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CHAPTER 8 – RADIO COMMUNICATION

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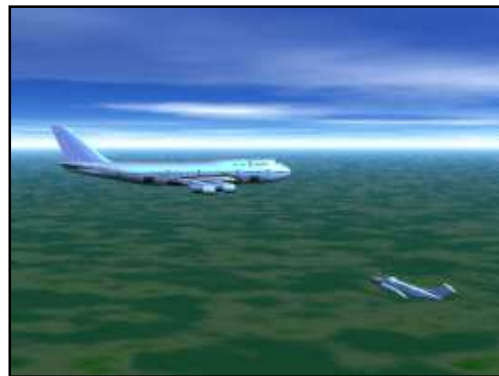
RADIO COMMUNICATION

8.1 Introduction



The importance of adhering to prescribed procedures regarding use of radiotelephony cannot be overemphasised.

Investigations into mid-air and near-collisions have revealed that misunderstandings introduced through incorrect radiotelephony (RTF) procedures have been responsible for more incidents than any other single cause.



The phraseology and procedures are to be adhered to in order to ensure uniformity. However, they may be modified or extended by air traffic controllers and pilots as occasion demands.

Controllers and pilots must exercise their best judgement in the use of additional or other phraseology.

Efforts should be made to keep transmissions as precise as possible and to dispense with all unnecessary words, phrases, etc. which may lead to misunderstanding and frequency congestion.



8.2 Speech and Transmission Technique

8.2.1 Transmission Technique

To avoid clipped transmissions, particularly where the transmitter is remote from the microphone (e.g. foot switch), it is important to depress the transmit switch fully before speech is commenced and to avoid releasing it before the transmission is completed.

PRESS – WAIT – TALK – WAIT – RELEASE

Controllers should endeavour to use clear and concise sentences and to eradicate such obvious faults as hesitation sounds, verbosity, lowering of voice, blurring of consonants, etc. This will ensure maximum efficiency and prevent irritating repetitions.



8.2.2 Numbers, Letters and Times

The pronunciation of letters and numbers is described in Jeppesen Volume 1 Air Traffic control section. Stressed syllables are underlined. With some words both syllables in the word are stressed equally for example the word BRA VO.

8.2.3 Numerals

The phonetic representation of numbers, figures and associated words are as follow:



Numbers	Phonetic Pronunciation	Numbers	Phonetic Pronunciation	Numbers	Phonetic Pronunciation
1	<u>WUN</u>	6	<u>SIX</u>	Decimal	<u>DAY</u> <u>SEE</u> <u>MAL</u>
2	<u>TOO</u>	7	<u>SEV</u> EN	Hundred	HUN DRED
3	<u>TREE</u> or <u>THREE</u>	8	<u>AIT</u>	Thousand	<u>TOU</u> SAND or
4	<u>FOW</u> ER	9	<u>NIN</u> ER		<u>THOUSAND</u>
5	<u>FIFE</u>	0	<u>ZE</u> <u>RO</u>		

All numbers except whole hundreds, whole thousands and combinations of thousands and whole hundreds shall be transmitted by pronouncing each digit in the number of hundreds or thousands, followed by the word HUNDRED or THOUSAND as appropriate. Combinations of thousands and whole hundreds shall be transmitted by pronouncing each digit in the number of thousands followed by the word THOUSAND followed by the number of hundreds followed by the word HUNDRED.

Number	Transmitted as	Number	Transmitted as
100	<u>WUN</u> <u>HUN</u> DRED	(heading) 355	<u>TREE</u> <u>FIFE</u> <u>FIFE</u>
1000	<u>WUN</u> <u>TOU</u> SAND	(wind speed) 15 kt	<u>ONE</u> <u>FIFE</u> KNOTS
(QNH) 1012	<u>WUN</u> <u>ZERO</u> <u>WUN</u> <u>TOO</u>	(wind direction) 245°	<u>TOO</u> <u>FOW</u> <u>ER</u> <u>FIFE</u> DEGREES
1,300	<u>WUN</u> <u>TOU</u> SAND <u>TREE</u> <u>HUN</u> DRED	(time) 0003	<u>ZERO</u> <u>ZERO</u> <u>ZERO</u> <u>THREE</u>
2,500	<u>TOO</u> <u>TOU</u> SAND <u>FIFE</u> <u>HUN</u> DRED	(wind direction) 245°	<u>TOO</u> <u>FOW</u> <u>ER</u> <u>FIFE</u> DEGREES
11,000	<u>WUN</u> <u>WUN</u> <u>TOU</u> SAND	Runway 26	RUNWAY <u>TOO</u> <u>SIX</u>
25,000	<u>TOO</u> <u>FIFE</u> <u>TOU</u> SAND	(radio frequency) 118.7	<u>WUN</u> <u>WUN</u> <u>AIT</u> <u>DAY</u> <u>SEE</u> <u>MAL</u> <u>SEV</u> <u>EN</u>

8.2.4 Letters

The ICAO word-spelling alphabet is given below with the correct phonetic pronunciation next to each letter, the syllables requiring emphasis is underlined.



Note: This alphabet is to be used at all times when it is required to indicate letters except for particular letter groups, which by every-day use have become unmistakable, e.g. ILS, QNH, ETA, etc.

Letters	ICAO Alphabet	Phonetic Pronunciation	Letters	ICAO Alphabet	Phonetic Pronunciation
A	ALPHA	<u>AL</u> FAH	N	NOVEMBER	NO <u>VEM</u> BER
B	BRAVO	<u>BRAH</u> <u>VOH</u>	O	OSCAR	<u>OSS</u> CAH
C	CHARLIE	<u>CHAR</u> LEE	P	PAPA	PAH <u>PAH</u>
D	DELTA	<u>DELL</u> TAH	Q	QUEBEC	KEH <u>BECK</u>
E	ECHO	<u>ECK</u> HO	R	ROMEO	<u>ROW</u> ME OH
F	FOXTROT	FOKS TROT	S	SIERRA	SEE AIR RAH
G	GOLF	GOLF	T	TANGO	<u>TANG</u> GO
H	HOTEL	HOH <u>TELL</u>	U	UNIFORM	<u>YOU</u> NEE FORM
I	INDIA	<u>IN</u> DEE AH	V	VICOR	<u>VIK</u> TAH
J	JULIET	<u>JEW</u> LEE <u>ET</u>	W	WHISKEY	<u>WISS</u> KEY
K	KILO	<u>KEY</u> LOH	X	XRAY	<u>ECKS</u> RAY
L	LIMA	<u>LEE</u> MAH	Y	YANKEE	<u>YANG</u> KEY
M	MIKE	MIKE	Z	ZULU	<u>ZOO</u> LOO

8.2.5 Times

UTC and the 24-Hour clock will be used at all times.

When speaking a time value, normally only the minutes of the hour is required; each figure being pronounced separately. However, if there is any possibility of confusion the full four-figure group will be spoken.



When only two figures are used the two figures will be prefixed by the word TIME.

Example: 1:45 pm will be expressed as either:

0145 (wun tree fower fife); or
time 45 (time **FOWER FIFE**).

8.2.6 Standard Words and Phrases

The following speech abbreviations may be used whenever applicable.



Phrase	Meaning	Phrase	Meaning
acknowledge	Let me know that you have received and understood this message.	correction	An error has been made in this transmission (or message indicated). The correct version is ...
affirm	Yes.	disregard	Consider that message not sent.
approved	Permission for proposed action is granted.	go ahead	Proceed with your message.
break	I hereby indicate the separation between portions of the message. (To be used where there is no clear distinction between text and other portions of the message.)	how do you read	What is the readability of my transmission?
break break	I hereby indicate the separation between messages transmitted to different aircraft in a very busy environment.	i say again	I repeat for clarity or emphasis.
cancel	Annul the previously transmitted clearance.	monitor	Listen out on (frequency).
CAVOK	This meteorological term is pronounced KAV OH KAY	negative	No. OR Permission not granted. OR That is not correct.
Changing to	I intend to call(Unit) on(frequency)	over	My transmission is ended, and I expect a response from you. (Not normally used in VHF transmissions.)

Phrase	Meaning	Phrase	Meaning
check	Examine a system or procedure. (No answer is normally expected.)	Climb	Climb and maintain
cleared	Authorised to proceed under the conditions specified.	confirm	Have I correctly received the following ...? OR Did you correctly receive this message ...?
correct	That is correct.	contact	Establish radio contact with ...
out	This exchange of transmissions is ended and no response is expected. (Not normally used in VHF transmissions.)	say again	Repeat all, or the following part, of your last transmission.
read back	Repeat all, or a specified part, of this message back to me exactly as received.	speak slower	Reduce your rate of speech.
recleared	A change has been made to your last clearance and this new clearance supersedes your previous clearance or part thereof.	stand by	Wait and I will call you.
report	Pass me the following information ...	verify	Check and confirm with originator.
request	I should like to know ... OR I wish to obtain ...	wilco	I understand your message and will comply with it. (Abbreviation for "will comply".)
roger	I have received all of your last transmission. (Under no circumstances to be used in reply to a question requiring READ BACK or a direct answer in the affirmative (AFFIRM) or negative (NEGATIVE).)	words twice	As a request: Communication is difficult. Please send every word, or word group, twice. As information: Since communication is difficult every word, or group of words, in this message will be sent twice.

8.3 Testing Procedures

8.3.1 The readability Scale

The readability of a transmission is classified by the number in the table to the right, together with any other information regarding the transmission which may be useful to the station making the test.

Quality	Scale
Unreadable	1
Readable now and then	2
Readable, but with difficulty	3
Readable	4
Perfectly Readable	5

8.3.2 Testing transmissions

Test transmissions should take the following form:

- The identification of the aeronautical station being called.
- The aircraft identification.
- The words 'radio check'.
- The frequency being used.

Replies to Test transmissions should be as follows:

- The identification of the station calling.
- The identification of the station replying.

Information regarding the readability of the transmission.

Example:

Parafield Ground,
Tango Golf Tango,
radio check
on 119.9.
How do you read?

Example:

Tango Golf Tango
Parafield Ground,
readability four.

Your radio has got a bit of
a background squeal.