Talko 2 Firmware & Manuals

Choose the manual for the firmware installed on your Talko 2. The instrument announces its firmware version when it starts.

Standard Talko 2 firmware

The firmware supplied with Talko 2. See the manual for its speech banks, controls and the standard firmware download.

Read the standard Talko 2 user manual

Talko S.A.M.

An alternate voice for the same instrument, with six presets, live effects and Visual Console lip sync. The manual covers test version 0.6.

Read the Talko S.A.M. user manual

Build your own firmware

If you are a developer and you want to write your own firmware, the section below summarizes the Talko2 hardware pin map

Important note: in the Talko irmware, most inputs are configured with INPUT_PULLUP. This means they are normally HIGH and become LOW when the switch closes to GND.

Gate input note: the gate signal is inverted by a transistor on the hardware, so the RP2040 pin sees an active-low signal when an external gate is present. For this reason, the Talko firmware attaches the gate interrupt on a FALLING edge (active-low trigger).

Hardware pin map (Talko2 / RP2040-Zero)

Signal (firmware name)	RP2040 pin	Direction	Description	Notes
PIN_AUDIO	GPIO1	OUT (PWM)	Audio PWM output	Low pass filtered PWM
PIN_POT_SOUND	GPIO26 / ADC0	IN (ADC)	Sound potentiometer	Read with analogRead()
PIN_POT_FX	GPIO27 / ADC1	IN (ADC)	FX potentiometer	Read with analogRead()
PIN_POT_SPEED	GPIO28 / ADC2	IN (ADC)	Speed potentiometer	Read with analogRead()
PIN_POT_PITCH	GPIO29 / ADC3	IN (ADC)	Pitch potentiometer	Read with analogRead()
PIN_GATE	GPIO2	IN (pull-up)	Gate / trigger input	INPUT_PULLUP. The gate is inverted by a transistor on the hardware, so the RP2040 sees an active-low signal. Interrupt on FALLING in the reference firmware.
PIN_ROTA	GPIO3	IN (pull-up)	Rotary encoder A	INPUT_PULLUP, interrupt on CHANGE

Signal (firmware name)	RP2040 pin	Direction	Description	Notes
PIN_ROTB	GPIO4	IN (pull-up)	Rotary encoder B	INPUT_PULLUP, interrupt on CHANGE
PIN_SELECT	GPIO13	IN (pull-up)	Rotary select / click	INPUT_PULLUP
PIN_ERROR	GPIO0	IN (pull-up)	Push button	INPUT_PULLUP
PIN_MODE_A	GPIO15	IN (pull-up)	Mode select A	INPUT_PULLUP
PIN_MODE_B	GPIO14	IN (pull-up)	Mode select B	INPUT_PULLUP
WS_PIN	GPIO16	OUT	NeoPixel (WS2812) data	Single on-board NeoPixel
PIN_SEG_A	GPIO5	OUT	7-segment display: segment A	Digital output
PIN_SEG_B	GPIO6	OUT	7-segment display: segment B	Digital output
PIN_SEG_C	GPIO7	OUT	7-segment display: segment C	Digital output
PIN_SEG_D	GPIO8	OUT	7-segment display: segment D	Digital output

Signal (firmware name)	RP2040 pin	Direction	Description	Notes
PIN_SEG_E	GPIO9	OUT	7-segment display: segment E	Digital output
PIN_SEG_F	GPIO10	OUT	7-segment display: segment F	Digital output
PIN_SEG_G	GPIO11	OUT	7-segment display: segment G	Digital output
PIN_SEG_DP	GPIO12	OUT	7-segment display: decimal point	Digital output

If you publish your own firmware, you can send me:

- a short description
- a link (GitHub, zip, or release page)