

Apple Accessibility Conformance Report

Based on Voluntary Product Accessibility Template® (VPAT®)

Name of Product:

MacBook Pro (13-inch, 2017, Four Thunderbolt 3 ports)

MacBook Pro (15-inch, 2017)

Product Description:

13-inch notebook

15-inch notebook

(Please refer to the macOS VPAT for operating system information.)

Date:

April 12th, 2018

Contact information: accessibility@apple.com

Terms

The terms used in the Conformance Level information are defined as follows:

- **Supports:** The functionality of the product has at least one method that meets the criteria without known defects or meets with equivalent facilitation.
- **Supports with Exceptions:** Some functionality of the product does not meet the criteria.
- **Does Not Support:** Majority of functionality of the product does not meet the criteria.
- **Not Applicable:** The criteria are not relevant to the product.
- **Not Evaluated:** The product has not been evaluated against the criteria. This can be used only with WCAG 2.0 Level AAA.

WCAG 2.0 Report -

Table 1: Conformance Criteria, Level A -

Criteria	Conformance Level	Remarks and Explanations
1.1.1 Non-text Content: All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except in situations listed in WCAG 2.0 1.1.1.		
1.2.1 Audio-only and Video-only (Prerecorded): For prerecorded audio-only and prerecorded video-only media, the following are true, except when the audio or video is a media alternative for text and is clearly labeled as such: <ul style="list-style-type: none">• Prerecorded Audio-only: An alternative for time-based media is provided that presents equivalent information for prerecorded audio-only content.• Prerecorded Video-only: Either an alternative for time-based media or an audio track is provided that presents equivalent information for prerecorded video-only content.		
1.2.2 Captions (Prerecorded): Captions are provided for all prerecorded audio content in synchronized media, except when the media is a media alternative for text and is clearly labeled as such.		

Criteria	Conformance Level	Remarks and Explanations
<p>1.2.3 Audio Description or Media Alternative (Prerecorded): An alternative for time-based media or audio description of the prerecorded video content is provided for synchronized media, except when the media is a media alternative for text and is clearly labeled as such.</p>		
<p>1.3.1 Info and Relationships: Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text.</p>		
<p>1.3.2 Meaningful Sequence: When the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined.</p>		
<p>1.3.3 Sensory Characteristics: Instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound.</p>		
<p>1.4.1 Use of Color: Color is not used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.</p>		
<p>1.4.2 Audio Control: If any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level.</p>		

Criteria	Conformance Level	Remarks and Explanations
<p>2.1.1 Keyboard: All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints.</p>		
<p>2.1.2 No Keyboard Trap: If keyboard focus can be moved to a component of the page using a keyboard interface, then focus can be moved away from that component using only a keyboard interface, and, if it requires more than unmodified arrow or tab keys or other standard exit methods, the user is advised of the method for moving focus away.</p>		
<p>2.2.1 Timing Adjustable: For each time limit that is set by the content, at least one of the instances in WCAG 2.0 2.2.1 is true.</p>		

Criteria	Conformance Level	Remarks and Explanations
<p>2.2.2 Pause, Stop, Hide: For moving, blinking, scrolling, or auto-updating information, all of the following are true:</p> <ul style="list-style-type: none"> • Moving, blinking, scrolling: For any moving, blinking or scrolling information that (1) starts automatically, (2) lasts more than five seconds, and (3) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it unless the movement, blinking, or scrolling is part of an activity where it is essential; and • Auto-updating: For any auto-updating information that (1) starts automatically and (2) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it or to control the frequency of the update unless the auto-updating is part of an activity where it is essential. 		
<p>2.3.1 Three Flashes or Below Threshold: Web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds.</p>		
<p>2.4.1 Bypass Blocks: A mechanism is available to bypass blocks of content that are repeated on multiple Web pages.</p>		
<p>2.4.2 Page Titled: Web pages have titles that describe topic or purpose.</p>		

Criteria	Conformance Level	Remarks and Explanations
2.4.3 Focus Order: If a Web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability.		
2.4.4 Link Purpose (In Context): The purpose of each link can be determined from the link text alone or from the link text together with its programmatically determined link context, except where the purpose of the link would be ambiguous to users in general.		
3.1.1 Language of Page: The default human language of each Web page can be programmatically determined.		
3.2.1 On Focus: When any component receives focus, it does not initiate a change of context. (Level A)		
3.2.2 On Input: Changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behavior before using the component.		
3.3.1 Error Identification: If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text.		
3.3.2 Labels or Instructions: Labels or instructions are provided when content requires user input.		

Criteria	Conformance Level	Remarks and Explanations
4.1.1 Parsing: In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features.		
4.1.2 Name, Role, Value: For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies.		

Table 2: Conformance Criteria, Level AA -

Criteria	Conformance Level	Remarks and Explanations
1.2.4 Captions (Live): Captions are provided for all live audio content in synchronized media.		
1.2.5 Audio Description (Prerecorded): Audio description is provided for all prerecorded video content in synchronized media.		

Criteria	Conformance Level	Remarks and Explanations
<p>1.4.3 Contrast (Minimum): The visual presentation of text and images of text has a contrast ratio of at least 4.5:1, except for the following:</p> <ul style="list-style-type: none"> • Large Text: Large-scale text and images of large-scale text have a contrast ratio of at least 3:1; • Incidental: Text or images of text that are part of an inactive user interface component, that are pure decoration, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement. • Logotypes: Text that is part of a logo or brand name has no minimum contrast requirement. 		
<p>1.4.4 Resize text: Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality.</p>		
<p>1.4.5 Images of Text: If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text except for the following:</p> <ul style="list-style-type: none"> • Customizable: The image of text can be visually customized to the user's requirements; • Essential: A particular presentation of text is essential to the information being conveyed. 		
<p>2.4.5 Multiple Ways: More than one way is available to locate a Web page within a set of Web pages except where the Web Page is the result of, or a step in, a process.</p>		

Criteria	Conformance Level	Remarks and Explanations
2.4.6 Headings and Labels: Headings and labels describe topic or purpose.		
2.4.7 Focus Visible: Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible.		
3.1.2 Language of Parts: The human language of each passage or phrase in the content can be programmatically determined except for proper names, technical terms, words of indeterminate language, and words or phrases that have become part of the vernacular of the immediately surrounding text.		
3.2.3 Consistent Navigation: Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user.		
3.2.4 Consistent Identification: Components that have the same functionality within a set of Web pages are identified consistently.		
3.3.3 Error Suggestion: If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content.		

Criteria	Conformance Level	Remarks and Explanations
<p>3.3.4 Error Prevention (Legal, Financial, Data): For Web pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses, at least one of the following is true:</p> <ul style="list-style-type: none"> • Reversible: Submissions are reversible. • Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them. • Confirmed: A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission. 		

2017 Section 508 Report -

Chapter 3: Functional Performance Criteria -

Criteria	Conformance Level	Remarks and Explanations
<p>302.1 Without Vision. Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that does not require user vision.</p>	<p>Supports</p>	<p>macOS includes a built-in screen reader called VoiceOver for the blind and visually impaired and includes accessible applications and utilities. macOS includes built-in support for over 100 USB and wireless refreshable braille displays that start instantly when connected. There is also support for over 30 braille tables supporting a wide range of languages.</p> <p>For example, Touch Bar functionality on MacBook Pro is enabled by VoiceOver. When VoiceOver is enabled and a user taps the Touch Bar, VoiceOver vocalizes each item that is displayed on it. Users can then double tap anywhere on the Touch Bar to activate that item. To use sliders on the Touch Bar, users can double tap and hold and then use a sliding gesture to adjust sliders.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>
<p>302.2 With Limited Vision. Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that enables users to make use of limited vision.</p>	<p>Supports</p>	<p>macOS includes many features to assist users with low vision, including but not limited to: VoiceOver, VoiceOver cursor zoom, a scalable mouse cursor, and Zoom—a built-in screen magnification feature.</p> <p>For example, Touch Bar functionality on MacBook Pro is enabled by VoiceOver. When VoiceOver is enabled and a user taps the Touch Bar, VoiceOver vocalizes each item that is displayed on it. Users can then double tap anywhere on the Touch Bar to activate that item. To use sliders on the Touch Bar, users can double tap and hold and then use a sliding gesture to adjust sliders. The Zoom feature can also be used to magnify the Touch Bar on the main display.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>

Criteria	Conformance Level	Remarks and Explanations
<p>302.3 Without Perception of Color. Where a visual mode of operation is provided, ICT shall provide at least one visual mode of operation that does not require user perception of color.</p>	<p>Supports with exceptions</p>	<p>macOS uses color to convey information. In many cases, when color is used, it provides an alternative information display that does not rely on color. For example, color controls are used in the title bar of macOS windows that allow a user to close, minimize or maximize a window. While color indicates each control's function, each control also has a unique symbol and position that indicates its function without relying on color information. But, there are some visual elements that do not include an alternative information display.</p> <p>macOS also provides system-level control of display characteristics that cannot be overridden by applications, including options to:</p> <ul style="list-style-type: none"> • Switch the display from color to grayscale. • Invert light and dark colors displayed on the screen. • Differentiate certain elements without color. • Increase contrast of elements on the screen. • Reduce the transparency of elements on the screen. <p>All of these features are accessed through System Preferences for Accessibility and can be used together in different combinations to suit the user's needs.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>
<p>302.4 Without Hearing. Where an audible mode of operation is provided, ICT shall provide at least one mode of operation that does not require user hearing.</p>	<p>Supports</p>	<p>macOS includes many features to assist users without hearing, including but not limited to: Flash screen, Notifications, Type to Siri, and FaceTime.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>

Criteria	Conformance Level	Remarks and Explanations
<p>302.5 With Limited Hearing. Where an audible mode of operation is provided, ICT shall provide at least one mode of operation that enables users to make use of limited hearing.</p>	<p>Supports</p>	<p>Volume can be controlled at the system level. External speakers can be attached if necessary for further amplification.</p> <p>macOS also supports Mono Audio to combine the left and right stereo channels into a mono signal played through both left and right speakers and headphones so all of the audio program can be heard more easily.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>
<p>302.6 Without Speech. Where speech is used for input, control, or operation, ICT shall provide at least one mode of operation that does not require user speech.</p>	<p>Supports</p>	<p>Siri supports a Type to Siri mode to request web searches, send messages, track down documents, set reminders, or turn on accessibility settings.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>
<p>302.7 With Limited Manipulation. Where a manual mode of operation is provided, ICT shall provide at least one mode of operation that does not require fine motor control or simultaneous manual operations.</p>	<p>Supports</p>	<p>macOS includes many features to assist users with limited manipulation, including but not limited to: Sticky Keys, Slow Keys, Dictation, Switch Control, the Accessibility Keyboard, Adjustable Keyboard repeat delay, and Tracking speed.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>
<p>302.8 With Limited Reach and Strength. Where a manual mode of operation is provided, ICT shall provide at least one mode of operation that is operable with limited reach and limited strength.</p>	<p>Supports</p>	<p>macOS includes many features to assist users with limited manipulation, including but not limited to: Sticky Keys, Slow Keys, Dictation, Switch Control, the Accessibility Keyboard, Adjustable Keyboard repeat delay, and Tracking speed.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>

Criteria	Conformance Level	Remarks and Explanations
302.9 With Limited Language, Cognitive, and Learning Abilities. ICT shall provide features making its use by individuals with limited cognitive, language, and learning abilities simpler and easier.	Supports	<p>macOS includes many features to assist users with limited language, cognitive and learning abilities, including but not limited to: Text to Speech, Simple Finder, Word Completion, Safari Reader, and Dictionary.</p> <p>For more information on the accessibility features of macOS, please see the macOS VPAT at https://support.apple.com/accessibility/vpat</p>

Chapter 4: Hardware -

Criteria	Conformance Level	Remarks and Explanations
402 Closed Functionality		
402.1 General		
402.2 Speech-Output Enabled		

Criteria	Conformance Level	Remarks and Explanations
<p>402.2.1 Information Displayed On-Screen. Speech output shall be provided for all information displayed on-screen.</p>	<p>Supports</p>	<p>macOS includes a built-in screen reader called VoiceOver for the blind and visually impaired and includes accessible applications and utilities.</p> <p>For example, Touch Bar functionality on MacBook Pro is enabled by VoiceOver. When VoiceOver is enabled and a user taps the Touch Bar, VoiceOver vocalizes each item that is displayed on it. Users can then double tap anywhere on the Touch Bar to activate that item. To use sliders on the Touch Bar, users can double tap and hold and then use a sliding gesture to adjust sliders.</p> <p>macOS includes built-in support for over 100 USB and wireless refreshable braille displays so they start instantly when you connect them. macOS also includes support for over 30 braille tables supporting a wide range of languages.</p> <p>Information about VoiceOver is available from http://www.apple.com/accessibility/osx/voiceover/</p>
<p>402.2.2 Transactional Outputs. Where transactional outputs are provided, the speech output shall audibly provide all information necessary to verify a transaction.</p>	<p>Supports</p>	<p>macOS includes a built-in screen reader called VoiceOver for the blind and visually impaired and includes accessible applications and utilities.</p> <p>macOS includes built-in support for over 100 USB and wireless refreshable braille displays so they start instantly when you connect them. macOS also includes support for over 30 braille tables supporting a wide range of languages.</p> <p>Information about VoiceOver is available from http://www.apple.com/accessibility/osx/voiceover/</p>

Criteria	Conformance Level	Remarks and Explanations
<p>402.2.3 Speech Delivery Type and Coordination. Speech output shall be delivered through a mechanism that is readily available to all users, including, but not limited to, an industry standard connector or a telephone handset. Speech shall be recorded or digitized human, or synthesized. Speech output shall be coordinated with information displayed on the screen.</p>	<p>Supports</p>	<p>macOS includes a built-in screen reader called VoiceOver for the blind and visually impaired and includes accessible applications and utilities.</p> <p>macOS includes built-in support for over 100 USB and wireless refreshable braille displays so they start instantly when you connect them. macOS also includes support for over 30 braille tables supporting a wide range of languages.</p> <p>Information about VoiceOver is available from http://www.apple.com/accessibility/osx/voiceover/</p>
<p>402.2.4 User Control. Speech output for any single function shall be automatically interrupted when a transaction is selected. Speech output shall be capable of being repeated and paused.</p>	<p>Supports</p>	<p>VoiceOver supports audio ducking to allow screen reader information to interrupt other audio. There are keyboard commands and trackpad gestures available to repeat and pause speech output.</p>
<p>402.2.5 Braille Instructions. Where speech output is required by 402.2, braille instructions for initiating the speech mode of operation shall be provided. Braille shall be contracted and shall conform to 36 CFR part 1191, Appendix D, Section 703.3.1.</p>	<p>Supports</p>	<p>Apple provides information on supported braille displays through the Apple Knowledge base at http://www.apple.com/support.</p>
<p>402.3 Volume</p>		
<p>402.3.1 Private Listening. Where ICT provides private listening, it shall provide a mode of operation for controlling the volume. Where ICT delivers output by an audio transducer typically held up to the ear, a means for effective magnetic wireless coupling to hearing technologies shall be provided.</p>	<p>Supports</p>	<p>Volume can be controlled at the system level. External speakers can be attached if necessary for further amplification.</p>

Criteria	Conformance Level	Remarks and Explanations
402.3.2 Non-private Listening. Where ICT provides non-private listening, incremental volume control shall be provided with output amplification up to a level of at least 65 dB. A function shall be provided to automatically reset the volume to the default level after every use.	Not applicable	
402.4 Characters on Display Screens. At least one mode of characters displayed on the screen shall be in a sans serif font. Where ICT does not provide a screen enlargement feature, characters shall be 3/16 inch (4.8 mm) high minimum based on the uppercase letter "I". Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.	Supports	<p>Standard font is sans serif. Displays provide screen enlargement feature.</p> <p>Characters contrast with their background with dark characters on a light background.</p> <p>More information is available at https://www.apple.com/accessibility/mac/vision/</p>
402.5 Characters on Variable Message Signs. Characters on variable message signs shall conform to section 703.7 Variable Message Signs of ICC A117.1-2009 (incorporated by reference, see 702.6.1).	Not applicable	
403 Biometrics		
403.1 General. Where provided, biometrics shall not be the only means for user identification or control.	Supports	Users can authenticate using a password, i.e. Touch ID is not required..
404 Preservation of Information Provided for Accessibility		
404.1 General. ICT that transmits or converts information or communication shall not remove non-proprietary information provided for accessibility or shall restore it upon delivery.	Supports	Accessibility structure, markup, and descriptions are preserved when converting documents, spreadsheets, presentations, and images into different formats.

Criteria	Conformance Level	Remarks and Explanations
405 Privacy		
405.1 General. The same degree of privacy of input and output shall be provided to all individuals. When speech output required by 402.2 is enabled, the screen shall not blank automatically.	Supports	<p>macOS includes a built-in screen reader called VoiceOver for the blind and visually impaired and includes accessible applications and utilities.</p> <p>VoiceOver has a screen curtain option available to those who would like additional privacy.</p> <p>More information is available at https://www.apple.com/accessibility/mac/vision/</p>
406 Standard Connections		
406.1 General. Where data connections used for input and output are provided, at least one of each type of connection shall conform to industry standard non-proprietary formats.	Supports with exceptions	<p>All ports and connectors are compliant with publicly available industry standards, including but not limited to: Thunderbolt 3 (USB-C) and the headphone jack.</p> <p>More information on product technical specifications at https://www.apple.com/macbook-pro/specs/</p>
407 Operable Parts		
407.2 Contrast. Where provided, keys and controls shall contrast visually from background surfaces. Characters and symbols shall contrast visually from background surfaces with either light characters or symbols on a dark background or dark characters or symbols on a light background.	Supports	<p>Keys and controls have visual contrast with light characters on dark background.</p> <p>More information is available at https://www.apple.com/accessibility/mac/vision/</p>
407.3 Input Controls		
407.3.1 Tactilely Discernible. Input controls shall be operable by touch and tactilely discernible without activation.	Supports	<p>Keyboard keys (F and J) have discernible nubs to assist users in Keyboard orientation.</p>

Criteria	Conformance Level	Remarks and Explanations
<p>407.3.2 Alphabetic Keys. Where provided, individual alphabetic keys shall be arranged in a QWERTY-based keyboard layout and the “F” and “J” keys shall be tactilely distinct from the other keys.</p>	<p>Supports</p>	<p>Keyboard keys (F and J) have discernible nubs to assist users in Keyboard orientation.</p>
<p>407.3.3 Numeric Keys. Where provided, numeric keys shall be arranged in a 12-key ascending or descending keypad layout. The number five key shall be tactilely distinct from the other keys. Where the ICT provides an alphabetic overlay on numeric keys, the relationships between letters and digits shall conform to ITU-T Recommendation E.161 (incorporated by reference, see 702.7.1).</p>	<p>Not applicable</p>	
<p>407.4 Key Repeat. Where a keyboard with key repeat is provided, the delay before the key repeat feature is activated shall be fixed at, or adjustable to, 2 seconds minimum.</p>	<p>Supports</p>	<p>Key repeat can be configured at the system level. Go to system preferences, select Keyboard and the Key Repeat speed can be adjusted on a slider.</p>
<p>407.5 Timed Response. Where a timed response is required, the user shall be alerted visually, as well as by touch or sound, and shall be given the opportunity to indicate that more time is needed.</p>	<p>Supports with exceptions</p>	<p>There are limited controls over time limits throughout macOS.</p> <p>macOS provides settings to turn the display off after a range of time frames including “Never”. More information on these settings is available from https://support.apple.com/en-us/HT202824</p> <p>macOS also provides settings on when to start a screen saver and allows for a screen saver which can act as a warning that the computer will go in sleep mode. More information on screen saver settings is available from https://support.apple.com/en-us/HT204379</p>

Criteria	Conformance Level	Remarks and Explanations
407.6 Operation. At least one mode of operation shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum.	Supports with minor exceptions	<p>1. Sticky Keys, Mouse Keys and Slow Keys can be used for one-hand operation of the 13-inch MacBook Pro and 15-inch MacBook Pro.</p> <p>2. Multi-touch trackpad gestures can all be accomplished in alternate, acceptable ways.</p> <p>More information is available at https://www.apple.com/accessibility/mac/physical-and-motor-skills/</p>
407.7 Tickets, Fare Cards, and Keycards. Where tickets, fare cards, or keycards are provided, they shall have an orientation that is tactilely discernible if orientation is important to further use of the ticket, fare card, or keycard.	Not applicable	
407.8 Reach Height and Depth	Not applicable	Not applicable
408 Display Screens		
408.2 Visibility. Where stationary ICT provides one or more display screens, at least one of each type of display screen shall be visible from a point located 40 inches (1015 mm) above the floor space where the display screen is viewed.	Not applicable	
408.3 Flashing. Where ICT emits lights in flashes, there shall be no more than three flashes in any one-second period.	Supports	Note: Safari and WebKit use web standards such as HTML and CSS to display web pages. Web content authors are responsible for ensuring their own implementations of flashing content.
409 Status Indicators		
409.1 General. Where provided, status indicators shall be discernible visually and by touch or sound.	Supports	Status indicators are visually discernible and VoiceOver provides spoken output for the status when that key is pressed such as caps lock and screen brightness, MacOS provides a setting to produce sound with increasing/decreasing volume.
410 Color Coding		

Criteria	Conformance Level	Remarks and Explanations
<p>410.1 General. Where provided, color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.</p>	<p>Supports with exceptions</p>	<p>VoiceOver, the built-in screen reader, provides sound and text for conveying the meaning of color.</p> <p>macOS uses color to convey information. In many cases, when color is used, it provides an alternative information display that does not rely on color. For example, color controls are used in the title bar of macOS windows that allow a user to close, minimize or maximize a window. While color indicates each control's function, each control also has a unique symbol and positional placement that indicates its function without relying on color information. But, there are some elements that do not include an alternative visual option.</p> <p>macOS also provides system-level control of display characteristics that cannot be overridden by applications, including options to:</p> <ul style="list-style-type: none"> Switch the display from color to grayscale. Invert light and dark colors displayed on the screen. Differentiate certain elements without color. Increase contrast of elements on the screen. Reduce the transparency of elements on the screen. <p>All of these features are accessed through the Accessibility system preference and can be used together in different combinations to suit the user's needs. More information is available at https://www.apple.com/accessibility/mac/vision/</p>
<p>411 Audible Signals</p>		

Criteria	Conformance Level	Remarks and Explanations
411.1 General. Where provided, audible signals or cues shall not be used as the only means of conveying information, indicating an action, or prompting a response	Supports	<p>macOS includes a variety of Accessibility features to augment audible signals:</p> <p>Flash Screen - macOS provides a visual indication of alert sounds via the Flash Screen feature. When a Mac application attempts to play a system beep alert, macOS instead flashes the screen.</p> <p>Notifications – Applications can notify the user of important information using the notification system built into macOS. Notifications all appear in the upper right of the screen making them easy to notice.</p> <p>Dock Notification – The icons of running applications that need attention visually jump up and down in the Dock, providing visual notification in addition to an audible beep or flash.</p> <p>More information is available at https://www.apple.com/accessibility/mac/hearing/</p>
412 ICT with Two-Way Voice Communication		
412.2 Volume Gain		
412.2.1 Volume Gain for Wireline Telephones. Volume gain conforming to 47 CFR 68.317 shall be provided on analog and digital wireline telephones.	Not applicable	
412.2.2 Volume Gain for Non-Wireline ICT. A method for increasing volume shall be provided for non-wireline ICT.	Not applicable	
412.3 Interference Reduction and Magnetic Coupling		

Criteria	Conformance Level	Remarks and Explanations
412.3.1 Wireless Handsets. ICT in the form of wireless handsets shall conform to ANSI/IEEE C63.19-2011 (incorporated by reference, see 702.5.1).	Not applicable	
412.3.2 Wireline Handsets. ICT in the form of wireline handsets, including cordless handsets, shall conform to TIA-1083-B (incorporated by reference, see 702.9.1).	Not applicable	
412.4 Digital Encoding of Speech. ICT in IP-based networks shall transmit and receive speech that is digitally encoded in the manner specified by ITU-T Recommendation G.722.2 (incorporated by reference, see 702.7.2) or IETF RFC 6716 (incorporated by reference, see 702.8.1).	Not applicable	
412.5 Real-Time Text Functionality	Not applicable	
412.6 Caller ID. Where provided, caller identification and similar telecommunications functions shall be visible and audible.	Not applicable	
412.7 Video Communication. Where ICT provides real-time video functionality, the quality of the video shall be sufficient to support communication using sign language.	Supports	More information on product technical specifications at https://www.apple.com/macbook-pro/specs/
413 Closed Caption Processing Technologies		
413.1.1 Decoding and Display of Closed Captions. Players and displays shall decode closed caption data and support display of captions.	Supports	macOS supports display of closed-captioned audio and video text descriptions in industry-standard formats. More information is available at https://www.apple.com/accessibility/mac/hearing/

Criteria	Conformance Level	Remarks and Explanations
413.1.2 Pass-Through of Closed Caption Data. Cabling and ancillary equipment shall pass through caption data.	Supports	macOS supports pass-through of closed-captioned audio and video text descriptions in industry-standard formats. More information is available at https://www.apple.com/accessibility/mac/hearing/
414 Audio Description Processing Technologies		
414.1.1 Digital Television Tuners. Digital television tuners shall provide audio description processing that conforms to ATSC A/53 Digital Television Standard, Part 5 (2014) (incorporated by reference, see 702.2.1). Digital television tuners shall provide processing of audio description when encoded as a Visually Impaired (VI) associated audio service that is provided as a complete program mix containing audio description according to the ATSC A/53 standard.	Not applicable	
414.1.2 Other ICT. ICT other than digital television tuners shall provide audio description processing.	Supports	macOS supports pass-through of closed-captioned audio and video text descriptions in industry-standard formats. More information is available at https://www.apple.com/accessibility/mac/hearing/
415 User Controls for Captions and Audio Descriptions		

Criteria	Conformance Level	Remarks and Explanations
415.1.1 Where ICT provides operable parts for volume control, ICT shall also provide operable parts for caption selection.	Supports	<p>macOS supports pass-through of closed-captioned audio and video text descriptions in industry-standard formats.</p> <p>In the default media player provided by the AV Media Playback API, there are controls for selecting the captions alongside volume adjustment. This is also true of the media players in QuickTime and iTunes, as well as in the default media player provided by WebKit.</p> <p>Third-party developers can implement their own custom media players, where they choose whether or not to support selection of captions.</p> <p>More information is available at https://www.apple.com/accessibility/mac/hearing/</p>
415.1.2 Audio Description Controls. Where ICT provides operable parts for program selection, ICT shall also provide operable parts for the selection of audio description.	Supports	In the default media player provided by the AV Media Playback API, there are controls for selecting the audio descriptions alongside volume adjustment. This is also true of the media players in QuickTime and iTunes, as well as in the default media player provided by WebKit.

Chapter 5: Software -

See VPAT for macOS operating system.

Chapter 6: Support Documentation and Services -

Criteria	Conformance Level	Remarks and Explanations
601.1 Scope		

Criteria	Conformance Level	Remarks and Explanations
602 Support Documentation		
<p>602.2 Accessibility and Compatibility Features. Documentation shall list and explain how to use the accessibility and compatibility features required by Chapters 4 and 5. Documentation shall include accessibility features that are built-in and accessibility features that provide compatibility with assistive technology.</p>	Supports	<p>Mac product documentation is available online in an accessible format in accessible HTML format through;</p> <ul style="list-style-type: none"> • Apple Support at https://www.apple.com/support • macOS new release page at https://www.apple.com/macOS • MacBook Pro product page at https://www.apple.com/macbook-pro/ • Accessibility product page at https://www.apple.com/accessibility/mac/ <p>Every Mac includes a built-in, interactive VoiceOver tutorial, interactive keyboard learning utility (called Keyboard Practice), and contextual menu system for VoiceOver. macOS help content is also available through the macOS Help menu as well as online through Apple Support.</p> <p>The Switch Control and Accessibility Keyboard guide and the Voice Over guide are delivered as online manual in accessible HTML from https://support.apple.com/en_US/manuals/macOS. The Voice Over guide is available electronic .brf braille at no charge. Charges may apply for embossed braille.</p> <p>VPATs for Apple products are available at https://support.apple.com/accessibility/vpat.</p>
<p>602.3 Electronic Support Documentation. Documentation in electronic format, including Web-based self-service support, shall conform to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0 (incorporated by reference, see 702.10.1).</p>	Supports	<p>The electronic web-based product documentation for macOS conforms to both Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0.</p>

Criteria	Conformance Level	Remarks and Explanations
602.4 Alternate Formats for Non-Electronic Support Documentation. Where support documentation is only provided in non-electronic formats, alternate formats usable by individuals with disabilities shall be provided upon request.	Supports	Product documentation for macOS is available in embossed braille via third party provider.
603 Support Services		
603.2 Information on Accessibility and Compatibility Features. ICT support services shall include information on the accessibility and compatibility features required by 602.2.	Supports	Apple Support provides advisors with information on accessibility and compatibility features for Macs and macOS. This information is also documented in the product documentation.
603.3 Accommodation of Communication Needs. Support services shall be provided directly to the user or through a referral to a point of contact. Such ICT support services shall accommodate the communication needs of individuals with disabilities.	Supports	Support via the Internet is available through the Apple Knowledge base at http://www.apple.com/support . For additional information on the many service and support options offered by Apple visit www.apple.com/support .

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