



# Remoting Your Station

KCØRPS

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285 TechConnect Radio Club

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# Why Remote My Station?





# Because it gets cold!



# Goal

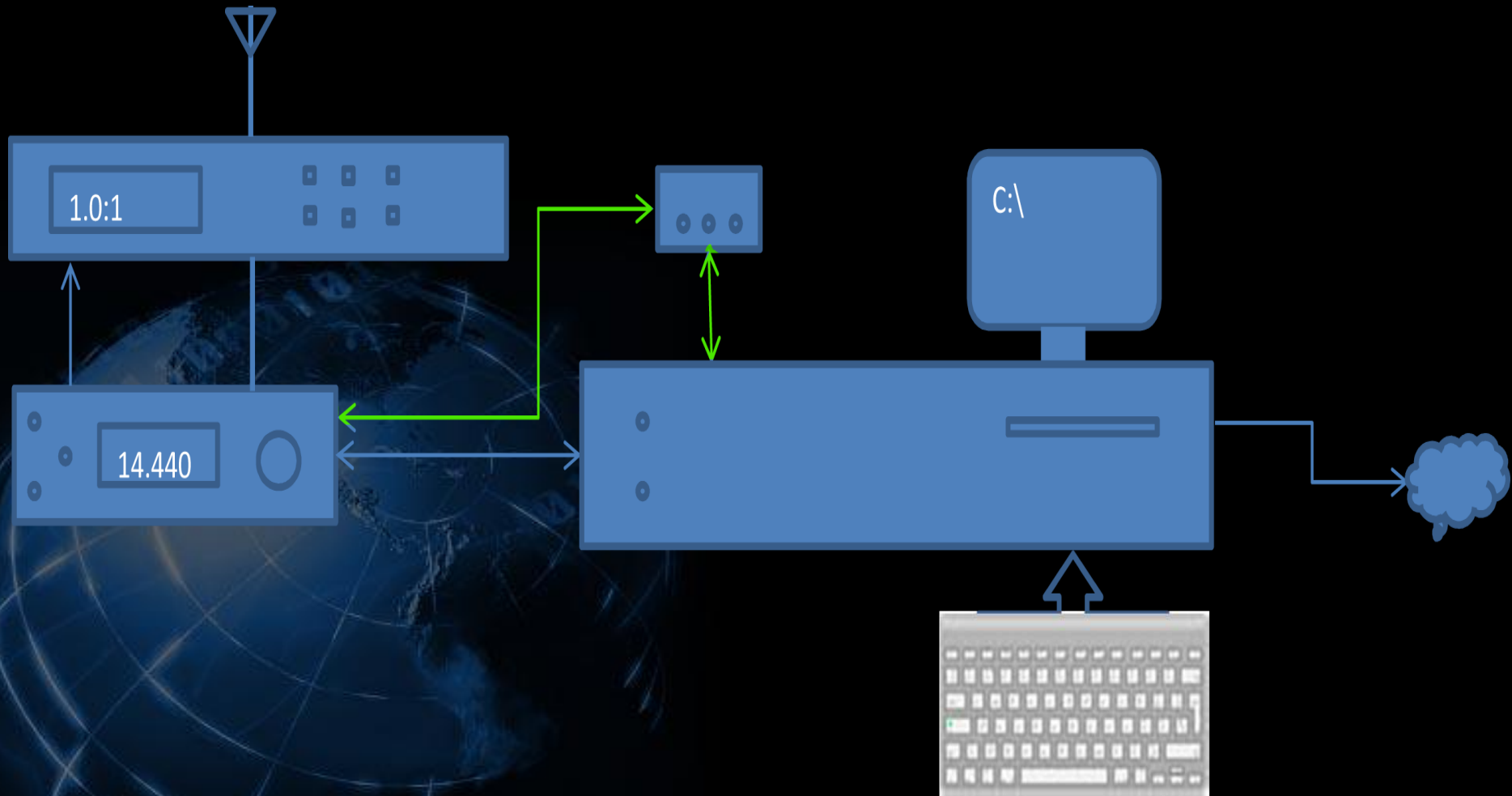




# Remote Station

- ✕ Transceiver
  - ✕ Control
  - ✕ Remote
  - ✕ Audio
  - ✕ Antenna Tuner
  - ✕ Independent Control
- 

# Block Diagram



# Setup



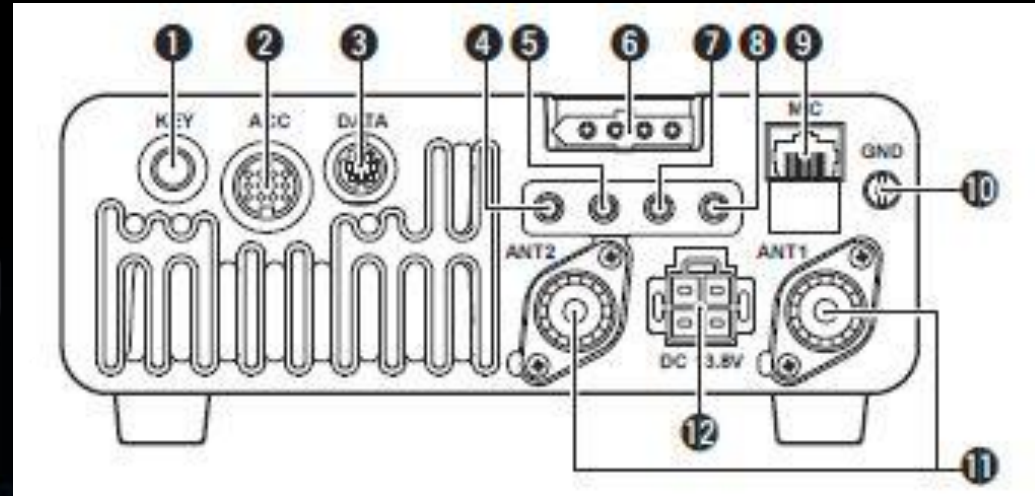


# Close-up





# Transceiver – IC-7000



- ✘ Computer Control Capability
  - 5 CI-V Remote Control Jack
  - 3 Data Socket
  - 6 Tuner Control Jack

# CI-V Cable

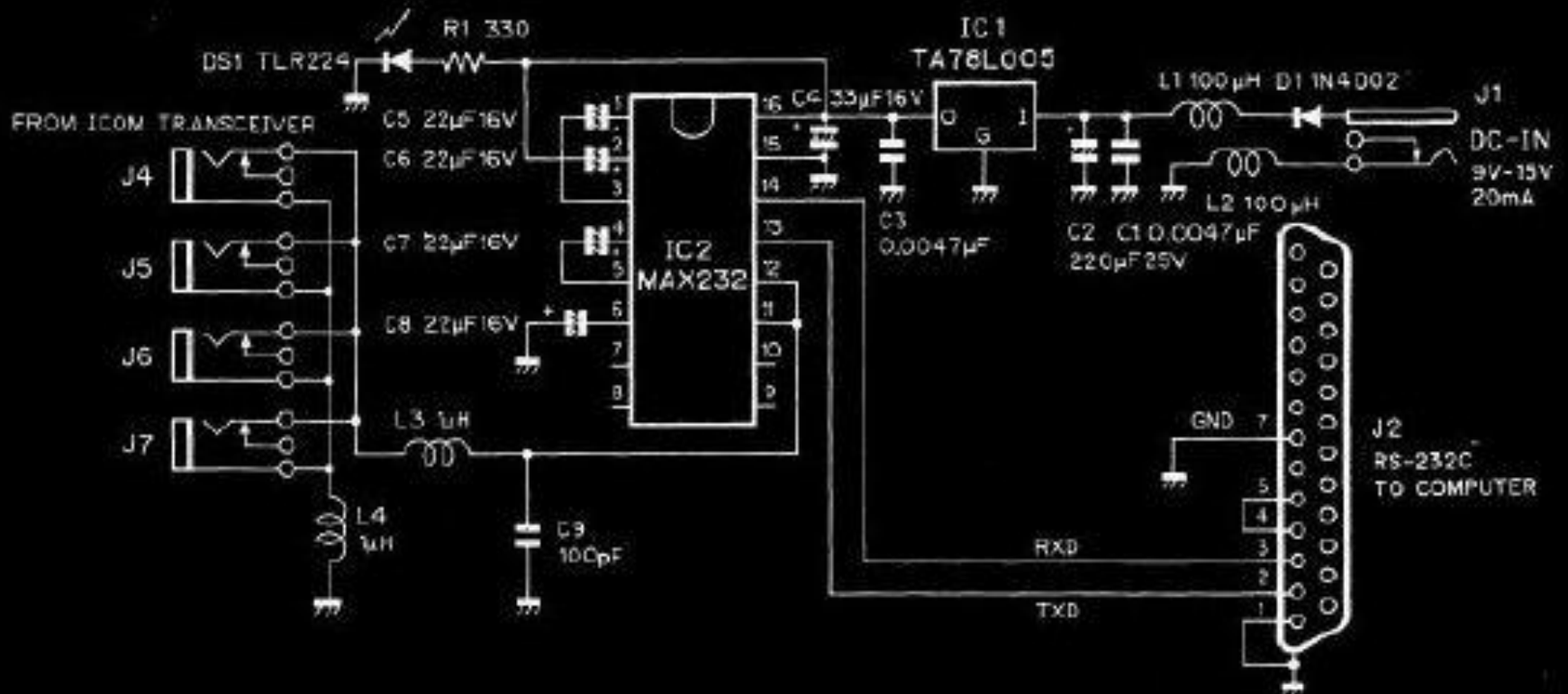


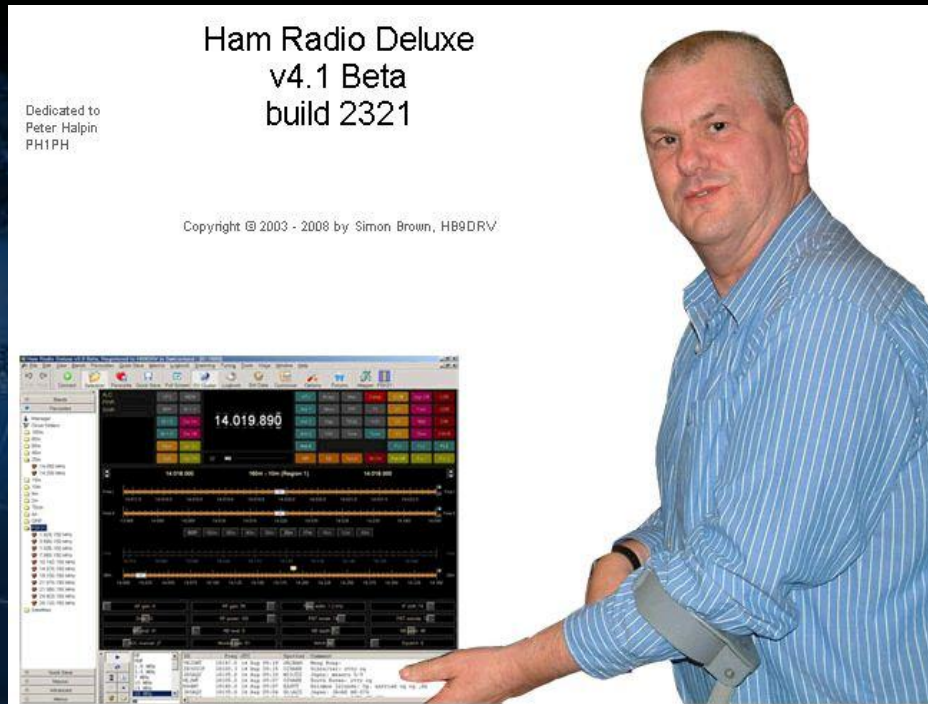
Figure 3: Icom CT-17 circuit



# Control

## ⌘ Control Cable

- KAWA Mall (e-bay vendor) - \$10.37



## ⌘ Ham Radio Deluxe

# Looks Like -

The screenshot displays the HamRadioDeluxe software interface for an IC-7000 radio. The window title is "HamRadioDeluxe - [IC-7000]". The menu bar includes File, Edit, View, Bands, Favourites, Quick Save, Macros, Logbook, Scanning, Tuning, Tools, Voice, Window, Help, and a Donate button. The toolbar contains various icons for Connect, Selection, Favourite, Quick Save, Full Screen, DX Cluster, Logbook, Satellites, SW Data, Sliders, Customise, Options, Forums, Undo, Redo, Add, and Backup. Below the toolbar are icons for Mapper, DM780, PSK31, Synch, Remote, Serial, and Programs.

The main display area shows the radio's status and controls. On the left, there are meters for ALC, PWR, and SWR, and buttons for VFO, MEM, VFO A, MW, VFO B, M > V, A = B, MCL, and A / B. The center displays the frequency "14.281.900" in a large font, with "USB" mode selected. On the right, there are buttons for ATT, NB, Sc Off, TSQL, Mode: USB, Comp, NR, Sc On, TX, Filter: FL1, Lock, Notch, Simp, Tone, AGC: Mid, Man 1, Pre, Spl Off, VOX, ATU: On, Man 2, Rpt +, Spl On, VSC, Moni, Rpt -, and TPF.

Below the main display, there are three frequency scales. The top scale is for the 160m band (Region 2) on Sunday, May 01, 2011, at 14:42:10. The middle scale is for the 17m band. The bottom scale is for the 20m band. A mode selector bar shows options: BSP, 160m, 75m, 60m, 40m, 30m, 20m, 17m, 15m, 12m, and 10m. The 20m mode is currently selected.

At the bottom, there are several control sliders and buttons for various parameters: AF gain: 0, RF gain: 100, VOX gain: 51, Anti-VOX: 50, Mic gain: 50, Compression: 4, RF power: 0, Filter width: 35, NB level: 50, NR level: 47, Notch (NF1): 23, and Notch (NF2): 51.



# Remote Access

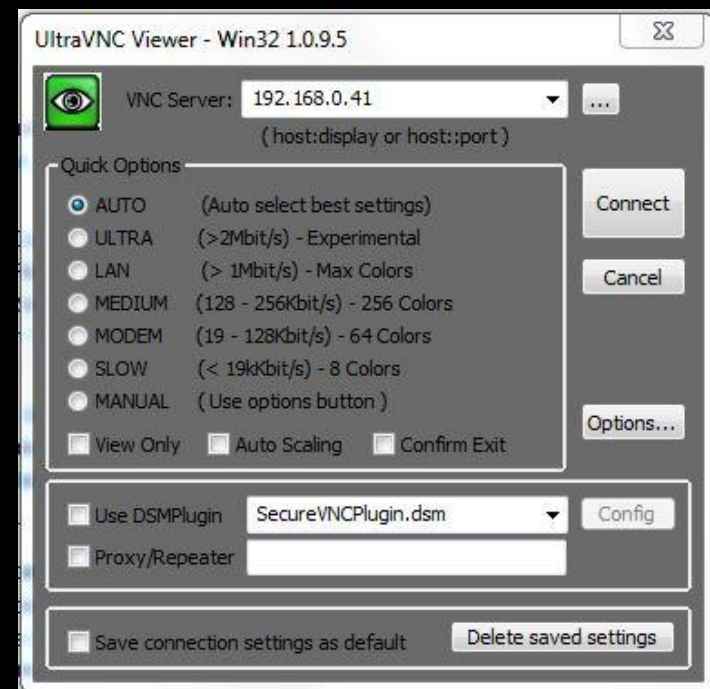
## ⌘ Several Options

- Remote Desktop Connection

- pcAnywhere

- VNC

- Ultra VNC



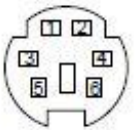
# Audio

## ✘ Signalink USB

*high quality sound card*



### ◇ DATA socket

| DATA  | PIN No. | NAME     | DESCRIPTION  |
|---|---------|----------|--|
|  <p>Rear panel view</p> | 1       | DATA IN  | Input terminal for data transmit. (1200 bps: AFSK/9600 bps: G3RUH, GMSK)   |
|   | 2       | GND      | Common ground for DATA IN, DATA OUT and AF OUT.  |
|   | 3       | PTT P    | PTT terminal for packet operation. Connect to ground to activate the transmitter. When grounded, microphone input (pin 6) of [MIC] connector will be disconnected.   |
|   | 4       | DATA OUT | Data out terminal for 9600 bps operation only.   |
|   | 5       | AF OUT   | Data out terminal for 1200 bps operation only.   |
|   | 6       | SQL      | <p>Squelch out terminal. This pin is grounded when the transceiver receives a signal which opens the squelch.</p> <ul style="list-style-type: none"> <li>• To avoid interfering transmissions, connect squelch to the TNC to inhibit transmission when squelch is open.</li> <li>• Keep RF gain at a normal level, otherwise a "SQL" signal will not be output.</li> </ul> |

## ✘ Skype





# Antenna

- ⌘ G5RV multi-band wire antenna
- ⌘ MFJ-993B automatic antenna tuner



# Independent Control

*“An amateur station... may be under telecommand where: (a) There is a... wireline control link... sufficient for the control operator to perform his/her duties. (b) Provisions are incorporated to limit transmission by the station to a period of no more than 3 minutes in the event of a malfunction in the control link.”*

(47 CFR 97.213)

# Improvements

⌘ Independent control

⌘ Remote Switching

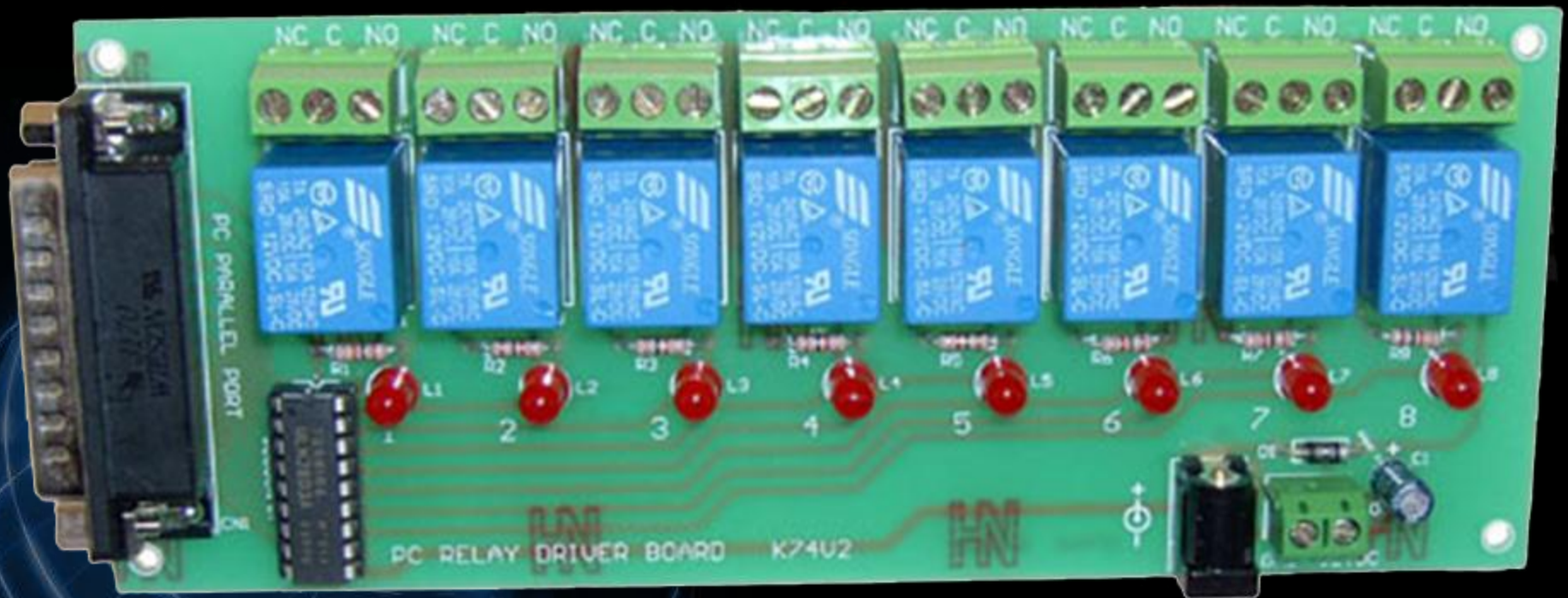
⌘ Feedback

⌘ Improved PTT





# Remote Switching



# References

- ⌘ Ham Radio Deluxe - [www.ham-radio-deluxe.com](http://www.ham-radio-deluxe.com)
- ⌘ Interfacing - [www.ham-radio.ch/doc/Interfaces.pdf](http://www.ham-radio.ch/doc/Interfaces.pdf)
- ⌘ Ultra VNC - [www.uvnc.com](http://www.uvnc.com)
- ⌘ Signalink - [www.tigertronics.com](http://www.tigertronics.com)
- ⌘ Carl's Electronics - [www.electronickits.com](http://www.electronickits.com)
- ⌘ QST – April 2007
- ⌘ KØRZ Bill – Hamcon Colorado 2009



# Demonstration

✕ KCØRPS – Golden, Colorado





# Demonstration

✕ K4KR – Chickamauga,  
Georgia



# Thank you

