TEST DECKS – OCTOBER 2024

Testing of tabulating equipment. The person in charge of the election normally conducts several tests of the automatic tabulating equipment as required by state law or administrative rule. The tests normally are conducted by processing a preaudited group of ballots in a test deck marked to record a predetermined number of valid votes for each candidate and each measure. We recommend the following testing schedule, the first test should be done at least 30 days before an election, so that if errors are discovered there is time for correction. Once the first test passes without any errors, then the second test, usually the public accuracy test is performed, where members of the public can have input to any issues or questions they may have. The third test should be conducted before the ballots are tallied the night of the election. A forth test should be done any time there is a recount. All four tests should use the same testing ballots across the board to maintain the constant of what we are testing.

A tally sheet should be created prior to the machine count to fully show how the sample of ballots is marked and what the machine vote totals must be to prove an errorless count. If more than one ballot style is used in the election, a test deck should be made for each ballot style that is unique in any way. A ballot style may be defined as a standard pre-printed ballot, ballot on demand or a voter assistive printed ballot. The test deck(s) should include for each office and ballot question:

(1) One or more ballots with a vote for each candidate and each side of a ballot question;
(2) One or more ballots which have votes in excess of the number allowed by law for each office and question; and
(3) One or more ballots which contain an undervote.
(4) All candidates and ballot questions should have a unique number of votes used, and must not be repeated or used again anywhere, within the group area, on the ballot. Each race should utilize a unique prime number within the race that is unique and not repeated or used again anywhere, within the group area on the ballot.

At least fifty test ballots should be included in the total of all test decks as the minimum. Individual test decks for individual ballots should be of sufficient size to prove the accuracy of the system. If absentee ballots are to be received folded, at least ten percent of the test ballots in any individual test deck should be similarly folded. The person conducting the test of the tabulating equipment should date and sign the printout, verifying that the results of the machine's printed paper vote totals exactly match the tally sheet from which the sample of ballots was marked. The test deck(s), tally sheet, and signed printout are usually considered election materials and should be secured and retained with the official ballots.

The test procedure should include the processing of at least one ballot completely blank to verify that the machine is correctly configured according to state laws and administrative rules.

If more than one tabulating machine is to be used in the election, each machine should be fully tested according to the ballot(s) and styles which each machine will be used to count in the election.
A traditional ballot that voters fill out oval, and the pre-printed ballots with bar codes should be considered as two different ballot styles in a precinct and should be tested separately for programming accuracy.

In addition to these tests, any test deck may be processed any time before or after completion of the official count.

See Below for Prime Number Chart:

Race	Candidate Issue A	Candidate Issue B	Candidate Issue C	Candidate Issue D	Candidate Issue E	Max Marked Ballots Used	Max Marked Ballots Used
	Prime Number Test Deck						
	Prime Number Required to be used in each race on ballot	**Numbers can only be used once on the ballot**					
Group A Simple Elections 2 Options (No Write-In)							
2 Option Race Base (No Write-In – 50 Ballot Test)						2 Ovals	2 Ovals
Race 1	3	18				21	21
Race 2	5	16				21	21
Race 3	7	14				21	21
Race 4	11	10				21	21
Race 5	13	8				21	21
Race 6	17	4				21	21
Race 7	23	6				29	29
Race 8	29	12				41	41
Race 9	31	15				46	46
Race 10	37	9				46	46
Group B Simple Elections 2 Options (with 1 Write-In)							
3 Option Race Base						2 Ovals	3 Ovals
Race 1	3	36	20			39	59
Race 2	5	35	18			40	58
Race 3	7	34	16			41	57
Race 4	11	33	15			44	59
Race 5	13	32	14			45	59
Race 6	17	30	12			47	59
Race 7	19	28	10			47	57
Race 8	23	27	9			50	59
Race 9	29	26	8			51	63
Race 10	31	24	6			55	61

Race	Candidate Issue A	Candidate Issue B	Candidate Issue C	Candidate Issue D	Candidate Issue E	Max Marked Ballots Used	Max Marked Ballots Used
Group C Simple Elections 2-4 Options (with Write-In)							
2-5 Option Races						2 Ovals	Max Ovals
Race 1(5)	3	52	27	12	9	55	103(5)
Race 2(5)	5	51	15	20	10	56	101(5)
Race 3(4)	7	50	26	18		57	101(4)
Race 4(4)	11	49	32	16		60	104(4)
Race 5(4)	13	48	33	8		61	102(4)
Race 6(3)	17	46	39			63	102(3)
Race 7(3)	19	45	38			64	102(3)
Race 8(3)	23	44	36			67	103(3)
Race 9(3)	29	42	35			71	106(3)
Race 10(3)	31	40	34			71	105(3)
	*Over vote and under vote test ballots are needed for each race and should be run as a separate test from this baseline test.						

Group D Simple Elections 2-9 Options (with Write-In)										
2-10 Option Races										
	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10	Max Marked Ballots Used
Race 1(10)	5	4	6	8	9	10	12	14	16	15	99
Race 2(3)	23	20	21								64
Race 3(2)	19	28									47
Race 4(3)	17	24	25								66

Group E Simple Elections 2-10 Options (with Write-In)											
2-11 Option Races											
	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10	Option 11	Max Marked Ballots Used
Race 1(11)	5	4	6	8	9	10	12	14	16	15	18	117
Race 2(3)	23	20	21									64
Race 3(2)	19	28										47
Race 4(3)	17	24	25									66
Race 5(3)	11	30	26									67
Race 6(3)	7	32	27									66

Prime Number	2	3	4	5	6	7	8	9	10	11	12	13	Total Ballot Positions
5	4	6											3
7	8	9	10										7
11	12												9
13	14	15	16										13
17	18												15
19	20	21	22										19
23	24	25	26	27	28								25
29	30												27
31	32	33	34	35	36								33
37	38	39	40										37
41	42												39
43	44	45	46										43
47	48	49	50	51	52								49
53	54	55	56	57	58								55
59	60												57
61	62	63	64	65	66								63
67	68	69	70										67
71	72												69
73	74	75	76	77	78								75
79	80	81	82										79
83	84	85	86	87	88								85
89	90	91	92	93	94	95	96						93
97	98	99	100										97
101	102												99
103	104	105	106										103
107	108												105
109	110	111	112										109
113	114	115	116	117	118	119	120	121	123	124	125	126	122

	For Extra candidates for a race recycle and reuse the numbers.	
	Revised 10/09/2024	

We recommend breaking your ballot into groups/sections, to create unique sections. The first group, one could use Federal, Statewide, State Legislative, Commissioner and City Elections, as one group. The second group could be judicial and retention elections. The third group could be ballot initiatives, amendments and questions.

Office	Candidate	Total
Presidential Electors Vote For (1)	DEM Kamala D. Harris/ Tim Wal...	3
	LIB Chase Oliver/ Mike ter Maat	4
	REP Donald J. Trump/ JD Vance	6
	IND Robert F. Kennedy, Jr / Nic...	8
United States Representative (1)	DEM Sheryl Johnson	5
	REP Dusty Johnson	10
Public Utilities Commissioner (1)	DEM Forrest Wilson	7
	LIB A. Gideon Oakes	12
	REP Kristie Fiegen	14
State Senator, District 02 (1)	REP Steve Kolbeck	9
State Representative, District 02 (2)	REP David Kull	13
	REP John Sjaarda	16
County Commissioner At Large (2)	REP Dean E. Karsky	11
	REP Cole Heisey	18
	IND Anny Libengood	15
East Dakota Water Development District Director, Area 4 (1)	Richard Bonander	5
	Bonnie Dybedahl	6
Supreme Court Justice Retention (1)	Yes	3
	No	4
Constitutional Amendment E (1)	Yes	7
	No	22
Constitutional Amendment F (1)	Yes	11
	No	12
Constitutional Amendment G (1)	Yes	13
	No	14
Constitutional Amendment H (1)	Yes	7
	No	10
Initiated Measure 28 (1)	Yes	19
	No	24
Initiated Measure 29 (1)	Yes	23
	No	16
Referred Law 21 (1)	Yes	29
	No	8

First Section | Second Section

Here is an example test deck chart for the actual ballot layouts….

Ballot #	Test	Presidential Electors (1)				United States Representative (1)		Public Utilities Commissioner (1)			State Senator, District 02 (1)	State Representative, District 02 (2)	County Commissioner At Large (2)		East Dakota Water Development District Director, Area 4 (1)			Supreme Court Justice Retention (1)		Constitutional Amendment E (1)		Constitutional Amendment F (1)		Constitutional Amendment G (1)		Constitutional Amendment H (1)		Initiated Measure 28 (1)		Initiated Measure 29 (1)		Referred Law 21 (1)	
	Vote For (1)	DEM Kamala D. Harris/T	LIB Chase Oliver/Mike ter	REP Donald J. Trump/JD	IND Robert F. Kennedy, Jr	DEM Sheryl Johnson	REP Dusty Johnson	DEM Forrest Wilson	LIB A. Gideon Oakes	REP Kristie Fiegen	REP Steve Kolbeck	REP David Kull	REP John Sjaarda	REP Dean E. Karsky	REP Cole Heisey	IND Amy Ubergood	Richard Bonander	Bonnie Dybedahl	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1	Under Vote																																	
2	Over Vote	0		0	0	0	0	0		0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Over Vote	0	0					0	0																									
4	Over Vote	0		0				0	0																									
5	Unique Count	1				1		1			1	1		1			1		1		1		1		1		1		1		1		1	
6	Unique Count	1				1		1			1	1		1			1		1		1		1		1		1		1		1		1	
7	Unique Count	1				1		1			1	1		1			1		1		1		1		1		1		1		1		1	
8	Unique Count			1		1		1			1	1		1				1	1		1		1		1		1		1		1		1	
9	Unique Count			1		1		1			1	1		1				1	1		1		1		1		1		1		1		1	
10	Unique Count			1			1	1			1	1		1			1		1		1		1		1		1		1		1		1	
11	Unique Count			1			1	1			1	1					1		1		1		1		1		1		1		1		1	
12	Unique Count			1			1		1		1	1					1			1	1		1		1		1		1		1		1	
13	Unique Count	1					1		1		1	1					1			1	1		1		1		1		1		1		1	
14	Unique Count	1					1		1		1	1					1			1	1		1		1		1		1		1		1	
15	Unique Count	1					1		1			1					1			1	1		1		1		1		1		1		1	
16	Unique Count	1					1		1			1			1		1			1		1	1		1		1		1		1		1	
17	Unique Count	1					1		1			1			1		1			1		1	1		1		1		1		1		1	
18	Unique Count		1				1		1			1			1					1		1		1	1		1		1		1		1	
19	Unique Count		1				1		1			1			1					1		1		1	1		1		1		1		1	
20	Unique Count		1				1		1			1			1					1		1		1	1		1		1		1		1	
21	Unique Count		1					1			1			1					1		1		1	1		1		1		1		1		
#	Unique Count		1					1			1			1					1		1		1	1		1	1		1		1		1	
#	Unique Count		1					1			1			1					1		1		1	1		1	1		1		1		1	
#	Unique Count		1			1			1		1			1					1		1		1	1		1	1		1		1		1	
25	Unique Count		1			1			1		1			1					1		1		1	1		1	1		1		1		1	
#	Unique Count				1			1		1			1					1		1		1	1		1	1		1		1		1	
27	Unique Count				1			1		1			1					1		1		1	1		1	1		1		1		1	
#	Unique Count				1			1		1			1					1		1		1	1		1	1		1		1	1		1
#	Unique Count				1			1		1			1					1		1		1	1		1	1		1		1	1		1
#	Unique Count				1			1		1			1					1		1		1	1		1	1		1		1	1		1
31	Unique Count				1			1		1								1			1		1	1		1	1		1		1	1		1
#	Unique Count				1			1		1								1			1		1	1		1	1		1		1	1		1
#	Unique Count				1			1		1								1									1		1		1	1		1
#	Unique Count							1						1													1		1		1	1		1
35	Unique Count							1						1													1		1		1	1		1
#	Unique Count							1						1													1		1		1	1		1
37	Unique Count							1						1													1		1		1	1		1
#	Unique Count													1																	1	1		1
#	Unique Count													1																	1	1		1
#	Unique Count													1																	1	1		1
41	Unique Count													1																	1	1		1
#	Unique Count													1																		1		1
#	Unique Count													1																		1		1
#	Unique Count													1																	1			
45	Unique Count													1																	1			
#	Unique Count													1																	1			
47	Unique Count													1																				
#	Unique Count													1																				
#	Unique Count																																	
50	Unique Count																																	
	Total	3	4	6	8	5	10	7	12	14	9	13	16	11	18	15	5	6	3	4	7	22	11	12	13	14	17	10	19	24	23	16	29	8

First Section — Second Section

Make sure to treat each ballot style, pre-printed, ballot on demand, and assistive ballots as separate styles to be tested if your state is using the three different types.