

# US Remote HAM

Escaping the limits of home

# Content

- Getting FCC Licensed
- What is a Remote Station?
- Experience with the Remote Station

# Local HAM Problems

- QRM (really just me)
- Language barrier with regional HAMs (probably just me)
- Poor propagation (during this time of the decade)
- Difficult to cultivate interest in HAM among the new generation

FCC Licensing and Remote Stations let me escape these problems

# FCC vs IMDA Licensing

	FCC	IMDA
<b>License Fee</b>	US\$0*	SG\$50/100
<b>Licensing Process</b>	Very short. Application is done automatically by the VEC.	Long. Very Long.
<b>Age Requirement</b>	0	21 (16 with parental countersignature)
<b>Band Privileges</b>	FCC is way more generous than IMDA	

\*This may be increased to US\$35 on Apr 19 2021.

# How to find VECs

HamStudy.org gives you a list of VECs you can take your FCC exam with.

Upcoming test sessions				
Mar 24, 2021 (Wed)				
5:00pm CDT	*AVAILABLE SLOTS* PARC - REMOTE Online Testing Session - KJ4PJE *AVAILABLE SLOTS* - Any State / Location -	(online)	\$15.00	KJ4PJE
6:00pm EDT	Columbia University ARC VE Team online exam (session full!)	(online)	\$15.00	N2YGK
7:30pm EDT	MIT Radio Exam Team - Online Exam - Penultimate Wednesday of the Month (4 slots remaining)	(online)	\$14.00	W1MX
6:00pm PDT	Spout Springs Repeater Association Amateur Radio Testing (session full!)	(online)	\$14.00	W2RY
7:00pm PDT	Remote Test (1 slot remaining)	(online)	\$14.00	N6HKT

# How to get FCC Licensed (Step 1)

- Find out **how you want to take your exam.**
- May be taken online.
- Time-zone difference may be an issue with American VECs. This won't be an issue by going with VEA.



# How to get FCC Licensed (Step 2)

- Follow the instructions listed by the VEC

## PREPARING FOR THE EXAM

Prepare the following before your online exam session:

1. **PHOTO ID:** A legal photo ID will need to be shown on camera to the VE Team. For online sessions the VE Team will only accept driver's license, equivalent state-issued non-driver ID or passport for adults.  
**Under-18** students may show any of the above items, or a school ID or report card. A parent or legal guardian will also need to present a photo ID.
2. **FCC Registration Number (FRN):** The FRN must be submitted on the exam application. If you do not have an FRN, you will be able to register for one when you register on hamstudy.org. or you can do it yourself by visiting [here](#).
3. **Exam Application:** Before your scheduled exam you will register for a [specific exam session](#) where you will fill out an exam application and book a [time slot](#). Your application will generate a **4-digit access code** you need to take the test later. Don't worry, Hamstudy will email you the access code and the VE team will also know it.

# How to get a FRN

<https://vea.org.au/register-for-a-frn-number>

Once you have successfully established an FCC User Account, follow the information below to attain an FRN number.

- To register for a new FRN, click the "Go to CORES" button:
  1. Select "Register New FRN"
  2. Are you registering as an entity or as an individual? **Select 'Individual'**
  3. Is your contact address within the United States or its territories? **Select "Yes"**
  4. Do you wish to proceed with a CORES FRN Registration or a Restricted Use FRN Registration?  
**Select "CORES FRN Registration"**
  5. Enter your Given Name & Last Name (The ID info you provide us must be the same)
  6. The question is asking you for a Social Security Number or Taxpayer Identification Number.  
**"Leave blank."**
  7. If you do not have a Social Security Number. **Select "The individual is a foreign"**
  8. Under Contact Information Section. **Select "Same as Above"**
  9. Enter your US Address.
  10. Enter your email address.
  11. Check the information you provided is correct.
  12. Submit form.
  13. Your FRN number should appear on the page, print and bring along to the exam session.
- **Note: You will not be allowed to take an exam, without an FRN Number.**



# How to get FCC Licensed (Step 3)

Register for the exam.

<b>License Class</b>	<b>Exam Element You Must Pass</b>
Technician	Element 2
General	Elements 2 and 3
Extra	Elements 2, 3 and 4

# How to get FCC Licensed (Step 4)

Prepare for the exam. These are my two favorite resources.



Choose an exam to study for:

Technician (2018 - 2022)

General (2019 - 2023)

Amateur Extra (2020-2024)

Other... ▾



Enter Query... by Callsign ▾ Search

Database

News

Forums

## Practice Amateur Radio Exams

Choose from these exam categories:

2018 Technician Exam Practice Test - or - [study a specific sub-category](#) ⊕

2019 General Exam Practice Test - or - [study a specific sub-category](#) ⊕

2020 Extra Exam Practice Test - or - [study a specific sub-category](#) ⊕



# How to get FCC Licensed (Step 5)

- Take the Exam. Rules vary, but this is how the invigilation works with VEA
- There were at least 7 invigilators in the session watching **just me**.

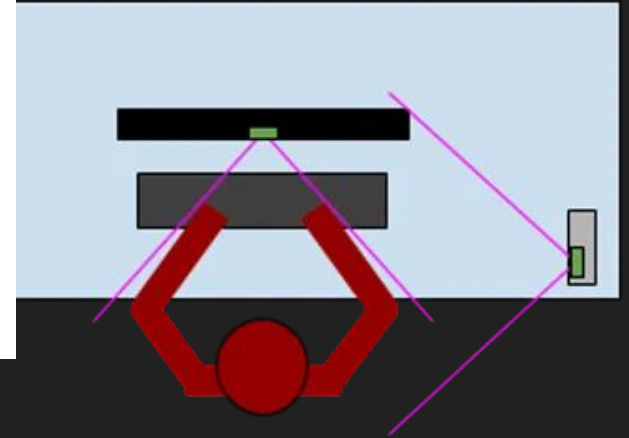
## What to Bring to an Exam Session:

On Exam Day:

### 1. One legal photo ID. (identification)


- Driver's Licence.
- Passport.
- Military or Law Enforcement Officer Photo ID card.
- Student School Photo ID card.
- State Photo ID card.

2. Register for an FCC issued Federal Registration Number (FRN) VEC's are required by the FCC to submit your FRN number with your license application form.



# Timeline of MY License

Date	Checkpoint
Feb 21	Registered for the VEA Exam
Mar 6	Took the Exam, and got the results
Mar 10	Callsign Issued



Cut Along This

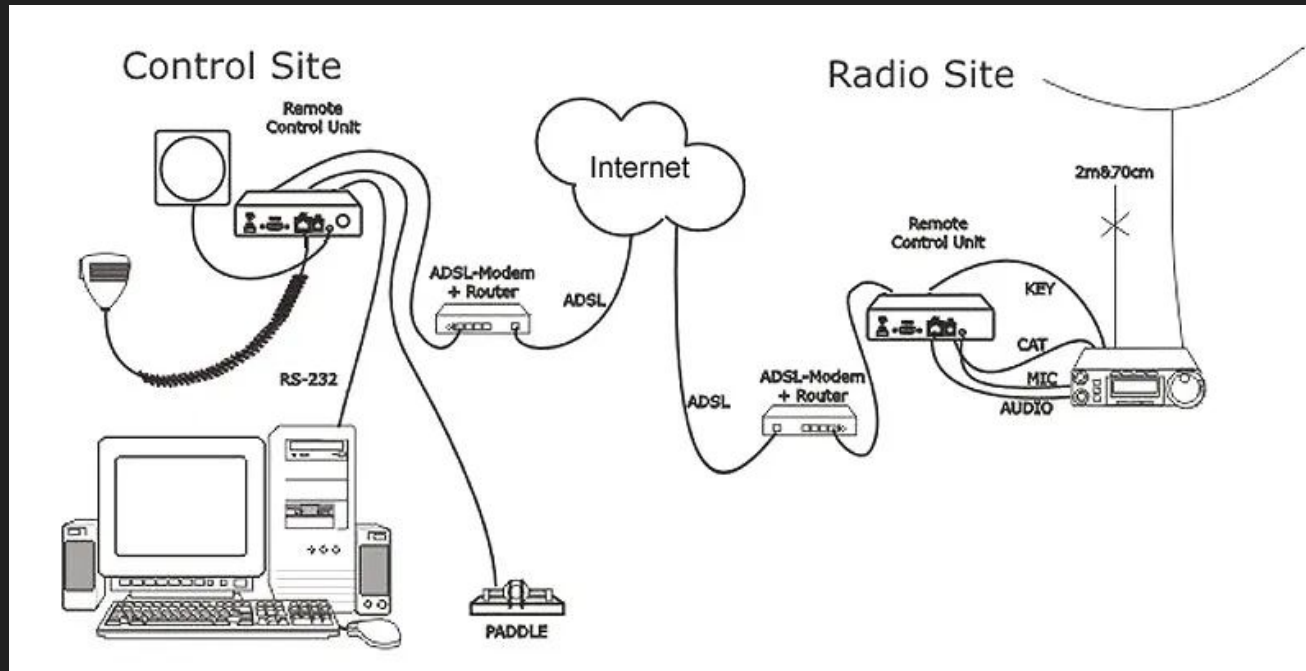
Call Sign / Number	Grant Date	Expiration Date
KJ7VOU	03-09-2021	03-09-2031
Operator Privileges	Station Privileges	
General	PRIMARY	
TAN, WEI JIE SOLOMON 6650 NE MT ST HELENS AVE C/O SGW-CFPLG PORTLAND, OR 97252		
<b>AMATEUR RADIO LICENSE</b>		

Cut Along

Here

fold

# What is a Remote Station



# US Remote Stations Requirement

“You must identify your transmissions according to the rules of operation...”

“Of an FCC-licensed operator uses a remote station within the United States, no special identification beyond the **FCC-issued callsign** is required by the rules.”

(Source: ARRL Extra Manual)

# US Remote Stations Examples

Service	Cost	Catch/Features
RemoteHams	Free	<ul style="list-style-type: none"><li>- Voluntary basis. No TX capability guaranteed.</li><li>- May require membership in club.</li><li>- No waterfall.</li><li>- Client/Server requires Windows. No Mac. No Linux.</li></ul>
Remote Ham Radio	\$999 annually \$99 annually Free Youth Program	<ul style="list-style-type: none"><li>- Flex Radios with waterfall!</li><li>- Per minute charging for RX and TX (ranges from 5c to 69c/min).</li><li>- Web Interface! OS-independent.</li><li>- 9V1YC's setup on steroids!</li></ul>





# Preview of Remote Ham Radio

YOUTH NETWORK

March Madness is here! During this month only, all U.S. operators have access to PremiumDX stations. For a limited time, you can experience being the big gun! Normal usage rates apply. Dismiss

W4/Chesapeake  
W4/Winston-Salem

TEST  
RHR/FlexTest  
Console Settings

4:26:21 UTC A: 29 K: 4 SFI: 80 SSN: 12 KJ7VOU

W4/Winston-Salem ☆ 11:24 to 23:34 UTC In Use By KJ7VOU Free 0:44 Disconnect

North Carolina Forsyth County Grid: EM96 784 MSL ARRL NC ITU 8 CQZ 5

80m CW Phone

Fastest + Add Slice Hide Spots

3.828.000 Δf: 1 kHz

Dipole @ 50'

Showing my RBN spots only. Reset Done

Go Anywhere Go ...

Default LogBook LSB DXing

Call sign	RST Rcvd	RST Sent	Notes
	59	59	

Transmit

PTT (Ctrl) Vox Off Delay 0.2s 100 W Proc DX BW 3.0 kHz Mon Off Tune

ALC -dB

Power 0 W

SWR 1.0

Chat Log DX Spots Station RHR Calendar DX Calendar News 4 Changes

# Things heard on the HF Band

- Signal Report
- Shack setups
- The weather
- Plans for the day
- Jokes
- Arguments

Hear a sian operator:



Who do you think this sounds like:



Hear a scolding:



Hear a pileup:



“Give your callsign just once!  
There are others here.”

“Oh? So you’re a policeman?”

“With all the stupidity  
going around, I figured  
I’d be stupid too”

“The frequency is in  
use 2kHz down.  
You’re making a  
mess!”

“There is a net 1kHz down.  
Get out of here”

“You’re not very nice”

“And you aint very smart”

# Experience with US HF Bands

Activities I have done so far on the US HF Bands

1. DX
2. Hunting Parks On The Air (POTA)
3. Checking into HF Nets
  - a. Before Breakfast Club, 3973 kHz
  - b. Breakfast Club, 3838 kHz
  - c. HHH Net, 7190 kHz
  - d. 75 Interstate Single Sideband Relay Net, 3985 kHz
  - e. YLSystem, 7254 kHz

They appear, at least to me, much more fun than the HF bands we have in SG.

# DX

Using only **100W** with a dipole/delta loop, I SSBed with:

Continent	Country
America	Canada, Panama
Europe	Poland, Czech Republic, Bulgaria, Italy
Oceania	Australia

Noise floor in the NC station was: **S4 to S6**

# Parks On The Air (1/2)

Activators “activate” a park. Hunters QSO with activators. Both get awards.

Probably the phone equivalent of FT8 (but without the clicking):

Activator: “CQ POTA KE0ZDF calling CQ POTA”

Hunter: “KJ7VOU”

Activator: “KJ7VOU, you are 59 into park K-2488. QSL?”

Hunter: “QSL. You are 59 into NC. 73”

Activator: “73. KE0ZDF Parks on the Air. QRZ?”



# Parks On The Air (2/2)

Reference	Park Name	Location	QSO Date/Time	Band	Mode	Activator (Operator)	Processed
K-0258	Ten Thousand Islands National Wildlife Refuge	Florida (US-FL)	2021-03-15 11:36:00	40M	PHONE (SSB)	KN4SWS (KN4SWS)	2021-03-15 14:30:13
K-1975	Mary Jane Thurston State Park	Ohio (US-OH)	2021-03-16 17:28:00	40M	PHONE (SSB)	KJ4UL (KJ4UL)	2021-03-17 13:11:53
K-1998	Van Buren State Park	Ohio (US-OH)	2021-03-15 16:16:00	40M	PHONE (SSB)	KJ4UL (KJ4UL)	2021-03-15 23:36:50
K-2332	Clinton State Park	Kansas (US-KS)	2021-03-19 18:00:39	20M	PHONE (SSB)	W4BKR (W4BKR)	2021-03-19 21:43:47
K-2933	Booker T Washington State Park	Tennessee (US-TN)	2021-03-15 16:37:00	40M	PHONE (SSB)	N9MJH (N9MJH)	2021-03-17 12:48:10
K-3061	Walter Umphrey State Park	Texas (US-TX)	2021-03-15 16:52:00	20M	PHONE (SSB)	KD2HTG (KD2HTG)	2021-03-19 11:53:35
K-4223	Reynolds Creek State Fish and Wildlife Area	Indiana (US-IN)	2021-03-19 16:52:00	40M	PHONE (SSB)	N9ITB (N9ITB)	2021-03-19 21:43:39
K-4274	Brillion State Wildlife Area	Wisconsin (US-WI)	2021-03-17 00:29:00	40M	PHONE (SSB)	K9ZIE (K9ZIE)	2021-03-18 12:32:40
K-4277	Collins Marsh State Wildlife Area	Wisconsin (US-WI)	2021-03-16 00:46:00	40M	PHONE (SSB)	K9ZIE (K9ZIE)	2021-03-17 12:48:22
K-4625	Jennings State Forest	Florida (US-FL)	2021-03-16 17:26:00	40M	PHONE (SSB)	KO4EOA (KO4EOA)	2021-03-17 13:06:56
K-6621	Barry State Game Land	Michigan (US-MI)	2021-03-17 16:17:00	40M	PHONE (SSB)	K8MH (K8MH)	2021-03-17 21:27:36
VE-1494	Lynde Shores Conservation Area	Ontario (CA-ON)	2021-03-17 17:24:00	40M	PHONE (SSB)	VE3KZE (TOM)	2021-03-17 23:44:45



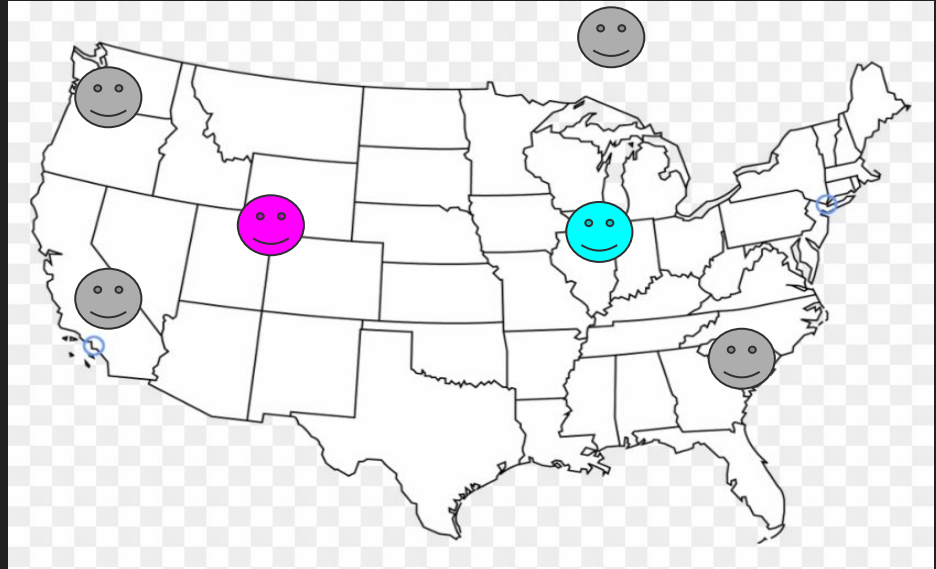
# Experience with HF Nets (1/2)

Colors:

- Net Controller in **Cyan**
- Relay in **Pink**
- Check-ins in **Grey**

Process:

- Not simply check-in.
- Check-ins are given the chance to make a call to other check-ins during the net.



# Experience with HF Nets (2/2)

Everyone keeps track of check-ins through the Netlogger.

I wasn't aware of the Netlogger, so it seemed to me like everyone else on the net were good friends.

UTC **10:36**

Net Status and Control  
NetLogger Mode **MONITORING** Net **3838 Breakfast Club**  
Operator **KJ7VOU-SOLOMON** Frequency **3838.00** Mode **SSB** Band **80m**

Net Activity

**Stop Monitoring** **Start Logging** **AIM Window** **View Monitors** **Log Contact**

Check-ins

#	Call Sign	M/P/State	Member Id	Remarks
21	N8KHO	OH		
22	WA2WAP	NY		
23	WB4RDG	KY		
24	KJ7VOU	OR		Remote from Singapore
25	W4NHJ	VA		
26	N8ISS	OH		



**3838 Breakfast Club**  
**3838.00**  
Mar 19, 2021 09:53 AM GMT

[Home](#)

No.	Call Sign	Name	Status
1	W2FBS	RICHARD	(talking)(nc)
2	KA9FCU	John A Brane	
3	KB9UMI	Mark C Cassatt	
4	WB6QEX	Peter M Tarley	
5	W2DOK	David O Kasson	
6	K3ABE	William M Snyder	
7	W3NRL	Nicholas R Lerro	
8	NR9P	DEAN	
9	K2JWD	Melvin Markowitz	
10	AA2EC	ELLEN	
11	N2XPM	ART	
12	KD3FB	Lawrence H Drayton	
13	KI4YQR	Buford W Hurt	(c/o)
14	K8SLC	James C King Jr	(p)
15	KJ7VOU	Wei Jie Solomon Tan	(p)
16	K4VBR	Richard H Palmieri	
17	N8KHO	Monte H Weisheimer	



# Summary

Remote station & FCC Licensing are a good way to

- Learn the habits of other countries' HAMs
- Escape from local QRM
- Get young, responsible, Singaporeans to experience amateur radio before they are eligible for a 9V license

# Thank You

Any Opinions? Any Q&A?