' or '4'

### SEALING OF BALLOT UNIT

9. Close the Ballot Unit by bringing the top cover back to its original position. Pass two threads, through the holes at the top and bottom provided for the purpose and seal each thread with the Returning Officer's seal.

**NOTE :** *While sealing take care that direct flame does not come in contact with the Ballot Unit and the molten wax does not fall on any part of the machine.*

### CONTROL UNIT

10. The Control Unit is to be prepared by the Returning Officer by :
  - (a) Installing the power pack,
  - (b) Setting the number of contesting candidates,
  - (c) Sealing the 'Cand. Set' button compartment and
  - (d) Sealing the Candidate Set section.

### POWER PACK INSTALLATION

11. Open the outer door of the Candidate Set section by pressing slightly inward the latch provided on the left side. Install the power pack specially supplied by mating the socket of the power pack to the plug. Ensure that the power pack is pressed tight (Fig. 20) and (Fig 8(A)).

The status of the battery is displayed when the unit is switched 'ON' and also on pressing the 'Total' button. The display sequence shows HIGH / MEDIUM / LOW state of the battery.



## Change Battery

'Change Battery' is displayed when the battery strength is lower than the lower end of low. The battery strength is monitored for each ballot operation. When the voltage goes below the lower end of low, the message '**CHANGE BATTERY**' is displayed after every vote is registered in the machine. It is recommended that the power pack be changed at the earliest.

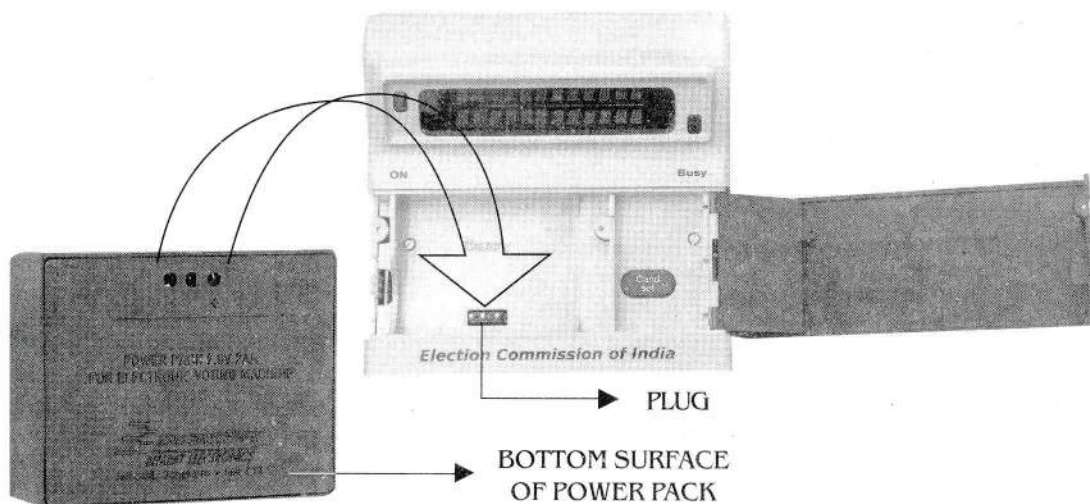


FIG. 20 Installing the power pack

**NOTE :** *It is advisable always to use new battery at the start of polling.*

## SETTING THE NUMBER OF CONTESTING CANDIDATES

12. After connecting the Power pack, open the compartment at the rear of the Control Unit as explained in Para 24 of Chapter-1, and proceed as follows for setting the number of contesting candidates :
  - (a) Connect the Ballot Unit to the Control Unit by plugging the connector of the interconnecting cable (Fig. 4) in the plug in that compartment (Fig. 12). As the connector and the plug are multi-pin connectors, it will need some practice to plug them properly. The connector goes into the socket only one way, which can be found out easily by looking at the orientation of the pins. The red coloured latch of the connector and red coloured side of the plug together come to the same side when plugged properly. As the pins are delicate, do not force the connector in such a way, as it may damage or bend the pins. The EVM will work only when this connection is made properly.
  - (b) After plugging the connector properly, push the power switch upwards to 'ON' position. It will give a 'beep' sound and the 'ON' lamp (Fig. 6) on the Display section of the Control Unit will glow **GREEN**.

EVM IS ON  
ECI

DTE 16-01-07  
TME 09-43-34

SL NO-H00003

CANDIDATES  
10

BATTERY  
HIGH

Indicates date is in DD-MM-YY and time is in HH-MM-SS format

Indicates the serial number of the Control Unit

Indicates the contesting candidates are ten

Indicates the status of the battery is 'HIGH'

- (c) After the 'ON' lamp glows **GREEN**, press the 'Cand. Set' button (Fig. 8) in the Candidate Set section. Thereupon the display panel in the Display section will flash the letters :

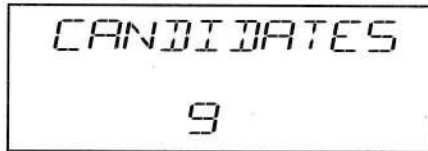
SET  
CANDIDATE --

**NOTE :** If, however, the display panel shows the word 'INVALID', it signifies that the data relating to some previous operation is in the machine. In such situation, the previous data has to be cleared for setting the number of contesting candidates. For this purpose, press the 'Close' button and wait till all the displays (including the display 'POLL CLOSED') appears on the display panels. Thereafter, press the 'Result' button. Wait till display 'End' appears. Thereafter press the 'Clear' button for clearing the machine again wait till the display 'END' appears and then press 'CAND. SET' button. 'SET CANDIDATE --' will now be displayed on the display panel.

- (d) When the letters 'SET CANDIDATE --' start flashing on the display panel on the Control Unit, press the candidate's button against the last contesting candidate in the Ballot Unit. For example, if there are nine contesting candidates, press the 9<sup>th</sup> candidate's button. On that button being pressed, the display panel will



stop flashing the letters 'SET CANDIDATE - -'. Instead, the full panel will start displaying the following information :



This way the machine is set for nine contesting candidates.

**NOTE :** *The number of contesting candidates can be set in any number of Control Units by using only one Ballot Unit. In such Ballot Unit, mask all the Candidates' buttons except the button of the last contesting candidate. In the above example, mask the buttons of candidates 1-8 and 10-16 and leave only the button of candidate number 9 unmasked.*

- (e) Switch OFF the EVM by pushing the power switch downwards to 'OFF' position. Then switch 'ON' the EVM and confirm that the number of contesting candidates is as per the set value. Next, switch 'OFF' the EVM and disconnect the interconnecting cable from the Control Unit. For this purpose, the spring type clips on both sides of the connector hood should be pressed inward simultaneously and then the connector pulled out. Then close the door of the compartment at the rear of the Control Unit.

#### **SEALING THE 'CAND. SET' COMPARTMENT**

13. Close the flap which houses the 'Cand. Set' button and pass a thread through the two holes provided on the left side and seal with the seal of the Returning Officer. While sealing, take care that direct flame does not come in contact with the Control Unit and molten wax does not fall on any part of the Control Unit.

#### **SEALING THE CANDIDATE SET SECTION**

14. Close the inner door of the Candidate Set section. Pass a thread through the holes provided on the left side and seal with the seal of Returning Officer. While sealing, take care that direct flame does not come in contact with the Control Unit and molten wax does not fall on any part of the Control Unit.
15. Put back the Ballot Unit and the Control Unit in their respective carrying cases. They are ready for transportation to the Polling Station.

## CHAPTER - 4

### COMMISSIONING OF EVM BY PRESIDING OFFICER AT POLLING STATION ON THE DATE OF POLL

#### PRELIMINARY

1. Before EVM is put in to actual use at the polling station, further preparations are necessary. These have to be done by the Presiding Officer at the Polling Stations in the presence of the candidates / their election agents or their polling agents. The Presiding Officer shall start the preparations about an hour before the time fixed for the commencement of the poll and polling agents should also, therefore, be present at the polling station at that time. The preparations, which are required to be made, are explained in the following paragraphs.

#### BALLOT UNIT

2. The Ballot Unit is already duly prepared in all respects and no further preparations of this unit is required on the date of poll, except that its interconnecting cable has to be plugged in to the Control Unit. Further, the Presiding Officer has to check that :
  - (a) The ballot paper is properly fixed in the ballot display panel under the ballot paper screen, and
  - (b) The two seals put by the Returning Officer at the top and the bottom portions on the right hand side are intact.

#### CONTROL UNIT

3. The Presiding Officer should check that the seal put by the Returning Officer on the Candidate Set section on the left side is intact.
4. Thereafter, he / she should open the bottom compartment of the unit as explained in Para 24 of Chapter-1 and take the following steps :
  - (a) Connect the Ballot Unit to the Control Unit by plugging the connector of the interconnecting cable in the socket in the said compartment as explained in Para 12 (a) of Chapter-3.
  - (b) Put the power switch to 'ON' position. Now the EVM is 'ON'. It will give a beep sound and 'ON' lamp (Fig. 6) on the Display section of the Control Unit will glow **GREEN** continuously.
  - (c) Close the rear side compartment.
5. After the above mentioned steps, the Presiding Officer should open the cover of the Result section by pressing slightly inwards the latch provided on the left side.



6. Thereafter, the door of the inner compartment of the Result Section should be opened by inserting the thumb and a finger through the two apertures above the 'Result' and 'Print' buttons and then pressing the inner latches simultaneously, slightly inwards (Fig. 10). In no case, this inner door should be forced open without releasing the latches in the manner described above, to avoid any damage to this most vital compartment.
7. After opening the inner compartment, all counts should be set to '0' and for this purpose, press the 'Clear' button. This operation takes about 14 seconds and the buzzer is ON during this clearing process. On pressing this button, the Display Panel will start displaying the following information sequentially :

DELETING  
POLLED VOTES

CANDIDATES  
9

(If the machine is set for 9 candidates)

TOTAL POLLED  
VOTES 0

CANDIDATE-01  
VOTES - 0

CANDIDATE-02  
VOTES - 0

CANDIDATE-03  
VOTES - 0

CANDIDATE-04  
VOTES - 0

CANDIDATE-05  
VOTES - 0

CANDIDATE-06  
VOTES - 0

CANDIDATE-07  
VOTES - 0

CANDIDATE-08  
VOTES - 0

CANDIDATE-09  
VOTES - 0

END

(Every indication is followed by a beep sound)

**NOTE :** *The unit should not be switched 'OFF' during the clear operation. It is advisable to switch 'OFF' the unit after the completion of all the display messages. If on pressing the 'Clear' button, the Display Panel does not display the information as indicated above, it means that some of the earlier operations needed for clearing the machine have not been performed. To clear the machines, ensure that Ballot Unit and Control Unit have been appropriately linked. Press the 'Close' button and thereafter press 'Result' button. Now press the 'Clear' button. The Display Panel will start displaying the information as indicated above.*

8. The display of the above information on the Display Panel is for showing it to the Polling agents present at the polling station that no votes are already recorded in the machine.

#### **MOCK POLL**

9. After demonstrating as above that no votes are already recorded in the machine, a mock poll should be held by recording some votes. For that purpose, perform the following operations :



- (a) Press the '**Ballot**' button on the Ballot section of the Control Unit. On pressing the '**Ballot**' button, '**Busy**' lamp in the Display Section will glow **RED**. Simultaneously, the '**Ready**' lamp on the Ballot Unit will also start glowing **GREEN**.
- (b) Ask any polling agent to press, according to his / her choice, any of the Candidate's button on the Ballot Unit.
- (c) On the Candidate's button being so pressed, the '**Ready**' green lamp will go **OFF** and the Candidate's lamp near the switch will start glowing **RED**. Also, a '**beep**' sound will be heard emitting out from the Control Unit. After a few seconds, the red light in the Candidate's lamp, red light in the '**Busy**' lamp on CU and the '**beep**' sound will go **OFF**. This will be the indication that the vote for the candidate whose button has been pressed, has been recorded in the Control Unit and the machine is now ready to receive next vote.
- (d) Repeat the process explained in the preceding Paras 9 (a), (b) and (c) for recording one or more votes for each of the remaining candidates. Keep a careful account of the votes so recorded in respect of each candidate.
- (e) When the votes are being so recorded, press the '**Total**' button on the Ballot section to verify at any time that the votes recorded in the machine tally with the number of votes which have been polled upto that stage.

**NOTE :** '**Total**' button should be pressed only after the vote has been recorded for any candidate and the '**Busy**' lamp in the Display section is **OFF**.

- (f) At the end of the mock poll, press the '**Close**' button in the Result section. On the '**Close**' button being so pressed, the panel in the Display section will show the following information sequentially :

CLOSING

DTE 12-01-07  
TME 10-34-56

SL NO-H00003

CANDIDATES  
16

TOTAL POLLED  
VOTES - 200

(If the number of polled votes is 200)

POLL CLOSED

**NOTE :** Subject to availability of time, there is no objection to permit the recording of more / less votes at mock poll. It is also not necessary that the number of votes recorded for each candidate should be the same.

- (g) Now, press the button marked **'Result'** in the Result section. On that button being pressed, the Display Panel will start showing the following information sequentially :

COMPUTING  
RESULT

POLL RESULT  
PDT 16-01-07

(PDT - Poll date)

PST 09-50-20  
PET 15-32-10

(PST - Poll start time)

(PET - Poll end time)

SL NO-H00003

(Serial number of Control Unit)

CANDIDATES  
9

(The number of candidates - 9)

TOTAL POLLED  
VOTES - 54

(The number of polled votes - 54)

CANDIDATE-01  
VOTES - 6



```
CANDIDATE-02  
VOTES - 6
```

```
CANDIDATE-03  
VOTES - 6
```

```
CANDIDATE-04  
VOTES - 6
```

```
CANDIDATE-05  
VOTES - 6
```

```
CANDIDATE-06  
VOTES - 6
```

```
CANDIDATE-07  
VOTES - 6
```

```
CANDIDATE-08  
VOTES - 6
```

```
CANDIDATE-09  
VOTES - 6
```

```
END
```

(if, only fifty four votes have been polled, six for each candidate)

- (h) Next, press the **'Clear'** button to clear the account of votes recorded during the mock voting. On the **'Clear'** button being so pressed, the account will show '0' as explained in Para 7 of this Chapter.

## ACTUAL POLL

10. EVM can now be used for actual poll.
11. However, before the commencement of actual poll, the 'Result' section should be sealed.

**NOTE :** *Power switch should be OFF during sealing process.*

After switching 'OFF' the Control Unit, perform the following operations :

- (a) Fixing of green paper seal and closing of inner compartment :
  - (i) This seal has been printed specially by the Election Commission of India on security paper serially numbered, as in the case of currency notes at the India Security Press, Nasik. One paper seal has to be fixed in the two frames provided for the purpose on the inner side of the door of the inner compartment. In order that the seal is firmly fixed in the frame and does not shift from its position, a thin cardboard padding may be provided. The seal should be so fixed that its green surface shows through the aperture from the outer side. After fixing the seals, the door of the inner compartment should be closed in such a manner that the two open ends of the paper seal project outwards from the sides of the inner compartment as shown in Fig. 21. On the white surface of the paper seal so projecting outwards, the Presiding Officer should affix his signature in full immediately below the serial number of the seal. It shall also be got signed by such of the candidates / polling agents as are present and desire to put their signatures. Note down the serial numbers of the paper seal used and also allow the candidates / polling agents present to note down those numbers.
  - (ii) Seal the inner door. For this purpose pass a thread through the two holes provided for the purpose on the left side of the inner door and put a thread seal with the seal of the Presiding Officer. Note down the serial number of the special tag.

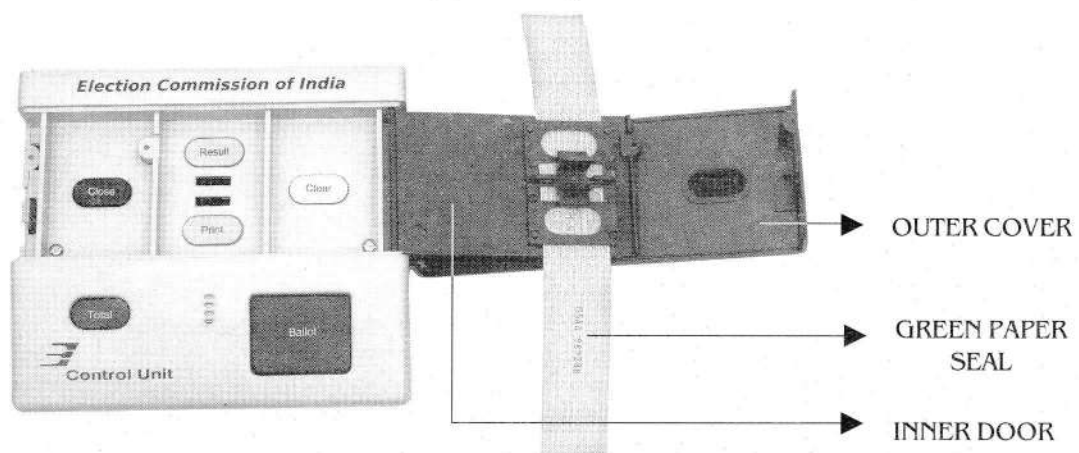


FIG. 21 Fixing of green paper seal



(b) Closing of Result section :

- (i) The outer cover of the Result section has to be pressed for closing this section. Before pressing the outer cover, fold the open ends of the green paper seals neatly, in such a manner that no part of the paper seals protrudes from either side of the cover. After pressing the outer cover, the Result section should be sealed by passing a thread through the two holes provided for the purpose on the left side of the outer cover and putting a thread seal with the seal of the Presiding Officer.
- (ii) Take care that direct flame does not come in contact with the Unit and molten wax does not fall on any part of the machine.

Now use the A B C D long paper strip seal with self-adhesive at A B C D portions to get glued to the green seal strip. This has to be learned practically.

12. Now the EVM is ready in all respects for use in actual poll.

13. Before commencing the poll, however, place the Ballot Unit inside the voting compartment. This compartment should be located at sufficient distance from the table of the Presiding Officer where the Control Unit shall be kept and operated by him / her. The interconnecting cable between the Ballot Unit and the Control Unit has a length of approximately five metres. Therefore, the voting compartment should be reasonably distanced. Also, the cable should be so routed that it does not obstruct the movement of the voters inside the polling station and they don't have to tread or trip over it. The cable may be tied to one of the table legs at Control Unit side as well as at Ballot Unit side.

### PROCEDURE DURING POLL

14. The polling shall commence at the hour fixed for such commencement. **Press the 'Total' button and ensure that the total votes are zero.** After all the procedural requirements relating to identification of voter, application of indelible ink on his / her forefinger and obtaining his / her signature / thumb impression in the Register of Voters have been completed with regard to the first voter, the voter concerned has to be allowed for recording his / her vote. For that purpose, press the '**Ballot**' button on Ballot section of the Control Unit which would make the Ballot Unit ready for recording of the vote by that voter as has been explained in Para 9 (a) of this Chapter.

<b>CAUTION :</b> <i>Confirm the recording of votes by the machine duly pressing the 'Total' button after completion of first or second voter.</i>
---

Repeat that procedure in the case of every subsequent voter. It should be ensured that only one voter goes inside the voting compartment to vote. Special care should be taken to ensure that a voter goes in that compartment in the same order in which his / her name has been entered in the 'Register of Voters'. Also ensure that the 'Ballot' button is pressed only when the earlier voter has come out of the voting compartment. **At any time, if the total number of votes polled has to be ascertained**

'Total' button should be pressed. The Display Panel will then show the total number of votes polled by that time with other data like, Battery status, Current Date and Time and number of contesting candidates. Please remember that the 'Total' button is to be pressed only when the 'Busy' lamp is OFF.

**CAUTION :** Do not open 'Close button flap' during poll.

BATTERY  
HIGH

DTE 01-02-07  
TME 07-05-50

CANDIDATES  
9

TOTAL POLLED  
VOTES - 200

#### PROCEDURE AT THE CLOSE OF POLL

15. After the hour fixed for the close of the poll and the last voter has recorded his / her vote, the EVM has to be closed so that no further recording of votes in the machine is possible. For that purpose, perform the following operations :
- Open the compartment at the rear of the Control Unit in the manner as explained in Para 24 of Chapter-1.
  - Remove the interconnecting cable in the manner explained in Para 12 (e) of Chapter-3.
  - Remove the black cap attached with the Result section over the 'Close' button and press the 'Close' button.
  - When this button is pressed, the display panel will show the following information sequentially :

CLOSING

Date and time of closing



DTE 12-01-07  
TME 10-34-56

SL NO-H00003

(if serial number of the Control Unit is H00003)

CANDIDATES  
16

(if the machine is set for 16 candidates)

TOTAL POLLED  
VOTES - 200

(if the total number of votes polled is 200)

POLL CLOSED

**Now the EVM will not accept any further votes.**

- (e) Note down in the prescribed form the total number of votes polled at the polling station as displayed in the display panel.
- (f) Replace the black plastic flap attached with the Result section over the 'Close' button.
- (g) Switch **OFF** the EVM by pushing the power switch to '**OFF**' position.
- (h) Close the rear compartment.

**NOTE :** *In the exceptionally odd case, if the last voter chooses not to record his / her vote after the 'Ballot' button has been pressed to allow him / her to vote or in the case of an inadvertent pressing of the 'Ballot' button when there is no voter left to record his / her vote at the close of the poll, the 'Busy' lamp will be seen glowing RED. In such a case when the interconnecting cable is removed as indicated at (b) above, the 'Busy' lamp will stop glowing RED and the operations (c) to (h) above, should be performed thereafter, for closing the EVM so that no further recording of votes in the machine is possible.*

- 16. Put back the Ballot Unit and Control Unit in their respective carrying cases.
- 17. (a) Seal the carrying cases by passing the thread through the two holes provided for the purpose on both sides of the carrying cases and put thread seal on the prescribed address tag showing the particulars of the polling station with the

Presiding Officer's seal and also with the seals of such polling agents as are present and desirous of putting their seals.

- (b) While sealing, take care that direct flame does not come in contact with carrying cases and the molten wax does not fall on any part of the machine.
- 18.** Now the EVM is ready to be transported from the polling station to the Storage Centre (i.e., Strong Room).



## CHAPTER - 5

### PROCEDURE AT THE COUNTING PLACE

#### PRELIMINARY

1. The counting of votes recorded in the EVMs shall be done in the presence of the candidates and / or their agents. The counting shall be done at such a place or places and shall be commenced on such date and at such time as the Returning Officer may fix. The Returning Officer shall, atleast one week before the date of poll, intimate each contesting candidate or his / her election agent in writing the place, date and time fixed for the counting of votes. He / she shall also intimate the candidates / their election agents in writing about the number of counting agents that each contesting candidate shall be eligible to appoint for each place of counting, depending on the number of counting tables which the Returning Officer proposes to provide at each counting place.

#### COUNTING PROCEDURE

2. At the counting place, only the Control Unit is required for ascertaining the result of poll at the polling station at which that EVM was used. The Ballot Unit is not required. Nevertheless, the Ballot Unit received from the polling stations should be kept along with the Control Units polling station wise at the storage centre as is done in the case of the polled ballot boxes received from the polling stations. However, as mentioned above, only Control Unit of the EVM may be taken to the counting hall from the place of storage. The Ballot Unit may be taken to the counting hall only where a demand is made for its inspection by any candidate or his / her election agent.
3. Take out the Control Unit from its carrying case after examining the seals thereon and removing the same. Thereafter, place the Control Unit on the counting table and examine the seals on the Candidate Set section and Result section and remove the outer seal of the Result section. Thereafter, open the cover of the Result section. On opening the cover of Result section, one green paper shall be visible through the two apertures of the compartment of the 'Result' and 'Print' buttons underneath.

**NOTE :** *Do not break / open the seal of special tag of inner 'Result' section compartment.*

In the case of Control Unit of EVM, the green paper seal is the only vital seal. If this green paper seal is intact, the Control Unit could not have been tampered with and the recording of the votes by the machine could not be affected in any manner. If any of the other seals, that is to say, the seals on the carrying case of the Control Unit or the seals on the Candidate Set section or on the Result section are found damaged but the green paper seal is intact, the result of the poll at the polling stations can be ascertained. In view of the

vital nature of the green paper seal, the candidates and their counting agents should be allowed reasonable opportunity to satisfy themselves that the paper seal is the same which had been fixed by the Presiding Officer at the polling station before the commencement of poll. If the green paper seal is found not to be the same as those which had been fixed by the Presiding Officer at the polling station before the commencement of the poll or if they have been found to be tampered with, keep aside the Control Unit and bring it to the counting supervisor's notice, do not proceed to ascertain the result of the votes recorded in that unit.

4. After checking that the green paper seal is intact, switch 'ON' the Control Unit by pushing the power switch to 'ON' position. The ON lamp will then glow **GREEN**.
5. Pierce the green paper seal over the 'Result' button. Press 'Result' button.
6. On 'Result' button being pressed, the total number of votes recorded for each candidate at the polling station shall be displayed automatically in the 'Display Panel' in the following sequence :

COMPUTING  
RESULT

This will be displayed when the Result button is pressed for the first time only.

POLL RESULT  
PDT 16-01-07

PST 09-50-20  
PET 15-32-10

SL NO-H00003

CANDIDATES  
16

TOTAL POLLED  
VOTES - 200

CANDIDATE-01  
VOTES - 10



CANDIDATE-02  
VOTES - 8

-  
-  
-  
-

CANDIDATE-16  
VOTES - 50

END

In more than one day polling, the 'RESULT' display is as follows :

COMPUTING  
RESULT

POLL RESULT  
DAYS OF POLL

PDY 01-02-07  
TOTAL 50

-  
-  
-

PDY 03-02-07  
TOTAL 50

Indicates the number of  
votes polled on the date dis-  
played

SL NO-H00003

CANDIDATES  
9

TOTAL POLLED VOTES - 200
CANDIDATE-01 VOTES - 10
- - -
CANDIDATE-09 VOTES - 10
END

(This is only an example)

<b>NOTE :</b> <i>'Print' button is to be used for ascertaining the result of the poll by printing</i>
---

7. If required, **'Result'** button can be pressed any number of times to enable the Returning Officer, the candidates and / or their agents to note down the above result. On pressing the **'Result'** button for the first time the display sequence starts with 'COMPUTING RESULT'. On successive operation of **'RESULT'** button, the sequence will start with 'POLL RESULT' with date.
8. Switch **OFF** the unit by pushing the power switch in the bottom compartment to **'OFF'** position. Close the compartment.
9. After the result has been noted, close the cover of Result section. Reseal it in the manner explained in Para 11 (b) of Chapter-4 with the seal of the Returning Officer and the candidates / their agents who are desirous of affixing their seals.
10. Remove the seal of the Candidate Set section and open its outer door. Remove the power pack. Close the outer door and reseal the Candidate Set section.
11. Put back the Control Unit in its carrying case, which may then be kept in the bigger storage case.
12. All such storage cases containing the Ballot Units and Control Units shall then be ready for transportation to District Treasury / storage place for safe custody in due course.



APPENDIX

**SUMMARY OF OPERATIONS**

**A. PRIOR TO THE DATE OF POLL (AT THE RETURNING OFFICER'S HEADQUARTERS)**

---

<b>BALLOT UNIT</b>	<b>CONTROL UNIT</b>
1. Unpack the unit	1. Unpack the unit
2. Insert the ballot paper properly under Ballot paper screen and seal it.	2. Install new Power pack
3. Mask the candidates' buttons not required to be used.	3. Connect the Ballot Unit
4. Set the slide switch to position marked 1, 2, 3 or 4 as may be appropriate. Set to '1' if only one Ballot Unit is used.	4. Switch 'ON' the unit. Check that the serial number displayed matches with the metallic number on the rear side of the Unit.
5. Seal the Ballot Unit and put in its carrying case.	5. Set the number of contesting candidates.
	6. Press the 'Total' button and check if the time and date are displayed correctly. The 'CLOCK ERROR' indicates failure of the Real Time Clock (RTC).
	7. Switch 'OFF' the unit and disconnect the Ballot Unit from the Control Unit.
	8. Seal the 'Cand. Set' button compartment.
	9. Seal the Candidate Set Section.
	10. Put the unit in its carrying case.

---

**B. DAY OF POLL (AT THE POLLING STATION)**

**(a) Before Commencement of Poll**

---

<b>BALLOT UNIT</b>	<b>CONTROL UNIT</b>
1. Unpack the unit	1. Unpack the unit
2. Check the Ballot Unit seals	2. Check the Candidate Set section seal.
3. Place it in the voting compartment	3. Connect the Ballot Unit to the Control Unit.
	4. Switch 'ON' the unit
	5. Clear the unit
	6. Conduct mock poll
	7. Clear the unit again and switch it 'OFF'.
	8. Fix duly signed green security paper seal on the door over the inner compartment of Result section.
	9. Seal the inner compartment of the Result section with thread.
	10. Seal Result section and switch the unit 'ON'.

---

**(b) During Poll**

1. Press the 'Total' button and ensure that the total number of votes polled is zero.
2. Press the 'Ballot' button on the Control Unit on completion of identification of first voter, application of indelible ink and obtaining his / her signature / thumb impression.
3. Allow the voter concerned for recording his / her vote. Wait for the red 'Busy' lamp and the 'beep' sound to go OFF. Confirm the recording of the voter's poll by pressing the 'Total' button after completion of first or second voter's casting of vote.
4. Repeat step no. 2 for second voter and so on until end of poll. Ensure that at intervals the total number of votes polled is tallying with actual voters allowed to record their votes.
5. Do not open 'Close' button flap during polling.



(c) **At The Close of Poll**

1. Remove the blue rubber cap attached with Result section over the 'Close' button.
2. Press the 'Close' button.
3. Press the 'Total' button and note the total number of votes polled till close of poll.
4. Replace the black rubber cap attached with Result section over the 'Close' button.
5. Open the rear compartment and switch 'OFF' the unit. Disconnect the interconnecting cable.
6. Pack both the Control Unit and Ballot Unit and seal both the carrying cases.

**C. DAY OF COUNTING (AT THE COUNTING PLACE)**

1. Check the Control Unit carrying case seal, unpack it and place it on counting table.
2. Check if all seals are intact.
3. Open Result section and check if the green paper seals on the Result button are intact and show those seals to candidates / agents.
4. Open the rear compartment seal and switch 'ON' the Control Unit.
5. Pierce the green paper seal on the 'Result' button and press the 'Result' button and note down the results displayed sequentially.  
( 'Print' button is used for printing poll result by using special printer.)
6. Close the Result section and reseal it.
7. Switch 'OFF' the Control Unit and reseal the rear compartment.
8. Remove the power pack and reseal the Candidate Set section.
9. Put Control Unit in its carrying case.

**D. DEFECTS AND REMEDIES**

<b>Sl. Nos.</b>	<b>Nature of Defect</b>	<b>Reasons</b>	<b>Remedy</b>
1.	ON lamp does not glow when the EVM is switched 'ON'.	Power pack is not fixed properly or is low.	Insert the power pack properly or replace the power pack with a new one.
2.	No 'beep' sound and display indication when the EVM is switched 'ON'.	The Control Unit is defective and not fit for use.	Replace the Control Unit with the good one and report to BEL.

Sl. Nos.	Nature of Defect	Reasons	Remedy
3.	Display showing 'INVALID' and a beep sound is heard.	The button pressed is not in proper sequence of operation.	Press the button in proper sequence only.
	a) When 'Cand. Set' button is pressed.	'Ballot' or 'Close' button was already pressed.	EVM accepts 'Cand. Set' button only when it is cleared. Hence, press clear the EVM before pressing 'Cand. Set' button.
	b) When 'Clear' button is pressed.	Result of the previous poll is not seen.	EVM accepts 'Clear' button only when the result of the previous poll is seen, at least once. Hence press 'Result' button.
	c) When 'Ballot' button is pressed.	'Close' button is pressed to close the poll and hence no further polling is possible.	This button will become effective only when the previous result is seen and the EVM is cleared
	d) When 'Result' button is pressed.	The polling is not closed by pressing the 'Close' button.	Close the poll by pressing the 'Close' button before pressing 'Result'.
4.	Display showing 'ERROR' and a beep sound is heard.	Control Unit is defective and not fit for use.	Replace the Control Unit with the good one and report to BEL.
5.	Display is flashing 'SET CANDIDATE - -'	The EVM is waiting for the candidate's button on the Ballot Unit to be pressed for setting the number of candidates contesting the election.	Press the last unmasked candidate's button on the Ballot Unit.
6.	No response to 'Total' button in the Control Unit.	'Busy' lamp is 'ON'	Allow the voter to record his / her vote. Once the vote is recorded, the 'Busy' lamp goes 'OFF'.
7.	When the Presiding Officer presses the 'Ballot' button, the 'Busy' lamp does not glow. Instead 'Link Error-1' appears on the Display Panel and short interrupted 'Beep' sound is heard.	Interconnecting cable for first BU has not been properly fixed or snapped and there is no proper link.	Fix the interconnecting cable properly, if necessary, by taking it out and refixing.



Sl. Nos.	Nature of Defect	Reasons	Remedy
8.	When the Presiding Officer presses the 'Ballot' button, the 'Busy' lamp does not glow. Instead 'Pressed Error' appears on the Display Panel and a short interrupted and 'beep' sound is heard.	Some voter must have left one of the buttons in the Ballot Unit pressed or jammed and this may not be coming back to its original position.	Go inside the voting compartment and gently press all the buttons once. The pressed button will resume its original position and 'Pressed Error' display 'Beep' sound will not recur. Normal voting can be continued by pressing the 'Ballot' Button.
9.	Display panel indicates ----- after accepting any key operation.	Power pack is not fitted properly. Power pack may be drained.	Insert the power pack properly. Replace the Power pack specially supplied for EVM.

## E. DOS AND DON'TS

### Dos

1. Read the manual carefully before operating the EVM.
2. Press the latches gently and in the manner specified.
3. Protect the EVM from dust, heat, rain, fire and other such hazardous environments.
4. Use the power pack specially supplied by the Election Commission of India (ECI).
5. Inform Election Commission of India and BEL in case of any problem.
6. Remove power pack from the Control Unit while storing for longer periods.
7. Ensure that the covers / doors of the compartments / sections in the Ballot Unit and the Control Unit rest properly on the plain surface, when opened.
8. Ensure that the connector of the interconnecting cable mates properly with the connector of the Control Unit before pressing in. This will mate in one direction only.

### Don'ts

1. Do not exert undue pressure on the latches, hinges etc.
2. Do not keep EVM near heater or other hot objects.
3. Molten sealing wax should not fall on the EVM, while sealing.
4. Do not open by force the covers or doors of the various sections.

5. Do not try to open the top portion of the Control Unit (by unscrewing the screws).
6. Do not remove the seal of the power pack unless it is required for use.
7. Do not hit / smash the connector fixed at the end of the interconnecting cable against any hard surface / object.
8. Do not press the connector fixed at the end of the interconnecting cable into the connector of Control Unit in reverse direction.
9. Do not pull the interconnecting cable while disconnecting it from the Control Unit without pressing the spring type clips on the hood of the connector.

## **F. STORAGE OF EVMS**

### **Instructions For Storing Bulk Carrying Cases**

1. The bulk carrying cases have to be arranged as shown in Fig. 22 (LAYOUT OF STORE). They can be placed one after the other as shown in Fig. 22.
2. The boxes can be stacked one above the other up to a maximum of four Nos. with a wooden platform as shown in Fig. 23 (WOODEN PLATFORM). We do not recommend the usage of tarpaulin for the floor.
3. Ballot Units and Control Units should be kept in separate bays for easy identification and movement.
4. Fire extinguishers should be kept fixed to the sidewalls for every 15 meters.
5. The building / walls should be strong enough to withstand attacks from rodents.
6. The inner side of walls and floor should be cleanly maintained to avoid insects and white ants.
7. In places where there is possibility of temperature going below 0 degree Celsius, it is advisable to insulate the walls by Thermocole.
8. Storage should be such that the boxes are not exposed to direct sunlight.
9. Proper ventilation for good air circulation / lighting should be provided for the building.
10. There should be no seepage of water from ceiling, sidewalls and floor. If required, tarpaulin covers may be used to protect the boxes.

## **G. DISPOSAL OF EVMS**

- (a) After useful life, EVM shall be handed over to disposal agencies (approved by the State/Central Pollution Control Board) for suitable disposal. It shall be ensured that the Printed Circuit Boards are crushed at the time of disposal to prevent unauthorised use.



- (b) The individual cells of the batteries should be disposed with regular trash after removing from the plastic box. Large quantities of batteries should be disposed off at a secure landfill in accordance with State and Local regulations. The plastic box can be scrapped and recycled for other purposes.

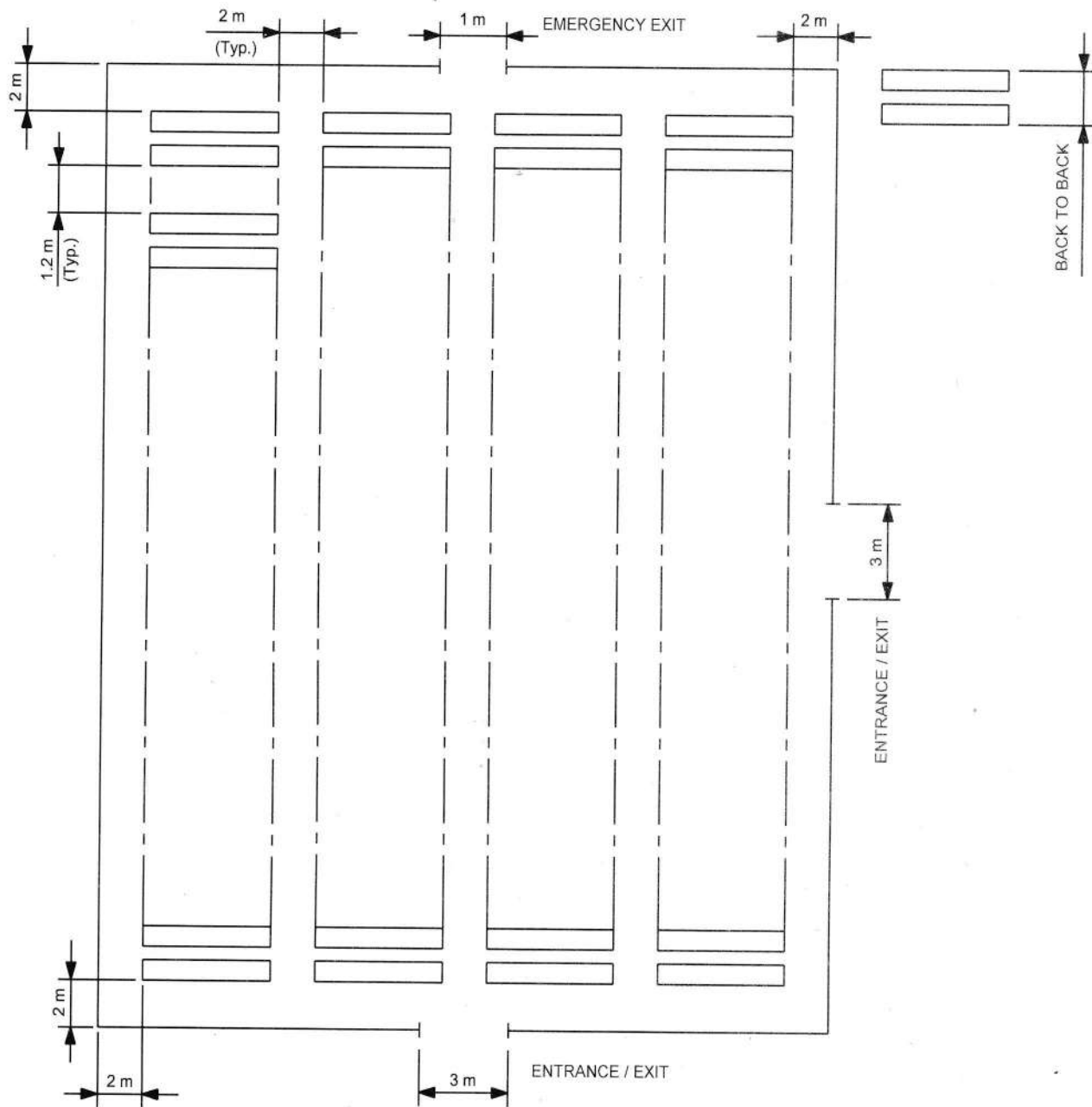


FIG. 22 LAYOUT OF STORE

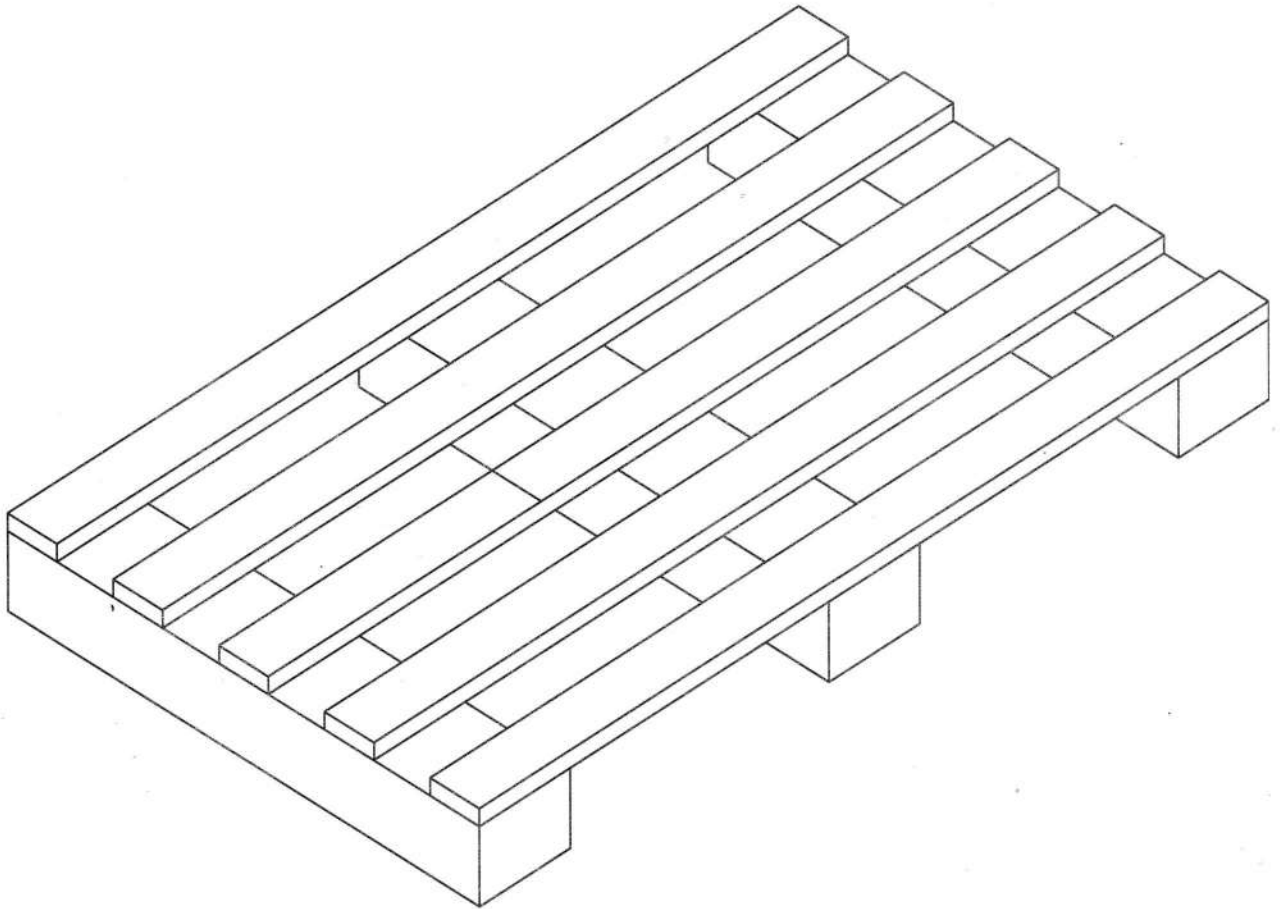


FIG. 23 WOODEN PLATFORM



## H. RTC CALIBRATION

### Time Initializer Unit

1. Procedure for setting the Date and Time for the Time Initializer Unit is as given below :
  - (a) Insert the new Battery Pack in the battery compartment of the Time Initializer Unit.
  - (b) Power on the Time Initializer Unit holding the **HOUR** and **DAY** keys simultaneously.
  - (c) The unit displays date and time.
  - (d) Change the date and time values by pressing appropriate keys.
    - Use **SECOND** key to set seconds.
    - Similarly, use **MINUTE**, **HOUR** keys to set Minutes and Hour.
    - Day, Month and Year can be set by using the keys marked **DAY**, **MONTH** and **YEAR**.
  - (e) After setting the required time, press **SET** key to initialize the **RTC**.  
*'SET TIME SUCCESS' message is displayed if the RTC was successfully set.*
  - (f) Switch **OFF** the unit.

2. Procedure for setting the Date and Time of the Control Unit is as given below :

The Control Unit has to be in the **RESULT** mode for setting the **RTC**.

- (a) Connect the CU to the Time Initializer Unit as shown below :



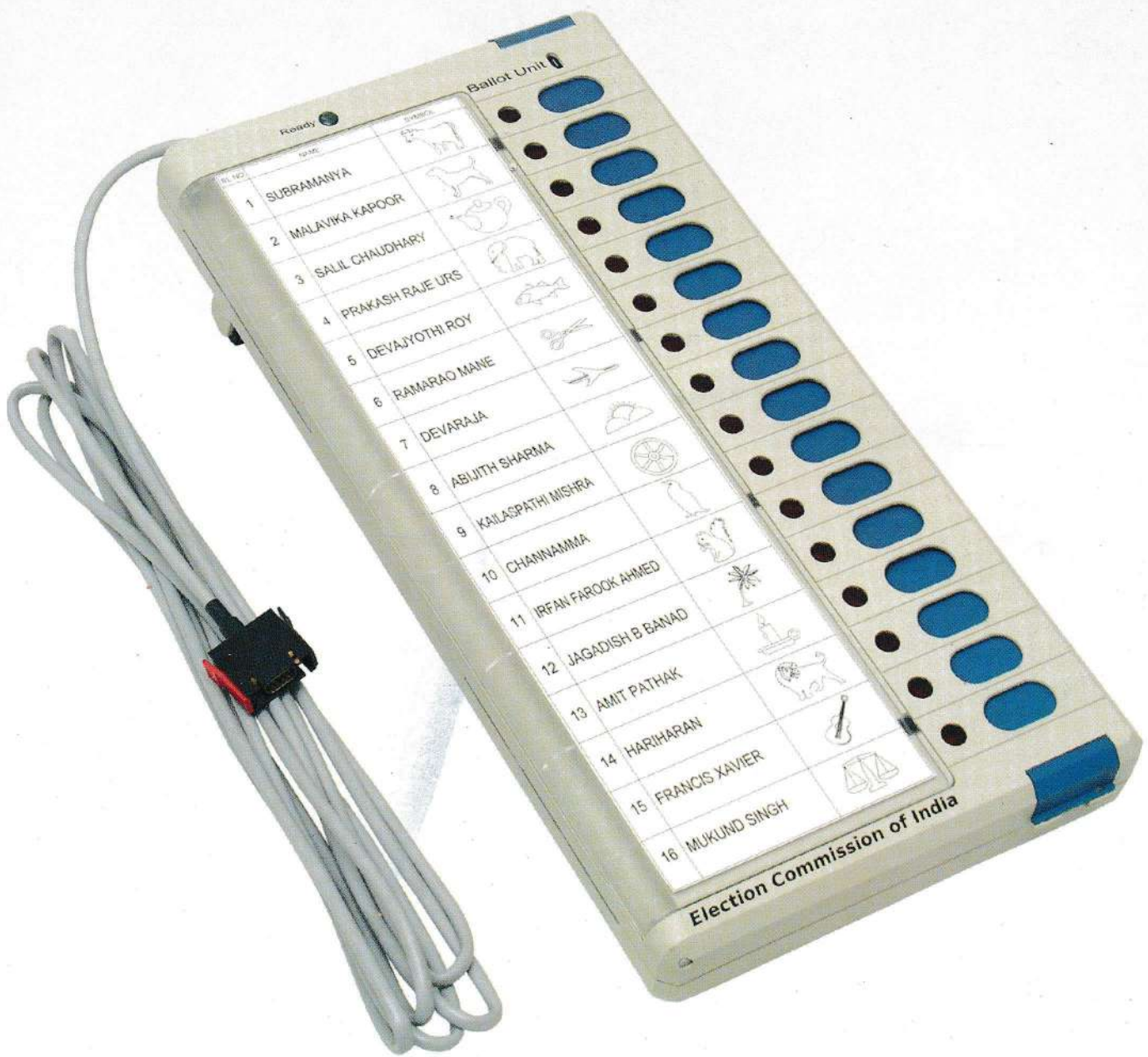
- (b) Switch '**ON**' the Time Initializer Unit.
- (c) Press the '**MONTH**' key to display date and time on the Time Initializer Unit. Check that Date and time is OK. If it is Not OK, follow the procedure given in Para 1 of Appendix H to set the RTC of the Time Initializer Unit.
- (d) Switch **ON** the Control Unit and check for the '**EVM IS ON ECI**' message.
- (e) While the '**EVM IS ON ECI**' message is being displayed, press and hold the **RESULT** and **PRINT** keys until the control unit displays '**SET TIME**' (If it doesn't, check whether the control unit is in the **RESULT** state or not. Time can be set only in the **RESULT** state.)

- (f) Then press **SET** key on the Time Initializer Unit to set the RTC of the Control Unit. Time Initializer Unit will display '**SETTING TIME**' for a few seconds. CU will start displaying the Date and Time set.
- (g) The CU has now been set for new **Date and Time**.

**Note:** *In case of any problem of CU not displaying Date and Time, Check the cable and connectors of Time Initializer Unit and Control Unit.*

- (h) Switch **OFF** the Control Unit.
3. Items supplied with the Time Initializer Unit are as given below :
- (a) Time Initializer Unit (TI Unit),
  - (b) TI and CU interconnecting cable, and
  - (c) Battery.





Sl. No.	NAME	SYMBOL
1	SUBRAMANYA	Cow
2	MALAVIKA KAPOOR	Bull
3	SALIL CHAUDHARY	Teapot
4	PRAKASH RAJE URS	Elephant
5	DEVAJYOTHI ROY	Fish
6	RAMARAO MANE	Scissors
7	DEVARAJA	Airplane
8	ABIJITH SHARMA	Fan
9	KALASPATHI MISHRA	Wheel
10	CHANNAMMA	Bird
11	IRFAN FAROOK AHMED	Star
12	JAGADISH B BANAD	Lamp
13	AMIT PATHAK	Lion
14	HARIHARAN	Guitar
15	FRANCIS XAVIER	Scale
16	MUKUND SINGH	

Election Commission of India