Talko 2 user manual

Current version : 1.3

Panel & Controls

- Audio Out: main audio output (PWM filtered).
- Gate In: triggers the speech.
- Sound, speech, pitch, and FX: respond to their respective potentiometers when no CV is connected. Respond to the CV when connected.
- Mode switch: Talko produces sounds in 3 major modes: Speech, Repeat, and VCO.
  – In **Speech mode**, the speech begins with a gate signal and is completed before waiting for the next gate signal. The speech has priority.
  – In **Repeat mode**, the speech starts and stops in response to the gate signal transitioning from high to low or vice versa. The gate has priority, and the speech repeats while the gate is high. This mode is handy for creating crazy rhythms.
  – In **VCO mode**, the LPC engine loops while the gate is high, producing steady notes.
- The speak button acts as a gate signal
- Error button injects random glitches, mimicking a circuit-bent Speak & Spell

Knobs

- Sound: selects the item inside the current bank.
- Speed: changes playback tempo from slow to very fast.
- Pitch: shifts the pitch widely.
- FX: controls the amount or frequency of the selected

effect.

Encoder

- Rotate to change the bank.
- Push Encoder to enter FX select mode (**decimal point lights up on the display**).
- Press again to return to the standard bank view.

Display & LED

- 7-segment: shows the current bank (hex digit). Decimal point indicates FX select
- Screensaver: animated patterns appear after inactivity. Any interaction exits the screensaver.
- Boot sequence: Talko2 speaks its firmware version at power-on, display the version on the display while the LED at the back flashes to show version numbers. Red = major version, blue dot = separator, green = minor version.
- The display is dimmable: press and hold the encoder button for about 1 second (the display will show “8.” to indicate configuration mode), then turn the encoder to adjust brightness. Release the encoder button to save (will not survive a reboot).

Banks

- 0 – Numbers (0–9)
- 1 – TI-99 Alphabet
- 2 – NATO Alphabet

- 3 – Speak & Spell (US) Numbers
- 4 – Speak & Spell (FR) Numbers
- 5 – Speak & Spell Sounds (beeps + phrases)
- 6 – Speak & Spell Vocabulary (US)
- 7 – Allophones (voiced)
- 8 – Allophones (unvoiced)
- 9 – Allophones (VCO-friendly)
- A – Electronic voice alert Chrysler phrases
- B – Star Wars quotes
- C – German Numbers (alt bank 0–9)

New in version 1.3:

- d – US Clock Vocabulary (female voice)
- E – US Clock Digits (female voice)
- F – ECHO II Female Voice Digits

The Sound knob is scaled to cover the entire set in each bank.

FX Types

- – : no effect (dry signal)
- F : filter effect (FX knob = cutoff)
- d : Dalek / ring modulation (FX knob ≈ 30–1200 Hz carrier)
- b : pitch bend / warble (FX knob = depth or rate)
- G : growl & pitch (FX knob = intensity; turn to max to enter Growling mode)
- C : chord / harmonic interval effect (FX knob =

interval or mix)
    - r : reverb (FX knob = decay/mix)
    - t : telephone (FX knob = bandpass frequency)
    - o : tremolo (FX knob = rate)

New in version 1.3:

- E: Error: Allows you to trigger Error with CV or the FX pot. There is also a sweet spot around noon, where the error will randomly engage or not, adding extra liveliness.

Error Mode

Error Mode is a special “hands-free” mode that transforms the Gate and Error buttons from momentary to **toggle behavior**. This is particularly useful for live performance or for sustained effects without holding buttons.

Activating Error Mode

- Hold both the **Error button** and the **Encoder button** together for about 600ms.
- A “neon sign” animation confirms activation: the letter “E” builds up segment by segment on the display, then blinks.

Deactivating Error Mode

- Hold both buttons again for 600ms.
- The “E” blinks, then powers down segment by segment.
- All toggle states reset to OFF when exiting.

Gate Button in Error Mode

- **Speech mode:** Unchanged — each press triggers one phrase as usual.
- **Repeat/VCO modes:** Press once to start continuous sound, press again to stop. No need to hold the button — it

acts as a latching switch.

Error Button in Error Mode

- Press once: the glitch effect and display flicker stay ON continuously.
- Press again: turns OFF.
- While the glitch effect is ON, the sound source is locked (the display may change, but has no effect). Turn the Error toggle OFF to apply Bank or Sound changes.
- FX are active.

Summary Table

Button	Normal Mode	Error Mode
Gate (Speech)	Press to trigger	Unchanged
Gate (VCO/Repeat)	Hold for continuous sound	Toggle ON/OFF
Error	Hold for glitch	Toggle glitch ON/OFF

Firmware update

- Don’t apply power yet
- Connect to the computer via a USB-C **data cable**
- Hold BOOTSEL.
- While still holding BOOTSEL, press and release RESET
- Keep holding BOOTSEL for ~1–2 seconds, then release
- A new drive will mount on your computer : RPI-RP2
- Simply drag the UF2 to the drive !

Date	Revision	Changes
2026-01-22	1.3	Error as FX + 3 new banks (female numbers)
2025-12-06	1.2	New Error Mode ! (plus improved encoder behaviour)

Date	Revision	Changes
2025-09-23	1.1	Initial release



Talko 2 firmware

1 file(s) 282.50 KB
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