

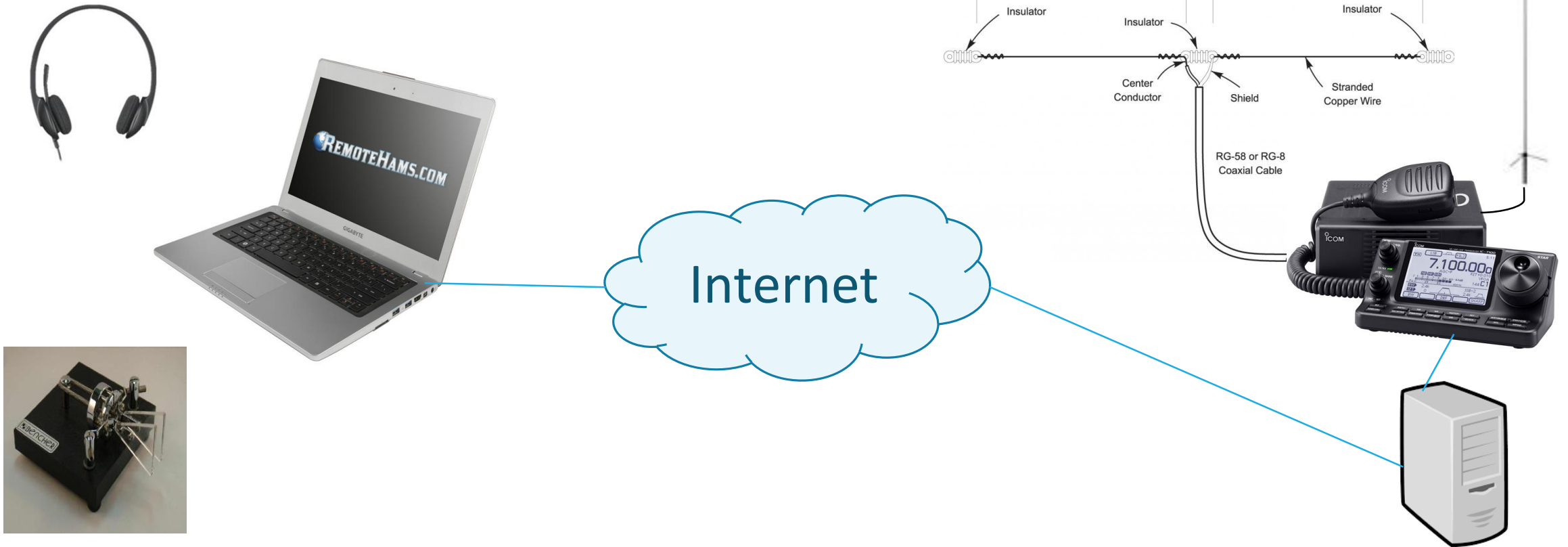


Remotehams Remote Control Overview

RICHMOND AMATEUR RADIO CLUB

MAY 2017

What are we trying to do?



Icom IC-7100 Specs



SPECIFICATIONS

GENERAL				
Frequency coverage*1	(Unit: MHz)			
Receiver	0.030–199.999*2		400.000–470.000*2	
Transmit	1.800–1.999	3.500–3.999	5.255–5.405*2	7.000–7.300
	10.100–10.150	14.000–14.350	18.068–18.168	21.000–21.450
	24.890–24.990	28.000–29.700	50.000–54.000	144.000–148.000
	430.000–450.000			
*1 Showing USA version. Varies according to version.				
*2 Some frequency bands are not guaranteed.				
Mode	USB, LSB, CW, RTTY, AM, DV, FM, WFM (Rx only)			
No of memory channels	495 regular, 4 call, 6 scan edges, 900 D-STAR repeater channels			
Antenna connector	SO-239x2 (one each for HF/50MHz and 144/430/440MHz, 50Ω)			
Operating Temp. range	–10°C to +60°C; +14°F to +140°F			
Frequency stability	±0.5ppm (0°C to +50°C @ 430MHz)			
Power supply requirement	13.8V DC ±15%			
Current drain (at 13.8V DC)	TX (Max. power): 22A (HF/50MHz), 16A (144/440MHz) RX (Max. audio/standby): 1.2A/0.9A			
Dimensions (WxHxD, projections not included)	Main unit	167x58x225 mm; 6.57x2.28x8.86 in		
	Controller	165x64x78.5 mm; 6.5x2.52x3.09 in		
Weight (approx.)	Main unit	2.3 kg; 5.1 lb	Controller	0.5 kg; 1.1 lb
TRANSMITTER				
Output power (at 13.8V DC)				
	HF/50MHz	144MHz	430/440MHz	
SSB/CW/RTTY/FM/DV	2–100W	2–50W	2–35W	
AM	1–30W	–	–	
Modulation system	SSB : Digital P.S.N. modulation, AM : Digital low power modulation FM : Digital phase modulation, DV : GMSK digital phase modulation			

Icom AH-4 Specs



SPECIFICATIONS

- | | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Frequency range | : 3.5–54 MHz (with an antenna longer than 7 m; 23 ft)
7–54 MHz (with the AH-2b) |
| • Maximum input power | : 120 W |
| • Input impedance | : 50 Ω |
| • Tuning power required | : 10 W (5–15 W) |
| • Rated voltage | : 13.8 V DC \pm 15% (current drain less than 1 A) |
| • Usable temperature range | : -10°C to $+60^{\circ}\text{C}$ ($+14^{\circ}\text{F}$ to $+140^{\circ}\text{F}$) |
| • VSWR | : 2.0 : 1 or less
(except antennas a half wave or multiple of a half wave in length) |
| • Weight | : 1.2 kg (2.65 lb) |
| • Dimensions | : 172(W) \times 69.5(H) \times 230(D) mm; 6 ²⁵ / ₃₂ (W) \times 6 ³ / ₄ (H) \times 9 ¹ / ₁₆ (D) in |



Diamond X50 Specs

Specifications:

Band:	2m/70cm
Gain (dB):	4.5/7.2
Max Power Rating:	200
Wind Rating:	135 MPH (no ice)
Height (feet):	5.6
Connector:	UHF
Element Phasing:	3-1/4 λ , 3-5/8 λ





RARC Remote Equipment

Remote Controlled Rig



Useful 3rd Party Software

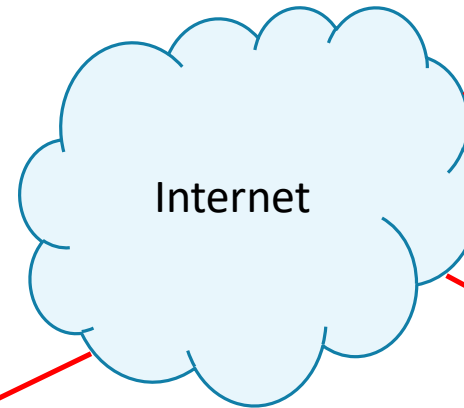
- VNC Server (free)
- Bitvise SSH Server (free)
- Bitvise SSH Client (free)

Remote Parts List

- Antenna System
 - LongWire
 - Icom AH-4
 - 2m/70cm Vertical
- Rig – IC-7100
- Laptop
- USB interface
 - RIG Control
 - Mic In/Line Out
- Serial CW Keyer Interface



RemoteHams RCForb Server
(running Windows)



RemoteHams Android Client



Remote Clients



RemoteHams RCForb Client



RARC Remote Summary

Key Points

100 Watts on HF/6m (30 Watts on AM)

50 Watts on 2m

35 Watts on 70cm

Bands Available: 80m, 60m, 40m, 30m, 20m, 17m, 15m, 12m, 10m, 6m, 2m, 70cm

Modes Available: AM, USB, LSB, CW, FM, FM-N – Can also support digital modes: PSK/RTTY/etc

RemoteHams Client on Windows

Can “emulate” a K3 or HRD IP virtual host for rig control

This means that you can use your favorite logging/digital programs: N1MM/HRD/etc

Very efficient use of network bandwidth; can be used in hotels, WiFi hotspots, coffee shops

Cost for RARC Members: *\$0.00*

Network Speed

	Kbytes/Second	
ISP Advertised Data Rates	Download	Upload
Analog 56kbps Modem	7	4
DSL – 768kbps/128kbps	96	16
Comcast – 3Mbps/768kbps	384	96
FIOS – 15Mbps/5Mbps	1,920	640
FIOS – 25Mbps/25Mbps	3,200	3,200
FIOS – 80Mbps/80Mbps	10,240	10,240

A single RemoteHams network connection uses **4 Kbytes/Second** – that's roughly equal to a 56k Modem Upload Speed!



Client Option: Quick, Easy & Free

Use a Laptop
with the Built-In
Microphone and
Speakers





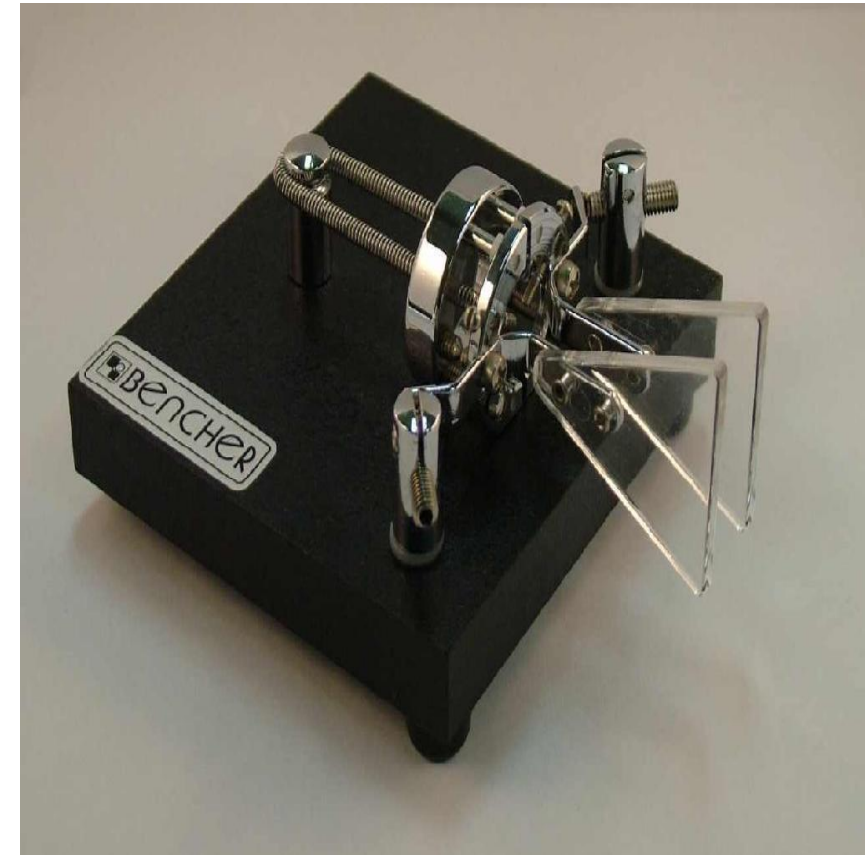
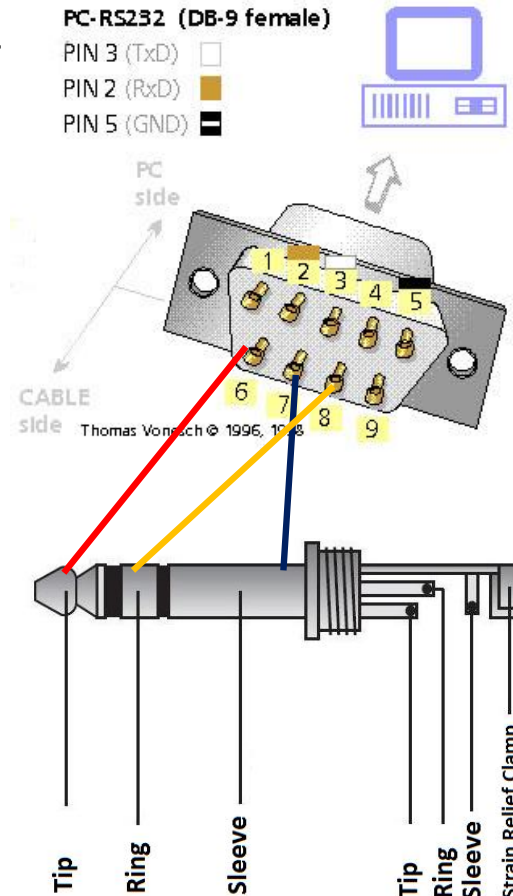
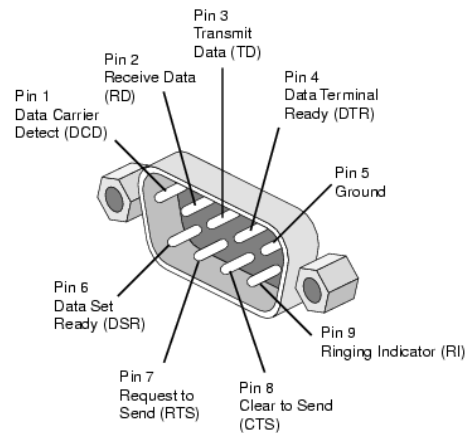
Client Option: Quick, Easy & < \$10

RemoteHams
Android
Client
\$9.99



Client Option: CW Paddle Interface

KeySpan USA-19HS USB/Serial Adapter



Client Option: O.R.B. – The EA\$Y Way!



O.R.B. BY
REMOTEHAMS.COM

O.R.B. Connections

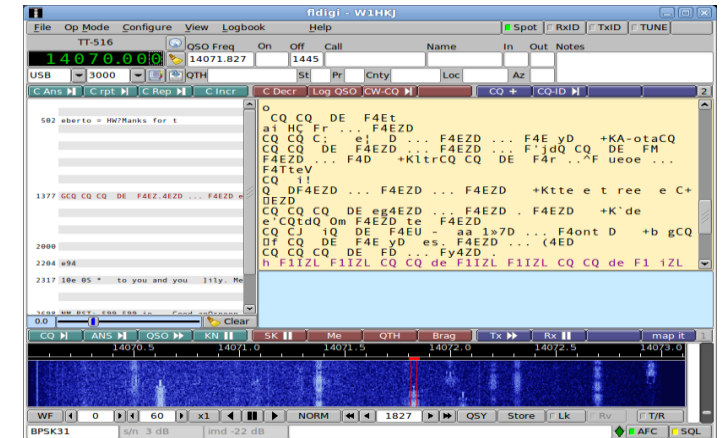
- Headphone Output -> 3.5mm (1/8 in) Stereo
- Mic Input -> 8 Pin Round (Elecraft/Kenwood Pin configuration)
- 2nd Mic Input -> 3.5mm (1/8 in) Stereo (Ring NC)
- Paddle Input -> 3.5mm (1/8 in) Stereo
- PTT/KEY Input -> 3.5mm (1/8 in) Stereo (Ring NC), in parallel with KEY

The “Dream Station”



Titan X499

Dual Intel Xeon E5 v4 - Up to 44 Cores





Links & Contact Information

<http://rarclub.net/>

<http://www.remotehams.com>

<http://www.remotehams.com/orb-control-device.html>

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Demo & Questions