

TOTEM QWERTY

Keymap & Layer Guide

For the current codex/qwerty-layout firmware
Six layers, access methods, key functions, and macOS modifier usage

Layer	How to enter	How to exit	Primary use
BASE	Default at startup	No exit required	QWERTY typing and home-row mods
NAV	Hold left-thumb TAB	Release TAB	Navigation, editing, and numpad
SYM	Hold right-thumb ESC	Release ESC	Symbols and punctuation
ADJ	Hold TAB, then hold the right-thumb ENTER position	Release ENTER position, then TAB	Bluetooth, reset, bootloader, and F-keys
TVP1	Press S + D + F together	Press S + D + F again	Legacy TVPaint editing layer
TVP2	In TVP1, hold the physical A position	Release the A position	Temporary TVPaint sublayer

Important correction

The correct TVP1 combo is S + D + F, not A + S + D. The diagrams and instructions in this guide use the corrected combo.

Firmware reference

This guide reflects the actual keymap on branch codex/qwerty-layout, build commit f8d6397.

Understanding TAP and HOLD

Several BASE-layer letter keys have two functions. Tap the key to type the large label. Hold it to activate the smaller modifier label.

Physical key	Tap	Hold
A	A	Command
S	S	Option
D	D	Control
F	F	Shift
J	J	Shift
K	K	Control
L	L	Option
;	;	Command

How to press Command + A

The A key cannot be Command and A at the same time. Use the mirrored Command key on the other hand:

1. Hold ; for about 0.2 seconds.
2. Keep holding ; and tap A.
3. Release both keys.

Result: Command + A

Shortcut	Recommended action
Command + A	Hold ;, tap A
Command + ;	Hold A, tap ;
Option + S	Hold L, tap S
Control + D	Hold K, tap D
Shift + F	Hold J, tap F

Timing

Home-row modifiers use tap-preferred behavior with an approximately 170 ms tapping term. For reliable shortcuts, hold the modifier for about 0.2 seconds before pressing the target key.

Extra combo

Press physical Q + W together within about 50 ms to send ESC. This is a combo, not a layer.

macOS Shortcuts and Shifted Numbers

The number-row symbols follow the standard U.S. QWERTY pairing:

1 ! 2 @ 3 # 4 \$ 5 % 6 ^ 7 & 8 * 9 (0)

Shifted shortcut	Equivalent symbol	TOTEM SYM-layer key
Shift + 1	!	Hold ESC/SYM + Q
Shift + 2	@	Hold ESC/SYM + W
Shift + 3	#	Hold ESC/SYM + E
Shift + 4	\$	Hold ESC/SYM + R
Shift + 5	%	Hold ESC/SYM + T
Shift + 6	^	Hold ESC/SYM + Y
Shift + 7	&	Hold ESC/SYM + U
Shift + 8	*	Hold ESC/SYM + I
Shift + 9	(	Hold ESC/SYM + O
Shift + 0	)	Hold ESC/SYM + P

How to press Command + Shift + 5

1. Hold A for about 0.2 seconds to activate Command.
2. Keep holding A and hold the right-thumb ESC/SYM key.
3. While both are held, tap the physical T key.
4. Release all keys.

On SYM, T sends %, which is the same HID action as Shift + 5. Therefore the result is Command + Shift + 5, opening the macOS screenshot toolbar.

Use the macOS ABC or U.S. input source. Other keyboard layouts may assign different symbols to these key codes.

1. BASE - Default QWERTY Layer

TOTEM · QWERTY KEYMAP

01 BASE · QWERTY

Default typing layer · Home-row Mods for macOS

LEFT

RIGHT

QWERTY

ASDFGH

SHIFTZXCVB

DEL

TAB

SPACE

YUIOP

HJKL

NM

ENTER

ESC

BSPC

LARGE TEXT = TAP SMALL TEXT = HOLD ▾ = LOWER LAYER — = DISABLED

PURPLE: MODIFIER GREEN: LAYER BLUE: NAV ORANGE: SYMBOL RED: SYSTEM / BT VIOLET: TVP

Access

BASE is active after power-up, reset, or leaving another layer. It requires no separate entry or exit action.

Thumb keys

Side	Left to right	Special behavior
Left thumb	DEL / TAB / SPACE	Tap TAB = TAB; hold TAB = NAV
Right thumb	ENTER / ESC / BSPC	Tap ESC = ESC; hold ESC = SYM

Primary use

Normal QWERTY typing, macOS Command/Option/Control/Shift shortcuts, and access to NAV and SYM.

2. NAV - Navigation and Number Layer

TOTEM · QWERTY KEYMAP

02 NAV · NAVIGATION & NUMPAD

ENTRY: Hold left-thumb TAB · Release to return to BASE

LEFT

HOMEPG↑↑PG↓END

⌘←↓→^

↑ESCDEL⌫INSCAPS

▽LOWER LAYER▽LOWER LAYER▽LOWER LAYER

RIGHT

789÷+

456×-

123. =↑

ADJ HOLD0ENTER

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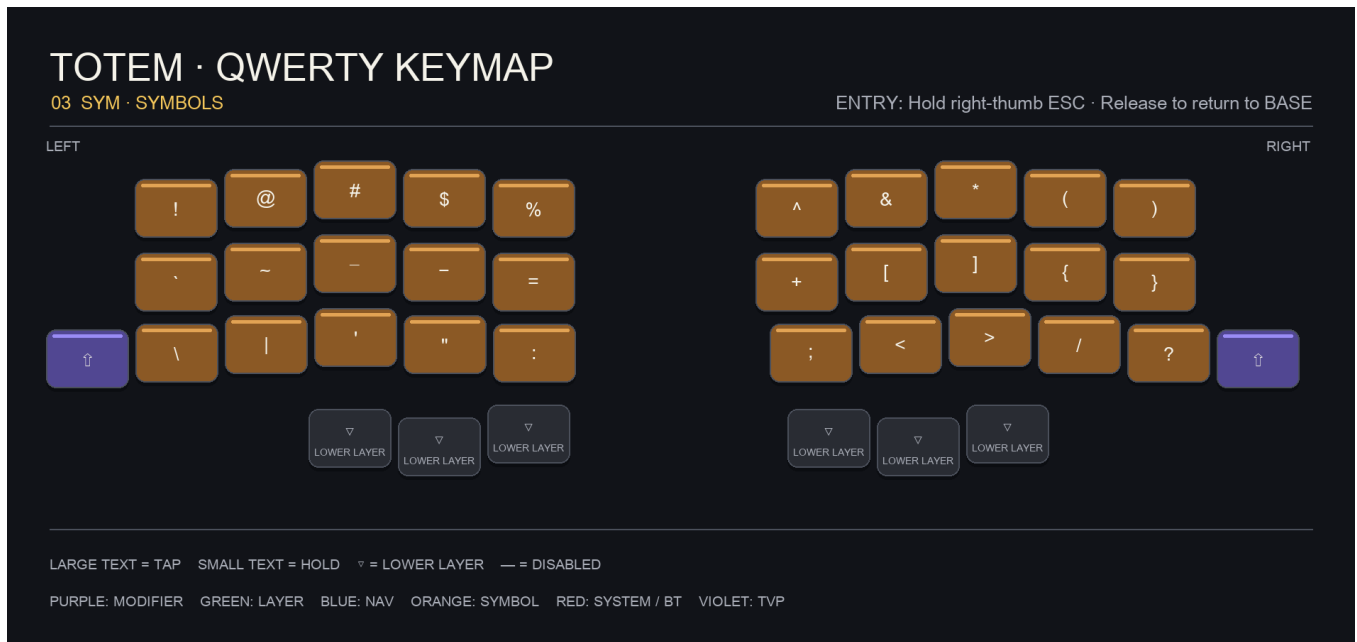
Enter by holding the left-thumb TAB key. Keep holding TAB while using NAV; release TAB to return to BASE.

Physical position	Left-side output	Physical position	Right-side output
Q W E R T	HOME / PG UP / UP / PG DOWN / END	Y U I O P	7 / 8 / 9 / DIVIDE / PLUS
A S D F G	CMD / LEFT / DOWN / RIGHT / CTRL	H J K L ;	4 / 5 / 6 / MULTIPLY / MINUS
Shift Z X C V B	SHIFT / ESC / DEL / BSPC / INS / CAPS	N M , . / Shift	1 / 2 / 3 / DOT / EQUAL / SHIFT
Left thumbs	Inherited from BASE	Right thumbs	ADJ / 0 / ENTER

Entering ADJ

Keep holding TAB, then hold the leftmost right-thumb position - the physical ENTER position - to enter ADJ.

3. SYM - Symbol Layer



Enter by holding the right-thumb ESC key. Keep holding ESC while typing symbols; release ESC to return to BASE.

Physical row	Left-side output	Right-side output
Top	Q W E R T -> ! @ # \$ %	Y U I O P -> ^ & * ()
Home	A S D F G -> ` ~ _ - =	H J K L ; -> + [] { }
Bottom	Z X C V B -> \ ' " :	N M , . / -> ; < > / ?
Outer Shift	Remains Shift	Remains Shift

Examples

@ = Hold ESC + W; { = Hold ESC + L; ? = Hold ESC + physical /.

4. ADJ - System and Function Layer

TOTEM · QWERTY KEYMAP

04 ADJ · SYSTEM & FUNCTION KEYS

ENTRY: Hold TAB for NAV, then hold the right-thumb ENTER-position key

LEFT

RESET

BT CLEAR

OUTPUT TOG

LOWER LAYER

LOWER LAYER

BOOT

BT NEXT

LOWER LAYER

LOWER LAYER

LOWER LAYER

LOWER LAYER

LOWER LAYER

BT PREV

LOWER LAYER

LOWER LAYER

LOWER LAYER

LOWER LAYER

LOWER LAYER

LOWER LAYER

RIGHT

LOWER LAYER

F7

F8

F9

F12

LOWER LAYER

F4

F5

F6

F11

LOWER LAYER

F1

F2

F3

F10

LOWER LAYER

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LOWER LAYER

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PURPLE: MODIFIER GREEN: LAYER BLUE: NAV ORANGE: SYMBOL RED: SYSTEM / BT VIOLET: TVP

How to enter

1. Hold left-thumb TAB to enter NAV.
2. Keep holding TAB and hold the leftmost right-thumb position - physical ENTER.
3. ADJ is now active.
4. Release the ENTER position to return to NAV, then release TAB to return to BASE.

Physical key	ADJ function	Purpose
Q	RESET	Restart the controller
W	BT CLEAR	Clear pairing data for the current Bluetooth profile
E	OUTPUT TOGGLE	Switch between USB and Bluetooth output
A	BOOTLOADER	Enter UF2 flashing mode
S	BT NEXT	Select the next Bluetooth profile
X	BT PREVIOUS	Select the previous Bluetooth profile
U I O P	F7 F8 F9 F12	Function keys
J K L ;	F4 F5 F6 F11	Function keys
M , . /	F1 F2 F3 F10	Function keys

BT CLEAR deletes the pairing for the active Bluetooth profile. Use it only when you intend to pair again.

5. TVP1 - Legacy TVPaint Editing Layer

TOTEM · QWERTY KEYMAP

05 TVP 1 · LEGACY EDITING

ENTRY: Press S + D + F together · Press the same combo again to exit

LEFT

NEXT FILE

MARK IN

ROTATE

MARK OUT

SHOW SNAP

TVP II
HOLD TVP2

LEFT

PAN

RIGHT

PLAY / FLIP

FULLSCR

SHIFT

COPY

DELETE

PASTE

IMG MARK

▽
LOWER LAYER

UNDO / SAVE

SEL / MOV

RIGHT

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DISABLED

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Correct entry method

Press physical S + D + F together. All three keys must register within about 100 ms. TVP1 is a toggle layer, so it remains active after you release the keys. Press S + D + F again to disable TVP1 and return to BASE.

S + D + F -> TVP1 ON

S + D + F -> TVP1 OFF / BASE

Functions

TVP1 preserves the original firmware's NEXT FILE, MARK IN/OUT, ROTATE, PAN, COPY, DELETE, PASTE, UNDO/SAVE, and related TVPaint actions. Most of the right half is disabled.

Entering TVP2

While TVP1 is active, hold the leftmost home-row physical position - the physical A position - to enter TVP2 temporarily.

6. TVP2 - Temporary TVPaint Sublayer

TOTEM · QWERTY KEYMAP

06 TVP 2 · LEGACY EDITING SUBLAYER

ENTRY: From TVP1, hold the physical A-position key · Release to return

LEFT

SOLO

TOGGLE IN

RESET ROT

TOGGLE OUT

TAKE SNAP

LOWER LAYER

LAST KEY

NEW KEY

NEXT KEY

ENTER

LOWER LAYER

FULLSCR

CPY2BRUSH

DEL HEAD

PST PLACE

BOOK MARK

LOWER LAYER

LOWER LAYER

REDO / SAV1

TRANS / WARP

RIGHT

LOWER LAYER

F7

F8

F9

F12

LOWER LAYER

F4

F5

F6

F11

LOWER LAYER

F1

F2

F3

F10

LOWER LAYER

LOWER LAYER

LOWER LAYER

LOWER LAYER

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How to enter and exit

1. Press S + D + F to enable TVP1.
2. In TVP1, hold the physical A position to enter TVP2.
3. Release the A position to return to TVP1.
4. Press S + D + F again to disable TVP1 and return to BASE.

S + D + F -> TVP1
 Hold physical A position -> TVP2
 Release physical A position -> TVP1
 S + D + F -> BASE

Functions

TVP2 preserves SOLO, TOGGLE IN/OUT, RESET ROT, keyframe actions, COPY TO BRUSH, DELETE HEAD, PASTE IN PLACE, BOOKMARK, and right-side F-keys. Ignore TVP1 and TVP2 if you do not use TVPaint.

Quick Reference

Layer access

Target	Action	Return
BASE	Default at startup	Already in BASE
NAV	Hold left-thumb TAB	Release TAB
SYM	Hold right-thumb ESC	Release ESC
ADJ	Hold TAB, then hold right-thumb ENTER position	Release ENTER position, then TAB
TVP1	Press S + D + F together	Press S + D + F again
TVP2	In TVP1, hold the physical A position	Release the A position

macOS home-row modifiers

Left hold	Function	Right hold	Function
A	Command	;	Command
S	Option	L	Option
D	Control	K	Control
F	Shift	J	Shift

Memory guide

- Letters and Command/Option/Control/Shift: BASE.
- Navigation, editing, and numbers: hold TAB.
- Symbols and punctuation: hold ESC.
- Bluetooth, RESET, BOOTLOADER, and F-keys: hold TAB, then hold the ENTER position.
- TVP1 and TVP2 are retained for the legacy TVPaint workflow and can be ignored for normal typing.

Safety note

On ADJ, BT CLEAR deletes pairing data for the active Bluetooth profile, BOOTLOADER enters flashing mode, and RESET immediately restarts the controller. Confirm the target key before using these actions.