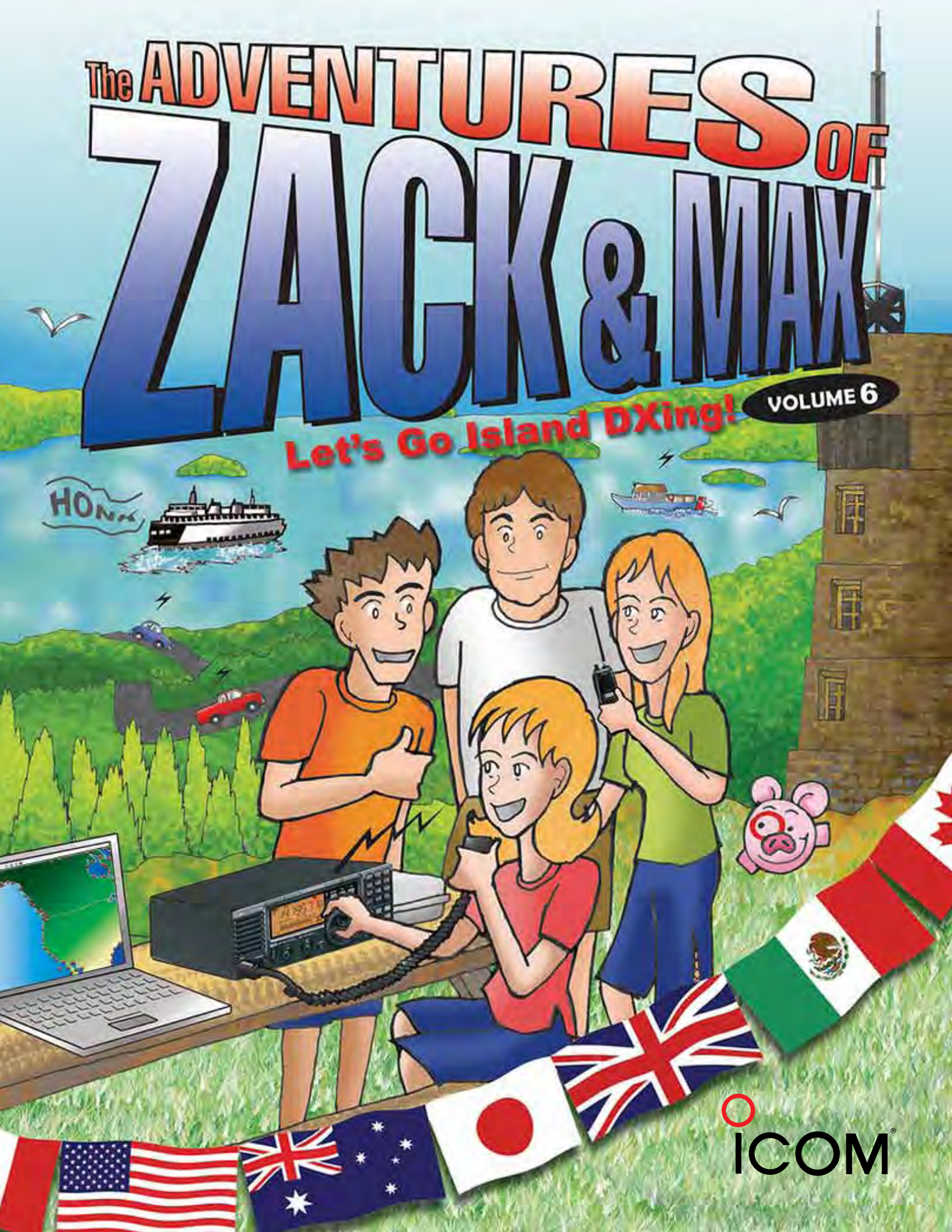


# The ADVENTURES OF ZACK & MAX

Let's Go Island DXing!

VOLUME 6



ICOM®

## About The Story

Volume 6 of “The Adventures of Zack and Max” takes us on a journey with HF amateur radio. Zack, Max and Mady, along with their family and friends, take a weekend road trip and have their own mini DXpedition. This means that they went to a nearby yet remote location (Orcas Island, one of Washington State’s San Juan Islands), and while camping tried to make as many world wide contacts as possible. They discover that HF is a way to contact the whole world, and that one does not need to spend a lot of money or go to the ends of the earth to have fun with ham radio DXing.



*The writers agree: Ham radio is fun!*

Once again, the writers are students from the Lake Washington Ham Club (K7LWH) at Ben Franklin Elementary School in Kirkland, Washington. Under the leadership of Mr. Dave Condon (K17YP), the students set out to learn about the world of HF. All of them have earned their Technician licences and there is a growing number of General licences. The students drew upon their own experiences camping in the Northwest, as well as making friends with other amateur radio enthusiasts from around the area, and from around the world. Pictured above is Dave and some of the writers of this volume in his classroom surrounded by the previous stories he has guided and helped to develop.

We would like to extend a special thank you to Dave Condon and acknowledge the help and guidance he has given the Lake Washington Ham Club and the students at Ben Franklin Elementary. He has helped hundreds of families pass their Technician and General tests and has created a strong ham club devoted to the promotion of ham radio with kids of all ages. He has been a major force behind the creation of the past 5 comic books for Icom America. With his help, the students have learned all

aspects of amateur radio, as well as the importance communication plays in times of emergency, in international goodwill, and teamwork. Icom America truly appreciates the energy he has consistently shown with these projects. The picture below shows Dave’s writing team joined by some of this year’s crop of new hams who have just passed their Technician tests. This year Dave will be retiring from Lake Washington School district, but not from his position in the ham club. He will continue to promote and inspire the young ham in all of us!

This edition of the comic book was made possible by a team of writers led by elected student editor Rachel Roberts (KE7HQQ), and assisted by writers Christa Hoskins (KE7HVF), William Clawson, (KE7MJT), Helen Simicek (KE7MIE), Alka Pai (KE7NDB) and Tian-Ai Aldridge (KE7MIV). Many parents and members of the Lake Washington Ham Club supported the project through encouragement and assistance. Icom America would like to acknowledge Mr. Royce Roberts (KE7HQP) who helped to edit the final text, and Cathy Corley who provided pictures of Mt. Constitution. We would also like to thank the members of Islands On The Air (IOTA) for giving us permission to reference their site, providing us with excellent information. We would also like to thank all of our international and local friends who allowed us to share their amateur radio experiences in the comic book story. It is our hope that this story will inspire amateur radio enthusiasts of all levels to get out and enjoy using a handheld, mobile or HF rig and explore the world of DXing!



*Max, Mr. Condon and friends*

Kayoko Nakajima, professional cartoonist and illustrator, has created another splendid piece. Ray Novak (N9JA), Maureen Blomgren (KD7QDZ), and Dave Kruzic (KC7SFN) of Icom America not only produced and sponsored but also underwrote the publication.

**Student Driver Test Day**

Zack, I'm so excited we take our final driving tests today! I know I'm going to pass; I've studied really hard.

I dunno, Mady. This driving thing is kinda hard.

Ready, Mady?

**Mady's driving test!**

Good job!

Perfect!

Excellent!

Wow, She's good!

Congratulations Mady. You passed!

It's your turn, Zack.

**Zack's driving test**

It's OK...

Oh, No...

Hang On!!

Zack, you barely passed. Parents, you better monitor his driving carefully.

Can we celebrate with chocolate now?

We both have our licenses!

Congratulations!

Good job, Zack! Let's have a group trip and you kids can drive up to the San Juan Islands for a mini DX trip\*.



Oh, I've always wanted to go to the San Juans. Mt. Constitution would be perfect! DX contacts work better at high points, better coverage. It's an island DX trip!



AND...we can bring the IC-7000 along too!



That sounds like a lot of fun. Why don't you invite some of your unlicensed friends on the trip? You can teach them about ham radio.



I'll invite my friend, Brooke. She wants to know more about ham radio.



Dad, let's take cousin William. He's interested in becoming licensed. He's coming into town soon. This will be awesome!



I'll call him tonight!

How about if we head out next Saturday?



**It's a DATE!**



Friday night, the night before the Big Trip, at Mady's house...

Mady, Mr. C wants your HF skills to be right on target for the trip. Brooke can watch you while you operate, so she is more comfortable with the radio.

Can I practice on the IC-718?

Sure!



\*Their "mini-DX trip" is an attempt to go to an out-of-the-way area and extend the range and ability of their radios and make as many contacts with distant stations as possible. DX is an abbreviation for "distant station" or "signal from a distant station." When setting up a DXpedition that will transmit from an area that is usually not on the air, one needs to request from the FCC a special event or one time call sign. Smaller trips do not require one. For more information see ARRL Operating Manual, 9th Edition, 6-1.

Mady and Brooke spend time working the radio.



Later, Mady goes to her computer...

I want to show you all something that I found on-line. Did you know that the San Juans are part of the Washington State North Group On The Air? NA-065 is the name of this group. And if you follow the directions on the IOTA site and use their interface, you can find Orcas Island!



And if I click here... I'll get even more information about what islands are in this group.



IOTA even links you to more information that helps you figure out equipment lists and propagation planning, budgets and duties for when you plan your ultimate DXpeditions!



Sometimes your Dad has talked to hams who identify what island they are on when transmitting. There are hams who "collect" island contacts! He was once even sent a sticker with their logo!



Mom, I think we're going to need some more equipment. Can we use some of Dad's stuff?

Of course you can, you KNOW he is going to be having fun WITH you using it!



Maybe you should include Zack in on all of this information.

I've emailed him everything I have found out so far, as well as most of the members of our Ham Club! They plan on meeting us with last minute stuff before we go!



\* The IOTA program (Islands On The Air) is managed by the Radio Society of Great Britain (RSGB). To learn more about the IOTA program and how to take part in it, the RSGB maintains a useful website outlining the rules and goals of the IOTA program. <http://www.rsgbiota.org/> The RSGB suggests you visit this site to learn about the program, then return here: <http://www.islandchaser.com/> and they'll point you towards DX!



\*A DXpedition is when you go to and transmit from an area that is usually not on the air, or has no amateur radio designation. One needs to request from the FCC a special event, one time callsign, for DXpeditions that are larger and far away. This DXpedition is a smaller trip to an out-of-the-way area and does not require a special event callsign.

Later that night, at Zack's house...

I have to get my gear together and get ready! Mady's got lists, and has assigned duties for each of us, and has got all her equipment figured out... Max, just don't sit there, help!



ZACK! William will be here in the morning! I hope you're getting ready!



HUGH?! Oh! Go! Go! Go!

The next morning, at Zack's house...



I don't have everything together yet! I'm so confused with all the stuff you sent me yesterday!



Oh Zack, come on, it can't be too hard to find things in your room...



See! We'll just follow the map!



The ham members arrive...



Hey Zack!

Hi Mady! We came to wish you guys good luck!

Thought you might need this....a compass and some extra rope, and batteries. It's good to be prepared!

Good luck you guys!

Don't let Max get eaten by an Orca.

Make some great contacts! I got you some QSL cards to take along!



Do you like chocolate? It tastes better than pork...

I like both!

heeeelp~!!!

Play with me!

Let's get going!  
Hey Zack! Introduce William to Mady and her friend, let's get it together here!



Mady, this is my cousin William; he's not a ham yet but is very interested in amateur radio.



Great! William, this is my friend Brooke; she is also very interested in learning about amateur radio.



Max I would like you to meet Max.



What's THAT?!

Dad, can you get that for me? That's Mady on simplex.



Sure! You drive: I'll talk! N9JA, this is KC7SFN for Zack.



KC7SFN this is N9JA, We've stopped to get some gas. How's Zack's driving?



Zack is doing great. William is sure curious about our radio. He'll want his radio license after this trip.



I'm not surprised. Brooke feels the same way. My dad will be handling the radio, his call sign is KE7EBJ. So, until then, this is N9JA clear.





Mady, I noticed the word "digital" on the screen of your radio. Why would someone want to talk digital mode instead of analog mode?



You can get more people on the air without increasing amateur radio's spectrum. It's like taking this highway we're on and adding more lanes so that even more cars can fit!

## Analog Freeway



## Digital Freeway

Dad, tell Mady we're approaching the ferry boat launch, and that we're going to have to standby.



KE7EBJ, we're going to standby, this is KC7SFN. We're entering Anacortes now.

This is KE7EBJ for Mady. That sounds great! See you in a few hours! This is KE7EBJ, standing by.



KC7SFN, standing by.



Zack, why did you say those weird numbers and letters?



Those weird numbers are call signs!

What?



If we used names instead of call signs, everyone would get confused! So we use easy to remember call signs. This way, nobody gets confused.



Oh, I get it!

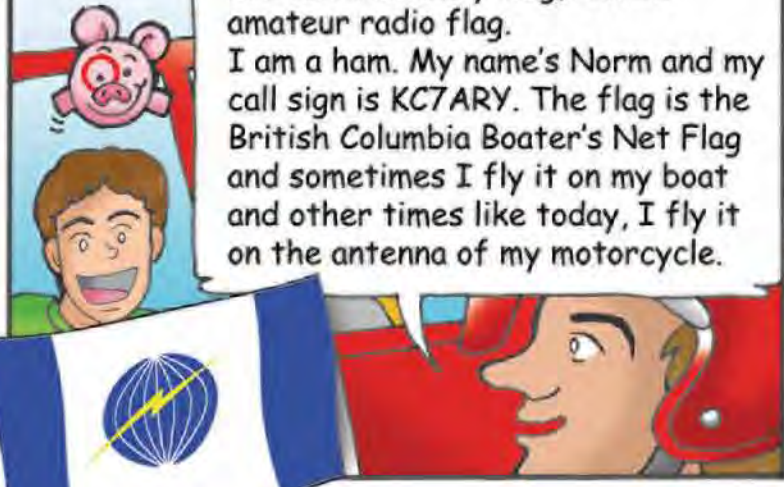


Wait Here for the Ferry to Orcas

Pardon me sir, what country does that flag represent?



It's not a country flag, but an amateur radio flag. I am a ham. My name's Norm and my call sign is KC7ARY. The flag is the British Columbia Boater's Net Flag and sometimes I fly it on my boat and other times like today, I fly it on the antenna of my motorcycle.



I'm William. I'm not a ham yet, but will get my license soon. My cousin Zack is an amateur radio operator and his call sign is KD7QEZ.

Wow, Will. You learn fast.



Pleased to meet you all. Where are you all headed?



That sounds like fun! I am heading home to Shaw Island. I am a biologist and do research about animals living in the water.



It looks like they're loading cars on to the ferry now. It was nice talking to you.

Good luck on your trip. I monitor 145.190 MHz. Why not give me a call?



# HONK



### Zack continues teaching William about radios...

I've got a great idea. Let's all go to my truck and call Mr. Condon! I think he's out fishing on his boat.

Uhm, Mady, Zack, what does his boat look like? I think I see one that's not too far way...



Sure! Sounds great! This will show them both how to make a contact! But... he better be close by as HF radio waves might not be able to go through the iron that is in the hull of this ferry.

This ferry has terrific snacks on board!

### At Zack's car...

KI7YP, this is KD7QEZ ...



KD7QEZ, this is KI7YP. How are you doing?

KI7YP this is N9JA. We're doing great. We were showing some friends how to make contact with my new mobile radio! Uhm, what's that rumbling sound?



rumbling?! They can hear my tummy?!

Oh, that rumbling is coming from the diesel engine on my trawler. I'm heading north for salmon fishing.



Salmon? Yum! Well, We'll be leaving the ferry soon so it looks like we have to go! Good luck with fishing.



Ferry! Are you on that ferry off to my starboard side? You should be about ready to dock. 73 N9JA, this is KI7YP clear!



73 KI7YP, this is N9JA clear!

Mady, that was so cool!



Yeah, Zack, that was awesome! I want to get my own license.



I like ferry rides...

All passengers please return to your vehicles, we will be docking soon!

Oh! Time to GO!

We Made It!



Wow! Is this the trail we'll take tomorrow to the summit?

Alright, let's set up our base camp here, and get ready for tomorrow's hike.

I'll help set up the tents with my Dad. Zack why don't you start prepping our rigs and help get things organized...



It looks like a hard trail!

That's better!



And let's make sure we don't lose our chocolate this time!

Chocolate!

Max's job: find the chocolate...

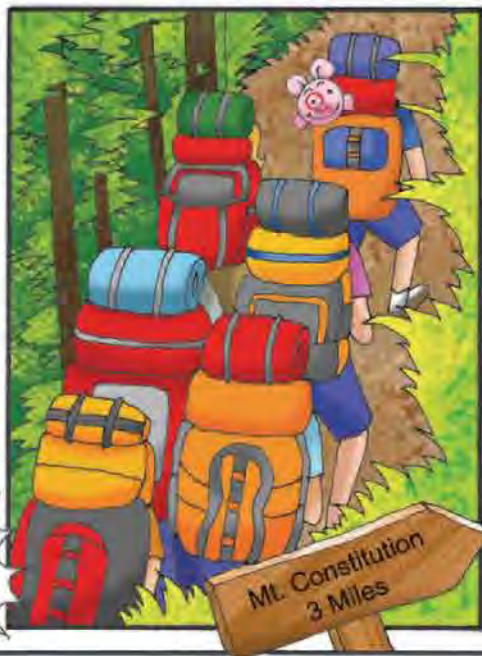


Next Morning...

Does everyone have water, and their other 10 essentials? Are we ready to go?



Let's Go!



Mady, I have been wondering what CQ means. I've been hearing you guys say it a lot.



I'm glad you asked. CQ means "calling all stations" and inviting others to join a conversation or start one with you. Let's get to the top of that mountain so we can get set up and make some contacts!



Whew! What a climb! What a view! Hey Zack, here's a nice large area with picnic tables. Let's take a break, have some lunch and then get set up!



You all have your assigned duties after lunch!

This is such a beautiful spot! Look at that old stone tower! Zack, I had no idea there would be so many antenna towers and pieces of commercial radio gear equipment here.



Mt. Constitution is 2050 feet higher than anything else around with the salt water of Georgia Strait below, it is a fabulous ground plane for DX HF radio.

\*Ten essentials for backpacking are: 1. map, 2. compass (optionally supplemented with GPS receiver), 3. water and a way to purify it, 4. sunglasses and sunscreen, 5. extra food and water, 6. extra clothes, 7. headlamp or flashlight, 8. first aid kit, 9. fire starter, and matches, 10. knife. Taken from The Mountaineers, a Seattle-based organization for climbers and outdoor adventures.

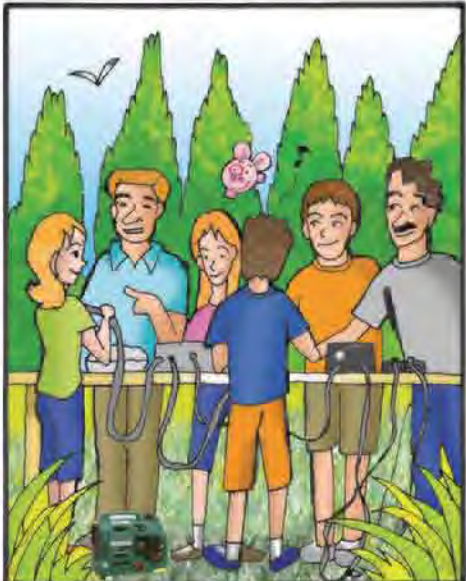
**Setting up**

Where will we get power to run the radio?

We'll use the small green generator and the Icom PS-125 power supply to operate the radio.

Sounds good to me.

Brooke and I will connect the antenna cable to the Icom AH-4 antenna tuner and to the Icom 718 HF transceiver.



Make sure to record your contacts! I've got my laptop set up. Mady, you can show Brooke and William how to record contacts while Zack operates.



Got it, no worries! OK Brooke and William, just tab through the boxes of this program as we listen with Zack!



File Edit Search Modules Outgoing QSL Audio Incoming QSL Reports Tools Help

Station Log | Station Information | \*Verification Status | Comments - Station + QSO | User Defined Fields

Station Log

Call sign:  DX: 8541.95 nm  
 City:  S/P:   
 County:  Grid:   
 Entity:   
 IOTA:  Continent:

CQ Zone: 3 Name:

Date and Time

Date: April 05 2008 Start: 10:00 End: 10:00

Frequency, Band, and Mode

Freq:  kHz Band: 20 Meters: 21.43  
 Mode:  Continuous Wave

Signal Quality and Audio

Sent:  Received:   
 File: 4w3dx

Equipment Used

Rig: IC-746PRO Icom IC-746PRD  
 Ant: 2-El PV 20-Meter 2-El Phased Verticals  
 Acc: MFJ-969 MFJ-969 Antenna Tuner  
 Pwr: 100 100 Watts

Click the OK button to save the log entry. April 05 2008 10:00

Let's try 75 meters, I'll tune it in...  
CQ, CQ, CQ this is (KE7QEZ) calling from  
Mt. Constitution in Washington.



Hi Bill, I'm Zack, KE7QEZ my  
friends and I are working HF  
on Mt. Constitution, IOTA  
designation N65.

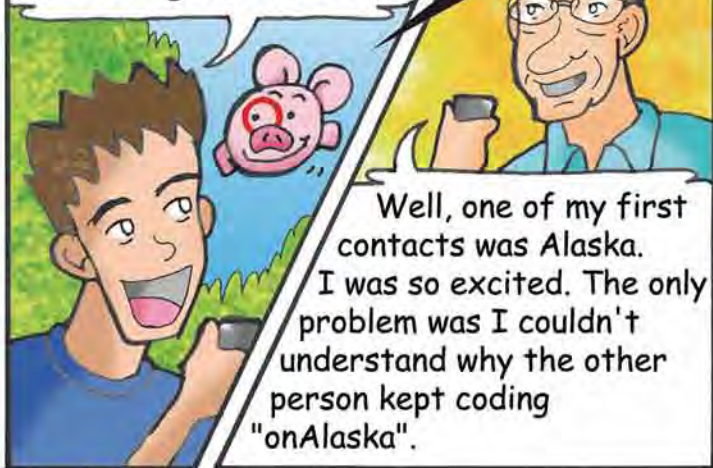


How long have you had  
your radio license?



I have had my radio license so  
long that when I started we built  
our own radios. My first license  
at that time was on 80 meters and  
you could use only Morse code.

Were you able to call very  
far with your homemade  
radio using morse code?



Why was he sending  
"on Alaska"?



That is a great story. It was nice  
talking with you, Bill.



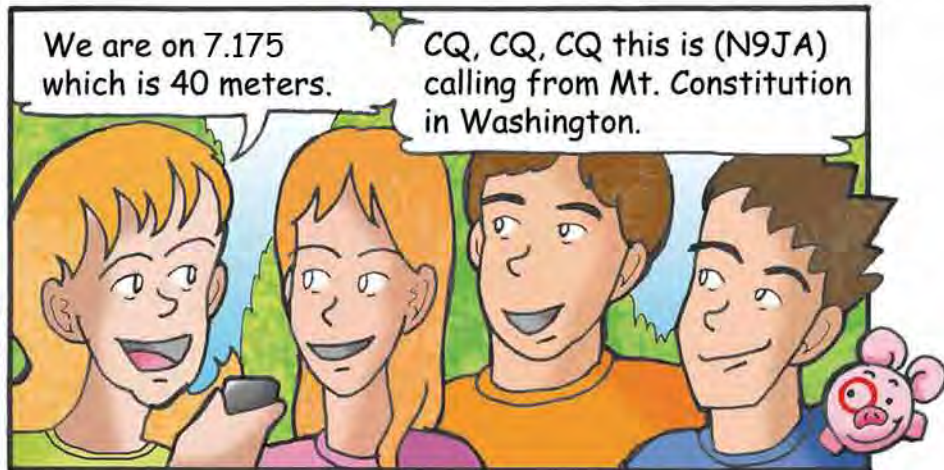
This is KE7QEZ clear on your final.





Brooke and I want to try 40 meters.

Okay, give it a try.



We are on 7.175 which is 40 meters.

CQ, CQ, CQ this is (N9JA) calling from Mt. Constitution in Washington.



**N9JA This is VK3FIAN. Name here is Ian out of Melbourne. With me is my daughter Hannah.**



Wow, Australia! It is nice meeting you. How are things in Melbourne?

**We have had a little rain but things are still very dry. Do you have any extra water that the President could mail us?**



HA HA HA HA

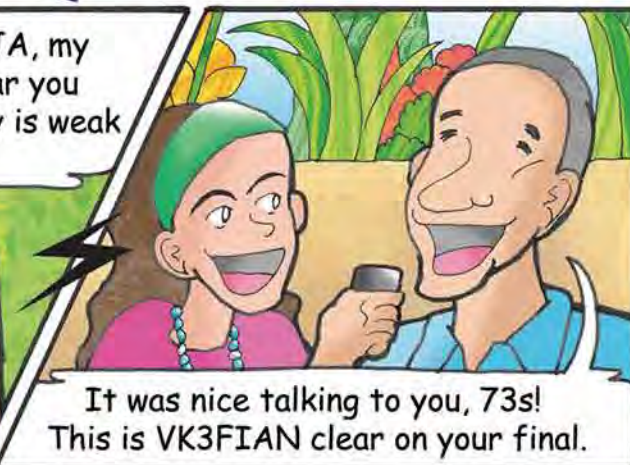


We would ask, but we're in Washington State, not DC. We can send you some rain but can you send any extra sunshine?

How do you copy me? I have a foundation license\* here in Australia and I am using only 10 watts of power.



VK3FIAN this is N9JA, my friend Brooke and I can hear you on our IC-718 but your copy is weak like maybe 2/4.\*\*



It was nice talking to you, 73s! This is VK3FIAN clear on your final.

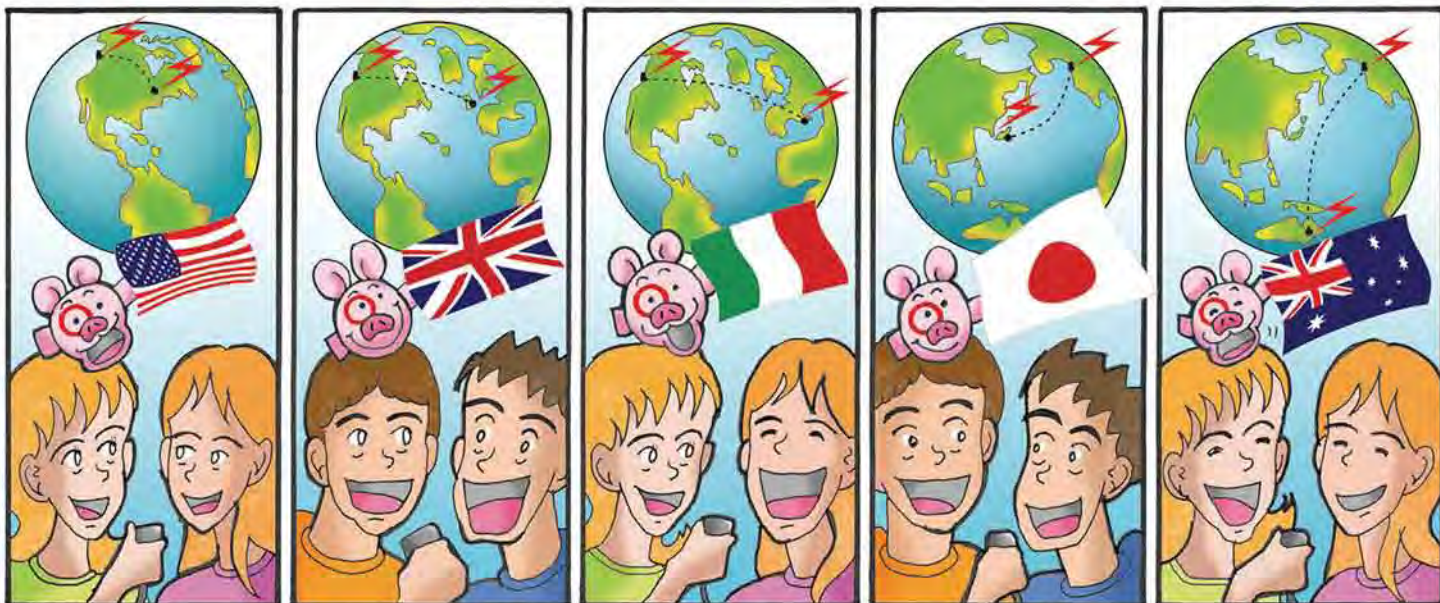


Goodbye Hannah and Ian, this is N9JA clear.

\* A foundation license is a beginner's license in Australia. For more information on Amateur Radio in Australia see: <http://www.wia.org.au/foundation/>

\*\*A signal report is an evaluation of the transmitting station's signal and reception quality. Signal ratings are Signal Strength (0-5) over Distortion (0-9). The best signal rating to be 5/9. A signal report of 2/4 means that it is a weak signal with a fair amount of distortion.





Zack! Can you show me how far we can go on your V82?

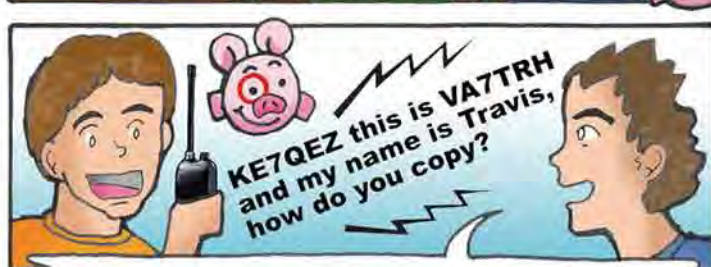
Sure! This is a VHF radio and it won't work as far as the HF base radios we're using, but let's give it a try.

Set the frequency to 146.680. That is the Vancouver Island Radio Trunk System.



It's done!

This is KE7QEZ, is anyone on frequency? CQ, CQ KE7QEZ, is anyone on frequency?



KE7QEZ this is VA7TRH and my name is Travis, how do you copy?

VA7TRH, you are full quieting!\* We are doing DX from Mt. Constitution and decided to see how far 2 meters would travel. How do you copy?

You're also full quieting! I am at Woss Lake fishing with my grandfather VE7REH and grandmother VA7BON. We're all hams!

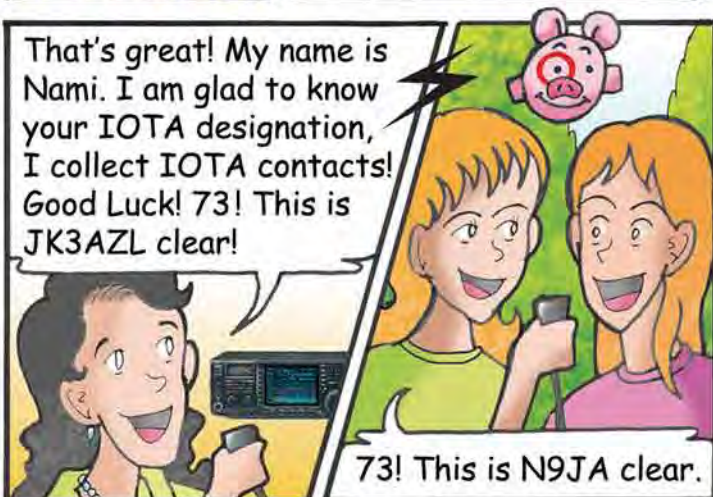
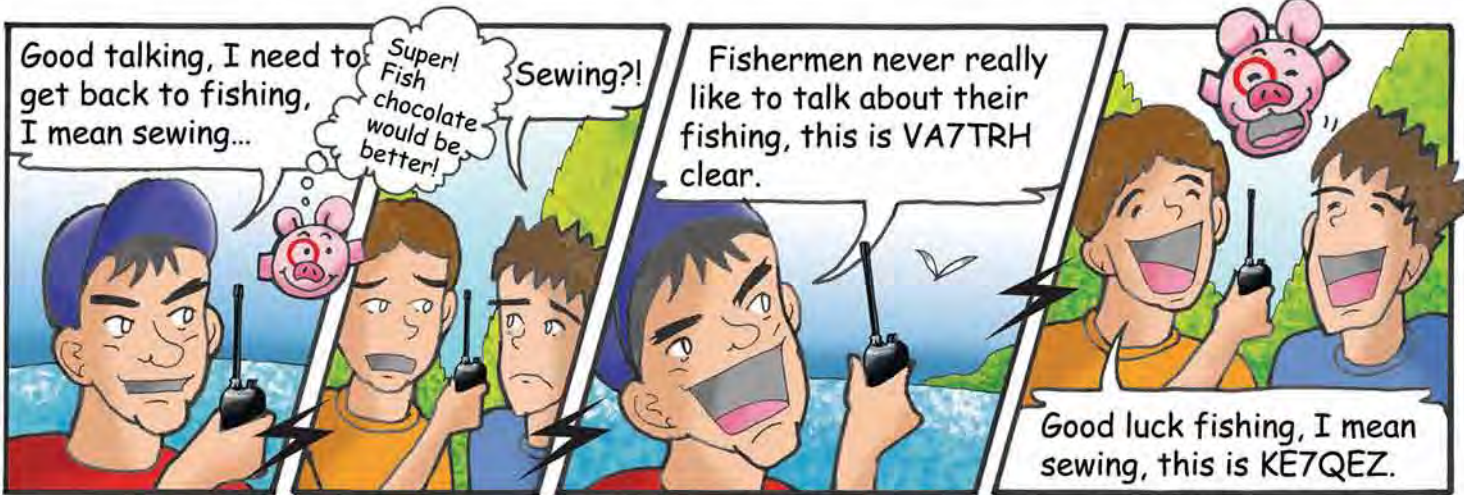


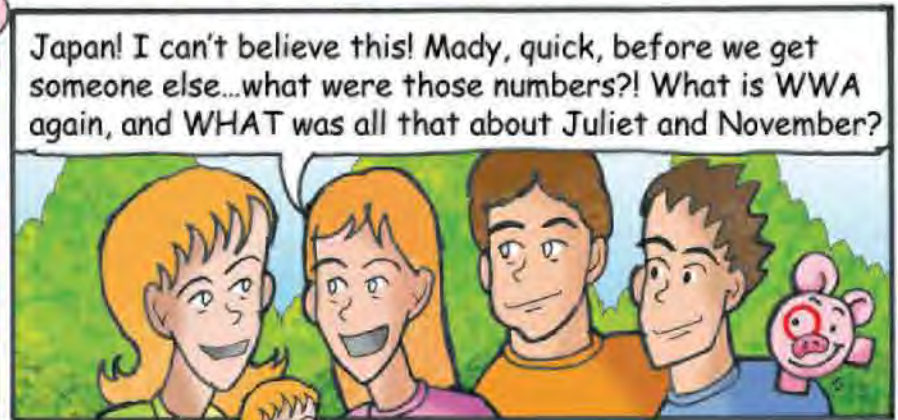
Are you catching any fish?

Hummm. Fishermen never really tell the truth about fishing but I can say we aren't eating hamburger for supper.



\*Full quieting means there's no background noise. It is a very clear signal.





And guys, remember we can look up where our contacts are if they are on an island too! Don't forget the IOTA web site and tools!

**RSGBIOTA**  
ISLANDS ON THE AIR

Login

Call sign / SWL:

Password:

You must have cookies enabled to login. For more info, click here

Login

Register new user

Search

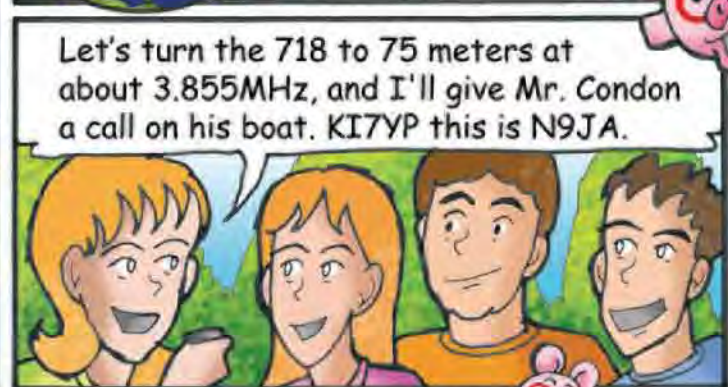
Search

Card Name, IOTA Ref. No. or activation call sign:  
Honshu

Oh, remember, WWA, means Western Washington and Juliet and November are "J" and "N". They are part of the phonetics alphabet. We use it to help identify clearly our callsigns. I brought an alphabet chart along, it should help us all a lot! I still use it!

Standard Phonetic Alphabet (NATO phonetic alphabet)

A - Alfa	J - Juliet	S - Sierra
B - Bravo	K - Kilo	T - Tango
C - Charlie	L - Lima	U - Uniform
D - Delta	M - Mike	V - Victor
E - Echo	N - November	W - Whiskey
F - Foxtrot	O - Oscar	X - X-Ray
G - Golf	P - Papa	Y - Yankee
H - Hotel	Q - Quebec	Z - Zulu
I - India	R - Romeo	





This is KI7YP, Mady, how are things going at Mt. Constitution?

Brooke and I are having the best time making radio contacts all over the world. We would never have guessed this would be soooo much fun.

How is Max doing?

Max is fine, he is asleep I think, but he seems to have chocolate all over his face. Wait a minute, my candy bar is missing.



Mr. Condon, this is a silly question, but are you going north on your boat to go fishing?

No, I said fishing... oh never mind, that's right; fishermen don't like to talk about fishing... Good luck sewing!

Sewing, did you say sewing?

Good luck on your DX contacts.



I hope to talk to you again, 73s, this is KI7YP.

We've got a lot of contacts, where are we at William?

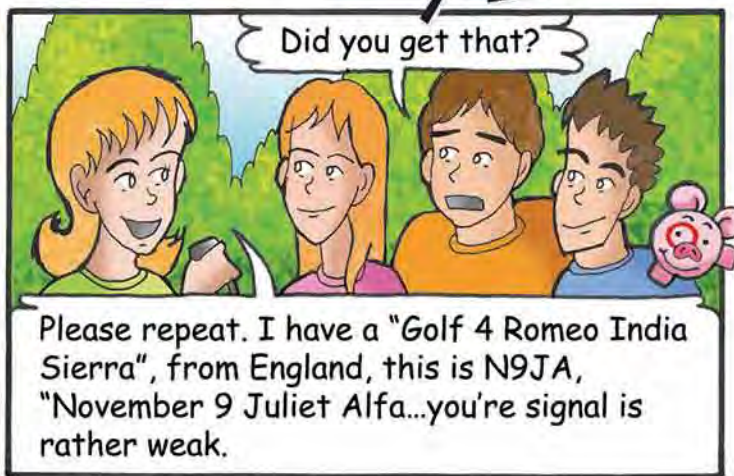
CQ, CQ, this is N9JA...

This is N9JA clear.

We've contacted Japan, and India, Spain and ... wait a minute, sounds like Mady you've got something...



**N9JA this is G4RIS calling from the United Kingdom. I've been trying to reach you. I've been following your progress across the globe! How's my signal?**



Did you get that?

Please repeat. I have a "Golf 4 Romeo India Sierra", from England, this is N9JA, "November 9 Juliet Alfa...you're signal is rather weak.

Yes, you've got it! N9JA, This is Brian from England your signal is at about a 2 over 4. I have another friend who has been trying to make contact.

This is N9JA, Mady, from Western Washington! I used to live in England! Are you near London?

Yes, I am! I'm glad we made contact! Good luck to your group tonight! 73! This is G4RIS clear!

73! This is N9JA clear!

Someone else is also trying to call US?!

N9JA, calling N9JA this is G8GKC calling.....

Please repeat! I have G8GKC calling ...

I hope I got that call sign right...

CQ, CQ, calling CQ this is N9JA calling.

N9JA. This is G8GKC, Golf 8 Golf Kilo Charlie calling N9JA...

G8GKC, this is N9JA, I have you loud and clear!

N9JA, your signal is also coming in clear. I'm Chris, a friend of Brian! Glad to make contact!

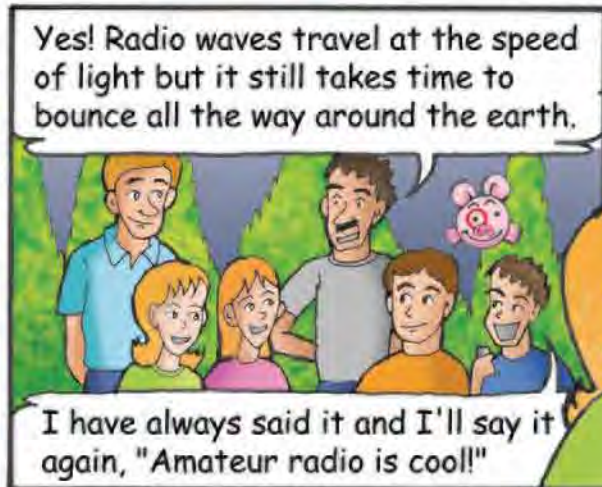
Glad to make contact! You are our second contact from England!

Glad to hear that! I heard that you once lived in England, is that correct?

Yes, I lived there with my Aunt while I went to school! It was the best ever!

Glad to hear it! Good luck tonight. 73's this is G8GKC clear

73 this is N9JA clear!



OK you kids, It's been a long day! Let's get some sleep you'll need your energy tomorrow for more radio time and then to pack up and hike to the cars.



**Next Morning...**

MMM Bacon and eggs. I love campsite breakfast!

Yeah! Let's hurry up and eat so we can make some more contacts!



We operate until noon, then we pack up and head for home.



Hey, that's the motorcycle guy we met yesterday... Go ahead 'ARY.



Hi Zack, you and your friends have really been stirring up the band activity.



Yeah, thanks Norm. We've been logging contacts from all over the world!



Yes, you're showing you don't have to go to the ends of the earth for a great DX experience! Sometimes the best events are only a few hours from home.

KC7ARY, clear.

You bet! Thanks for the call Norm. This is KE7QEZ signing off.

That's it! Sign 'em off and pack 'em up. Time to go!

I sure like DXing!

Whoa, that was a long hike!

Yeah, but it was worth every step! Let's stay in touch on the way back with our mobiles!

N9JA this KE7QEZ, Mady do you have a copy?

KE7QEZ yes I do.

That was a long day yesterday, but fun! What do you think about our DX Mt. Constitution expedition?

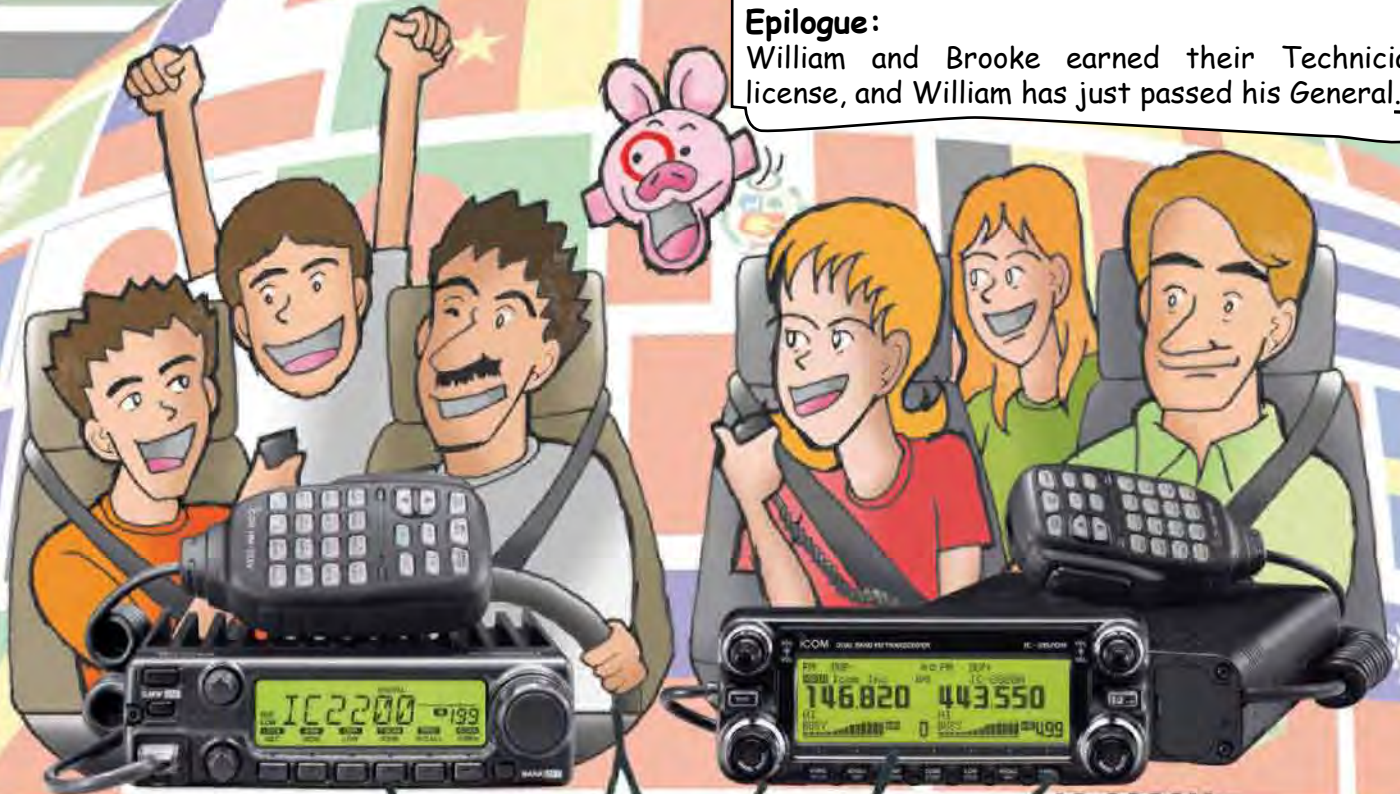
Brooke and I think this is best weekend we have ever had. Brooke is planning for sure to get her license. What did you think?

Same here, best weekend ever and William is already studying for his license and asking me radio questions.

Let's get home and start planning our next DX trip!



**Epilogue:**  
William and Brooke earned their Technician license, and William has just passed his General.



**IC-2200H**

**IC-2820H**

**YEAH!**  
**Let's Go DXing**  
**Again Soon!**



**IC-7000**



**IC-718**

A snap shot gallery of real DXpeditions with real DX'ers.



**ZL8R: 40,000+ QSOs in just over a week....**

**DX'ing the way it should be.  
For the love of ham radio.**



**BS7H: 45,000+ QSOs in just over a week....**



N8S - Swains Island 2007 - 117,200+ QSOs

VU7RG - Lakshadweep Islands 2007 - 110,000+ QSOs



**IC-756PROIII Where to next?**

*The DX'ers rig of choice.*

