16 TV Control

	TV Control Definition	Notes
1	TV control includes tasks for typical TV use outside of setting adjustments.	Over time these functions will migrate to System UI and VIZIO Home.
2	A limited number of commands for voice control of the TV is supported using Alexa.	

16.1 Input Change Control

	Info Status	Notes	TestRail Tes Case #
1	The Input Change Control displays for 5 seconds: • power on for physical ports only (HDMI and comp only) • press of the INFO key (all inputs except Watchfree+/antenna) • input change to HDMI (or comp) (but not for content change on the input).		C21366796
2	Input Change Control does NOT display under the following conditions: • Switch to VIZIO Home, antenna, WatchFree or AirPlay is source		C21366797

16.1.1 Current Input Change Control Requirements

	Input Change Control requirement	Details	Notes	TestRail Test Case #
1	Current source	• Physical input • CEC name • user assigned name	Examples: • HDMI-1 • Blu-ray	C21367069
2	Resolution of the current source (4K, 1080p, 1080i, 720p, 480p, 480i or computer).		Computer is actual resolution such as 2560x1440.	C21367070
3		If resolution is unknown, resolution is blank instead of "unknown".		C21367070
4		For computer, display the actual resolution, e.g. 1027x728.		C21367070

5		If an audio only source, text of "no video" displays.		C21367070
6	Audio type (applies to all inputs)	Only Dolby or DTS logos are included: no other audio in is reported. If audio in is NOT Dolby or DTS (e.g. AAC) then audio in is not reported and is blank.	This is Audio In to TV as per System Info. Audio Out only displays if VIZIO soundbar connected with Dolby Atmos.	
7		Dolby Audio, DTS	This is Audio In to TV as per System Info.	C21367071
8		If Dolby Audio, display the Dolby Audio logo		C21367071
9		If VIZIO sound bar connected and Dolby Atmos is heard, display the Dolby Atmos logo.	This is actually Audio Out, bypassing TV as per System Info. Name of VIZIO sound bar precedes the Dolby Atmos logo.	C21367071
10		If DTS, include DTS logo instead of Stereo or Dolby Audio logo.		C21367071
11		If no audio is heard then audio in is not reported		

16.1.2 Current Source List

		Notes
1	VIZIO Home	
2	WatchFree+	
3	HDMI-1	HDMI-1 unless CEC or user assigned name or for VIZIO Soundbar: • VIZIO Elevate • VIZIO AIO • VIZIO Soundbar • VIZIO MicMe SB
4	HDMI-2	HDMI-X unless CEC or user assigned name.
5	HDMI-3 (V4K and VQD series only)	HDMI-X unless CEC or user assigned name.
6	Antenna	
7	USB (on insertion of USB connection)	
8	Virtual CEC devices	Devices connected to a CEC mux such as a sound bar or audio receiver.

16.1.2.1 Content Lock

	Content Lock Requirement	Notification
1	Current channel is locked	program name is replaced by "Channel Locked".
2	Current program is locked	program name is replaced by "Program Locked".

16.1.2.2 VIZIO Home Virtual Inputs

1	The iVirtual Input has an associated app, the Virtual Input App, and can be accessed.	Press the Input key to select the Virtual Input. • Tap the Virtual tuner from the input selector on the SmartCast Mobile app. • If available, select the Virtual Input app associated with Virtual Input from the app carousel on VIZIO Home and it will switch to the Virtual Input and launch the Virtual Input app.

2	Virtual Inputs are configured dynamically by VIZIO Home using a set of APIs defined by VIZIO. Localized names are provided for in the API that instantiates the Virtual Input.	
3	The virtual Input App behaves the same as other TV applications.	
4	Virtual inputs can't be renamed by users. The only user configurable setting of a Virtual Input, if it is designated as hide-able, is to Hide it.	
5	The maximum number of virtual inputs is 5. The same as for input names, the maximum number of characters for the virtual input is 24 for the mobile app but for sidebar ellipses are used if the name is longer then 16 characters.	

16.1.2.3 CEC Virtual Inputs

1	If CEC devices are connected to an HDMI switch such as a sound bar, audio receiver or Wireless HD Switch, then these devices must also display in the input list for selection	
2	The CEC assigned name is used.	
3	CEC Virtual inputs cannot be hidden.	
4	If the virtual input is connected to an audio device that is hidden then the virtual input is not displayed.	

16.1.3 Input Resolution

1	4K	Previously 2160P
2	1080p	
3	1080i	
4	720p	
5	480p	
6	480i	
7	PC (the actual resolution such as 768 X 480 if not one of the above)	
8	If unknown, then resolution is not provided (blank).	

16.1.3.1 Input Resolution Requirements

	Input Resolution Requirements	Notification
1	Cast should reflect the aspect ratio intended. That is, if black bars are included with the signal, then that must be included in determining the aspect ratio.	
2	If the resolution is not supported, then a warning notification displays.	"Video format not supported."
3	Normal is the only available setting in the following conditions: • Current content is 160Hz (typically a PC). • Full screen graphics - as for some apps during selection or play.	

16.1.4 Audio Type for Input Change Control

	Audio Types Input Change Control	Requirements	Notes
1	~~Mono~~		~~C21367071~~
2	~~Stereo~~		~~C21367071~~
3	Dolby Audio	Logo displays, no text	C21367071
4	Dolby Atmos	Logo displays, no text. Display with VIZIO sound bar name only • Does not display with any other sound bar or audio device. • Never displays with TV speakers (Dolby Atmos not supported by TV). • For TV speakers, display Dolby Audio logo instead	
5	DTS	Logo displays, no text. For bitstream DTS Digital Surround including DTS Core, DTS-CA, DTS 96/24, DTS Express, DTS-ES Matrix, and DTS-ES Discrete	C21367071
6	DTS-HD	Logo displays, no text. For bitstream DTS-HD HiRes and DTS-HD Master Audio	C21367071
7	DTS:X (not for D series)	Logo displays, no text. For bitstream DTS:X (P1), DTS:X (P2) and DTS:X Master Audio (P1)	C21367071
8	Bluetooth Headphones	Icon displays, no text	
9	BLANK -	The audio type is blank if no audio sent to the TV or TV speakers are turned off and the audio sent to a connected sound bar or audio receiver OR the audio format is not supported (rare).	C21367071
10	BLANK -	The audio type is blank if audio is NOT trademarked for Dolby or DTS. Examples are audio in from PCM and AAC.	

16.1.5 Logos Input Change Control and Gaming Menu

Logos display as required for certification.

	Partner	Required Logo	Location
1	Dolby	1. Dolby Audio 2. Dolby Atmos 3. Dolby Vision	Input Change Control If Input Change Control does not display then right top side of TV for Dolby Vision only.
2	DTS	1. DTS 2. DTS HD 3. DTS X	Input Change Control
3	AMC Freesync	1. Freesync 2. Freesync Premium 3. Freesync Premium Pro	Gaming menu with Gaming Info For details see HDMI and Gaming menu.

16.1.5.1 Dolby Vision Logo

	Dolby Vision Logo Requirements	Notes	TestRAil Test Case #
1	For current source, if content changes to Dolby Vision, as required for Dolby, display the Dolby Vision logo for 3 seconds	• Logo displays once for the content. • If Info Bar displays with Dolby Vision then do not display on the right.	C21367162
2	On input change, if content includes DV, the Info Bar includes the Dolby Vision logo so displaying the logo separately is suppressed and should not display after Info Bar take down.		
3	If multiple logos display Dolby Vision logo is furthest left followed by FreeSync as applicable.		C21367162

16.1.5.2 Dolby Audio Logo

	Dolby Audio Logo Requirements	Notes	TestRail Test Case #
1	Dolby requires display of the Dolby Audio logo.	Dolby Audio logo displays only in Input Change Control. Does not display with other logos.	C21366916
2	When a route is selected, and content includes Dolby audio, then Dolby Audio logo displays once when Input Change Control displays. • if source content changes (e.g. program on tuner) do not display Dolby Audio logo again. • If Input Change Control is displayed from Info key press, Dolby Audio is included if applicable.		C21367071

16.1.5.3 Dolby Atmos logo

	Audio Types for Info Bar	Requirements	Notes	TestRail Test Cae #
1	If a sound bar is connected, and content includes Dolby Atmos, then Dolby Atmos logo displays in the Input Change Control.	Dolby again allows Atmos logo display if heard from the soundbar. Soundbar name does NOT display with the Dolby Atmos logo.		C21366916
2	If VIZIO sound bar connected then SoundBarName displays left of the Dolby Atmos logo.	DELETED		C21366916

16.1.6 WatchFree+/Antenna Channel Landing Indicator

	Requirements	Notes
1	A channel change for WatchFree+ or Antenna displays the Channel Landing Indicator.	The Input Change Control does not display when WatchFree+ or Antenna is the source.
2	The Channel Landing Indicator is a banner at the top of screen displayed for tbd seconds.	
3	A press of INFO also displays the Channel Landing Indicator.	
4	Channel Landing Indicator includes the following information: • Channel Name • Channel Number • Program Title • Program Season/Episode • Program description • Program Rating • Program broadcast time • Program audio • CC logo if included in program content.	

16.2 Notifications

	Notification Type	Requirement	Notes
1	State change.	The notification times out after 5 seconds (tunable).	
2	Current state that must be acknowledged displays screen center.	Presented in a dialog box receive an IR code or times out after 15 seconds (tunable).	
3	Annunciations generated due to a setting change on the SmartCast app	Times out after 5 seconds (tunable).	
4		Except for dialog boxes, any key press such as EXIT, BACK, INPUT, or MENU, takes down the notification and launches the requested function.	
5		Display of a picture or audio slider times out after 5 seconds of no IR code adjustment.	The sidebar redisplays with the setting highlighted.

16.2.1 Notification Priority TV 101

	Notification	Location	Priority	Notes
1	Volume Control	Top Right	Top • Volume overlays all notifications but does not dismiss (except Input change control) • Volume can display concurrently with any notification or menu	Dismisses after 3 seconds of no change
2	Input Change Control	Top Right	Top below Volume • Dismissed by volume • Input Change Control overlays all other notifications • Can display concurrently with other notifications or menus but does not dismiss • HDMI • Tuner • COMP	Displays only for physical inputs
3	Dolby Vision logo	1. Alone - Top right below volume control 2. With Input Change control	Technically below volume and input change control but design allows for concurrent display. Above and concurrently displays with all other notifications	Required for display per Dolby contract • Displays with Input Change Control if detected. • If detected after input change control then displays alone for 3 seconds
4	Input Selector	Left side • fills vertically • about 1/4 screen width	Below and concurrent • volume • Input Change control • Dolby Vision logo • mandatory high level notifications Dismisses • Quick/All Settings • TBD low level notifications Above and queues • TBD medium and low level notifications	Q: Can some System notifications lay over but not dismiss e.g. VIZIOgram would be queued? Or queue notifications for after Input selector dismissed?
5	Quick Menu/All Settings	Left side • fills vertically • about 1/3 screen width	Below, concurrent with • volume • Input Change control • Dolby Vision logo • mandatory high level notifications Above and queues • TBD low level notifications Dismissed by • Input selector Dismisses • Input Selector • TBD medium level notifications and queues	
6	Full screen background for • Offline Mode - Home input • No Signal (sync) - HDMI or tuner	Full screen	Bottom • Notifications overlay • All OSD or menus overlays (all TV 101)	Remains at bottom until condition relieved at which time source displays.
7	Updates	• Update at Power on • Update requested by user	• Update at Power on is a toast that does not dismiss until completed, no user action allowed • queue notifications • Update requested by user, confirmed, no user action allowed • once update started queue notification	

8	MIC pressed	Voice toast at screen bottom	If displayed no dismiss:
			• Dolby Vision
			If displayed dismiss
			• Volume • Input change control • all other TV 101

16.2.2 Input Notifications

	Condition	Requirement	Notes
1	When an input is selected, the following conditions generate a warning:		
2		A physical input with no sync	
3		Physical input no sync power off after 10 minutes	Required by CEC (calif. energy commission)
4		VIZIO Home network failure - offline mode	

16.2.2.1 No Signal (Sync) HDMI Inputs

	Condition	Notification	NOTES	TestRAil Test Case #
1	HDMI input selected with no sync, notification displays within 1 second or immediately following OSD.	No Signal - INPUTNAME. Check if the source device is connected and powered on. Or press the INPUT button to select the input for the source device.	HDMI ports including HDMI-1 without connected ARC sound bar or audio device	C21328931 C21328932
2	No Sync HDMI-1 with VIZIO sound bar • VIZIO sound bar with CEC TV menu support • VIZIO sound bar with NO CEC TV menu support (pre 2020) • notification displays within 1 second or immediately following OSD	No signal - VIZIO SoundBarName (e.g. M-Elevate) A VIZIO sound bar is connected to HDMI-1. Press the INPUT button to select the input for a video source device.		C21328933 C21328934
3	No sync HDMI-1 with a CEC non-VIZIO sound bar or audio device	No signal - audio device An audio device is connected to HDMI-1. Press the INPUT button to select the input for a video source device.		C21328935
4	No sync VIZIO sound bar discovered on non-ARC HDMI port then modify the no sync notification for • VIZIO ARC/eARC sound bar with CEC TV menu support • VIZIO ARC/eARC sound bar with NO CEC TV menu support (pre 2020)	No signal - AUDIO_DEVICE_NAME A VIZIO sound bar is connected to HDMI-X. To hear audio from your AUDIO_DEVICE_NAME, connect to HDMI-1.	AUDIO_DEVICE_NAME is • VIZIO Elevate • VIZIO AIO • VIZIO Soundbar • VIZIO MicMe SB Notification displays within 1 second or immediately following OSD	

16.2.2.2 Auto Power Off Notification

		Notification/Requirements
1	If Auto Power Off is enabled, then after 10 minutes of no sync the TV power off. Twenty seconds before the TV powers off, a notification displays	"No input signal. Power will be turned off."
2	Even though there is no video sync, auto power off does not power down the TV for the following and no notification displays.	Audio ceases from an audio app (not a typical use case). The TV remains on with the LED lit • Retail Demo enabled and Overlay Retail Demo is running over input with no sync. • Cast input is current source and video is not streaming.

16.2.2.3 Network Failure - Offline mode

	State	User Story	Notification text	Soft keys
1	Offline Mode	As a user, if source is VIZIO Home or AirPlay and TV is unable to connect to the router and/or internet, put TV into "Offline Mode". Full screen error notification displays.		
2	Offline Mode - No SSID /PW	As a user, display full screen notification if no SSID / Password.	Not Connected to the Internet We see you have not yet connected this TV to the Internet. Click the "Network Settings" button to connect you to 250+ free channels, millions of titles and more!	Network Settings
3	Offline Mode - Failed to connect to router (but router powered on)	As a user, display full screen notification if problems connecting to the Wi-Fi router.	We are Having Problems Connecting Please click the "Network Settings" button and try to connect to your Wi-Fi router. You're one step closer to 250+ free channels, millions of titles and more!	Network Settings
4	Offline Mode - Router offline or router cannot be found	As a user, display full screen notification if the route cannot be detected	We are Having Problems Connecting Please make sure your router is power ON and within range of this TV. Then, click the "Network Settings" button to connect to your router. You're one step closer to 250+ free channels, millions of titles and more!	Network Settings
5	Offline Mode - Connected to router but not connected to the Internet	As a user, I want to know if the problem with my connection is not with the router, but with my Internet connection (e.g. Internet services is disrupted, my TV is blocked from accessing the internet)	Can't Connect to the Internet You are connected to your home network but we can't seem to connect to the internet. Please reset your modem or contact your ISP for outages. You're one step closer to 250+ free channels, millions of titles and more!	
6	Offline Mode - watching content	As a user, if network is lost while streaming content, or if network is lost while app is launched but content not yet streaming then take no action. No notification is displayed. App manages notification.		
7	offline mode - WatchFree+ is source	As a user, I want to be able to watch OTA channels even though not connected. WatchFree+ displays mini-guide only.		

8	Offline mode display	As a user, do not display full screen offline notification errors with these conditions:
		
		   • physical input
		   • WatchFree+
		   • OOBE
		   • power on TV using hot key
		• Netflix launches, handles offline case
		• WatchFree, launches for OTA support
		• All other partner keys displays offline condition		

9	Connected but TOS. not confirmed	As a user, if network is connected but TOS not confirmed, display same Terms and Conditions page in OOBE. • Accept All - VIZIO Home displayed • Skip-switch input to HDMI-1		Skip Accept All

16.2.2.4 Bluetooth Remote Low Battery Notification

	Requirements	Notes
1	Bluetooth low battery notification displays at 20% battery.	

16.2.3 Voice Control of TV Using Alexa

	Requirements	Details
1	Voice Control using Alexa supports a limited number of commands to control the TV	
2		Power On/Off using the TV name
3		Transport Controls • Play • Pause • Forward • Rewind • Stop
4		Input Switching
5		Channel Changing (up/down for IP connected devices, apps, tuner; direct digit TBD)
6		App and Video content launch (TBD)
7		Search (TBD).
8	To use Alexa skills with the TV four separate steps are required:	
9		Launch VIZIO Home as source. • Press the Up arrow • From the top menu, select "Enable Alexa" TBD • A 4 digit pairing PIN displays.
10		From a second screen, launch http://vizio.com/alexa and log in to the MyVizio account: • Enter the PIN to associate the TV to the account. • After successful PIN entry, notification of successful pair with Alexa displays on the TV. Notification includes next steps for continued setup of Alexa
11		Open Alexa app • Login to the MyVizio account from the Alexa app. • To enable the skill, install the VIZIO SmartCast skill.
12		Tell Alexa to "Discover devices."

16.3 Input Selector Vertical

	Key Press	Requirements	Details
1	INPUT first press	Displays Input Selector • Sidebar display with current input highlighted and icon for current input underlined. • The current input includes all physical ports, CEC virtual devices, VIZIO Home and virtual apps such as WatchFree+ and AirPlay. • Header is "Inputs" • System Settings is dismissed to display Input Selector.	1. No time or back button 2. Not part of System settings.

#	Key	Description	Notes
2	n/a	Inputs displayed in a fixed order with VIZIO Home at top of the list. Input displays with custom names as per CEC or as defined by user but include the port name as well. Instead of the CEC name, a VIZIO soundbar is renamed to: • VIZIO Elevate • VIZIO AIO • VIZIO Soundbar • VIZIO MicMe SB Inputs hidden with the Hide From Input List setting do not display.	• VIZIO Home • WatchFree • HDMI-1 • HDMI-2 • HDMI-3 (not for D skus) • HDMI-4 (P/M7 only) • Antenna • AirPlay • Virtual CEC devices if any
3	INPUT	Each press of the INPUT key highlights the next input but does not change the input. Each time press Input key highlight is moved down to next input in the list.	The icon current input remains underlined.
4	UP or DOWN	Each press of UP or DOWN key highlights the next input but does not change the input. Each press Up key the highlight is moved up to previous input in the list. Each press Down key the highlight is moved down to next input in the list.	The icon current input remains underlined.
5	INPUT or DOWN	If the last input in the input selector (usually TV) is selected, then highlight wraps to VIZIO Home at the top.	USB is the last input in the input selector is inserted.
6	UP	VIZIO Home is selected then highlight wraps to last input in input selector.	
7	OK	Dismiss Input selector and change to highlighted input.	If current input is selected then no resync of the input, dismiss input selector only.
8	BACK	Dismiss input selector but no change to highlighted input.	
9	n/a	If the user navigated only using INPUT, upon 5 second timeout, change to the currently highlighted input.	Supports remotes from other devices without support of OK key IR code.
10	n/a	If the user navigated using UP and DOWN, only switch inputs if OK key pressed. No timeout to switch input.	
11	n/a	If no key press for 10 seconds then dismiss input selector without changing the input.	
12	LEFT or RIGHT	No action.	
13	Partner	Take down input selector and launch partner app.	
14	MENU	Take down input selector and launch System settings in sidebar.	
15	HOME	Take down input selector and launch VIZIO Home	
16	PIC	Take down input selector and launch sidebar with Picture Mode in focus	Picture Mode is header and sidebar is populated with the options of Vivid, Bright, Calibrated, Calibrated Dark, Game, Sports and Custom (if any)
17	WIDE	Take down input selector and launch sidebar with Aspect Ratio in focus.	Aspect Ratio is header and sidebar is populated with the options of Normal, Stretch, Panoramic, Wide and Zoom.

16.4 Fast Forward/Rewind in Streaming Content and VIZIO Home

	Requirement	Applications Supported
1	For streaming content a press and hold of D-pad Left/Right issues a repeat to support Fast Forward (FFW) or Rewind (REW).	Netflix requirement is 1 hour mark in 30 seconds of D-Pad key hold. Compromised to FFW/REW for "40min of video" in 30 seconds. This also supports SC Home. 30 seconds is longest hold key persists.
2	Supports some apps but not all. Defined support includes: • Netflix • WatchFree+ • TBD others	

3	For VIZIO Home a press and hold of D-pad Left/Right scrolls through content.	