AIR CADET

COMMUNICATION INSTRUCTIONS

&

RADIOTELEPHONE PROCEDURES

ACP 44

1 JANUARY 2002

INTENTIONALLY BLANK

FOREWORD

1. Air Cadet Publication (ACP) 44 - Communications Instructions & Radiotelephone Procedure is an UNCLASSIFIED publication derived from Allied Communication Publication (ACP) 125 (E). Notwithstanding that classification, attention is drawn to the fact that ACO frequencies and CTCSS tones are not for disclosure outside the ACO and are not to be displayed on public forums/web pages. Chapter 4 – Authentication is also similarly not for disclosure.

2. ACP 44 is now effective and supersedes ACP 35 Vol 2 which ought to be retained for historical cross-reference.

3. In addition to the Communications Instruction section, additional Supplements have been included to cover the whole spectrum of ACO communications activities. These are listed as follows:

Supplement 1	ACO Communications Organisation
Supplement 2	Syllabus for the Air Cadet Communicator badge
Supplement 3	ACO Data Communications Network
Supplement 4	Phone Patch
Supplement 5	Remote Talk-Through Projects
Supplement 6	Air Cadet Frequency Allocations
Supplement 7	Air Cadet Callsigns (When in printed form, may be placed here)
Supplement 8	Air Cadet Communications Exercises

4. Comments and recommendations concerning this publication should be addressed through normal channels to: TG3, Headquarters Air Cadets, Royal Air Force College, Cranwell.

INTENTIONALLY BLANK

RECORD OF CHANGES AND CORRECTIONS

Enter Change or Correction in Appropriate Column

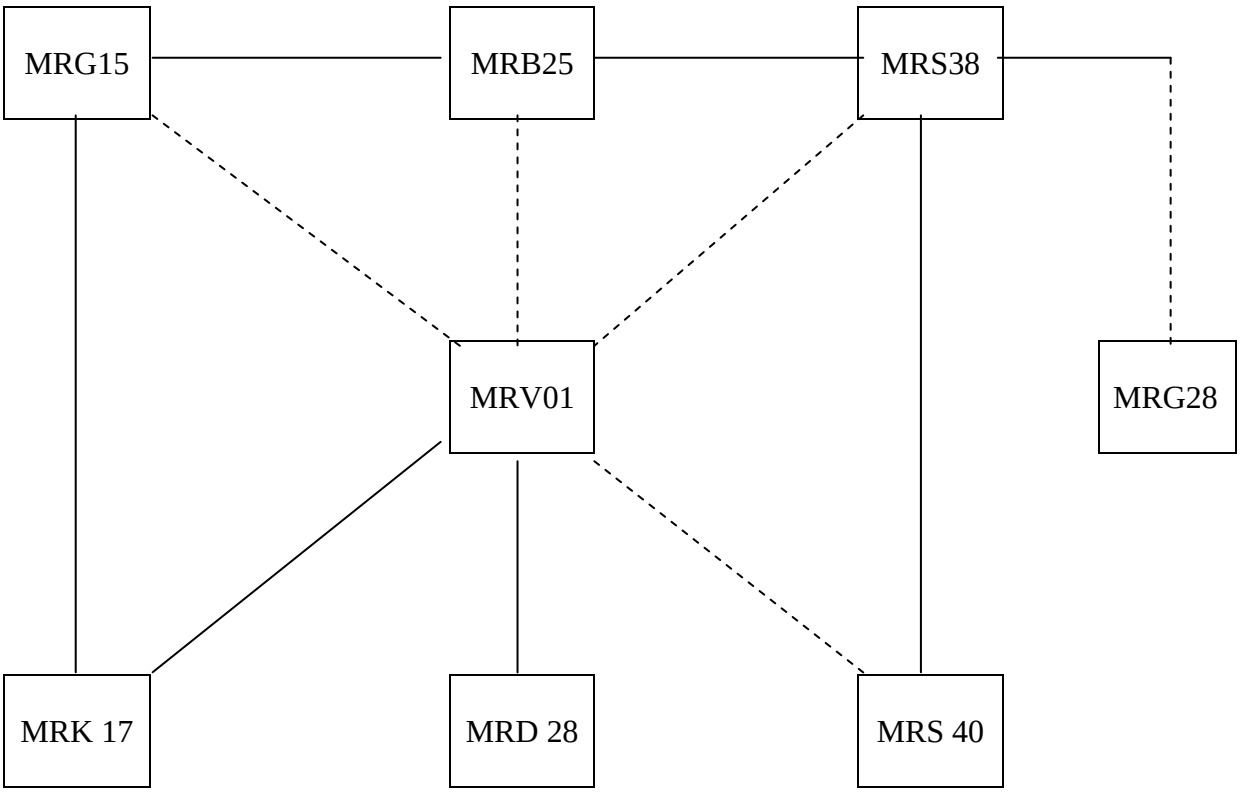
Identification of Change or Correction and Date of Same		Date Entered	By Whom Entered (Signature, Rank, or Rate, Name of Command)
Change	Correction		
AL 1		Apr 06	*Flt Lt Taylor*

INTENTIONALLY BLANK

TABLE OF CONTENTS

NET DIAGRAMS

The following net diagrams illustrate the net organisation used in the examples in this publication.



Net Control Station is MRV01
Off-net station used in examples is MRG28

INTENTIONALLY BLANK

CHAPTER 1

GENERAL

1. Purpose. The purpose of this publication is to prescribe the basic radiotelephone procedure that shall be used for radiotelephone communications by the Air Cadet Organisation (ACO).

2. Communications Security:

a. In the interest of security, transmissions by radiotelephone will be as short and concise as possible, consistent with clearness. Since personnel other than trained operators frequently operate radiotelephone equipment, all personnel must be cautioned that transmissions by radiotelephone are subject to interception and therefore provide no security. ACO frequencies and their designators should never be mentioned in the same broadcast.

b. Adherence to prescribed procedure is mandatory. Unauthorised departures from or variations in, prescribed procedure often create confusion, reduced reliability and speed, tend to nullify security precautions, and are prohibited. If the procedure prescribed herein does not cover a specific operating requirement, initiative and common sense should suffice.

c. The following basic rules are essential to transmission security and shall be strictly enforced on all military radiotelephone circuits:

(1) No transmission shall be made which has not been authorised by proper authority.

(2) The following practices are specifically forbidden:

(a) Violation of radio silence.

(b) Unofficial conversation between operators.

(c) Transmitting on a directed net without permission. (Chapter 3, paragraphs 9a2 and 24 – FLASH).

(d) Excessive tuning and testing.

(e) Transmitting the operator’s personal sign or name.

(f) Unauthorised use of plain language.

(g) Use of other than authorised prowords.

(h) Unauthorised use of plain language in place of applicable prowords (paragraph 9).

(i) Profane, indecent or obscene language.

(3) The following practices are to be avoided:

(a) Use of excessive transmitting power.

(b) Excessive time consumed in tuning, changing frequency, or adjusting equipment.

(c) Transmitting at speeds beyond the capabilities of receiving operators.

d. Any station observing a security violation on the net will immediately notify the net control station (NCS) or the other stations concerned in accordance with established guidance provided by the NCS. When possible, these immediate notifications will be made by telephone. Radiotelephone procedural errors are not security violations and will be reported as procedural violations.

3. Circuit Logs. Circuit logs (logbooks) will be maintained, when practicable, on all radiotelephone nets or circuits.

a. The circuit log normally shows a complete and continuous record of all transmitted and received traffic and operating conditions which occur during the day. The log should include such data as the following:

(1) The time of opening and closing of the stations.

(2) Causes of delays on the circuit.

(3) Frequency adjustments and changes.

(4) Unusual occurrences, such as procedure and security violations.

b. When operating conditions permit, and when there are no instructions to the contrary, every transmission heard by an operator guarding a circuit, regardless of source or completeness, will be recorded.

c. Entries will be made in the station log at frequent intervals to ensure adequate circuit attention. If, however, the operators are too busy to comply over a period of time, they may enter the essential data later, indicating inclusive times.

d. When opening a new circuit or starting a new day’s log, the operator shall write or type his name and rank/rate or grade in full. When an operator is relieved or closes the circuit, he shall sign the log. The oncoming operator shall then write or type his name and rank/rate or grade in full in the log.

e. Log entries will not be erased. Any necessary changes are made by drawing a single line through the original statement and indicating the changed version adjacent to the lined out entry. Such changes will be initialled by the operator making the change.

4. Symbols Used in Examples:

a. Optional words or phrases are shown within brackets.

b. A hyphen represents a pause between phrases.

5. Phonetic Alphabet:

a. When necessary to identify any letter of the alphabet, the standard phonetic alphabet shall be used. This alphabet is listed below:

Letter	Phonetic	Spoken as	Letter	Phonetic	Spoken as
A	ALFA	*AL* FAH	N	NOVEMBER	NO *VEM* BER
B	BRAVO	*BRAH* VOH	O	OSCAR	*OSS* CAH
C	CHARLIE	*CHAR* LEE	P	PAPA	PAH *PAH*
		or	Q	QUEBEC	KEY *BECK*
		SHAR LEE	R	ROMEO	*ROW* ME OH
D	DELTA	*DELL* TAH	S	SIERRA	SEE *AIR* RAH
E	ECHO	*ECK* OH	T	TANGO	*TANG* GO
F	FOXTROT	*FOKS TROT*	U	UNIFORM	*YOU* NEE FORM
G	GOLF	GOLF			or
H	HOTEL	HOH *TELL*			*OO* NEE FORM
I	INDIA	*IN* DEE AH	V	VICTOR	*VIK* TAH
J	JULIETT	*JEW* LEE *ETT*	W	WHISKEY	*WISS* KEY
K	KILO	*KEY* LOH	X	XRAY	*ECKS* RAY
L	LIMA	LEE *MAH*	Y	YANKEE	*YANG* KEY
M	MIKE	MIKE	Z	ZULU	*ZOO* LOO

Note: Italicised syllables carry the accent.

b. Difficult words or groups within the text of plain text messages may be spelled using the phonetic alphabet and preceded by the proword I SPELL. If the operator can pronounce the word to be spelled, he will do so before and after the spelling to identify the word.

(1) Example A:

Catenary – I SPELL Charlie Alfa Tango Echo November Alfa Romeo Yankee – Catenary

(2) Example B:

Rendezvous point is – I SPELL Uniform November India Mike Alfa Kilo.

d. Where a text is composed of pronounceable words, they will be spoken as such. Where a text is encrypted, the groups, even though occasionally pronounceable, are to be transmitted by the phonetic equivalents of the individual letters and without the proword I SPELL.

(1) Example:

The encrypted group LUXOW will be spoken, “Lima Uniform X-ray Oscar, Whiskey” and counted as one group.

6. Pronunciation of Numerals:

a. To distinguish numerals from similarly pronounced words, the proword FIGURES may be used preceding numbers.

b. When numerals are transmitted by radiotelephone, the following rules for their pronunciation will be observed.

Numeral	Spoken as	Numeral	Spoken as
0	*ZE*RO	5	FIFE
1	WUN	6	SIX
2	TOO	7	*SEV*-EN
3	TREE	8	AIT
4	*FOW*-ER	9	*NIN*-ER

Numbers will be transmitted digit by digit except that exact multiples of thousands may be spoken as such.

Numeral	Spoken as	Numeral	Spoken as
44	*FOW*-ER *FOW*-ER	1478	WUN-*FOW*-ER *SEV*-EN AIT
90	*NIN*-ER *ZE*RO	7000	*SEV*-EN TOU-SAND
136	WUN TREE SIX	16000	WUN SIX TOU-SAND
500	FIFE *ZE*RO *ZE*RO	812681	AIT WUN TOO SIX AIT WUN

d. The decimal point is to be spoken as DAY-SEE-MAL.

(1) Example:

123.4 is to be spoken as WUN TOO TREE DAY-SEE-MAL FOW-ER

e. Dates shall be spoken digit by digit, with the months in full:

(1) Example:

20 August is spoken as TOO ZERO AUGUST.

f. Roman numerals shall be transmitted as the corresponding Arabic letters preceded by the word ROMAN NUMERAL.

7. Abbreviations in the Text. Abbreviations in the text are transmitted as follows:

a. Initials used alone or in conjunction with short titles shall be spoken phonetically.

(1) Example A:

Paragraph A shall be spoken as “Paragraph Alfa”.

(2) Example B:

ACP shall be spoken as “Alfa Charlie Papa”.

b. Personal initials shall be spoken phonetically, prefixed by the word INITIALS.

(1) Example.

G M SMITH shall be spoken as “INITIALS Golf Mike Smith”.

c. Abbreviations frequently used in normal speech may be used in the same manner when transmitted by voice.

(1) Example A:

NATO may be spoken as “NATO”.

(2) Example B:

USS Forrestal may be spoken as “USS Forrestal”

d. Punctuation shall be spoken as follows:

Comma	-	COMMA
Period	-	FULL STOP or PERIOD
Parenthesis	-	PAREN/UNPAREN or OPEN BRACKETS/CLOSE BRACKETS
Oblique Stroke	-	SLANT
Quotation Marks	-	QUOTE/UNQUOTE
Hyphen	-	HYPHEN
Colon	-	COLON
Semicolon	-	SEMICOLON
Dash	-	DASH

8. Call Signs:

a. Full call signs are to be used:

(1) When first establishing a net.

(2) When reporting into a previously established net.

(3) In the transmission instructions and address components when a message is required to be relayed to a station on a different net.

b. Provided no confusion can arise, call signs may be abbreviated when authorised by the Net Control Station (NCS).

9. Prowords:

a. Prowords are pronounceable words or phrases which have been assigned meanings for the purpose of expediting message handling on circuits where radiotelephone procedure is employed. In no case shall a proword or a combination of prowords be substituted for the textual component of a message. For radiotelephone communication between units of different nationalities, the prowords may be replaced by their equivalent prosigns, where these exist, spelled out using the authorised phonetic equivalents.

b. The prowords listed in paragraph 11 are authorised for general use. Certain of these prowords are the approximate equivalent of the prosign authorised for use in radiotelegraphy and are so indicated.

Note: Additional proword for use when initiating and answering queries concerning signal strength and readability are listed in Chapter 3 paragraph 11.

11. List of Prowords:

Proword	Explanation
ACKNOWLEDGE (ACK)	An instruction to the addressee that the message must be acknowledged.
ADDRESS GROUP	The group that follows is an address group.
ALL AFTER	The portion of the message to which I have reference is all that which follows _____
ALL BEFORE	The portion of the message to which I have reference is all that which precedes _____
ANSWER AFTER	The station called is to answer after call sign _____ when answering transmissions.
ASSUME CONTROL	You will assume control of this net until further notice.
AUTHENTICATE	The station called is to reply to the challenge which follows.
AUTHENTICATION IS	The transmission authentication of this message is _____
BREAK	I hereby indicate the separation of the text from other portions of the message.
BROADCAST YOUR NET	Link the two nets under your control for automatic rebroadcast.
CALL SIGN	The group that follows is a call sign.

Proword	Explanation
CLOSEDOWN	Stations are to close down when indicated. Acknowledgements are required.
CORRECT	You are correct, or what you have transmitted is correct.
CORRECTION	An error has been made in this transmission. Transmission will continue with the last word correctly transmitted _____ An error has been made in this transmission (or message indicated). The correct version is _____ That which follows is a corrected version in answer to your request for verification.
DISREGARD THIS TRANSMISSION – OUT	This transmission is in error. Disregard it. (This proword shall not be used to cancel any message that has been completely transmitted and for which receipt or acknowledgement has been received).
DO NOT ANSWER	Stations called are not to answer this call, receipt for this message, or otherwise transmit in connection with this transmission. When this proword is employed, the transmission shall be ended with the proword OUT.
EXECUTE	Carry out the purpose of the message or signal to which this applies. (To be used only with the Executive Method).
EXECUTE TO FOLLOW	Action on the message or signal which follows is to be carried out upon receipt of the proword EXECUTE. (To be used only with the Delayed Executive Method).
EXEMPT	The station(s) immediately following is (are) exempted from the collective call or from collective address.
FIGURES	Numerals or numbers follow.
FLASH	Precedence FLASH
FROM	The originator of this message is indicated by the address designator.
GRID	The portion following is a grid reference
GROUPS	This message contains the number of groups indicated by the numeral following.

Proword	Explanation
GROUP NO COUNT	The groups in this message have not been counted.
I AM ASSUMING	I am assuming control of this net until further notice.
I AUTHENTICATE	The group that follows is the reply to your challenge to authenticate.
IMMEDIATE	Precedence IMMEDIATE.
IMMEDIATE EXECUTE	Action on the message or signal following is to be carried out on receipt of the word EXECUTE. (To be used with the Immediate Executive Method).
INFO	The addressees immediately following are addressed for information.
I READ BACK	The following is my response to your instructions to read back.
I SAY AGAIN	I am repeating transmission or portion indicated.
I SPELL	I shall spell the next word phonetically.
I VERIFY	That which follows has been verified at your request and is repeated. (To be used only as a reply to VERIFY).
MESSAGE	A message which requires recording is about to follow. (Transmitted immediately after the call. This proword is not used on nets primarily employed for conveying messages. It is intended for use when messages are passed on tactical or reporting nets).
MORE TO FOLLOW	Transmitting station has additional traffic for the receiving station.
NEGATIVE (NEGAT)	Cancel message(s) sent by the Delayed Executive Method. (NEGAT may be used to cancel a single message or a group of messages awaiting execution).
NET NOW	All stations are to net their radios on the unmodulated carrier wave which I am about to transmit.
NOTHING HEARD	to be used when no reply is received from a call station.
NUMBER	Station serial number.
OUT	This is the end of my transmission to you and no answer is required or expected.

Proword	Explanation
OVER	This is the end of my transmission to you and a response is necessary. Go ahead, transmit.
PRIORITY	Precedence PRIORITY
READ BACK	Repeat this entire transmission back to me exactly as received.
REBROADCAST YOUR NET	Link the two nets under your control for automatic rebroadcast
RELAY (TO)	Transmit this message to all addressees (or address's immediately following this proword). The address component is mandatory when this proword is used.
RELAY THROUGH	Relay your message through call sign _____
ROGER	I have received your last transmission satisfactorily
ROUTINE	Precedence ROUTINE
SAY AGAIN	Repeat all of your last transmission. Followed by identification data means "Repeat _____ (portion indicated)
SEND YOUR	I am ready to receive your message, report, etc. (Used only in reply to the offer of a message, etc, on tactical or reporting nets).
SERVICE	The message that follows is a SERVICE message
SIGNALS	The groups which follow are taken from a signal book. (This proword is not used on nets primarily employed for conveying signals. It is intended for use when tactical signals are passed on non-tactical nets).
SILENCE (Repeated three or more times)	Cease transmissions on this net immediately. Silence will be maintained until lifted. (Transmissions must be authenticated by the use of a self-authentication system, codeword, etc).
SILENCE LIFTED	Silence is lifted. (Transmissions must be authenticated by means of a self-authentication system, codeword, etc).
SPEAK SLOWER	Your transmission is too fast. Reduce speed of transmission.
STOP REBROADCASTING	Cut the automatic link between the two nets that are being rebroadcast and revert to normal

Proword	Explanation
	working.
THIS IS	This transmission is from the station whose designator immediately follows.
THIS IS A DIRECTED NET	From now until further notice this net is directed.
THIS IS A FREE NET	From now until further notice this net is free.
THROUGH ME	Relay your message through me.
TIME	That which immediately follows is the time of date-time group of the message.
TO	The addressees immediately following are addressed for action.
-TO-	The portion of the message to which I have reference is all that which appears between the groups _____ and _____
UNKNOWN STATION	The identity of the station with whom I am attempting to establish communication is unknown.
USE ABBREVIATED CALL SIGNS	Call signs are to be abbreviated until further notice.
USE ABBREVIATED PROCEDURE	As conditions are normal, all stations are to use abbreviated procedure until further notice.
USE FULL CALL SIGNS	Call signs are to be sent in full until further notice.
USE FULL PROCEDURE	As conditions are not normal, all stations are to use full procedure until further notice.
VERIFY	Verify entire message (or portion indicated) with the originator and send correct version. (To be used only at the discretion of, or by, the addressee to which the questioned message was directed).
WAIT	I must pause for a few seconds.
WAIT-OUT	I must pause longer than a few seconds.
WILCO	I have received your signal, understand it, and will comply. To be used only by the addressee. Since the meaning of ROGER is included in that of WILCO, the two prowords are never used together.
WORD AFTER	The word of the message to which I have reference is that which follows _____
WORD BEFORE	The word of the message to which I have reference is that which precedes _____

Proword	Explanation
WORDS TWICE	Communication is difficult. Transmit each phrase (or each code group) twice. (This proword may be used as an order, request, or as information).
WRONG	Your last transmission was incorrect. The correct version is _____

INTENTIONALLY BLANK

CHAPTER 2

MESSAGES

1. Plaindress:

a. A plaindress message is one in which the originator and addressee designators are indicated externally of the text.

b. A plaindress message contains all the components as shown in the basic message format and must always include the precedence and date-time group.

2. Abbreviated Plaindress. Operational requirements for speed of handling may require abbreviation of plaindress headings. In such case, any or all of the following may be omitted:

a. Precedence.

b. Date.

c. Date-time group.

d. Group count.

3. Codress. A codress message is one in which the entire address (ie originator and all addressees, including address indicating groups when used), is encrypted within the text. The heading of such a message contains only information necessary to enable communications personnel to handle it properly. It contains all other components shown in the schematic diagram, paragraph 8.

4. Service Message:

a. A service message is one between communications personnel and pertaining to any phase of traffic handling, communication facilities, or circuit conditions.

b. An encrypted service message will always carry a numerical group count and will be identified as a service message only within the encrypted text.

c. Plain-language service messages are identified by the proword SERVICE (paragraph 15).

d. Service messages may be prepared and transmitted in plaindress, abbreviated plaindress, or codress form. They generally concern messages originated at, destined for, or refiled by, the station originating the service message, and will normally be assigned a precedence equal to that of the message to which they refer.

5. Abbreviated Service Message. An abbreviated service message is one between operators which may be required to facilitate traffic handling. This type of message contains only prowords, address designators, identification of messages, parts of messages and amplifying data as necessary. An abbreviated service message may be transmitted using plaindress or abbreviated plaindress procedure. It is not identified and need not be authorised in the same manner as a service message.

6. Classification of Service and Abbreviated Service Messages:

a. An unclassified service or abbreviated service message may be used when referring to a classified message if only prowords and message or transmission identifications are used. If it is necessary to include anything that would reveal part of the plain language text of the classified message, however, the service or abbreviated service message must be classified.

b. An unclassified service or abbreviated service message referring to a message received in codress form, or using encrypted call signs or address groups, shall use only those message or transmission identifications which were contained in the external message heading as received.

7. Message Format. Each message shall be prepared in plaindress, abbreviated plaindress or codress form except when a commercial or International Civil Aviation Organisation form is authorised.

a. Each message prepared in either plaindress, abbreviated plaindress or codress will have three PARTS:

(1) Heading.

(2) Text.

(3) Ending

b. Each message PART has certain COMPONENTS which are broken down to ELEMENTS and CONTENTS:

(1) All message PARTS and a majority of the COMPONENTS and ELEMENTS have a standardised arrangement or sequential order of appearance.

(2) In the schematic diagram (paragraph 8), format lines, 2, 3, 4, 14, 15 and 16 identify the procedural portion of the basic message format as designed for radiotelephone operation. Lines 5 through13 are the unchangeable elements of the basic format. Not all format lines necessarily appear in every message, however, when used, they will be in the order indicated.

8. Schematic Diagram of Message Format. In the following diagram, note that every ELEMENT is indicated in the order of appearance in the message, but the contents of the various ELEMENTS are not necessarily indicated as they will appear.

Parts	Components	Elements	Format Line	Contents
			1	Not used
H E A D I N G	Procedure	a. Call	2 and 3	Stations called. Proword INFO – to identify info addresses is abbreviated plaindress messages. Proword EXEMPT – exempted call signs. Proword THIS IS – the station calling.
		b. Message Follows		Proword MESSAGE
		c. Transmission Identification		Proword NUMBER and station number
		d. Transmission Instructions	4	Prowords RELAY TO, READ BACK DO NOT ANSWER, WORDS TWICE. Operating signals; address groups; call signs, plain language designators.
	Preamble	a. Precedence; Date-Time Group; Message Instructions	5	Precedence designation; Proword TIME: date and time expressed in digits, and zone suffix, month indicated by the first three letters; if required by national authorities, the year indicated by the last two digits; operating signals and proword EXECUTE TO FOLLOW or IMMEDIATE EXECUTE
	Address	a. Originator's Sign; Originator	6	Proword FROM. Originator's Address designator
		b. Action Addressee Sign	7	Proword TO. Action addressees designators

Parts	Components	Elements	Format Line	Contents
		c. Information Addressee Sign; Information Addressee d. Exempted Addressee Sign; Exempted Addressee	8 9	Proword INFO. Information addressees designators Proword EXEMPT. Exempted addressees designators.
	Prefix	a. Group Count	10	Group count; Proword GROUPS (GROUP NO COUNT)
	SEPARATION		11	Proword BREAK
T E X T	Text	a. Subject Matter	12	CLEAR, UNCLASSIFIED, proword SERVICE, and/or internal instructions as appropriate; thoughts or ideas as expressed by the originator
	SEPARATION		13	Proword BREAK
E N D I N G	Procedure	a. Time Group	14	Proword TIME. Hours and minutes expressed in digits and zone suffix, when appropriate
		b. Final Instructions	15	Prowords AUTHENTICATION IS, CORRECTION, I SAY AGAIN MORE TO FOLLOW, STANDBY EXECUTE, WAIT; operating signals, address groups; call signs; and plain language designators

Parts	Components	Elements	Format Line	Contents
		c. Ending Sign	16	Prowords OVER, OUT

9. Format Lines 2 and 3 (Calling and Answering:

a. These lines will contain the call, the proword MESSAGE, and the transmission identification.

b. The Call. The call of a message serves to identify the stations between which that particular message is being transmitted. It may also serve as the address of the message when the designators of the originator and addressees are the same as the call signs of the stations in communication with each other on the same circuit.

c. The call may take one of the following forms:

(1) Full Call

Mike Romeo Golf One Five - *Call sign of receiving station*

THIS IS - *From*

Mike Romeo Golf Zero One- *Call sign of transmitting station*

(2) Abbreviated Call. The call sign of the called station may be omitted when a call is part of an exchange of transmissions between stations and no ambiguity will result.

THIS IS - *From*

Golf Zero One - *Call sign of transmitting station*

(3) For speed of working when conditions are good, particularly on large nets, the proword THIS IS may be omitted by the receiving station when responding to a call or receipting for a transmission.

(4) When two stations are in continuous communication with each other on a net not shared by a third station, the call may be omitted entirely, provided no confusion would result. For ground forces use, this provision may apply to any two stations within the same net, which are in continuous communications with each other. However, in either of the foregoing instances, the requirement for periodic identification as detailed in appropriate national and/or international regulations must be satisfied.

d. The call may contain:

(1) Individual call signs identifying stations (addressees) separately.

(2) Collective call signs identifying a predetermined group of stations (addressees).

(3) A combination of both individual and collective call signs.

(4) Net call sign identifying all stations on a given net.

e. The call may be of two types:

(1) Single call – only one call sign precedes the proword THIS IS. This may be an individual, collective or net call sign.

(2) Example:

Using an individual call sign.

Mike Romeo Golf One Five -THIS IS - Mike Romeo Golf Zero One – OVER

(3) Multiple call – two or more call signs precede the proword THIS IS. These may be individual and/or collective and/or net call signs.

(4) Example:

Using two individual call signs

MRG15 – MRG20 - THIS IS - MRG01 – OVER

f. When the call serves as the address and a collective call sign is used and there are exempted addressees in the message, such addresses can be exempted in the call by use of the proword EXEMPT followed by the call sign of the Stations exempted.

(1) Example:

ALPHA CHARLIE/CHARLIE CHARLIE – EXEMPT - MRG15 - THIS IS - MRG01 – OVER

g. Message. The proword MESSAGE may be transmitted immediately following the call to indicate that a message, which requires recording, is about to follow.

10. Format Lines 4 (Transmission Instructions). This line contains the transmission instructions which may consist of prowords WORDS TWICE, RELAY (TO), DO NOT ANSWER, or READ BACK. The use of these prowords is explained in paragraphs 13b, 14, 19 and 20 in Chapter 3.

11. Format Line 5 (Preamble). This line will contain the precedence, date-time group and message instructions:

a. Precedence. The appropriate precedence designation is transmitted as the first element of format line 5. In the case of dual-precedence messages, the higher precedence designation will be transmitted first.

b. Date-Time Group. The proword TIME followed by the date-time group and zone suffix is transmitted immediately after the precedence designation. An abbreviated plaindress message may carry no date-time group, or the date-time group may be replaced by a time group transmitted in line 14.

(1) Example:

MRG15 – THIS IS - MRG01 – RELAY TO MRG20 – PRIORITY – TIME Zero Seven One Six Three Zero Zulu ….

c. Message Instructions. These should not normally be required on radiotelephone messages. When included, they will consist of short and concise instructions, which will remain with the message, to the station of destination.

(1) Example:

THIS MESSAGE IS A SUSPECTED DUPLICATE

12. Format Lines 6, 7, 8 and 9 (Address). These lines form the address of the message and are recognised by the prowords FROM, TO, INFO and EXEMPT, respectively. When the originator and the addressees are in communication with each other on the same circuit, the call may serve as the address.

a. Example. Plaindress message heading showing all possible elements of the address component (assuming abbreviated call signs are in use):

Transmission	Explanation
G20	Collective call sign of stations called
THIS IS	From
G01	Call sign of station calling
MESSAGE	A message that requires recording is about to follow
PRIORITY	Precedence designation
TIME	The time of origin is
One Two One	
Six Three	
Zero Zulu JAN	Date-time group (121630Z JAN)
FROM	The originator of this message is
G01	Call sign of originator
TO	The action addressee is
G20	Collective call sign of action addressees
INFO	The information addressee is
G35	Call sign of information addressee is
G36	Call sign of information addressee (not on net)

Transmission	Explanation
EXEMPT	The exempted addressee is
G28	Call sign of exempted addressee

b. Example B. Abbreviated plaindress message showing three elements in the address component (assuming abbreviated call signs are in use):

Transmission	Explanation
G26	Call sign of receiving station
THIS IS	From
G01	Call sign of calling station
FROM	The originator of this message is
G28	Call sign of originator
TO	The action addressee is
G36	Call sign of action addressee (not on net)
INFO	The information addressee is
G26	Call sign of information addressee

c. Example C. Abbreviated plaindress message with call sign serving as the address, action addressees only (assuming abbreviated call signs are in use):

Transmission	Explanation
G28	Call sign of receiving station and action addressee
THIS IS	From
G01	Call sign of station calling and originator of message
PRIORITY	Precedence designation
Text	Subject matter
TIME	Time of origin is
One Two Three	
Four Zulu	Time group

d. Example D. Abbreviated plaindress message with the call sign serving as the address, action and information addressees (assuming abbreviated call signs are in use):

Transmission	Explanation
G01	Call sign of station called and action addressee
INFO	The information addressee is
G28	Call sign of station called and information addressee
THIS IS	From
G15	Call sign of station calling and originator of the message
Text	Subject matter
TIME	Time of origin is
One Eight Two	
Four Zulu	Time group

13. Format Line 10 (Prefix):

a. This line is identified by the proword GROUPS followed by the number of groups, or GROUPS NO COUNT.

(1) Group Count. Radiotelephone messages are usually short and a group count is seldom used. However, the number of groups, if sent, will be preceded by the proword GROUPS and will normally appear in the message prefix. when a message is transmitted before the group count is determined, the prowords GROUPS NO COUNT will be used in lieu of the group count. The actual group count may then be transmitted in the final instructions and be inserted in the message prefix by the receiving operator.

14. Format Line 11 (Separation). This line contains the proword BREAK, separating the text from the heading. It is used only when confusion between the heading and text is likely.

15. Format Line 12 (Text). This is the text of the message and may contain, prior to the thoughts or ideas as expressed by the originator, the word UNCLASSIFIED or the word CLEAR if specifically authorised, the proword SERVICE, and internal instructions.

16. Format Line 13 (Separation). This line contains the proword BREAK, separating the text from the ending. It is used only when confusion between the text and the ending is likely.

17. Format Line 14 (Time Group). This line is used only in abbreviated plaindress messages when a time group transmitted here takes the place of a date time group in line 5. It consists of the proword TIME followed by the time group plus the zone suffix.

18. Format Line 15 (Final Instructions). May contain prowords (such as AUTHENTICATION IS, CORRECTION, I SAY AGAIN, MORE TO FOLLOW, STANDBY EXECUTE, WAIT) operating signals, address groups, call signs, and plain-language designators.

19. Format line 16 (Ending Sign). This line is identified by the prowords OVER or OUT.

a. Every transmission shall end with either the proword OVER or the proword OUT, except that the proword OVER may be omitted when two stations are in continuous communication with each other on a net not shared with a third station, or in the case of ground forces, where two stations within the same net are in continuous communication with each other where confusion will not arise.

b. In all transmissions where the proword DO NOT ANSWER is used, the transmission shall be ended with the proword OUT.

INTENTIONALLY BLANK

CHAPTER 3

OPERATING RULES

1. General

a. To use circuit time more efficiently, all messages or their substance should be written down prior to transmission. Those messages which must be delivered by the receiving operator to another person, or which are preceded by the proword MESSAGE, shall be written down.

b. Transmissions by radiotelephone shall be as short and concise as practicable, consistent with clarity. The use of standard phraseology enhances brevity.

c. Radiotelephone transmissions should be clear, with natural emphasis on each word except the prescribed pronunciation of a numeral, and should be spoken in natural phrases, not word by word.

d. If it is technically practicable, the operator shall, during the transmission of a message, pause after each natural phrase and interrupt his transmission (carrier) momentarily, to allow another station to break in if necessary.

e. To avoid interfering with other traffic, an operator shall listen to make certain that a circuit is clear before making any transmissions thereon.

f. When it is necessary for a station to initiate test signals, either for the adjustment of a transmitter before making a call or for the adjustment of a receiver, such signals will not continue for more than 10 seconds and will be composed of spoken numerals (1, 2, 3 etc) followed by the call sign of the Station transmitting the signals.

2. Authentication. When authentication is required, it will be accomplished in accordance with the prescribed authentication system at Chapter 4 paragraph 3 or within ACP 31 Section 6.

3. Establishing Communications

a. The basic methods for establishing and conducting communications are as defined in ACP 31 Sec 6. Abbreviated callsigns are not to be used when establishing communications.

b. Before conducting regular traffic over radiotelephone circuits, it may be necessary to make contact with the other stations involved to ascertain that communication is possible.

(1) Example A (Conditions Good):

MRG01 transmits:

MRG28 – THIS IS - MRG01 – OVER

MRG28 answers the initial call:

MRG01 – THIS IS - MRG28 – OVER

MRG01 having nothing for MRG28, transmits:

MRG28 – THIS IS - MRG01 – OUT

(2) Example B (Conditions Difficult):

MRG01 transmits:

MRG28 – MRG28 – THIS IS - MRG01 – MRG01 – RADIO CHECK – OVER

MRG28 transmits:

MRG01 – MRG01 – THIS IS - MRG28 – MRG 28 – WEAK READABLE – OVER

MRG01, having nothing for MRG28, transmits:

MRG28 – THIS IS - MRG01 – ROGER – OUT

4. Sequence of Callsigns and/or Address Groups. The following rules govern the sequence of callsigns and/or address groups in calling and answering and of those included in components of messages:

a. Callsigns and/or address groups in message headings will ordinarily be arranged in alphabetical order in the form in which they are to be transmitted, whether plain or encrypted. For this purpose, / (slant sign) and figures one through 0 will be considered the twenty-seventh through thirty-seventh letters of the alphabet, i.e. Z = 26th letter, / = 27th letter, 1 = 28th letter, 0 = 37th letter. Care must be exercised to avoid separating groups of related callsigns and/or conjunctive address groups which are interdependent.

b. When abbreviated callsigns are used on a net, the sequence of answering a collective call is to be the same as if full callsigns were in use. This avoids any confusion that may arise when changing from full to abbreviated callsigns.

c. If several stations are called in one transmission and one fails to answer in its turn, the next in turn answers after a 5-second pause. The defaulting station then answers last, if able to do so.

5. Establishing a Net. The use of procedure as prescribed herein shall be followed either when opening a net for the first time or when reopening a net. Proper control by the Net Control Station (NCS) and adherence to operating rules by all stations within the net enable the net to begin and maintain an exchange of traffic with minimum delay. The NCS is also responsible for maintaining security on its net. Appropriate security guidance will be furnished by the NCS to all stations prior to establishing a net.

a. Example A:

At a designated time or when ready to establish the net, MRG01 transmits a collective call:

CHARLIE CHARLIE – THIS IS – MRG01 – OVER

Each subordinate station then answers the call in alphabetical order:

MRG01 – THIS IS – MRB18 – OVER

MRG01 – THIS IS - MRC32 – OVER

MRG01 – THIS IS – MRD22 – OVER

MRG01 – THIS IS – MRF06 – OVER

MRG01 – THIS IS - MRG09 – OVER

MRG01 – THIS IS – MRS41 – OVER

The NCS now calls the net to inform all stations that their transmissions have been heard and that he has no traffic for them:

CHARLIE CHARLIE – THIS IS – MRG01 – OUT

b. Example B:

In this example, the subordinate station MRF06 is unable to answer the collective call. MRG01 transmits:

CHARLIE CHARLIE – THIS IS – MRG01 – OVER

The first three stations then answer:

MRG01 – THIS IS – MRB18 – OVER

MRG01 – THIS IS – MRC32 – OVER

MRG01 – THIS IS – MRD22 – OVER

MRG09, hearing no answer from MRF06, waits approximately 5 second and then transmits:

MRG01 – THIS IS – MRG09 – OVER

MRS41 follows on:

MRG01 – THIS IS – MRS41 – OVER

After receiving answers from all stations except MRF06, MRG01 transmits:

CHARLIE CHARLIE – THIS IS – MRG01 – ROGER – MRF06 – NOTHING HEARD – OUT

MRF06, when able to transmit, calls the NCS to report into the net:

MRG01 – THIS IS – MRF06 – Reporting into net – OVER

MRG01 transmits:

MRF06 – THIS IS – MRG01 – ROGER – OUT

6. Use of Full or Abbreviated Procedures and Callsigns

a. Once the net has been established, it will normally work with abbreviated procedures and callsigns (Chap 1, para 8, and Chap 2 para 9). The NCS will, however, order the net to work full or abbreviated procedures or call signs as required by the conditions.

b. Full Procedure. With full procedure, the use of prowords and call signs that were previously optional becomes mandatory.

(1) If, when establishing the net, the NCS judges that conditions are such that the use of abbreviated procedure will cause unnecessary repetitions, the NCS orders the use of full procedure.

(a) Example:

Once the net has been established, the NCS transmits:

CHARLIE CHARLIE - THIS IS – MRG01 – USE OF FULL PROCEDURE – OUT

(2) If the net is working using abbreviated procedure and conditions deteriorate to such a degree that this is causing unnecessary repetitions, the NCS will order the use of full procedure:

(a) Example:

The NCS orders the use of full procedure (assuming full call signs are in use):

CHARLIE CHARLIE – THIS IS – MRG01 – USE OF FULL PROCEDURE – OVER

Each station answers in turn using full procedure:

MRG01 – THIS IS – MRB18 – ROGER – OUT

MRG01 – THIS IS – MRC32 – ROGER – OUT, etc

c. Reverting to Abbreviated Procedure. When conditions return to normal, the NCS is to order the net return to abbreviated procedure.

(1) Example:

The NCS orders the use of abbreviated procedure (assuming abbreviated callsigns are in use):

CHARLIE CHARLIE – THIS IS –G01 – USE ABBREVIATED PROCEDURE – OVER

Each station answers in turn using abbreviated procedure:

G01 – THIS IS – B18 – ROGER – OUT

G01 – THIS IS – C32 – ROGER – OUT, etc

d. Full Callsigns. On establishing a net or at any other time when conditions require it, the NCS may order the use of full callsigns in the same manner as for full procedure by using the proword USE FULL CALLSIGNS.

e. Abbreviated Callsigns. When conditions have returned to normal, the NCS will order the net to revert to the use of abbreviated callsigns in the same manner as for abbreviated procedure by using the proword USE ABBREVIATED CALLSIGNS. When ordered to use abbreviated callsigns, the net must continue to use either full or abbreviated procedure, whichever is in force.

(1) Example:

The NCS orders the use of abbreviated callsigns when full procedure is in force:

CHARLIE CHARLIE – THIS IS – G01 – USE ABBREVIATED CALLSIGNS – OVER

Each station answers in turn using abbreviated callsigns but continuing to use full procedure:

GO1 – THIS IS - B18 – ROGER – OUT

GO1 – THIS IS – C32 – ROGER – OUT etc

f. Full Procedure and Full Callsigns

(1) Conditions may be such that the NCS considers the use of both full procedure and full callsigns necessary for the efficiency of the net. In this case, it will direct the net as follows:

USE FULL CALLSIGNS AND FULL PROCEDURE – OVER

(2) When conditions warrant it, the NCS may subsequently order the net to use abbreviated procedure or abbreviated callsigns as shown in the above examples or may order the net to abbreviate completely using the prowords USE ABBREVIATED CALLSIGNS and ABBREVIATED PROCEDURE.

7. Establishing a Net (Tuning) (FOR AM EQUIPMENTS ONLY, NOT FOR MODERN SSB EQUIPMENT)

a. MRG01 wishes to establish a net on a new frequency. At the time arranged for establishing communication, MRG01 listens on the frequency and, finding it clear, transmits:

CHARLIE CHARLIE - CHARLIE CHARLIE – THIS IS - MRG01 – MRG01 – Am about to transmit a tuning signal – MRG01 (repeats callsign for 20 seconds) – NET NOW (holds down press-to-talk switch for 10 seconds) – OUT

b. After allowing time for stations to adjust their transmitters, MRG01 will establish communication as in paragraph 5. If any stations are off frequency, they will be given further tuning as follows:

MRD22 – THIS IS MRG01 – You are five kilohertz low – MRG01 (repeats callsign for 20 seconds) – NET NOW – (hold down press-to-talk switch for 10 seconds) – OUT

MRG01 transmits:

MRD22 –THIS IS – MRG01 – OVER

MRD22 transmits:

MRG01 – THIS IS – MRD22 – OVER

MRG01 transmits:

CHARLIE CHARLIE – THIS IS – MRG01 – OUT

8. Directing a Change in Frequency

a. As with all other activities, which change the characteristics of a net, a change in frequency should be disguised as much as possible in the interests of communications security.

(1) Example:

The NCS changes the net to a new frequency using the designator HOTEL ONE:

CHARLIE CHARLIE – THIS IS –G01 – CHANGE TO HOTEL ONE – OVER

Each subordinate station answers in turn:

GO – THIS IS – B18 – ROGER – OVER GO1 – THIS IS – C32 – ROGER – OVER

The NCS transmits the order to change:

CHARLIE CHARLIE – THIS IS – G01 – HOTEL ONE now – OUT

9. Directed and Free Nets

a. The type of net and method of operation is determined from consideration of operational factors involved.

(1) Free Net. In this type of net, the net control station (NCS) authorises member stations to transmit traffic to other stations in the net without obtaining prior permission from the NCS. Free net operation does not relieve the control station of the responsibility for maintaining circuit discipline.

(2) Directed Net. In this type of net, stations obtain permission from the NCS before communicating with other stations in the net. Transmissions on a directed net may be accomplished in accordance with predetermined schedules.

b. A net is deemed to be a free net unless otherwise ordered. When it is required to change a free net to a directed net, or vice versa, one of the prowords THIS IS A FREE NET or THIS IS A DIRECTED NET shall be used by the NCS.

c. Directed Nets

(1). The following example illustrates the manner in which the NCS announces that the net is directed and requests the amount and precedence of traffic to be transmitted (assuming abbreviated callsigns are in use).

(a) Example:

MRG01 transmits:

CHARLIE CHARLIE – THIS IS – GO1 – THIS IS A DIRECTED NET – of what precedence and for who are your messages – OVER

Each subordinate station then answers in the alphabetical order of his full callsign, indicating traffic on hand:

GO1 – THIS IS – B18 – One IMMEDIATE and one ROUTINE for you – OVER

GO1 – THIS IS C32 – No Traffic – OVER

G01 – THIS IS – D22 – ROUTINE for B18 – OVER

G01 – THIS IS – F06 – PRIORITY for S41 – OVER

G01 – THIS IS – G09 – No Traffic – OVER

G01 – THIS IS – S41 – No Traffic – OVER

MRG01 then informs the stations that their transmissions have been heard and commences to clear traffic in order of precedence.

CHARLIE CHARLIE – THIS IS – GO1 – ROGER – B18 – Send your IMMEDIATE – OVER

After MRB18 completes his IMMEDIATE to MRG01, the NCS orders the station with the next highest precedence message to transmit his message:

F06 – THIS IS – G01 – Send your PRIORITY – OUT

MRS41, hearing this authorisation, tells MRF06 to go ahead:

THIS IS – S41 – OVER

(Failure of MRS41 to answer immediately would necessitate MRF06 making a preliminary call to MRS41).

S41 – THIS IS – F06 – PRIORITY – TIME, etc

After MRS 41 receipts for the message and transmits the proword OUT, the NCS continues to authorise stations to transmit their messages in order of precedence until his traffic list is cleared.

(2) When the traffic list is cleared, stations having messages to transmit should call the NCS and request permission to transmit.

(a) Example:

MRS41, having one ROUTINE message for MRC32, transmits:

G01 – THIS IS – S41 – ROUTINE for C32 – OVER

MRG01 transmits:

THIS IS - GO1 – send your message – OUT or, if higher-precedence traffic is awaiting transmission, THIS IS - GO1 – WAIT – OUT

When circuit conditions permit, MRG01 informs MRS41 that they may transmit their message:

S41 – THIS IS – G01 – Send your message – OUT

MRC32, hearing the authorisation, should then transmit:

THIS IS - C32 – OVER

This is in order to avoid requiring MRS41 to make a preliminary call. MRS41 then proceeds with the transmission of their ROUTINE message.

10. Delegating and Assuming Net Control

a. It may be necessary for net control to be delegated to a subordinate station when effective net control cannot be maintained by the NCS or when the NCS has to leave the net for any reason. In such cases, the proword ASSUME CONTROL is to be used.

(1) Example:

The NCS is closing down for 30 minutes and decides that MRD22 is in the best position to assume net control. He transmits:

CHARLIE CHARLIE – THIS IS – G01 – Am closing down for three zero minutes – D22 – ASSUME CONTROL – TIME One Eight Three Zero Zulu – OVER

The subordinate stations answer in turn:

G01 – THIS IS – B18 – ROGER – OUT

G01 – THIS IS – C32 – ROGER – OUT

G01 – THIS IS – D22 - WILCO – OUT

G01 – THIS IS – F06 – ROGER – OUT

G01 – THIS IS – G09 – ROGER – OUT

G01 – THIS IS – S41 – ROGER – OUT

b. Other occasions may arise where the NCS is not in a position to give warning that he is leaving the net. In such cases, the senior subordinate station will normally assume net control but, before he does so, he must confirm that the NCS cannot be heard by other stations on the net.

(1) Example:

Nothing has been heard from the NCS. MRF06, as the senior subordinate station, transmits:

CHARLIE CHARLIE – THIS IS – F06 – Have you heard anything from G01 – OVER

There is no reply from the NCS, and the other stations transmit:

F06 – THIS IS – B18 – NOTHING HEARD – OVER

F06 – THIS IS – C32 – NOTHING HEARD – OVER, etc

MRF06 then transmits:

CHARLIE CHARLIE – THIS IS – F06 – NOTHING HEARD from G01 – I AM ASSUMING CONTROL – OVER
Subordinate stations rely in order:

F06 – THIS IS – B18 – ROGER – OUT

F06 – THIS IS – C32 – ROGER – OUT, etc

c. When the NCS rejoins the net, he does so using the proword I AM ASSUMING CONTROL and must give authentication:

(1) Example:

The NCS wishes to resume control of the next and transmits:

CHARLIE CHARLIE – THIS IS – G01 – I AM ASSUMING CONTROL – TIME One Eight Three Zero Zulu – AUTHENTICATION IS _____ - OVER

The subordinate stations reply in order:

G01 – THIS IS – B18 – ROGER – OUT

G01 – THIS IS – C32 – ROGER – OUT, etc

11. Radio Checks, Signal Strength, and Readability

a. A station is understood to have good signal strength and readability unless otherwise notified. Strength of signals and readability will not be exchanged unless one station cannot clearly hear another station.

b. A station that wishes to inform another of his signal strength and readability will do so by means of a short and concise report of actual reception such as, WEAK BUT READABLE, LOUD BUT DISTORTED, WEAK WITH INTERFERENCE, etc. Reports such as “five by five”, “four by four”, etc will not be used to indicate strength and quality of reception.

c. The prowords listed below are for use when initiating and answering queries concerning signal strength and readability:

(1) General:

RADIO CHECK	What is my signal strength and readability; how do you hear me?

ROGER	I have received your last transmission satisfactorily. The omission of comment on signal strength and readability is understood to mean that reception is loud and clear. If reception is other than loud and clear, it must be described with the prowords from (2) and (3) below.
NOTHING HEARD	To be used when no reply is received from a called station.

(2) Report of Signals Strength:

LOUD	Your signal is very strong
GOOD	Your signal strength is good
WEAK	Your signal strength is weak
VERY WEAK	Your signal strength is very weak
FADING	At times your signal fades to such an extent that continuous reception cannot be relied upon

(3) Report of Readability:

CLEAR	The quality of your transmission is excellent
READABLE	The quality of your transmission is satisfactory
UNREADABLE	The quality of your transmission is so bad that I cannot read you
DISTORTED	Having trouble reading you because your signal is distorted
WITH INTERFERENCE	Having trouble reading you due to interference
INTERMITTENT	Having trouble reading you because your signal is intermittent

d. Example (Assuming Abbreviated Callsigns are in Use):

MRG01 desires a radio check with - CHARLIE CHARLIE collective and transmits:

CHARLIE CHARLIE – THIS IS – G01 – RADIO CHECK – OVER

All stations of collective call hear MRG01 loud and clear except MRC31 and MRD22. The replies of each station, in order, are:

G01 – THIS IS – B18 – ROGER – OVER

G01 – THIS IS – C32 – GOOD READABLE – OVER

G01 – THIS IS – D22 – WEAK WITH INTERFERENCE – OVER
G01 – THIS IS – F06 – ROGER – OVER

G01 – THIS IS – G09 – ROGER – OVER

G01 – THIS IS – S41 – ROGER – OVER

MRG01 indicates his reception of each of the called stations was loud and clear except for MRC32, who was distorted, and MRD22, who was not heard, by replying:

CHARLIE CHARLIE – THIS IS – G01 – ROGER – C32 DISTORTED – D22 – NOTHING HEARD – OVER

In the event MRG01 that heard all stations loud and clear, the reply would have been:

CHARLIE CHARLIE – THIS IS – G01 – ROGER – OUT

12. Preliminary Calls. When communication is difficult or when the calling station wishes to ascertain whether the station called is ready to receive a message, a preliminary call will be sent before transmitting a message.

a. Example A:

MRC32 wishes to transmit a message to MRF06 and desires to know if MRF06 is ready to accept it. MRC32 transmits:

F06 – THIS IS – C32 – MESSAGE – OVER

MRF06, ready to accept the message, transmits:

C32 – THIS IS – F06 – SEND YOUR MESSAGE – OVER

MRC32 transmits:

F06 – THIS IS – C32 – ROUTINE, etc

b. Example B:

MRD22 wishes to transmit a message to MRS41 and desires to know that MRS41 is ready to accept it. MRD22 transmits:

S41 – THIS IS – D22 – PRIORITY – Over

MRS41, not prepared to accept the traffic immediately transmits:

D22 – THIS IS – S41 – WAIT

After a short pause, MRS41 is ready and transmits:

D22 - THIS IS – S41 – SEND YOUR PRIORITY – OVER

Note: If MRS41's delay had been longer than a few seconds, MRS41 would have transmitted:

D22 – THIS IS – S41 – WAIT – OUT

When ready to accept the message, MRS41 would transmit:

D22 – THIS IS – S41 – SEND YOUR PRIORITY – OVER

13. Transmitting a Message

a. Communication Good. When communication reception is satisfactory, message parts need to be transmitted only once and preliminary calls are optional.

(1) Example A:

MRG01 transmits:

G09 – THIS IS - G01 – PRIORITY – Convoy has arrived – TIME One Six Three Zero Zulu – OVER

MRG09, having received the transmission satisfactorily, transmits:

G01 – THIS IS – G09 – (ROGER) – OUT

(2) Example B:

MRG09, having missed the transmission, transmits:

THIS IS – G09 – SAY AGAIN – OVER

MRG01 transmits:

G09 – THIS IS – G01 – I SAY AGAIN – G09 – THIS IS G01 – PRIORITY – Convoy has arrived – TIME One Six Three Zero Zulu – OVER

MRG09 transmits:

G01 – THIS IS – G09 – SAY AGAIN ALL AFTER Convoy – OVER

MRG01 transmits:

G09 – THIS IS – G01 – I SAY AGAIN ALL AFTER Convoy – has arrived – TIME One Six Three Zero Zulu – OVER

MRG09 transmits:

G01 – THIS IS – G09 – ROGER – OUT

b. Communication Difficult. When communication is difficult, callsigns should be transmitted twice. Phrases, words, or groups may be transmitted twice and indicated by use of the proword WORDS TWICE. Reception may be verified by use of the proword READ BACK. Under such conditions, preliminary calls are normally employed unless stations are on a directed net, in which case stations should have indicated they are ready to receive.

(1) Example A:

MRF06 transmits:

MRB18 – MRB18 – THIS IS – MRF06 – MRF06 – PRIORITY PRIORITY – OVER

MRB18 transmits:

MRF06 – MRFO6 – THIS IS – MRB18 – MRB18 – SEND YOUR PRIORITY – OVER

MRF06 transmits:

MRB18 – MRB18 – THIS IS – MRF06 – MRF06 – WORDS TWICE – WORDS TWICE – PRIORITY – PRIORITY – Convoy has arrived – Convoy has arrived – TIME One Six Three Zero Zulu - TIME One Six Three Zero Zulu

MRB18 transmits:

MRF06 – MRF06 – THIS IS – MRB18 – MRB 18 – SAY AGAIN – SAY AGAIN – WORD BEFORE has - WORD BEFORE has – OVER

MRF06 transmits:

MRB18 – MRB18 – THIS IS – MRF06 – MRF06 – I SAY AGAIN – I SAY AGAIN - WORD BEFORE has - WORD BEFORE has – Convoy – Convoy – OVER

MRB18 transmits:

MRF06 – MRF06 – THIS IS – MRB18 – MRB18 – ROGER – ROGER – OUT

(2) Example B:

The text consists of code groups.

MRF06 transmits:

MRB18 – MRB18 –THIS IS – MRF06 – MRF06 – WORDS TWICE – WORDS TWICE – PRIORITY – PRIORITY – TIME One Two Zero Nine Zero Three Zulu - TIME One Two Zero Nine Zero Three Zulu – GROUPS EIGHT – GROUPS EIGHT – Alfa Mike Lima Quebec Delta - Alfa Mike Lima Quebec Delta – Romeo Oscar Charlie Zulu Yankee - Romeo Oscar Charlie Zulu Yankee, etc – OVER

MRB18 transmits:

MRF06 – MRF06 – THIS IS – MRB18 –MRB18 - ROGER – ROGER – OUT

14. Relay

a. The proword RELAY used alone indicates that the station called is to relay the message to all addressees.

(1) Example:

MRG01 transmits:

MRB18 – THIS IS – MRG01 – RELAY – PRIORITY – TIME One One One Three Two Two Zulu – FROM MRG01 – TO MRS41 – Proceed on mission assigned – OVER

MRB18 transmits:

MRG01 – THIS IS – MRB18 – ROGER – OUT

MRB18 relays the message:

MRS41 – THIS IS - MRB18 – PRIORITY – TIME One One One Three Two Two Zulu – FROM MRG01 – TO MRS41 – Proceed on mission assigned – OVER

MRS41 transmits:

MRB18 – THIS IS – MRS41 – ROGER – OUT

b. The proword RELAY TO followed by an address designator indicates that the station called is to relay the message to the stations indicated. When more than one station is called, the callsign of the station designated to perform the relay will precede the proword RELAY TO.

(1) Example A;

MRG01 transmits:

B18 – THIS IS – G01 – RELAY TO S41 – PRIORITY - TIME One One One Three Two Two Zulu – Proceed on mission assigned – OVER

MRB18 transmits:
G01 – THIS IS – B18 – (ROGER) – OUT

MRB18 relays the message:

S41 – THIS IS – B18 – FROM G01 – PRIORITY - TIME One One One Three Two Two Zulu – Proceed on mission assigned – OVER

MRS41 transmits:

B18 – THIS IS – S41 – (ROGER) – OUT

(2) Example B:

MRC32 transmits:

D22 – G09 – THIS IS - C32 – D22 – RELAY TO B42 – ROUTINE - TIME One One One Three Two Two Zulu – FROM G01 – TO B42 – INFO D22 – G09 – BREAK – Text – OVER

MRD22 transmits:

THIS IS D22 – ROGER – OUT

MRG09 transmits:

THIS IS G09 – ROGER – OUT

MRD22 relays the message to MRB42

Note: In this case, MRD22 has relayed the message to MRB42, who is an off-net station, using radiotelephone procedure. At times, it is necessary to relay a message originated on a radiotelephone circuit by some other means of communications. When such relay is necessary, it is the responsibility of the station relaying the message to use the proper format for the means of communications employed for relay.

c. The proword RELAY THROUGH allows the NCS or another station to indicate a station which can relay a message.

(1) Example:

MRG09 attempts to transmit a message to MRF06 but cannot contact him. The NCS directs MRG09 to relay through MRB18 who he knows to be in contact with MRF06:

G09 – THIS IS – G01 – RELAY THROUGH B18 – OUT

MRG09 transmits:

B18 – THIS IS – G09 – RELAY TO F06 – Move now – OVER, etc

d. The proword THROUGH ME allows a third station who knows that he is in contact with the required station to indicate that he is able to relay the message:

(1) Example:

In the previous example, if the NCS had known that he was in contact with MRF06 he could have transmitted:

G09 – THIS IS – G01 – THROUGH ME – OVER

e. In all cases, whether the originating station can or cannot hear the relaying station, the relaying station must inform the originating station (station from whom the message was received for relay) that he has not been able to relay the message.

(1) Example:

MRC32 requests MRD22 to relay a message to MRG28, MRD22 accepts but is unable to relay. MRD22 informs MRC32 and transmits C32 THIS IS D22 UNABLE TO RELAY YOUR MESSAGE (DTG OR TEXT) TO Two Zero. MRC32 replies D22 THIS IS C32 ROGER OUT upon being informed that the message has not been passed and acknowledging the responsibility for clearing the message rests with MRC32:

C32 – THIS IS – D22 – NOTHING HEARD from G28 – OVER

MRC32 replies:

D22 – THIS IS – C32 – ROGER – OUT, or as appropriate

15. Repetitions

a. When words are missed or are doubtful, repetitions will be requested by stations receipting for the message. The proword SAY AGAIN, used alone or in conjunction with ALL BEFORE _____ ALL AFTER _____ FROM _____ TO _____, WORD BEFORE _____, WORD AFTER _____, will be used for this purpose. In complying with requests for repetitions, the transmitting station will identify that portion which is being repeated.

(1) Example A:

MRG01 calls the two stations for whom he has traffic.

C32 – D22 – THIS IS - G01 - MESSAGE – ROUTINE – TIME Zero Zero Five Two Zulu – FROM GO1 – TO C32 – INFO D22 – BREAK – At One Eight Zero Zero Zulu – Proceed Hong Kong – To Arrive One Six May – Load One Thousand Troops – for return Ningpo – I SPELL – November India November Golf Papa Oscar – Ningpo – ACKNOWLEDGE – OVER

MRC32, having missed from "At" to "Proceed", transmits:

THIS IS - C32 – SAY AGAIN – FROM At TO Proceed – OVER

MRG01 deals with the request for repetitions by MRC32 before the other station requests his repetitions:

THIS IS – G01 – I SAY AGAIN – FROM At TO Proceed – At Eight Zero Zero Zulu Proceed – OVER

MRC32, having now received the message satisfactorily, transmits:

THIS IS - C32 – ROGER – OUT

Having heard MRC32 give a receipt for the message, the next station asked for his repetitions – in this case, D38 missed from "At" to "Proceed" and the word after "Load" – As MRC32 had already asked for the phrase from "At" to "Proceed" and MRD22 heard it repeated, it is not now necessary for him to request that part to be repeated MRD22 asks, therefore, for the word after "Load" to be repeated:

THIS IS - D22 – SAY AGAIN – WORD AFTER Load – OVER

MRG01 repeats the word:

THIS IS - GO1 – I SAY AGAIN – WORD AFTER Load – One – OVER

D32, having now received the message satisfactorily, transmits:

THIS IS - D22 – ROGER – OUT

(2) Example B:

Alternatively, the second station in the sequence of answering, not having heard the first station, MRC32, request for repetition within 5 seconds, transmits:

THIS IS - D22 – SAY AGAIN – At TO Proceed and WORD AFTER Load – OVER

MRG01 having received nothing from MRC32 within 5 seconds of D22's request, transmits:

THIS IS - GO1 – I SAY AGAIN – At TO Proceed – At One Eight Zero Zero Zulu – Proceed – WORD AFTER Load – One – OVER

MRC32 transmits:

THIS IS - C32 – ROGER – OUT

MRD22 transmits:

THIS IS - D22 – ROGER – OUT

b. In requesting repetitions of the heading of a message, a repetition may be requested of all that portion of the heading preceding or following a proword, or that portion of the heading between any two prowords. Requests for repetitions and replies thereto must include the nearest proword preceding and/or following the portion requested.

(1) Example A:

MRF06 transmits:

C32 – G09 – THIS IS - F06 – PRIORITY – TIME One Eight Six Two Five Zulu – FROM - F06 – TO - C32 – G09 – INFO Bravo Four Two Zero – (BREAK) – Proceed to rejoin convey – OVER

MRC32, having missed all before the address, transmits:

THIS IS - C32 – SAY AGAIN – ALL BEFORE FROM – OVER

MRF06 replies to MRC32:

C32 – THIS IS - F06 – I SAY AGAIN – ALL BEFORE FROM – C32 G09 – THIS IS - F06 – PRIORITY – TIME One Six Two Five Zulu – OVER

MRC32 transmits:

THIS IS C32 – ROGER – OUT

MRG09, having received the message satisfactorily, transmits:

THIS IS - G09 – ROGER – OUT

(2) Example B:

MRD22 transmits:

S41 – THIS IS - D22 – ROUTINE – TIME Two Four Zero Nine One Two Zulu – FROM D22 – TO S41 – INFO – Bravo Four Two Zero – BREAK – Cancel my Two Three One Four Two Eight Zulu – OVER

MRS41, having missed the portion between the date-time group and the information addressees, transmits:

THIS IS - S41 – SAY AGAIN – FROM TIME TO INFO – OVER

MRD22 transmits:

THIS IS - D22 – I SAY AGAIN – FROM TIME TO INFO – TIME Two Four Zero Nine One Two Zulu – FROM D22 – To S41 – INFO – OVER

MRS41 transmits:

THIS IS - S41 – ROGER – OUT

c. When it is necessary to ask for repetitions after a message has been receipted, such requests and replies thereto must identify the message being queried as well as the portion required. Where used, the date-time group or time group shall be used for such identification.

16. Checking the Group Count

a. When a message consisting of coded groups is being received and the number of groups actually received does not correspond with the group count of the message, the receiving station requests a check by transmitting the phrase "Interrogative GROUPS……..", stating the number of groups actually received.

b. When queried, the transmitting station will check and, if the number of groups received is correct, will indicate this by use of the proword CORRECT. The receiving station must then alter the group count accordingly.

c. In all messages where words and groups are counted and the count is 50 or less, the transmitting station, if it considers the receiving station to be incorrect after it has questioned the group count, repeats the group count followed by the initial letter of each group. This will enable the receiving station to determine which groups are missing and to request a repetition.

(1) Example A (Group Count Correct – Less Than 50 Groups):

MRD22 transmits:

B18 –THIS IS - D22 – ROUTINE – TIME One Four Two Zero Three Eight Zulu – GROUPS One Two – Delta Golf India – Lima Oscar papa – Juliet Tango Xray – Romeo Oscar Tango – Foxtrot Mike Xray – Oscar Papa India – Tango Romeo Sierra – Mike Delta Golf – Delta

November India – Sierra Tango Delta – Golf Bravo Xray – Oscar Mike Bravo – OVER

MRB18, having received only 11 groups, transmits:

THIS IS - B18 Interrogative GROUPS One One – OVER

D22 checks his group count against his transmission copy, finds it correct, and transmits:

THIS IS - D22 – GROUPS One Two – Delta Lima Juliet Romeo Foxtrot Oscar Tango Mike Delta Sierra Golf Oscar – OVER
MRB18 can now see which group he has missed and transmits:

THIS IS - B18 – SAY AGAIN Five – OVER

MRD22 transmits:

THIS IS - D22 – I SAY AGAIN Five – Foxtrot Mike Xray – OVER

MRB18 transmits:

THIS IS - B18 – ROGER – OUT

(2) Example B (Group Count Incorrect):

MRC32 transmits:

G09 – THIS IS - C32 – ROUTINE – TIME Zero Four One Two Five Two Zulu – GROUPS Eight – Mike Tango November – Sierra Uniform Bravo – Echo Lima Yankee – Golf Bravo Zulu – Foxtrot Oscar Uniform – Delta Oscar Papa – Oscar Bravo Juliet – OVER

MRG09, noticing that the group count and the number of groups he has received are at variance, transmits:

THIS IS - G09 – Interrogative GROUPS Seven – OVER

MRC32 checks his group count against the transmission copy, discovers his error, and transmits:

THIS IS - C32 – CORRECT – OVER

MRG09 transmits:

THIS IS - GO9 – ROGER – OUT

d. In all messages with a group count exceeding 50 groups, if the receiving station is considered to be incorrect the transmitting station repeats the original group count and transmits the identity of the first, eleventh, and every subsequent tenth group followed by the initial letter of that group.

(1) Example (Group Count Correct – More than 50 Groups):

MRD22 transmits a message containing 65 groups to MRB18

MRB18 queries the group count:

D22 – THIS IS - B18 – Interrogative GROUPS Six Five – OVER
MRD22 checks and finds the group count correct as sent. He then transmits:

THIS IS - D22 – GROUPS Six Five – One Mike – One One Sierra – Two One papa – Three One Romeo – Four One India – Five One November – Six One Golf – OVER

MRB18 then requests a repetition of the 10 groups in which he has a miscount:

THIS IS - B18 – SAY AGAIN – One One TO Two Zero – OVER

D22 1 then transmits the requested groups:

17. Correction

a. When an error is made by a transmitting operator, the proword CORRECTION will be transmitted followed by the last word, group, proword, or phrase correctly transmitted. Transmission then continues.

(1) Example A:

MRG09 transmits:

S41 – THIS IS - GO9 – Convoy Romeo Three – CORRECTION – Romeo Four should arrive – One Six Three Zero Lima – TIME One Zero One Two Zulu – OVER

MRS41 transmits:

THIS IS - S41 – (ROGER) – OUT

(2) Example B:

MRC32 transmits:

G01 – THIS IS - C32 – TIME Two Four Zero Seven One Two Zulu – GROUPS Nine – Zulu Bravo Alfa Xray – Xray Oscar – CORRECTION – Zulu Bravo Alfa Xray – Xray Quebec Alfa – Kilo etc

MRG01 transmits:

THIS IS - G01 – ROGER – OUT

(3) Example C:

MRC32 transmits:

G09 – THIS IS - C32 – ROUTINE – TIME One Four Four Two Zulu – FROM Zero Six – TO four Eight – CORRECTION – TO G09 – INFO Bravo Four Two Zero – Join Me – OVER
MRG09 transmits:

THIS IS - GO9 – (ROGER) – OUT

(4) Example D:

MRD22 transmits:

C32 – THIS IS - D22 – PRIORITY – TIME Zero Three One Four Zulu – Latitude One Six Three Zero – Longitude One Zero One Five – CORRECTION – Longitude One Zero Five Five – OVER

MRC32 transmits:

THIS IS - C32 – ROGER – OUT

b. When an error in transmission is made but not discovered immediately, a correction may be made in the final instructions element provided that the ending sign has not been transmitted. When making such a correction, the word, group proword, or phrase must be properly identified.

(1) Example:

MRD 22 transmits:

S41 – THIS IS - D22 – Tanks Will Arrive – Grid Three Two One Three – at Hotel Hour Minus Six – TIME One Four Two Six Zulu – CORRECTION – WORD AFTER Minus – Five – OVER

MRS41 transmits:

THIS IS - S41 – ROGER – OUT

c. If it is necessary to make corrections after a receipt has been obtained for a message, an abbreviated service message, identifying the message and the portion to be corrected, should be made:

(1) Example:

MRG09 transmits:

S41 – THIS IS - G09 – CORRECTION – My One Three One Five One Six Zulu – WORD AFTER Monday – Morning – OVER

18. Cancelling Messages

a. During the transmission of a message and up to the transmission of the ending proword OVER or OUT, the message may be cancelled by use of the proword DISREGARD THIS TRANSMISSION – OUT

(1) Example:
During the transmission of a message MRF06 realises that the transmission is being sent in error and therefore cancels it:

GO9 – THIS IS - F06 – ROUTINE TIME One Zero Zero Two Zulu – Begin unloading at One One One Two Three Zero Zulu Proceed – DISREGARD THIS TRANSMISSION – OUT

b. A message which has been completely transmitted can only be cancelled by another message:

(1) Example:

MRF06 transmits:

G09 – THIS IS – F06 – Cancel my One Zero Zero Two Zulu – TIME Zero Seven One Two Zulu – OVER

19. "Do Not Answer" Transmissions. When it is imperative that the called stations do not answer a transmission, the proword DO NOT ANSWER will be transmitted immediately following the call, and the complete transmission will be sent twice, the full transmission ending with the proword OUT - DO NOT ANSWER transmissions must be authenticated.

a. Example:

MRF06 transmits:

G09 –THIS IS – F06 – DO NOT ANSWER – Act in accordance with Plan Charlie – TIME Two Two One Eight Zulu – AUTHENTICATION IS _____ – I SAY AGAIN – G09 – THIS IS F06 – DO NOT ANSWER – Act in accordance with Plan Charlie – TIME Two Two One Eight Zulu – AUTHENTICATION IS _____ - OUT

20. Read Back

a. If it is desired that a message or portion thereof be read back to ensure accuracy, the proword READ BACK which means "Repeat the entire transmission back to me exactly as received", but it may be qualified, e.g. READ BACK TIME, READ BACK GRID, READ BACK TEXT, etc, will be transmitted immediately following the call:

(1) Example A:

MRG01 transmits:

GO9 –THIS IS - GO1 – READ BACK – Convoy has arrived – TIME One Six Three Zero Zulu – OVER

MRG09 transmits:

THIS IS - G09 – I READ BACK – G09 – THIS IS G01 – READ BACK – Convoy has arrived – Time One Six Three Zero Zulu – OVER

MRG01 transmits:

THIS IS - GO1 – CORRECT – OUT

(2) Example B:

MRC32 transmits:

D22 – THIS IS - C32 – READ BACK GRID – Meet Me Grid One Three Four Two Six Five – OVER

MRD22 transmits:

THIS IS - D22 – I READ BACK GRID – One Three Four Two Six Five – OVER

MRC32 transmits:

THIS IS - C32 – CORRECT – OUT

Note: When READ BACK procedure is employed, the proword ROGER is not necessary to indicate receipt of the message.

b. The proword READ BACK, when not preceded by identifying call signs, means that all stations are to read back. If a collective call is used, but only part of the stations represented in the call are required to read back, the station or those stations will be specified by transmitting the appropriate call signs preceding the proword READ BACK. When the order to read back is given, only those stations directed to do so will read back; remaining stations called will keep silent unless directed by the calling station to receipt.

(1) Example:

MRG01 transmits:

CHARLIE CHARLIE - THIS IS – G01 – D22-READ BACK – Convoy has arrived – TIME One Six Three Zero Zulu – OVER

MRD22 transmits:

G01 - THIS IS – D22- I READ BACK – Convoy has arrived - TIME One Six Three Zero Zulu – OVER

MRG01 transmits and directs MRC32 to receipt:

THIS IS - G01 – CORRECT – C32 – OVER

MRC32 transmits:

THIS IS - C32 – ROGER – OUT

c. If the station reading back does so incorrectly, the originating station will call attention to the error by use of the proword WRONG followed by the correct version.

(1) Example:

MRD22 reads back:

G01 - THIS IS – D22 I READ BACK – Convoy has arrived - TIME One Six Two Zero Zulu – OVER

MRG01 transmits:

THIS IS – G01 – WRONG – TIME – One Six Three Zero Zulu – OVER

MRD22 transmits:

THIS IS – D22 – TIME One Six Three Zero Zulu – OVER

MRG01 transmits:

THIS IS – G01 – CORRECT – OUT

21. Receipt

a. Receipt is employed in direct station-to-station traffic handling. No message is considered delivered until receipt is obtained (but see b below). A receipt may be effected as follows:

(1) The receiving station transmits a receipt after each message or string of messages by the proword ROGER.

(2) Where abbreviated procedure is in force, a return transmission may be considered as a receipt; no confusion is likely to arise.

(3) In the case of a message requiring acknowledgement, the use of the proword WILCO constitutes a receipt (paragraph 22) as the meaning of WILCO includes that of ROGER.

(a) Example:

MRC32 transmits:

F06 – THIS IS - C32 – Send boat for mail – TIME One Seven One Four Zulu – OVER

MRF06 transmits:

C32 – THIS IS - F06 – ROGER – OUT

b. When the transmitting station considers speed of handling a primary consideration, one station in the net may be directed to receipt for the message and no other stations may answer until instructed to do so. This does not prohibit any station from requesting repetition. Security is enhanced if the same station is directed to receipt of all transmissions.

(1) Example:

Station MRG01 sends a message to the collective call and only desires a receipt from MRD22.

MRG01 transmits:

CHARLIE CHARLIE – THIS IS - G01 – Send boat for mail – TIME One Two One Six Zulu – D22 – OVER

MRD22 transmits:

THIS IS – D22 – ROGER – OUT

MRS41, having missed the word "mail" transmits:

G01 – THIS IS - S41 – SAY AGAIN – WORD AFTER for – OVER

MRG01 transmits:

THIS IS - G01 – I SAY AGAIN – WORD AFTER for – mail – OVER

MRS41 transmits:

THIS IS - S41 – ROGER – OUT

c. Should either the transmitting or receiving station wish to indicate that he has further traffic to transmit to the station that he is working, this may be done by using the proword MORE TO FOLLOW in the message ending or receipt.

(1) Example A:

MRC32, in transmitting a message to MRF06 wishes to indicate that he has further traffic for MRF06, transmits:

F06 – THIS IS - C32 – TEXT – MORE TO FOLLOW – OVER

C32 - THIS IS - F06 – ROGER – OVER

(2) Example B:

MRG01, in transmitting a message to all stations on the net wishes to indicate that he has further traffic for MRC32 and MRS41, transmits:

CHARLIE CHARLIE – THIS IS - G01 – TEXT – MORE TO FOLLOW for C32 and S41 – OVER

G01 – THIS IS - B18 – ROGER – OUT
G01 - THIS IS - C32 – ROGER – OVER
G01 - THIS IS - D22 – ROGER – OUT
G01 - THIS IS - F06 – ROGER – OUT
G01 - THIS IS - G09 – ROGER – OUT
G01 - THIS IS - S41 – ROGER – OVER

C32 – S41 - THIS IS - G01, etc

(3) Example C:

MRF06, in receipting for a message from MRC32 wishes to indicate that he has a message for MRC32, transmits:

C32 - THIS IS - F06 – ROGER – MORE TO FOLLOW – OVER
F06 - THIS IS - C32 – OVER

22. Acknowledgement of Messages. An acknowledgement should not be confused with a reply or receipt. A prompt reply referring to the message may serve in lieu of an acknowledgement. It is the prerogative of the originator to request an ACKNOWLEDGEMENT to a message from any or all addressees of that message. If an acknowledgement is desired for a message normally is included in the text of that message. If the message has been transmitted, the request for acknowledgement will constitute a new message. Acknowledgements are originated only by the addressee to whom the request for acknowledgement was made.

a. Example:

MRG01 transmits a message to MRD22 and desires an acknowledgement:

D22 – THIS IS - G01 – Search Area Delta – ACKNOWLEDGE – TIME One One Two Zero Zulu – OVER

D22 transmits a receipt for the message:

G01 – THIS IS - D22 – ROGER – OUT

MRD22 operator, having shown the message to the commanding officer or his duly authorised representative, and having been ordered to acknowledge the message, transmits:

GO1 – THIS IS - D22 – Your One One Two Zero Zulu Acknowledged – TIME One One Two Five Zulu – OVER

23. Verifications

a. When verification of a message or a portion thereof has been requested by an addressee, the originating station will verify with the originator and send the correct version.

(1) Example:

MRS41 transmits:

GO1 – THIS IS - S41 – VERIFY Your One Zero Zero Eight One Zulu – ALL BEFORE BREAK – OVER

MRG01 transmits:

THIS IS - GO1 – ROGER – OUT (or WAIT or WAIT OUT)

MRG01 operator checks with the originator, establishes that the heading previously transmitted was correct, transmits:

S41 - THIS IS - G01 – I VERIFY - My One Zero Zero Eight Zero One Zulu – ALL BEFORE BREAK – S41 – THIS IS G01 – PRIORITY – TIME One Zero Zero Eight Zero One Zulu – FROM G01 – TO S41 – INFO C32 – GROUPS One Seven – BREAK – OVER

MRS41 transmits:

THIS IS - S41 – ROGER – OUT

b. When a message to a number of addressees is queried by one station and found to be incorrect, the corrected version must be sent to all addresses.

(1) Example:

MRD22 transmits:

G09 – THIS IS - D22 – VERIFY Your Zero Eight Four Five Zulu – WORD AFTER Proceed – Haiphong – OVER

MRG09 transmits:

THIS IS - G09 – ROGER – OUT (or WAIT or WAIT OUT)
MRG09 operator checks the message with the originator and finds that the word after 'proceed' should have been "Hong Kong" instead of "Haiphong". He therefore transmits a correction to all the original addressees.

D22 – F06 – THIS IS - G09 – CORRECTION – My Zero Eight Four Five Zulu – WORD AFTER Proceed – Hong Kong – OVER

MRD22 transmits:

THIS IS - D22 – ROGER – OUT

MRF06 transmits:

THIS IS - F06 – ROGER – OUT

24. Break-In Procedure

a. A station having a message of higher precedence than the transmission in progress may break in and thus suspend that transmission in the following circumstances:

(1) FLASH – Break in at once and transmit the message (b and c below).

(2) IMMEDIATE – May break in at once and pass the message. A preliminary call may be made before transmitting the message, if necessary. On a directed net, approval to transmit the message must be obtained.

(3) PRIORITY – As for IMMEDIATE except that only long ROUTINE messages should be interrupted.

Note: Break in procedure will not normally be employed during the transmission of tactical messages except to report enemy contact.

b. The precedence spoken three times "Cease transmissions immediately. Silence will be maintained until the station braking in has passed his message".

c. Break in procedure for messages of precedence FLASH on either a free net or a directed net should take the following form:

(1) Example:

MRD22 is transmitting an IMMEDIATE message to MRG01 when MFR06 is handed a FLASH message for transmission to MRB18. When MRD22 pauses, MRF06 transmits:

FLASH FLASH FLASH – B18 – THIS IS - F06 FLASH – Text – OVER

MRB18 transmits:

F06 – THIS IS - B18 – ROGER – OUT

MRD22 then continues with his transmission:

GO1 – THIS IS - D22 – AFTER ALL – etc

d. Break in procedure for message of IMMEDIATE or PRIORITY precedence is illustrated in the following examples:

(1) On Directed Nets

(a) Example:

MRD22 is transmitting PRIORITY message to MRG01 when MRF06 is handed an IMMEDIATE message for MRB18. When MRD22 pauses, MRF06 transmits:

IMMEDIATE IMMEDIATE IMMEDIATE – G01 – THIS IS - F06 – IMMEDIATE for B18 – OVER
MRD22, hearing MRF06's break in, ceases transmission.

NCS transmits:

F06 – THIS IS - G01 – Send your IMMEDIATE – OVER

On hearing this authorisation, MRB18 transmits:

F06 – THIS IS - B18 – OVER

MRF06 transmits:

B18 – THIS IS - F06 – IMMEDIATE – text – OVER

B18 transmits:

F06 – THIS IS - B18 – ROGER – OUT

As soon as the IMMEDIATE message has been receipted, MRD22 continues his transmission:

G01 – THIS IS - D22 – ALL AFTER – etc

(2) On Free Nets

(a) Example A:

MRB18 is transmitting a PRIORITY message to MRD22 when MRG01 is handed an IMMEDIATE message for MRF06. When MRB18 pauses, MRG01 transmits:

IMMEDIATE IMMEDIATE IMMEDIATE

MRB18 hearing the precedence spoken three times, ceases transmission and MRG01 continues:

F06 – THIS IS - G01 – IMMEDIATE – Text – OVER

MRF06 transmits:

G01 – THIS IS - F06 – (ROGER) – OUT

MRB18 then continues transmission:

D22 – THIS IS - B18 – ALL AFTER – etc

(b) Example B:

MRB18 is transmitting a long ROUTINE message to MRD22 when MRG01 is handed a PRIORITY message for MRF06. When MRB18 pauses, MRG01 transmits:

PRIORITY PRIORITY PRIORITY

MRB18, hearing the precedence spoken three times, ceases transmission and MRG01 continues:

F06 – THIS IS - G01 – PRIORITY – Text – OVER

MRF06 transmits:

G01 – THIS IS - F06 – ROGER – OUT

MRB18 then continues his transmission:

D22 – THIS IS - B18 – ALL AFTER etc

25. Radio Silence

a. Radio silence may be imposed or lifted by the control station on the net, or nets, for which it is responsible.

b. Radio silence may be predetermined or may occur in an emergency. When predetermined, instructions for imposing, lifting or breaking radio silence are to be passed by any secure means available. Emergency silence is described in c below.

c. Radio silence is to be imposed in accordance with the instructions given. This will normally be by the use of code words, nicknames or other predetermined designator. Lifting or breaking radio silence may be achieved in the same way, or by the use of self-authentication.

(1) Example A:

Imposing Radio Silence.

The NCS transmits to all subordinate stations:

CHARLIE CHARLIE – THIS IS - G01 – RADIO SILENCE – OVER

Each subordinate station answers in turn:

THIS IS - B18 – ROGER – OVER

THIS IS - C32 – ROGER – OVER – etc

The NCS transmits:

THIS IS – G01 – RADIO SILENCE now – OUT

26. Closing Down.

a. No station is to close down without prior permission from the NCS. The greatest care must be taken by control stations never to close down a net, or an individual subordinate station, without being completely satisfied that the stations know, or will know, the new frequency and time of re-opening. The necessary orders are always passed by the most secure means and, wherever possible, not by radio.

b. When it is essential to order a close-down over radio, and the NCS is satisfied regarding the arrangements for re-opening, he orders the net or subordinate station to close down. He may do this my means of the proword CLOSE DOWN or by a nickname.

(1) Example A:

MRG01 orders the close down of the net using the pro-word CLOSE DOWN:

CHARLIE CHARLIE – THIS IS - G01 – CLOSE DOWN – OVER

The subordinate stations reply in turn:

THIS IS - B18 – ROGER – OVER

THIS IS - C32 – ROGER – OVER – etc

MRG01 transmits:

THIS IS - G01 – CLOSE DOWN now – OUT

INTENTIONALLY BLANK

CHAPTER 4

MISCELLANEOUS PROCEDURES

1. Method of Synchronizing Time

a. If an accurate time check is desired, it will be requested by using the phrase "Request time check". The time at which the check is required may be indicated by the addition of a four-figure group. Time checks will be given in Greenwich mean time (GMT) unless otherwise requested or directed.

(1) Example:

MRC32 requires to check his clock and transmits:

G01 - THIS IS - C32 - Request time check - OVER

MRG01 transmits:

THIS IS - G01 - Time Check One Eight Zero Two Zulu (pause) One Five Seconds - One Zero Seconds - Five Four Three Two One - TIME One Eight Zero Two Zulu - OVER

MRC32 transmits:

THIS IS - C32 - ROGER - OUT

b. Should the occasion arise when the NCS desires to give an accurate time check to all stations on the net, he will pause a sufficient period of time between his warning phrase and the commencement of his countdown to allow all receiving operators to prepare their watches. The NCS may announce his intention of transmitting a time check at a certain time, using the phrase "Time Check at ----ZULU".

(1) Example:

MRG01 transmits:

CHARLIE CHARLIE – THIS IS - G01 - Time Check at Zero Nine Three Zero Zulu (pause to allow operators to prepare) - One Five Seconds - One Zero Seconds - Five Four Three Two One - TIME Zero Nine Three Zero Zulu - OVER

2. Grid References

a. All grid references, including those encoded, are sent character by character, and all letters are to be pronounced phonetically. A grid reference in clear is easier to interpret if a pause is made between the Eastings and Northings. Grid references are preceded by the proword GRID.

(1) Example (In Clear):

G01 – THIS IS - F06 - Enemy at GRID – Tango Oscar Three Two Six - Eight Four Seven - OVER

b. When grid references are encoded in fixed low-grade codes, instructions relative to their use will apply.

3. Authentication Procedures. Authentication is a method of challenging any station using a radio network. The system used by the ACO requires a station to respond to one of four codes:

a. Alpha.

b. Bravo.

c. Charlie.

d. Delta. .

Examples Removed for Comsec reasons

Should a reply to a challenge not be correct i.e. there is no such squadron in the Callsign List, all radio traffic and transmissions are to be stopped immediately and the communications supervisor informed.

NOTE:

Similar to sending Callsigns and Time Groups (DTGs) the proword “Figures” is omitted when sending the prowords “Grid” and “Authenticate”.

INTENTIONALLY BLANK

ACO COMMUNICATIONS ORGANISATION

Reference:

A. Air Cadet Publication 31 Section 6 – Communications

INTRODUCTION

1. The re-introduction of a progressive syllabus of communications training into the Air Cadet Organisation (ACO) began with the acceptance of the need to give Air Cadets further practical skills, which could be advantageous in both civilian and military life.

2. Reference A enables a new cadet to be introduced to the practical aspects of communication without the need for actual radio equipment. It forms the basic requirement for theoretical instruction which, when combined with a minimum of 5 hours of practical operation and a locally administered test leads to the award of a Provisional Operator Certificate. This allows a cadet to operate, under supervision, on ACO allocated radio frequencies. Further training and a minimum of 20 hours of practical operating, together with a Wing administered test, lead to the award of a Full Operator certificate allowing the cadet unsupervised access to ACO radio frequencies whilst on cadet activities.

ORGANISATION AND SYLLABUS OF TRAINING

3. This Publication covers all aspects of Air Cadet Communications training together with some aspects of Amateur Radio.

THE AIR CADET COMMUNICATIONS ORGANISATION

4. Headquarters Air Cadets (HQ AC) appoints an Officer to administer the training of Air Cadets in communications skills. Command and Control is administered by staff at Region, Wing and Squadron level who have been appointed as Communications Officers. Their task is to ensure that there is a common standard of training throughout the organisation. (Annex A)

5. Within this organisation there exists a well established HF communications network, which is regularly exercised. The practical exercise of HF communications is controlled by HQ AC through coordinators who are responsible for initiating area exercises and giving specialist help when needed. Each coordinator has direct responsibility to Region and Wing Communications Officers and to the Air Cadet Communications Consultative Committee (ACCCC) for the area assigned.

ADMINISTRATION AND DOCUMENTARY SUPPORT

6. In order for communications to be effective there must be some form of administrative back up and this embraces a logical progression in instruction, a structured system of progress through the course of training, positive indicators of achievement and the relevant forms etc which are needed to back this up.

7. The HQ Air Cadet Communications Officer (ACCO)(TG3) encourages Regions and Wings to appoint volunteer adult staff as Regional (RCO) and Wing (WCO) Communications Officers. In turn a Squadron Communications Officer (SCO) is appointed at local level.

8. In addition the above, the ACCCC, under the chairmanship of the ACCO, has been established. This committee defines the communications operational and training policy for the Air Cadet Organisation. The committee consists of 5 Communications Officers who act as specialist advisors for the ACCO on all aspects of ACO communications, including the Air Cadet Radio Society. Other RCOs are co-opted members. (The ACO Communications Organisation is outlined at Annex A)

OPERATING AUTHORITY

9. As the overall operating authority, the Ministry of Defence (MOD) (Air) permits the ACO to issue operating certificates for both equipment and individual operators. These certificates are confined to the operation of radio equipment on those military frequencies which have been assigned to the ACO. The certificates conform to the requirement laid down in current legislation and prevent any form of radio transmission or reception without the appropriate written authority to operate. It is to be noted that any frequency allocated for ACO use, or any sub tone associated with such use is not to be publicised or displayed on public forums.

OPERATING CONDITIONS

10. Certain designated radio frequencies are authorized for ACO use by the MOD Frequency Branch and are subject to operating conditions laid down by them. It is extremely important that these conditions are adhered to at all times due to passive frequency monitoring by MOD formations, who are always ready to comment on improper use of those frequencies.

MASTER OPERATING CERTIFICATES

11. The MOD permits the Air Cadet Organisation to issue a certificate to permit the operation of radio communications equipment. These are called “Master Operating Authority Certificates” (MOAC). Once a unit wishes to become operational it is to apply for a MOAC from the Wing Communications Officer.

SYLLABUS PROGRESSION

12. In order that the operating conditions are satisfied it is essential that a progressive sequence of training is followed. The logical progression commences at First Class level with study as per Reference A. Cadets will then be able to progress to Provisional Operator on VHF/UHF equipment once they complete the basic instruction and have practical use of radios under supervision. On satisfactory completion of a test at this stage of training, a SCO may annotate the individual Cadets Form 3822 to authorize radio operation UNDER SUPERVISION. Further progression in the study of communications is voluntary (outlined at Annex B) and can lead to the award of the ACO Communicator Badge and Amateur Radio Licences.

13. Ideally a minimum of 20 hours of practical radio operation and instruction should follow. This instruction may take the form of exercises prescribed by the SCO, who, when satisfied that the Cadet concerned is capable of operating a radio without supervision may put the Cadet forward for assessment as per Wing requirements. During the lifetime of this document, it is envisaged that suitable exams will be available from a central database of questions. On satisfactory completion of a test at this stage of training, a SCO/WCO may annotate the individual Cadets Form 3822 to authorize radio operation WITHOUT SUPERVISION.

14. The achievement of Full Operator (VHF/UHF) status will have given Cadets an ability to communicate effectively by radio, which will form the basis for future communication skills into whatever field they move. Suitably qualified Cadets may be appointed as Communications Instructors at Sqn / Wing level.

OPERATING CONDITIONS FOR THE AUTHORISED USE OF ASSIGNED AIR CADET RADIO FREQUENCIES

15. The frequencies listed in Supplement 6 are authorised by the MOD for use by Air Cadet Units and are subject to the following conditions:

a. Only the following members of the ACO may operate on the frequencies listed:

1). An authorised Squadron Communications Officer.

2). A cadet holding a Provisional Qualification may operate under supervision of the SCO.

3). A cadet holding a Full Operator Certificate for the relevant group of frequencies (HF/VHF/UHF).

4). Members of staff who have been trained by a qualified SCO. (NB Cadets should always operate in preference to staff.)

b. The equipment is used only for properly authorised Air Cadet activities, namely, the conduct of training and practical exercises.

c. Only the callsigns and frequencies authorised by HQ AC are used.

d. Correct procedures are used, in accordance with Air Cadet manuals in force.

e. Only the approved mode of transmission, for the frequency in use, is selected.

f. The use of any frequency required for military operational reasons will be summarily curtailed in selected areas or withdrawn completely.

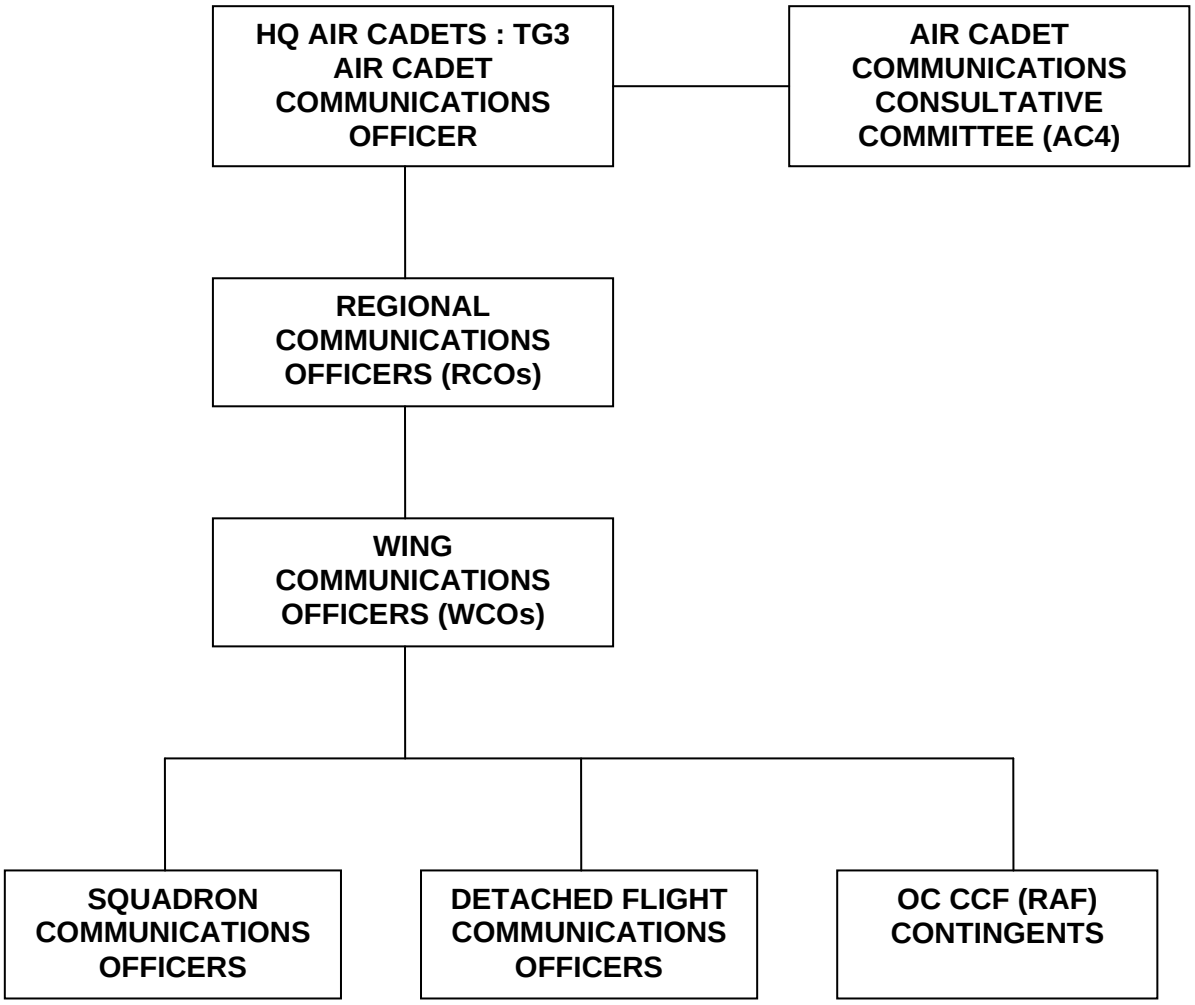
g. In the event that any identifiable military traffic appears on any of the frequencies assigned for ACO use, regardless of prior notification or not, no challenge is to be made as to the entitlement of the traffic to use that frequency. All cadet activity should change to an unoccupied frequency.

h. Following any incident as in g above, controlling communications officers are to submit a report, with as much detail as possible of the incident, through their respective Wings & Regional Communications Officers for onward transmission to HQ AC (TG3).

i. Units are advised that frequencies are not assigned exclusively to HQ AC and other training organisations often share them. It is not unusual, in favorable conditions, for continental stations to be received.

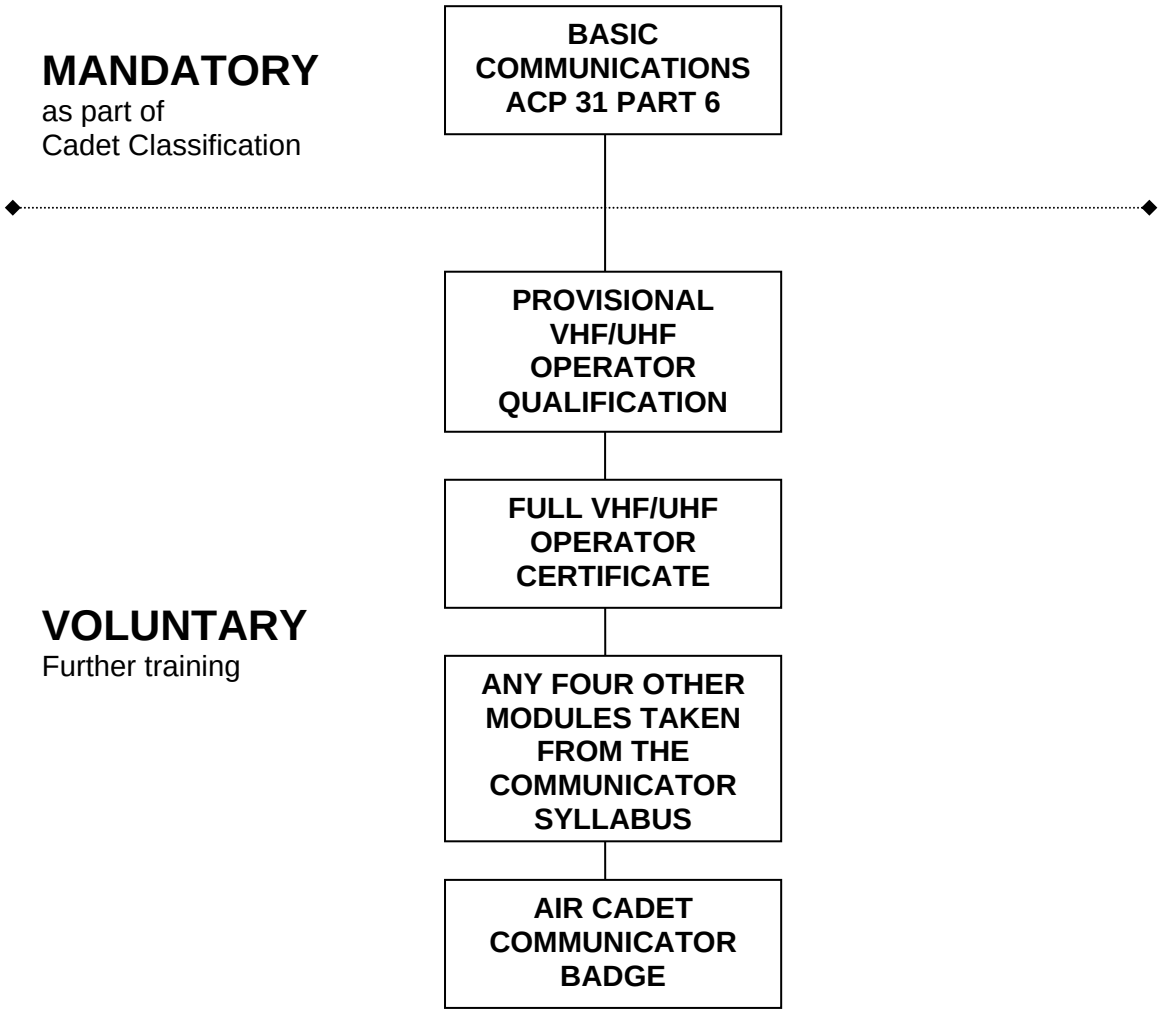
j. Any geographical restrictions laid down in Supplement 6 are to be strictly adhered to.

ACO COMMUNICATIONS ORGANISATION



INTENTIONALLY LEFT BLANK

SYLLABUS FOR ACO COMMUNICATIONS TRAINING



INTENTIONALLY LEFT BLANK

SYLLABUS FOR THE AIR CADET COMMUNICATOR BADGE

1. To reach the required standard for the award of the Air Cadet Communicator Badge, an Air Cadet must complete the following syllabus of training to the satisfaction of his/her Wing Communications Officer (WCO) and the Regional Communications Officer (RCO) This involves completion of a minimum of 6 modules from the 11 available. The modules that will be taught will vary from Wing to Wing around the Corps according to the material resources and available expertise. Two Modules are compulsory with the other 4 being selected, by the individual, from the remaining 9.

2. The Modules

1.	ACP31 Volume 6 – Communications	COMPULSORY
2.	Full VHF/UHF Operator	COMPULSORY
3.	HF Operator	
4.	HF Listener	
5.	Data Communications	
6.	Internet	
7.	ACP35 Vol 3 – Advanced Radio and Radar	
8.	ACP35 Vol 4 – Satellite Communications	
9.	Technical Skills	
10.	Amateur Foundation Licence	
11.	Army Cadet Signallers Badge [equivalent to 2 modules]	

3. When the cadet training for the badge has attained the required standard, the application form is to be completed and despatched along with the completed validation card and supporting evidence (log sheets, pass certificates etc) to the WCO for verification. Any supporting evidence will be returned to the individual after verification by the WCO. The achievement will be recorded in the Wing's Training Records and then sent to the RCO who will forward to HQAC for the issue of the badge and certificate. For those cadets who have already achieved Senior and Staff Cadets passes in communication subjects, prior accreditation will be allowed in respect of the Communicator Badge qualification. For the purposes of this award, CCF (RAF) detachments will be affiliated to the local ATC Wing Communications Officer by arrangement through HQ Air Cadets TG3 and Sqn Ldr CCF.

4. The Training and Enabling Objectives for each module are defined in the following pages.

Communicator Badge – ACP 31 Volume 6 Communications - MODULE 1

Compulsory

Training Objective:

The cadet should be able to demonstrate the use of a simple Radio Transceiver and an ability to operate an ACO radio using current radio communication procedures in use within the Air Cadet Organisation.

Enabling Objectives:

Satisfy the Squadron Communications Officer that both a theoretical and practical knowledge has been obtained to the required standard. A simple procedures test and a basic radio exam set by the Communications Instructor will suffice.

Communicator Badge – Full VHF/UHF Operator - MODULE 2

Compulsory

Training Objective:

The Cadet should be able to operate VHF/UHF radio unsupervised to the satisfaction of the Wing Communications Officer who may delegate responsibility to the Squadron Communications Instructor.

Enabling Objectives:

To have a satisfactory knowledge of:

- The Phonetic Alphabet and Numbers
- Prowords
- Communications Security
- Use and care of Batteries
- Safety in the Radio room and in the field
- Aerials
- Frequencies in use and Power Output restrictions
- Type and equipment and frequencies in use on the Squadron

To be aware of:

- Operating ranges of equipment in use
- Talk through operation (Community Repeaters)

To demonstrate the use of, over a period of time:

- Log keeping
- Voice procedures

Communicator Badge – HF Operator - MODULE 3

Training Objective:

The cadet should be able to operate HF radio unsupervised to the satisfaction of the Wing Communications Officer who may delegate responsibility to the Squadron Communications Instructor.

Enabling Objectives:

To have a satisfactory knowledge of:

- Layout of a HF Station
- Power output restrictions
- Safety in the Radio room and in the field
- Aerials
- The HF Frequency Spectrum & Propagation
- Type and equipment and frequencies in use on the Squadron

To be aware of:

- Operating ranges of equipment in use
- Electrical Interference

To demonstrate the use of, over a period of time:

- Operation and participation in the Air Cadet National Network to the satisfaction of the Squadron Communications Instructor
- Log keeping

Communicator Badge – HF Listener – MODULE 4

Training Objective:

The cadet should demonstrate an understanding of the principles and practical aspects of HF Communications to the satisfaction of the Squadron Communications Instructor.

Enabling Objectives:

a Either a minimum of 6 hours listening to the Air Cadet HF Network, supported by a listener log, or

b Short Wave Listening experience of HF broadcasts over a minimum of 6 hours using a domestic/commercial HF receiver. This option may include reception of commercial international broadcasting, amateur radio operators, HF air traffic control, VOLMET transmissions etc, again supported by a listener log.

c Whichever option of a or b is used the cadet must show a working knowledge of HF operating, Aerials, Frequency Spectrum and Propagation.

When a cadet is also using the HF Operator Module as part of the Communicator Badge then hours logged as an HF Operator may not be used for this module nor may hours logged as a Listener be used to support an application for the HF Operator Module.

Communicator Badge – DataComms – MODULE 5

Training Objective:

The cadet should demonstrate theoretical and practical knowledge of a Data Communications system.

Enabling Objectives:

- Identify and explain the functions of the component parts of a Data Comms system, i.e. the Power Supply Unit (PSU), Terminal Node Controller (TNC), Personal Computer (PC), Transceiver (TCVR) and the software in use.

- Explain the function of a Data Comms Node, and describe its operation as both a Node and Digipeater.

- Describe the functions of a Bulletin Board System (BBS), and the role of the Systems Operator (SYSOP).

- Demonstrate a good knowledge of Security of Data Comms transmissions together with operating practices and procedures.

- Indicate which Cadet channel can be used on a Network, the maximum transmitter power permitted, and the protocol in use over the air (interface).

- Relate who may operate a Data Comms system and what qualifications are required.

- List the various callsign suffixes used in Data Comms transmissions.

- Demonstrate proficiency in Data Comms operation, the operating practices and procedures, sending and receiving a message, sending and receiving bulletins at the BBS and the various functions of a Data Comms Node.

Communicator Badge – Internet - MODULE 6

Training Objective:

The cadet should demonstrate knowledge of and display a practical ability on the Internet, to the satisfaction of the Squadron Communications Officer.

Enabling Objectives:

To have a satisfactory knowledge of:

- Simple Website Construction
- Sending a receiving Emails and attachments accurately
- Proficiency in the use of Search Engines to find specific resources
- The use of File Transfer Protocol
- The use of Web Browsers

To be aware of and explain the use of:

- Anti Virus and Anti Spyware software
- Firewalls and their importance in security
- Passwords and Security
- IP addresses, DNS and Routers

Communicator Badge – ACP 35 Vol 3 "Advanced Radio & Radar" - MODULE 7

Training Objective:

The cadet should demonstrate an understanding of the principles of Advanced Radio Communications.

Enabling Objectives:

A Pass mark in the examination at Senior Cadet level or at Wing / Region level in an exam set by the Wing / Region Communications Officer. NB. Exam papers are available, via Regional Communications Officers, from HQ AC for ACP35 vol 3, on application outside exam periods. A pass in this exam outside of the normal Training Syllabus may not be used for Classification advancement.

Communicator Badge – ACP 35 Vol 4 "Satellite Communications" MODULE 8

Training Objective:

The cadet should demonstrate an understanding of the principles of Satellite Communications.

Enabling Objectives:

A Pass mark in the examination at Senior Cadet level or at Wing / Region level in an exam set by the Wing / Region Communications Officer. NB. Exam papers are available, via Regional Communications Officers, from HQ AC for ACP35 vol 3, on application outside exam periods. A pass in this exam outside of the normal Training Syllabus may not be used for Classification advancement.

Communicator Badge – TECHNICAL SKILLS - MODULE 9

The Module will be divided into three sections.

DESCRIPTIVE

Describe:

A Block Diagram of a simple Receiver.
A Block Diagram of a Simple Transmitter.
The differences between AM, FM and SSB.
Harmonics and their undesirability at the antenna.
The function of a Diode within a circuit.
Why the VSWR (Voltage Standing Wave Ratio) should be kept to a minimum in an Aerial and Feeder system.
The functions of a Multimeter.

DEMONSTRATIVE

Demonstrate:

Using a Multimeter, in a simple low voltage circuit:

a. The measurement of Voltage.
b. The measurement of Current.
c. The measurement of Resistance of circuit components.

The calculation of the Power consumption of a DC operated electrical appliance.
The correct fitting of a Mains plug.
The construction of a simple aerial for use on ACO frequencies.
The safe use of a soldering iron in the fitting of an RF plug onto coaxial cable.
An understanding of safety procedures.

KNOWLEDGE

To be verbally examined

The cadet's understanding of Ohms Law.
The cadet's understanding of HF and VHF propagation.
The cadet's understanding of safety procedures when handling and using radio equipment.

Communicator Badge – Amateur Radio Foundation Licence - MODULE 10

Training Objective:

The cadet should demonstrate an understanding and the use of Amateur Radio.

Enabling Objectives:

A pass mark in the Amateur Radio Foundation Licence syllabus

Communicator Badge – Army Cadet Force (ACF) Signallers Badge MODULE 11

Training Objective:

This qualification applies to those cadets of the CCF (RAF) or ACF, who hold the ACF Signallers badge, on joining the Air Cadet Organisation.

It also applies to Air Cadets who attend an accredited annual ACF Camp and pass the qualification to the satisfaction of the local ACF Signals Instructor, at a nationally recognised standard.

Properly accredited passes must be accompanied by a photocopy of the Certificate of Award.

The award will count as 2 modules.

APPLICATION FOR THE ISSUE OF THE AIR CADET COMMUNICATOR BADGE

REGION . . . . . .WING . . . . . .UNIT/SQN . . . . . .

RANK . . . . . NAME & INITIAL . . . . . .

DOB . . . . . .

ACP31 Part 6 COMPULSORY **Signed** **DATE COMPLETED**	**FULL VHF/UHF OPERATOR COMPULSORY** **Signed** **DATE COMPLETED**
HF OPERATOR **Signed** **DATE COMPLETED**	**HF LISTENER** **Signed** **DATE COMPLETED**
DATACOMMS **Signed** **DATE COMPLETED**	**INTERNET** **Signed** **DATE COMPLETED**
ACP35 VOL 3 **Signed** **DATE COMPLETED**	**ACP 35 VOL 4** **Signed** **DATE COMPLETED**
TECHNICAL SKILLS **Signed** **DATE COMPLETED**	**AMATEUR RADIO FOUNDATION LICENCE** **Signed** **DATE COMPLETED**
ACF SIGNALLERS BADGE **Signed** **DATE COMPLETED**	

CERTIFIED COMPLETE

DATE . . . . . .

NAME & RANK . . . . . .OC UNIT/SQN . . . . . .

FORWARD TO WING COMMUNICATIONS OFFICER ☐

CERTIFIED COMPLETE

DATE . . . . . .

NAME & RANK . . . . . COMMS OFFICER . . . . . WG

RECORD IN WING RECORDS & FORWARD TO REGION COMMUNICATIONS OFFICER ☐

CERTIFIED COMPLETE

DATE . . . . . .

NAME & RANK . . . . . .COMMS OFFICER . . . . . .REGION

RECORD IN REGION RECORDS & FORWARD TO HQAC TG3 FOR ACTION OF BADGE AND CERTIFICATE ☐

INTENTIONALLY LEFT BLANK

AIR CADET COMMUNICATOR BADGE VALIDATION RECORD

REGION . . . . . .WING . . . . . .UNIT/SQN . . . . . .

RANK . . . . . NAME & INITIAL . . . . . .

DOB . . . . . .

NB 2 Pages to this Form

Module 1:- ACP 31 Vol 6

Date						
Instructor						
Progress						

Module 2:- FULL VHF/UHF OPERATOR

Date						
Instructor						
Progress						

Module 3: . . . . . .

Date						
Instructor						
Progress						

Module 4: . . . . . .

Date						
Instructor						
Progress						

Module 5: . . . . . .

Date						
Instructor						
Progress						

Module 6: . . . . . .

Date						
Instructor						
Progress						

CERTIFIED COMPLETE DATE . . . . . .

NAME & RANK . . . . . .OC UNIT/SQN . . . . . .

Attach to Communicator Badge Application for Region Use.

ACO DATA COMMUNICATIONS NETWORK

INTRODUCTION

1. This supplement will deal with the setting up, operation and protocols in relation to the ACO Data Communications Network (packet radio).

2. The Data Communications Network has been established using Uniform 2 (UHF Frequency Modulation) as the primary Network frequency, with each Unit station running a Terminal Node Controller (TNC) utilising the AX25 protocol, and an IBM compatible personal computer (PC) installed with suitable software. Victor 9 (VHF Frequency Modulation) may be used as a secondary frequency as a point to point facility, where difficulty with Uniform 2 is experienced, to maintain coverage. Dual port TNCs with a Gateway facility must therefore be used to maintain a Uniform 2 Data Communications Network. An HF Gateway will be set up using Hotel 3 which will enable transmissions from the Uniform 2 Data Network to be sent via Hotel 3 to link with more distant stations. The Network is intended to run 24 hours a day providing message handling capabilities for ATC units, to be used by Cadets who have received suitable training, and as a management tool for ATC Units.

3. The normal range of UHF may be limited. To extend coverage consideration should be given to setting up in suitable locations a remote Node. A Node is a station equipped with a TNC capable of permitting digipeated or error checked repeated transmissions, and consists of a transceiver (TCVR), TNC, DC power supply and an omni-directional antenna. The Node could of course be located at an existing ATC unit, as all Units will function as Nodes. In time, with co-ordination, a nation wide Data Communications Network will exist.

SECURITY

4. As with all Air Cadet frequencies, the frequencies used for the Data Communications Network should not be disclosed to unauthorised persons, including other details concerning the location of remote Nodes and Bulletin Board Systems (BBS) sites. All other security instructions also apply. Transmissions on the ATC Data Communications Network are NOT secure unless suitable encryption is employed.

5. Only messages that are not classified and do not contain sensitive material should be sent on the Data Communications Network, unless suitable encryption is employed.

SETTING UP

6. To assist in the efficient planning of a future national network, Headquarters Air Cadets must approve all Remote Data Communications Nodes and BBS installations. Before any BBS is put on the air, a BBS Operating Authority must be held by the Radio Officer IC of the installation, who is to be referred to as the System Operator (SYSOP). Application forms are contained at Annex A and B to this enclosure.

TECHNICAL PARAMETERS

7. The following parameters apply:

a. Input and output Uniform 2

b. Power not to exceed 25 watts.

c. Antenna polarisation must be vertical and preferably omni-directional to assist in maximum network coverage.

d. Mode of operation must be Frequency Modulation.

e. Channel spacing either 12.5 or 25 kHz. Maximum transmit deviation set at 1.5 kHz.

f. TNC to employ AX25 protocol, to facilitate Digipeating, and have its own Node.

g. Software recommended is paKet 6.1, which may run on an IBM compatible PC, minimum processor at 086.

USAGE

8. During parade times (1930 to 2130 hrs) each week day priority of use is by Cadet operators who should be of at least provisional VHF/UHF standard and be supervised. Cadets with Data Communications experience may operate unsupervised subject to approval by the Unit Radio Officer. Units may connect to each other and send to that Unit's mailbox pre-prepared text messages, ASCII or binary files. Units may communicate 'live' in plain language, or connect to any BBS to retrieve or send messages or bulletins.

CALLSIGNS

9. Each Unit Data Communications installation will adopt that Unit's callsign as per the Master Operating Certificate. Any BBS or Remote Node will be allocated a callsign from that Wings allocation after first notifying HQAC TG3. Additional Data Communications installations not located at the parent Unit will append a letter suffix, i.e. MRD99A. For example the Sqn Commander of MRD80 may have a Datacomms installation located at his home. His callsign will therefore be MRD80A and any other stations remote from the unit HQ will adopt the next alphabetical letter. The letters “O”, “I” and “M” will not be used as a suffix. The TNC can only accept callsigns with a maximum of 6 characters.

10. The TNC parameters will include a mailbox (PMS) suffix -2, a Node suffix -7, and an Alias suffix -5 i.e. MRD99-2 (PMS), MRD99-7 (Node) and MRD99-5 (Alias). The location of installations not operating at its Unit's HQ, and any BBS will be listed in the Radio Callsign List.

11. The responsibility for upkeep and correct usage of a remote Node or installation at a Unit HQ will rest with the Squadron Radio Officer. Any BBS will be the responsibility of the Wing's designated SYSOP. Engineering tasks may be delegated to a "Data Communications Engineer".

EMERGENCY SHUTDOWN

12. In certain circumstances, it may be necessary to close down the equipment at a remote Node site if it was found to be interfering with other radio services. On receipt of notification to close down the installation, the Radio Officer in charge should make arrangements for this to be accomplished at the earliest opportunity. This should normally be within 48 hours.

MONITORING

13. The system should be monitored on a regular basis and action taken, as necessary, should miss use occur. With regard to any BBS, the software parameters will be set to save and hold any bulletin or message sent by a Unit until the SYSOP has approved the contents of the text prior to its inclusion on the BBS.

COVERAGE

14. Trials using simplex equipment should be made to estimate the coverage of any remote Node, or BBS. A map detailing coverage should accompany the application.

TEMPORARY SYSTEMS

15. Temporary systems and mobile systems may be used subject to prior notification to HQAC Data Communications Advisor. Advice and guidance will be made available.

OPERATING PROCEDURES

16. The system will operate as a Free Net. Operators must note that although another Unit cannot read messages addressed to a Unit, messages sent, or read from a BBS can be monitored.

17. When a 'live' connection is made, the symbols >> will be sent to indicate the phrase 'over'.

18. Normal short-range operating procedures apply to Data Communication operations unless suitable encryption is employed.

INTENTIONALLY BLANK

APPLICATION TO SET UP AND OPERATE A REMOTE DATA COMMUNICATIONS NODE

Applicant:

Name:

Address for correspondence:

Unit:

Wing: Region:

Location of Remote Node**:**

Address: Grid Reference:

Height AMSL: metres

Equipment**:**

TNC Make & Model:

TCVR power output: Watts

Antenna type: Gain in dBd:

Antenna height above ground: metres

If beam antenna direction in degrees:

Operation:

If not 24 hours, from ..... hours to ..... hours.

Callsigns:

Callsign allocated to Remote Node (to enable error checked transmissions repeated through the Node) [station callsign followed by suffix] -7

Alias assigned (alternative callsign to enable digipeating: -5

Emergency shutdown:

List on a separate sheet full details of at least 3 contacts.

How long will it take to shut down?

Monitoring details:

Any additional information:

Is system permanent?

If temporary, period of operation from ..... to .....

APPLICATION TO SET UP AND OPERATE A BULLETIN BOARD SYSTEM (BBS)

Applicant:

Name:

Address for correspondence:

Unit:

Wing: Region:

Location of BBS:

Address: Grid reference:

Height AMSL: metres

Equipment:

Make & model of TNC:

Details of BBS software:

Power output of TCVR: Watts

Antenna type: Gain in dBd:

Antenna height above ground: metres

If beam antenna, direction in degrees:

Operation:

If not 24 hours, from ..... hours to ..... hours

Callsigns:

Callsign allocated to BBS: ……..

Emergency shutdown:

List on a separate sheet full details of at least 3 contacts.

How long will it take to shut down?

SYSOP (Systems Operator) Details:

Name:

Address & telephone number (E-mail address):

Any additional information:

Is system permanent? .....

If temporary, period of operation from ..... to .....

PHONE-PATCH

INTRODUCTION

1. Commercially made phone patch systems are usually known as a " Telephone Interconnect". They use separate frequencies for both transmit and receive.

2. The system allows for radio transmissions to be interconnected with a telephone system either private or public. It is like having a very long microphone lead attached to radio set.

3. Commercial VHF/UHF systems are manufactured to Department of Trade and Industry regulations. In particular any call / transmission is limited to a duration of only 3 minutes with a warning tone about 15 seconds before the transmission is automatically terminated. When used in conjunction with Air Cadet Radio the time allowed has strict limitations and therefore abridge radio procedures as explained below must be used.

4. If an HF Phone Patch is in use it will usually be controlled by an operator who will make the connection between the telephone network and the radio. The operator will monitor the transmission and break the connection on completion of the contact. Normal HF procedures should be used.

USE OF PHONE PATCH

5. As the use of a phone patch uses two frequencies and in view of the limited number of suitable frequencies currently available it is undesirable to have a permanent installation, unless it can be linked to a Talkthrough Project, therefore the systems should b of a temporary nature and used for such purposes as exhibitions, demonstrations or exercises.

APPROVAL

6. Notification of the installation should be sent to the Region Communications Officer together with all the necessary information. The Region Communications Officer is responsible for co-ordinating all requests to ensure that similar systems do not interact with each other. They are also responsible for ensuring that Wings in their Region and adjacent Regions are advised that the system will be operating. This information should include, dates and times of operation together with details of the frequencies in use.

OPERATION

7. Access by telelphone.

   a. Using a telephone with DTMF tones call the appropriate number.

   b. On connection the caller will either hear a pre-recorded message giving instructions on how to use a combination of keys on the telephone key pad or they will follow separate instructions which may be issued from time to time.

   c. If the station being called is not already on the air then a ringing tone will be heard and if an operator is available they will answer with their Callsign.

8. Access by radio to the Telephone System.

a. The instructions to gain access to the telephone system will not be dealt with here. The users of the system will give details as and when required.

PROCEDURES

9. The following procedures are to adhered to when using phone patch:

a. When using a commercial telephone interconnect (phone patch) normal radio procedures have to be shortened to allow for the 3 minutes given for the transmission.

b. After the initial call, which must start with the receive stations call sign followed by the interconnect call sign and then the calling stations Callsign, Callsign groups should not be given in between transmissions only the pro word OVER is to be used in the normal way.

c. If the contact is to be ended within the 3 minute period the stations should give their callsigns at the end of their final transmission.

d. On hearing the warning tone, if time allows, the contact should be concluded with the relevant stations Callsign.

NOTE: When using a phone patch it is essential that net security is maintained.

CALLSIGNS

10. The interconnect should be allocated a Callsign and details entered on the operating authorities. Normally the system will be located at a squadron HQ in which case the relevant Callsign should be allocated. If located away from a site normally used for Air Cadet Radio consideration should be given to having a temporary call sign allocated from the series of callsigns allocated to the Wing in which the system is located.

EXAMPLE:

1. Only SINGLE CALLS can be made.

THIS IS - MRV 92 OVER

MRV 92 (THIS IS) MRL47 O49 M2 HERE FETCH SUNRAY OVER

SUNRAY HERE OVER

PRONTO HERE CALL ME ON CHARLIE ONE MRO 49 M5 OVER

WILCO MRV 92 OUT

REMOTE TALK THROUGH PROJECTS

INTRODUCTION.

1. This section will deal with the set up, operation and protocols in relation to Remote Talkthrough Projects (community repeaters) and whilst under development these have been known as "Project Tango".

2. The normal range of VHF is limited and to extend area coverage consideration should be given to setting up, in a suitable location, a Remote Talk Trough Project. In time, with co-ordination, a nation-wide network could be set up.

3. It is intended that the Remote Talk Through (Project Channel) is for use by Cadets who have had previous Training and priority will be given accordingly for this purpose between the hours of 19 30 and 21 30 each weekday evening. At other times the Project Channel may be used by Staff for the furtherance of Air Cadet Radio and for other Air Cadet activities.

SECURITY

4. As with all Air Cadet frequencies the ones used for Talk Through Projects should not be disclosed to unauthorised persons also all other details relating to its site and operation in particular details of the tones used. No reference or remarks must be made, over the air, that may indicate to the "LISTENER" that the frequency in use is related to a talkthrough or repeater. It may only be referred to as this “frequency” or when referred to on another frequency, “Victor 10”.

5. All other security instructions also apply.

SETTING UP

6. To avoid duplication of coverage and co-project interference all projects must be approved by the VHF/UHF Advisor. Before any new project is put on air a Project Operating Authority must be held by the Radio Officer IC of the installation. An application Form is contained at Annex A to this section. Any subsequent changes to the details in the application form must be notified to the VHF/UHF Advisor.

TECHNICAL PARAMETERS

7. The following parameters apply:

a. Input Victor 6

b. Output Victor 1

c. Input must be tone guarded CTCSS continuous tone coded squelch, with no tone on the output. (The tone will be allocated on approval and may be subject to change by the VHF/UHF Advisor). The tone will be selected from the table below:

Order of Preference	Tone Hz
1	x
2	x
3	x
4	x
5	x

d. Power not to exceed 25 watts unless specifically authorised.

e. Aerial polarisation must be vertical.

f. Mode of operation must be Frequency Modulation.

g. Bandwidth 12.5 Khz. maximum deviation on transmit, 2.5 Khz

k. Hang time should not exceed 1 second.

USAGE

8. During parade times (19 30 to 21 30) each weekday priority of use is by Cadet operators who should be of a provisional standard and be supervised. Cadets with project channel experience may operate unsupervised subject to approval by the Unit Radio Officer. If stations can operate direct with one another then they should not use the project channel. Transmissions must be kept to the minimum with no lengthy transmission between any two stations with out a break in transmissions to give other stations an opportunity to join the Net.

CALLSIGNS

9. Each Project installation will be assigned its own specific Callsign in the MRT series and the location and will be listed in the Radio Callsign List for Air Cadet Units.

RESPONSIBILITY

10. The Radio Officer IC as shown on the Operating Authority is responsible for upkeep and correct usage. They may delegate engineering tasks to a "Project engineer". These posts should be referred to as MRT** Sunray and MRT** Pronto respectively.

EMERGENCY SHUT DOWN

11. In certain circumstances it may be necessary to close down the equipment. In particular if it was causing interference to other radio services On receipt of notification to close down the equipment the Radio Officer in Charge should make arrangements for this to be done at the earliest opportunity. This should normally be within 48 hours.

METHOD OF SHUT DOWN

12. The preferred method is by 5 tone or DTMF and if these methods are used the tone details must be included on the application form.

MONITORING

13. The system should be monitored on a regular basis and action should be taken as necessary should miss use occur. *The tone will be selected from the following table:*

COVERAGE

14. Trials, using simplex equipment, should be made to estimate the coverage of the system and the coverage plotted on a map. A copy of which should accompany the application.

TEMPORARY SYSTEMS

15. Temporary systems may be used subject to prior notification to the VHF/UHF Radio Advisor, and as with fixed systems they will look at any interaction with other systems already in operation. Advice and guidance may also be available.

OPERATING PROCEDURES

16. All normal short range procedures apply to operations.

17. Should traffic become very heavy then it will be to the discretion of the Officer IC the project to organise a Controlled Net and advise users of the relevant details.

INTENTIONALLY BLANK

APPLICATION TO SET UP AND OPERATE REMOTE TALKTHROUGH

Applicant:

Name

Address for correspondence:

Unit

Wing

Facility

Location:

Address Grid Reference .....
Height AMSL
.....……..Meters

Equipment:

Type

Power output Set.....Watts ERP.....Watts

Aerial:

Type

Gain.....

Aerial height above ground.....Meters Mast height.....Meters
If beam aerial direction in degrees .....Grid

Operation:

If not 24 Hours from .....hours to .....hours

Emergency shut down:

List overleaf at least 3 contacts
(preferred 5 tone DTMF) If this method used details of tones.....

How long will it take to shut down? .....

Monitoring details:

Any additional information:

Is system is permanent..... If temporary period of operation

From.....to.....

If available attach a map of coverage

Details of Officer ic Project
(Contact 1)

Full Name..... Unit.....

Rank..... Parade Days and
times..... Phone
Number.....
Title.....

Contact address .....

.....

.....

.....

Telephone Number: Day.....

Eve.....

Contact 2

Full Name..... Unit.....

Rank.....

Parade Days and times.....……..

Phone Number.....……

Title.....

Contact address .....

.....

.....

.....

Telephone Number: Day.....

Eve.....

Contact 3

Full Name..... Unit.....

Rank.....

Parade Days and times.....…….

Phone Number.....……

Title.....

Contact address .....

.....

.....

.....

Telephone Number: Day.....

Eve.....

INTENTIONALLY BLANK

AIR CADET FREQUENCY ASSIGNMENTS
Issued 1st January 2006

The frequencies listed here are the only ones that Air Cadet Units may use and are authorised for use within the United Kingdom. Any others must first be applied for via the Air Cadet Communications Consultative Committee, through Headquarters Air Cadets on a Unit by Unit basis. Applications for the use of frequencies overseas must be made in a similar manner.

ALL AIR CADET CHANNELS ARE ASSIGNED ON A NON-INTERFERENCE BASIS AND SHOULD NOT UNDER ANY CIRCUMSTANCES BE USED IF OTHER STATIONS ARE HEARD ON THE FREQUENCY, IRRESPECTIVE OF THEIR LOCATION

POWER LIMITS ARE TO BE OBSERVED AT ALL TIMES ON ALL FREQUENCIES

VHF/UHF ASSIGNMENTS

	POWER	FREQUENCY	NOTES & RESTRICTIONS
VICTOR 1	25w		**Project Channel Output. NOT** to be used within 10Km of Gloucester, Hereford and within Northern Ireland
VICTOR 2	25w		**NOT** for use within Military Training Areas unless pre authorised by **ACCC HQ AC via TG3**
VICTOR 3	25w		**NOT** to be used within 30Km of the Clyde Submarine base
VICTOR 4	25w	**WITHDRAWN**	**NB As of 25 Jul 05, Victor 4-153.8250MHz is withdrawn from ACO use and replaced by VICTOR 15**
VICTOR 5	25w		**NOT** for use within 50Km of RAF Fylingdales, Yorkshire
VICTOR 6	25w		**Project Channel Input**. **NOT** to be used as a simplex channel if in range of a project unit
VICTOR 7	25w		**NOT** to be used within 30Km of Portsmouth, Cinque Ports AFTC and Plymouth
VICTOR 8	25w		**NOT** to be used within 30Km of Glasgow, Castlemartin (Wales), Salisbury Plain Training Area (SPTA) & Plymouth
VICTOR 9	25w		**NOT** to be used within 30Km of Ashford Kent, SPTA, Shoeburyness Essex, Porton Down, Salisbury and Stanford Training Areas. **MAY BE USED FOR DATA**
VICTOR 10	25w		Project channel transmit & receive are shown for the base *Fixed & mobiles operating via a project use*
VICTOR 11	25w		Not available in Northern Ireland
VICTOR 12	25w		Use in Scotland only
VICTOR 13	25w		
VICTOR 14	25w		Use in Wales only
VICTOR 15	25w		Frequency replaced Victor 4 Jul 05
UNIFORM 1	25w		
UNIFORM 2	25w		*Data traffic has priority*
UNIFORM 3	25w		
UNIFORM 4	25w		
UNIFORM 5	25w		**Cadet Common Allocation**, Used by ACF/CCF & SCC
UNIFORM 6			Withdrawn
UNIFORM 7			Withdrawn
UNIFORM 8	25w		Only for use paired with UNIFORM 9 **$**
UNIFORM 9	25w		Only for use paired with UNIFORM 8 **$**
UNIFORM 10	25w		Project channel transmit & receive are shown for the base *Fixed & Mobiles operating via a project use* **NOT** for use within 80Km of RAF Fylingdales, Yorkshire

H.F. ASSIGNMENTS

	POWER	FREQUENCY	NOTES & RESTRICTIONS
LIMA 1	100w		SSB Only SHARED WITH THE ROYAL NAVY
LIMA 2	100w		SSB Only SHARED WITH THE ARMY (LAND MOBILE)
LIMA 3	100w		SSB Only SHARED WITH THE ROYAL NAVY AND THE ARMY (LAND MOBILE)
LIMA 4	350w		May be used for Data links
LIMA 5	100w		SHARED WITH MILITARY FIXED LINKS
LIMA 6	100w		May be used for Data links
LIMA 7	350w		
LIMA 8	350w		Shared with Army
LIMA 9	350w		
NOVEMBER 1	350w		National Network Channel
NOVEMBER 2	350w		National Network Channel
NOVEMBER 3	350w		National Network Channel
HOTEL 1	350w		
HOTEL 2	350w		Data Transmissions ONLY
HOTEL 3	100w		
HOTEL 4	100w		
HOTEL 5	350w		
HOTEL 6	100w		Data Transmissions ONLY Shared with Army
HOTEL 7	100w		Data Transmissions ONLY
OSCAR 1	350w		
OSCAR 2	100w		
OSCAR 3	100w		
OSCAR 4	100w		Approved for use in Cyprus and UK
OSCAR 5	100w		Approved for use in Cyprus and UK
OSCAR 6	100w		Approved for use in Cyprus and UK

NOTES:

Please be aware of regular military traffic on xxxx, xxxx and xxxx.x KHz
Their use should be avoided outside evening parade times and weekends
Before using these channels at ANY time please listen for any traffic
All SSB transmissions should be made using Upper Side Band only.

Periodic checks should be made on channels used for data transmissions to ensure that no interference is being caused to other users of the frequency.

ALL Air Cadet Channels are allocated on NON-INTERFERENCE no protection basis.
Clansman equipment users are to set a frequency 2.0 KHz higher than the allocated frequency

THE CALLSIGN LIST

when in paper format, may be inserted in this section

INTENTIONALLY BLANK

APPLICATION FOR A WING WORKSHOP CALLSIGN

To be submitted via Wing and Regional Communications Officers to TG3 HQ AC for appropriate action.

Wing : . . . . . .

Region : . . . . . .

This application requests the issue of a Wing Workshop Callsign in the MRExx series of ACO Callsigns. The purpose of a Workshop Callsign is to enable equipment to be serviced and repaired at a location other than a Squadron HQ. It is not meant to allow the operation of ACO equipment and frequencies for normal training purposes nor by Cadet operators.

Location of Workshop:

Address: . . . . . .

. . . . . .

. . . . . .

Postcode: . . . . . .

Supervisor of Workshop (Please print name): . . . . . .

Position held within the ACO: . . . . . .

Radio Engineering Qualification (If Any): . . . . . .

Test Equipment permanently at Workshop Location (The minimum expected would be a combination of RF Signal Generator, Power meter, Modulation/ Deviation meter and RF Frequency Counter):

. . . . . .

. . . . . .

. . . . . .

. . . . . .

. . . . . .

Signature of Applicant . . . . . Date. . . . . .

Wing Communications Officer.

I have satisfied myself that the proposed location is suitable for a Wing Radio Workshop, the test equipment is available and there is a need for this location to be issued with a workshop callsign.

Signed: . . . . . Name & Rank . . . . . .

Date. . . . . .

Wing Comms Officer . . . . . Wing

Approved/Not Approved

Signed: . . . . . Name & Rank . . . . . .

Date. . . . . .

Region Comms Officer . . . . . Region

AIR CADET COMMUNICATIONS EXERCISES

INTRODUCTION

1. This supplement contains a selection of exercise suitable for Air Cadet use, additional exercises will be added from time to time.

COMPETITIVE EXERCISES

2. There are currently two competitive exercises, a VHF/UHF exercise based on scoring points for each kilometre of distance between contacts and a HF Exercise based on contacting as many other competing stations as possible.

ORGANISATION

3. Exercise coordinators have been appointed to organise and judge these exercises and details of the relevant coordinators are shown on the appropriate score logs sheets.

NOTIFICATION

4. Details of the dates of the exercises, any amendments to the rules and details of the coordinator will be issued in HQ AC Radio Newsflash.

RULES

5. The rules are contained in the annexes to this supplement as follows:

   a. VHF/UHF Exercise Annex A
   b. VHF/UHF Log Sheet Annex B
   c. HF Exercise Annex C
   d. HF Log Sheet Annex D

NON-COMPETITIVE AND TRAINING EXERCISES

6. The additional exercises contained in the old ACP35 Vol 2 can still continue to be used. These exercises will be reviewed and updated when time allows.

Annexes:

A. VHF/UHF Field Day Instructions.
B. National VHF Field Day Log.
C. HF Field Day Instructions.
D. National HF and Portable Field Day Log.

INTENTIONALLY BLANK

EXERCISE 1

VHF/UHF FIELD DAY INSTRUCTIONS

Introduction

1. All Air Cadet units with serviceable VHF and/or UHF transmitter/receiver equipment, which is covered by a Master Operating Authority Certificate, are encouraged to participate in the VHF/UHF National Radio Field days, the dates of which are notified to Units each year. Wing Communications (Radio) Officers are required to nominate a control station to exercise strict network discipline within his/her Wing area as far as working range permits. An overall National exercise controller will be nominated by HQAC.

Rules Applicable to Field Days

2. a. Only cadet-operated stations located away from their Squadron Headquarters should participate.

b. The following frequencies and modes may be used.

(1) AM: V2 (149.400 MHz), V3 (78.100 MHz).

(2) FM: V2 (149.400 MHz), V15 (153.925 MHz), V5 (79.350 MHz), U1 (435.750 MHz)

Note that FM may be used on V2, although AM takes preference on this channel. Note that V4 is no longer available, having been replaced by V15 (153.925 MHz)

c. The exercise will take place from 1030 to 1400 hours local time.

d. Stations must observe radio silence for 1 minute after the completion of each logged contact before starting the next.

e. Stations must observe radio silence for 1 minute after each unsuccessful call ie not a logged contact.

f. An aborted or incomplete call will count as an AC call and only three "Say Again" procedures are allowed per station per contact. A further attempt to make contact can be made later in the exercise.

g. No disputes/disagreements will be tolerated on the air during the exercise. Complaints may be registered after the exercise has ended and, if necessary, put into writing to HQAC for the attention of the Air Cadet Communications Officer.

h. All non-participating traffic must give way to field day traffic and, where possible, non-participating stations should operate on non-field day frequencies.

i. Cadet operators must log all successful contacts on a separate log sheet for each channel in use showing contact numbers ascending from Ø1 for each channel.

j. Exercise log sheets are to be forwarded to the exercise controller within 21 days of the exercise date. Any logs received after this period may not be accepted. Logs must show the squadron address, Wing, callsign used, grid reference and location of the site used together with a log entry for each successful contact. The claimed points score should also be included.

k. Points are to be claimed on a basis of 1 point per kilometre straight-line distance between the two contacting stations.

l. All stations are requested to remain operational until the end of the exercise to give all competing stations a fair chance.

m. Stations must remain at the same grid reference for the duration of the exercise.

n. It is essential that operators listen carefully on the channel before transmitting to prevent causing interference to stations already in contact. Full callsigns with M1, M2 (etc) suffixes are to be used at all times.

Message Content

2. The content of the message will consist of a contact number and the OS Grid Reference (OSGR) of the station location. The OSGR is to be checked carefully with particular attention to the 100 Km grid square letters. This information consists of two letters and can be found in the “map margin information” of the map covering your location.

3. Example of transmissions forming a contact.

AC = THIS IS MRB25M1 = OVER *(CALL*)

MRB25M1 = THIS IS MRC76M2 = OVER (*REPLY*)

MRC76M2 = THIS MRB25M1 = FIGURES Ø1 = GRID = SP477902 = OVER

MRB25M1 = THIS IS MRC76M2 = FIGURES Ø5 = GRID = SK327195 = OVER

MRC76M2 = THIS IS MRB25M1 = ROGER = OUT (or SAY AGAIN GRID = OVER etc)

Winners

4. There will be three winners of each exercise:

a. The overall winner will be the station with the highest points scored counting all channel contacts.

b. The single channel winner will be the station with the highest points scored on a single channel.

c. The greatest distance winners will be the stations making the longest distance contact on any channel

5. The use of Project Tango facilities or other relays/rebroadcast facilities or relay procedures is prohibited for this exercise.

Results

6. Results will be sent on a newsflash from HQAC as soon as possible after each event.

7. Further details will be available via www.alphacharlie.org.uk

INTENTIONALLY BLANK

AIR CADETS - NATIONAL VHF FIELD DAY LOG

Send completed log to:

The person nominated
in the Newsflash notification

or email to
atc-vhf-fd@f2s.com

Callsign used:	Squadron/Detached Flight:
Field Day Date:	Wing:
Transceiver:	Field Day Station Location National Grid Ref (NGR):
Power Ouput:	Field Day Station Location:
Aerial System:	Site height in metres (if known):
Number of Cadet ops.:	Nearest Town and County:
Contact name / address:	
Contact telephone + email:	

Local Time	Channel	Station Contacted	Contact no. Sent	NGR Sent	Contact no. Received	NGR Received	Points Claimed	Operator

VHF Field Day Log (cont'd) Date_____ Callsign _____

Local Time	Channel	Station Contacted	Contact no. Sent	NGR Sent	Contact no. Received	NGR Received	Points Claimed	Operator

EXERCISE 2

HF FIELD DAY INSTRUCTIONS

Introduction

1. All member stations of the ATC HF radio network with a serviceable HF USB transmitter/receiver which is covered by an Operating Authority Certificate, or an HF USB receiver, are encouraged to participate in the National HF Radio Field days, the dates of which are notified to Wing HQs each year. The exercises are competitive and results are announced by Newsflash shortly after each exercise.

Objective

2. The objective of the exercise is for cadets at each participating station to contact as many different stations on each frequency as possible during the exercise period and to exchange specific information with each station contacted. Points are awarded for each successful contact logged. Squadrons with HF receivers can also participate by logging all contacts heard and should submit their logs as per note b) of the exercise operating notes below.

Control

3. The HF network controller has overall responsibility for the control of these exercises and will appoint a monitor station for each of the exercise frequencies. Normally the sub-control stations will be used for this task. Any instructions which are given by monitor stations during the exercise must be complied with by those stations addressed.

Frequencies and Mode To Be Used

4. This exercise will use R/T (SSB) mode of transmission - USB only. The only frequencies to be used are:

N1 - 5245 KHz – USB	**N2 - 4925 KHz – USB**
N3 - 5088 KHz – USB	**H1 - 5770 KHz – USB**

Message Format

5. The message content to be transmitted and received in order to claim a "Contact" is:

a. A radio check report.

b. A coded 4 letter group, starting with 6789 - sent coded as FGHI - and progressively deducting the HQ callsign figures of the previous station contacted using the code below: See examples.

1) **Code**

1 = A; 2 = B; 3 = C; 4 = D; 5 = E; 6 = F; 7 = G; 8 = H; 9 = I; Ø = J

6. For example, at the start of the exercise MRW48M2 contacts MRU26M1 and sends 6789, coded as '**FGHI**' and transmitted in phonetics - as the coded group in this first contact.

7. MRW48M2 then subtracts MRU26M1's HQ callsign figures - **26** - from 6789, which equals 6763, and would send that number - coded as '**FGFC**' - as the code group to the next station contacted.

8. If MRD37M1 is the next station contacted, MRW48M2 would send them '**FGFC**' from above, and then calculate 6763 – 37, which equals 6726, coded as '**FGBF**' as the group to be sent to their next contact.

Message Examples

9. A single general call "ALPHA CHARLIE" is to be used for these exercises. Examples of the first two contacts made by a station - MRS46 - follow:

a. MRS46's First Contact (Note that the callsigns and letter group is sent in phonetics)

(1) *MRS46 tries to raise a contact by transmitting…*

AC = THIS IS MRS46 = OVER *(Listens for a reply)*

(2) *MRB25 hears and replies (Once only)*

MRS46 = THIS IS MRB25 = OVER

(3) *MRS46 replies with a radio check report and the initial code as this is their first contact*

MRB25 = THIS IS MRS46 = LOUD CLEAR = FGHI = OVER

(4) *MRB25 replies with a radio check report and a different code as this is their second contact (after MRW35M1)*

MRS46 = THIS IS MRB25 = ROGER = GOOD READABLE = FGED = OVER

(5) *MRS46 ends the contact*

MRB25 = THIS IS MRS46 = ROGER = OUT

b. MRS46's Second Contact

(1) *After a wait of 1 minute MRS46 tries to make a second contact by transmitting…*

AC = THIS IS MRS46 = OVER

(2) *MRC18 hears and replies*

MRS46 = THIS IS MRC18 = OVER

(3**)** **MRC18 = THIS IS MRS46 = WEAK READABLE = FGFD = OVER**

(4) **MRS46 = THIS IS MRC18 = ROGER = LOUD CLEAR = FGBA = OVER**

(5) **MRC18 = THIS IS MRS46 = ROGER = OUT**

10. In every contact stations give a radio check followed by their running score, and there will be a pause of 1 minute between contacts or 'AC' calls. Subsequent calls must not be made if the channel is already occupied by two stations in contact, or a station is waiting for a reply to their 'AC' call.

11. No further transmissions are to be made until each contact's log entry is completed and a member of the squadron adult staff has checked the coded running score to be used for the next contact.

HF Exercise Period

12. Unless amended in advance by Newsflash, or on November One just prior to the exercise starting, the HF Field Day exercise period will be 1030 to 1400 hours (local time).

HF Exercise Rules

13. a. Only cadet operators are to participate - instructors are to take a supervisory role. At the exercise monitoring stations cadets may operate with the discretion of the monitoring station instructor, using their network member station callsign rather than control station callsign where possible.

b. Each station must record all of its contacts on the correct log sheets (example at Annex A). The log is to be forwarded to the exercise controller within 14 days and a copy kept by the station submitting the log.

c. Contacts may only be initiated by an 'AC' call. Contacts may not be initiated by calling a station direct.

d. A pause of **one minute** is mandatory between contacts, and after finishing an 'AC' call or replying to an 'AC' call which does not result in a reply. Stations are reminded that it is unacceptable practice to call 'AC' on a frequency already in use.

e. **Three different stations** may be logged consecutively on any one of the exercise frequencies. This is to be followed by a **ten minute** break on that frequency and a change to a new frequency. Only one logged contact with each different station on each frequency must be made. Stations should announce 'Changing Channel' at the end of the third consecutive contact on a channel.

f. Where a station is restricted to a single operating frequency, a break of 10 minutes must be made after every three consecutive contacts on that frequency. The 'Changing Channel' transmission requirement does not apply.

g. When only a part of a message is received, the receiving station can ask for up to three "Say Again's". If still unsuccessful, the contact is invalid and a pause of 1 minute must be made by both stations before calling 'AC' again, or replying to an 'AC' call.

h. Each successful contact scores **ONE** point.

i. Monitoring of exercise frequencies will be continuously carried out by control and sub-control stations. They are charged with ensuring good operating standards and network discipline is followed, and their judgment of breaches of network discipline must be accepted together with the ensuing penalties (the maximum penalty for any one breach is 20 points).

Exercise Operating Notes

14. a. Stations are instructed to use dummy loads when tuning transmitters on exercise frequencies and, where necessary, to tune transmitters and antennas on-air prior to the start of the exercise and to record the settings. Transmitter and antenna tuning is not to be carried out on-air during the exercise.

b. Receive-only stations are encouraged to take part, and should submit their log sheets to the national exercise controller to assist with cross-checking. Where more than two Sqns submit listener logs, they will be judged as a separate category and the results will be announced by Newsflash. Rules d) and e) above do not apply to receive-only stations.

c. Participating stations having complaints or objections must lodge them with the exercise controller within 7 days of each exercise to which they relate.

AIR CADETS - NATIONAL HF FIXED AND PORTABLE FIELD DAY LOG

Send completed log within 14 days of the exercise to:
The person nominated in the Newsflash notification

Callsign Used:	Squadron/Detached Flight: No ( ) Sqn/DF	
Field Day Date:	Wing	
Transceiver:	Field Day Station Location National Grid Ref:	
Power:	Field Day Station Location	
Aerial System:		
Other information:	Post Code (if applicable)	
	Nearest Town and County	
		Sheet No.

Local Time	Channel	Station Contacted	Radio Check Received	Code Group Received	Radio Check Sent	Code Group Sent	Remarks	Operator

Callsign Used:		Squadron/Detached Flight: No ( ) Sqn/DF				Field Day Date:	Sheet No.	
Local Time	**Channel**	**Station Contacted**	**Radio Check Received**	**Code Group Received**	**Radio Check Sent**	**Code Group Sent**	**Remarks**	**Operator**

T B D