

A “Contestpedition” Cable for TR-Log and the IC-706

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A trip was planned to Hawaii for the CQWW CW, and an IC-706 mini-HF rig was purchased. While a compromise antenna was necessary, there was no need to compromise on logging capability. TR Log offered all the necessary features, including a memory keyer with paddle input and rig control with automatic band change monitoring—if the proper interfaces were brought. The goal of maximizing available suitcase room for antennas meant minimizing space taken for everything else. While clothing is never a problem when vacationing in KH6, the extra interface boxes and their power supplies were rather inconvenient.

Five goals were selected for an interface cable design:

- Interface the Icom rig to TR-Log software running on a notebook computer
- CW keying interface with PTT output
- Serial rig control (CI-V for Icom)
- Paddle input
- Cable only (no boxes)
- No external power supplies required

With these goals in mind, all circuitry had to fit inside the connector hoods. Details on the CI-V interface is available at <http://www.jpss.net/k6xx/icbsciv.htm>. Details on the paddle, PTT, and keying interface are included in the TR-Log manual. This cable will work with all Icom radios if the correct rig-side PTT connector is used.

Circuit notes

The IC-706 VOX mode is selectable in 100ms time increments, from “0” to 1 second. The 100ms position is too slow for contest operation, and the “0” position does not operate properly: it is neither VOX nor QSK; and it distorts the occasional character by clipping dashes or eliminating dots. TR-Log’s PTT output solves these problems. The IC-706 is set to *non-break-in* mode (neither QSK nor VOX), and is placed in transmit mode by the PTT signal. The key/PTT timing is set by the logging software, and has user-configurable delay between PTT enable and the start of the first keyed element. Additionally, when using the TR-Log paddle input, a separately programmable delay between characters is available. It really works well!

The cabling between connectors is chosen so that no more than 2 multiconductor cables are fed to either hood. Ideally, the parallel port connector would have three cables fed to it, but its hood would not close with this many conductors—at least with the cable used. A daisy-chain arrangement is employed, with the Key and PTT outputs fed from the parallel port to the serial connector hood, then out again to the rear panel of the IC-706. The Key output (a 1/4" phone plug) receives the cable from the serial hood containing Key, PTT, and CI-V lines. RG-174 coax cable exits from the 1/4" phone plug hood to the PTT and CI-V 1/8" phone plugs. This produced the cleanest overall cabling arrangement.



Figure 1. The completed cable assembly.

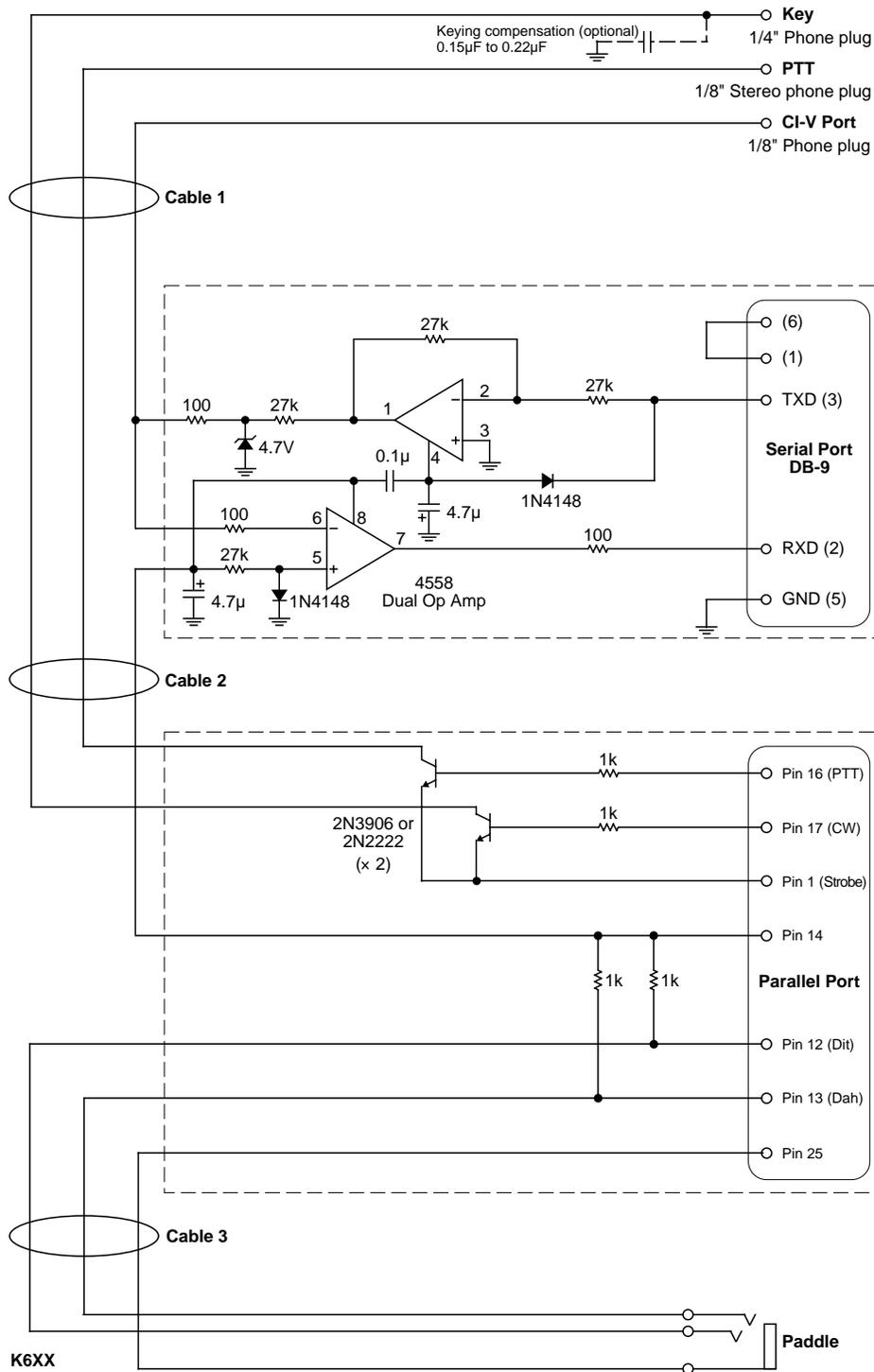


Figure 2. IC-706-to-TR-Log Cable schematic.

Results

The cable was packed into a pocket of the hand-carried bag containing the IC-706 and notebook computer, and took up very little space. During the contest, it performed as expected; no prob-

lems occurred either functionally or from RFI. Although metal shells were employed, I recommend using metalized plastic housings, since the shells were triple the weight of the rest of the cable.