

Telex

- **TELEX = TELeprinter EXchange**
 - World-wide public teleprinter network .
 - Independent network.
 - Pure characters only.
 - Transmission speed – 50 baud.
 - Precursor to fax and email.
 - Legally recognised communications.
 - Possible to connect to Telex via your PC and the internet...
 - Sometimes the only reliable communication

Why Telex is still in use...

- The four most important quality aspects of messaging, according to research by EEMA (www.eema.org), are:
 1. guaranteed delivery
 2. confidentiality
 3. protection against virus
 4. proof of sender
- Telex provides in all four aspects, which makes telex the most suitable medium for your business critical messaging.

(from <http://www.telex.net/>)

Telex Codes

ITA2																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	LTRS															
0	Control	E	LF	A	sp	S	I	U	CR	D	R	J	N	F	C	K
1	T	Z	L	W	H	Y	P	Q	O	B	G	FIGS	M	X	V	LTRS
	FIGS															
0	Control	3	LF	-	sp	'	8	7	CR	WRU	4	BEL	.	undef	:	(
1	5	+	)	2	undef	6	0	1	9	?	undef	FIGS	.	/	=	LTRS

What does 1111110100000011001010010110001101110110 mean?

What else do we need to use Telex?

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Telex control

- Some control information
 - Free line has constant level of 0
 - All 00000s is only used as a special control character.
 - Call established by special sequence (both caller and called must move to level 1)...
 - ZCZC – Start of Message
 - NNNN – End of Message
 - SSSS – Used to establish connection
 - Data should be preceded by Letter-shift or Figure-shift
 - Letter shift is all ones (1111)
 - Code interpreted based on the last “shift” received

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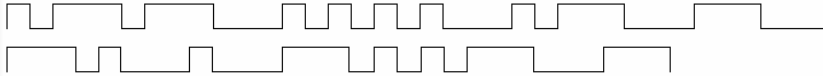
- Dash – 3 time periods
- Dot – 1 time period
- Between – 1 time period

A	-	K	-	U	-	4	-
B	-	L	-	V	-	5	-
C	-	M	-	W	-	6	-
D	-	N	-	X	-	7	-
E	-	O	-	Y	-	8	-
F	-	P	-	Z	-	9	-
G	-	Q	-	0	-	.	-
H	-	R	-	1	-	,	-
I	-	S	-	2	-	?	-
J	-	T	-	3	-		

A . -	K - . -	U . . -	4 -
B - . . .	L . - . .	V . . . -	5
C - . . .	M - -	W . - -	6 -
D - . .	N - .	X - . . -	7 - - . . .
E .	O - - -	Y - . - -	8 - - - . .
F . . - .	P . - . .	Z - - . .	9 - - - . .
G - - .	Q - - . -	0 - - - - -	. . - . - . -
H	R . - .	1 . - - - -	, - - . . - -
I . .	S . . .	2 . . - - -	? . . - - . .
J . - - -	T -	3 -	

2. Interpret this morse code:

- Between characters – 3 time periods



A	. -	K	- . -	U	. . -	4 -
B	- . . .	L	. - . .	V	. . . -	5	. . . . .
C	- . . .	M	- -	W	. - -	6	-
D	- . .	N	- .	X	- . . -	7	- - . . .
E	.	O	- - -	Y	- . . -	8	- - - . .
F	. . . .	P	. . . .	Z	- - . .	9	- - - . .
G	- - .	Q	- - . -	0	- - - - -	.	. . . . .
H	. . . .	R	. - .	1	. - - - -	,	- - - . .
I	. .	S	. . .	2	. . - - -	?	. . . . .
J	. - - -	T	-	3 -		

3. Interpret these morse codes:

-
-
-

A	. -	K	- . -	U	. . -	4 -
B	- . . .	L	. - . .	V	. . . -	5	. . . . .
C	- . . .	M	- -	W	. - -	6	-
D	- . .	N	- .	X	- . . -	7	- - . . .
E	.	O	- - -	Y	- . . -	8	- - - . .
F	. . . .	P	. . . .	Z	- - . .	9	- - - . .
G	- - .	Q	- - . -	0	- - - - -	.	. . . . .
H	. . . .	R	. - .	1	. - - - -	,	- - - . .
I	. .	S	. . .	2	. . - - -	?	. . . . .
J	. - - -	T	-	3 -		

4. Which is shortest and why?

- joy
- kneels
- tennis

A	. -	K	- . -	U	. . -	4 -
B	- . . .	L	. - . .	V	. . . -	5	. . . . .
C	- . . .	M	- -	W	. - -	6	-
D	- . .	N	- .	X	- . . -	7	- - . . .
E	.	O	- - -	Y	- . . -	8	- - - . .
F	. . - .	P	. - . .	Z	- - . .	9	- - - - .
G	- - .	Q	- - . -	0	- - - - -	.	. - . - . -
H	. . . .	R	. - .	1	. - - - -	,	- - - - -
I	. .	S	. . .	2	. . - - -	?	. . - - . .
J	. - - -	T	-	3	. . . - -		

Conclusions

- To communicate we need
 - A physical encoding scheme.
 - A protocol for communications.
 - A way of separating codes.
 - Mechanisms for recognizing and dealing with errors.
 - An efficient way of encoding data (so that we minimize the time to transmit).