6 Network

	Network Settings	Requirements	Notes
1	My Networks	1. Ethernet Connected OR 2. WiFiName OR 3. Not Connected	If WiFi is the connection for My Networks, then WiFiName is followed by a list of up to 4 networks
2	More Wi-Fi Networks	Displays if more than four access points	
3	Network Information		
4	Test Connection		Network Diagnostics TBD
5	Add Network Manually	Displays only if Wi-Fi connection, no display with Wired Connection	
6	Advance Network IP Setup		
7	Terms and Conditions		

6.0 Network Requirements

	Network Requirements	Notes
1	In the main menu the Network setting includes the ethernet icon or the name of the Wi-Fi access point and signal strength	
2	After successful connection, a connection failures is annunciated on the TV such as loss of Wi-Fi connection or Ethernet disconnected.	Annunciation is displayed on the VIZIO Home page.
3	If Wi-Fi is previously connected and then Ethernet is connected, the Wi-Fi passcode is retained. If Ethernet is unplugged, the TV automatically reconnects to Wi-Fi with saved passcode.	
4	If TOS confirmed during OOBE then Network menu is available for setup even if network setup skipped in OOBE.	

6.1 My Networks

	Requirement	Notes
1	Ethernet Connected	Only for skus with RJ45 jack. Grayed out and not selectable, status only
2	Wi-Fi Network Name	Name of connected Wi-Fi network
3	Not Connected	Default if no connection Grayed out and not selectable, status only
4	My Networks header is grayed out and status only. Not selectable.	

6.1.1 Ethernet Connected

	Ethernet Connected Requirements	Notes
1	Ethernet Connected is status only, grayed out and not selectable.	Ethernet not an option for • 2024 VHD skus • 2024 VFD skus • 2024 4K skus

6.2 Wi-Fi Network Connected

	Wi-Fi Connected Requirements	Notes
1	The connected AP with • checkmark indicating connected left of AP name • Lock icon on the right if password required • Signal strength icon on the right.	This includes the name of a hidden network.
2	Below the AP is the network status as follows: • Connected • No Internet • Sign-In Required • Checking	Sign-In Required is for captive portal that is connected but sign in not completed. No checkmark to indicated connected for network if "No Internet" Checking is for unknown status.
3	Password is saved through DC and AC power cycles.	

6.2.1 List of Wi-Fi Networks

	Requirement	Notes
1	The connected Wi-Fi network is followed by a list of 4 saved Wi-Fi networks in the order of the highest signal strength.	Password is saved through DC and AC power cycles.
2	Right of the AP is a lock icon if password protected.	
3	Signal strength icon display right of the lock icon.	
4	The TV can store up to 5 passwords for networks. If the password is saved then the network displays following the connected network regardless of signal strength and if selected, the network connects using the saved password: password entry not displayed.	
5	If the currently connected Wi-Fi is lost then • If two or more saved networks are available, the last connected network takes precedence and reconnects • If the last connected Wi-Fi is not restored, then automatically connect to the next saved network	Connection loss due to: • forget network • router or IP failure

6.3 More Wi-Fi Networks

	Requirement	Notes
1	Selecting More Wi-Fi Networks header displays a list of available Wi-Fi networks.	Formerly named More Access Points
2	A complete list of access points found by the Wi-Fi radio displays in the order of saved access points by signal strength followed by non-saved access points by signal strength The connected network is excluded.	
3	Right of the access point is a lock icon if password protected.	
4	Signal strength icon display right of the lock icon.	

6.3.1 Wi-Fi Password Entry

	Requirement	☐ Notes
1	The password entry screen displays with a soft keyboard.	• Displayed for WPA3 SAE security but skipped for WPA3 open guest. • Skipped if captive portal SSID detected
2	Above the soft keyboard, the password entry includes the selected AP and security level.	Text is • Connect to "NETWORK (SecurityLevel)" • Enter Passphrase for "NETWORK"
3	Below the soft keyboard, the Connect and Cancel soft buttons display.	
4	Connect soft button is grayed and not selectable until 8 characters have been entered for the password. • For Enhanced Open and None, the Connect button is immediately available (no password entry required).	8 characters is minimum number of characters required for a valid password.
5	Below the soft keyboard, the Show Password checkbox displays with unchecked default.	
6	In the soft keyboard the highlight defaults to the top left most character, letter a.	The UP, DOWN, RIGHT, and LEFT keys are used to highlight characters and a press of OK adds the character in the text entry field.
7	Press Up key from a character in bottom row of the soft keyboard wraps to same column of characters in the bottom row.	Excludes Connect and Cancel soft buttons.
8	Press Down key from a character in bottom row of the soft keyboard moves down to: 1. Connect soft button if a least one character selected 2. Cancel soft button if NO characters selected, returns to the Wi-Fi list with the selected Wi-Fi highlghted.	
9	Once the password is entered in the soft keyboard select the Connect button to complete connection to the network.	
10	After connection, the keyboard screen closes and the Network settings displays again.	
11	Direct character entry is also supported from the alpha-numeric keyboard. When characters are entered from a remote, the Character Input Field is highlighted.	
12	WPA3 is supported for all 2024 skus forward.	

13	Password length depends on format supported for the router. Passwords are ASCII based.	
14	If the password is saved, the network connects using the saved password: password entry not displayed.	
15	If a passcode is entered from the mobile apps with characters not supported by the TV character set, then a box displays.	Only latin alpha-numeric characters added. Other character sets and emoji characters are not supported by VIZIO default font set.

6.3.1.1 Wi-Fi Password Entry Failure

	Requirement	Help Text
1	For initial password entry, if the connection fails for the selected Wi-Fi network 30 seconds after the user has input credentials (e.g. password), an error message displays with 2 buttons, "Try Another" and "Try Again" (default).	WARNING ICON Incorrect Password is entered for <NETWORKNAME> • Try Another • Try Again
2	If a saved network is selected and the connection fails for the selected Wi-Fi network 30 seconds later (e.g. password has changed), an error message displays with 3 buttons, "Try Another", "Try Again" and "Forget" (default).	WARNING ICON Incorrect Password is entered for <NETWORKNAME> • Try Another • Try Again • Forget
3	"Try Another" redisplays the Wi-Fi screen with the list of access points.	
4	"Forget" deletes the saved credentials for the network.	
5	"Try Again" returns the highlight to the password entry of the keyboard with the highlight on the delete character.	
6	If connection failure is due to lack of support for WPA3 then additional notification displays with the "Try Another" and "Try Again" soft buttons.	WARNING ICON Incorrect Password entered for <NETWORKNAME> The <NETWORKNAME> is set up for WPA3 security only. To connect change security mode on your router to WPA2/WPA3 compatibility.

6.3.1.2 Wi-Fi Password Encryption Type and Entry length

	Encryption	Minimum length	Maximum length	Skus	Notes
1	WPA Personal TKIP	8 characters	63 characters	all skus	
2	WPA2 Personal AES	8 characters	63 characters	all skus	
3	WPA2+WPA3 Personal Mixed AES	8 characters	63 characters	all skus	
4	WPA3 Personal SAE	8 characters	64 characters	all skus	WPA3 uses with Simultaneous Authentication of Equals (SAE) exchange
5	WPA3 enhanced open	N/A	N/A	all skus	No password entry - when TV connects to the WiFi router, WiFi enhanced open mode uses with a strong encryption (84-bit Hashed Message Authentication Mode) between TV and router.

6.3.1.3 Wi-Fi Captive Portal

	Requirement	Notes

1	If captive portal with enhanced open network is selected, instead of the VIZIO password entry page, redirect to service provider's full screen landing page. Landing page designed and hosted by service provider/router.	VIZIO provides secure network communication for captive portal authentication and login via HPPT and HTTPS captive portal pages. Launch within 3 seconds.

2	Navigation of captive portal page:
	
	• If the web page content is more than one screen, scroll bars are inserted.
	• D-Pad UP key will scroll up
	• D-Pad Down key will scroll down
	• When a text box, checkbox, or button appears on the screen, it will be automatically be highlighted.
	• OK key support
	• OK toggles check boxes, radio buttons and other selectors
	• OK displays virtual keyboard for Input text box
	• OK confirms Accept/Sign In
	  • If next field is not visible on the page, Down key scrolls down and highlighted the next field.
	  • Back key while in the landing page returns to the SSID list in menu and dismisses Captive Portal page	

3	Virtual keyboard • Next button skips to next field. • Hide keyboard button dismisses keyboard, highlights visible field • Exit Setup button exits captive portal landing page	
4	if valid login credentials are entered continue with internet connectivity.	
5	Select captive portal SSID from My network, then can re-connect as follows: • "Reconnect" and "Forget" popup displayed when user selects captive portal SSID • Reconnect will redirect to landing page • Forget has came behavior as for all AP: forget the Captive Portal SSID	
6	If invalid login credential are entered • stay in log in page • return to SSID list.	Response depends upon service provider network operation flow.
7	To exit the captive portal landing page press the BACK key to exit to VIZIO Home.	
8	If previously connected, displays in My Networks.	

6.3.2 Forget Saved Network

	Requirement	Notes
1	A press of OK when the connected network is highlighted displays a pop up notification to forget the network.	The help text for the connected/saved network is customized as follows "Press OK to forget the connected WiFi network."
2	The pop up notification is "Select Forget to forget NETWORKNAME" with "Forget" and "Cancel" buttons.	NETWORKNAME= name of selected network
3	If Forget is selected, then the saved credentials are deleted for the network and the Wi-Fi connection is lost.	

6.3.3 Save Passwords for Multiple AP

	Requirement	Notes

1	If the password is correct and the network connected, then the password is saved.	No indication the password is saved but connects without password entry display.
2	Password is saved for up to 5 AP.	If a 6th AP password is saved, then the **oldest unused** AP password is deleted.
3	When a network is selected with a saved network, the password entry screen does not display, network checks saved password and if valid connects.	
4	The APS are listed as follows 1. The currently connected AP is first. 2. AP with saved password are saved next by signal strength but if very low or no signal strength then not included in the saved list. 3. AP without saved password listed with strongest signal strength first.	
5	The AP used last is the AP that is automatically connected at power on.	If the last used AP is not available, then manually select another AP.
6	When a saved network is selected then the network automatically connects: no need to reenter the password.	A currently connected AP is disconnected
7	Five Saved AP Applies to all future skus and	

6.4 Network Information

	Network Information Requirements	Notes
1	NETWORK INFORMATION	title
2	Connection	Wired, Wi-Fi 2.4GHz, Wi-Fi 5GHz, Wi-Fi 6GHz, none
3	Wi-Fi Network	Name of the Wi-Fi network
4	IP Type	IPv4, IPv6 or IPv4 and IPv6
5	IPv4 IP Address	IPv4 with 32 bit or N/A
6	IPv4 Default Gateway	
7	IPv4 Subnet Mask	
8	IPv6 Address	128 bit (may require 2 lines even in HEX) or N/A
9	IPv6 Default Gateway	2022 skus only)
10	IPv6 Prefix Length	2022 skus only)
11	Pref. DNS Server	Lists IPv4, then IPv6
12	Alt. DNS Server	Lists IPv4, then IPv6
13	RJ45 MAC OR ID MAC	ID MAC if no RJ45 port but RJ45 burned in for Inscape
14	WLAN MAC	
15	Wi-Fi Signal Strength	RSSI Signal Strength as follows: • Excellent: 0 to -57 dBm • Good: -58 to -67 dBm • Fair: -68 to -78 dBm • Weak: -79 dBm and lower • Not connected: - 90 dBm and lower or connection lost or never connected.
16	Wi-Fi Security	Open, WPA TKIP, WPA AES, WPA2 AES, WPA2+WPA3 AES, WPA3 SAE, WPA3 Enhanced Open (no password)
17	Wi-Fi Module	

	Requirements	Notes
18	Internet Download Speed (TBD) NOTE: Displays in Network Information located under Network menu only.	• Excellent: 100 Mbps and above • Good: 99 - 50 Mbps • Fair: 49 - 20 Mbps • Poor: 20 Mbps and under.

6.5 Network Diagnostics (TBD)

	Requirements	Notes
1	Provides TV Network health monitor and troubleshooting guidance to users and customer support. It offers one-click to perform TV network diagnostics tests.	

2	Launch network diagnostics	• Full screen page display
		• Launch within 3 seconds
		• Network Diagnostics Tests includes:
		
		    1. TV WiFi Connection Test
		    2. WiFi Router Connection Test
		    3. Internet Connection Test
		    4. VIZIO Services

3	TV WiFi Connection Test	• TV WiFi Connection Test will be conducted to validate if proper WiFi connection has been successfully established. • If WiFi connection is successful, TV onscreen will provide current network connection state (Wired or WiFi connection success) • Then proceeds to the 2nd Network Diagnostics Test stage.
4	TV WiFi Connection failure	App includes recommendations to: • Verify if correct WiFi network password • Power cycle TV to initiate TV WiFi reconnection • Move TV or Router closer to each other • Upgrade new WiFi 6 WiFi router, add Range Extender or Mesh solution
5	WiFi Router Connection Test	• Validate if proper WiFi connection has been successfully established between TV and the WiFi router. • If WiFi connection is successful, TV onscreen will provide current TV WiFi and Router connection states (Wired or WiFi connection success) and WiFi Signal Strength (when using WiFi connection). • Then proceeds to the 3rd Network Diagnostics Test stage.
6	WiFi Router Connection failure	App includes recommendations to: • Verify again if TV WiFi is successfully connected • Power cycle WiFi Router (ISP modem/ gateway): unplug router for several minutes before plugging both back in • Verify Internet Connection with another WiFi device in house (laptop or tablet); if using phone, make sure WiFi connection only (disable Cellular Data) • Issues persist, contact Internet Service Provider.
7	Internet Connection test	• Internet connection tests if Internet connection has been successfully established and granted between TV, WiFi router and public Internet access. • If connection is successful, app provides current TV WiFi, Router and Internet connection states (Wired or WiFi connection success) and WiFi Signal Strength (when using WiFi connection)

8	Internet Connection failure	App includes recommendations to: • Verify again if TV WiFi is successfully connected • Power cycle WiFi Router (ISP modem/ gateway): unplug router for several minutes before plugging both back in • Verify Internet Connection with another WiFi device in house (laptop or tablet); if using phone, make sure WiFi connection only (disable Cellular Data) • Issues persist, contact Internet Service Provider.
9	VIZIO Services test	• internet connection test validates if proper Internet connection has been successfully established and granted between TV, WiFi router and public Internet access. • If connection is successful, app provides current TV WiFi, Router, Internet and VIZIO Servers connection states (Wired or WiFi connection success) and WiFi Signal Strength (when using WiFi connection). • Then proceed to the final Network Diagnostics Test stage.
10	VIZIO Services failure	App includes recommendations to: • Verify again if TV WiFi is successfully connected • Power cycle WiFi Router (ISP modem/ gateway): unplug router for several minutes before plugging both back in • Verify Internet Connection with another WiFi device in house (laptop or tablet); if using phone, make sure WiFi connection only (disable Cellular Data) • Issues persist, contact Internet Service Provider. • Please contact VIZIO Customer Support if above steps all failed.
11	To exit, press BACK key.	

6.5.1 Test Connection

	Requirements	Settings	Notes
1	**Test Connection displays only if Network Diagnostics not available.**		
2	Test Connection attempts to establish an Internet connection and procure an IP address.		1. Confirm DNS 2. Confirm NTP server 3. Check download
3	Test Connection header at the top of the notification		
4	Connected to:	• Wi-Fi network name • Ethernet • Disconnected	Status only, not selectable.
5	If Wi-Fi, signal strength	• Excellent • Good • Fair • Weak • Not connected	Status only, not selectable.
6	Internet Connection	• Connected - DNS, NTP and download successful • Disconnected - DNS or NTP or download unsuccessful • Testing	Status only, not selectable.
7	Retest	Grayed out when Test Connection opened and displays "Testing" for Internet Connection until completed. Then highlighted.	The only highlighted setting. Retests the connection.

6.5.1.1 Test Connection Download Procedure

	Test Connection Download Procedure	Notes
1	TV downloads this 500K file from the CloudFront CDN st.jpg (500×500) (oui-0x00199d.com).	
2	TV is timing the download starting after DNS has been resolved.	

3	The average download spec in Kbits displays.	

6.5.1.2 Test Connection SError

	Requirements	Notes
1	Step 1. Test for connection. Check network status and create a socket to access www.google.com. If socket is connected successfully, then DNS is established.	
2	Step 2. Check NTP time.	
3	Step 3. Test for download speed.	
4	All three steps pass then SError is Success	
5	If any network step fails then SError is Failure.	The network check is stopped.

6.6 Add Network Manually

	Hidden Network Requirements	Notes
1	A soft keyboard displays with header "Enter Network Name" and Connect button.	Help text (at the top) is "Enter your access point name. This is used to connect to the access point with a hidden SSID."
2	Hidden network SSID is entered.	To comply with 802.11, the SSID name can be up to 32 characters.
3	SSID is validated and the security type selection displays.	

6.6.1 Add Network Manually Security Type

	Hidden Network Security Type Requirements	Settings/Help Text
1	A list of security types with header "Network Security Type".	Help text is "Press OK to select the security type for the hidden network."
2	LIst of security types with the WPA2-Personal setting highlighted.	• WPA-Personal • WPA/WPA2-Personal • WPA2-Personal (default) • WPA2/WPA3-Personal • WPA3-Personal • Enhanced Open • None
3	A press of OK validates the security type and the Wi-Fi password entry displays with a soft keyboard.	
4	A press of OK dismisses the notification and returns focus to the list of security types.	

6.6.2 Add Network Manually Password Entry

	Hidden Network Password Requirements	Notes
1	Wi-Fi password entry displays with a soft keyboard and Connect soft button.	Same keyboard as for password entry. Refer to https://vizio.atlassian.net/wiki/spaces/PM/pages/edit-v2/235874421102#6.3.1-Wi-Fi-Password-Entry for details of behavior and error handling
2	Hidden network is connected if the correct security type and password are entered.	

3	If either the security type or the password are incorrect then an error notification displays. • If the security type is incorrect then a pop up notification displays with a "Try Another" soft button. • If the password is incorrect then follow the password error notifications	Notification if security type incorrect: WARNING ICON Incorrect security type for <HIDDENNETWORKNAME>. Try Another
4	A connected hidden network is included in the list of access points until an AC off.	

6.7 Advance Network IP Setup (IPv4 only)

		Notes
1	DHCP	Default is On (automatic setup)
2	IP Address	
3	Subnet Mask	
4	Gateway	
5	Pref. DNS Server	
6	Alt. DNS Server	
7	RJ45 (display only, no entry)	Or MAC ID if no Ethernet port
8	Wireless MAC address (display only, no entry)	

6.7.1 Advanced Network IP Setup DHCP settings

	DHCP Settings	Requirements	Notes
1	On (default)	Settings for the network are automatically configured. The accompanying Manual Settings cannot be changed.	
2	Off	Manually configure the settings. The addresses can be entered. When completed, the TV connects to the designated wired or Wi-Fi connection.	
3	Manual DNS	Only the DNS addresses are changed. When the DNS addresses are changed, the TV connects to the designated wired or Wi-Fi connection.	Service requested this option to solve some home network issues.

6.7.2 Advanced Network IP Setup Not for IPv6

	Requirement	Notes
1	For IPv6 manual entry is not supported. Automatic detection only.	IPv6 uses a 128-bit address, too long to enter using TV remote.
2	If only IPv6 is connected then Manual Setup IPv4 is grayed out.	

6.7.3 Digit Pad for IP Address Entry with Bluetooth Remote

	Digit Pad Requirements - Action by User	Result
1	DHCP setting changed from On to Off.	IP addresses are white and selectable and
2	Press DOWN.	The first IP address is highlighted (not the entire line)
3	Press OK	Digit Pad displays right of the menu. IP address digits are unchanged until first digit entry.
4	Enter first digit	At first digit entry, the digits in the selected IP address are cleared.

| 5 | Using digit pad entry, add three digits to highlighted IP field | Highlight advanced to the next IP address.

This could be right of the previous IP address or the first IP address in the next line. |
| 6 | Highlight delete key in the digit pad entry and press OK button | The right most digit in the highlighted IP address is cleared. Another press clears the next digit if applicable. A third press clears the first digit if applicable. |
| 7 | Highlight the Next button in the digit pad entry and press OK button | Move highlight to the next IP address.

This could be right of the previous IP address or the first IP address in the next line. |
| 8 | The last IP address for Alt DND Server is highlighted | Enter 3 digits and the highlight moves down to the sidebar OK button, highlighted, and digit pad entry removed. |
| 9 | Press the BACK key or highlight Close button in the digit pad entry | Closes digit pad and allow navigation within the IP addresses. |

6.8 Terms and Conditions

	Terms and Conditions Requirements	Notes
1	TOS must be confirmed before VIZIO Home can display.	VIZIO Home, Cast or app launch from partner keys are not supported.
2	If network was connected during OOBE but Terms and Conditions were not confirmed then app launch from partner keys, VIZIO Home and Cast are not supported.	Partner button launch is not supported (including Netflix) if network connection but no VIZIO ToS.

6.8.1 Terms and Conditions Not Confirmed, Network Connected

	No TOS, Network Connected	Notes
1	• During OOBE network connected (Wi-Fi connected or Ethernet connected) • Skip Terms and Conditions • OOBE must be relaunched to accept TOS.	OOBE required to save TOS acceptance in OneTrust.
2	When Network selected from Settings, VIZIO Home displays with no Terms and Conditions notification.	
3	From SCTV, click the Terms and Conditions button in the notification

• OOBE launched and deep links to VIZIO Terms and Conditions. | |
| 4 | From SCTV, click the Cancel button in the notification

• Exit SCTV to HDMI-1. | |

6.8.2 Terms and Conditions Not Confirmed, Network Not Connected

1	No TOS, Network Not Connected	Notes
2	• During OOBE skip network connection and Ethernet not connected • Skip Terms and Conditions • OOBE must be relaunched to connect network ad accept TOS.	OOBE required to save TOS acceptance in OneTrust.
3	When Network selected from Settings, VIZIO Home displays with no Network notification.	
4	From SCTV, click the Network button in the notification

• OOBE launched and deep links to Wi-Fi connection | |

5	From SCTV, click the Cancel button in the notification • Exit VIZIO Home to HDMI-1.	