

US Amateur Radio Bands

US AMATEUR POWER LIMITS — FCC 97.313 An amateur station must use the minimum transmitter power necessary

to carry out the desired communications. (b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

7.000 must first register with the Utilities Technology Council online at https://utc.org/plc-database-amateur-notification-process/ Amateurs wishing to operate on either 2,200 or 630 meters You need only register once for each band.

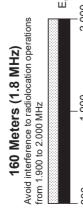


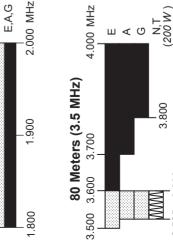
7.025

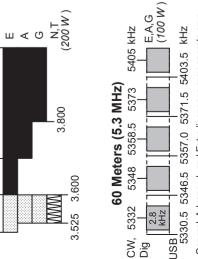
Region 2 only

5 W EIRP maximum, except in Alaska within 496 miles of 479 KHz

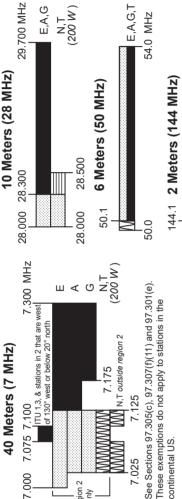
Russia where the power limit is 1 W EIRP.



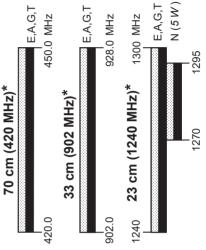




secondary basis with a maximum ERP of 100 W (relative to a General, Advanced, and Extra licensees may operate on a half-wave dipole antenna).







E,A,G

17 Meters (18 MHz)

14.150 14.225

14.025

14.175

18.168 MHz

18.110

18.068

21,450 MHz

15 Meters (21 MHz)

21.200

21.000

All licensees except Novices are authorized all modes on the following frequencies:

N,T (200 W)

21.275

21.200

21.025

21.225

ш∢б

122.25-123.0 GHz 134-141 GHz 241-250 GHz 10.0-10.5 GHz # 24.0-24.25 GHz 47.0-47.2 GHz 2300-2310 MHz 2390-2450 MHz 3400-3450 MHz

RESPACE THE National Association for Amateur Radio®

KEY

CW operation is permitted throughout all MCW is authorized above 50.1 MHz. amateur bands

except for 144.0-144.1 and 219-220 MHz Test transmissions are authorized above 51 MHz, except for 219-220 MHz

= phone and image = RTTY and data

= SSB phone = CW only

= USB phone, CW, RTTY,

= Fixed digital message

and data.

E,A,G,T

148.0 MHz

144.0

Avoid interference to fixed services outside the US.

200 Watts PEP

10.100

30 Meters (10.1 MHz)

E,A,G 10.150 MHz

1.25 Meters (222 MHz)

forwarding systems only

E = Amateur Extra

A = Advanced

G = General

N (25 W)

219.0 220.0

14.350 MHz

20 Meters (14 MHz)

14.150

14.000

ш∢б

E,A,G,T

T = Technician

N = Novice

See www.arrl.org/band-plan for detailed band plans.

We're At Your Service ARRL

ARRL Headquarters:

860-594-0200 (Fax 860-594-0259) email: hq@arrl.org

Membership/Circulation Desk:

Toll-Free 1-888-277-5289 (860-594-0355)

www.arrl.org/shop Publication Orders:

email: orders@arrl.org

Toll-Free 1-888-277-5289 (860-594-0338) email: membership@arrl.org www.arrl.org/membership

Toll-Free 1-800-326-3942 (860-594-0355) Getting Started in Amateur Radio: email: newham@arrl.org Exams: 860-594-0300 email: vec@arrl.org

Copyright © ARRL 2023 rev. 07/25/2024

All above 275 GHz

76.0-81.0 GHz

5650-5925 MHz

E,A,G 24.990 MHz

24.930

24.890

12 Meters (24 MHz)

No pulse emissions

Considerate Frequency Usage

1.800-2.000	CW	14.233	D-SSTV
1.800-1.810	Digital Modes	14.236	Digital Voice
1.810	CW QRP calling frequency	14.285	QRP SSB calling frequency
1.843-2.000	SSB, SSTV and other wideband modes	14.286	AM calling frequency
1.910	SSB QRP	18.100–18.105	RTTY/Data
1.995–2.000	Experimental	18.105–18.110	Automatically controlled data stations
1.999–2.000	Beacons	18.110	IBP/NCDXF beacons
3.500–3.510	CW DX window	18.162.5	Digital Voice
3.560	QRP CW calling frequency	21.060	QRP CW calling frequency
3.570–3.600	RTTY/Data	21.070–21.110	RTTY/Data
3.585–3.600	Automatically controlled data stations	21.090–21.100	Automatically controlled data stations
3.590	RTTY/Data DX	21.150	IBP/NCDXF beacons
3.790–3.800	DX window	21.340	SSTV
3.845	SSTV	21.385	QRP SSB calling frequency
3.885	AM calling frequency	24.920–24.925	RTTY/Data
3.985	QRP SSB calling frequency	24.925–24.930	Automatically controlled data stations
7.030	QRP CW calling frequency	24.930	IBP/NCDXF beacons
7.040	RTTY/Data DX	28.060	QRP CW calling frequency
7.070–7.125	RTTY/Data	28.070–28.120	RTTY/Data
7.100–7.105	Automatically controlled data stations	28.120–28.189	Automatically controlled data stations
7.171	SSTV	28.190–28.225	Beacons
7.173	D-SSTV	28.200	IBP/NCDXF beacons
7.285	QRP SSB calling frequency	28.385	QRP SSB calling frequency
7.290	AM calling frequency	28.680	SSTV
10.130–10.140	RTTY/Data	29.000–29.200	AM
10.140–10.150	Automatically controlled data stations	29.300–29.510	Satellite downlinks
14.060	QRP CW calling frequency	29.520–29.580	Repeater inputs
14.070–14.095	RTTY/Data	29.600	FM simplex
14.095–14.0995	Automatically controlled data stations	29.620–29.680	Repeater outputs
14.100	IBP/NCDXF beacons		
14.1005–14.112	Automatically controlled data stations		
14.230	SSTV		

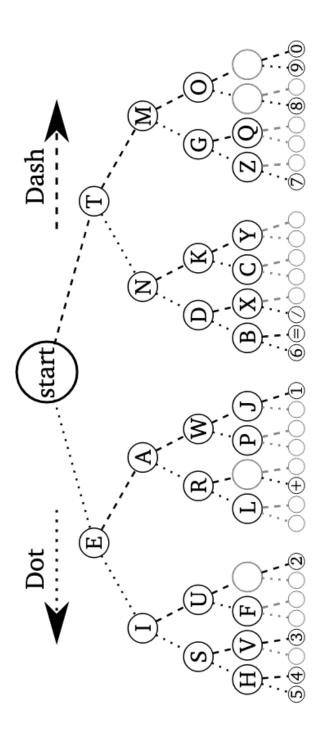
Q Codes

QRG	Your exact frequency (or that of) iskHz.	Will you tell me my exact frequency (or that of)?
QRL	I am busy (or busy with).	Are you busy? (Used to ask if frequency is in use)
QRM	Your transmission is being interfered with (1-5).	Is my transmission being interfered with?
QRN	I am troubled by static (1-5).	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 (onkHz).	When will you call me again?
QRZ	You are being called by (onkHz).	Who is calling me?
QSB	Your signals are fading.	Are my signals fading?
QSK	I can hear you between signals.	Can I break in on your transmission?
QUIT		
QSL	I am acknowledging receipt.	Can you acknowledge receipt?
	I am acknowledging receipt. I can communicate with direct (or via).	
QSL		Can you communicate with direct or by
QSL	I can communicate with direct (or via).	Can you communicate with direct or by relay?
QSL QSO QSP	I can communicate with direct (or via). I will relay to	Can you communicate with direct or by relay?
QSL QSO QSP QST	I can communicate with direct (or via). I will relay to General call to all amateurs (CQ ARRL).	Can you communicate with direct or by relay? Will you relay to?
QSL QSO QSP QST QSX	I can communicate with direct (or via). I will relay to General call to all amateurs (CQ ARRL). I am listening to onkHz.	Can you communicate with direct or by relay? Will you relay to? - Will you listen to onkHz?
QSL QSO QSP QST QSX QSY	I can communicate with direct (or via). I will relay to General call to all amateurs (CQ ARRL). I am listening to onkHz. Change to another frequency (orkHz).	Can you communicate with direct or by relay? Will you relay to? Will you listen to onkHz? Shall I change to another frequency?

Prosigns

AR	End of message	Often sent as "di-dah-di-dah-dit" (•-•-•)
AS	Stand by	"di-dah-di-di-dit"; used to ask someone to wait
BK	Break	Used to invite the other station to transmit immediately
ВТ	Separator	Break between thoughts or paragraphs ("dah-di-di-dah")
CL	Closing down	Used when signing off the air permanently or for the day
CQ	Calling any station	General call: "di-dah-di-dah" then "dah-dah-di-dah"
CT	Start of message	Used to begin formal traffic messages
EE	Error	Correcting a mistake; usually sent as "di-di-di-di" rapidly
K	Go ahead	Invitation for the other station to transmit
KN	Go ahead, named station only	Stronger version of K—only the called station should respond
R	Roger (message received)	Confirms receipt of last transmission
SK	End of contact	"Silent Key"; final sign-off (di-di-di-dah-di-dah)
SN	Understood	Used in formal message handling (equivalent to "QSL" or "Roger")

A Alpha	November	0	·
B Bravo	Oscar	1	!
C Charlie	P Papa	2	/
D Delta	Q Quebec	3	(
E Echo	Romeo	4)
F Foxtrot	S Sierra	5	&
$G \stackrel{Golf}{}$	Tango	6	•···
H Hotel	U Umbrella	7	• -·-··································
India 	V Victor	8	=
J Juliet	W Whiskey	9	+ ·-·-·
K Kilo	X X-ray	•	
Lima .—	Y Yankee	,	
Mike	Z Zulu	?	



SSB

A (Calling CQ): "CQ CQ CQ, this is K1ABC, Kilo One Alpha Bravo Charlie, calling CQ and standing by."

B (Responding): "K1ABC, this is W2XYZ, Whiskey Two X-ray Yankee Zulu."

A: "W2XYZ, good afternoon, you're 59 here in Boston, Massachusetts. Name is John, Juliet Oscar Hotel November. Back to you, W2XYZ from K1ABC."

B: "Thanks John, you're 59 as well in New Jersey. Name is Mike, Mike India Kilo Echo. Nice to meet you, John. K1ABC, this is W2XYZ."

A: "Very good Mike, thanks for the QSO. 73 and have a great day. K1ABC is now clear."

SSB Contest

Activator (**A**) **calling:** "CQ POTA, CQ Parks on the Air, this is K1ABC, Kilo One Alpha Bravo Charlie, calling CQ POTA and standing by."

Hunter (B) responds: "K1ABC, this is W2XYZ."

Activator (A): "W2XYZ, you're 59 into park K-1234."

Hunter (B): "Thanks for the 59. You're 57 in New Jersey. 73!"

Activator (**A**): "Copy the 57 New Jersey. Thanks for hunting! QRZ, this is K1ABC, park K-1234."

CW

A (Calling CQ): "CQ CQ CQ DE K1ABC K1ABC K1ABC K" (Calling any station, this is K1ABC, standing by)

B (Responding): "K1ABC DE W2XYZ W2XYZ K" (K1ABC, this is W2XYZ, over)

A: "W2XYZ DE K1ABC UR 599 IN MA. NAME JOHN. HW? W2XYZ DE K1ABC K" (You're 599 in Massachusetts. My name is John. How do you copy?)

B: "K1ABC DE W2XYZ R UR 589 IN NJ. NAME MIKE. RIG KX3, 10W. WX SUNNY. K1ABC DE W2XYZ K"

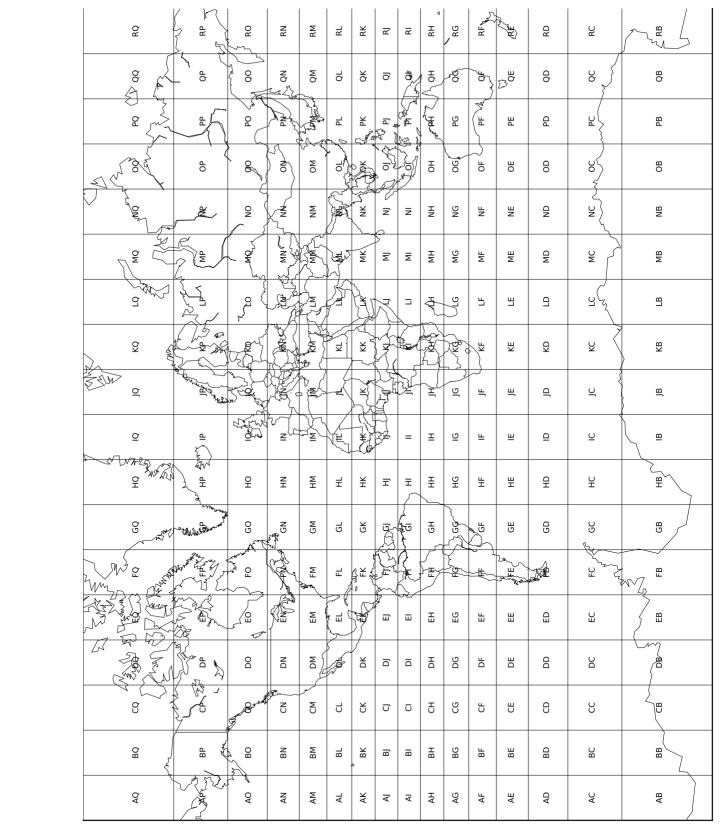
(Roger, you're 589 in New Jersey. My name is Mike. My rig is a KX3 running 10 watts. Weather is sunny.)

A: "R TNX MIKE. 73 ES HPE CUAGN. W2XYZ DE K1ABC SK" (Roger, thanks Mike. Best regards and hope to see you again. Signing off.)

Callsign Country Prefixes

K, N, W	United States	СТ	Portugal
AA-AL	United States	LU	Argentina
VE	Canada	PY	Brazil
VA, VO, VY	Canada	CX	Uruguay
ZL	New Zealand	YV	Venezuela
VK	Australia	XE	Mexico
JA, JE, JH	Japan	TI	Costa Rica
G, M	United Kingdom	OA	Peru
F	France	CE	Chile
DL	Germany	HL	South Korea
I	Italy	BY, BG, BH	China
ON	Belgium	ПС	Thailand
ON	Deigiaiti	HS	manand
PA	Netherlands	9V	Singapore
PA	Netherlands	9V	Singapore
PA SM, SA	Netherlands Sweden	9V VU	Singapore India
PA SM, SA OH	Netherlands Sweden Finland	9V VU 4X, 4Z	Singapore India Israel
PA SM, SA OH LA, LB	Netherlands Sweden Finland Norway	9V VU 4X, 4Z ZS	Singapore India Israel South Africa
PA SM, SA OH LA, LB OE	Netherlands Sweden Finland Norway Austria	9V VU 4X, 4Z ZS SU	Singapore India Israel South Africa Egypt
PA SM, SA OH LA, LB OE OK	Netherlands Sweden Finland Norway Austria Czech Republic	9V VU 4X, 4Z ZS SU A6	Singapore India Israel South Africa Egypt United Arab Emirates
PA SM, SA OH LA, LB OE OK SP	Netherlands Sweden Finland Norway Austria Czech Republic Poland	9V VU 4X, 4Z ZS SU A6 A7	Singapore India Israel South Africa Egypt United Arab Emirates Qatar

	F070	FN79	FN78	FN77	FN76	FN75	FN74	FN73	FN72	FN71	FN70	FM79	FM78	FM77	FM76	FM75	FM74	FM73	FM72	FM71	FM70	FL79	FL78	FL77	FL76	FL75	FL74
Column C	F060	FN69	FN68	FN67	FN66	L L	mPN64	FN63	FN62	FN61	FN60	FM69	FM68	FM67	FM66	FM65	FM64	FM63	FM62	FM61	FM60	FL69	FL68	FL67	FL66	FL65	FL64
Column C	F050	پې FN5 پېر	FM5B	FNS	FN56	FN55	FNRA	FN53	FN52	FN51	FN50	FM59	FM58	FM57	FM56	FM55	FM54	FM53	FM52	FM51	FM50	FL59	FL58	FL57	FL56	FL55	FL54
Construction Cons	F040	FN		FN47	FN46		_FN44	PNA32	SE C	Z.	FN40	FM49	FM48	FM47	FM46	FM45	FM44	FM43	FM42	FM41	FM40	FL49	FL48	FL47	FL46	FL45	FL44
Corrections	F030	FN39	FN38		FN36	ZFN35	N34	JEENHY	M32.	FN31	FN30	FM39	FM38	FM37	FM36	FM35	FM34	FM33	FM32	FM31	FM30	FL39	FL38	FL37	FL36	FL35	FL34
Construction Cons	F020	FW29		FN27	FN26	£ 2	FN24	FN23	FN22	ĮĘ,	F. Z.O.	62MJ		FM27	FM26	J}M25	FM24	FM23	FM22	FM21	FM20	FL29	FL28	FL27	FL26	FL25	K L24
Consiste	F010	Service FN198		1	FN16	FN1 SIN1	FN1436	FINIS	FN []	FN11	FN10	3 FM19		FMI	- OIMI-	FM15	PM14	FM13	FM12	FM11	FM10	FL19	FL18	FL17) M 16	FLIE	
Correction Cor	F000	EN09	\$00k	ENO?				FNO3	- PM02	FN01	FN00	Som	NEW 08	FM07	FMODE	FM05	PW04	FW03	FM02	FM01	FM00	FL09	FL08	FL07	FLO	FL05	FL04
Correction Cor	E090	EN99	EN98		EN96	EN95	ARAN S	EN93	ZEN9Z	EN91	EN90	- EMB	EM98	STEMBLY	7EM96	EM95	EM94	EM93~	PM93	EW91	06W) El/99	BT3.	E197) 	F255	EL94
Curio Curi	E080	EN89	EN88	EN87		EN85		ENB	ENE	- F	EN80	EM89	FMB	EM87	EMB6	EW85	EM84	EM83	EM82	EM81	EM80	EF 83	EL8	EL8.	98T3	EL85	EL84
Corrections	E070	EN79	EN78	ENAZ7	EN T	15 E	EN74	EN73	EN72	EN71		EM79	WW W	EM77	EM176	EM75	EM74	EM73	EM72	EM 71	- 7	ET.79	EL78	EL77	EL76	EL75	EL74
COMP. COMP. DAVID. DIATA DAVID. DIATA DAVID. DIAMAGE DAVID. DAVID. DAVID. DAVID. DAVID. DIAMAGE	E060	EN/89	lfo l	EN67	EMGG		EN64	/ENG3	(EN62)	EN61	EN60	EM69	EM68	EM67	EM66	EM65	EM64	EM63	EM62	EM61	S BMGG	EL69	EL68	EL67	EL66	EL65	EL64
COMB COMB DOMO DOTA DOTA <th< td=""><td>E050</td><td>ENER</td><td>EMEN</td><td>EN57</td><td>EN26</td><td>ENS5</td><td>EN54</td><td>EN53</td><td>EN52</td><td>EN51</td><td>ENSO</td><td>EM59</td><td>EM58</td><td>EM57.</td><td>Selfie </td><td>F EM55</td><td>EM54</td><td>EM53</td><td>EM52</td><td>EM51</td><td>(EM50)</td><td>657</td><td>EL58</td><td>EL57</td><td>EL56</td><td>EL55</td><td>EL54</td></th<>	E050	ENER	EMEN	EN57	EN26	ENS5	EN54	EN53	EN52	EN51	ENSO	EM59	EM58	EM57.	Selfie	F EM55	EM54	EM53	EM52	EM51	(EM50)	657	EL58	EL57	EL56	EL55	EL54
CASE COSE DATO DATO DOZO DAZO	E040	EN49	EN48	EN47	EN#OX	EN45	EN44	-FA43	EN4	ENAZ	M40	E X 449	EM48	EM47	EM46	EM45 3	EM4	E 6 43	E P	£ M41	EM40	57 6 49	EL48	EL47	EL46	EL45	EL44
CMBB CMBB DNOB DNOB DNAB DNAB DNAB DNAB DNAB DNAB DNAB DNA	E030				EN36	ENSS	EN34	EN33	EN32	EN31	EN30	EM39	EM38	EM37	EM36	EM35	EM 34	EM33	EM32	EM31	{EM30		EL38	EL37	EL36	EL35	EL34
CARGO COGO DODO DOTO DOZO DOGO DOGO DOGO DOGO DOGO DOGO DOG	E020		EN28	EN27 _Q	EN26	EN25	EN24	EN23	EN22	EN21	TENZO VENZO	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	EM28	EM27	EM26	EM25	EM24	EM23	EM22	EM21	EM20	ELS.	EL28	EL27	EL26	EL25	EL24
CNRS CNSG DNOG DNUS DNUS DNUS DNAG DNSG DNCG DNOG DNTG DNNS DNRS DNRS DNRS DNRS DNRS DNRS DNRS	E010	EN19	EM18	EN 7	EN Je	ENSE	EN14	EN13	ENIE	EN11	EN10	EM19	EM18	EM17	EM16	EM15	EM14	EM13	EM12	EM11	EM10	EL19	1	11 × 12 × 12 × 12 × 12 × 12 × 12 × 12 ×	9110	20 115	EL14
CNRS (CNS) CNS) CNS (DNOS (DNIS DNZ) DNAS (DNAS DNAS DNAS DNAS DNAS DNAS DNAS DNAS	E000	EN09	EN08	EN07	EN06	EN05	EN04	E A	EN02	EN01	EN00	EM09	EM08	EM07	EM06	EM05	EM04	EM03	EM02	EM01	EM00	EL09	EL08	ζ ΕL07	90		₹[104
CNRS CNSG CNSG DNOG DNOG DNAZ DNAS DNAS DNAS DNAS DNAS DNAS DNAS DNAS	0600	66N Q	86NQ	76M95	₫6NQ	₹6NQ	1 6NG	E6NQ	Z6NQ	DN91	06NQ	DM99	DM98	DM97	96WG	Фм95	DM94	DM93	Z6WQ	DM91	DM90	66710	8670	Лепа	9670		
CORGE COSO DODO DOLO DOLO <t< td=""><td>D080</td><td>DN89</td><td>SNO S</td><td>5 kg</td><td>DN86</td><td>DN85</td><td>DN84</td><td>DN83</td><td>DN82</td><td>DN81</td><td>DN80</td><td>DM89</td><td>DM88</td><td>DM87</td><td>DM86</td><td>DM85</td><td>DM84</td><td>DM83</td><td>DM82</td><td>DM81</td><td>DM80</td><td>DL89</td><td>887g/</td><td>(DL87</td><td>9876</td><td>pL85</td><td>72</td></t<>	D080	DN89	SNO S	5 kg	DN86	DN85	DN84	DN83	DN82	DN81	DN80	DM89	DM88	DM87	DM86	DM85	DM84	DM83	DM82	DM81	DM80	DL89	887g/	(DL87	9876	pL85	72
CNRS CNSS CNSS DNOS DNOS DN1S DN2S DN3S DN4S DNSS DN CNRS CNSS DNOS DNOS DN1S DN27 DN37 DN37 DN37 DN37 DN37 DN37 DN37 DN3	DO70	DN79	DN78	DN77	DN76	DN75	DN74	DN73	DN72	DN71	DN70	DM79	DM78	DM77	DM76	DM75	DM74	DM73	DM72	DM71	DM70	DL79	DL78	DL77	9276	DL75	DL74
CN85 (CN96 DN06 DN18 DN28 DN39 DN49 DN59 CN85 (CN96 DN06 DN18 DN28 DN39 DN49 DN59 CN85 (CN96 DN06 DN16 DN27 DN35 DN44 DN51 CN85 (CN96 DN06 DN16 DN27 DN35 DN44 DN55 CN87 (CN81 CN94 DN07 DN16 DN16 DN24 DN36 DN44 CN88 (CN96 DN06 DN19 DN23 DN39 DN43 DN55 CN89 (CN99 DN00 DN10 DN20 DN30 DN40 DN50 CN80 (CN90 DN00 DN10 DN21 DN37 DN44 DN51 CN80 (CN96 DN00 DN10 DN20 DN30 DN40 DN50 CN80 (CN90 DN00 DN10 DN20 DN30 DN40 DN50 CN80 (CN90 DN00 DN10 DN20 DN30 DN40 DN50 CN80 (CN90 DN00 DN10 DN20 DN30 DN40 DN40 CN80 (CN90 DN00 DN10 DN30 DN30 DN30 DN40 CN80 (CN90 DN00 DN10 DN30 DN30 DN30 DN30 CN80 (CN90 DN00 DN10 DN30 DN30 DN30 DN30 CN80 (CN90 DN00 DN10 DN30 DN30 DN30 DN30 CN80 (CN90 DN00 DN10 DN30 DN30 CN80 (CN90 DN00 DN10 DN30 DN30 DN30 CN80 (CN90 DN00 DN10 DN30 DN30 DN30 CN80 (CN90 DN00 DN30 DN30			DN68	PDN67	DN66	DN65	DN64			DN61		DM69	D#468			DM65		DM63		DM61	DM60		89TQ		/DIEG		
CORREL CORDE DOOD DOLO DOZO DOSO CARRES CURSE CNUSE CNUSE DNUSE	D050	DN59	DN58	DN57	DN56	DNS5		DN53	DN52	DN51	DNS0		DN58		DN56	DMSS	DM54	DM53	DM52	DN51	DMS	65103	ا مارج	(S)		3	- 0
CNRS CN99 DN09 DN19 DN28 CNRS CN98 DN08 DN18 DN28 CNRS CN96 DN06 DN16 DN27 CNRS CN95 DN05 DN11 DN27 CNRS CN95 DN05 DN11 DN27 CNRS CN95 DN03 DN13 DN23 CNRS CN95 DN09 DN10 DN20 CNRS CN96 DN00 DN10 DN20 CNRS CN97 DN07 DN17 DN27 CNRS CN99 DN09 DN19 DN29 CNRS CN99 DN09 DN10 DN20 CNRS CN99 DN09 DN10 DN20 CNRS CN99 DN00 DN11 DN27 CNRS CN99 DN00 DN10 DN27 CNRS CN99 DN00 DN11 DN27 CNRS CN99 DN00 DN1	D040	DN49	DN48	DN47	\$ DN46	DN45		DN43	DN42	DN41	DN40	DM49	DM48	by Ma	DM46	DM45	DM44	DM43	DM42	DM41	DM40	DL49	DL48	DL4	D1.46	45	**************************************
CNRS CNSS DNOS DNUS CLSS CUSS DLOS DLUS CLSS CUSS DLOS DLUS CLSS CUSS DLOS DLUS CLSS CLSS CLSS CLSS DLOS DLUS CNS CLSS DLOS DLUS CNS CLSS CLSS DLOS DLUS CNS CLSS CLSS DLOS DLUS CNS CLSS CLSS DLOS DLUS CNS	D030	DN39	DN38	DN37	DN36	DN35	DN34	DN33	DN32	DNG	DN30	DM39	DM38	DM37	_	DM35	DM34	DM33	DM32	DM31	DM30	(AL39)	28540	VEIO .	3	0135	DL34
CNBB CNBB DNUB DN18 CNBB CNBB DNOB DN18 CNBB CNBB DNOB DN18 CNBB CNBB DNOB DN118 CNBB CNBB DN0B DN118 CNBB CNBB DN18 CNBB DN18 CNB CNB DN18 CN	D020	-BNZ	DN28	DN27	DNZ	DN25	DN24	DN23	DN22	DN21	DNZ0	DM29	DM28	DM27	DMZG	\$7 \$7	DM2♠	SpM22	DM22	DMZ	DMZO	/e/y	pl.28 }		DL26	DL25	DL24
CNB CN99 CNB CN95 CNB CN95 CNB CN95 CNB CN96 CNB CNB CN96 CNB CNB CN96 CNB CNB CN96 CNB CNB CNB CN96 CNB	DO10	- SWO	DN18	DN \$ 7	DN16	DNI	DK114	DN13	DN12	DN11	DNIO	DM19	DM18	DM17	DMT6	DM15	DM14	DM13	DM12	DM14	DM10	DL19	DL18	DL17	DL16	DL15	DL14
COBO CORB CORB CORB CORB CORB CORB CORB	D000) 60NG) 80NG	DN07	DN06	DN05	DN04	EÑÑG		DNO1	DONO	DM09	8pMQ	DM07	DM06	DM05	DM04	DMO3	DM02	DM01	DM00	, 607G	DL08	DL07	DL06	DL05	DL04
	0600	66ND			96ND	CM95	CN94	CN93	CN92	CN91	CN90	66WD	CM98		СМЭ6	CMP5	CM94	CM93	CM92	CM91	CM90	66TO	CL98	CL97	96TD	CL95	CL94
2	0800	N N 89		CIVE	CN86	CN85	CN84	CN83	CN82	CN81	CN80	CM89	CMBB	CM87	CM86	CM85	CM84	CM83	CM82	CM81	CM80	CL89	CL88	CL87	CL86	CL85	CL84
	0.000	79/_ E	1 Je 2 -	CN	CN76	CN75	CN74	CN73	CN ZS	CN71	CN70	CM 79	CM 78	CM77	CM76	CM75	CM74	CM73	CM72	CM71	CM 70	CL79	CL/78	CIL77	CLI76	CLI75	44



R.

S.R

Ж

SR

Ä

Ä

띰

쯗

뜨

≅

품

GR

Ж

ER

В

S

BR

AR

References

CW Parse Tree

https://commons.wikimedia.org/wiki/File:Morse-code-tree.svg

World Maidenhead Grid Map

https://www.dxengineering.com/techarticles/dxegeneralnews/download-a-free-worldwide-grid-square-map-from-dx-engineering

ARRL Frequency Allocation Chart

https://www.arrl.org/graphical-frequency-allocations

ARRL Considerate Operator's Frequency Guide

https://www.arrl.org/considerate-operator

ARRL Communicating with Other Hams

https://www.arrl.org/files/file/Get%20on%20the%20Air/Comm%20w%20Other%20Hams-Q%20Signals.pdf

Icom US Grid Square Map

https://www.icomamerica.com/lineup/amateur/Band Plan Map/

Icom Common Prefixes of Countries

https://www.hamqsl.com/bandchar.pdf