

UTC (Zulu) Time Conversion Chart

| UTC (Zulu) | PST/ALDT | PDT/MST | MDT/CST | CDT/EST | EDT/AST | ALST | HST | UTC (Zulu) | PST/ALDT | PDT/MST | MDT/CST | CDT/EST | EDT/AST | ALST | HST |
|------------|----------|---------|---------|---------|---------|-------|-------|------------|----------|---------|---------|---------|---------|------|------|
| 0000* | 1600 | 1700 | 1800 | 1900 | 2000 | 1500 | 1400 | | | | | | | | |
| 0100 | 1700 | 1800 | 1900 | 2000 | 2100 | 1600 | 1500 | 1300 | 0500 | 0600 | 0700 | 0800 | 0900 | 0400 | 0300 |
| 0200 | 1800 | 1900 | 2000 | 2100 | 2200 | 1700 | 1600 | 1400 | 0600 | 0700 | 0800 | 0900 | 1000 | 0500 | 0400 |
| 0300 | 1900 | 2000 | 2100 | 2200 | 2300 | 1800 | 1700 | 1500 | 0700 | 0800 | 0900 | 1000 | 1100 | 0600 | 0500 |
| 0400 | 2000 | 2100 | 2200 | 2300 | 0000* | 1900 | 1800 | 1600 | 0800 | 0900 | 1000 | 1100 | 1200 | 0700 | 0600 |
| 0500 | 2100 | 2200 | 2300 | 0000* | 0100 | 2000 | 1900 | 1700 | 0900 | 1000 | 1100 | 1200 | 1300 | 0800 | 0700 |
| 0600 | 2200 | 2300 | 0000* | 0100 | 0200 | 2100 | 2000 | 1800 | 1000 | 1100 | 1200 | 1300 | 1400 | 0900 | 0800 |
| 0700 | 2300 | 0000* | 0100 | 0200 | 0300 | 2200 | 2100 | 1900 | 1100 | 1200 | 1300 | 1400 | 1500 | 1000 | 0900 |
| 0800 | 0000* | 0100 | 0200 | 0300 | 0400 | 2300 | 2200 | 2000 | 1200 | 1300 | 1400 | 1500 | 1600 | 1100 | 1000 |
| 0900 | 0100 | 0200 | 0300 | 0400 | 0500 | 0000* | 2300 | 2100 | 1300 | 1400 | 1500 | 1600 | 1700 | 1200 | 1100 |
| 1000 | 0200 | 0300 | 0400 | 0500 | 0600 | 0100 | 0000* | 2200 | 1400 | 1500 | 1600 | 1700 | 1800 | 1300 | 1200 |
| 1100 | 0300 | 0400 | 0500 | 0600 | 0700 | 0200 | 0100 | 2300 | 1500 | 1600 | 1700 | 1800 | 1900 | 1400 | 1300 |
| 1200 | 0400 | 0500 | 0600 | 0700 | 0800 | 0300 | 0200 | 2400 | 1600 | 1700 | 1800 | 1900 | 2000 | 1500 | 1400 |

*0000 and 2400 are interchangeable.

2400 is associated with the date of the day ending, 0000 with the day just starting.

UTC = Coordinated Universal Time, or **Zulu**
PST = Pacific Standard Time (UTC - 8 hours)
ALDT = Alaskan Daylight Time (UTC - 8 hours)
PDT = Pacific Daylight Time (UTC - 7 hours)
MST = Mountain Standard Time (UTC - 7 hours)
MDT = Mountain Daylight Time (UTC - 6 hours)
CST = Central Standard Time (UTC - 6 hours)
CDT = Central Daylight Time (UTC - 5 hours)
EST = Eastern Standard Time (UTC - 5 hours)
EDT = Eastern Daylight Time (UTC - 4 hours)
AST = Atlantic Standard Time (UTC - 4 hours)
ALST = Alaskan Standard Time (UTC - 9 hours)
HST = Hawaiian Standard Time (UTC - 10 hours)

Communicating with Other Hams

Contact Basics: Good Amateur Practices

Q-Signals

Q-signals are a system of radio shorthand as old as wireless and developed from even older telegraphy codes. Q-signals are a set of abbreviations for common information that save time and allow communication between operators who don't speak a common language. Modern ham radio uses them extensively. The table below lists the most common Q-signals used by hams. While Q-signals were developed for use by Morse operators, their use is common on phone, as well. You will often hear, "QRZed?" as someone asks "Who is calling me?" or "I'm getting a little QRM" from an operator receiving some interference or "Let's QSY to 146.55" as two operators change from a repeater frequency to a nearby simplex communications frequency.

| Q-Signals | |
|-----------|---|
| Abbr. | Questions |
| QRG | Your exact frequency (or that of _____) is _____ kHz. Will you tell me my exact frequency (or that of _____)? |
| QRL | I am busy (or I am busy with _____). Are you busy? Usually used to see if a frequency is busy. |
| QRM | Your transmission is being interfered with _____ (1. Nil; 2. Slightly; 3. Moderately; 4. Severely; 5. Extremely). Is my transmission being interfered with? |
| QRN | I am troubled by static _____. (1 to 5 as under QRM.) Are you troubled by static? |
| QRO | Increase power. Shall I increase power? |
| QRP | Decrease power. Shall I decrease power? |
| QRQ | Send faster (_____ wpm). Shall I send faster? |
| QRS | Send more slowly (_____ wpm). Shall I send more slowly? |
| QRT | Stop sending. Shall I stop sending? |
| QRU | I have nothing for you. Have you anything for me? |
| QRV | I am ready. Are you ready? |
| QRX | I will call you again at _____ hours (on _____ kHz). When will you call me again? Minutes are usually implied rather than hours. |
| QRZ | You are being called by _____ (on _____ kHz). Who is calling me? |
| QSB | Your signals are fading. Are my signals fading? |
| QSK | I can hear you between signals; break in on my transmission. Can you hear me between your signals and if so can I break in on your transmission? |
| QSL | I am acknowledging receipt. Can you acknowledge receipt (of a message or transmission)? |
| QSO | I can communicate with _____ direct (or relay through _____). Can you communicate with _____ direct or by relay? |
| QSP | I will relay to _____. Will you relay to _____? |
| QST | General call preceding a message addressed to all amateurs and ARRL members. This is in effect "CQ ARRL." |
| QSX | I am listening to _____ on _____ kHz. Will you listen to _____ on _____ kHz? |
| QSY | Change to transmission on another frequency (or on _____ kHz). Shall I change to transmission on another frequency (or on _____ kHz)? |
| QTC | I have _____ messages for you (or for _____). How many messages have you to send? |
| QTH | My location is _____. What is your location? |
| QTR | The time is _____. What is the correct time? |

| ITU Phonetic Alphabet | | |
|-----------------------|----------|---------------------|
| Letter | Word | Pronunciation |
| A | Alfa | AL FAH |
| B | Bravo | BRAH VOH |
| C | Charlie | CHAR LEE |
| D | Delta | DELL TAH |
| E | Echo | ECK OH |
| F | Foxtrot | FOKS TROT |
| G | Golf | GOLF |
| H | Hotel | HOH TELL |
| I | India | IN DEE AH |
| J | Juliet | JEW LEE ETT |
| K | Kilo | KEY LOH |
| L | Lima | LEE MAH |
| M | Mike | MIKE |
| N | November | NO VEM BER |
| O | Oscar | OSS CAH |
| P | Papa | PAH PAH |
| Q | Quebec | KEH BECK |
| R | Romeo | ROW ME OH |
| S | Sierra | SEE AIR RAH |
| T | Tango | TANG GO |
| U | Uniform | YOU NEE FORM |
| V | Victor | VIK TAH |
| W | Whiskey | WISS KEY |
| X | X-Ray | ECKS RAY |
| Y | Yankee | YANG KEY |
| Z | Zulu | ZOO LOO |

Note: The **boldfaced** syllables are emphasized. The pronunciations shown in this table were designed for those who speak any of the international languages. The pronunciations given for "Oscar" and "Victor" may seem awkward to English-speaking people in the US.

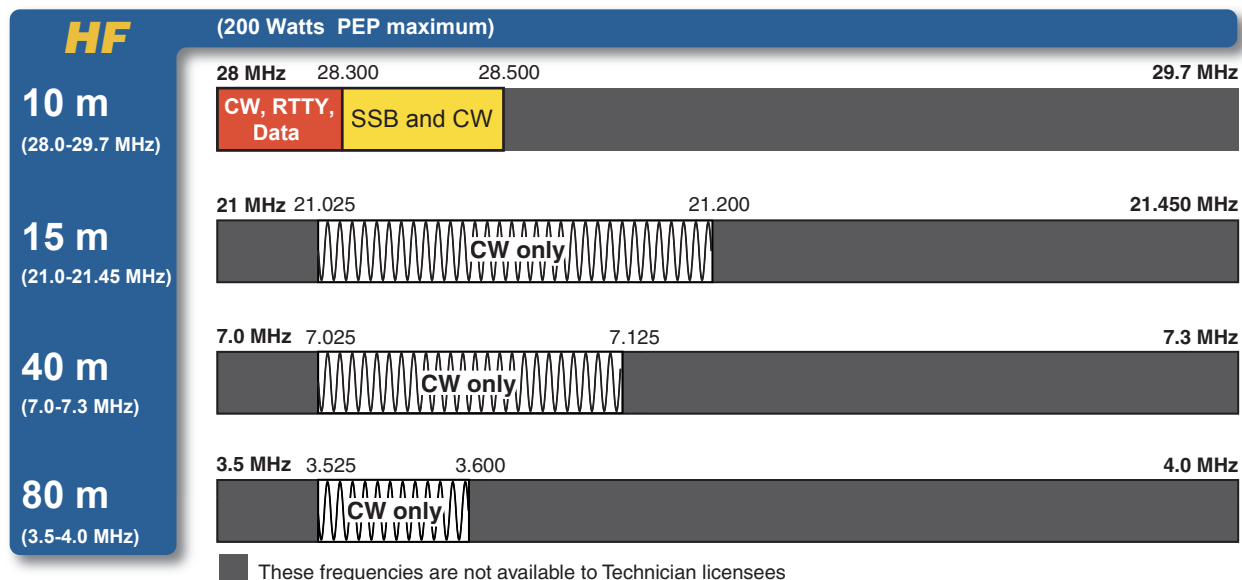
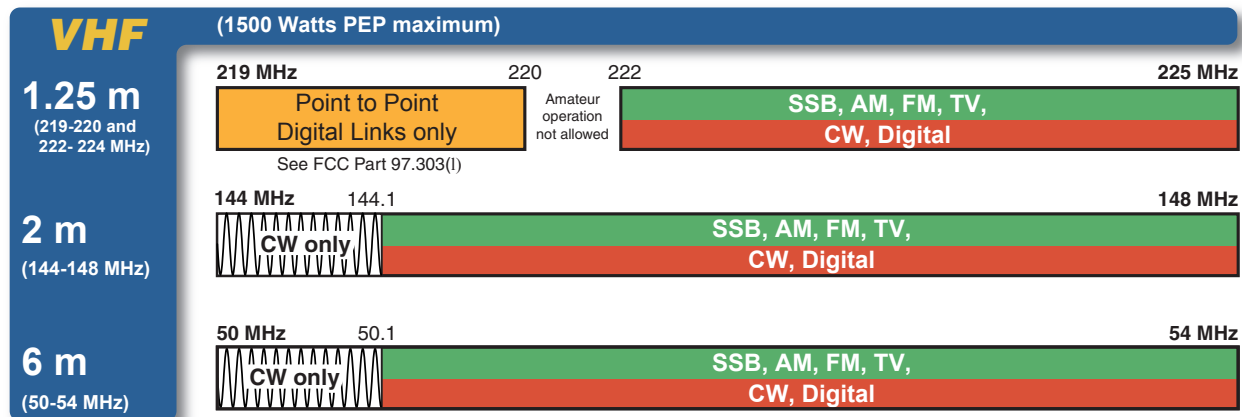
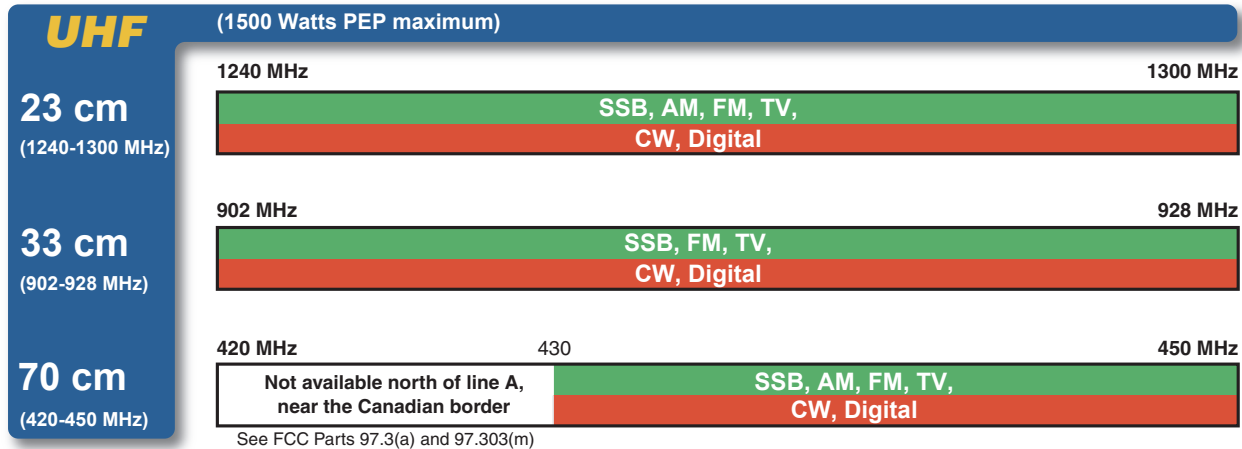
US Amateur Radio Technician Privileges

This chart shows privileges and band plan recommendations for each of the frequencies, as granted by the FCC to the Technician licensee. It is good amateur practice to follow the band plan established by the Amateur Radio community. The band plan is developed so that spectrum allocated for our use is used most effectively. You'll find a complete description of the band plan online at www.arrrl.org/band-plan.

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Notes:

Technician Licenses may use up to 1500 Watts PEP on the VHF and higher bands, but are limited to 200 Watts on the HF bands. You also have privileges to explore these microwave bands with CW, Digital, SSB, AM, FM and TV:

| | | | | | |
|---------------|---------------|------------------|---------------|---------------|-------------------|
| 2300-2310 MHz | 2390-2450 MHz | 3300-3500 MHz | 5650-5925 MHz | 10.0-10.5 GHz | 24.0-24.25 GHz |
| 47.0-47.2 GHz | 76.0-81.0 GHz | 122.25-123.0 GHz | 134-141 GHz | 241-250 GHz | All above 275 GHz |

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