

Radio Merit Badge



Module 1

K2BSA



Req. 1.: What is Radio?



SLIDE 2 6

K2B5A



B



Req. 1.: What is Radio?

K2B3SA



B



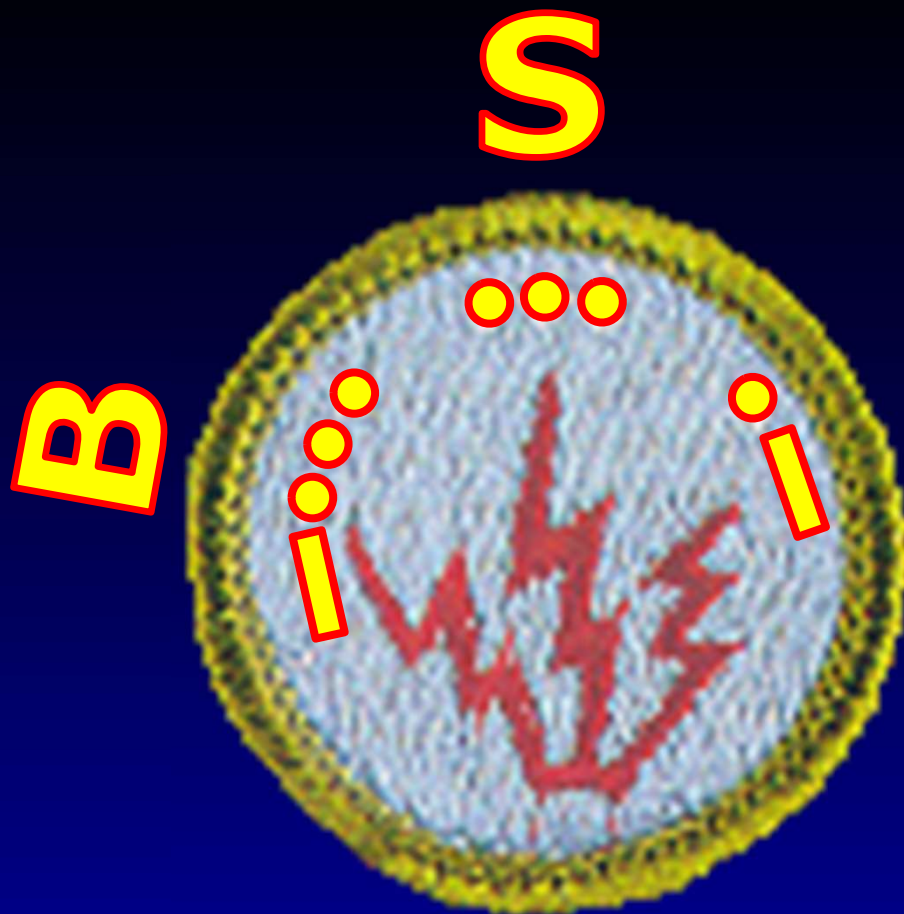
Req. 1.: What is Radio?

K2B5A



Req. 1.: What is Radio?

K2B5A



Req. 1.: What is Radio?

K2B5A



Req. 1.: What is Radio?

ASBSA
K2



What is Radio?

Req. 1.: What is Radio?

Radio?

**Communication system,
using electromagnetic waves**

Radio?

Communication system,
using electromagnetic waves

Wireless

Radio?

Req. 1.: What is Radio?



Radio?

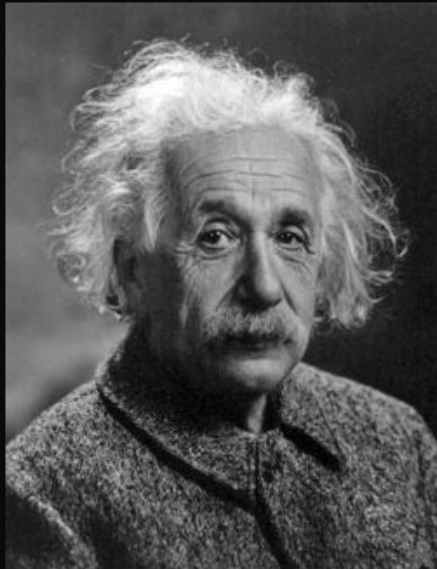
Communication system,
using electromagnetic waves

Wireless

"Off The Grid"

Radio?

Req. 1.: What is Radio?



The wireless telegraph is not difficult to understand. The ordinary telegraph is like a very long cat. You pull the tail in New York, and it meows in Los Angeles. The wireless is the same, only without the cat.

(Albert Einstein)



*Lot's of things
we use every day
could be considered
forms of radio...*



Req. 1.: What is Radio?



Req. 1.: What is Radio?



Req. 1.: What is Radio?





Req. 1.: What is Radio?





Req. 1.: What is Radio?



Req. 1.: What is Radio?

K2BSA



Req. 1.a.: Broadcast Radio

K2BSA



Req. 1.a.: Broadcast Radio



SLIDE 5 1

K2BSA



Req. 1.a.: Hobby Radio



Req. 1.a.: Hobby Radio



K2B5A



Req. 1.a.: Hobby Radio



SLIDE 6 3

K2B5A



Req. 1.a.: Hobby Radio

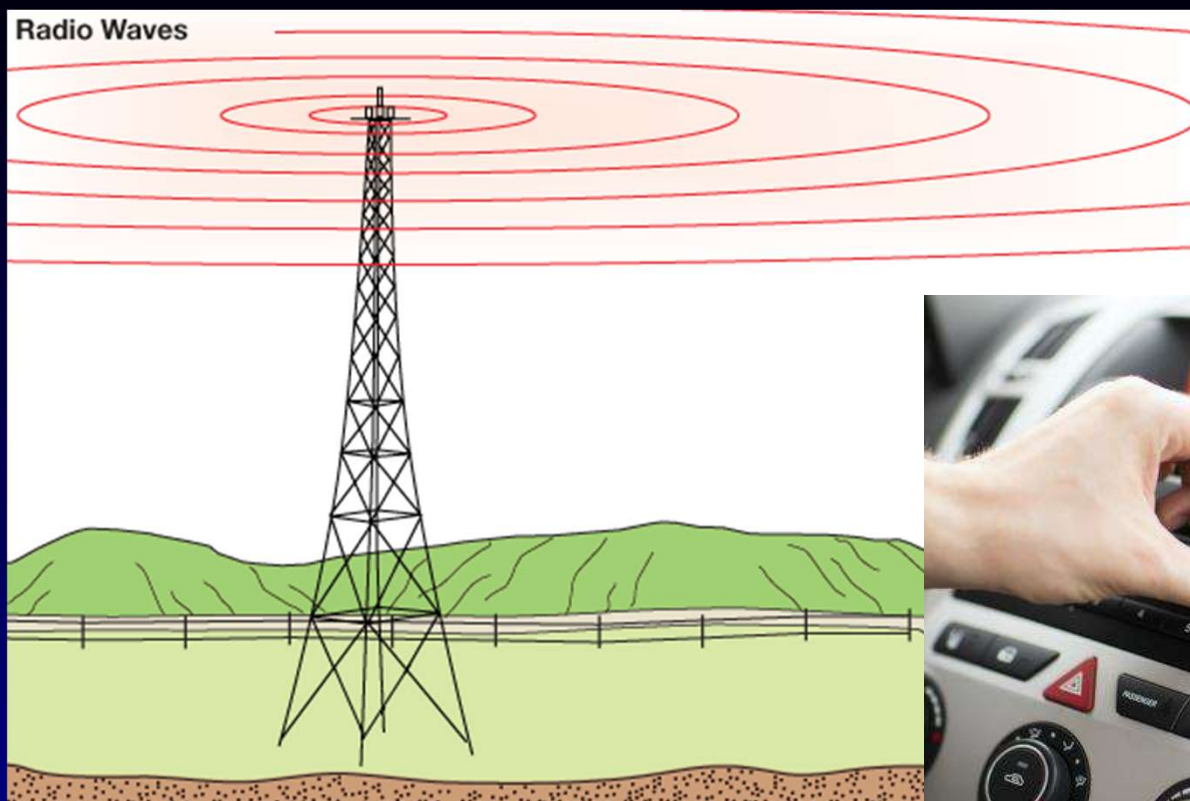


SLIDE 6 2

Req. 1.a.: Hobby Radio



Req. 1.b.: Broadcasting vs. Two-Way Radio





Req. 1.b.: Broadcasting vs. Two-Way Radio



K2BSA



Req. 1.b.: Broadcasting vs. Two-Way Radio



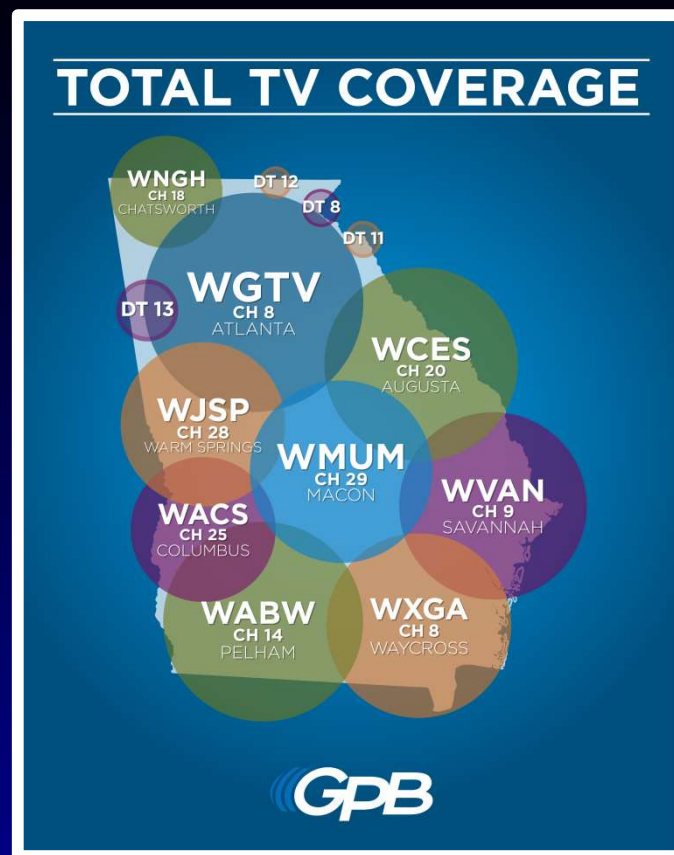
SLIDE 7 1

K2B5A

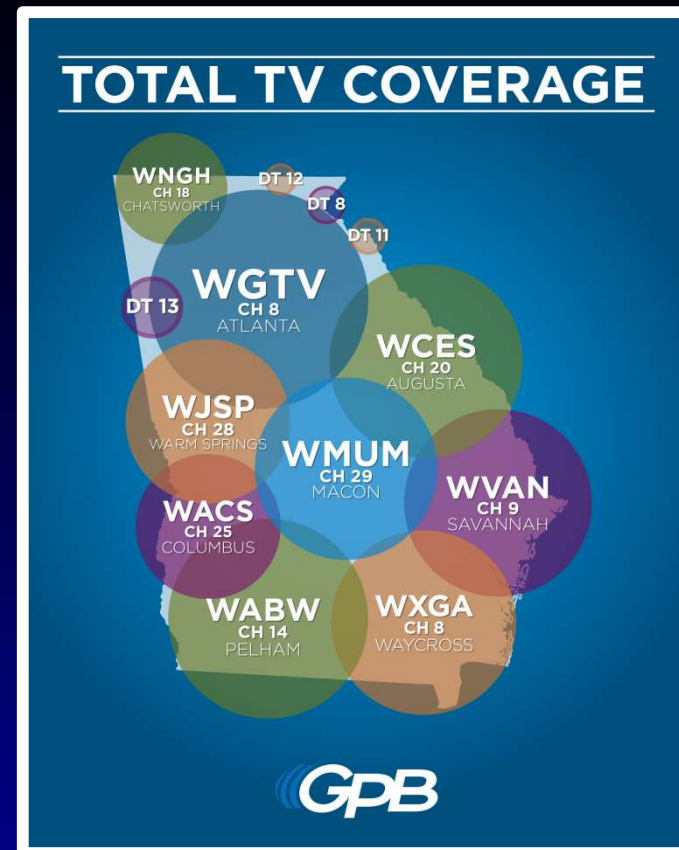


Call Signs

Req. 1.c.: Call Signs



Req. 1.c.: Call Signs



K2B5A



K2GW
AD4UM
N7QR
WB8AXP

K2B5A



K2GW
AD4UM
N7QR
WB8AXP

AA - AL
K
KA - KZ
N
NA - NZ
W
WA - WZ

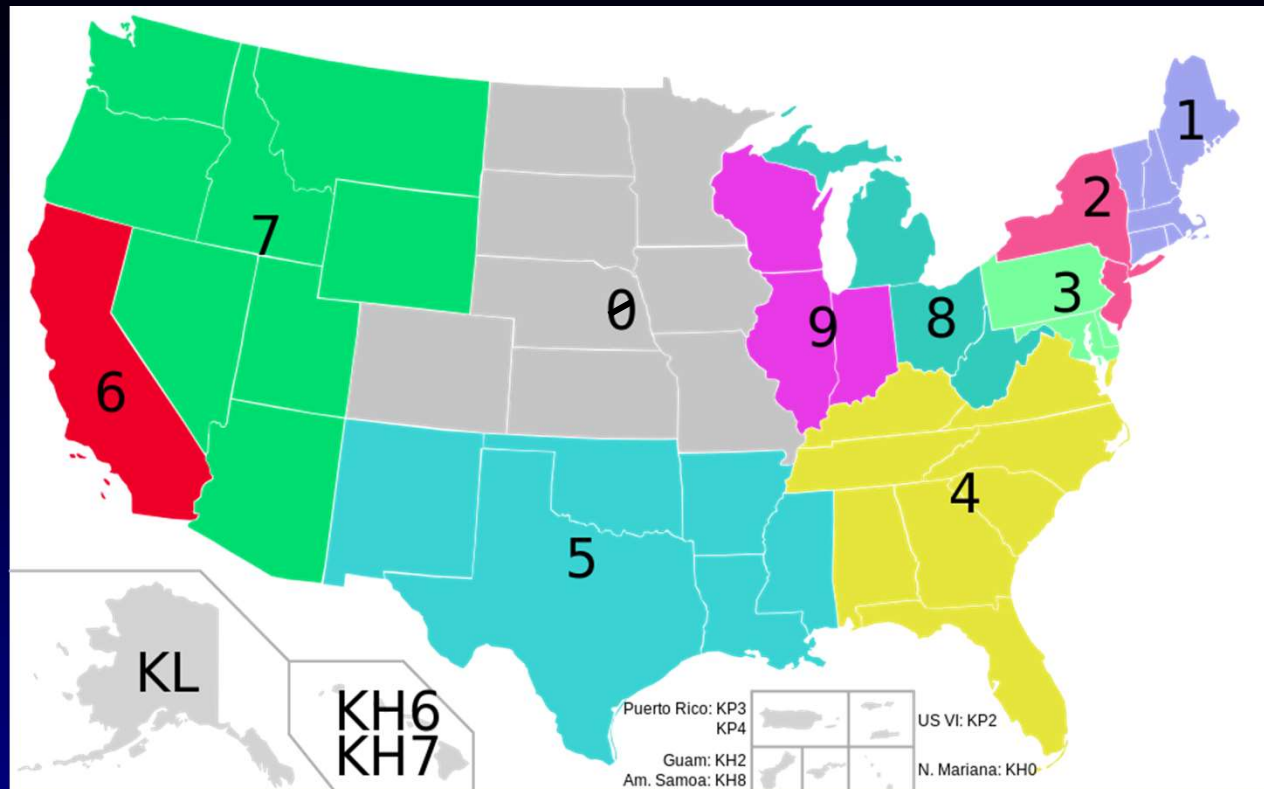
K2B5A



K2GW
AD4UM
N7QR
WB8AXP

0 - 9

Req. 1.c.: Call Signs



K2BSA



Req. 1.c.: Call Signs

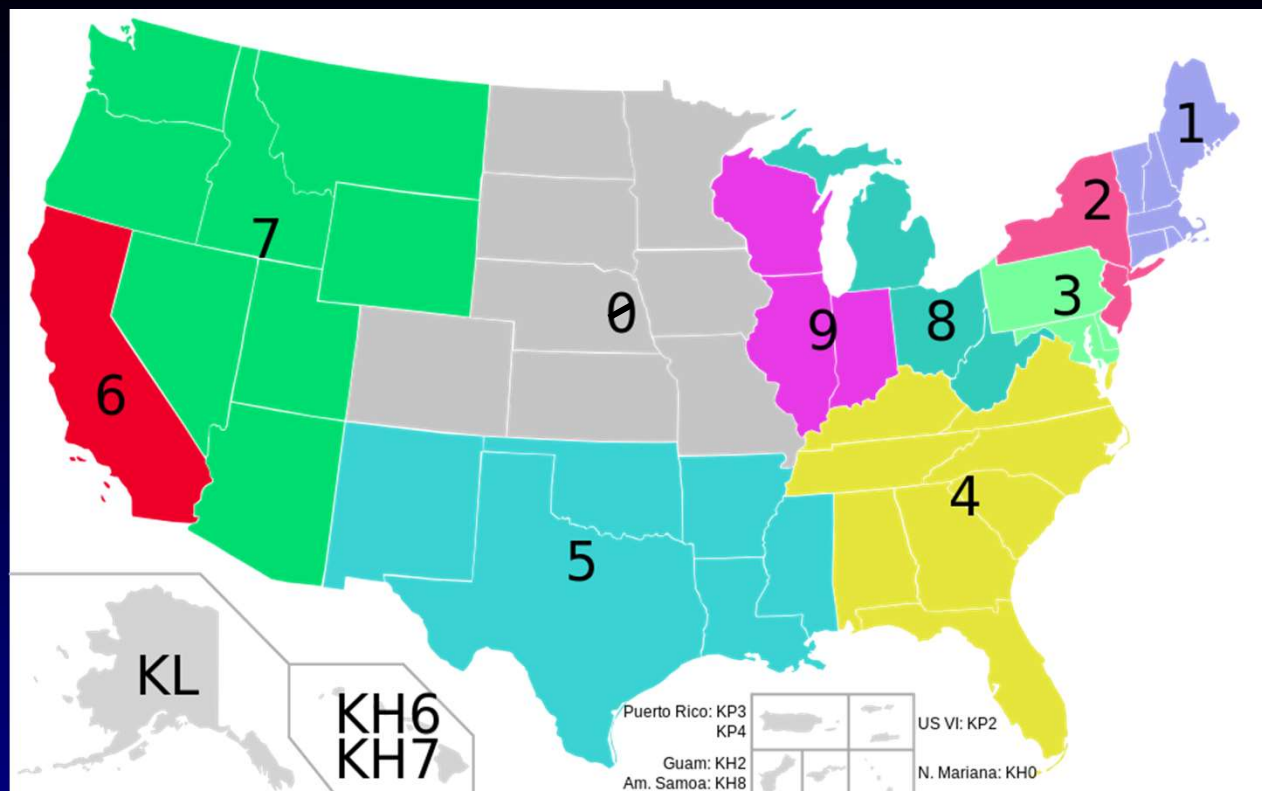


SLIDE 10 2

K2BSA

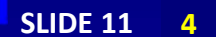


Req. 1.c.: Call Signs



Create Your Own Imaginary Call Sign!

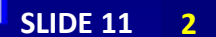
The logo for Scouting's Adventure 2017 National Jamboree is a circular emblem. It features a silhouette of a person rappelling down a rope. The text "LIVE SCOUTING'S ADVENTURE" is arched across the top, and "2017 NATIONAL JAMBOREE" is arched across the bottom. A Scout emblem is on the left, and an American flag is at the bottom.



The logo for Scouting's Adventure 2017 National Jamboree is a circular emblem. It features a silhouette of a person rappelling down a rope. The text "LIVE SCOUTING'S ADVENTURE" is arched across the top, and "2017 NATIONAL JAMBOREE" is arched across the bottom. A Scoutmaster's fleur-de-lis is on the left, and an American flag is at the bottom.

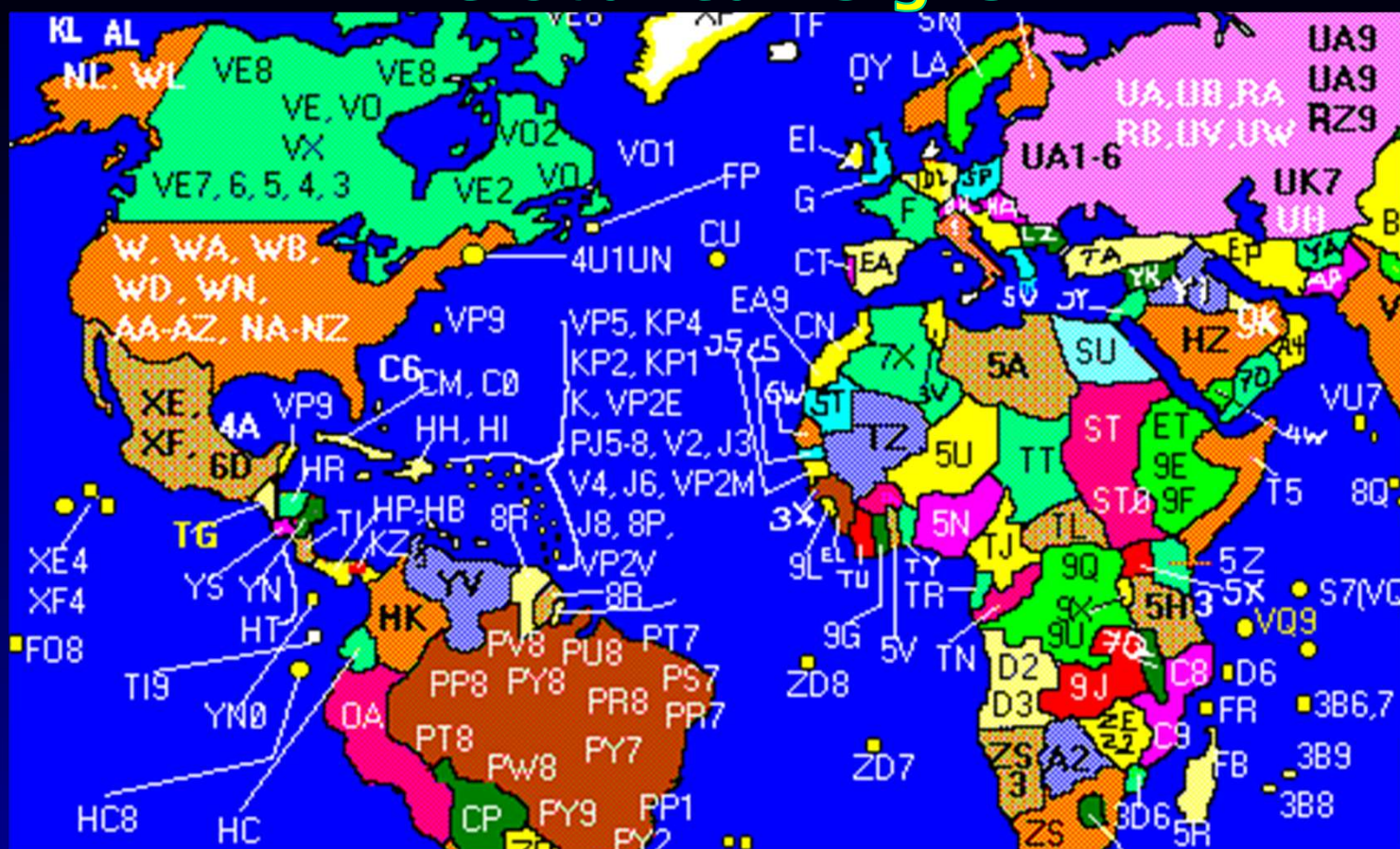


The logo for Scouting's Adventure 2017 National Jamboree is circular. It features a silhouette of a person climbing a rope, a fleur-de-lis with a star, and the year '2017' in large yellow numbers. The text 'LIVE SCOUTING'S ADVENTURE' is at the top and 'NATIONAL JAMBOREE' is at the bottom, separated by a stylized American flag graphic.



Global Call Signs

Req. 1.c.: Call Signs



Phonetic Alphabet



Req. 1.d.: Phonetic Alphabet

B C D E G
P T V Z

ASBSA
K2



Req. 1.d.: Phonetic Alphabet

B C D E G
P T V Z

Phil

Bill

ASB
K2





Req. 1.d.: Phonetic Alphabet

Alfa

Bravo

Charlie

Delta

Echo

Foxtrot

Golf

Hotel

India

Juliet

Kilo

Lima

Mike

November

Oscar

Papa

Quebec

Romeo

Sierra

Tango

Uniform

Victor

Whiskey

X-ray

Yankee

Zulu



How Radio Waves Carry Information

Req. 4.: How Radio Waves Carry Information



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Req. 4.: How Radio Waves Carry Information

KSBSA
K2



ANTENNA



Req. 4.: How Radio Waves Carry Information



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Our Wireless System

ASB
K2



Req. 4.: How Radio Waves Carry Information



**Radio
Transmitter**



**Radio
Receiver**

K2B5A



Req. 4.: How Radio Waves Carry Information

K2B5A



Radio
Transmitter

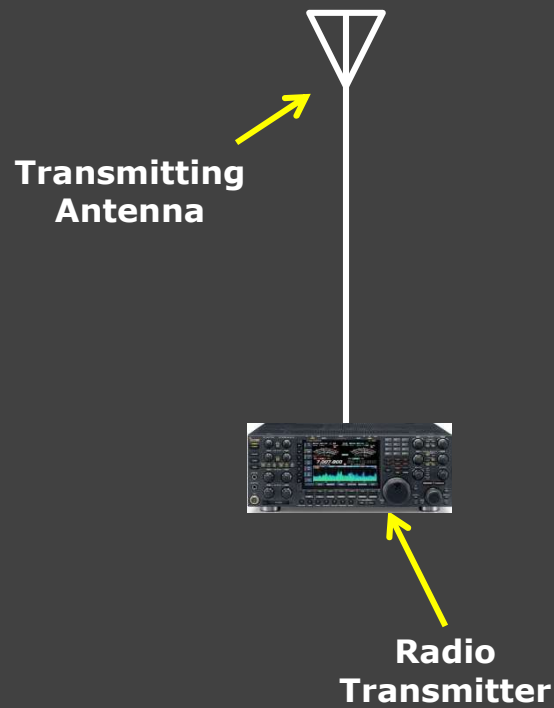
United States



Radio
Receiver

Europe

Req. 4.: How Radio Waves Carry Information



United States

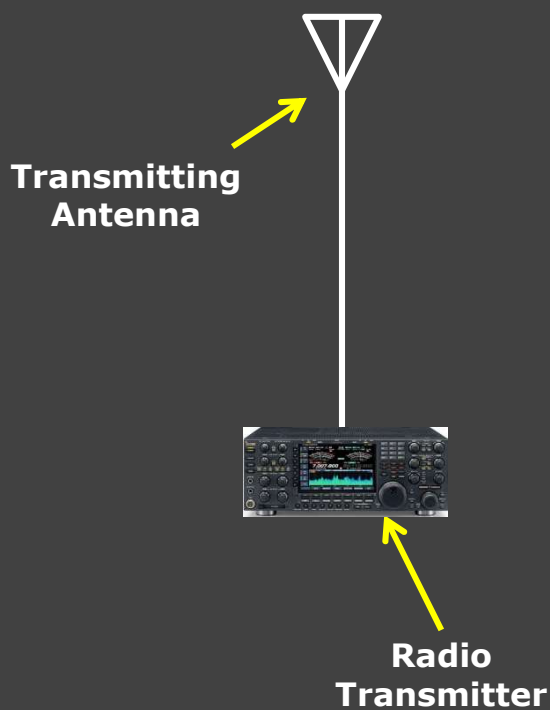


Europe

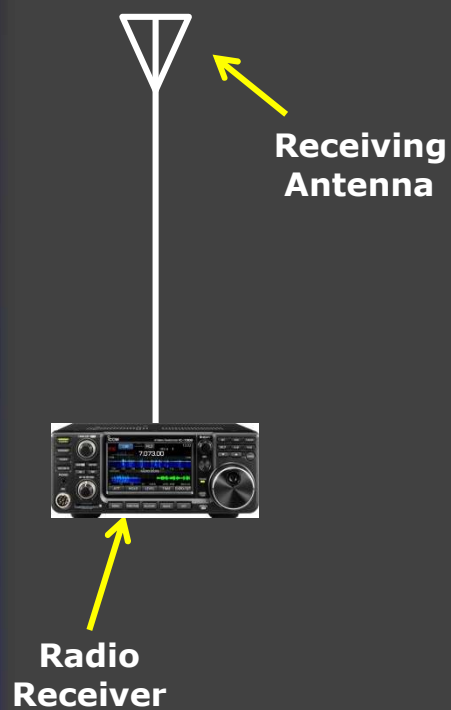
K2B5A



Req. 4.: How Radio Waves Carry Information

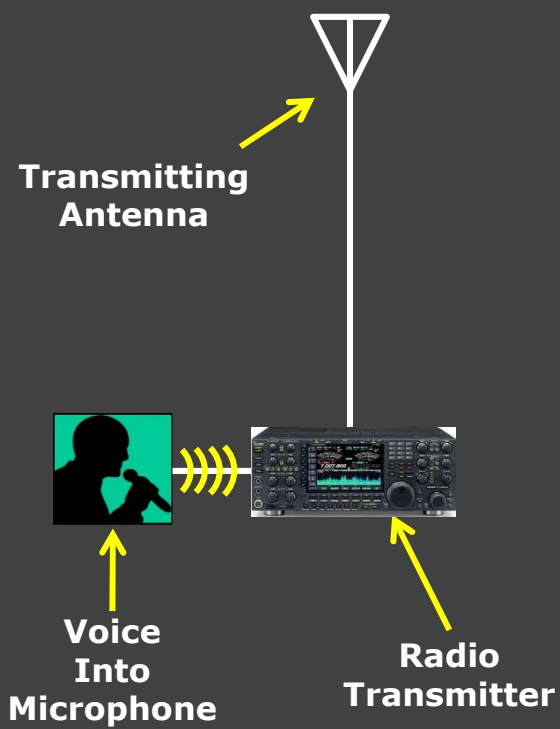


United States

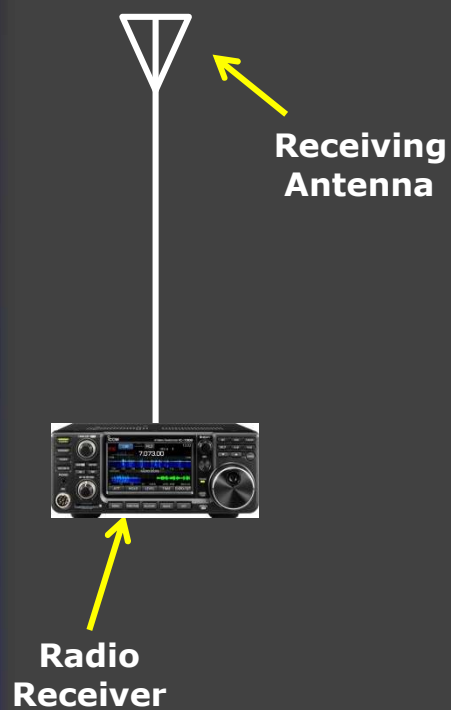


Europe

Req. 4.: How Radio Waves Carry Information

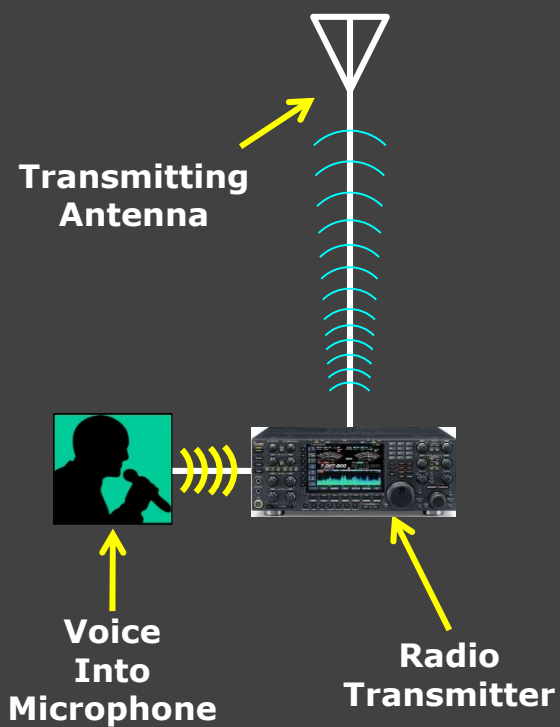


United States

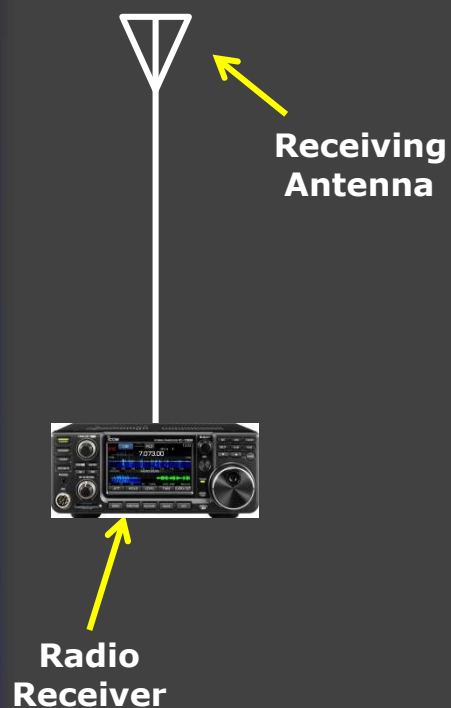


Europe

Req. 4.: How Radio Waves Carry Information



United States

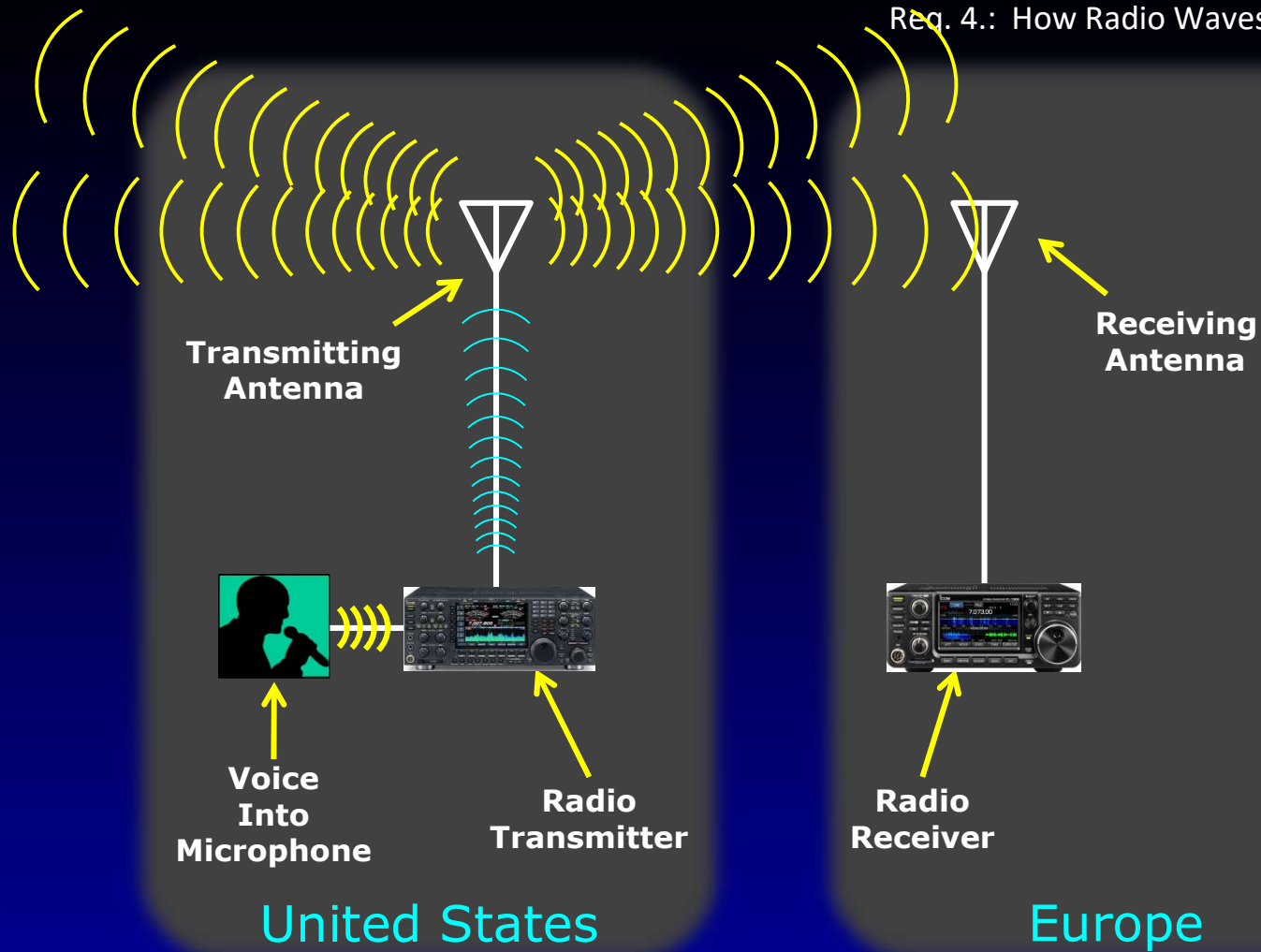


Europe

K2BSA



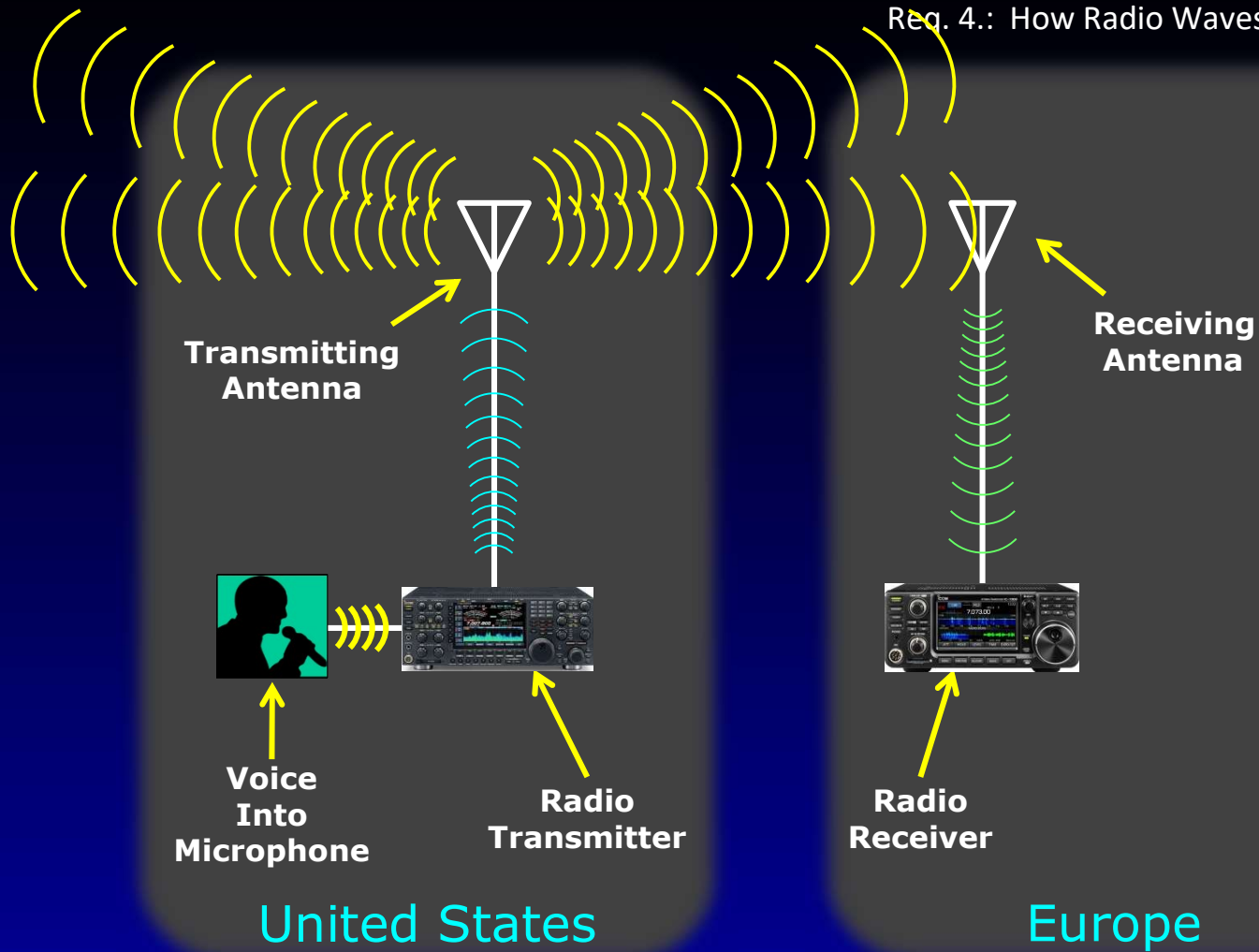
Req. 4.: How Radio Waves Carry Information



K2BSA



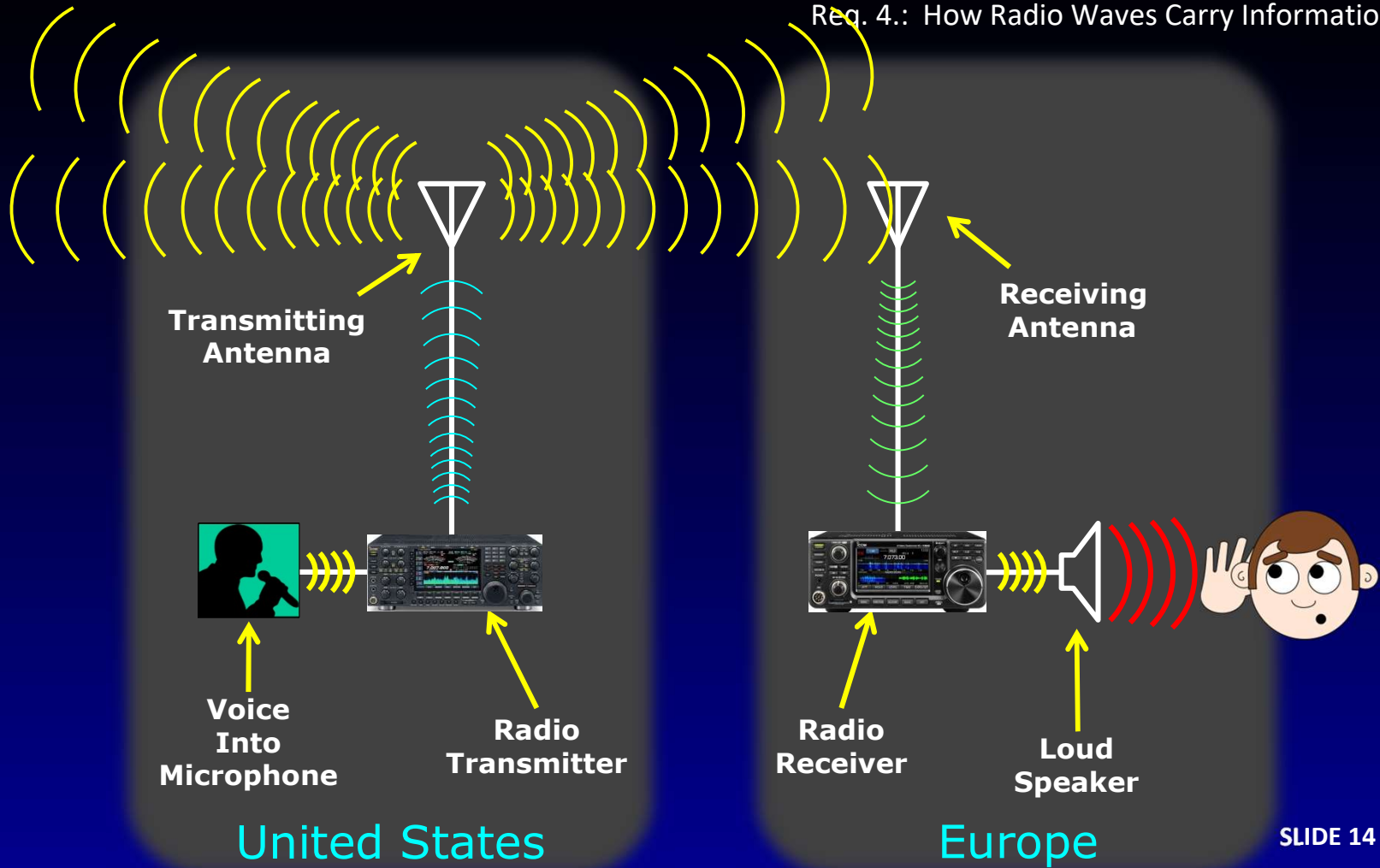
Req. 4.: How Radio Waves Carry Information



K2BSA



Req. 4.: How Radio Waves Carry Information



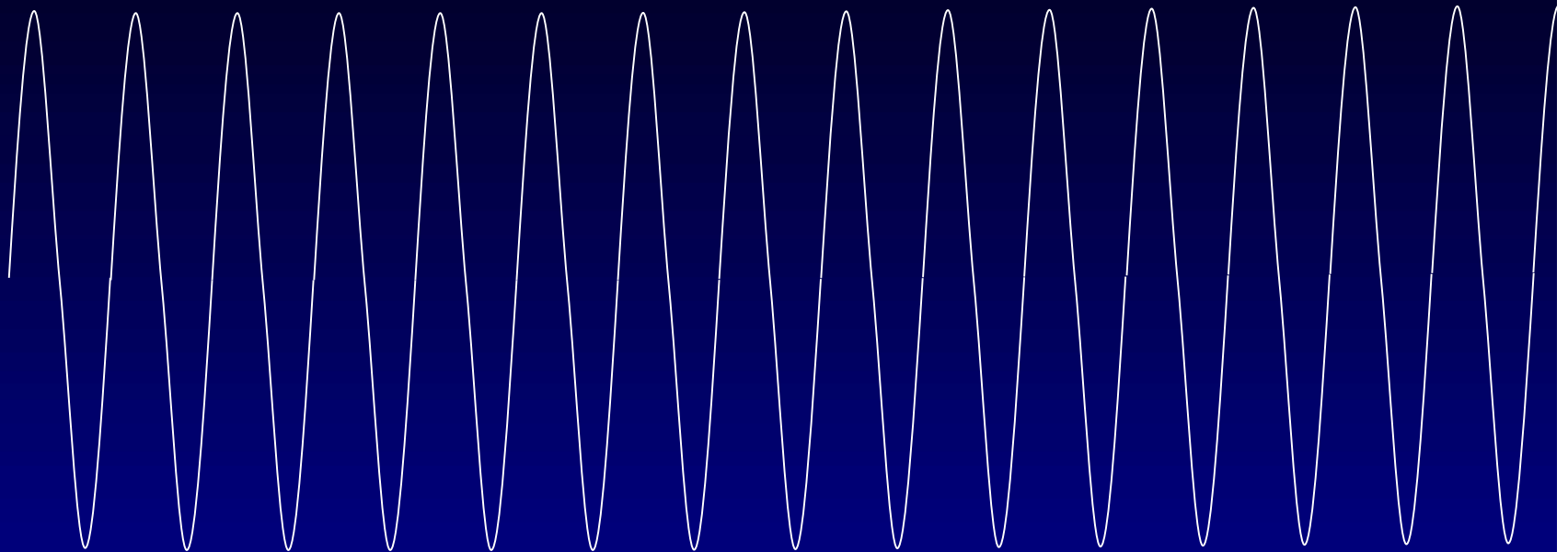
How Radio Waves Travel

K2B5A



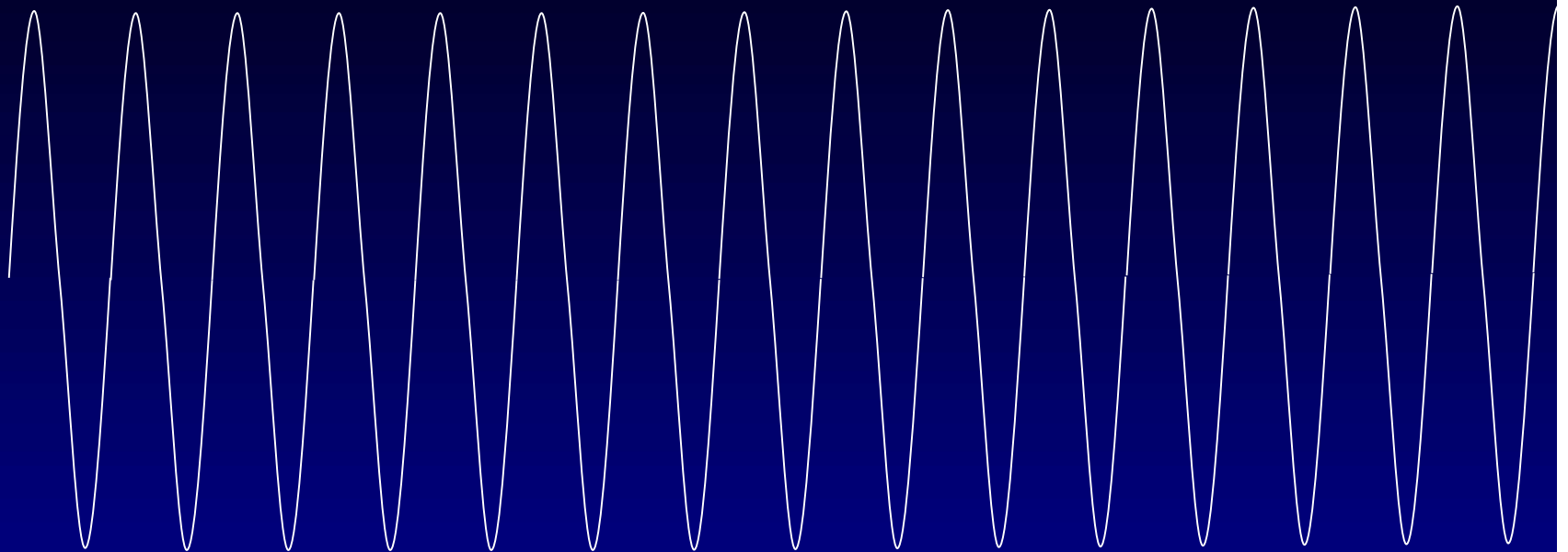
Req. 2.a.: Introduction to How Radio Waves Travel

K2B5A



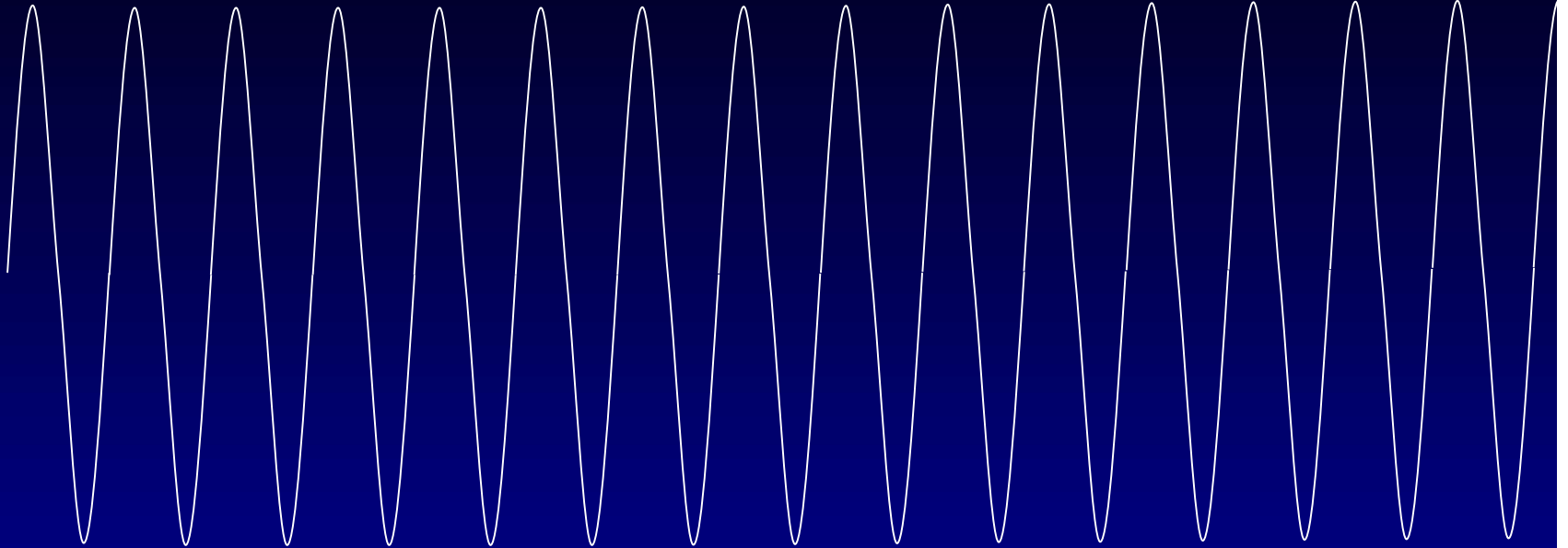
Req. 2.a.: Introduction to How Radio Waves Travel

K2B5A

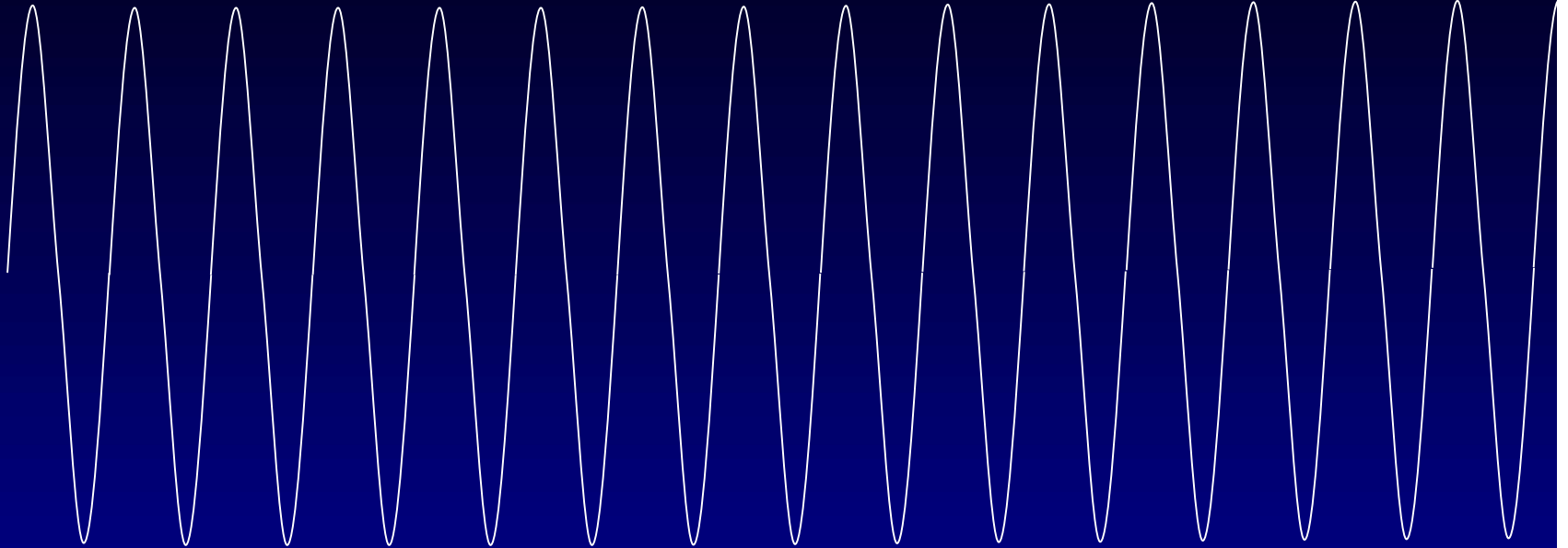


Req. 2.a.: Introduction to How Radio Waves Travel

K2B5A



186,000 miles per second!



**ASBSA
K2**



K2BSA



EARTH

K2B5A



EARTH

K2BSA



Req. 2.a.: Introduction to How Radio Waves Travel



Req. 2.a.: How Radio Waves Travel

EARTH

K2BSA



SLIDE 17 1

Req. 2.a.: How Radio Waves Travel

K2BSA



SAN FRANCISCO



DENVER



CHICAGO



NEW YORK CITY



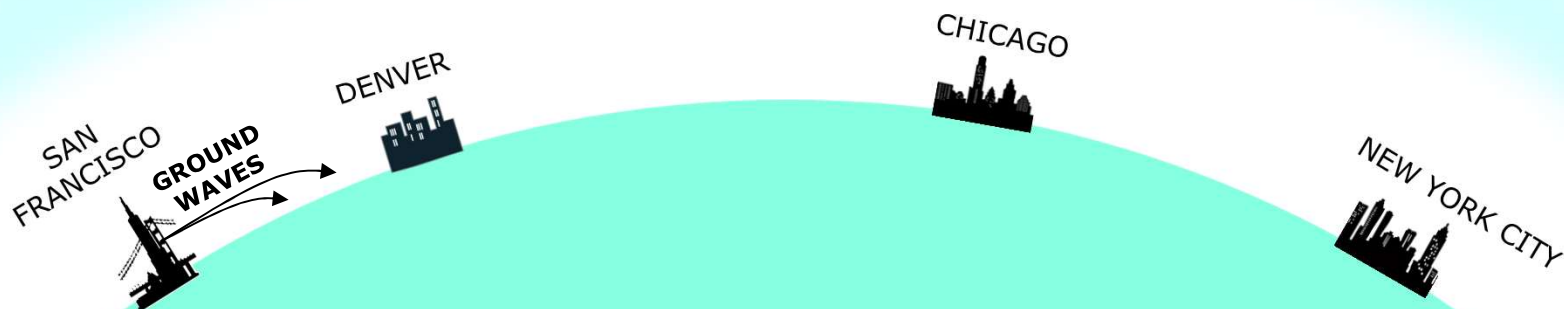
EARTH

Req. 2.a.: How Radio Waves Travel



Req. 2.a.: How Radio Waves Travel

IONOSPHERE

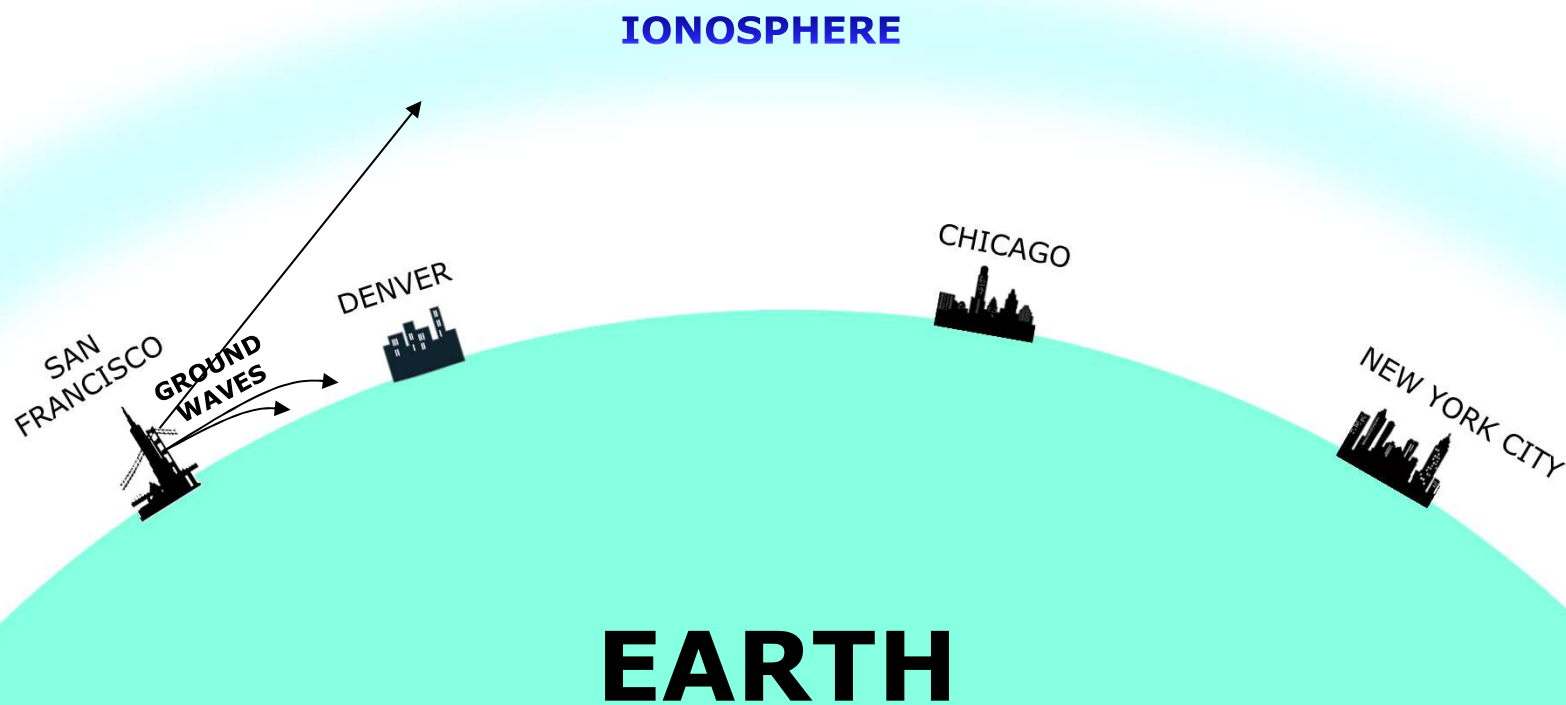


EARTH

K2BSA



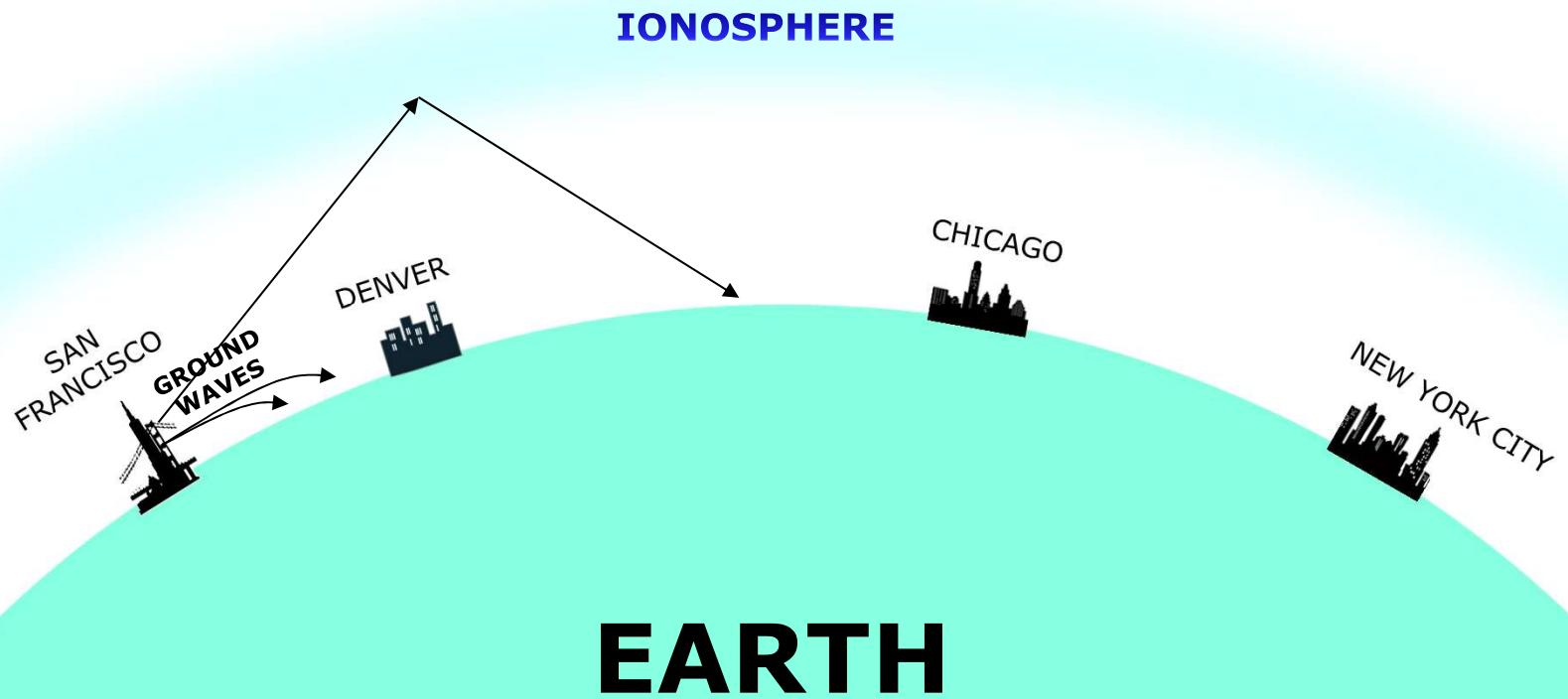
Req. 2.a.: How Radio Waves Travel



K2BSA



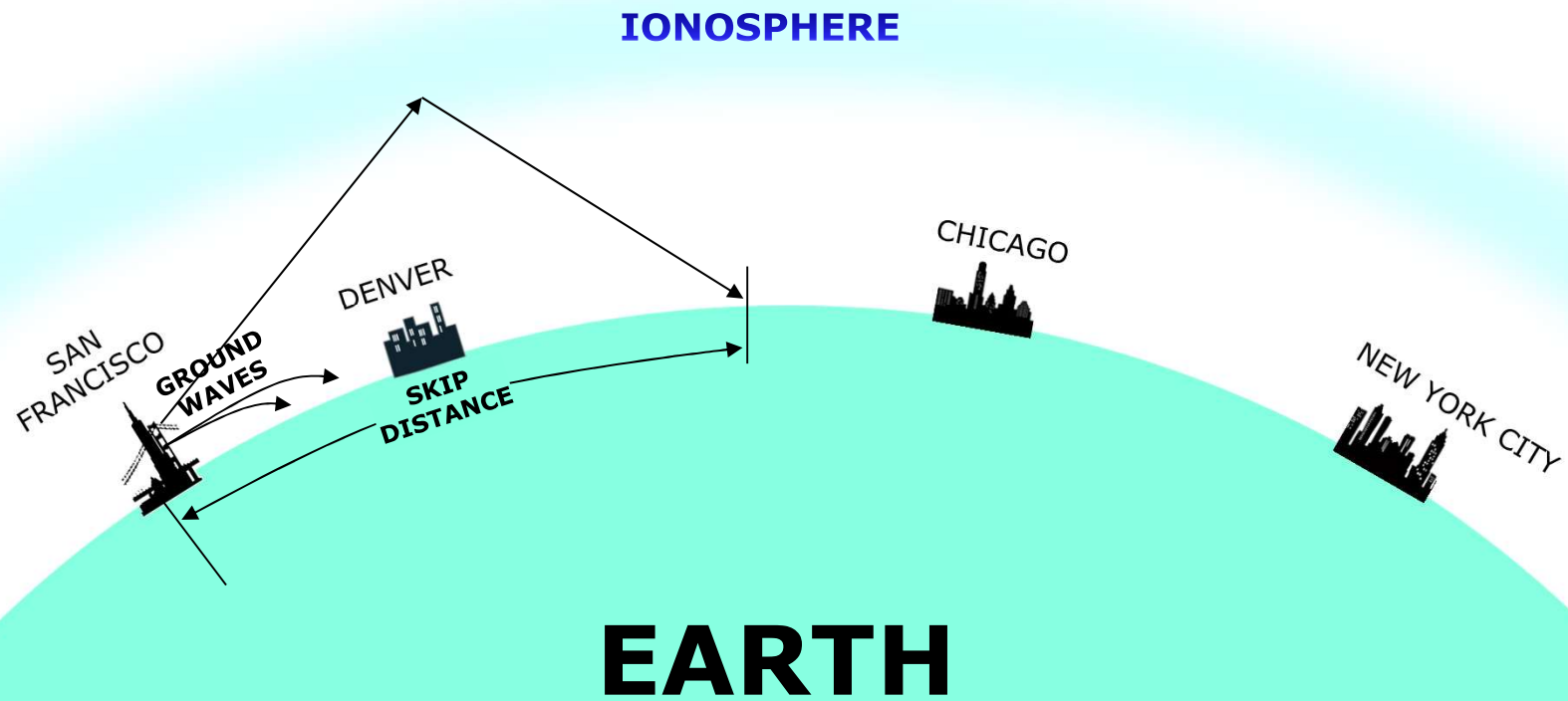
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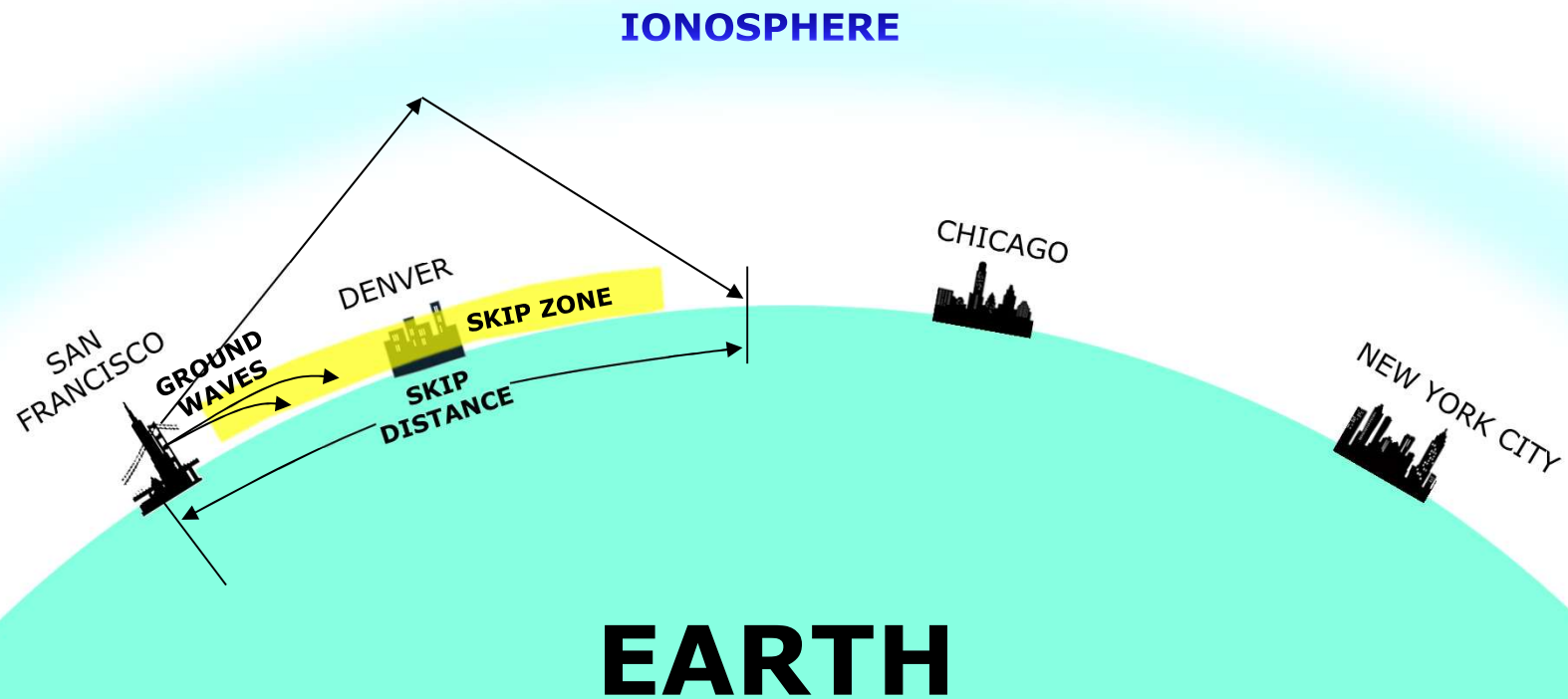
K2BSA



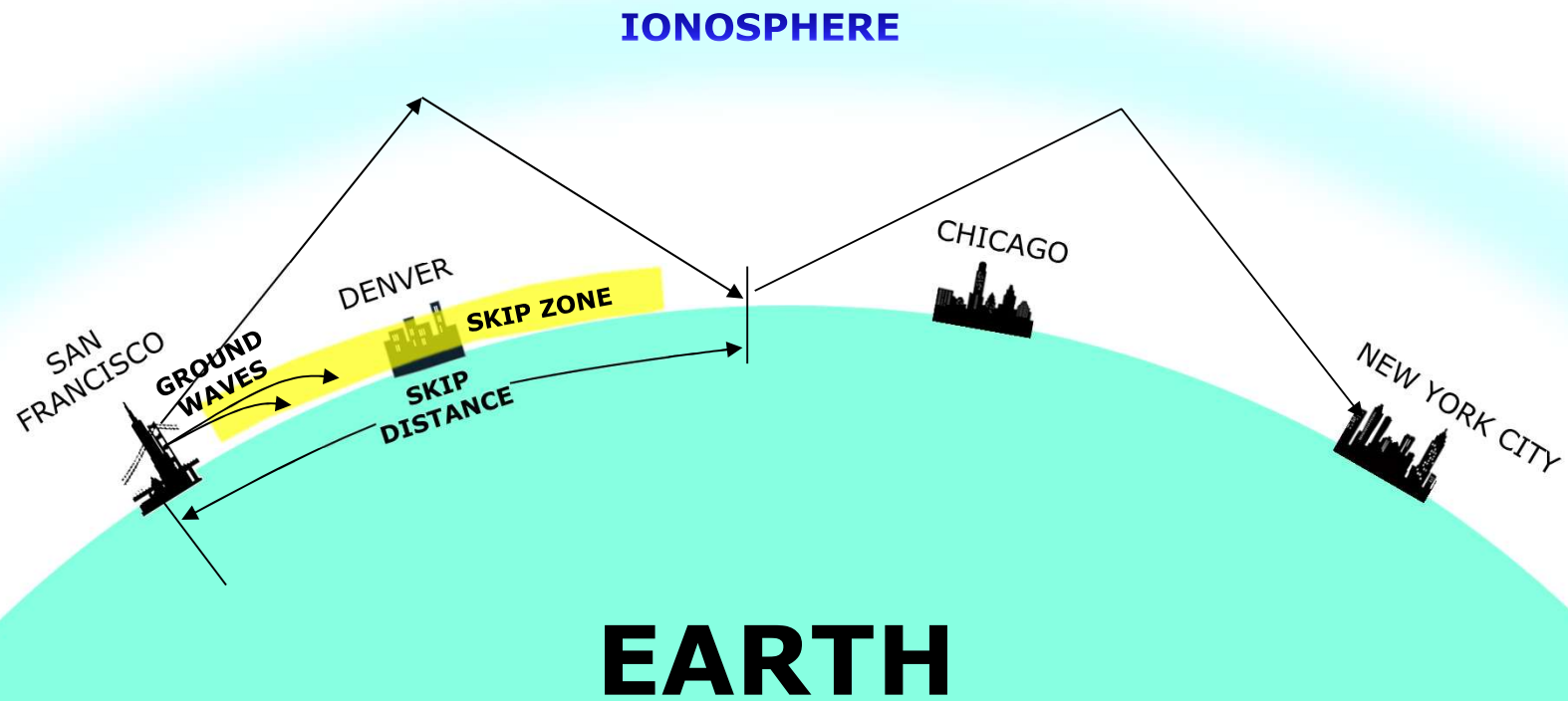
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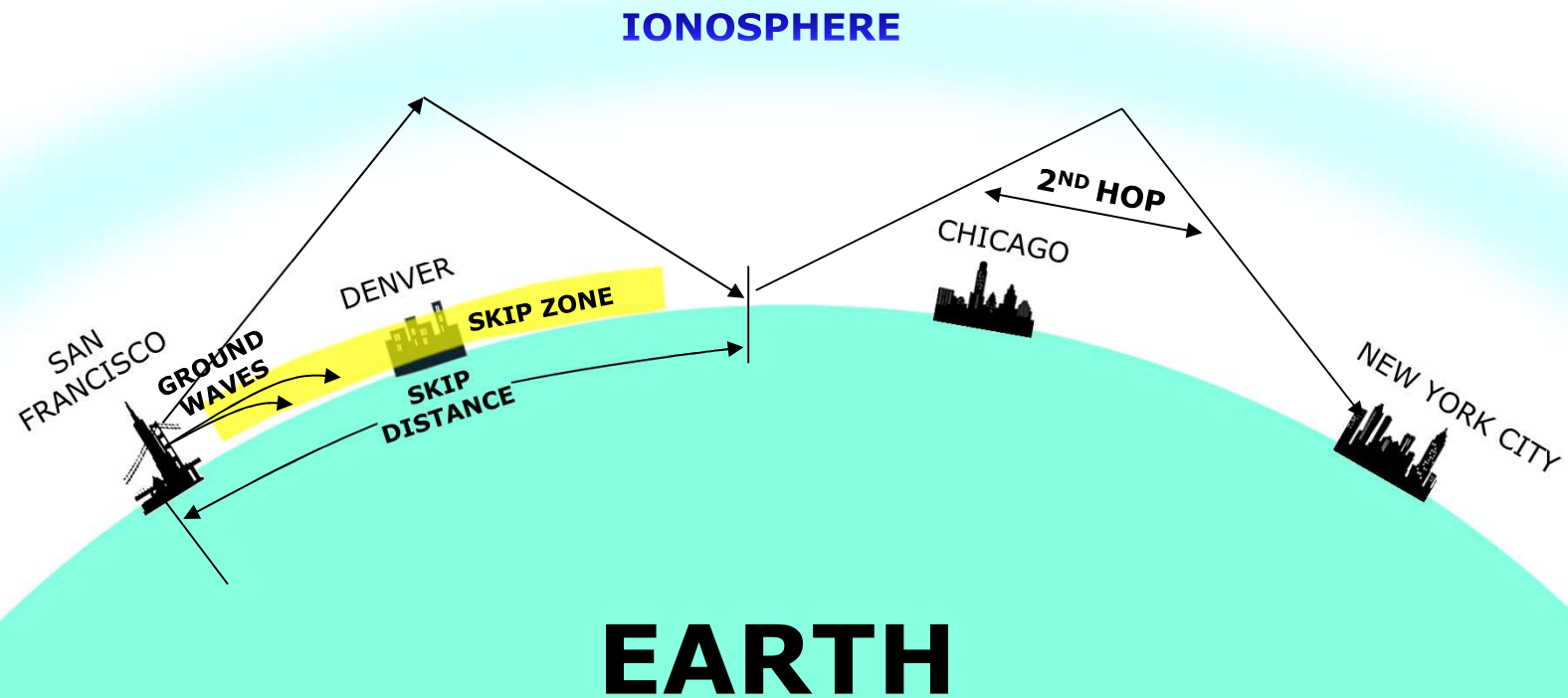
Req. 2.a.: How Radio Waves Travel



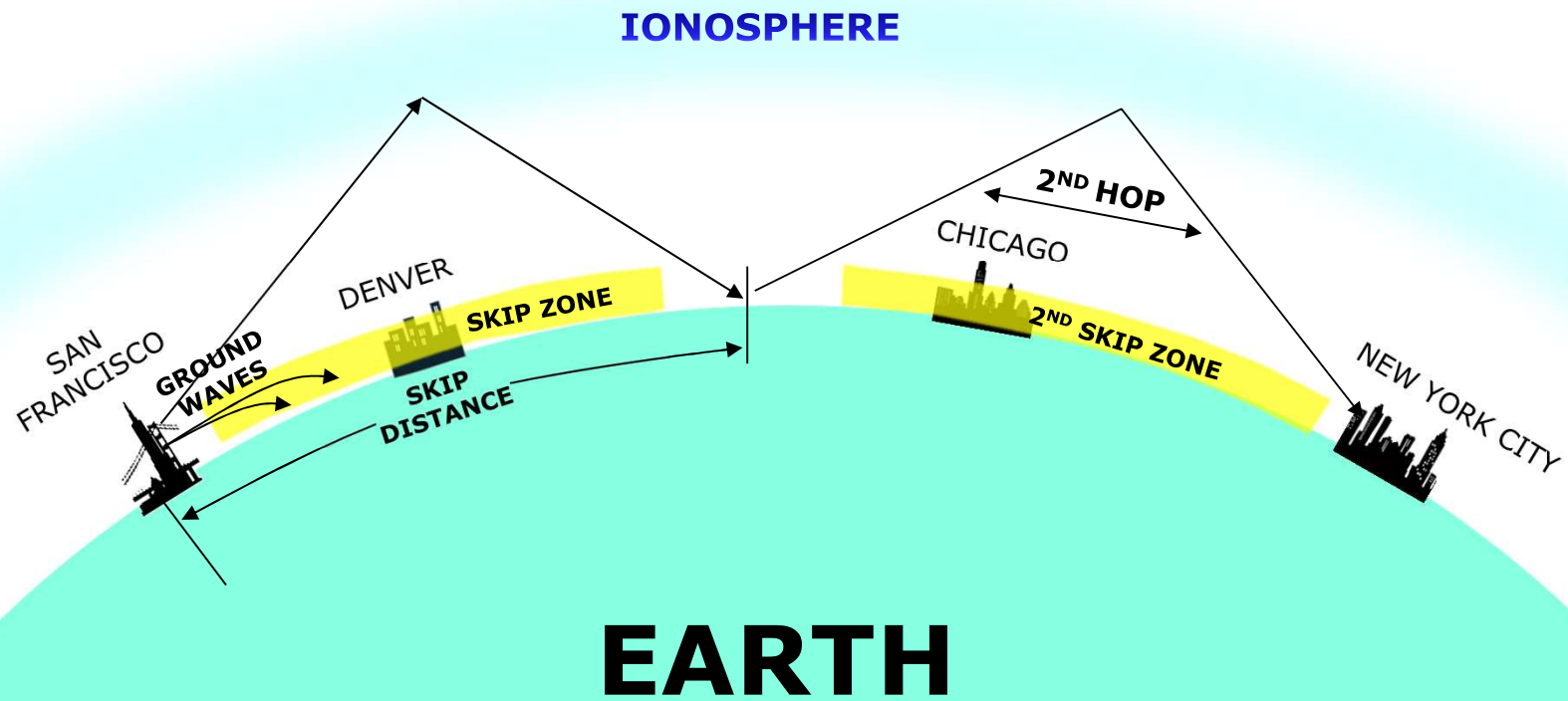
Req. 2.a.: How Radio Waves Travel



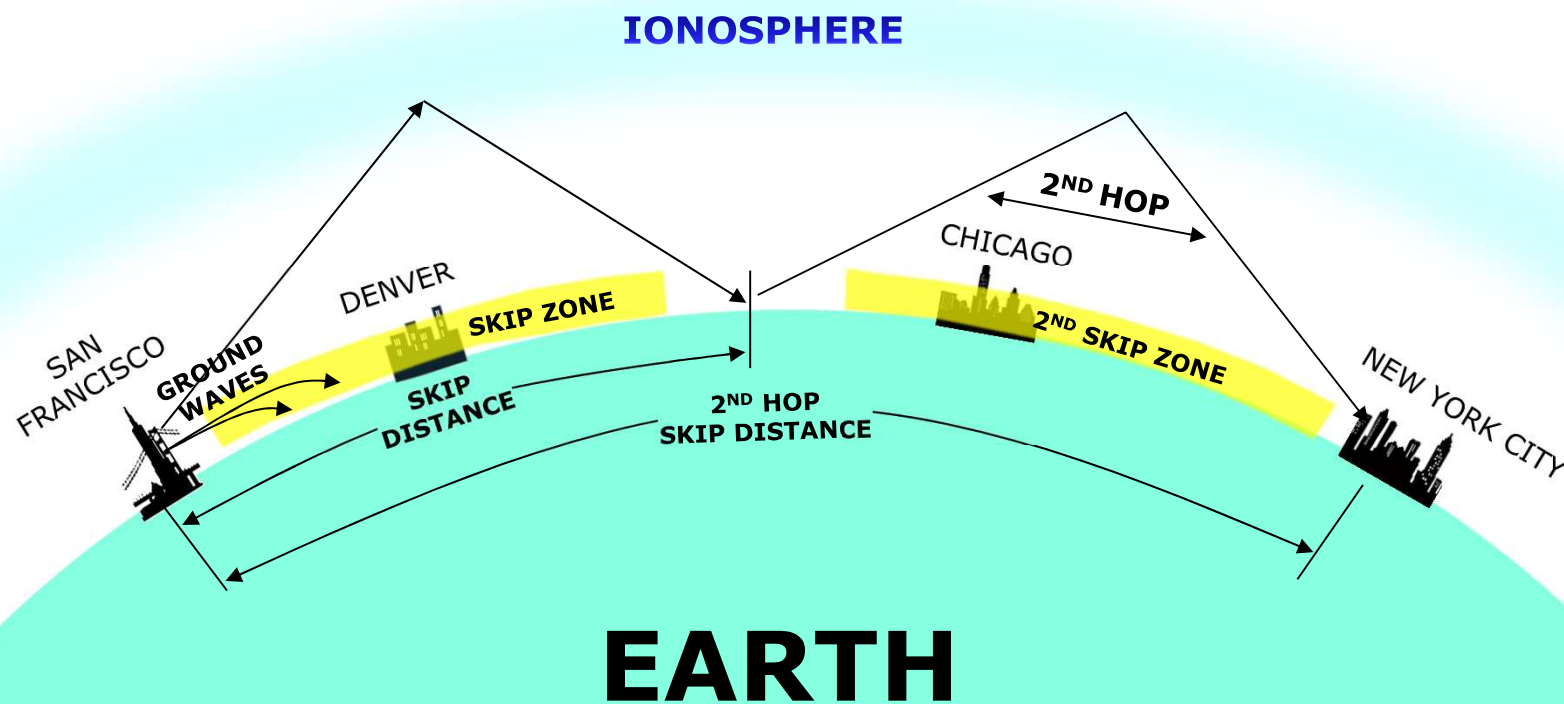
Req. 2.a.: How Radio Waves Travel



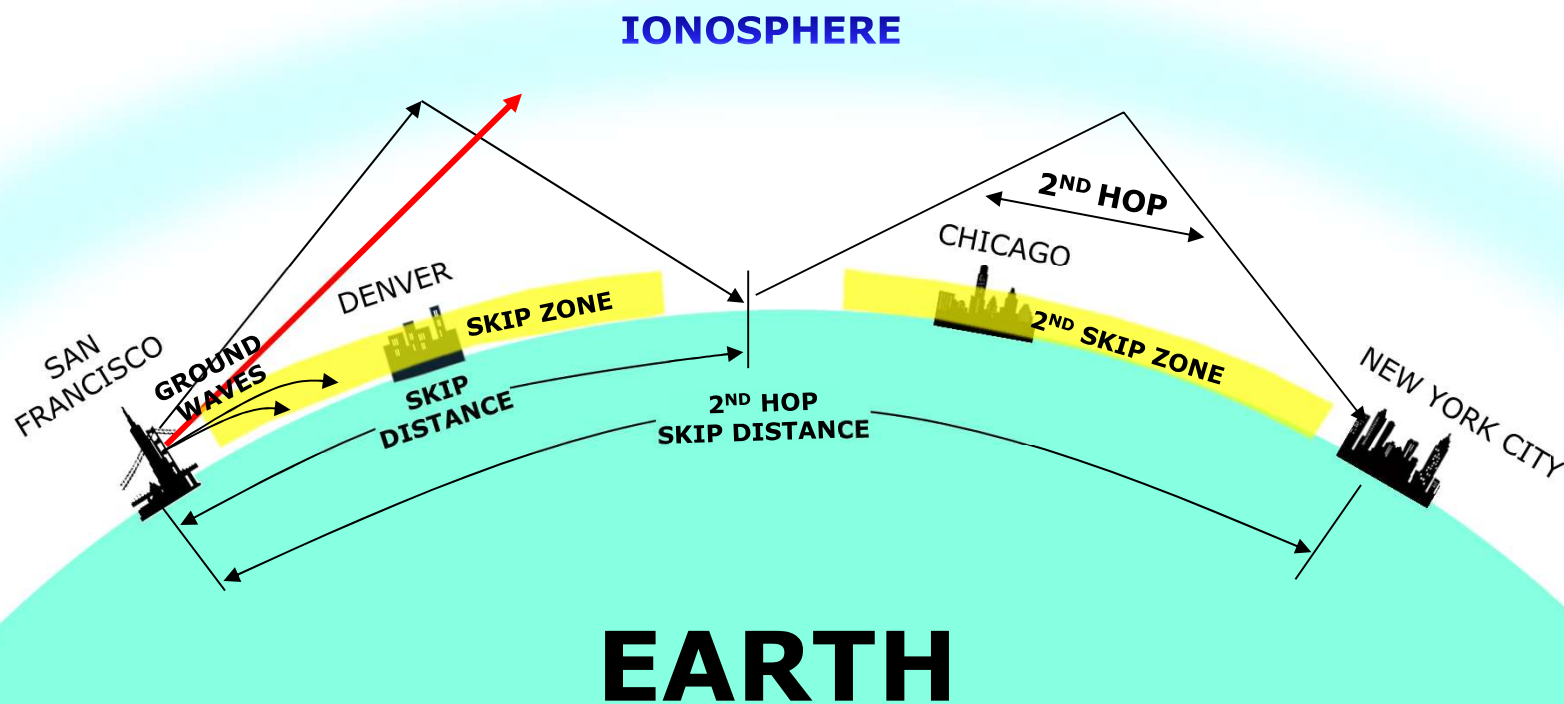
Req. 2.a.: How Radio Waves Travel



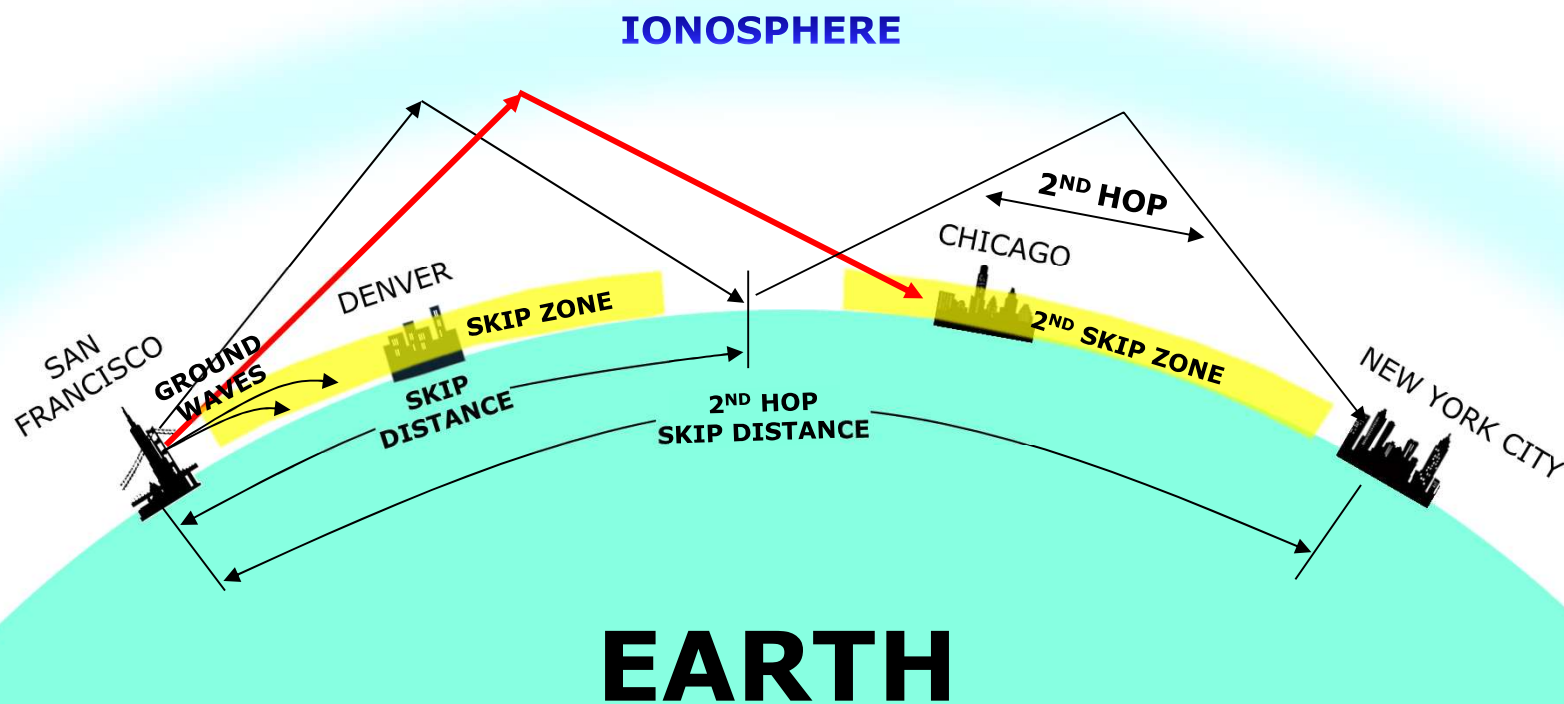
Req. 2.a.: How Radio Waves Travel



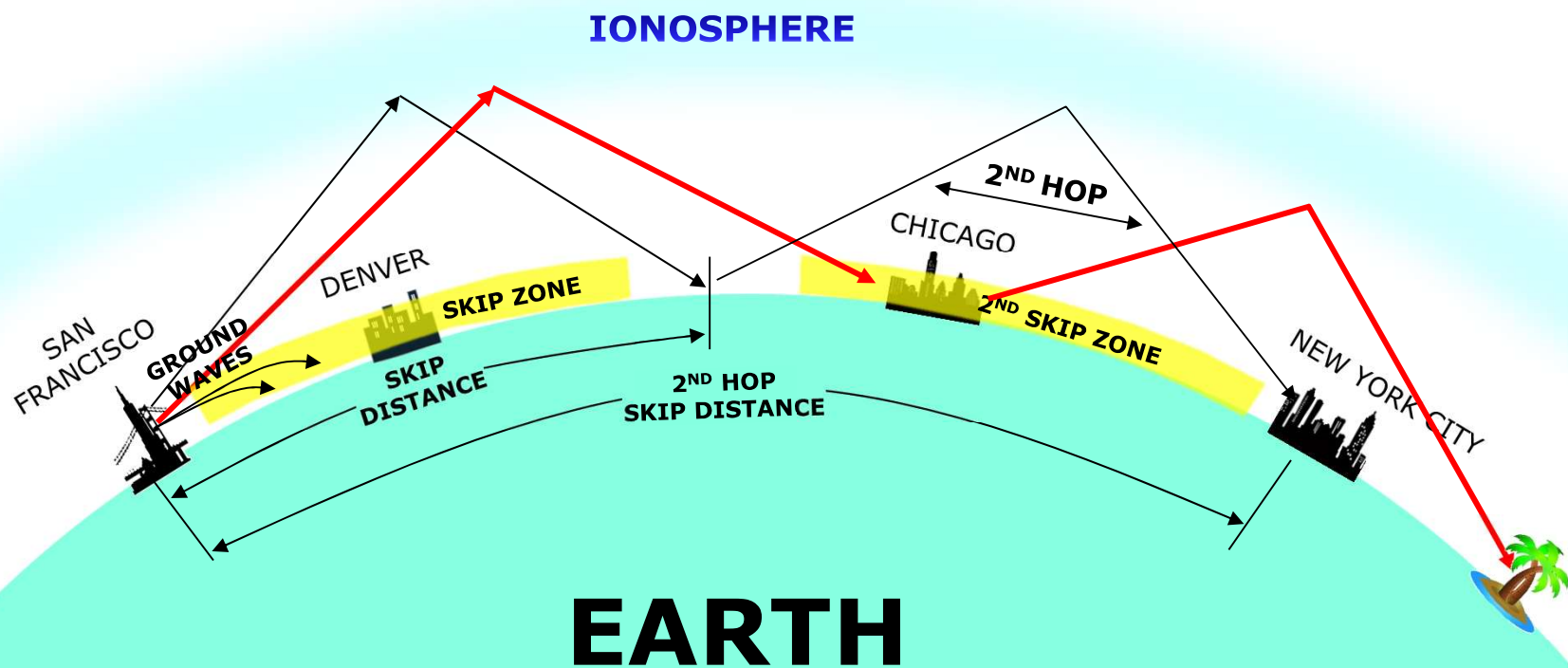
Req. 2.a.: How Radio Waves Travel



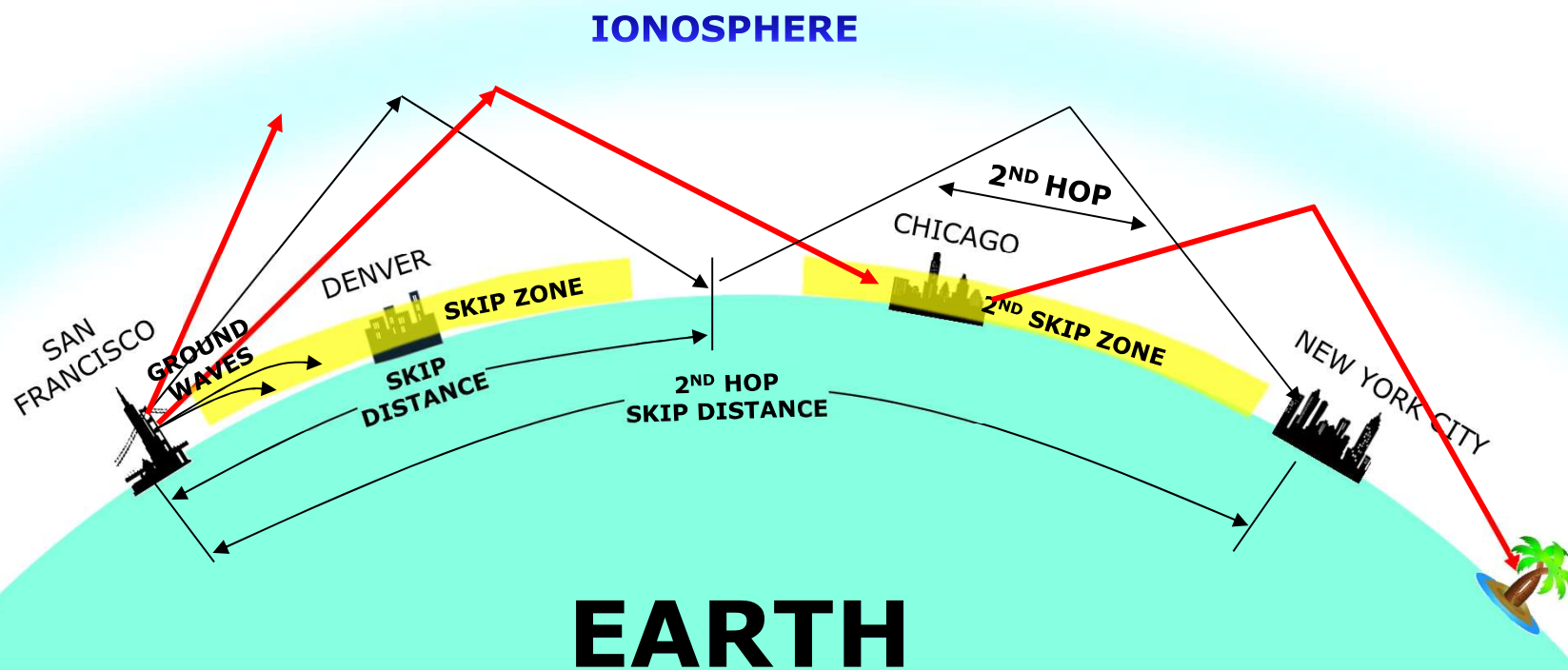
Req. 2.a.: How Radio Waves Travel



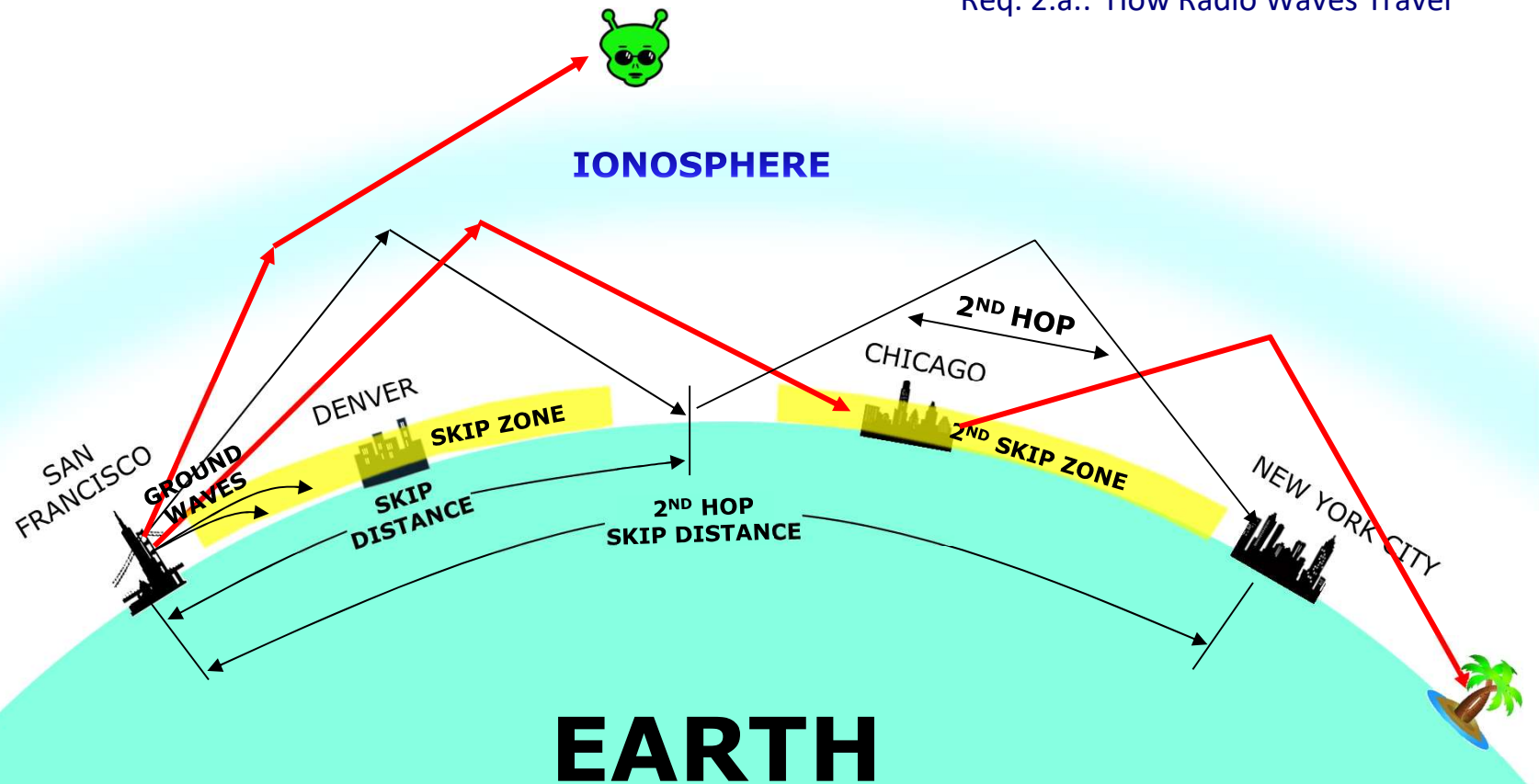
Req. 2.a.: How Radio Waves Travel



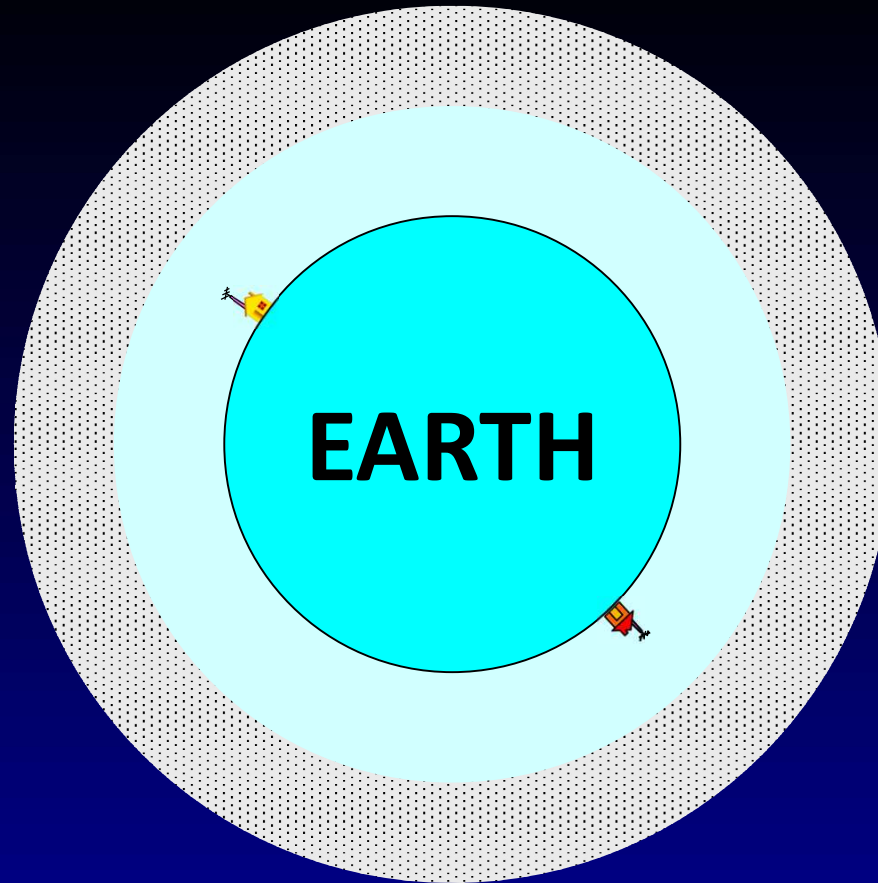
Req. 2.a.: How Radio Waves Travel



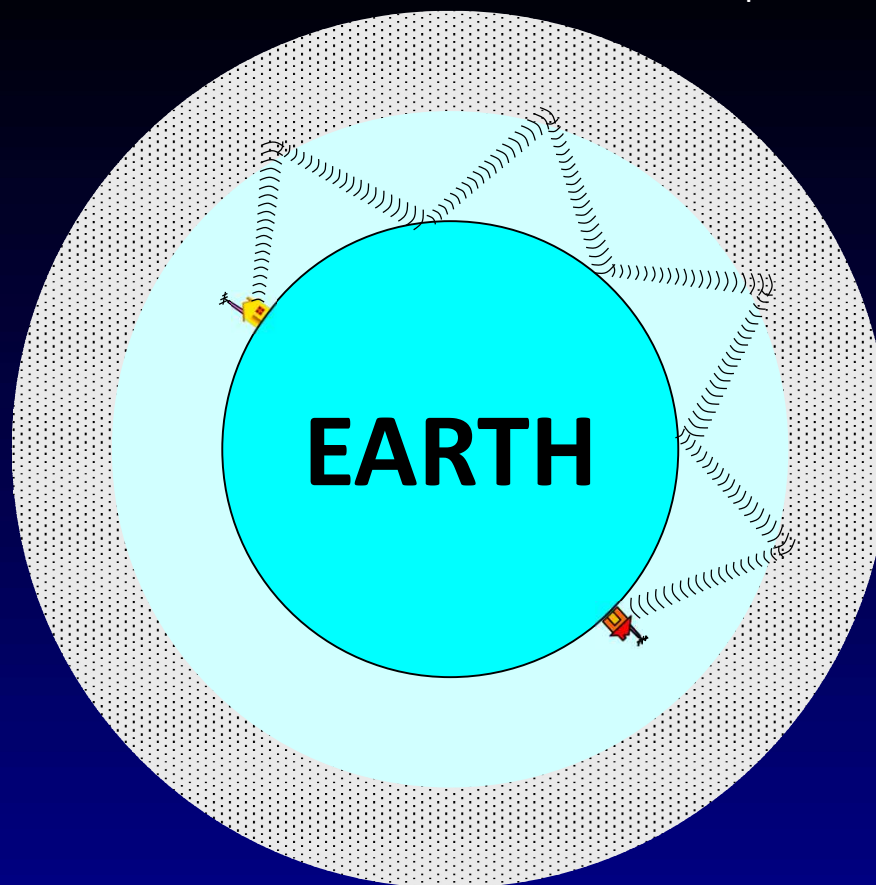
Req. 2.a.: How Radio Waves Travel



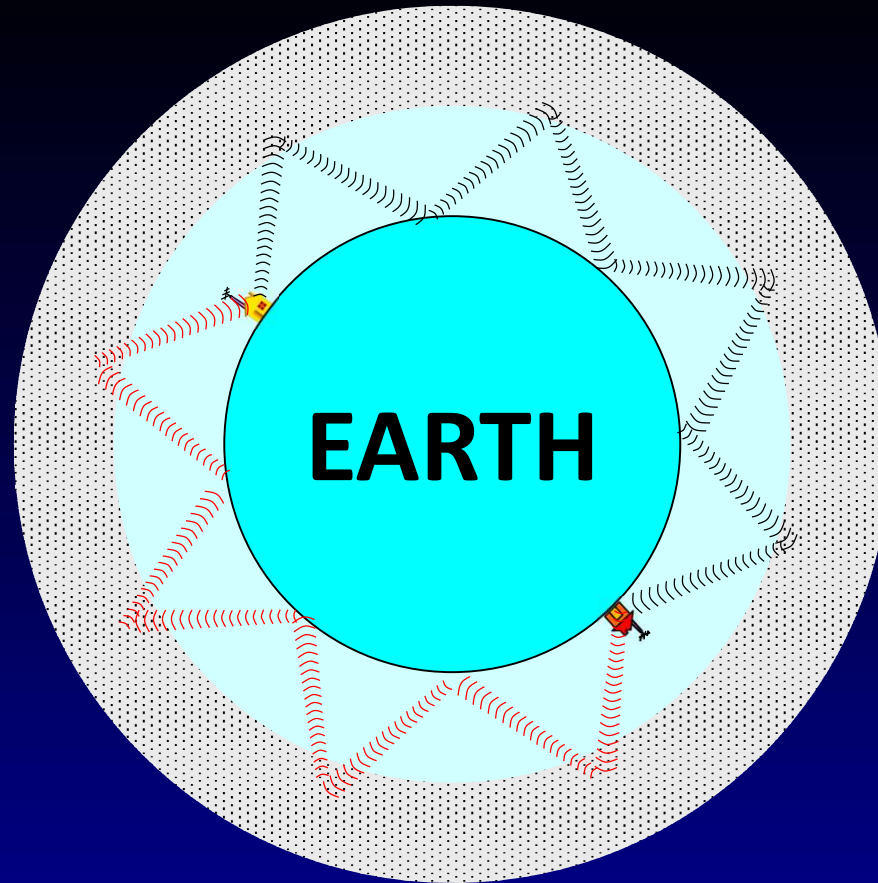
Req. 2.a.: How Radio Waves Travel



Req. 2.a.: How Radio Waves Travel

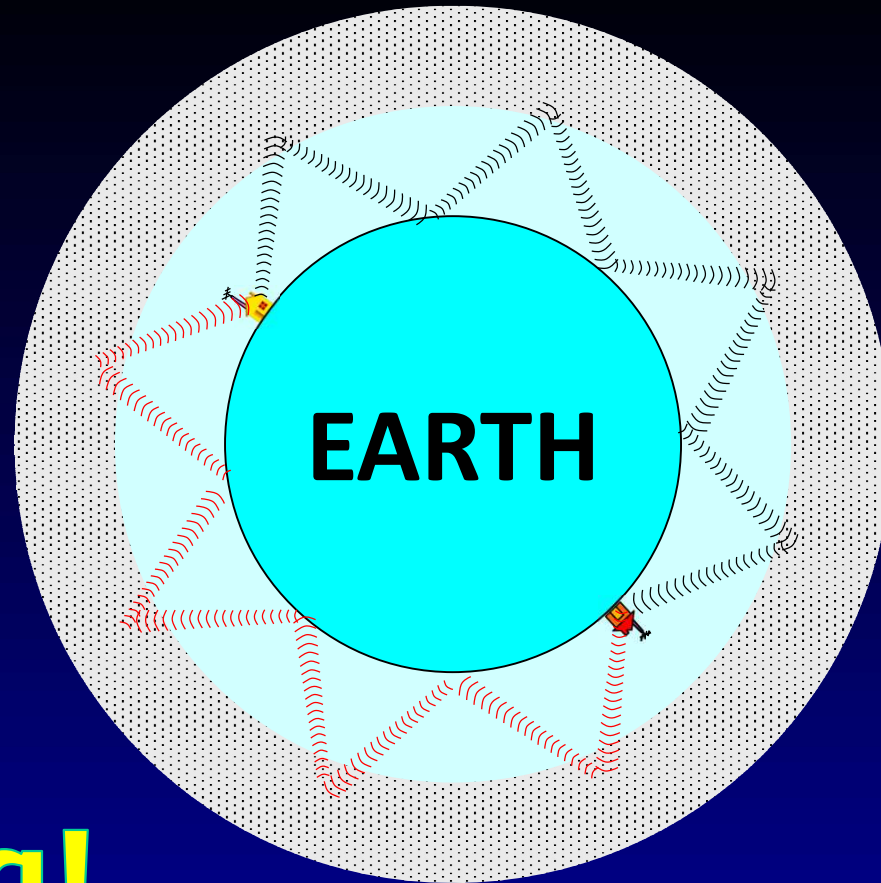


Req. 2.a.: How Radio Waves Travel



Req. 2.a.: How Radio Waves Travel

Finish Drawing!



K2B5A



Req. 2.b.: WWV and WWVH

WWV

K2B5A



Req. 2.b.: WWV and WWVH



WWV

K2B5A



Req. 2.b.: WWV and WWVH



WWV

K2B5A



Req. 2.b.: WWV and WWVH



WWVH

SLIDE 21 1

K2B5A



<Click for WWV audio>



Req. 2.c.: DX



K2B5A



K2B5A



= "DISTANCE"

K2B5A



DXpedition

= "DISTANCE"



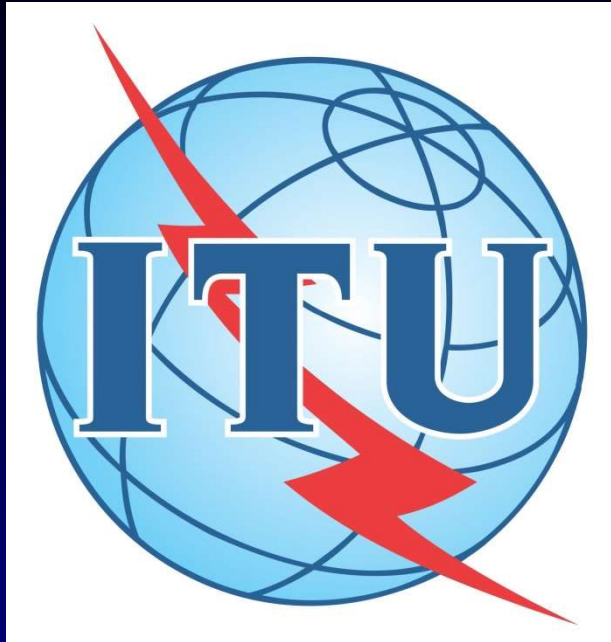
K2B5A



ITU?

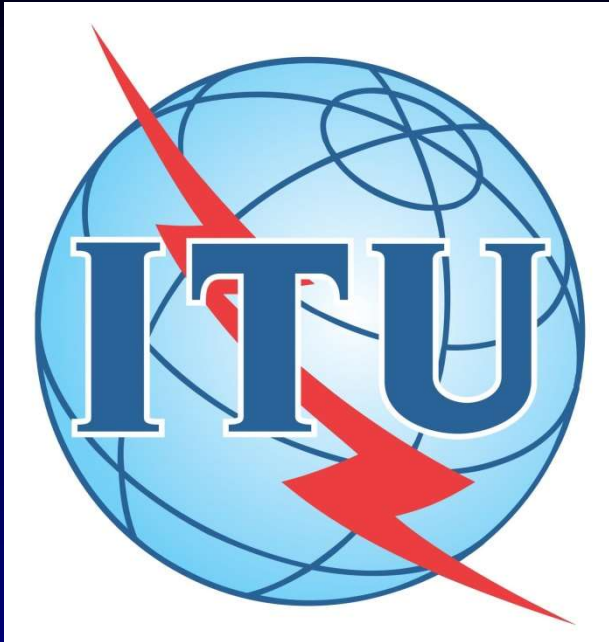
FCC?

International Telecommunication Union



International Treaty

**International
Telecommunication Union**



**International
Treaty**

Req. 2.d. ITU/FCC

**Federal
Communications Commission**



**United States
Radio Law**

Radio Merit Badge

