

Connect to the Cloud-IQ SDR at HAARP, Gakona, Alaska

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This article briefly describes how to connect to the RFSpace Cloud-IQ software defined radio (SDR) receiver that was installed on 6 August 2019 at the **High Frequency Active Auroral Research Program (HAARP)** near Gakona, Alaska. The receiver is installed primarily for space weather and propagation research. The receiver is operated in “Cloud” mode, which allows an external network connection through the appropriate software and worldwide web. At this time, connection time limit is 30 minutes and no password is required.

The Cloud-IQ receiver is connected to a TCI-540-N-02 omni-directional HF antenna, which is briefly described at <https://www.tcibr.com/product/tci-model-540-omni-gain-antenna/> . The antenna design frequency range is 3 to 30 MHz but the receiver may be tuned from 9 kHz to 56 MHz with 1 Hz resolution.

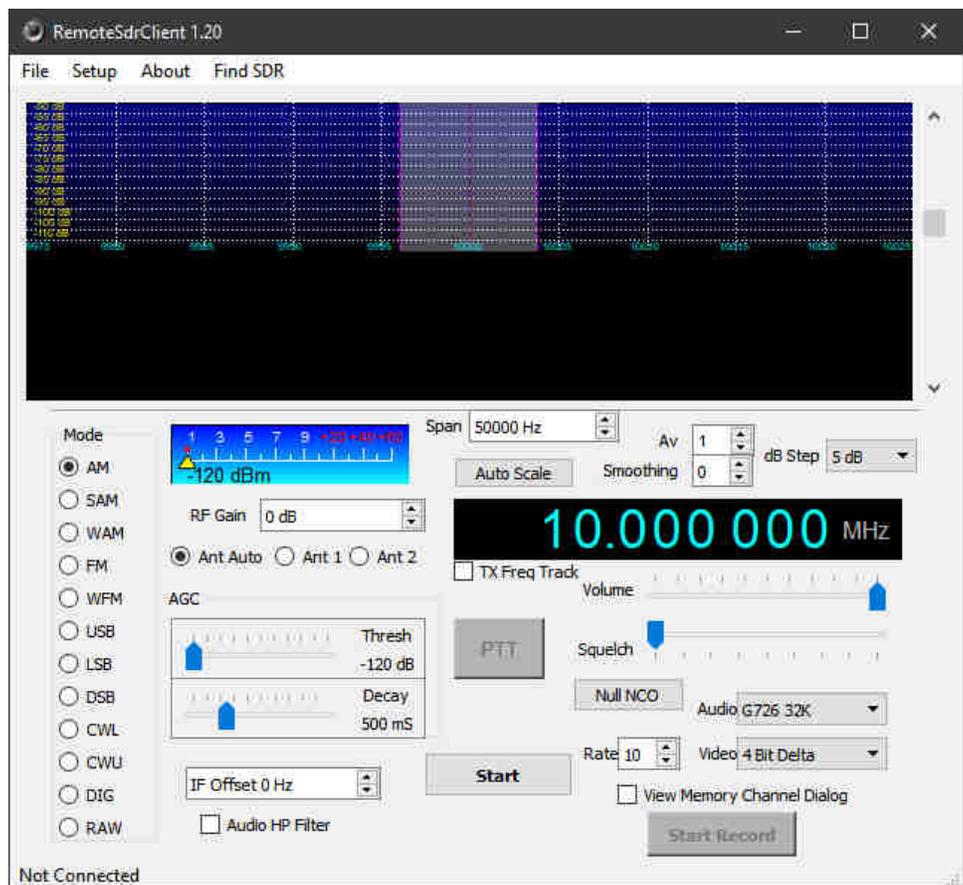
Begin by downloading and installing the RemoteSDRClient application available at <http://www.rfspace.com/RFSPACE/CloudIQ.html> . Scroll down to the bottom of the webpage and click on the link for the desired system – Windows, Mac or Android. The Android client is called SDRanywhere. A *RemoteSDRClient User's Guide* also may be downloaded. The remainder of this article is for Windows. Report problems or send feedback to haarp.reeve@gmail.com .

When RemoteSDRClient is installed, two shortcuts are placed on the desktop:

- ⚙ RemoteSDRClient
- ⚙ RemoteSDRServer

Open the shortcut labeled RemoteSDRClient. A spectrum-waterfall-control window will appear (right).

Click on Find SDR on the menu bar.



A table will open, which shows all SDRs connected to the Cloud Network (below). Scroll down and select **SN** CI000110. The description says *HAARP Cloud-IQ ~ TCI-540 Antenna ~ Gakona, Alaska USA*. If the **Status** shown in the first column is *Idle*, click OK and the window will close. If the **Status** is *In Use*, another user is connected (only one user is allowed at a time).

Status	SN	Address	Lat,Lon	Security	Description
Idle	CI000216	67.183.250.201:50000	47.5,-122.3	Open	Whidbey Island, WA CloudIQ Wellbrook ALA1530LNP
Idle	CI000157	194.24.239.54:35000	0,-180	Password Required	Morasko
Idle	CI000338	50.192.14.218:50000	0,-180	Open	Default Server
Idle	CS000005	24.99.240.6:7001	33.8696,-84.3425	Password Required	*** CloudSDR HF MULTIBAND DIPOLE FULL SIZE 80,40,20,15,10,6, UHF Rubber Dur
Idle	CI000272	109.153.74.83:50000	51,-1.5	Password Required	Cloud-IQ + Butternut HF6V
Idle	CI000017	178.248.97.19:8024	63.21,7.72	Password Required	OJS - CloudIQ Smola - 1: 290 deg 700 m - 2: 315 deg 500 m
Idle	CI000110	137.229.36.150:50000	62.3903,-145.128	Open	HAARP Cloud-IQ ~ TCI-540 Antenna ~ Gakona, Alaska USA
Idle	CI000238	24.102.154.68:50000	40.5,-75.5	Open	WF20
Idle	MW003370	178.248.97.19:8022	63.21,7.72	Password Required	DXLC Smola 315 deg ant
Idle	CI000148	168.103.156.246:50000	47,-122.35	Password Required	Poulsbo

At the main window, click the Start button and a live spectrum and waterfall should appear (right). At this point, the modulation Mode, center Frequency, displayed Span and other aspects of receiver operation may be controlled. The frequency may be changed by placing the mouser cursor over the frequency digit to change and then pressing the keyboard Up or Down arrows. Use the mouse cursor or Left or Right arrows to move from digit to digit. Refer to the *RemoteSDRclient User's Guide* for additional operating details.

The screenshot shows the RemoteSDRClient 1.20 interface. At the top, there is a menu bar with 'File', 'Setup', 'About', and 'Find SDR'. The main display area is a waterfall plot showing a spectrum with a prominent signal at 10.000000 MHz. Below the plot, there are several control panels:

- Mode:** Radio buttons for AM, SAM, WAM, FM, WFM, USB, LSB, DSB, CWL, CWU, DTG, and RAW. AM is selected.
- RF Gain:** A slider set to 0 dB.
- Antennas:** Radio buttons for Ant Auto, Ant 1, and Ant 2. Ant Auto is selected.
- AGC:** Sliders for Threshold (-120 dB) and Decay (500 mS).
- IF Offset:** A field set to 0 Hz.
- Span:** A field set to 50000 Hz.
- Auto Scale:** A button.
- Smoothing:** A field set to 0.
- dB Step:** A dropdown menu set to 5 dB.
- Frequency Display:** A large digital display showing 10.000000 MHz.
- TX Freq Track:** A checkbox.
- Volume:** A slider.
- PTT:** A green button.
- Squelch:** A slider.
- Null NCO:** A button.
- Audio:** A dropdown menu set to G726 32K.
- Rate:** A field set to 10.
- Video:** A dropdown menu set to 4 Bit Delta.
- View Memory Channel Dialog:** A checkbox.
- Start Record:** A button.
- Stop:** A button.

At the bottom, a status bar reads: "Connected to HAARP Cloud-IQ ~ TCI-540 Antenna ~ Gakona, Alaska USA SN=CI000110 V0.15 Rem=29:45 (69mSec)".

Document Information

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