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/

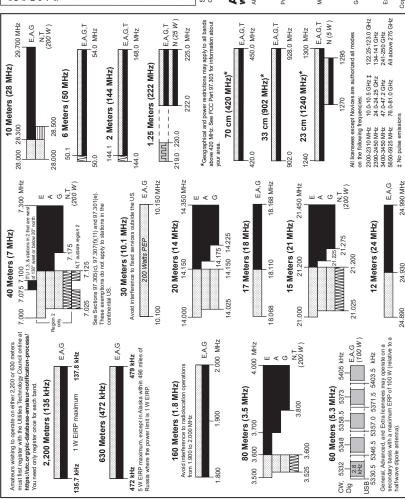
Icom Common Prefixes of Countries

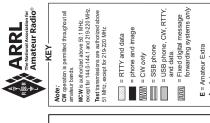
https://www.hamqsl.com/bandchar.pdf



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.





E = Amateur Extra
A = Advanced
G = General
T = Technician
N = Novice

See www.arrl.org/band-plan for detailed band plans. ARRL We're At Your Service

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

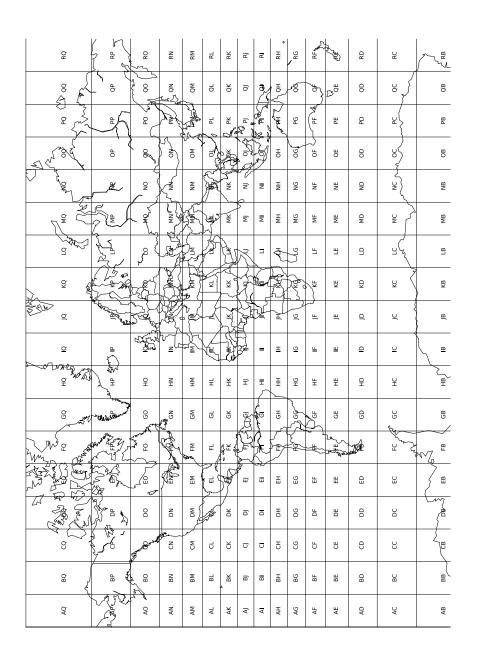
Publication Orders: www.arrl.org/shop Toll-Free 1-888-277-5289 (860-594-0355) email: orders@arrl.org

Membership/Circulation Desk: www.arrl.org/membership Toll-Free 1-888-277-5289 (86C email: membership@arrl.org

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

Exams: 860-594-0300 email: vec@arrl.org

Copyright @ ARRL 2023 rev. 07/25/2024



		 ()		<u> </u>			L .		<u> </u>									_	_							—
F030	FN39	FN38	FN37	FN36	ZEN35	N34	JEEN4	42EN/	IN31	FN30	FM39	FM38	FM37	FM36	FM35	FM34	FM33	FM32	FM31	FM30	6E73	FL38	FL37	FL36	FL35	FL34
F020	FW29	*	FN27	FNZ6	£ 2	FN24	FN23	FN22	كتجير	-F20 -V20	MZ99	25 E	FM27	FM26	J-M25	FM24	FM23	FM22	FM21	FM20	FL29	FL28	FL27	FL26	FL25	¥ L24
F010	φins FN1φ	FM18	1	FN16	Z IN	FN143	NE)	FN 	FN11	FN10	FM19		ZZ.	4 DE 18	FMF	P41794	FM13	FM12	FM11	FM10	FL19	FL18	FL17) M16	FL16	FL14
F000	60NH	% %	60N€	2 E	FNOS	\$ A	E,	FK02	FN01	FNOO	Sow 1	JEM/08	FM07	- цом	FM05	PM04	Flyfo3	FM02	FM01	FM00	FL09	FL08	FL07	FLOS	FL05	FL04
E090	EN99	EN98	EN97	EN96	EN995		EN93	FINGS	EN91	gena	EME	EM98	EMBZE	FM96	EM95	EM94	ЕМ93~	THE STATE OF	EM91	M90	66/13°	ET-3	EL97	EL96	F295/	EL94
E080	EN89	EN88	EN87	EN86	EN85	gN84	ENBS	ENER		EN80	EM89	EM8827	EM87	EM86	FW85	₽	EM83	EM82	EM81	EM80	68	ELB	EL86	EL86	EL85	EL84
E070	EN79	EN78	ENKZ	EN72		EN74	EN73	EN72	EN71	EN70	EM 79	FM78	EM77	9/WJ	EM75	EM74	EM73	EM72	EN 7.1	EM70	EL79	EL78	EL77	EL76	EL75	EL74
E060	EN/69	ENGB	EN67	EHKER		FN64	Ely63	EN62	ING1	EN60	EM69	EM68	EM67	EM66	EM65	EM64	EM63	EM62	EM61	E0000	69T3	EL68	EL67	EL66	EL65	EL64
E050	ENATO J	Se !	EN57	ENS6	EN55 }	EN54	EN53	ENS2	EN51	ENSO	EM59	EM58	EM57	100	EM55	EM54	EM53	EM52	EM51	EMSOLAS	65	EL58	EL57	EL56	EL55	EL54
E040	EN49	EN48	ENA?	ENT OF	EN45	EN44	-443 -432	PA-	EN42	MV40	EM49	EM48	EM47	EM46)	EM45	EM44	E 0 43	- ER-70	EM41	EM40	49	EL48	EL47	EL46	EL45	EL44
E030	EN39	A.	EN37	EN36	EN\$6	EN34	EN33	EN32	EN31	EN30	EM39	EM38	EM37	EM36	EM35	EM34	EM33	EM32	EM31	{EM30		EL38	EL37	EL36	EL35	EL34
E020		\$ 82 d	EN27.0	EN26	EN25	EN24	EN23	EN22	EN21	OZNZ0	ر ڇکر	EM28	EM27	EM2	EM25	EM24	EM23	EM22	EM21	EM20	ELSS-	EL28	EL27	EL26	EL25	EL24
E010	EN19	ER 18	EN 7	EN1	ENSS	EN14	EN13	ENIT	EN11	EN10	EM19	EM18	EM17	EM16	EM15	EM14	EM13	EM12	EM11	EM10	EL19		17	917	FL15	EL14
E000	EN09	EN08	EN07	EN06	ENOS	EN04		EN02	EN01	EN00	EM09	EM08	EM07	EM06	EM05	FM04	EM03	EM02	EM01	EM00	EL09	EL08	EL07	F106	ELOS	{€L04
0600	66NQ	86NQ	76M97	€NQ	~€NQ	Fend Weight	DN93	DN92	DN91	06NQ	06MQ	DM98	DM97	96WG	Д РМ95	DM94	DM93	DM92	DM91	D6WQ	6670	8670	200	okse	PL96	
0800	68NQ	88 Q	DN87	DN86	DN85	DN84	DN83	DN82	DN81	DN80	DM89	DM88	DM87	98NG	DN85	DN84	DM83	DM82	DM81	DM80	687G	987g	DL87	9876	pL85	
DO70	6LNQ	DN78	DN77	DN76	DN75	DN74	DN73	DN72	DN71	DN70	6/WQ	DM78	DM77	DM76	DM75	DM74	DM73	DM72	DM71	DM70	DL79	DL78) ערש	DF-76	DL75	DL74
DO60	69NQ	DN68	PONE?	DN66	DN65	DN64	DN63	DN62	DN61	DN60	DM69	D#468	DM67	DM66	DM65	DM64	DM63	DM62	DM61	DM60	69TQ	DL68	DL67	DL66	D)es	PI-OF
DO50	65NG	DN58	DN57 🗡	DN56	DNSS	DN54	DN53	DN52	DNS1	DNSO	DM59	DM58	DM57	DM56	DM55	DM54	DM53	DM52	DM51	овма	657Q	35) Sala	yse T	OBSS	DL54
DO40	DN49	DN48	DN47	DN46	DN45	6N44g	DN43	DN42	DN41	DN40	DM49	DM48	PMO A		DM45	DM44	DM43	DM42	DM41	DM40	DL49	DL48	PL4) 10146	Dh45	1014 A
DO30	DN39	DN38	DN37	DN36	DN35	PK-PNO	DN33	DN32	DNG	DN30	DM39	DM38	DM37	DM36 1	DM35	DM34	DM33	DM32	DM31	n ogwa	16E-199		VE10	DESC N	DL35	DL34
D020	DNZ	DN28	DN27	Pozna	DNZS	DN24	DN23	DN22	DN21	DN20	DM29	DM28	DM27	DMZG	**	DM24	DM2&	DM22	DMZT	рм2р 1	, 62ma	0128	N. S.	9270	DL25	DL24
DO10	6 NO	DN18	LT L	DNIE	DNI	P6114	DN13	DN12	DN11	DN10	DM19 [DM18	DM17	DMING	DM15 [DM14	DM13	DM12 [DM14	DM10	DL19	DL18	DL17	DL16	DL15	DL14
_		_	H-	-	 		H-	H	H	<u> </u>	ļ-	-	17		⊢ <u> </u>	H-	17	-	-		<u> </u>	-	 			\dashv

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?
QSL	I am acknowledging receipt.	Can you acknowledge receipt?
QSO	I can communicate with direct (or via).	Can you communicate with direct or by relay?
QSP	I will relay to	Will you relay to?
QST	General call to all amateurs (CQ ARRL).	-
QSX	I am listening to onkHz.	Will you listen to onkHz?
QSY	Change to another frequency (orkHz).	Shall I change to another frequency?
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?

Callsign Country Prefixes

K, N, W	United States	СТ	Portugal
AA-AL	United States	LU	Argentina
VE	Canada	PY	Brazil
VA, VO, VY	Canada	сх	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	HS	Thailand
PA	Netherlands	9V	Singapore
SM, SA	Sweden	VU	India
ОН	Finland	4X, 4Z	Israel
LA, LB	Norway	ZS	South Africa
OE	Austria	SU	Egypt
ок	Czech Republic	A6	United Arab Emirates
SP	Poland	A7	Qatar
НА	Hungary	A9	Bahrain
YU	Serbia	9K	Kuwait
EA	Spain		

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?)

 $\boldsymbol{B}\text{: }\text{``K1ABC}$ 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.)

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
ВК	Break	Used to invite the other station to transmit immediately
ВТ	Separator	Break between thoughts or paragraphs ("dah-di-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"
СТ	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	O Oscar	1	!
C Charlie	P Papa	2	/
D Delta	Q Quebec	3	(
E Echo	R Romeo	4)
F Foxtrot	S Sierra	5	&
G Golf	T Tango	6	:
H Hotel	U Umbrella	7	•·
India 	V Victor	8	=
J Juliet	Whiskey	9	+
K Kilo	X X-ray		
Lima .—	Y Yankee	,	
M Mike	Z Zulu	?	

