



Operating Procedures for the New Ham

**Community-based Education for
Amateur Radio and Emergency Communications**

Lesson B1.5

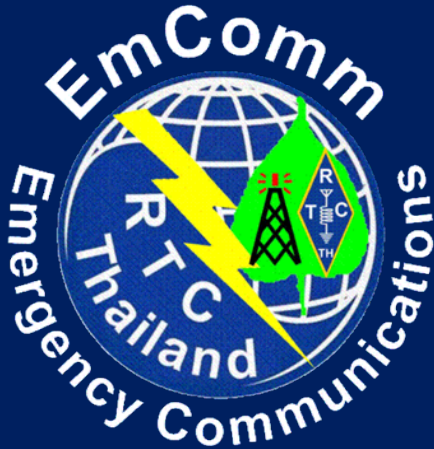




Congratulations on Your New License!
Now what?



An RTC-TH EmComm / GERC Collaborative Training Series presentation



Compiled and Edited by
HS0ZHM and N7YLA

For other lessons in the series visit

www.neighborhoodlink.com/org/rtcth
www.neighborhoodlink.com/org/gerc



A part of the RTC-TH EmComm Program

The Rural Training Center-
Thailand Emergency
Communications program is a
volunteer effort to provide
emergency amateur radio
communications for local
community self-sufficiency and
sustainability in times of need.



Ready to serve and sustain our community



The Glendora Emergency Response Communications (GERC)

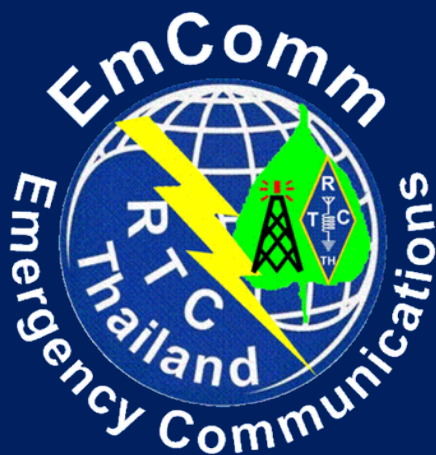


The mission of the Glendora Emergency Response Communications group, herein known as GERC, is to unite those amateur radio operators who have a common interest in communications, specifically to provide training, support and encouragement to radio amateurs who wish to serve as emergency communicators for the Church of Jesus Christ of Latter-day Saints (LDS).



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www.neighborhoodlink.com/org/gerc



Topics in this lesson

- Congratulations & Welcome
- Privileges & Responsibilities
- Emergency preparedness & Emergency Communications (EmComm)
- Preparing to get on the air
- Getting on the air without a radio



Congratulations & Welcome

[KJ6OMP](#)
[KJ6OMQ](#)
[KJ6OMR](#)
[KJ6OMS](#)
[KJ6OMT](#)
[KJ6OMU](#)
[KJ6OMV](#)
[KJ6OMW](#)
[KJ6OMX](#)
[KJ6OMY](#)
[KJ6OMZ](#)
[KJ6ONA](#)
[KJ6ONB](#)
[KJ6ONC](#)
[KJ6OND](#)
[KJ6ONE](#)
[KJ6ONF](#)
[KJ6ONG](#)
[KJ6ONH](#)
[KJ6ONI](#)
[KJ6ONJ](#)
[KJ6OOH](#)
[KJ6OSO](#)

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Schelin, Michael D
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Privileges & Responsibilities

Your FCC License

- Sign your name on both parts
- (Optional) make photo copies of both parts
- Separate the forms:
- Large part: frame or file in safe place
- Small part: protect printed side from wear;
file original in safe place; keep one copy
in your wallet; another copy in your car.



Your FCC License

- Sign your name on both parts
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- Separate the forms:
 - Large part: frame or file in safe place
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Cut Along This Line

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
AMATEUR RADIO LICENSE
KI6GIG

LEE, GREGORY K

FCC Registration Number (FRN) 0015699507

Special Conditions/Endorsements

NAME

Grant Date	Effective Date	Print Date	Expiration Date
11-07-2006	05-21-2007	05-22-2007	11-07-2016

File Number	Operator Privileges	Station Privileges
0003035305	Technician	PRIMARY

THIS LICENSE IS NOT TRANSFERABLE

Gregory K. Lee
(Licensee's Signature)

FCC 660 April 2002

Cut Along This Line

Cut Along This Line

Licensee: This is your radio authorization in sizes suitable for your wallet and for framing. Carefully cut the documents along the lines as indicated and sign immediately upon receipt. They are not valid until signed.

The Commission suggests that the wallet size version be laminated (or another similar document protection process) after signing. The Commission has found, under certain circumstances, laser print is subject to displacement.

Cut Along This Line

Call Sign/Number Grant Date Expiration Date File Number Print Date Effective Date

Call Sign/Number	Grant Date	Expiration Date	File Number	Print Date	Effective Date
KI6GIG	11-07-2006	11-07-2016	0003035305	05-22-2007	05-21-2007

Operator Privileges Station Privileges

Operator Privileges	Station Privileges
Technician	PRIMARY

LEE, GREGORY K

AMATEUR RADIO LICENSE

FCC Registration Number (FRN) 0015699507

FCC 660 April 2002

FOLD

Gregory K. Lee
(Licensee's Signature)

FEDERAL COMMUNICATIONS COMMISSION

Cut Along This Line

467

Photo by HS0ZHM

Your FCC License

- You must notify the FCC of any change of address
- If the FCC mails a notice of renewal for your license and it is returned due to an old address, you may lose your license.

You've studied long and hard for your license. Don't lose it because of forgetting to file a change of address.



Cut Along This Line

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
AMATEUR RADIO LICENSE
KI6GIG

LEE, GREGORY K

FCC Registration Number (FRN) 0015699507

Special Conditions/Endorsements
NONE

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FCC 660 April 2002

Gregory K. Lee
(Licensee's Signature)

FEDERAL COMMUNICATIONS COMMISSION

Cut Along This Line

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Photo by HS0ZHM

Know the Regulations

Visit the GERC website and get the following resources and keep them handy:

- US Band Plan
- US Frequency allocation chart
- FCC Part 97 Rules
- FCC OET 65
- Ethics & Operating Procedures for the Radio Amateur



Title 47: Telecommunication

PART 97—AMATEUR RADIO SERVICE

Federal Communications Commission
Office of Engineering & Technology

Evaluating Compliance
Guidelines for Human E
Radiofrequency Electrom



OET B
Edit
A

The International Amateur Radio Union
Since 1925, the Federation of National Amateur Radio Societies
Representing the Interests of Two-Way Amateur Radio Communication

**ETHICS
AND
OPERATING
PROCEDURES
FOR THE
RADIO AMATEUR**

Edition 3
(June 2010)

By John Devoldere, ON4UN
and Mark Demulstere, ON4WW
Proof reading and corrections by Bob Whelan, G3PJT
Ethics and Operating Procedures for the Radio Amateur



Know your operating privileges

Your new FCC Technician class license gives you access to these bands and frequencies.

Band (λ)	Freq (MHz)	Mode/Power
80 m	3.525-3.600	CW only
40 m	7.025-7.125	CW only
15 m	21.025-21.200	CW only
10 m	28.000-28.300	CW, RTTY/Data; max 200 w PEP
	28.300-28.500	CW, Phone; max 200 w PEP
6 m	50.0-50.1	CW only
	50.1-54.0	CW, Phone, Image, MCW, RTTY/Data

Source: www.arrl.org/frequency-allocations as of 2 May 2011



Know your operating privileges

Your new FCC Technician class license grants you these operating privileges:



Band (λ)	Freq (MHz)	Mode/Power
2 m	144.0-144.1	CW only
	144.1-148.0	CW, Phone, Image, MCW, RTTY/Data
70 cm	420.0-450.0	CW, Phone, Image, MCW, RTTY/Data
33 cm	902.0-928.0	
23 cm	1240-1300	

Source: www.arrl.org/frequency-allocations as of 2 May 2011

Most newly licensed Hams will start off with an HT (handy talkie) which is a 2m VHF radio. A free internet alternative is EchoLink® which you can download and use from <http://echolink.org> if you have a valid FCC license.



Support the Protector of the Air Waves

Please consider joining ARRL

The American Radio Relay League (ARRL) is the official amateur radio organization representing the US in the International Telecommunications Union (ITU) which is the leading United Nations agency in the area of information and communication technology issues.



ARRL Membership Benefits



- Monthly magazine
- Technical resources
- Insurance for your equipment
- Group rate insurance for home, auto, life
- Spectrum defense of the air waves
- Numerous contests & awards
- National & International representation for amateur radio
- Quality reference books & guides

ARRL is your primary defense for legal matters pertaining to the continued freedom for amateur radio operators in the U.S.



Get actively locally

Consider getting active in your local neighborhood emergency communications effort.

If there is no such group or effort near you, consider:

- starting one, or
- join GERC



Photo courtesy of GERC



Emergency Preparedness & Emergency Communications

- Look at where you live and list all the types of disasters than can affect your home, your work place, and your daily commute.
- Make an emergency plan to meet your needs
- Prepare “kits” for your home, office, car and a personal “wallet” or “belt bag” to help you to survive.

“The GERC website has a wealth of data you can access and download for free.”
Visit www.neighborhoodlink.com/org/gerc



Emergency Preparedness & Emergency Communications

A review of recent mega-disasters around the world suggests you need to hold out for 1-2 days or longer before help arrives.

Almost immediately after the dust settles, people need:

- medical attention
- clean drinking water
- sanitation and shelter
- food



Photo from the internet: educational fair-use clause



Emergency Preparedness & Emergency Communications

Get pro-active and prepare NOW:

- Get your First Aid/CPR/AED certificate



First Aid



Cardiopulmonary Resuscitation



Automatic External Defibrillator



FFI: www.redcross.org for a class near you.



- Get CERT training



FFI: www.cert-la.com for a class near you.



Emergency Preparedness & Emergency Communications

Join your local Emergency Communications group

GERC Emergency Communicator's Creed

- My own house is in order, I have all of the resources to get my family through an emergency.
- I am well informed on what to do and how to respond in an emergency. I keep my skills in First aid, CERT, and Disaster Communications Training up to date.
- I maintain well equipped personal and communications response bags and keep items in them current.
- I practice my communications and survival skills by participating in at least yearly outdoor camping and communications events.



Emergency Preparedness & Emergency Communications

The GERC Net is weekly on-air practice. GERC also provides radio communications for numerous community service activities throughout the year.

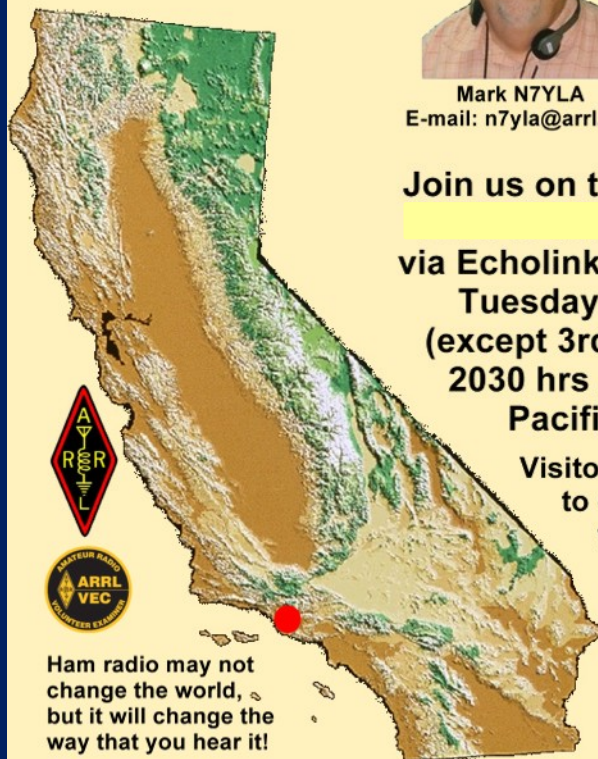
Join GERC
Radio skills
are like any
others you
have learned:
You either use
them, or lose
them.



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Mark N7YLA
E-mail: n7yla@arrl.net



Join us on the GERC Net
via Echolink node 358124
Tuesday evenings
(except 3rd Tuesdays)
2030 hrs / 08:30 pm
Pacific Time

Visitors are welcomed
to check-in after
the roll call

N 34.116508
W 117.854851
UTC-8 DM14bc
ITU 6 CQ 3

www.neighborhoodlink.com/org/gerc

**GERC EchoLink:
N7YLA-L Node 358124**

Dedicated
EchoLink
2m VHF
Transceiver

Dedicated
EchoLink
Computer



Preparing to get on the air

It's a free country. You have your license and can legally get on the air.

But like any journey, you may want to prepare before jumping in.

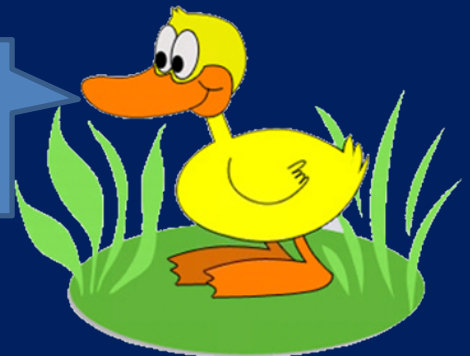
- Review and know the ITU alphabet
- Know the proper words / phrases
- Know how to speak properly on the air

If you want to be a Ham, you can't duck your responsibilities to prepare to get on the air.



Did you
copy that,
Duck?
Over

Affirmative,
quack, Over.



Review and know the ITU alphabet

Use these on the air.

Hi, I'm
HSØZHM,
Hotel
Sierra Zero
Zulu Hotel
Mike

"AL-FAH"
"BRAH-VOH"
"CHAR-LEE"
"DELL-TAH"
"ECK-OH"
"FOKS-TROT"
"GOLF"
"HOH-TELL"
"IN-DEE-AH"
"JEW-LEE-ETT"
"KEE-LOH"
"LEE-MAH"
"MIKE"

"NO-VEM-BER"
"OSS-CAH"
"PAH-PAH"
"KEH-BECK"
"ROW-ME-OH"
"SEE-AIR-RAH"
"TANG-GO"
"YOU-NEE-FORM"
"VIK-TAH"
"WISS-KEY"
"ECKS-RAY"
"YANG-KEY"
"ZOO-LOO"

"ZEE-ROW"
"WUN"
"TOO"
"TH-UH-REE"
"FOW-ER"
"FI-IV"
"SIX"
"SEV-EN"
"ATE"
"NIN-ER"
"DAY-SEE-MAL"

Source: <http://www.wrrl.org/operating/>

Hi, I'm
N7YLA,
November
Seven
Yankee
Lima Alpha

Write down your call sign and spell it with
the ITU alphabet.
Practice saying it before you get on the air.



Procedure Words and Phrases

Forget what you have heard them say in the movies when actors are talking on a radio.

These key words and phrases have stood the test of time with a proven history of clear effective communication

Word / Phrase	Meaning / Reply
Acknowledge	"Let me know that you have received and understood this message."
Affirmative	"Yes" or "permission granted."
Break	"I hereby indicate the separation between portions of the message." (To be used when there is no clear distinction between the text and other portions of the message.)
Correction	"An error has been made in the transmission (or message indicated). The correct version is..."



Procedure Words and Phrases

Word / Phrase	Meaning / Reply
Go Ahead	"Proceed with your message."
How Do You Read	Unreadable, readable now and then, readable but with difficulty, readable, perfectly readable.
I Say Again	Self-explanatory.
Negative	"No" or "permission not granted" or "That is not correct."
Over	"My transmission ended, and I expect a response from you."
Out	"This conversation is ended and no response is expected."
Read Back	"Repeat all, or the specified part, of this message back to me exactly as received."
Roger	"I have received all of your last transmission." (Under no circumstances to be used as an affirmative.)"



Procedure Words and Phrases

Word / Phrase	Meaning / Reply
Say Again	"Repeat all, or the following part, of your last transmission."
Speak Slower	Self-explanatory
Standby	Self-explanatory
That Is Correct	Self-explanatory
Verify	"Check coding, check text with the originator and send correct version."
Wilco	"Your last message (or message indicated), received, understood, and will be complied with."
Words twice	(1) As a request: "Communication is difficult. Please send every word twice." (2) As information: "Since communication is difficult, every word in this message will be sent twice."



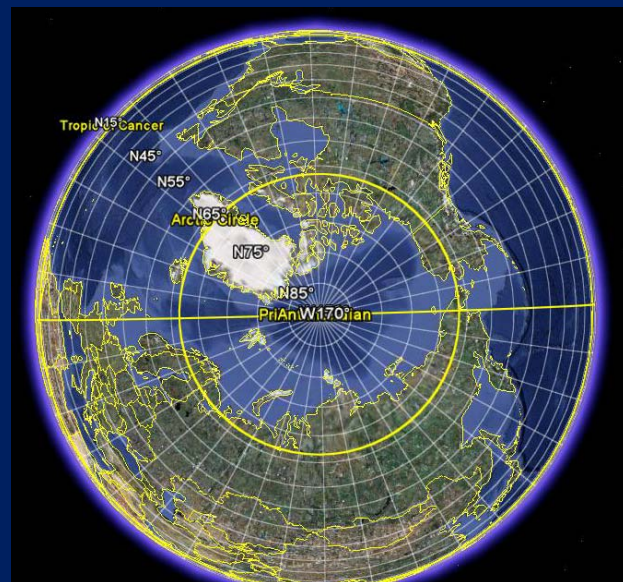


Location, Location, Location

Where in the world are you?

A common topic on the air is learning where the other station is in the world. So before you get on the air, you need to know how to tell people where you are. Other than place names, radio amateurs have some special ways to do this.

- UTC time zone
- Latitude, Longitude, Altitude
- ITU Zone
- CQ Zone
- Maidenhead coordinates.



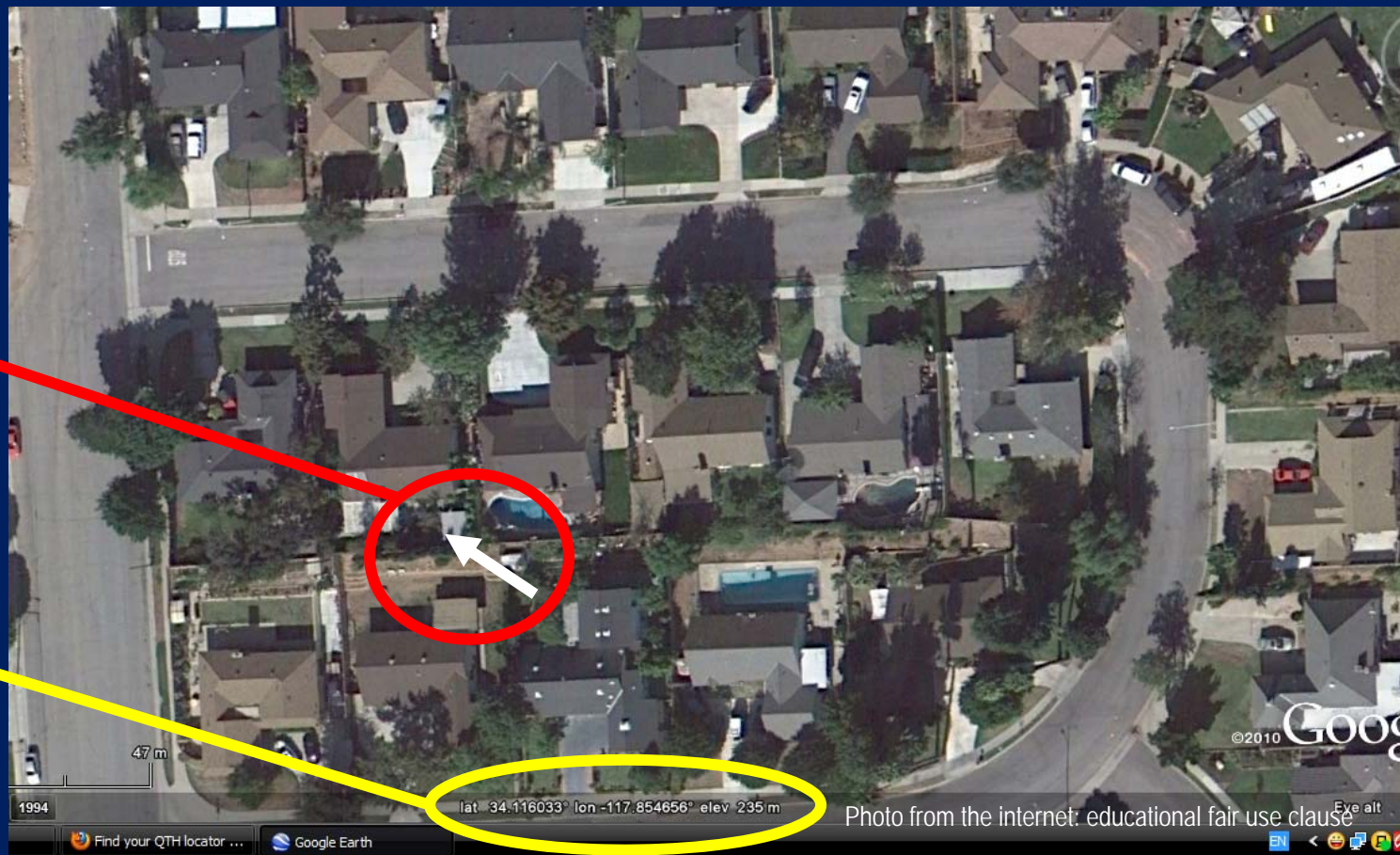


Latitude, Longitude, Altitude

Your QTH

You can use Google Earth to find this data for your station.

Point the cursor at your location. The Lat / Long / Alt show up here.





Know your time zone

In UTC

There are many time conversion websites such as www.timeticker.com

California is UTC-8

UTC=0

Thailand is UTC+7

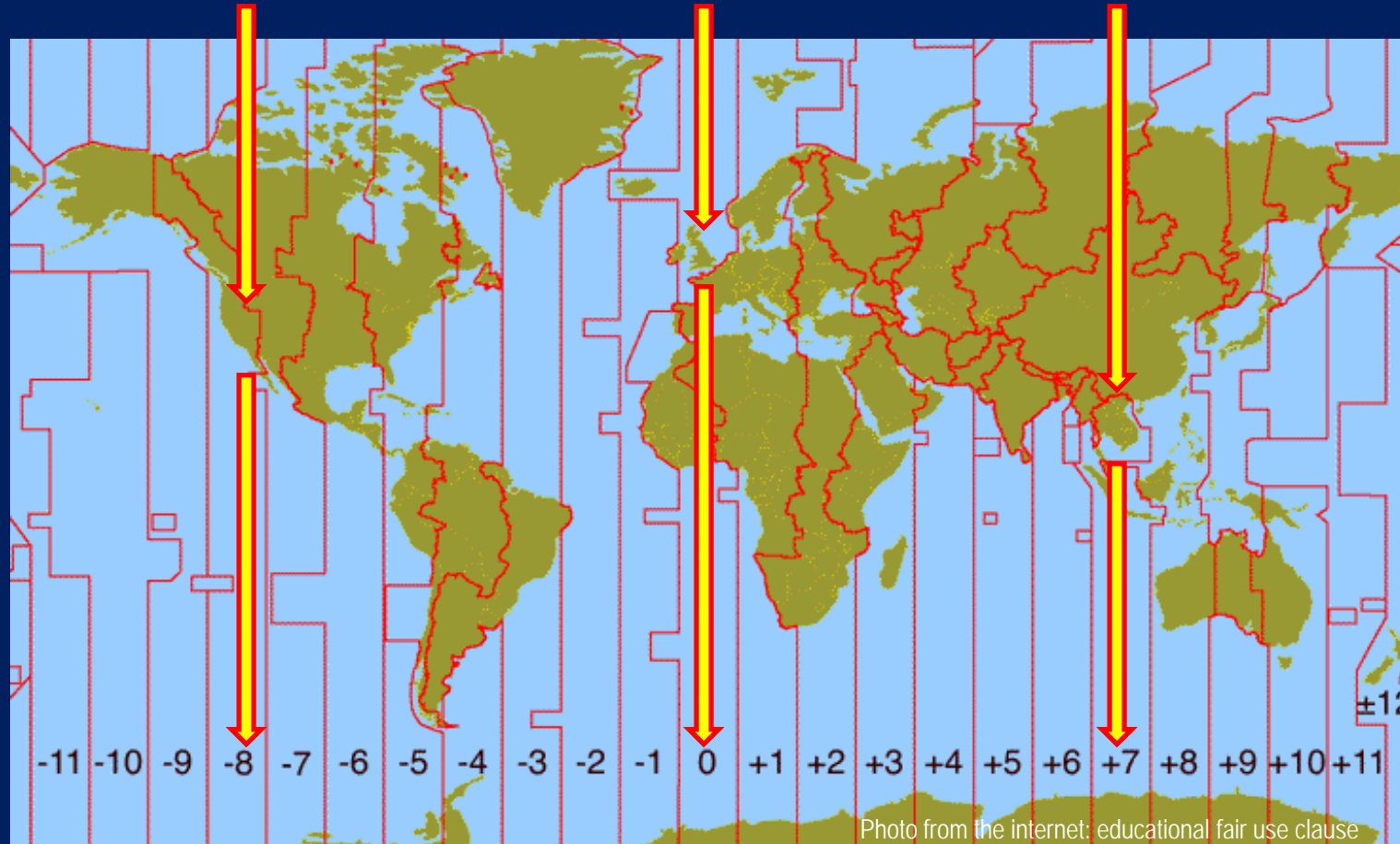


Photo from the internet: educational fair use clause

Thailand
does not
use
Daylight
Saving
Time



See the Time
footnotes
after the end
of this lesson

California is in the Pacific Time Zone (PST = UTC -8)

California is on Daylight Saving Time (PDT = UTC -7) when time changes at 0200 local time on the 2nd Sunday of March to the 1st Saturday of November.





Know your ITU Zone

You can use the ITU Zone map to find your station

LA is in
ITU Zone
6.

Thailand is
in ITU
Zone 49.



See the CQ
footnotes at
the end of
this lesson
for more
detailed ITU
zone maps

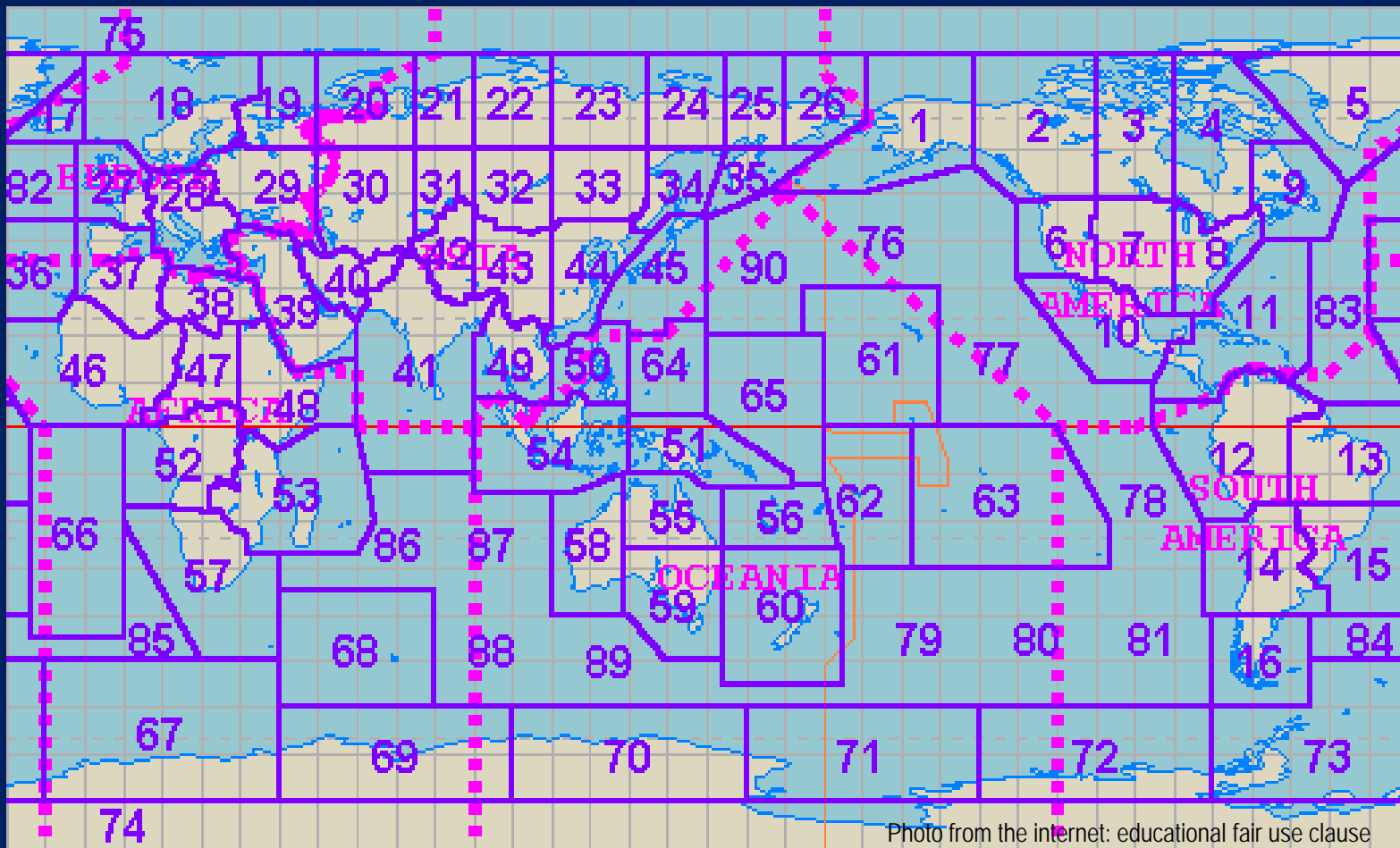


Photo from the internet: educational fair use clause

These zones are used to determine amateur radio contest awards.





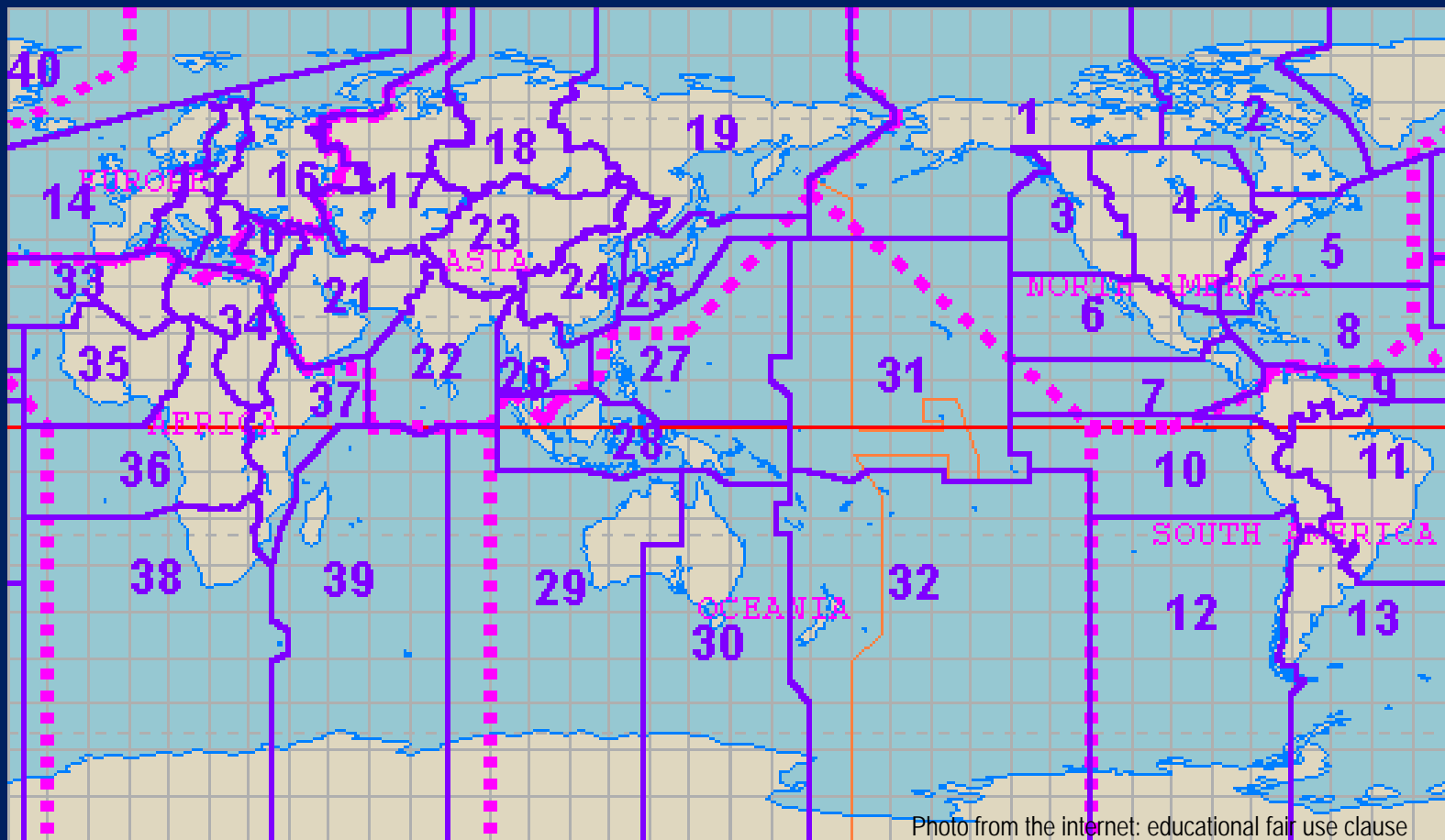
Know your CQ Zone

You can use the CQ Zone map to find your station

LA is in CQ
Zone 3.
Thailand is
in CQ
Zone 26.



See the CQ
footnotes at
the end of
this lesson
for more
detailed CQ
zone maps



These zones are used to determine amateur radio contest awards and tend to be more widely used than the ITU zones.





Know your Maidenhead Coordinates

Find your station using <http://f6fvy.free.fr/qthLocator/fullScreen.php>

This will give you Lat / Long / and your Maidenhead coordinates.

Point the
cursor at
your
location
and
“click” to
get the
results

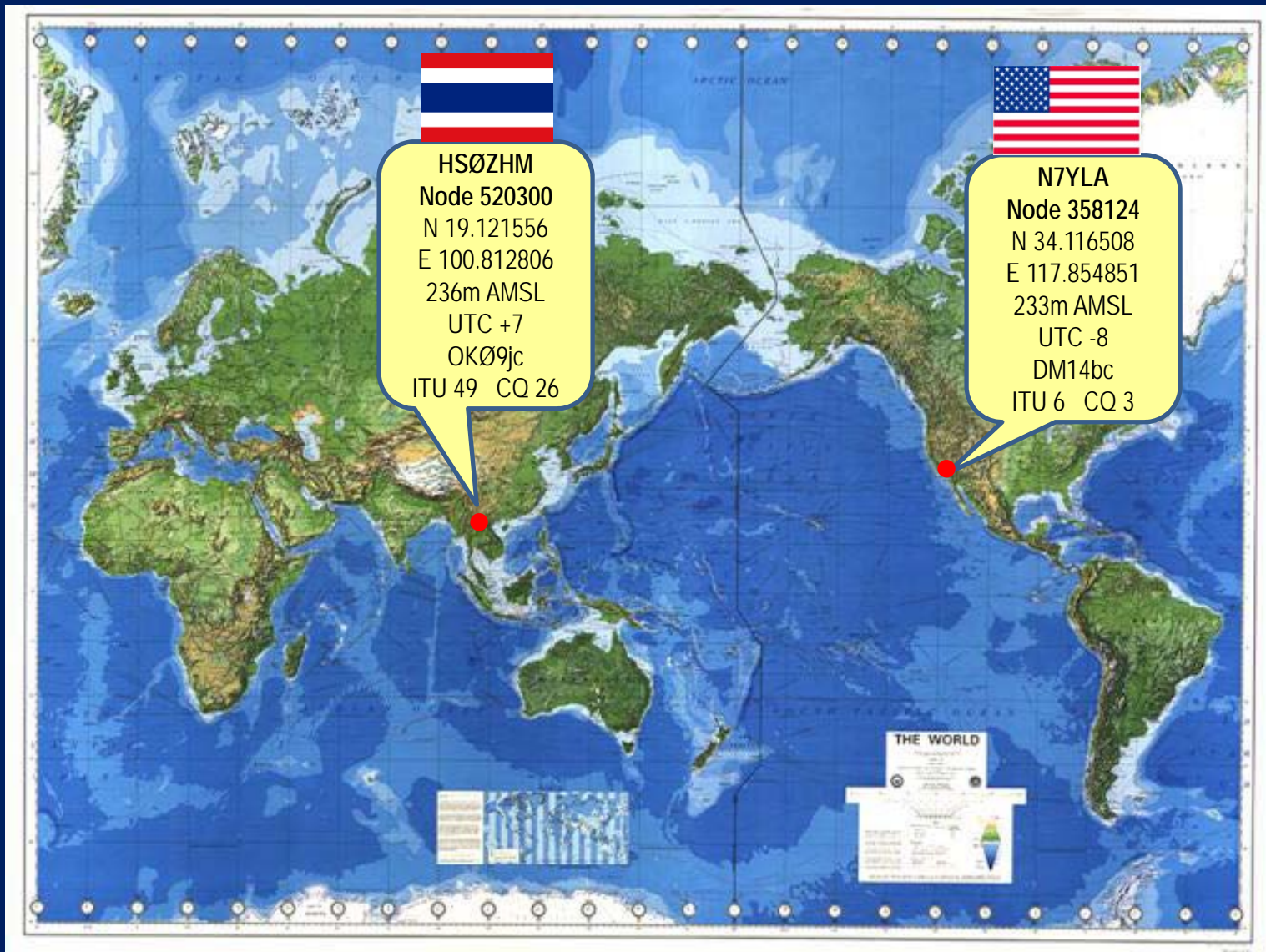




Station Location Summary

Our QTHs

Here are the locations for the RTC-TH and GERC



Preparing to get on the air

Know how to speak properly on the air

Generally:

- Write out your call sign normally AND in ITU alphabet
- Speak slowly and clearly (not everyone on the air is fluent in English).
- Avoid jargon and abbreviations. Just use plain, simple English.
- Be careful and courteous. Everything you say can be heard by anyone else on the same frequency.

There are no private conversations on the air.

- Hold the mic about 2.5 cm / 1 inch from your mouth.
Key the mic (press down and hold the PTT---Push-to-Talk button) for 1-2 seconds BEFORE speaking. Release it when you are done talking.



Preparing to get on the air

Generally, there are 3 ways to start a call:

- You make a call to a specific station or make a call for any station to answer you.
- You answer a call from another station
- You call at the end of a conversation to one of the Hams that just finished talking.

Spend a lot of time just listening to what others say on the air and how they say it. Good examples have good clear pronunciation, are courteous, and are easy to understand. Follow the good examples when you speak on the air. The GERC Net is a friendly place to get some on-air practice where folks are willing to help you.





A Simplex Call

VHF radio to **VHF radio** on the **same frequency**

Tune in to a frequency and listen to hear if it is being used. If so, tune to another frequency or wait until the stations finish and get off the air.

If the frequency is clear and you want to call your friend

- you need to know their call sign
- they need to be tuned to the same simplex frequency
- you key the mic and say “[your call sign] for [their call sign]”



HSØZHM for
N7YLA.

HSØZHM this
is N7YLA.
How are you,
Greg? Over



If they don't answer right away, pause, then repeat your call a few times. If you get no response, don't forget to sign off (“HSØZHM, clear.”) so others know you are done and have a chance to use the frequency.





A Simplex Call

VHF radio to VHF radio on the **same frequency**

If the frequency is clear and you are willing to talk with anyone who wants to respond to you, then you say...

- “[your call sign] , monitoring”
- Other stations on the air hearing your call could call back to you if they want to talk with you.



HSØZHM
monitoring

HSØZHM this is
KG6TQT. How
are things going?
Over



KG6TQV is
busy cooking



N7YLA is
busy typing





A Simplex Call

VHF radio to VHF radio on
the **same frequency**

If the frequency is busy, you can wait to talk with one of the people when they are done. Just get their call sign, and call for them



HSØZHM, I'll be
clear on your
final, Jim.



KG6TQV is
busy cooking

Nice talking with you
Greg. This is
KG6TQT monitoring



KG6TQT to
KG6MPX.
When did
you get back
into town?
Over

KG6MXP for
KG6TQT,
hello Jim!



KG6MXP
waits to talk
with KG6TQT



The GERC Net is a Simplex Call

VHF radio to VHF radio on
the same frequency

The GERC Net is a directed net that meets on every Tuesday evening 2030 hrs local Pacific Time (except for the 3rd Tuesday of each month). All are welcomed to participate.

A directed net means there is a “moderator” in charge of communications. Participating stations “talk” when permitted by the moderator or Net Control. Hi, I’m Mark, N7YLA, and I am usually Net Control for the GERC Net.



Mark, N7YLA
GERC Net Control





The GERC Net: An Overview

VHF radio to VHF radio
on the same frequency

- About 2025 hrs Net Control announces the Net will be held at 2030 hrs, so anyone knows the frequency will be busy.
- At 2030 hrs the Net begins with a general statement about the Net and how it is run.
- Next order of business are bulletins from Net Control



Mark, N7YLA
GERC Net Control





The GERC Net: An Overview

VHF radio to VHF radio
on the same frequency

- Net Control then asks for anyone with other bulletins.



Jim, KG6TQT

This is KG6TQT, I
have a bulletin for
the Net. Over.

Go ahead,
KG6TQT,
over.



Mark, N7YLA
GERC Net Control

I wanted to remind everyone that sign ups
for the Technician class will close this
Wednesday. There are only 2 seats left.
This is KG6TQT back to N7YLA.





The GERC Net: An Overview

VHF radio to VHF radio
on the same frequency

- Net Control then begins the roll call of past Net participants.



Mark, N7YLA
GERC Net Control

KG6TRD,
Richard?.

KI6TRH,
Cliff?

KG6MXP,
Rich?

KG6TQT,
Jim?

KG6TRD,
good evening
to the Net.



KG6MXP,
hello
everyone.



KG6TQT,
good evening
everyone.





The GERC Net: An Overview

VHF radio to VHF radio
on the same frequency

- At the end of the roll call Net Control asks for missed names or late check-ins.



Mark, N7YLA
GERC Net Control

OK Tom,
KI6YCC. Glad
you could make
it.

KI6YCC, sorry
I'm late, hello to
the Net.



KG6VBM to N7YLA.
I'm mobile but stuck in
traffic

Oh KG6VBM,
sorry to hear
that Jim.





The GERC Net: An Overview

VHF radio to VHF radio
on the same frequency

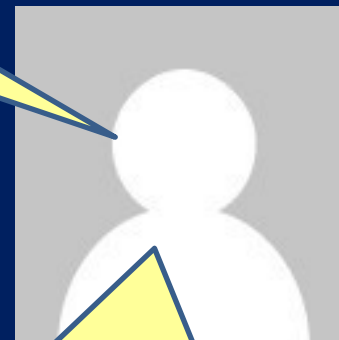
- Then Net Control asks for any visitors.



Mark, N7YLA
GERC Net Control

This is KI6NQG calling
N7YLA

Station calling N7YLA
please spell your call.



This is Kilo India Six November
Queen Golf, Kilo India Six
November Queen Golf, calling
N7YLA. My name is Dennis, Over.

KI6NQG, Dennis.
Thank you. Welcome
to the GERC Net.





The GERC Net: An Overview

VHF radio to VHF radio
on the same frequency

When the roll is completed, Net Control announces the start of the roundtable and begins at the top of the roll call list.



Mark, N7YLA
GERC Net Control

KG6TRD, Richard, do
you have anything for
the Net tonight?

KG6MXP,
Rich?

Go ahead.



KG6TRD. I have nothing for the
Net. Back to you, Over.

KG6MXP, I had
a question for
Jim.





The GERC Net: An Overview

VHF radio to VHF radio
on the same frequency

The roundtable continues as long as
people interact.



Mark, N7YLA
GERC Net Control

Jim, do you need help
setting up for the class
this Friday?



Yes, Rich,
the more
help the
better.



OK, I'll be there.
Back to Net Control.

KI6YCC, Tom?





The GERC Net: An Overview

VHF radio to VHF radio
on the same frequency

After Net Control has given each person a chance to speak, he calls for any last comments. Hearing none, he closes the roundtable, then the net and signs off.



Mark, N7YLA
GERC Net Control

This is N7YLA,
clear.

KG6TRD,
clear.



KI6YCC, out.



KG6TQT,
monitoring



Getting on the air without a radio

It may surprise you, but once you have your license, you do NOT need to have a radio to “get on the air.”

- You can join an amateur radio club
- Use a friend's radio
- Get the free EchoLink® software



Join an amateur radio club

Amateur radio clubs are a good “incubator” for new Hams.



Photos from the internet: educational fair use clause

You can meet and make new Ham friends, try different equipment, learn more about amateur radio, operating, antennas, and more.

Go to www.arrl.org/clubs/search to find an amateur radio club near you.



Use a friend's radio

Do what “Mom” said to do...learn to share!



Photos from the internet: educational fair use clause

During the GERC class, you met other Hams who may “Elmer” you and invite you to their “shack”.



Get & use EchoLink® for free!

This is a free program for licensed amateur radio operators to use VoIP (Voice over Internet Protocol). The program can be used:

- computer to computer
- computer to radio
- computer to radio to computer
- radio to computer to radio
- radio to computer to radio to computer



Jim, KG6TQT uses
EchoMac on a
wireless notebook



Some of you talked with me on EchoLink®, so you know the sound quality is great from more than 7960+miles away! Go to www.echolink.org to download the free software.



For More Information Contact



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Mark, N7YLA
n7yla@arri.net

For other lessons in the series visit
www.neighborhoodlink.com/org/rtcth
www.neighborhoodlink.com/org/gerc



Community-based Education for the Amateur Radio and Emergency Communications



The End

(of this lesson; the beginning of more amateur radio adventures)



Continue past this slide to see assorted footnotes of more details of some of the topics in the lesson.



Thai Amateur Licenses

I need 3 different types of licenses to operate in Thailand.

Amateur radio operators in Thailand need 3 different licenses:

- An operator's license
- A station license (1 for each place you will operate from; mobile stations are a separate license)
- An equipment license (1 for every radio you have)



Many Thai amateurs have a valid operator license but cannot afford equipment so cannot get a station license (unless they borrow licensed equipment from a friend). They often operate from a radio club station or a friend's station.

You must have a valid operator license AND a valid equipment license in order to get a station license. You cannot operate your radio without a station license.



Tag number on radio must match equipment license. Must have a valid operator license to buy a radio.

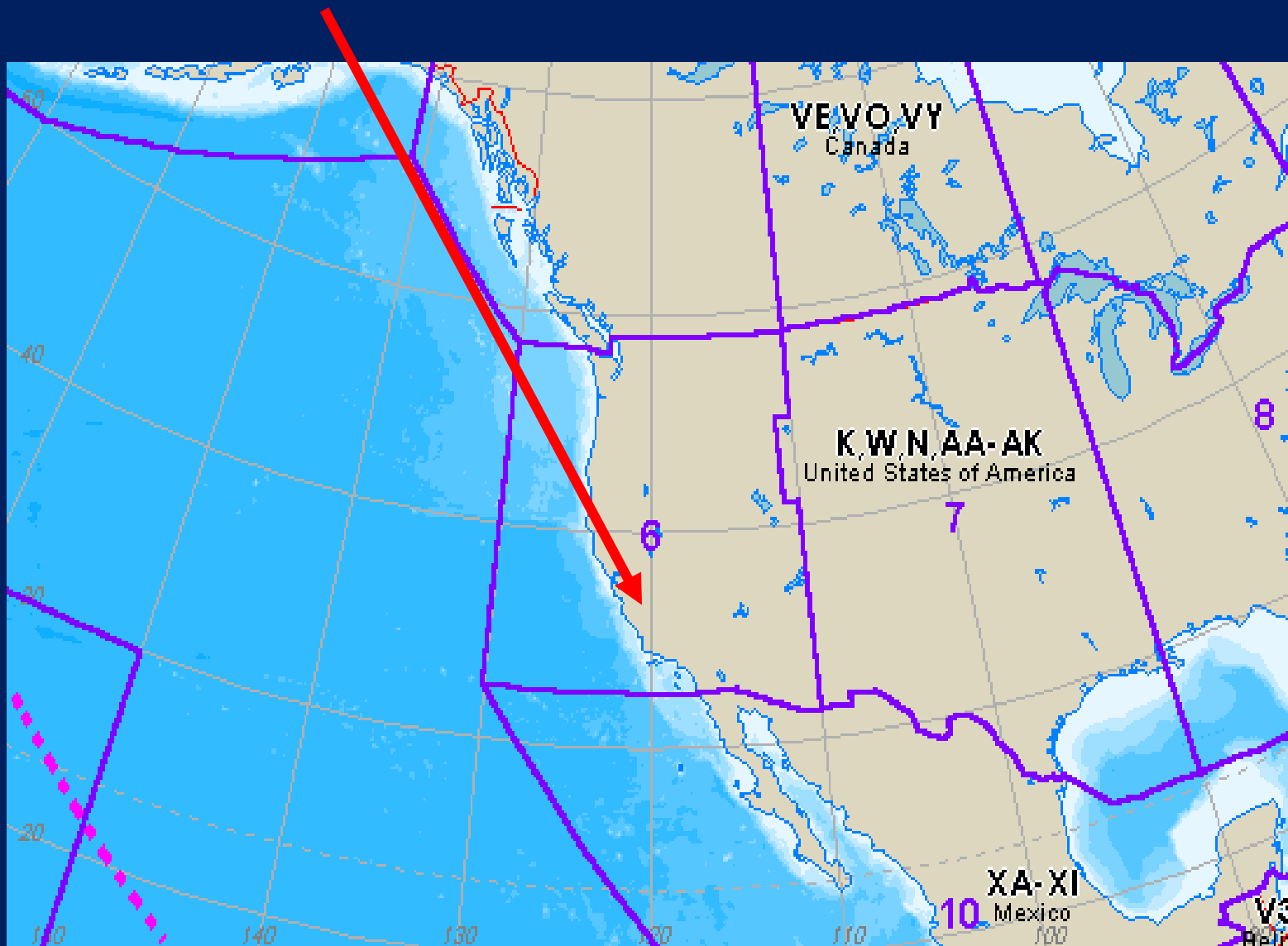


Close up of ITU Zone 6

Source:

<http://www4.plala.or.jp/nomrax/ITU/index.html>

Southern California is in ITU Zone 6



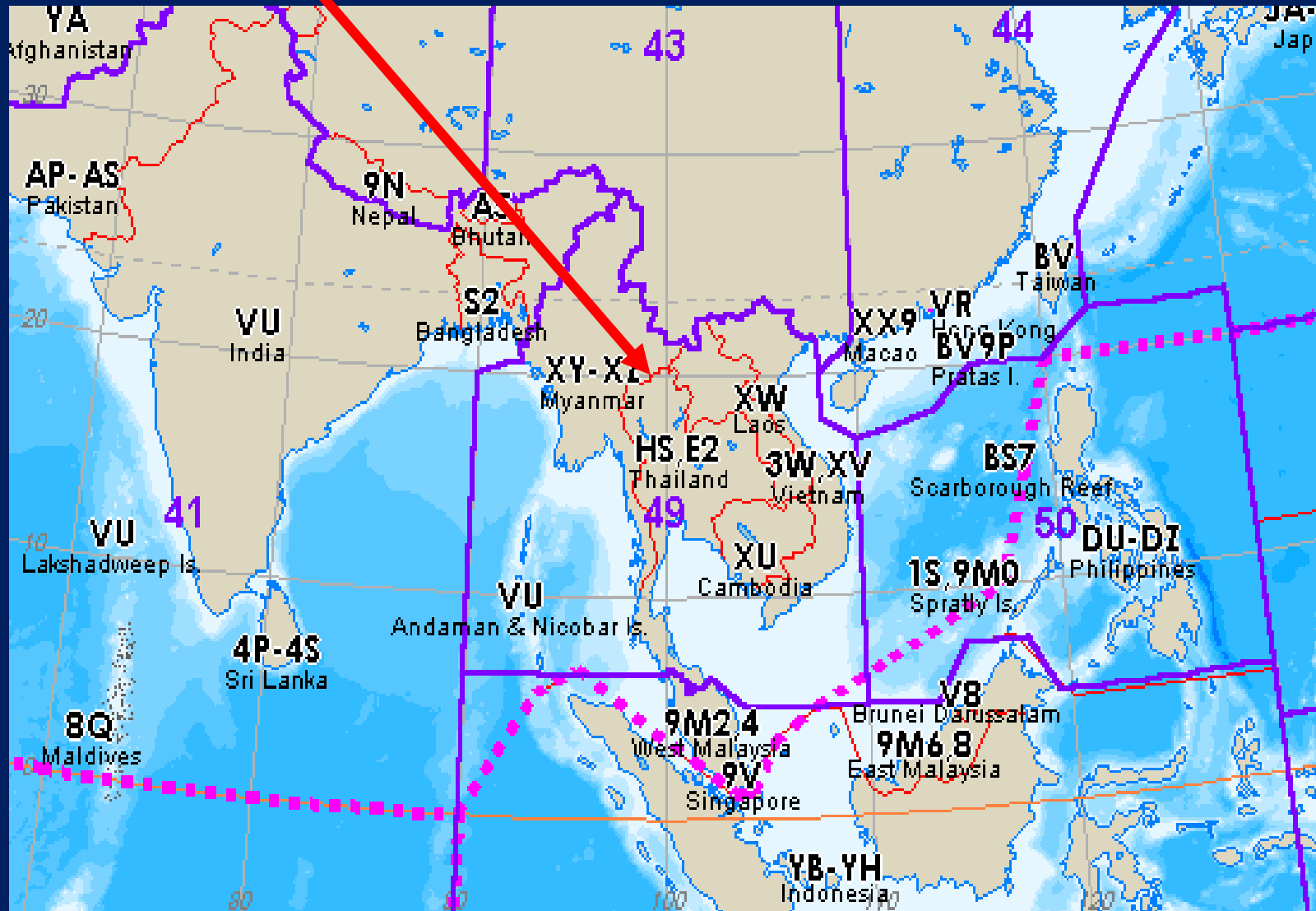


Close up of ITU Zone 49

Source:

<http://www4.plala.or.jp/nomrax/ITU/index.html>

Thailand is in ITU Zone 49





Close up of CQ Zone 3

Source:

<http://www4.plala.or.jp/nomrax/CQ/index.html>

Southern California is in CQ Zone 3



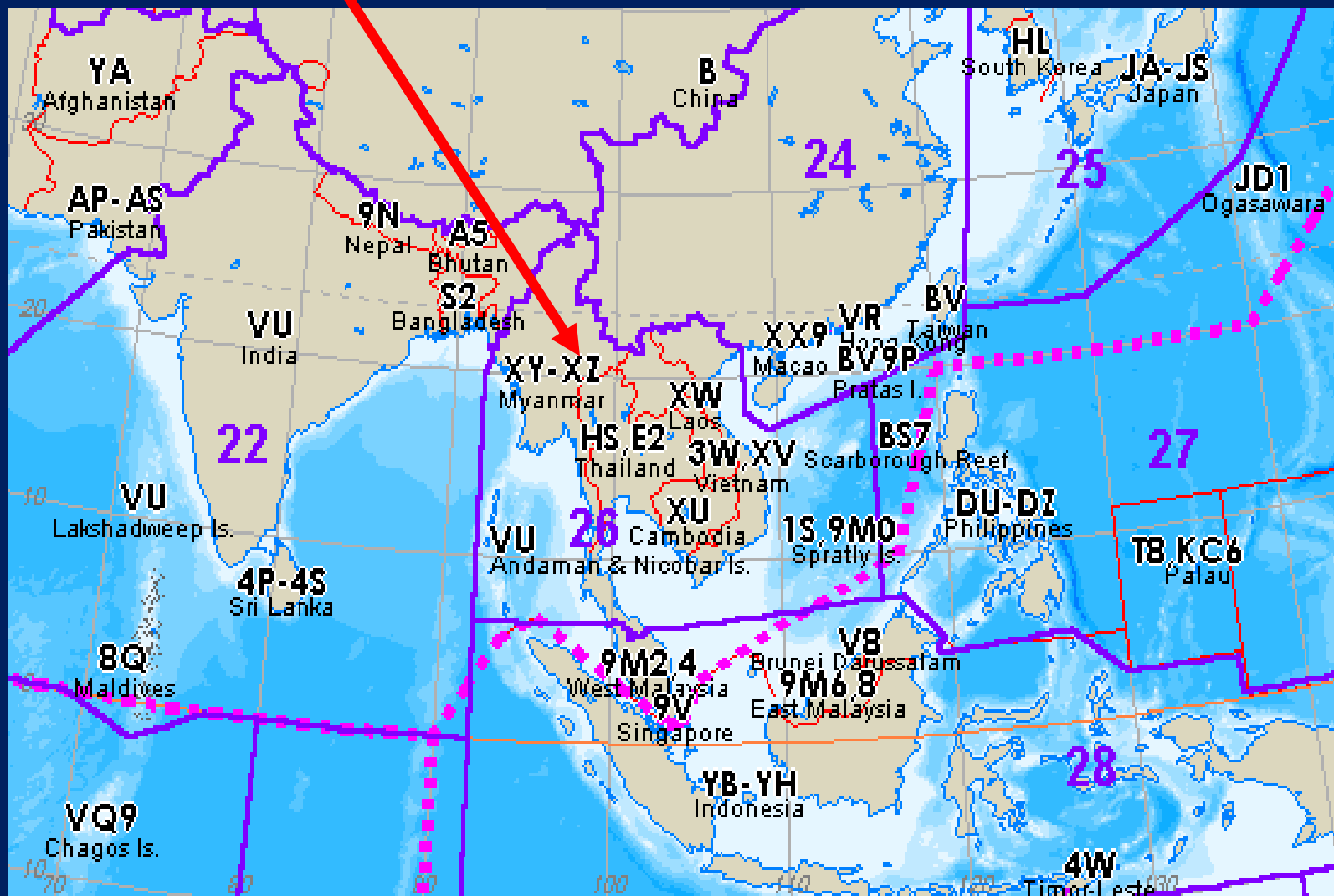


Close up of CQ Zone 26

Source:

<http://www4.plala.or.jp/nomrax/CQ/index.html>

Thailand is in CQ Zone 26





Time Zone Footnotes

UTC

UTC = Coordinated Universal Time which used to be called Greenwich Mean Time (GMT). UTC is based on the time at the Zero Meridian, Royal Observatory, Greenwich, England. It is also called "Zulu Time" denoted by "Z" in some radio logs.



Photo from the internet; educational fair use clause

The Primer Meridian is here. It starts the numbering of Longitude East and West of the "zero" meridian. A British "amateur scientist" named John Harrison invented a mechanical "marine chronometer" (a clock for use on ships) determining longitude by time rather than astronomical measurements. His principles are used for our modern GPS units.

Initially people would report date/time using their own local time. A receiving station in another time zone must then convert the date/time to their local time. For international work across different time zones, the use of UTC dates/times means everyone is using the same date/time to avoid confusion. This is particularly useful in coordinating international relief efforts.





Time Zone Footnotes

For Los Angeles, CA

There are many time conversion websites such as www.timeticker.com

You can get the UTC / GMT hour offset and check the date for a location

The screenshot shows the TimeTicker website in a Mozilla Firefox browser. The page features a world map with a red vertical line indicating the Pacific U.S.A. time zone. A digital clock displays the local time as 04:24:21 p.m. on 05-02-2011. Below the clock, there are buttons for 'Mute ticking', 'Set Computer-Time', 'Refresh Time', 'Announcing Time', 'About Time', and 'My Time'. To the right of the clock, a list of countries in the Pacific U.S.A. time zone is shown, including Canada / Pacific Canada, Mexico / Central/West Mexico, and USA / Pacific USA. A red circle on the map indicates the GMT offset of -08:00. A complete list of countries is also provided on the right side of the page.

TimeTicker and the time tickers... - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Gmail - ham licenses - geog2k1@gmail.com x utc defined - Google Search x TimeTicker and the time tickers... x +

http://timeticker.com/

Most Visited Getting Started Latest Headlines Yahoo! Mail: The best ... Live NASA TV feed Thai Meteorological D... Google Translate Google

Like 1239 likes, Sign Up to see what your friends like.

TICKER TIME TICKER

Get TimeTicker on iPod and iPhone! Available on the App Store

Exact local time at:
PACIFIC U.S.A.

time: 04:24:21 p.m.
date: 05-02-2011 Mo

Mute ticking Set Computer-Time
Refresh Time Announcing Time
About Time My Time

Countries in this timezone:
Canada / Pacific Canada *
Mexico / Central/West Mexico *
USA / Pacific USA *

Complete list of countries:
U.S.A. / Indiana East *
U.S.A. / Central U.S.A. *
U.S.A. / Mountain U.S.A. *
U.S.A. / Arizona
U.S.A. / Pacific U.S.A. *

GMT -08:00

TimeTicker is created by Martin Zwernemann (www.zwernemann.com)

Yahoo! Messenger TimeTicker and the tim... Downloads EchoLink - HS0ZHM-L rtctt gerc lesson pics 2 Photo from the internet: educational fair use clause

06:24 AM

In LA, when you get a report with UTC, -8 hrs and you get local time.





Time Zone Footnotes

For Thailand

There are many time conversion websites such as www.timeticker.com

You can get the UTC / GMT hour offset and check the date for a location

TimeTicker and the time tickers... - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Gmail - ham licenses - geog2k1@gmail.com x utc defined - Google Search x TimeTicker and the time tickers... x +

http://timeticker.com/

Most Visited Getting Started Latest Headlines Yahoo! Mail: The best ... Live NASA TV feed Thai Meteorological D... Google Translate Google

Like 1239 likes, Sign Up to see what your friends like.

Get TimeTicker on iPod and iPhone! Available on the App Store

Exact local time at:
BANGKOK

time: 06:25:44 a.m.
date: 05-03-2011 Tu

Mute ticking Set Comparison Time
Refresh Time Announcing Time
About Time My Time

Countries in this timezone:
Indonesia / Sumatra
Laos / Vientiane
Mongolia / West Mongolia
Russia / Krasnoyarsk*
Thailand / Bangkok

Complete list of countries:
Thailand / Bangkok
Togo / Lome
Trinidad and Tobago / Port of Spain
Tunisia / Tunis
Turkey / Istanbul*

TimeTicker is created by Martin Zwernemann (www.zwernemann.com)

Windows taskbar: Yahoo! Messenger, TimeTicker and the tim..., Downloads, EchoLink - HS0ZHM-L, rtch gerc lesson pics 2, Photo from the internet: educational fair use clause

In Thailand, when you get a report with UTC, +7 hrs to get local time.





Time Zone Footnotes

24-hour format

avoids confusion with AM / PM. It is not really “military time” as many people in the world use it who are not in the military.

12-hr form	24-hr form	12-hr form	24-hr form
01:00 am	01:00	01:00 pm	13:00
02:00 am	02:00	02:00 pm	14:00
03:00 am	03:00	03:00 pm	15:00
04:00 am	04:00	04:00 pm	16:00
05:00 am	05:00	05:00 pm	17:00
06:00 am	06:00	06:00 pm	18:00
07:00 am	07:00	07:00 pm	19:00
08:00 am	08:00	08:00 pm	20:00
09:00 am	09:00	09:00 pm	21:00
10:00 am	10:00	10:00 pm	22:00
11:00 am	11:00	11:00 pm	23:00
12:00 pm	12:00	12:00 am	24:00 / 00:00



Using EchoLink® EchoLink® User to User

Starting a call from your computer to another user node using a computer is similar to simplex, but even more “simple” because it is only one computer to another computer. No other parties can hear the exchange.

Unless a node is designated with an “L” or an “R”, you assume it is a “User” with only a computer. But it is safer to follow proper call sign protocol.



HSØZHM, node 520300

Internet connection



KG6TQT, node 491388

Even though you are NOT transmitting over the air, continue the standard practice of giving your call sign at the start, every 10 minutes thereafter, and at the end of your contact (QSO).





Starting a call from your computer to a Link node is similar to simplex, but could involve more than one other receiving station via radio (such as the GERC Net)



HSØZHM, node 520300 is only by computer at this time

Internet connection



N7YLA, node 358124 has a simplex radio / computer link



KG6VBM joins the net by simplex mobile radio



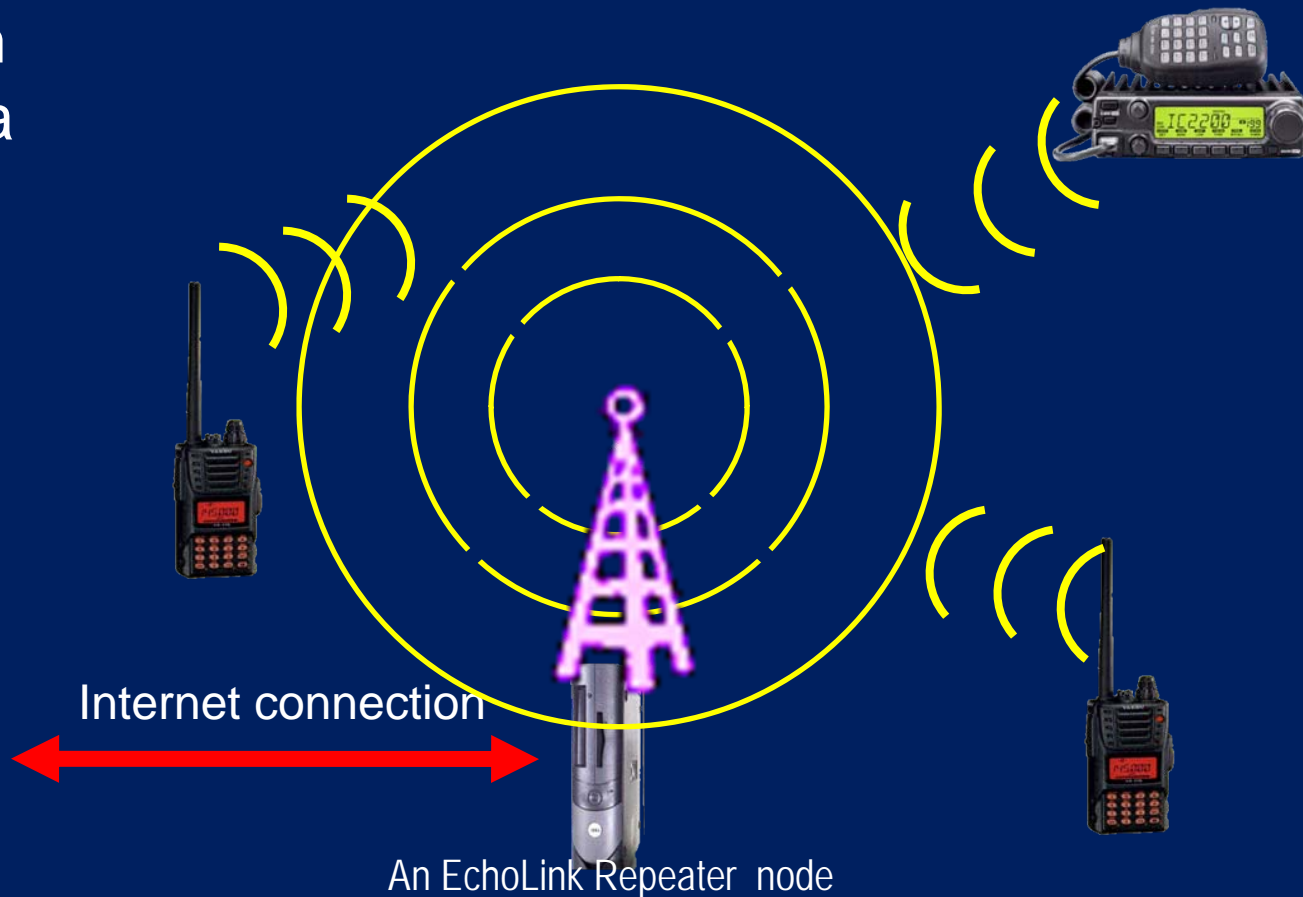
If you practice enough, you will automatically have the habit giving your call sign at the start, every 10 minutes thereafter, and at the end of your contact (QSO). You won't always know when EchoLink® could be transmitting on the air on the other end.



Making a call from your computer to a Repeater node is like calling a repeater via VHF.



HSØZHM, node 520300 is only by computer at this time



You are now transmitting over the air. Now you **MUST** give your call sign at the start, every 10 minutes thereafter, and at the end of your contact (QSO).





Preparing to get on the air VHF radio to Repeater

- Just as with simplex, listen first to make sure the frequency is clear.
- The differences are the frequency settings and a “time out” limit, so avoid overly long transmissions.

Check your radio manual to learn how to adjust the settings of your particular radio to work with the local repeater in your area.





Starting a call depends on what band you are on:

HF (High Frequency)

28.300-28.500

CW, Phone; max 200 w PEP

As a Technician class license holder, you can use the 10 m band to make Phone (voice) calls.

- Start by tuning to an allowed frequency and listen to make sure it is clear.
- If it is quiet, simply ask “Is anyone using this frequency?”
- If there is no reply, you may begin.



A general call to any station would be:
“CQ, CQ, CQ this is KG6TQT, KG6TQT Kilo Golf Six Tango Queen Tango standing by for a call.” Pause and listen for an reply. If none, repeat your call at least 3 times and wait after each call for a reply.





Preparing to get on the air

HF

Starting a call to a specific station

If you are calling a specific station, you must use their call sign.

N7YLA, N7YLA,
N7YLA from
KG6TQT, KG6TQT,
Kilo Golf Six Tango
Queen Tango.”
Pause and listen for
an reply. If none,
repeat your call at
least 3 times and wait
after each call for a
reply.

Diamond CP-6 multi-band
HF antenna & ICOM 718
HF transceiver



© 2011 RTC-TH / GERC.
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The antenna on the right is a VHF Isopole 144

Background photo by HS0ZHM

Community-based Education for the Amateur Radio and Emergency Communications



The End

As we say in radio, “Over”...
we didn’t say “Out”...so now it’s your turn!

For other lessons in the series visit
www.neighborhoodlink.com/org/rtcth
www.neighborhoodlink.com/org/gerc

