

ANSWERS TO QUESTIONS REGARDING IC-705 & 20 FOOT WIRE By N6HI 5/2023

First, **HERE IS THE ORIGINAL POSTING THAT PROMPTED ALL QUESTIONS:**

Over 10,000 QRP hf contacts completed with my IC-705

From: [John N6HI](#)

Date: Wed, 26 Apr 2023 22:14:56 PDT

Wow, my IC-705 is now almost two and a half years old, and it still feels like a "new" rig to me! I hit a milestone today: As of today, I have now made 10,018 QSOs with my IC-705. 8011 contacts were initiated and completed with Output Power of ONE HALF WATT, the rest were at 5 Watts. (I have never run my IC-705 above 5 Watts, and 80% of my logged contacts are at my favorite power level: ½ Watt.) ALL contacts were completed using my *only* station antenna: a 20 Foot end fed wire, thrown out my window into a tree. ALL contacts were made using real-time modes: CW, RTTY, or VOICE. (These totals include NO JT or FT mode contacts) Contacts have been made on all bands, 160m to 6m. So far, I have worked 104 Countries at 5W, and 53 with ½ Watt.

I believe that my humble setup shows what can be done with QRP, even with a very simple antenna. Consider giving QRP a try, especially if you have CW skills! You may be surprised at the DX you can work with low power!

-73-

John N6HI

My original posting, above, produced a lot of questions from the group. Here are the answers:

First, there is nothing magic or even special about my antenna's length. The 20 Foot length of my antenna is NOT any special length. It is a "random wire" antenna, and 20 feet long is about all I have space for here in my HOA condominium!

Here are details on my end-fed antenna:

My home antenna is a 20 foot end-fed random wire. A couple of you have asked me for photos or details about my antenna configuration ... There's not much "configuration" to my antenna ... It's literally a 20 foot insulated wire with a rock tied on the end. I threw the rock over a tree limb out my window. The Antenna Rock hangs down a couple feet from the tree branch, which acts like a pulley, taking up the slack in the wire whenever wind blows the branches around.

The "inside" end is held in place by the window being closed tightly against it! The wire comes in the window, and is terminated in a male banana plug, which plugs into the center conductor of the SO-239 antenna jack on my antenna tuner, an LDG Z11Pro. A short coax connects my QRP rig to the tuner input. That's it. There is NO ground system - no water pipe, no ground rod, no radials, no

"earth ground", no counterpoise - nothing. (Well, maybe a little bit of "random counterpoise" from headphone, paddle, and speaker cables etc. but no actual "ground").

I do acknowledge that NOT having a good, solid, low loss earth ground system (or even a counterpoise) does not reflect good engineering practices. However, you can usually get away with things like this with QRP power levels. It's hard to argue with success of ANY kind from a "no antennas allowed" HOA condominium in the middle of the city.

How well does the 20 foot wire work for me? Better than you might expect! I use this setup on all hf bands, 160 meters through 6 meters. So far, (NOT counting FT8) I've managed - so far, over many years - to contact 124 Countries with a 20 foot wire and only 1/2 Watt, and lots more countries with 5 Watts. The short wire and tuner, together, provide a surprisingly good antenna for 30-20-17-15-12-10-6 meters. It works a bit poorly on 40 meters, but still good enough that I have made thousands of contacts on 40 meters with it.

The photos below show:

- A view of the 20 Foot Wire, exiting the window and out to the tree.
- My crude "extra loading coil" (wound on CD boxes) that allows using the wire on 160 meters.



To use my short 20 Foot random wire on 160 meters, I add an extra coil, crudely wound on old plastic CD boxes, between the antenna wire and tuner output. The extra coil allows the tuner to provide a good match to the 20 foot wire on 160 meters. The Tuner, Coil, and 20 Foot Wire provides a very *inefficient* antenna on 160 meters, but it is *usable*. I only operate 160 meters during contests,

where I tend to jump on, make a few contacts, usually early evening after dark, and *occasionally* early morning before sunrise. I've only logged 124 contacts on 160 meters with the IC-705 and short wire, all in the SW United States, plus one contact with Hawaii.

For operation on 80 meters, I add a 15 Foot coax and UnUn between the Tuner output and the Wire. Although this does allow me to use the antenna on 80 meters, I rarely use that band, except occasionally in a contest, it's just not a favorite band for me.

Although I have made *hundreds* of contacts on the 80 meter and 160 meter bands, I have made many *thousands* of contacts on the higher bands. (ie; the "juicy DX bands"!)

I seem to have good luck making contacts for a QRP station with a 20 foot wire. One reason I make a large quantity of contacts is because I love working contests, especially CW, and contesting racks up a lot of contacts fast. Still, about a fourth of my contacts are *not* contest QSOs, and I have some very long rag-chews, especially on CW. Another reason for my QRP success is "frequency agility". Being able to work many bands, and to change bands quickly and effortlessly, helps me to "be in the right place at the right time" and take advantage of even brief or unusual band openings. I do not use spotting networks, DX clusters, or internet spots. I prefer finding contacts by spinning the BIG KNOB, which, surprisingly often, allows me to catch a rare DX station when he first comes on the air, before the spot-hunters will even know he is there! (Even for contesting, I do not use spots or "pre-fills". I enjoy *copying* all callsigns, exchange information. It's fun!)

If you look at the [N6HI QRZ page](#) and scroll ALL the way to the bottom of the page, you will see a graphic representation of my contacts for last year, 2022. All contacts shown were made with the 20 foot wire. It really is that simple. It works, and I have been doing this since the early 1970s, when I used various manual tuners, home-brew, MFJ, etc. They all worked fine also, but the new Auto-Tuners of today are SO fast and automatic, very handy for quick, frequent band changes.

In answer to some other questions, I do operate "all bands" but mostly 20 meters and up. I tend to often be found on the highest frequency band that is "reasonably open" at the time. I enjoy working DX, and the higher frequency bands are generally best QRP DXing. I may be found on the air nearly any time of day or night, but, unless there is a contest, most of my operation is during daylight hours, and into the evening when the bands are good for that and I have time for it. I operate a LOT of contests, especially CW and DX contests. I also enjoy the weekly CWT, SST, and MST one-hour mini-contest sessions, and the half-hour NS CW Sprints. I love to chase DX, work SOTA and POTA stations, and rag-chew, especially on CW. Currently, my hf operations are 80% with ½ Watt, the rest at 5 Watts, and never more. My hf operations are 80% Contest, 90% CW, and 100% fun.

I have received many questions about what bands and modes I use most for my QRP work. The tables below show the Band / Mode usage for my IC-705 5 Watt and Half Watt contacts:

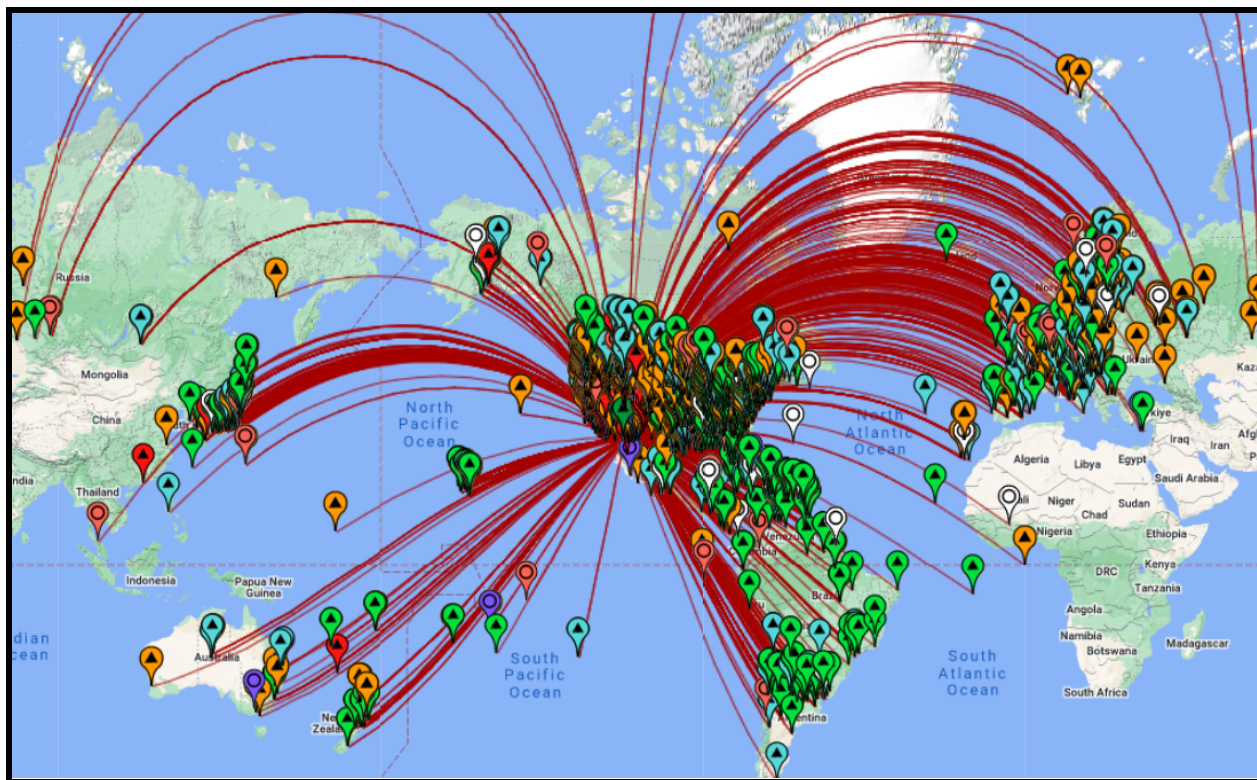
N6HI IC-705 Stats – 05 May 2023 – 10125 QSOs						
	QSOs	CW	SSB	RTTY	DV	FM
160m	124	123	1	0	0	0
80m	71	60	0	11	0	0
60m	8	8	0	0	0	0
40m	2077	1872	40	164	1	0
30m	79	79	-	0	0	0
20m	5208	4786	112	307	3	0
17m	195	188	7	0	0	0
15m	1413	1250	82	81	0	0
12m	65	63	2	0	0	0
10m	877	788	52	33	0	4
6m	8	5	3	0	0	0
TOTAL	10125	9222	299	596	4	4

N6HI IC-705 contacts to date. (Only modes shown were used)
IC-705 ops began 9 Oct 2020. 105 Countries worked with IC-705 (5W) to date.

N6HI IC-705 ½Watt Stats				
	TOTAL	CW	RTTY	SSB
160m	12	12	0	0
80m	60	59	1	0
60m	4	4	0	0
40m	1886	1715	157	14
30m	44	44	0	-
20m	4596	4225	306	65
17m	98	97	0	1
15m	940	848	69	23
12m	21	21	0	0
10m	442	411	27	4
6m	6	5	0	1
TOTAL	8109	7441	560	108

Sometimes, it is just best to actually see [your contacts plotted in Google Maps](#)!

Here are my IC-705 QSOs (so far!) plotted out in Google Maps



I will repeat what I said in my original posting about 10,000 QRP QSOs completed with the IC-705:

I believe that my humble setup shows what can be done with QRP, even with a very simple antenna.

Consider giving QRP a try, especially if you have CW skills! You may be surprised at the DX you can work with low power! -73- John N6HI