

Election Technology and Problems in the Field

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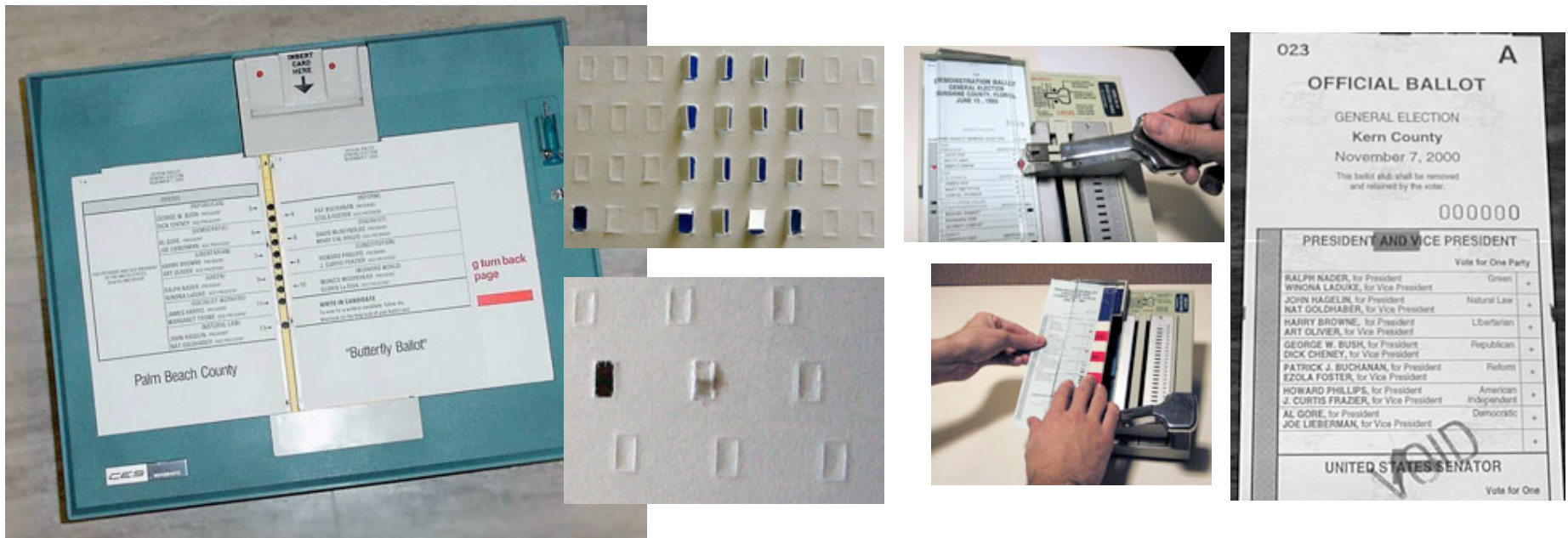
ACCURATE

Outline

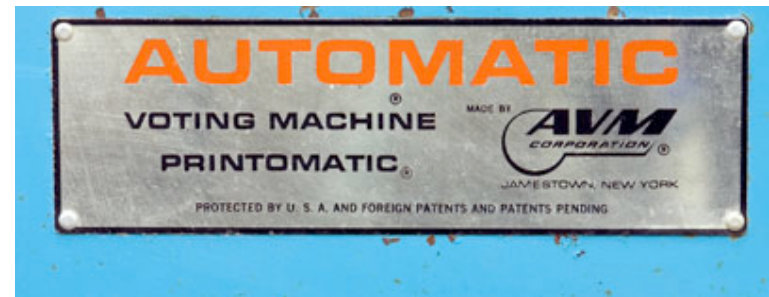
- Punchcard/ Lever
- Optical Scan (CCOS, PCOS)
- DRE Voting Machines
 - Full-face vs. Scrolling, w/ VVPAT
- Ballot Marking Devices, Other Systems
- Registration Systems
- Problems You May Encounter

Punchcard Systems

- Two styles: Votomatic and DataVote



Lever Systems



Optical Scan

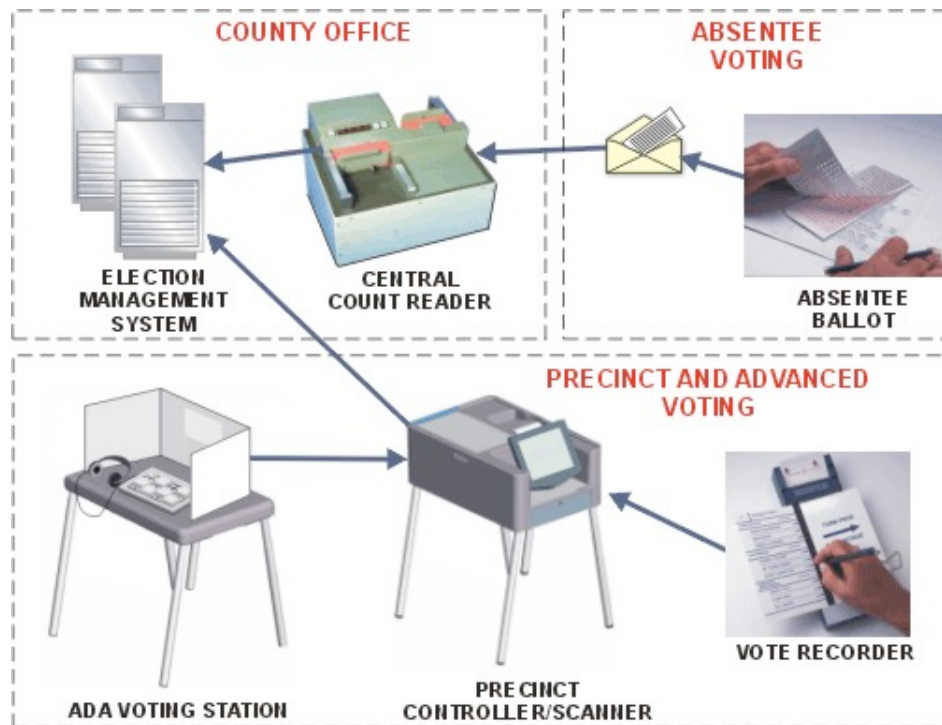
Precinct-based (PCOS)

Centrally Counted (CCOS)



InkaVote Plus

- Used in Los Angeles for most precinct voting
- Uses an inked stylus
- Can be precinct or central



DRE Voting Systems

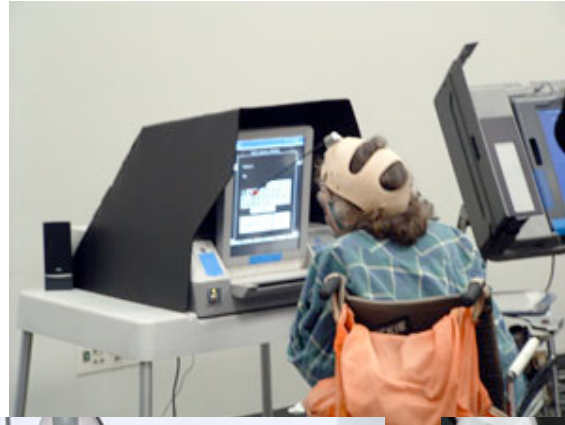
- “full-face” vs “scrolling” machines



Ballot Marking Devices



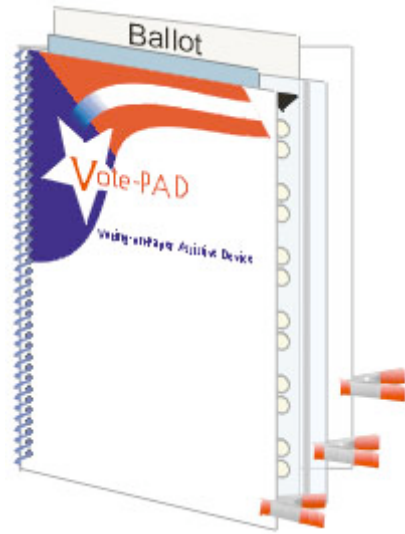
AutoMARK



Populex



Others



- Vote-PAD: essentially a laminated template
- Has “nubs” next to holes
 - Large page turning assists
 - Can be used with existing optical scan

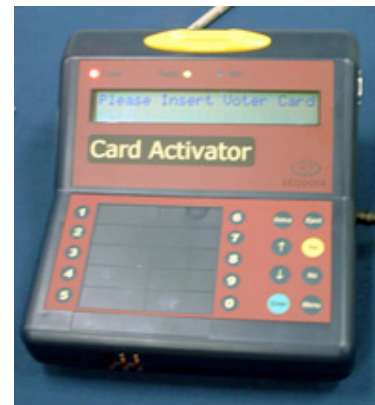
IVS Inpsire:

- Can be used on phone
- In precinct audio
- Verification of paper via bar code scanner



Registration/Activation Systems

- DESI's e-pollbook
- Card Activators
- ES&S PEB



Problems (General)

- Tamper-evident Seals
 - Should not be broken unless witnessed
- Power outages, plug problems
 - Most have batteries, battery indicators
- Room configuration
 - Should protect privacy of voters
- Modem problems
 - If problem, don't transmit

Problems (Opscan)

- Mis-calibration
 - Can be overly-sensitive or not sensitive enough
 - May require certain types of pen
- Central count does not provide feedback
 - problematic for elderly, poor, uneducated and language and ethnic minorities
- Have ran out of memory, started to count backwards in the past.

Problems (DREs)

- Screen/scroll calibration problems
- Sensitivity (low or high), fingernails/objects
- System crashes, reboots
- Audio ballot problems, alt. language problems, incomplete/wrong ballots
- *Memory cards are ballot boxes*
- Full-face: buttons can fail, cast vote button
- Paperless: *may lose votes, error messages are important*

Problems (DREs w/ VVPAT)

- People do not examine VVPATs
 - Any privacy guard, etc. should be off by default
- Printers can jam, misrecord, damage VVPAT
 - Certain systems allow votes to be cast even though there are paper problems
 - Loading paper wrong can mean no VVPAT
- Chain of custody problems
 - Paper records can be official records

Problems (BMDs)

- Newer, can be a bit more raw
 - Can crash, may take 10 mins. to reboot
- Ballots can be different size than opscan in precinct.
 - Ballots can be counted at another time.
- Keypad problems
 - Reports of AutoMARK keypads being bad

Problems (Reg. Systems)

- Crashes, reboots
 - Maryland had problems with syncing and frequent crashes.
 - With DESI e-pollbook, use the mouse, not the touchscreen.
- Voter not on rolls, already voted
 - May have to vote provisionally.