

# Characteristics of Currently Available Ballot Marking Devices, by Vendor

Please send questions and feedback to [voting-system-features@verifiedvoting.org](mailto:voting-system-features@verifiedvoting.org)

Vendor	ClearBallot	Dominion		Election Systems & Software	
Device name	Clear Access	ImageCast Evolution	ImageCast X	ExpressVote	ExpressVote XL
System name	ClearVote	Democracy Suite	Democracy Suite	EVS	EVS
<b>Ballot barcodes and character maximums</b>					
Bar or QR code type	None	N/A	2D: QR	1D, Code 128	1D, Code 128
Contest name			254	Scaled	Scaled
Choice name			254	Scaled	Scaled
Location name			254	Scaled	Scaled
Unmarked contests	Yes	No		Yes	Yes
<b>Ballot paper dimensions, types and weights supported</b>					
Dimensions (inches)	8.5x5, 8.5x11, 8.5x14, 8.5x19, 8.5x21, 8.5x22	8.5x11, 8.5x14, 8.5x19, 8.5x21, 8.5x22	Thermal 3.25 roll, 8.5x11, 8.5x14, 8.5x19, 8.5x21, 8.5x22	4.5x11, 4.5x14, 4.5x17, 4.5x19	4.5x11, 4.5x14, 4.5x17, 4.5x19
Type(s) supported	Cover, index, bristol	Rolland Opaque True Finish: Smooth & Low Brightener	Thermal, Rolland Opaque 50 Accent Opaque [Bright White, Smooth Finish]	ES&S CountRight™	ES&S CountRight™
Weight(s) (pounds)	Cover stock: 60, 65, 70, 80 pound, Index stock: 65, 90 pound, Bristol stock: 57, 67 pound	80, 100	80, 100	80	80
<b>Modes of operation</b>					
Modes	BMD	Hybrid BMD/Scanner	BMD or DRE	HW 1.1 BMD, HW2.0 Hybrid BMD/Scanner	Hybrid BMD/Scanner
<b>Cast vote records, ballot ID's and ballot image resolution (dpi)</b>					
Ballot image resolution	600	600	600	200	200
Cast vote records	Yes	Yes	Yes	Yes	Yes
Imprinted ballot ID	No		No		
Summary/full ballot	Full Ballot	Both	Both, or DRE w/ VVPAT	Summary	Summary
Voter-Handled Ballot	Yes	Configurable	Configurable	Configurable	Configurable
<b>Communications and programming</b>					
Activation	PIN	Smart Card	Smart Card	Ballot card	Ballot card
Built-in modem	Yes	Yes	Yes	No	No
Communication ports	USB, Ethernet	Ethernet, USB, ComFlash	USB	USB, LAN	USB, LAN
Programming method	USB	Compact Flash	USB	USB	USB
Wireless type	None	External modem	External modem	Not Available	Not Available

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Device name	Clear Access	ImageCast Evolution	ImageCast X	ExpressVote	ExpressVote XL
System name	ClearVote	Democracy Suite	Democracy Suite	EVS	EVS
<b>Cost per unit (estimated range)</b>					
Purchase	\$4,600	\$10,900	\$2,575	\$3,260 - \$4,914.69	\$8,250 - \$8,500
<b>Screen size, resolution and contents</b>					
Resolution	1600 x 900	1920 x 1080	1920 x 1080	768 x 1024	1920 x 1080
Screen contents	1 Contest	1 Contest	1 Contest	1 Contest	All Contests
Size (diagonal inches)	15	18.5	21.5	15	32
<b>Touch selection</b>					
Ballot styles	3,200	4,000	4,000	9,900	9,900
Ballot styles per precinct	50	5	5	1,600	1,600
Choices per contest	300	462	462	1,000	1,000
Contests	3,200	4,000	4,000	21,000	21,000
Contests per style	60	125	125	200	200
Languages	English Spanish Chinese Korean Vietnamese Danish Dutch Flemish French Hindi German Italian Japanese Norwegian Portuguese Swedish	Alaska Native Apache Bengali Chinese English Eskimo Filipino French Hindi Japanese Jicarilla Keres Khmer Korean Navajo Seminole Spanish Thai Towa Ute Vietnamese Yuman	Alaska Native Apache Bengali Chinese English Eskimo Filipino French Hindi Japanese Jicarilla Keres Khmer Korean Navajo Seminole Spanish Thai Towa Ute Vietnamese Yuman	English Spanish Chinese Korean Japanese Hindi	English Spanish Chinese Korean Japanese Hindi

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Vendor	Hart Intercivic		Unisyn	
Device name	Duo	TouchWriter	FVT	OVI-VC
System name	Verity	Verity	OpenElect	OpenElect
<b>Ballot barcodes and character maximums</b>				
Bar or QR code type	2D: QR	1D: Barcode	2D, No Spec	2D, No Spec
Contest name	100	100		
Choice name	100	100		
Location name	100	100		
Unmarked contests	Yes	Yes	Reported in Vote Tabulation	Reported in Vote Tabulation
<b>Ballot paper dimensions, types and weights supported</b>				
Dimensions (inches)	8.5x11 8.5x14	8.5 x 11, 8.5 x 14, 8.5 x 17, 8.5 x 20	8.5 x 11, 8.5 x 14, 8.5 x 17, 8.5 x 19	8.5 x 11, 8.5 x 14, 8.5 x 17, 8.5 x 19
Type(s) supported	COTS	COTS	Mitsubishi Paper Mills Limited	
Weight(s) (pounds)	N/A	N/A	28	
<b>Modes of operation</b>				
Modes	BMD	BMD	BMD	BMD
<b>Cast vote records, ballot ID's and ballot image resolution (dpi)</b>				
Ballot image resolution	200	200		
Cast vote records	Yes	Yes	Yes	
Imprinted ballot ID				
Summary/full ballot	Both	Both	Summary	Summary
Voter-Handled Ballot	Yes	Yes	Yes	Yes
<b>Communications and programming</b>				
Activation	Access Code	Access Code	PIN	
Built-in modem	No	No	No	
Communication ports	USB		USB	USB
Programming method	vDrive	vDrive	USB	USB
Wireless type	N/A	N/A	No	No

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Device name	Duo	TouchWriter	FVT	OVI-VC
System name	Verity	Verity	OpenElect	OpenElect
<b>Cost per unit (estimated range)</b>				
Purchase	Varies	Varies		
<b>Screen size, resolution and contents</b>				
Resolution	1024 x 768	1024 x 768		
Screen contents	1 Contest	1 Contest	1 Contest	1 Contest
Size (diagonal inches)	12.1	12.1	13.3	15
<b>Touch selection</b>				
Ballot styles	Unlimited	Unlimited	400	400
Ballot styles per precinct	20	20	9	
Choices per contest	5,000	5,000	120	120
Contests	2,000	2,000	150	150
Contests per style	N/A	N/A	20	
Languages	English Spanish Chinese Japanese Korean Khmer Thai Vietnamese Tagalog Ilocano Hindi	English Spanish Chinese Japanese Korean Khmer Thai Vietnamese Tagalog Ilocano Hindi	Armenian Cambodian Chinese (Cantonese, Mandarin dialects) English Japanese Korean Russian Spanish Tagalog Vietnamese	Armenian Cambodian Chinese (Cantonese, Mandarin dialects) English Japanese Korean Russian Spanish Tagalog Vietnamese

Visit [verifiedvoting.org/verifier](https://verifiedvoting.org/verifier) to see an interactive map of voting equipment in use throughout the United States.