

Roll Call Voting Machines and Practices

Generally, there are three ways that roll-call votes are taken on the chamber floor—manually, electronically or a combination (see table 96-5.6). A manual roll call is the traditional, formal method for taking a recorded vote. The clerk orally calls each legislator's name, records the member's vote on a paper form and then tallies the number of ayes and nays. The following chambers indicated they use a manual voting system:

Arkansas Senate	Missouri Senate
Colorado Senate	New Hampshire Senate
Hawaii Senate and House	New Mexico Senate
Idaho Senate	New York Senate
Kansas Senate	Ohio Senate
Kentucky Senate	Vermont Senate and House

The electronic roll call, however, allows each member to cast his or her own vote through a computerized system that tabulates the legislative vote, displays the overall vote total and provides a printout of the data. The primary advantage of such systems is the speed and accuracy with which votes can be taken and counted. Almost two-thirds of the legislative bodies have installed electronic voting systems.

A combination system mixes aspects of both manual and electronic roll-call voting. The clerk still orally calls the roll but a member's vote is entered into a computerized system. By using this method, some of the formality associated with a roll-call vote is preserved, but it also provides the clerk with the advantages of a computerized system. Combination voting systems are used by the 12 chambers shown below.

Alabama Senate	Texas Senate
California Senate	Utah Senate
Delaware House	Washington Senate
Oregon Senate	Wisconsin Senate
Pennsylvania Senate	Wyoming Senate and House
South Dakota Senate	

The Wisconsin Assembly (1917), the Texas House (1919) and the Virginia House (1923) were the first chambers to install electronic voting systems, but almost half the legislative assemblies had such systems in place by 1980 (see table 96-5.7). Although many voting systems are more than 10 years old, one trend that has been noticeable for several years is the willingness of state legislatures to upgrade their voting systems. Upgrades have been made in more than 40 percent of the chambers since 1990.

Features of voting systems. Table 96-5.8 highlights the main features of current electronic voting systems. The two most common features of electronic voting systems are voting controls at the front desk and running vote total displays. Seventy-two chambers give the presiding officer or the clerk the ability to open and close the

voting system. In 54 legislative assemblies, the voting system for individual desks can be turned off. The location where vote totals are displayed varies. Forty-two legislative bodies display the vote total for chamber view. A running vote total appears on the presiding officer's monitor in 62 legislative chambers and on the clerk's monitor in 59.

Improved computer technology, however, gives legislatures the ability to add more sophisticated features to their voting systems. In 33 legislative bodies, the presiding officer or clerk has a graphical display showing which members have been excused. Debate timers are available in 24 chambers. The presiding officers in the 10 chambers shown below have monitors that display which legislators wish to speak and the order of the requests.

California Senate	Oklahoma House
Illinois Senate and House	Texas Senate
Kentucky House	Virginia Senate
Maine House	West Virginia House
Michigan Senate	

Electronic voting systems also enable many legislatures to expedite other work. Because most systems are designed to store voting data for transfer to a main frame or personal computer for further processing, it is not necessary for someone to re-enter the data (see table 96-5.9). In 40 legislative bodies, the voting system is linked with calendar production, and it is interfaced for journal production in 48 chambers. The Washington Senate indicated that its voting system is tied to the bill status system.

To preserve the appearance of their chambers, the eight legislative assemblies below have vote display boards that fade into the chamber wall when they are not in use.

Florida Senate	Ohio House
Michigan Senate	Pennsylvania House
Minnesota Senate	South Dakota House
Nebraska Senate	Utah House

Controlling the voting process. One frequently asked question is "Who controls the roll-call voting system?" In 17 chambers, the answer is the presiding officer. The chambers where the roll-call system is opened and closed by the presiding officer are:

Arizona House	New York Senate
Arkansas Senate	Ohio House
California Senate	Oklahoma House
Indiana Senate	Tennessee Senate and House
Kansas Senate	Utah House
Maine House	Virginia Senate (opens)
Missouri Senate	Washington House
Montana Senate and House	

Most frequently, however, the roll-call system is opened and closed by the clerk or secretary. This is true in more than half the legislative assemblies.

Alabama Senate and House	New Jersey Assembly
Alaska Senate and House	New Mexico House
Arizona House	New York Assembly
Arkansas House	North Dakota Senate and House
Colorado House	Ohio House
Florida House	Oklahoma Senate and House
Georgia House	Oregon House
Idaho House	Pennsylvania Senate and House
Illinois Senate and House	Rhode Island Senate
Iowa Senate and House	South Dakota Senate and House
Kentucky House	Tennessee Senate and House
Louisiana Senate and House	Texas Senate and House
Maryland Senate	Virginia Senate (Closes)
Michigan Senate and House	Virginia House
Minnesota Senate and House	Washington Senate
Mississippi House	West Virginia Senate and House
Nebraska Senate	Wisconsin Senate and House
Nevada Senate and Assembly	Wyoming Senate and House
New Hampshire House	

Occasionally, another person is placed in control of the roll-call system. The reading clerk opens and closes the voting system in five legislative bodies.

California Assembly	Missouri House
Indiana House	South Carolina House
Maryland House	

Other legislative staff are assigned the responsibility in nine chambers. These individuals are identified below.

Connecticut Senate (Senate clerk's office assistant)
Connecticut House (roll-call operator)
Florida Senate (employee in the Senate secretary's office)
Kansas House (chief journal clerk)
Maine Senate (Senate reporter)
New Hampshire House (computer technician)
New Jersey Senate (employee of legislative services)
North Carolina House (employee of the House clerk's office)
Utah Senate (voting machine operator)

“Are electronic roll-call votes subject to change?” is another common question. In the following 36 chambers, the answer is no; once the roll has been closed, the votes are final.

Alabama Senate and House	Minnesota Senate
Arizona House	Nebraska Senate
Arkansas House	Nevada Senate and Assembly
Colorado House	New Mexico House
Connecticut Senate and House	New York Assembly
Delaware House	North Dakota Senate and House
Florida Senate and House	Oklahoma Senate
Illinois Senate and House	Pennsylvania Senate and House
Indiana Senate	South Carolina House
Iowa Senate	Texas House
Kansas House	Virginia Senate
Louisiana Senate	Washington Senate and House
Maine House	West Virginia House
Michigan House	Wisconsin Assembly

One-third of the legislative bodies allow changes if they are requested at the time of the vote. Only 17 assemblies will modify a roll-call vote by request at a later time. Table 96-5.9 details when roll calls are subject to change.

Table 96-5.6 Voting Systems in State Legislatures

State (1)	Membership		Type of Voting System		Manufacturer		Time Required to Take a Roll Call	
	Senate	House	Senate	House	Senate	House	Senate	House
Alabama	35	105	Comb	Elec	In-house	Dak	1-4 min	Under 30 sec
Alaska	20	40	Elec	Elec	IRC	IRC	30-59 sec	30-59 sec
Arizona	30	60	Elec	Elec	IRC	IRC	30-59 sec	1-4 min
Arkansas	35	100	Manual	Elec	NA	IRC	30-59 sec	Under 30 sec
California	40	80	Comb	Elec	Dak	Dak	1-4 min	Under 30 sec
Colorado	35	65	Manual	Elec	NA	Dak		30-59 sec
Connecticut	36	151	Elec	Elec	Dak	IRC	1-4 min	1-4 min
Delaware	21	41		Comb		IRC		1-4 min
Florida	40	120	Elec	Elec	Dak	Dak	Under 30 sec	Under 30 sec
Georgia	56	180		Elec		IRC		30-59 sec
Hawaii	25	51	Manual	Manual	NA	NA		
Idaho	35	70	Manual	Elec	NA	Local		30-59 sec
Illinois	59	118	Elec	Elec	Dak	Dak	Under 30 sec	Under 30 sec
Indiana	50	100	Elec	Elec	Dak/Pythia	IRC	30-59 sec	30-59 sec
Iowa	50	100	Elec	Elec	Dak	Dak	Under 30 sec	30-59 sec
Kansas	40	125	Manual	Elec	NA	Dak	5-9 min	30-59 sec
Kentucky	38	100	Manual	Elec	NA	IRC		1-4 min
Louisiana	39	105	Elec	Elec	Dak	Dak	Under 30 sec	Under 30 sec
Maine	35	151	Elec	Elec	IRC	IRC	1-4 min	1-4 min
Maryland	47	141	Elec	Elec	Dak	Dak	Under 30 sec	Under 30 sec
Massachusetts	40	160						
Michigan	38	110	Elec	Elec	Dak	Dak	1-4 min	1-4 min
Minnesota	67	134	Elec	Elec	Dak	Com-tec	30-59 sec	Under 30 sec
Mississippi	52	122		Elec		Dak		Under 30 sec
Missouri	34	163	Manual	Elec	NA	Com-tec	1-4 min	1-4 min

Table 96-5.6 Voting Systems in State Legislatures, cont'd.

State (1)	Membership		Type of Voting System		Manufacturer		Time Required to Take a Roll Call	
	Senate	House	Senate	House	Senate	House	Senate	House
Montana	50	100	Elec	Elec	Dak	Dak	Under 30 sec	Under 30 sec
Nebraska	49	NA	Elec	NA	Dak	NA	30-59 sec	NA
Nevada	21	42	Elec	Elec	Pythia	Pythia	30-59 sec	30-59 sec
New Hampshire	24	400	Manual	Elec	NA	Dak		30-59 sec
New Jersey	40	80	Elec	Elec	Dak	Dak	30-59 sec	Under 30 sec
New Mexico	42	70	Manual	Elec	NA	IRC		Under 30 sec
New York	61	150	Manual	Elec	NA	Dak	1-4 min	Under 30 sec
North Carolina	50	120		Elec		Dak		Under 30 sec
North Dakota	49	98	Elec	Elec	Dak	Dak	Under 30 sec	Under 30 sec
Ohio	33	99	Manual	Elec	NA	IRC	Under 30 sec	1-4 min
Oklahoma	48	101	Elec	Elec	IRC	IRC	1-4 min	1-4 min
Oregon	30	60	Comb	Elec	IRC	Dak	1-4 min	Under 30 sec
Pennsylvania	50	203	Comb	Elec	IRC	IRC	5-9 min	Under 30 sec
Rhode Island	50	100	Elec		Dak		Under 30 sec	
South Carolina	46	124		Elec		Dak		1-4 min
South Dakota	35	70	Comb	Elec	Dak	Dak	30-59 sec	30-59 sec
Tennessee	33	99	Elec	Elec	Dak	Dak	Under 30 sec	Under 30 sec
Texas	31	150	Comb	Elec	IRC	Dak	30-59 sec	1-4 min
Utah	29	75	Comb	Elec	IRC	IRC	1-4 min	1-4 min
Vermont	30	150	Manual	Manual	NA	NA	1-4 min	10-14 min
Virginia	40	100	Elec	Elec	Dak	IRC	Under 30 sec	Under 30 sec
Washington	49	98	Comb	Elec	In-house	Dak	1-4 min	30-59 sec
West Virginia	34	100	Elec	Elec	Dak	IRC	Under 30 sec	Under 30 sec
Wisconsin	33	99	Comb	Elec	Dak	Dak	1-4 min	Under 30 sec
Wyoming	30	60	Comb	Comb	Dak	Dak	1-4 min	1-4 min

Table 96-5.6 Voting Systems in State Legislatures, cont'd.**Key:**

NA=Not applicable

Elec=Electronic voting system

Manual=Manual (oral) voting system

Comb=Combination of manual and electronic systems, where the clerk calls the roll but enters a member's vote into a computerized system

Com-tec=Com-tec Inc.

Dak=Daktronics Inc.

IRC=International Roll-Call® Corporation

In-house=Voting system was developed by the legislature itself

Pythia=PYTHIA Corporation

Note:

1. The following chambers did not respond to the survey: Delaware Senate, Georgia Senate, Massachusetts Senate and House, Mississippi Senate, North Carolina Senate, Rhode Island House, South Carolina Senate; nor did any legislatures from the U.S. territories respond.

Table 96-5.7 Voting System Installations and Upgrades

State (1)	First System Installed		Age of Current System		Last System Upgrade	
	Senate	House	Senate	House	Senate	House
Alabama	1985	1940s	5 years	10 yrs	1990	1994
Alaska	1979	1979	5 yrs	5 yrs	1993	1993
Arizona	1989		7 yrs			
Arkansas	NA	1960s		5 yrs		1995
California	1988	1935	8 yrs	14 yrs	1996	1993
Colorado	NA	1977		18 yrs		1989
Connecticut	1974	1958	8 yrs	6 yrs	1996	1994
Delaware		1993		3 yrs		1995
Florida	1970s	1939	20 yrs	2 yrs	1991	1996
Georgia		1950s		4 yrs		1992
Hawaii	NA					
Idaho	NA	1970		12 yrs		1995
Illinois	1974		6 yrs		1994	
Indiana	1975		1 yr		1996	1993
Iowa	1973	1970s	6 yrs	20 + yrs	1989	1989
Kansas	NA	1955		17 yrs		1989
Kentucky	NA	1970s		6 yrs		1995
Louisiana	1940s	1930s	14 yrs	9 yrs	1995	1994
Maine	1996	1966	new	6 yrs	1996	1995
Maryland	1971		3 yrs	1 yr	1994	1995
Massachusetts						
Michigan	1977	1965	5 yrs	6 yrs	1995	1996
Minnesota	1967	1939	19 yrs	10 yrs	1989	1986
Mississippi		1944		20 yrs		1987
Missouri	NA	1977		3 yrs		
Montana	1969	1971	1 yr	2 1/2 yrs	1996	1994
Nebraska	1971		9 yrs		1986	

Table 96-5.7 Voting System Installations and Upgrades, cont'd.

State (1)	First System Installed		Age of Current System		Last System Upgrade	
	Senate	House	Senate	House	Senate	House
Nevada	1973	1973	new	new	1996	1996
New Hampshire	NA	1975		20 yrs		1989
New Jersey	1984	1961	4 yrs	5 yrs	1992	1995
New Mexico	NA	1983		10 yrs		1995
New York	NA	1965		8 yrs		1988
North Carolina		1975		3 yrs		1995
North Dakota	1970	1970	14 yrs	14 yrs	1990	1990
Ohio	1996	1950s		5 yrs		1994
Oklahoma	NA	1972		2 yrs	1994	1994
Oregon	1991	1974	4 yrs	21 yrs	1994	1989
Pennsylvania		1959		16 yrs		1994
Rhode Island						
South Carolina		1988		7 yrs		1995
South Dakota	1970s	1970s		8 yrs	1988	1988
Tennessee	1950s		10 yrs	10 yrs	1994	1985
Texas	1993	1919	2 ½ yrs	1 yr		
Utah	1994		2 yrs	3 yrs		1996
Vermont	NA	NA				
Virginia	1930	1923	11 yrs	11 yrs	1989	1993
Washington	1995	1970s	1 yr	13 yrs	1995	1996
West Virginia	1977	1945	18 yrs	1 yr	1989	1995
Wisconsin	1989	1917	6 yrs	7 yrs	1989	
Wyoming	1996	1996	new	new		

Table 96-5.7 Voting System Installations and Upgrades, cont'd.

Key:

NA=Not applicable

Note:

1. The following chambers did not respond to the survey: Delaware Senate, Georgia Senate, Massachusetts Senate and House, Mississippi Senate, North Carolina Senate, Rhode Island House, South Carolina Senate; nor did any legislatures from the U.S. territories respond.

Table 96-5.8 Main Features of Current Electronic Voting Systems

State	Presiding officer can open or close system	Clerk can open/close system	Individual member's desk can be locked out	Debate timer on presiding officer's monitor	Debate timer on clerk's monitor	Touch screen voting board	Running vote total display for chamber view	Running vote totals on presiding officer's monitor	Running vote totals on clerk's monitor	Graphic shows excused members to presiding officer	Graphic shows excused members to clerk	Other graphics display on presiding officer's monitor	Other graphics display on clerk's monitor	Amendment, resolution, proclamation, other display
Alabama		B	H	H	H	S	H	H	B					H
Alaska		B	B				B	S	B	S	B	B		
Arizona	B	B	H				B	B	B	B	B			
Arkansas	H	H	H					H				H	H	
California		B	H	B			B	B	B			S		
Colorado	H	H	H				H				H			
Connecticut	B	B	H				B	H	B					B
Delaware								H	H					
Florida	B	B	B	B	B	H	B	B	B	H	H	H	H	
Georgia		H	H					H	H					
Hawaii														
Idaho		H	H				H		H					
Illinois		B	B	B			B	B	S		H	B	S	
Indiana	B	S						B		S	S			S
Iowa		B	B				B	B	H					H
Kansas		H	H				H	H						
Kentucky	H	H	H				H	H	H			H	H	

Table 96-5.8 Main Features of Current Electronic Voting Systems, cont'd.

State	Presiding officer can open or close system	Clerk can open/close system	Individual member's desk can be locked out	Debate timer on presiding officer's monitor	Debate timer on clerks' monitor	Touch screen voting board	Running vote total display for chamber view	Running vote totals on presiding officer's monitor	Running vote totals on clerk's monitor	Graphic shows excused members to presiding officer	Graphic shows excused members to clerk	Other graphics display on presiding officer's monitor	Other graphics display on clerk's monitor	Amendment, resolution, proclamation, other display
Louisiana		B	B	B	H			B	B	H		S	S	
Maine	B	B	B					B	B	B	B	H		
Maryland	B	B	B	S		B		B	H		H	H	H	
Massachusetts														
Michigan		B		S	S	B	S	B	B	S	S	B	S	S
Minnesota	H	B	H				S	H	H					
Mississippi		H												
Missouri		H	H	H				H	H					
Montana	B	B	S			S	B	B	B	S	B			B
Nebraska		S	S	S			S	S	S		S	S	S	S
Nevada	B	B	B				B	B	B	B				
New Hampshire	H	H	H					H	H				H	
New Jersey	B	B	B	H	H	B	B	B	B			B	B	S
New Mexico		H					H							
New York		H	H	H				H	H	H	H			
North Carolina		H	H					H	H	H	H			H
North Dakota	B	B	B				B	B	B			B		

Table 96-5.8 Main Features of Current Electronic Voting Systems, cont'd.

State	Presiding officer can open or close system	Clerk can open/close system	Individual member's desk can be locked out	Debate timer on presiding officer's monitor	Debate timer on clerk's monitor	Touch screen voting board	Running vote total display for chamber view	Running vote totals on presiding officer's monitor	Running vote totals on clerk's monitor	Graphic shows excused members to presiding officer	Graphic shows excused members to clerk	Other graphics display on presiding officer's monitor	Other graphics display on clerk's monitor	Amendment, resolution, proclamation, other display
Ohio	H	H	H					H	H	H	H			
Oklahoma	B	B	H				B	B	B	H	H	H	H	H
Oregon		H					S	H	H	H	H	H	H	
Pennsylvania	B	B	B				H	B	B	S	B			H
Rhode Island		S	S					S						
South Carolina	H	H	H		H									
South Dakota	H	H	H	H	H						H			H
Tennessee	B	B	B	B	B		S	B	B					H
Texas	B	B	H	H		H		B	S	H	H	B	H	
Utah	H	S	H	S		H	B	B	B	S	S	S		S
Vermont														
Virginia	S	B	B	S	S		B	B	B	H	H	S	S	H
Washington	H	H	H	H	H	S	H	H	B	H	B			H
West Virginia		B	H	H	H	H	S	B	B			H		
Wisconsin		B	H	H	H	S		H	S					H
Wyoming		B				B			B		B			

Table 96-5.9 Linking Voting Systems

State (1)	Interfaced with main frame or pc for calendar production	Interfaced with main frame or pc for journal production	Journal may independently enter excused members or abstentions	Voting reports can be generated	Other
Alabama	S	H	H	S	
Alaska		B		B	2
Arizona	H	H		B	
Arkansas					
California	H		H	B	3
Colorado		H	H		
Connecticut	H	H	B	B	
Delaware				H	
Florida	B	B	B	B	
Georgia		H		H	
Hawaii					
Idaho					
Illinois	B	B		S	
Indiana	S	S	S	S	4
Iowa	H	H	H	B	
Kansas					
Kentucky				H	
Louisiana	S	B	S	S	
Maine	B	H		B	
Maryland	H	S		B	
Massachusetts					
Michigan	S	S	S	H	
Minnesota		B	S	H	
Mississippi					
Missouri		H	H	H	
Montana	B	B			

Table 96-5.9 Linking Voting Systems, cont'd.

State (1)	Interfaced with main frame or pc for calendar production	Interfaced with main frame or pc for journal production	Journal may independently enter excused members or abstentions	Voting reports can be generated	Other
Nebraska	S		S		
Nevada	B	H	S	B	
New Hampshire	H	H		H	
New Jersey	S	S		S	5
New Mexico	H			H	
New York	H	H	H	H	
North Carolina				H	
North Dakota	B	B	B	B	
Ohio				H	
Oklahoma	B	B		B	
Oregon	B	B	H	H	
Pennsylvania	S	S		B	
Rhode Island		S	S		
South Carolina				H	
South Dakota	H	H		H	
Tennessee	S	B		H	
Texas	H	H		S	
Utah	S	H		H	
Vermont					
Virginia	S	B	H	H	
Washington	H			B	6
West Virginia	H	B			
Wisconsin		H		S	
Wyoming	B	B	B	B	

Table 96-5.9 Linking Voting Systems, cont'd.

<p>Key:</p> <ul style="list-style-type: none">S=SenateH=House or AssemblyB=Both chambers <p>Notes:</p> <ol style="list-style-type: none">1. The following chambers did not respond to the survey: Delaware Senate, Georgia Senate, Massachusetts Senate and House, Mississippi Senate, North Carolina Senate, Rhode Island House, South Carolina Senate; nor did any legislatures from the U.S. territories respond.2. Alaska Senate and House: The roll-call voting system also is used for the BASIS program.3. California Senate: The secretary of the Senate also has the ability to access bills on call and to edit the daily file if new bills are added or other changes are made. The system can display all motions made on the floor and the name of the senate or who makes a motion.4. Indiana Senate: Virtually anything available for display on the chamber computers can be displayed on the 7-foot-square video wall. The system also can be used for teleconferences.5. New Jersey Senate: Demonstration mode allows tours to use voting system without affecting real data. Voice votes can be registered as passed or failed.6. Washington Senate: The voting system is interfaced with the bill status system.

Table 96-5.10 When Roll-Call Votes are Subject to Change

State (1)	At the request of the body at the time of the vote	At the request of presiding officer at the time of the vote	At the request of a member at the time of the vote	At the request of the body at a later time	At the request of presiding officer at a later time	At the request of a member at a later time
Alabama						
Alaska			B			
Arizona			S			
Arkansas						
California			S			H
Colorado						
Connecticut						
Delaware						
Florida						
Georgia		H				
Hawaii						
Idaho				H		
Illinois						
Indiana			H			H
Iowa	H					H
Kansas						
Kentucky			H			H
Louisiana						H
Maine			S			
Maryland	H		B			
Massachusetts						
Michigan	S		S			
Minnesota		H				
Mississippi			H			H
Missouri					H	H
Montana	B			B		

Table 96-5.10 When Roll-Call Votes are Subject to Change, cont'd.

State (1)	At the request of the body at the time of the vote	At the request of presiding officer at the time of the vote	At the request of a member at the time of the vote	At the request of the body at a later time	At the request of presiding officer at a later time	At the request of a member at a later time
Nebraska						
Nevada						
New Hampshire			H			
New Jersey		H	H		S	
New Mexico						
New York						
North Carolina			H			
North Dakota						
Ohio				H		H
Oklahoma		H	H			
Oregon			B	H		S
Pennsylvania						
Rhode Island			S			
South Carolina						
South Dakota			B			
Tennessee	S	B	S		H	
Texas			S			
Utah	S		H	S		
Vermont						
Virginia			H			
Washington						
West Virginia			S			
Wisconsin			S			
Wyoming	B	B			B	

Table 96-5.9 When Roll-Call Votes are Subject to Change, cont'd.

Key:

S=Senate

H=House or Assembly

B=Both chambers

Note:

1. The following chambers did not respond to the survey: Delaware Senate, Georgia Senate, Massachusetts Senate and House, Mississippi Senate, North Carolina Senate, Rhode Island House, South Carolina Senate; nor did any legislatures from the U.S. territories respond.