

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.



KEY

Note:

CW operation is permitted throughout all amateur bands.

MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz.

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

- = RTTY and data
- = phone and image
- = CW only
- = SSB phone
- = USB phone, CW, RTTY, and data.
- = Fixed digital message forwarding systems only

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

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

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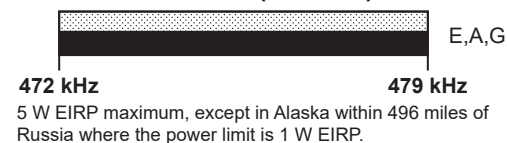
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Amateurs wishing to operate on either 2,200 or 630 meters must first register with the Utilities Technology Council online at <https://utc.org/plc-database-amateur-notification-process/>. You need only register once for each band.

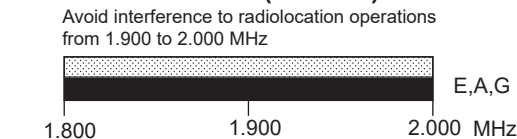
2,200 Meters (135 kHz)



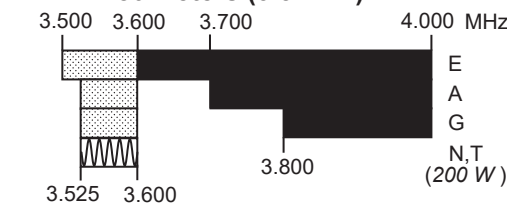
630 Meters (472 kHz)



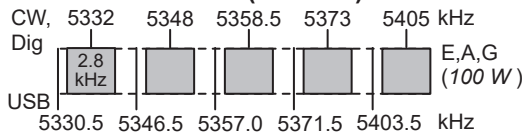
160 Meters (1.8 MHz)



80 Meters (3.5 MHz)

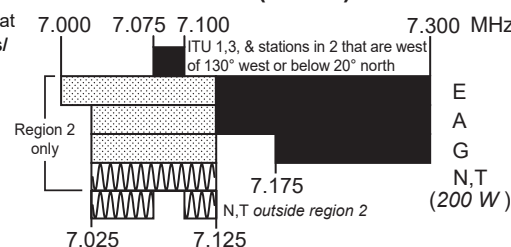


60 Meters (5.3 MHz)



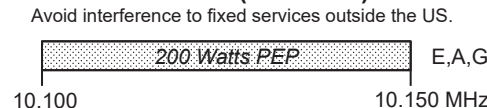
General, Advanced, and Extra licensees may operate on a secondary basis with a maximum ERP of 100 W (relative to a half-wave dipole antenna).

40 Meters (7 MHz)

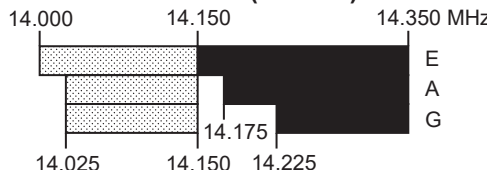


See Sections 97.305(c), 97.307(f)(11) and 97.301(e). These exemptions do not apply to stations in the continental US.

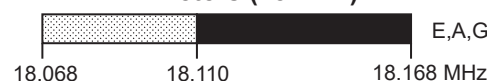
30 Meters (10.1 MHz)



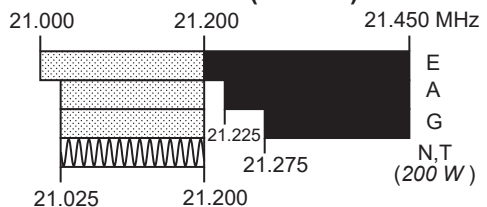
20 Meters (14 MHz)



17 Meters (18 MHz)



15 Meters (21 MHz)



12 Meters (24 MHz)



10 Meters (28 MHz)



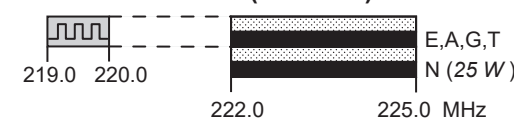
6 Meters (50 MHz)



2 Meters (144 MHz)



1.25 Meters (222 MHz)



*Geographical and power restrictions may apply to all bands above 420 MHz. See FCC Part 97.303 for information about your area.

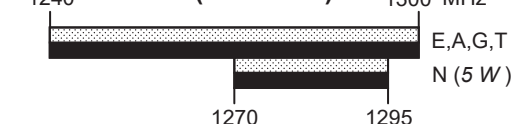
70 cm (420 MHz)*



33 cm (902 MHz)*



23 cm (1240 MHz)*



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

2300-2310 MHz	10.0-10.5 GHz ‡	122.25-123.0 GHz
2390-2450 MHz	24.0-24.25 GHz	134-141 GHz
3400-3450 MHz	47.0-47.2 GHz	241-250 GHz
5650-5925 MHz	76.0-81.0 GHz	All above 275 GHz

‡ 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		

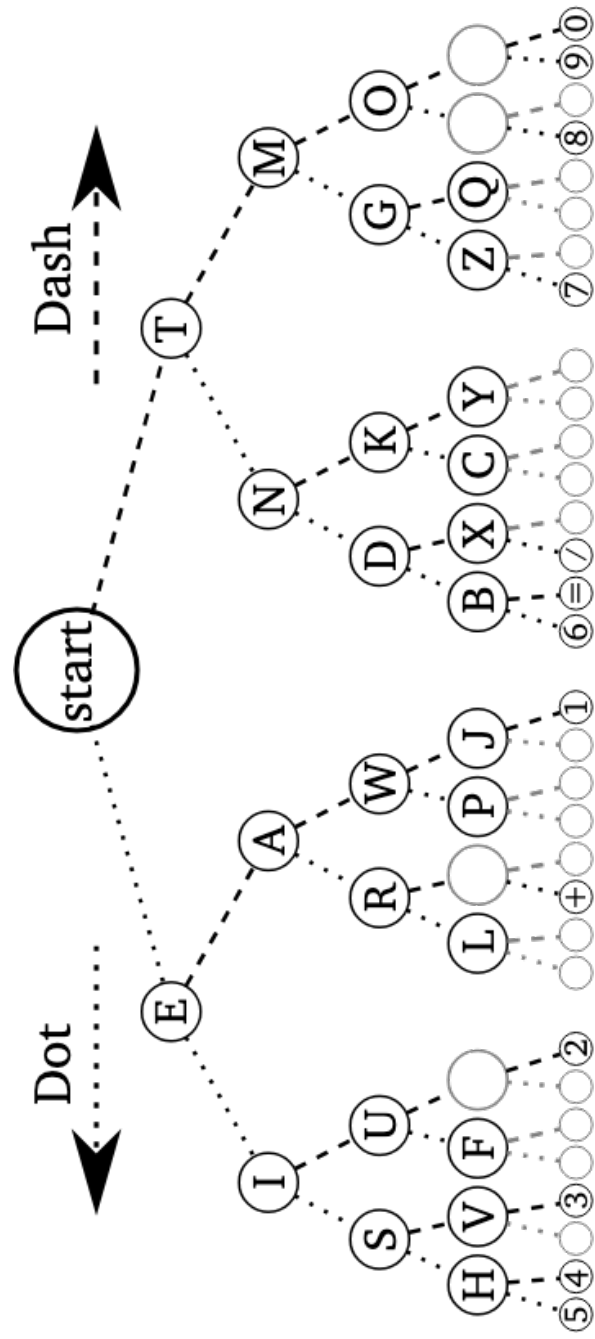
Q Codes

QRG	Your exact frequency (or that of ___) is ___kHz.	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 ___ (on ___kHz).	When will you call me again?
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.	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 ___ on ___kHz.	Will you listen to ___ on ___kHz?
QSY	Change to another frequency (or ___kHz).	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?

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
BT	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”
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 .-	N 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 ---...	; -...--.
I India ..	V Victor ...-	8 -...--.	= -...-
J Juliet .----	W Whiskey .-	9 -...--.	+ -...--.
K Kilo -..	X X-ray -....	. -...--.	- -...-
L Lima -....	Y Yankee -...-	, -...--.	_ -...--.
M 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?)

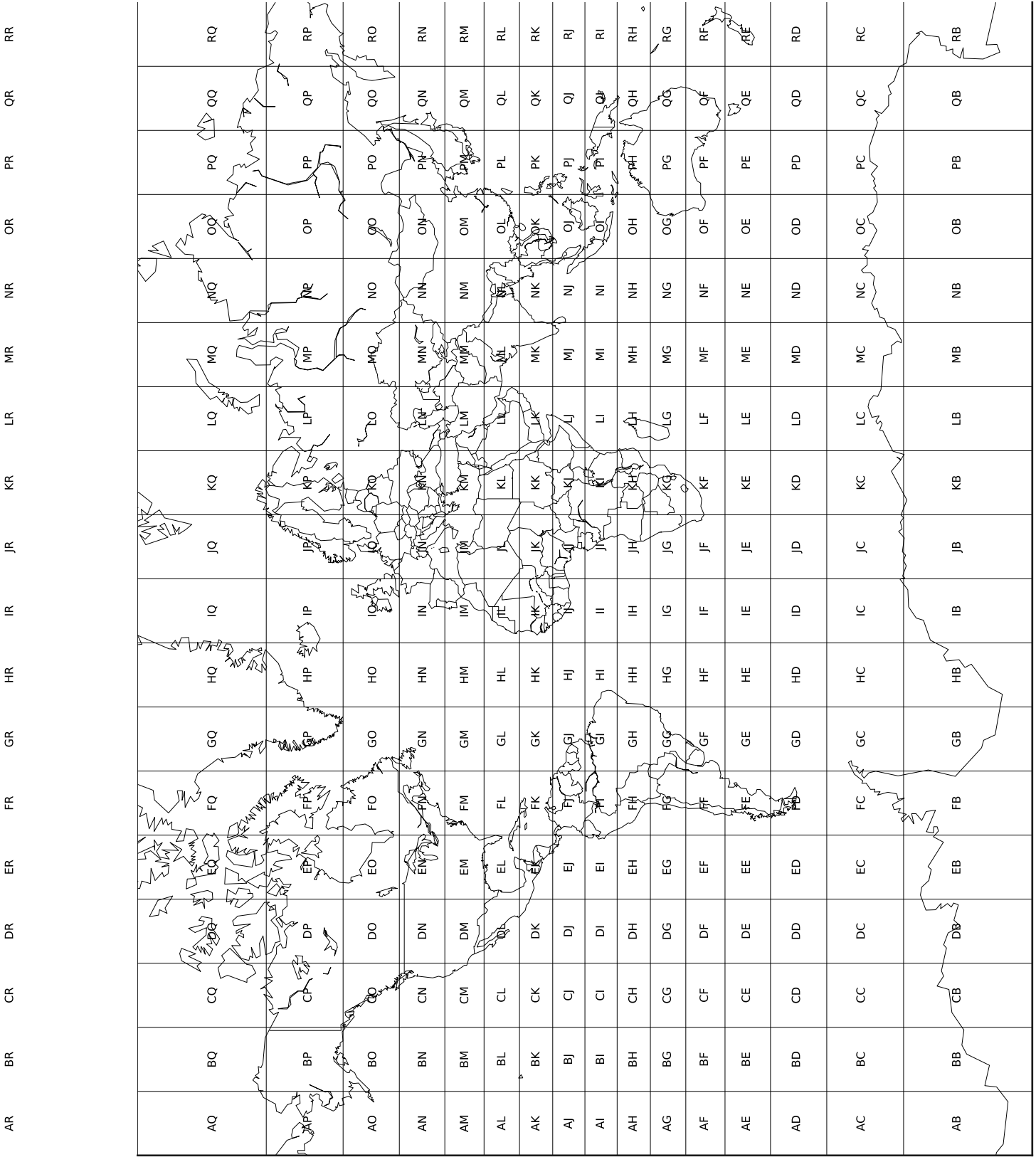
B: “K1ABC DE W2XYZ R UR 589 IN NJ. NAME MIKE. RIG KX3, 10W. WX SUNNY. K1ABC DE W2XYZ K”
(Roger, you're 589 in New Jersey. My name is Mike. My rig is a KX3 running 10 watts. Weather is sunny.)

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	CT	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	HS	Thailand
PA	Netherlands	9V	Singapore
SM, SA	Sweden	VU	India
OH	Finland	4X, 4Z	Israel
LA, LB	Norway	ZS	South Africa
OE	Austria	SU	Egypt
OK	Czech Republic	A6	United Arab Emirates
SP	Poland	A7	Qatar
HA	Hungary	A9	Bahrain
YU	Serbia	9K	Kuwait
EA	Spain		

C070	C080	C090	D000	D010	D020	D030	D040	D050	D060	D070	D080	D090	E000	E010	E020	E030	E040	E050	E060	E070	E080	E090	F000	F010	F020	F030	F040	F050	F060	F070
CN69	CN689	CN99	DN09	DN19	DN29	DN39	DN49	DN59	DN69	DN79	DN89	DN99	EN09	EN19	EN29	EN39	EN49	EN59	EN69	EN79	EN89	EN99	FN09	FN19	FN29	FN39	FN49	FN59	FN69	FN79
CN78	CN68	CN98	DN08	DN18	DN28	DN38	DN48	DN58	DN68	DN78	DN88	DN98	EN08	EN18	EN28	EN38	EN48	EN58	EN68	EN78	EN88	EN98	FN08	FN18	FN28	FN38	FN48	FN58	FN68	FN78
CN77	CN67	CN97	DN07	DN17	DN27	DN37	DN47	DN57	DN67	DN77	DN87	DN97	EN07	EN17	EN27	EN37	EN47	EN57	EN67	EN77	EN87	EN97	FN07	FN17	FN27	FN37	FN47	FN57	FN67	FN77
CN76	CN66	CN96	DN06	DN16	DN26	DN36	DN46	DN56	DN66	DN76	DN86	DN96	EN06	EN16	EN26	EN36	EN46	EN56	EN66	EN76	EN86	EN96	FN06	FN16	FN26	FN36	FN46	FN56	FN66	FN76
CN75	CN65	CN95	DN05	DN15	DN25	DN35	DN45	DN55	DN65	DN75	DN85	DN95	EN05	EN15	EN25	EN35	EN45	EN55	EN65	EN75	EN85	EN95	FN05	FN15	FN25	FN35	FN45	FN55	FN65	FN75
CN74	CN64	CN94	DN04	DN14	DN24	DN34	DN44	DN54	DN64	DN74	DN84	DN94	EN04	EN14	EN24	EN34	EN44	EN54	EN64	EN74	EN84	EN94	FN04	FN14	FN24	FN34	FN44	FN54	FN64	FN74
CN73	CN63	CN93	DN03	DN13	DN23	DN33	DN43	DN53	DN63	DN73	DN83	DN93	EN03	EN13	EN23	EN33	EN43	EN53	EN63	EN73	EN83	EN93	FN03	FN13	FN23	FN33	FN43	FN53	FN63	FN73
CN72	CN62	CN92	DN02	DN12	DN22	DN32	DN42	DN52	DN62	DN72	DN82	DN92	EN02	EN12	EN22	EN32	EN42	EN52	EN62	EN72	EN82	EN92	FN02	FN12	FN22	FN32	FN42	FN52	FN62	FN72
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CN79	CN69	CN99	DN09	DN19	DN29	DN39	DN49	DN59	DN69	DN79	DN89	DN99	EN09	EN19	EN29	EN39	EN49	EN59	EN69	EN79	EN89	EN99	FN09	FN19	FN29	FN39	FN49	FN59	FN69	FN79
CN78	CN68	CN98	DN08	DN18	DN28	DN38	DN48	DN58	DN68	DN78	DN88	DN98	EN08	EN18	EN28	EN38	EN48	EN58	EN68	EN78	EN88	EN98	FN08	FN18	FN28	FN38	FN48	FN58	FN68	FN78
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CN76	CN66	CN96	DN06	DN16	DN26	DN36	DN46	DN56	DN66	DN76	DN86	DN96	EN06	EN16	EN26	EN36	EN46	EN56	EN66	EN76	EN86	EN96	FN06	FN16	FN26	FN36	FN46	FN56	FN66	FN76
CN75	CN65	CN95	DN05	DN15	DN25	DN35	DN45	DN55	DN65	DN75	DN85	DN95	EN05	EN15	EN25	EN35	EN45	EN55	EN65	EN75	EN85	EN95	FN05	FN15	FN25	FN35	FN45	FN55	FN65	FN75
CN74	CN64	CN94	DN04	DN14	DN24	DN34	DN44	DN54	DN64	DN74	DN84	DN94	EN04	EN14	EN24	EN34	EN44	EN54	EN64	EN74	EN84	EN94	FN04	FN14	FN24	FN34	FN44	FN54	FN64	FN74
CN73	CN63	CN93	DN03	DN13	DN23	DN33	DN43	DN53	DN63	DN73	DN83	DN93	EN03	EN13	EN23	EN33	EN43	EN53	EN63	EN73	EN83	EN93	FN03	FN13	FN23	FN33	FN43	FN53	FN63	FN73
CN72	CN62	CN92	DN02	DN12	DN22	DN32	DN42	DN52	DN62	DN72	DN82	DN92	EN02	EN12	EN22	EN32	EN42	EN52	EN62	EN72	EN82	EN92	FN02	FN12	FN22	FN32	FN42	FN52	FN62	FN72
CN71	CN61	CN91	DN01	DN11	DN21	DN31	DN41	DN51	DN61	DN71	DN81	DN91	EN01	EN11	EN21	EN31	EN41	EN51	EN61	EN71	EN81	EN91	FN01	FN11	FN21	FN31	FN41	FN51	FN61	FN71
CN70	CN60	CN90	DN00	DN10	DN20	DN30	DN40	DN50	DN60	DN70	DN80	DN90	EN00	EN10	EN20	EN30	EN40	EN50	EN60	EN70	EN80	EN90	FN00	FN10	FN20	FN30	FN40	FN50	FN60	FN70
CN79	CN69	CN99	DN09	DN19	DN29	DN39	DN49	DN59	DN69	DN79	DN89	DN99	EN09	EN19	EN29	EN39	EN49	EN59	EN69	EN79	EN89	EN99	FN09	FN19	FN29	FN39	FN49	FN59	FN69	FN79
CN78	CN68	CN98	DN08	DN18	DN28	DN38	DN48	DN58	DN68	DN78	DN88	DN98	EN08	EN18	EN28	EN38	EN48	EN58	EN68	EN78	EN88	EN98	FN08	FN18	FN28	FN38	FN48	FN58	FN68	FN78
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CN76	CN66	CN96	DN06	DN16	DN26	DN36	DN46	DN56	DN66	DN76	DN86	DN96	EN06	EN16	EN26	EN36	EN46	EN56	EN66	EN76	EN86	EN96	FN06	FN16	FN26	FN36	FN46	FN56	FN66	FN76
CN75	CN65	CN95	DN05	DN15	DN25	DN35	DN45	DN55	DN65	DN75	DN85	DN95	EN05	EN15	EN25	EN35	EN45	EN55	EN65	EN75	EN85	EN95	FN05	FN15	FN25	FN35	FN45	FN55	FN65	FN75
CN74	CN64	CN94	DN04	DN14	DN24	DN34	DN44	DN54	DN64	DN74	DN84	DN94	EN04	EN14	EN24	EN34	EN44	EN54	EN64	EN74	EN84	EN94	FN04	FN14	FN24	FN34	FN44	FN54	FN64	FN74
CN73	CN63	CN93	DN03	DN13	DN23	DN33	DN43	DN53	DN63	DN73	DN83	DN93	EN03	EN13	EN23	EN33	EN43	EN53	EN63	EN73	EN83	EN93	FN03	FN13	FN23	FN33	FN43	FN53	FN63	FN73
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CN71	CN61	CN91	DN01	DN11	DN21	DN31	DN41	DN51	DN61	DN71	DN81	DN91	EN01	EN11	EN21	EN31	EN41	EN51	EN61	EN71	EN81	EN91	FN01	FN11	FN21	FN31	FN41	FN51	FN61	FN71
CN70	CN60	CN90	DN00	DN10	DN20	DN30	DN40	DN50	DN60	DN70	DN80	DN90	EN00	EN10	EN20	EN30	EN40	EN50	EN60	EN70	EN80	EN90	FN00	FN10	FN20	FN30	FN40	FN50	FN60	FN70
CN79	CN69	CN99	DN09	DN19	DN29	DN39	DN49	DN59	DN69	DN79	DN89	DN99	EN09	EN19	EN29	EN39	EN49	EN59	EN69	EN79	EN89	EN99	FN09	FN19	FN29	FN39	FN49	FN59	FN69	FN79
CN78	CN68	CN98	DN08	DN18	DN28	DN38	DN48	DN58	DN68	DN78	DN88	DN98	EN08	EN18	EN28	EN38	EN48	EN58	EN68	EN78	EN88	EN98	FN08	FN18	FN28	FN38	FN48	FN58	FN68	FN78
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CN76	CN66	CN96	DN06	DN16	DN26	DN36	DN46	DN56	DN66	DN76	DN86	DN96	EN06	EN16	EN26	EN36	EN46	EN56	EN66	EN76	EN86	EN96	FN06	FN16	FN26	FN36	FN46	FN56	FN66	FN76
CN75	CN65	CN95	DN05	DN15	DN25	DN35	DN45	DN55	DN65	DN75	DN85	DN95	EN05	EN15	EN25	EN35	EN45	EN55	EN65	EN75	EN85	EN95	FN05	FN15	FN25	FN35	FN45	FN55	FN65	FN75
CN74	CN64	CN94	DN04	DN14	DN24	DN34	DN44	DN54	DN64	DN74	DN84	DN94	EN04	EN14	EN24	EN34	EN44	EN54	EN64	EN74	EN84	EN94	FN04	FN14	FN24	FN34	FN44	FN54	FN64	FN74
CN73	CN63	CN93	DN03	DN13	DN23	DN33	DN43	DN53	DN63	DN73	DN83	DN93	EN03	EN13	EN23	EN33	EN43	EN53	EN63	EN73	EN83	EN93	FN03	FN13	FN23	FN33	FN43	FN53	FN63	FN73
CN72	CN62	CN92	DN02	DN12	DN22	DN32	DN42	DN52	DN62	DN72	DN82	DN92	EN02	EN12	EN22	EN32	EN42	EN52	EN62	EN72	EN82	EN92	FN02	FN12	FN22	FN32	FN42	FN52	FN62	FN72
CN71	CN61	CN91	DN01	DN11	DN21	DN31	DN41	DN51	DN61	DN71	DN81	DN91	EN01	EN11	EN21	EN31	EN41	EN51	EN61	EN71	EN81	EN91	FN01	FN11	FN21	FN31	FN41	FN51	FN61	FN71
CN70	CN60	CN90	DN00	DN10	DN20	DN30	DN40	DN50	DN60	DN70	DN80	DN90	EN00	EN10	EN20	EN30	EN40	EN50	EN60	EN70	EN80	EN90	FN00	FN10	FN20	FN30	FN40	FN50	FN60	FN70
CN79	CN69	CN99	DN09	DN19	DN29	DN39	DN49	DN59	DN69	DN79	DN89	DN99	EN09	EN19	EN29	EN39	EN49	EN59	EN69	EN79	EN89	EN99	FN09	FN19	FN29	FN39	FN49	FN59	FN69	FN79
CN78	CN68	CN98	DN08	DN18	DN28	DN38	DN48	DN58	DN68	DN78	DN88	DN98	EN08	EN18	EN28	EN38	EN48	EN58	EN68	EN78	EN88	EN98	FN08	FN18	FN28	FN38	FN48	FN58	FN68	FN78
CN77	CN67	CN97	DN07	DN17	DN27	DN37	DN47	DN57	DN67	DN77	DN87	DN97	EN07	EN17	EN27	EN37	EN47	EN57	EN67	EN77	EN87	EN97	FN07	FN17	FN27	FN37	FN47	FN57	FN67	FN77
CN76	CN66	CN96	DN06	DN16	DN26	DN36	DN46	DN56	DN66	DN76	DN86	DN96	EN06	EN16	EN26	EN36	EN46	EN56	EN66	EN76	EN86	EN96	FN06	FN16	FN26	FN36	FN46	FN56	FN66	FN76
CN75	CN65	CN95	DN05	DN15	DN25	DN35	DN45	DN55	DN65	DN75	DN85	DN95	EN05	EN15	EN25	EN35	EN45	EN55	EN65	EN75	EN85	EN95	FN05	FN15	FN25	FN35	FN45	FN55	FN65	FN75
CN74	CN64	CN94	DN04	DN14	DN24	DN34	DN44	DN54	DN64	DN74	DN84	DN94	EN04	EN14	EN24	EN34	EN44	EN54	EN64	EN74	EN84	EN94	FN04	FN14	FN24	FN34	FN44	FN54	FN64	FN74
CN73	CN63	CN93	DN03	DN13	DN23	DN33	DN43	DN53	DN63	DN73	DN83	DN93	EN03	EN13	EN23	EN33	EN43	EN53	EN63	EN73	EN83	EN93	FN03	FN13	FN23	FN33	FN43	FN53	FN63	FN73
CN72	CN62	CN92	DN02	DN12	DN22	DN32	DN42	DN52	DN62	DN72	DN82	DN92	EN02	EN12	EN22	EN32	EN42	EN52	EN62	EN72	EN82	EN92	FN02	FN12	FN22	FN32	FN42	FN52	FN62	FN72
CN71	CN61	CN91	DN01																											



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