

Silicon Labs Si4831/35

Mechanical Tuning AM/FM/SW Radio

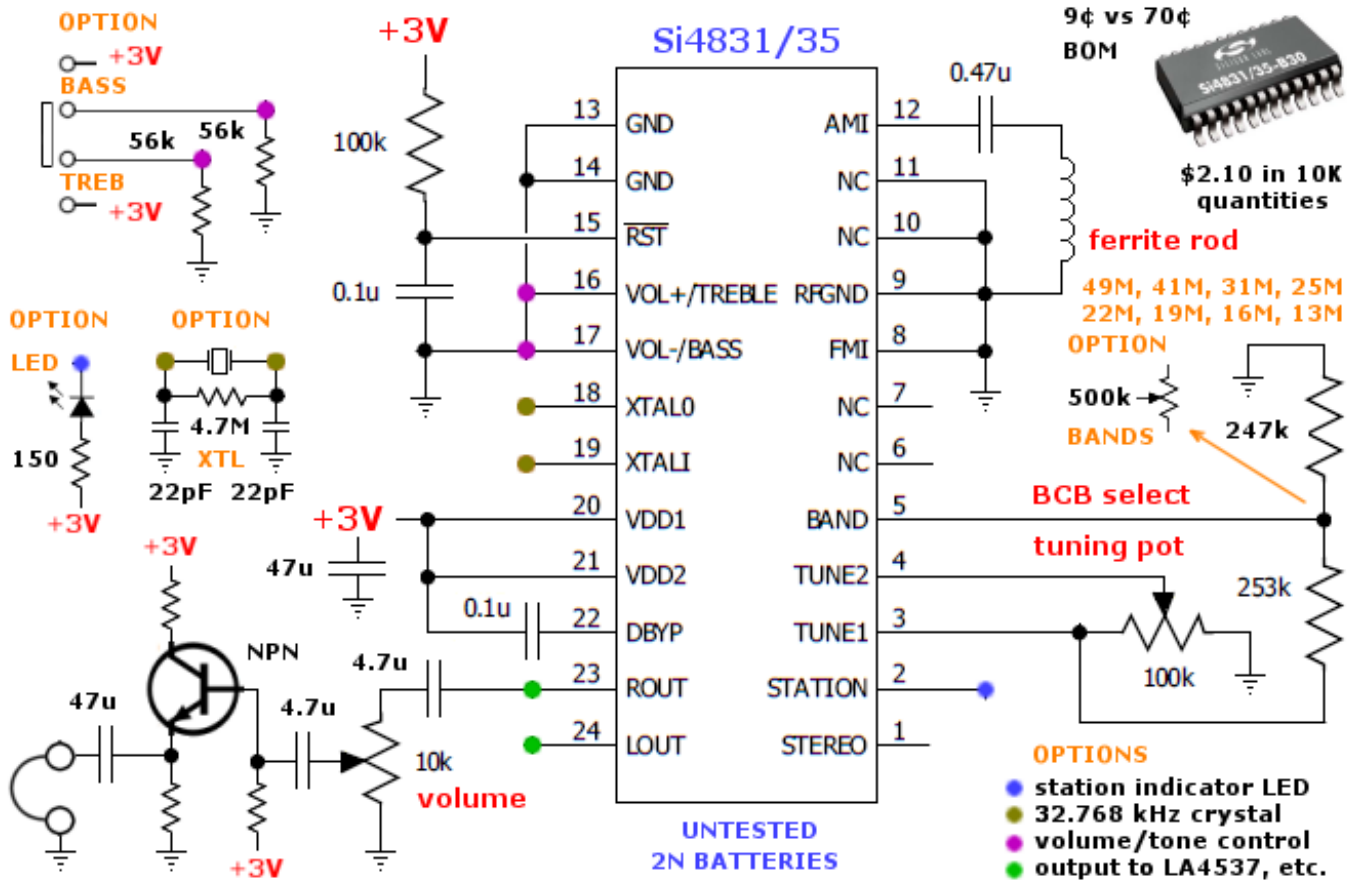
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Silicon Labs has just changed radio forever. The 24-pin ssop [Si4831](#) (AM/FM) and [Si4835](#) (+SW) are DSP low-IF radio IC's, like the Si4734, but with an analog control interface. They allow [mechanical tuning](#) by reading a potentiometer using an analog-to-digital converter (ADC). Bands (5 AM, 5 FM, or 16 SW) are selected via *external resistances*. [Volume](#) (up/down in 32 levels) and [tone](#) (base/treble in 8 levels) controls are integrated. The tuner can indicate [station tuned](#) or [FM stereo](#) via lighting of external LEDs. An audio conditioner removes popping, clicks, and loud static.

Current consumption is [17 mA](#) (10 μ A in sleep mode) from, for example, [2 AAA](#) batteries (2.0 to 3.6V). Coverage is 504 to 1750 kHz (AM), 64 to 109 MHz (FM), and 5.6 to 22.0 MHz (SW). Sensitivity on AM is specified at [25 \$\mu\$ V](#) for 26 dB SNR; this calculates out to [1.8 \$\mu\$ V](#) for 3 dB SNR.

This could mean the end of 455-kHz ceramic IF filters and switched LC tanks in lower-end analog radios. We will see very small DSP radios *without a noisy MCU, display, and its driver*; or their associated shielding. The units will offer *much better dial linearity* than the capacitor-tuned radios they replace. Below is an [UNTESTED](#) Si4831-based radio for MW hobbyists that *could easily fit inside of a match box*. **Silicon Labs** is rapidly becoming the new "Sony" of the radio industry.



just_rtfm@<NOSPAM>yahoo.com
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