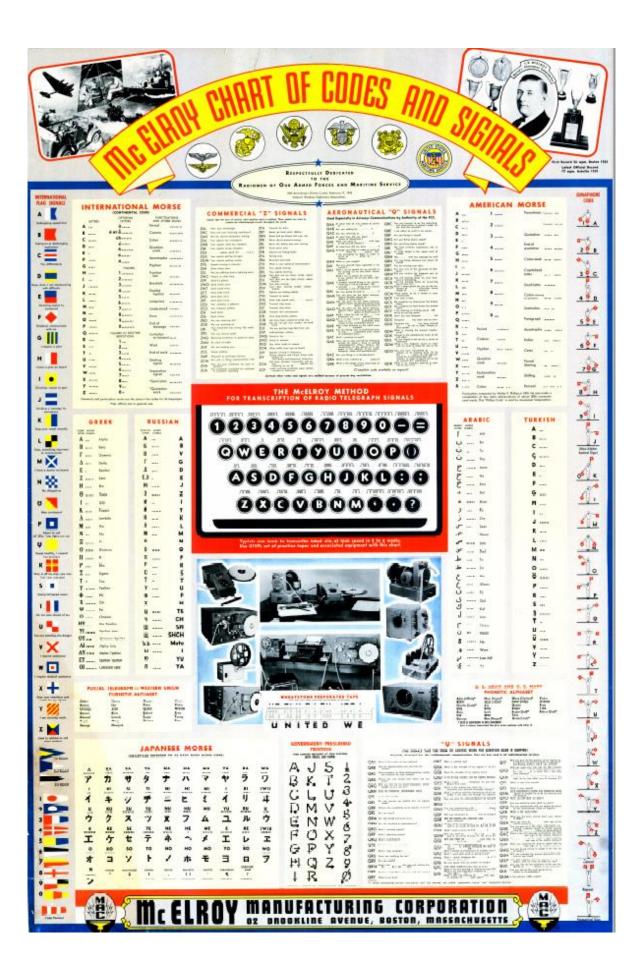
MC ELROY CHART OF CODES AND SIGNALS

On the following 11 pages you will discover the details.



INTERNATIONAL MORSE

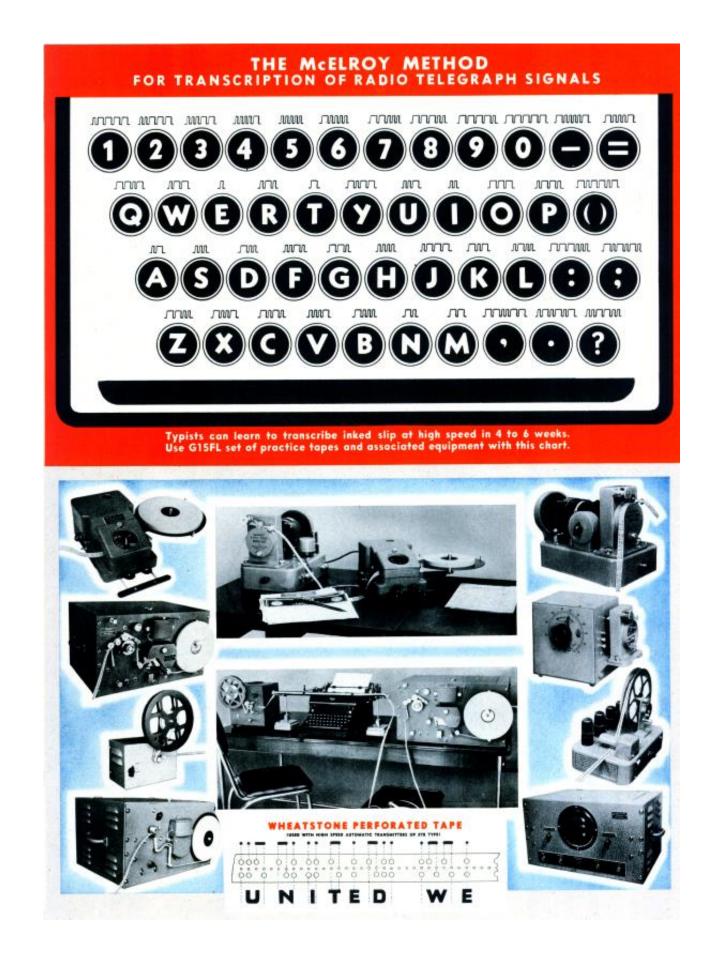
	LETTERS	OPTIONAL LETTERS	AND OTHE	
A		a	Period	
B		á or å	Comma	
1		ch	Colon	
2		é	and the second s	
-		ñ	Question mark	
E		ö		
F		ü	Apostrophe	
G		FIGURES	Hyphen	
н		1	Fraction	
L		2	bar	
J		3	Brackets	
So		4	Double	
K		5	hyphen	
L		6	Underline	
M		7	Understood	*****
N	*	8	Error	
0		9		
P		0	End of message	
Q		FIGURES IN ROUTINE	Invitation	
		REPETITIONS	to transmit	
		1	Wait	
-		2		
т	-	3	End of work	
U		4	Starting	
۷		5	signal	
W		6	Separation	
x		7	signal	
1		8	*Semicolon	
Y		9	*Quotation	
z		0-	mark	

*Not official but in general use,

AMERICAN MORSE

A	1		Parenthesis	(
B				and a second
с	2			•••••
D	3		Quotation	
E. F	4		End of quotation	
G H	5		Colon dash	
I J	6		Capitalized letter	
K	7		Small letter	
M N	8		Colon followed	·
0	9		Semicolon	
P Q	0	-	Paragraph	
R	Period		Apostrophe	
т_	Comma		Dollar	
U	Hyphen		Cents	
w	Question mark		Pound Sterling	
Y	Exclamatio	'n	Shilling	
z	mork			
&	Colon		Percent	

Punctuation composed by Walter P. Phillips in 1876. He also made a compilation of few letter abbreviations of about 2000 commonly used words. This "Phillips Code" is used by newspaper telegraphers.



"Q" SIGNALS

(THE SIGNALS TAKE THE FORM OF ADVICES WHEN THE QUESTION MARK IS OMITTED)

Originally developed for ship radiotelegraph communications, they are now used in all radiotelegraph services.

QRA		QRZ	Who is calling me?	QTF	Will you give me the position of my station ac- cording to the bearings taken by the direc- tion-finding stations which you control?
QRB	How far approximately are you from my station?	QSA	What is the strength of my signals (1 to 5)?		Will you send your call sign for fifty seconds
QRC	What company (or State Administration) settles the accounts for your station?	QSB	Does the strength of my signals vary?	QTG	followed by a dash of ten seconds on kc/s (arm) in order that I may take your bearing?
QRD	Where are you bound and where are you	QSD	Is my keying correct; are my signals distinct?	QTH	What is your position in latitude and longi- tude (or by any other way of showing it)?
Gine	from?	QSG	Shall I send	QTI	What is your true course?
QRG	Will you tell me my exact frequency (wave- length) in kc/s (or m) ?	QSJ	What is the charge per word for	QTJ	What is your speed?
QRH	Does my frequency (wavelength) vary?	QSK	Shall I continue with the transmission of all my traffic, I can hear you through my signals?	QTM	Send radioelectric signals and submarine sound signals to enable me to fix my bearing and my distance.
QRI	Is my note good?	QSL	Can you give me acknowledgment of receipt?	QTO	Have you left dock (or port)?
QRJ	Do you receive me badly? Are my signals weak?	QSM	arrange and announce of a second	QTP	Are you going to enter dock (or port)?
QRK	What is the readability of my signals (1 to 5)?	QSO	at a second s	QTQ	Can you communicate with my station by means of the International Code of Signals?
QRL	Are you busy?			QTR	What is the exact time?
QRM	Are you being interfered with?	QSP	Will you retransmit tofree of charge? Has the distress call received from	QTU	What are the hours during which your station is open?
OPNI	Are you troubled by atmospherics?	QSR	been clearad?	QUA	Have you news of
		QSU	Shall I send (or reply) on		Can you give me in this order, information con-
QRO	Shall I increase power?	QSV	Shall I send a series of VVV	QUB	vind for
QRP	Shall I decrease power?	QSW	, Will you send on	QUC	What is the last message received by you from (call sign of the mobile station)?
QRQ	Shall I send faster?	QSX	Will you listen for	QUD	
QRS	Shall I send more slowly?		Shall I change to transmission on	QUF	Have you received the distress signal sent by (call sign of the mobile station)?
QRT	Shall I stop sending ?	QSY	wave? OR Shall I change to transmission on another wave?	QUG	Are you being forced to alight in the sea (or to land) ?
QRU	Have you anything for me?	QSZ	Shall I send each word or group twice?	QUH	Will you indicate the present barometric pres-
QRV	Are you ready?	QIA	Shull I cuncel telegram Noas if it had not been sent?		Will you indicate the true course for me to follow, with no wind, to make for you?
GRY		QTB	Do you agree with my number of words?		follow, with no wind, to make for you? Can you tell me the condition of the sea ob
QRW	Shall I tell	QTC	How many telegrams have you to send?	QUK	served at (place or co-ordinates) ?
QRX	Shall I wail? When will you call me again?	QTE*	What is my true bearing in relation to you? OR What is my true bearing in relation to (call sign)? OR	QUL	Can you tell me the swell observed at
QRY	What is my turn?	Ser	What is the true bearing of (call sign) in relation to (call sign) ?	QUM	Is the distress traffic ended?
-				100 00 0000	200

"In certain aeronautical services "true course" and "true bearing" are called "geographic course" and "geographic bearing."

AERONAUTICAL "O" SIGNALS

Used Especially in Airways Communications by Authority of the FCC.

QAA At what time do you expect to arrive (QAB Are you making for? (QAC Are you returning to? (QAD At what time did you leave ((QAF At what time did you pass? ((((place). QAH What is your height? Has any aircraft been signalled in my (QAI vicinity? Shall I try to search for an aircraft in my vicinity (or by any other indica-tion)? OR QAJ Shall I try to search for aircraft in my vicinity (or by any other indi-cation) ? QAK Is another aircraft flying in my vicinity, involving a risk of collision? OR Is aircraft flying in my vicinity involving a risk of collision? QAL Are you going to land at? (QAM Can you give me the latest meteoro-logical weather report for (place of observation)? (QAN Can you give me the latest meteoro-logical report concerning surface wind for (place of observation) ? ((QAP Shall I listen for you (or for) on kilocycles (or) metres)? QAQ Am I in the vicinity of a prohibited area or of prohibited area (name of the prohibited area)? (((May I stop listening on the watch wave for minutes? You are flying over a prohibited area or over prohibited area (name of prohibited area). (QAR QAS QAT Shall I continue to send? QAX Have you in your aircraft the following person for whom I have a waiting radiotelegram? (Here follows the designation of the person as it ap-pears in the address of the radio-telegram: name and gualifications). QAZ Are you flying in a thunderstorm? QBA What is the visibility at (place)? QBB What is the height of the cloud base at (place) ?

QBC	Can you transmit to me the meterolog- ical observation at present made by you from the aircraft?
QBE	I am about to wind in my aerial.
QBF	Are you flying in cloud?
QBG	Are you flying above cloud?
QBH	Are you flying below cloud?
QBI	The bad visibility regulations are in force.
QBJ	At what height is the upper limit of cloud?
QBM	Has sent any message for me?
QBN	Are you flying between two layers of cloud?
QBT	You are missing your dots.
QBU	Are you sure of the accuracy of tele- gram?
QBW	Did you receive the telegram sent at (time) ?
QCA	You are causing delay by your slow- ness in answering.
QCB	You are causing delay by answering out of your turn.
QCG	Shall I stand guard for you on the fre- quency of kilocycles (wave length of metres) ?
ADE	There seems to be a defect in your transmission.
QCP	Your note is bad.
QCS	My reception on long waves has broken down.
QCT	My reception on short waves has broken down.
QCY	I am working on trailing aerial OR Work on trailing aerial.
QDB	Have you sent telegram to?
DOC	Telegram has been sent by wire.
QDD	Telegram No has been refused by as not in order. Please in- form sender.
QDH	What is causing the present interfer- ence?
QDK	Answer in the alphabetical order of the call signs.
QDL	Do you intend to ask me for a series of bearings?
QDM	What is the magnetic course to steer with no wind to make for you or for
QDO	Can you have transmitted by station, on its working wave (or on the

QDR What is my magnetic bearing in relation to you or to?

(Complete code available on request)

COMMERCIAL "Z" SIGNALS

Signals take the form of advices when question mark is omitted. These signals are used on commercial radiotelegraph circuits throughout the world.

741	Alles your wavelength	ZTA	Transmit by auto.
ZAL	Alter your wavelength. How are your receiving conditions?	ZBY	Break, go back yard. (Metre.)
ZHC		ZBN	Break and go ahead with new slip.
ZAN	We can receive absolutely nothing.		Rerun slip at present running.
ZSU	Your signals are unreadable.	ZPR	
ZWR	Your signals weak but readable.	ZRL	Rerun slip before one now running.
ZSR	Your signals strong readable.	ZPP	Punch plain only. /
ZGF		ZFB	Signals are fading badly.
ZGS	Your signals getting stronger.	ZFA	Failing auto.
ZGW	Your signals getting weaker.	ZRA	Reversed auto tape.
ZVS	Signals varying in intensity.	ZYS	What is your speed of transmission?
ZSH	Static heavy here.	ZSV	Your speed varying.
ZLS	We are suffering from a lightning storm.	ZBS	Your signals blurring.
ZWC	Wipers or clicks here.	ZDH	Your dots are too heavy (long), adjust lighter.
ZVP	Send V's please.	ZDL	Your dots are too light (short), adjust heavier.
ZWO	Send words once.	ZDM	Your dots missing.
ZWT	Send words twice.	ZDV	Your dots varying length, please remedy.
ZCT	Send code twice.	ZFS	Signals are fading slightly.
ZPO	Send plain once.	ZTH	Transmit by hand.
ZPT	Send plain twice.	ZHS	Send high speed autow.p.m.
ZCD	Your collation is different.	ZSO	Transmit slips once.
ZCO	Your collation omitted.	ZST	Transmit slips twice.
ZSF	Send faster.	ZOR	Transmit revs continuously.
ZSS	Send slower.	ZLB	Give long breaks, please.
ZRO	Are you receiving ok?	ZUB	We have been unable to break you.
ZOK	We are receiving ok.	ZNB	We do not get your breaks, we send twice.
ZIR	Your transmitter has strong idle radia- tion.	ZLD	We are getting long dash from you.
ZRC	Can you receive code?	ZAP	Acknowledge, please.
ZNG	Receiving conditions no good for code.	ZMQ	Stand bi for
		ZMO	Stand bi moment.
ZNN	All clear of traffic.	ZKQ	Say when ready to resume.
ZHY	We are holding your	ZOH	What traffic have you on hand?
ZCS	Cease sending.	ZVF	Signals varying in frequency.
ZMP	Mispunch or perforator failures.	ZFF	Please observe and furnish frame code reports on
ZCW	Are you in direct communication with		(call-letters and frequency) kilocycles. We have checked (transmitter call-let-
ZHA	How are your conditions for auto re- ception?	ZOA	ters) Signals are radiating on air ok.
ZUA	Our conditions unsuitable for undulator or automatic recording.	ZCP	Local receiving conditions poor; please increase to maximum.



U. S. ARMY AND U. S. NAVY PHONETIC ALPHABET

Able (Affirm)*	How (Hypo)*	Ob
Baker	Item (Inter)*	Pat
Charlie (Cast)*	Jig	Qu
Dog	King	Ro
Easy	Love	Suc
Fox	Mike	Ta
George	Nan (Negat)*	Un

Oboe (Option)* Patar (Prop)* Queen Roger Sugar (Sail)* Tare Uncle (Unit)* Victor William Xray Yoke Zebra (Zed)*

* Used as equivalents in novy procedure. Zero is always transcribed thus β to avoid confusion with letter O.

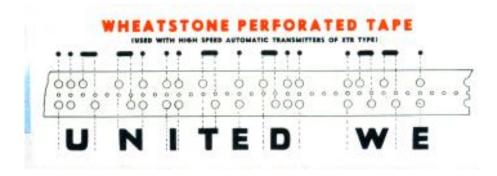
POSTAL TELEGRAPH — WESTERN UNION PHONETIC ALPHABET

Adam	Henry	Ocean	Union
Boston	Ida	Peter	Victor
Chicago	John	Queen	William
Denver	King	Robert	Xray
Edward	Lincoln	Sugar	Young
Frank	Mary	Thomas	Zero
George	Newyork		

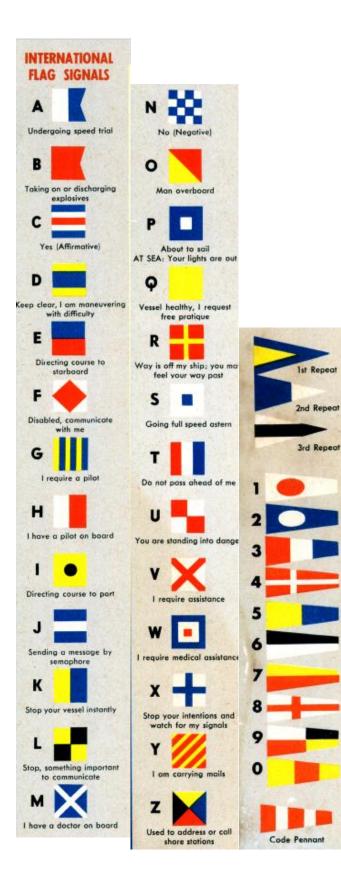
JAPANESE MORSE

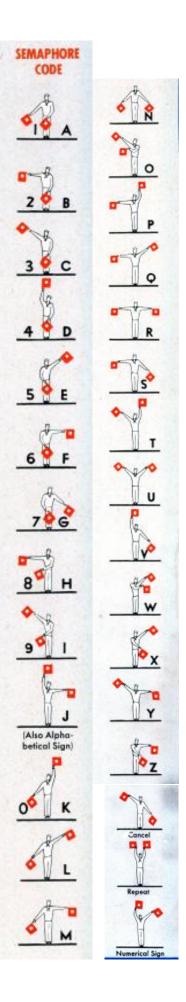
SOMETIMES REFERRED TO AS KATA KANA RADIO CODE

A	KA	SA	TA	NA	HA	MA	YA	RA	WA
P	カ	ŧ	3	ナ	~	7	ヤ	5	ヮ
1	KI	SI	TI	NI	н	MI	1	RI	(W)I
1	+	3	チ	=	E	:	1	IJ	井
U	KU	su	TU	NU	HU	MU	YU	RU	U
ゥ	2	ス	.7	z	フ	4	Г	ル	ウ
E	KE	SE	TE	NE	HE	ME	E	RE	(W)E
I	ケ	セ	テ	ネ	~	×	I	V	P
0	KO	so	то	NO	но	MO	YO	RO	wo
オ	1	y	۲	1	ホ	Ŧ	Э		7
N	NIGORI		нтины I	PERIOD +	ARACKETS	900185	PARAGRAPH	QUESTION MARK 7	
2									



GR	EEK	RUSSIAN			
GRIEK MORSE LETTER SYMBOL		EUSSIAN MORSE			
A	Alpha	A	A		
B	Beta	Б	В		
Γ	Gamma	B	v		
Δ	Delto	Г	G		
Ε.	Epsilon	Д	D		
Ζ	Zeta	E,3 .	E		
Н	Eto	ж	J		
θ	Theta	3	z		
I	loto	И	1		
K	Карра	Й	Y		
Λ	Lambda	К	к		
M	Mu	Л	L		
N	Nu	M	м		
Ξ	Xi	Н	N		
0	Omicron	0	0		
П	Pi	П	Р		
Ρ	Rho	Р	R		
Σ	Sigma	C	S		
Τ-	Tau	Τ-	T		
Y	Ypsilon	У	U		
Φ	Phi	Φ	F		
X	Chi	X	н		
Ψ	Psi	Ц	TS		
Ω	Omega	4	СН		
HY	Eta Ypsilon	Ш	SH		
YI	Ypsilon lota	Щ	SHCH		
OY	Omicron Ypsilon	b,b	Mute		
AI	Alpha lota	Ы	I		
AY	100 March 200 000	Ю	YU		
EY		8	YA		
01	Omicron lota	n	IA		





	ARA	BIC	TUR	KISH
ARABIC	MORSE SYMBOL		A	
1		Alif	В	
ç		Ba	c	
Ü	2 2	Ta		
Ö		Tho	ç	
3		Jeem	D	
3:3 2 2 2 2		На	E	•
ě		Kha	F	
د		Dal	G	
ذ		Dhal	н	
>		Ro	1	
ز		Zay		
5		Seen	1	
څ		Sheen	к	
s		Sod	L	
æ		Dad	м	
ط		Ta	N	
à		Za	0	
8		Ain	ö	-
ر کرد. در مربع		Ghain	Р	
ق		Fa	100	
ق		Qaf	R	
ك		Kaf	S	
J		Lam	ş	
Г		Meem	т	-
۲ ن		Noon	U	
ð		He	Ü	
و		Waw	v	
5		Lam-Alif	Y	
ېر		Ya	z	