# UNITED STATES RESTRICTED

## FM 24–6

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### WAR DEPARTMENT

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# BASIC FIELD MANUAL

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## RADIO OPERATORS MANUAL
## ARMY GROUND FORCES

**April 12, 1943**

*UNITED STATES RESTRICTED*

## BASIC FIELD MANUAL

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## RADIO OPERATORS MANUAL
## ARMY GROUND FORCES

WAR DEPARTMENT,
WASHINGTON, April 12, 1943.

The radio procedure contained in this document supplements the Combined Radiotelegraph (W/T) Procedure (C. C. B. P. 1) contained in FM 24–10. It is prescribed for use of ground forces of the Army. This procedure will become effective as follows:

> In continental United States—May 1, 1943.
> Outside continental United States—May 1, 1943, or as soon thereafter as deemed practicable by the senior Army commander concerned.

All existing instructions in conflict with these regulations are superseded when this procedure becomes effective.

[A. G. 062.11 (6–24–42).]

BY ORDER OF THE SECRETARY OF WAR:

G. C. MARSHALL,
*Chief of Staff.*

OFFICIAL:
J. A. ULIO,
*Major General,*
*The Adjutant General.*

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(For explanation of symbols see FM 21–6.)

# TABLE OF CONTENTS

## UNITED STATES RESTRICTED

### BASIC FIELD MANUAL

# RADIO OPERATOR'S MANUAL
# ARMY GROUND FORCES

(This manual, together with FM 24–9, December 28, 1942, FM 24–10, January 20, 1943, and FM 24–11, January 17, 1943, supersedes FM 24–6, March 6, 1941, including C 1, October 7, 1941, C 2, December 31, 1941, C 4, March 5, 1942, and C 5, July 15, 1942.)

### Section I

### GENERAL

**1. Purpose and References.**—The purpose of this Field Manual is to provide a guide for training field radio operators in radio procedure and ready reference data required in the operation of field radio communication. The procedure contained herein describes the brief, basic method of operation that will be employed by units of the Army Ground Forces, and especially by radio stations within the division. The contents of this manual conform to the procedure prescribed in FM 24–10 and TM 11–454, Since this procedure is now prescribed for use within and between all United States armed forces and by these forces for communication with all Allied forces, it must be used without variation, and improvised additions to this procedure are forbidden.

**2. Scope.**—The information contained in this manual includes adequate procedure data for radiotelegraph operation within divisons, with illustrated examples of each operation. Radiotelephone procedure is prescribed in FM 24–9 and is similar in method to the radiotelegraph procedure prescribed herein. Reference lists of procedure signs and operating signals are included in sections IV and V.

SECTION II

RADIOTELEGRAPH PROCEDURE

**3. General.**—Radio is one of the principal means of communication within all units of the Army. It is used between rapidly moving units, where wire communication is difficult; to cross areas where wire or messenger communication is impracticable; between vehicles; and between ground units and aircraft. It is subject to interception, location, and jamming by the enemy, and is affected by terrain and weather conditions.

*a.* Radiotelegraphy is normally employed between units of higher echelons; in some cases its use is extended down to platoons. Operators trained to send and receive the International Morse characters are required.

*b.* Radiotelephony is employed within the lower echelons; for air-ground operation over distances usually required for observation flights; and in some cases, for command and control purposes by commanders of units up to divisions.

**4. Radio Nets.**—*a.* In order that radio communication may follow the proper channels of tactical command, the radio station of a superior unit and the radio stations of its next subordinate units are grouped, by being on the same frequency, for operation with one another. This group is called a net. The composition of each net depends upon the tactical grouping of units within a command.

*b.* The grouping of radio sets into nets requires a definite radio procedure to adjust equipment, to control transmission, and to clear messages. A net is organized only for the purpose of exchanging messages. Correct radio procedure under any operating condition is characterized by brevity, uniformity, and simplicity. When special operating conditions require procedures not illustrated in detail in this manual, the briefest common sense application of the principles and signals contained herein will be used. *Under no condition will procedure be unnecessarily elaborated nor will signals not certain to be understood be transmitted.*

*c.* In order to have centralized control and maintain discipline in a net, a net control station (NCS) is required. The NCS has full authority in matters of technical control, but none over internal organization or tactical employment of any station. Other stations in the net are known as subordinate stations. The station of the superior unit is the NCS, unless another station

is so designated. An alternate NCS (NC2) may be designated to control the net in the absence of the primary NCS. Strict discipline is essential for efficient communication in any radio net.

*d.* Every radio net is assigned a frequency on which it must operate, and every station is assigned a call sign by which it is identified. Stations within the same headquarters are sometimes identified by the same call sign. A call sign, termed the "net call," is also assigned to designate the entire net. Call signs are composed of three or four letters and numerals. Call words,
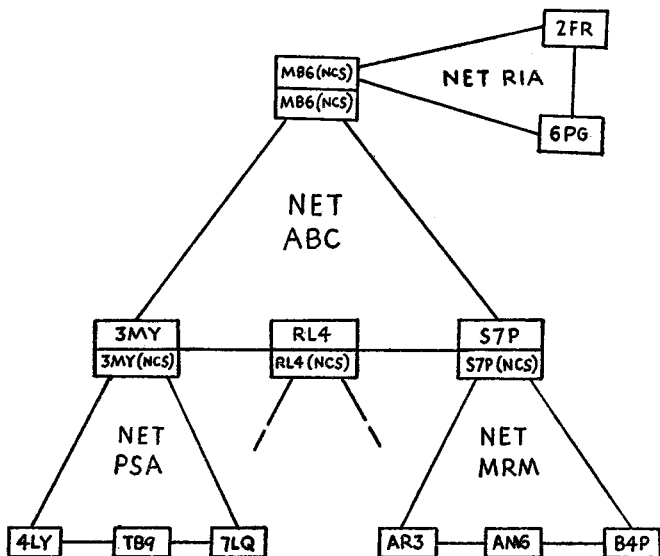


FIGURE 1.—Net organization. (The radio nets shown above are those referred to in all examples throughout this manual.)

often used to identify radiotelephone stations, consist of a word, or a word and a numeral, such as "BOSTON"; "BATO 6." Call signs are published for each station in Signal Operation Instructions and are changed at frequent intervals to insure signal security.

*e.* The organization of several radio nets is shown in figure 1. The nets and stations appearing therein are used in the examples of net procedure and operation, and should be referred to when examples are studied.

**5. Prosigns.**—Procedure signs, referred to as "prosigns," are single letters, or characters, or combinations thereof, assigned meanings to expedite the control and operation of radio nets and the handling of messages. These must be memorized by the operator. When two or more letters used to form a prosign are printed overscored, as $\overline{AR}$, the overscoring indicates that the letters so written are transmitted as one continuous character with no spacing between them.

*Example*

A being transmitted $.\,\underline{\quad}$ and R being transmitted $.\,\underline{\quad}\,.$, the prosign $\overline{AR}$ is transmitted $.\,\underline{\quad}\,.\,\underline{\quad}\,.$

A complete list of all prosigns, with the meanings assigned to each, is given in section IV. Principal prosigns used are:

| | | | |
|---|---|---|---|
| $\overline{AR}$ | End of transmission; no response expected. | II | Separative sign (Indicated as $\underline{\quad}$). |
| $\overline{AS}$ | Wait. | $\overline{IMI}$ | Repeat, or I will repeat. |
| B | More to follow. | $\overline{INT}$ | Interrogatory. |
| $\overline{BT}$ | Long break. | J | Verify and send correct version. |
| C | Correct, or the following is a correct version. | K | Go ahead (end of transmission; response necessary). |
| EEEEEEEE | Error. | R | Received. |
| | | V | From. |

Every transmission will end with either the prosign K or the prosign $\overline{AR}$, which are referred to as "ending signs," and have the following meanings:

K     "Go ahead; transmit. This is the end of my transmission to you and a response is necessary."

$\overline{AR}$     "This is the end of my transmission to you and no response is required or expected."

**6. Operating Signals.**—*a.* Operating signals are three-letter groups having Q as the first letter, and are therefore commonly called "Q signals." They facilitate communication by expressing in a condensed, standard form, certain orders, instructions, and requests frequently exchanged between radio stations during communication.

*b.* The prosign $\overline{\text{INT}}$ is transmitted preceding any operating signal to indicate that the meaning of the operating signal is changed to the form of a question.

### Example

QVF means: "Send a series of V's on this frequency."

$\overline{\text{INT}}$ QVF means: "Shall I send a series of V's on this frequency?"

*c.* All blanks appearing in operating signals and not inclosed in parentheses will usually be filled in; the filling in of blanks inclosed in parentheses is optional. When a blank is filled in by use of a number, it will be transmitted as a numerical digit and not spelled out. Data used to fill in blanks will appear in the same order as the blanks occur in the meaning of the signal.

*d.* A full list of operating signals **for** Army use appears in section V for reference when necessary. Those most commonly used are printed in capitals and will be memorized. Operators in any net or unit should standardize the use of a minimum list of operating signals, such as shown in capitals in section V. This will prevent delay in reply or compliance by receiving operators, since a pause will not be required in order to look up the meanings of unfamiliar signals.

**7. Calling.**—*a. General.*—A call consists of—

(1) The call sign(s) of the station(s) called.          RL4
(2) The prosign "V," meaning "From."                     V
(3) The call sign of the station calling.                MB6
(4) The ending sign K.                                   K

### Example

RL4   V   MB6   K

*b. Calling one station.*—(1) To establish communication or when communication is difficult, the call signs are sent twice. This is referred to as a "long call."

*Example*

RL4   RL4   V   MB6   MB6   K

In all other cases, the call signs are sent only once.   This is referred to as a "short call."

*Example*

RL4   V   MB6   K

(2) If the called station fails to answer promptly, the initial call is repeated.

(3) If the second call is not answered, the calling station will wait a reasonable time and again send the call at such intervals as operating conditions, the needs of other stations in the same net, and the urgency of the calling station's traffic may warrant.

*c. Calling the net.*—All stations in the net may be called simultaneously by use of the "net call."

*Example*

ABC   V   MB6   K

This call may be repeated as in *b* above.

*d. Multiple calls.*—Several stations in a net may be called at the same time by using the call sign of each in a single call, called a "multiple call."   The call signs of stations thus called will ordinarily be sent in alphabetical order, but may be sent in some other order in which it is desired that the called stations will reply.   In determining alphabetical order of call signs for this or any other purpose, it is assumed that the numerals 1 to Ø, respectively, are the twenty-seventh to thirty-sixth letters of the alphabet.

*Examples*

(1)   RL4   S7P   V   MB6   K
(2)   TB9   4LY   7LQ   V   3MY   K
(3)   AM6   AR3   B4P   V   S7P   K

*e. Collective calls.*—Any group of two or more stations in the same net may be included in a single call by assigning to that group a single call sign, termed a "collective call sign."   This is useful in instances where the same stations would otherwise be frequently called with a multiple call, which is longer.   Assuming that PS2 is a collective call sign assigned to stations 3MY and RL4, they may be called as follows:

Multiple call: RL4   3MY   V   MB6   K
Collective call: PS2   V   MB6   K

*f.* Net, multiple, and collective calls may be transmitted as either short or long calls, as circumstances require. For instance, if communication is poor, a multiple call may be transmitted as follows:

*Example*

RL4   RL4   3MY   3MY   V   MB6   MB6   K

*g. Abbreviated calls.*—For any call except a call used to establish communication or in the initial transmission of a message, and when operating conditions are such that confusion cannot result, an "abbreviated call" may be used. The abbreviated call omits the call sign of the station called, or in two station nets, both call signs may be omitted.

*Example*

Instead of MB6   V   RL4   K
Abbreviate thus: V   RL4   K
In two-station net: K

While a majority of the examples throughout this manual show the complete call for clarity, use of abbreviated calls considerably speeds operation.

**8. Answering.**—*a.* The answer is a reply to a call, and is similar to the call itself.

*Example*

(1)   MB6   V   RL4   $\overline{\text{K}}$
(2)   MB6   V   RL4   $\overline{\text{AS}}$

Example (2) indicates that RL4 is not ready to work for a few seconds. If the wait is to be long, RL4 will add the ending sign $\overline{\text{AR}}$, releasing the calling station to other operation and terminating the current exchange of transmissions.

*b.* To answer a call where communication is difficult, call signs are sent twice.

*Example*

MB6   MB6   V   RL4   RL4   K

*c. Answering net and collective calls.*—Net calls are answered in the alphabetical order of call signs of the stations included by the call. If net call ABC, transmitted by station MB6, includes called stations RL4, S7P, and 3MY, they answer the net call as follows:

7

*Example*

```
MB6   V   RL4   K
MB6   V   S7P   K
MB6   V   3MY   K
```

Answering a collective call conforms to the same method as the answering of a net call.

*d. Answering multiple call.*—Stations answer a multiple call in the order in which their call signs appeared in the call.

*Examples*

(1) Stations called in alphabetical order:

```
Call:                    RL4   S7P   V   MB6   K

Answer in order called:  MB6   V   RL4   K
                         MB6   V   S7P   K
```

(2) Stations called in special order, not alphabetical:

```
Call:                    S7P   RL4   V   MB6   K

Answer in order called:  MB6   V   S7P   K
                         MB6   V   RL4   K
```

*e.* If any called station fails to answer a net, collective, or multiple call in correct sequence, the next station in order of answering *waits 5 seconds* and then answers. Any station which misses its turn must wait until all other stations have answered, and then answers.

*f.* Occasionally an operator recognizes his own call but fails to get the call sign of the calling station. He answers, using the "unknown station" prosign $\overline{\text{AA}}$.

*Example*

$\overline{\text{AA}}$　V　RL4　K

**9. Establishing a Net.**—*a.* A net is established by the NCS. Prior to its establishment, subordinate stations must not call in attempts to enter the net. However, any secondary station having traffic for another station may call that station before the net is opened and send its traffic.

*b.* When the net is to open, station MB6, the NCS, listens in on the prescribed frequency, and hearing nothing, then calls the net.

*Example*

ABC    ABC    V    MB6    MB6    K

Because this is a call to establish communication, call signs are transmitted twice. If no station in the net answers, the call will be repeated as previously described in the case of any unanswered call. Individual stations that do not respond to the net call when the net is opened may be called individually by the NCS. Stations opening late, when they ascertain by listening that the net has been organized, call the NCS individually and report into the net. Throughout the opening of the net, stations may use the operating signal QMG, meaning "Station reports in the net," when entering a net.

Assuming that the net call has been transmitted as shown above, subordinate stations constituting the net answer and are receipted for as follows:

| | | | | |
|---|---|---|---|---|
| MB6 | V | RL4 | K | |
| RL4 | V | MB6 | R | $\overline{AR}$ |
| MB6 | V | S7P | K | |
| S7P | V | MB6 | R | $\overline{AR}$ |
| MB6 | V | 3MY | K | |
| 3MY | V | MB6 | R | $\overline{AR}$ |

The NCS will not announce what stations are in his net unless specifically requested to do so. Such requests will be kept to a minimum and will be complied with only when, in the judgment of the NCS, compliance will not jeopardize signal security.

**10. Frequency Adjustments.**—Net operation requires precise adjustment of all sets to the assigned net frequency. Unless the equipment of stations constituting a net permits automatic adjustment and maintenance of the assigned frequency, it is the duty of the NCS to adjust stations to the correct frequency when the net is opened and at such other times as may be necessary.

Assume that the NCS finds the frequency of S7P to be 8 kilocycles too high when he checks into the net. Station MB6, the NCS, finding S7P by tuning slightly above and below the net frequency, sends:

S7P    V    MB6    QHF    8    K

S7P makes the necessary adjustments and sends:

MB6    V    S7P    $\overline{INT}$    QMF    K

MB6, finding the frequency correct, replies:

S7P　V　MB6　QMF　A̅R̅

**11. Readability and Signal Strength.**—*a.* Readability refers to the clarity with which signals are received, while signal strength is the actual loudness with which signals are received. Since loud signals are usually readable, requests and reports referring to readability alone are usually used to indicate how signals are received. However, it sometimes occurs that a loud signal is of low readability due to interference, equipment trouble, etc., and conversely, that a weak signal is perfectly readable by being sharp and clear-cut. Readability and signal strength are reported, using appropriate operating signals in conjunction with a scale from 1 to 5 as follows:

| Report | Readability | Signal strength |
|---|---|---|
| 1 | Unreadable. | Very weak. |
| 2 | Poor; send clear text twice; code unreadable. | Moderately weak. |
| 3 | Fair; send clear text once; code twice. | Medium. |
| 4 | Good; send clear or code text once | Moderately strong |
| 5 | Perfectly readable | Strong. |

Readability and signal strength reports indicate the desired method of transmission and should be used in that sense. Unless requested, readability and signal strength reports are not exchanged unless "3" or less, lack of any report being assumed to indicate a satisfactory readability.

### *Examples*

(1) Noting that the readability of signals from 3MY has fallen below a satisfactory signal, MB6 transmits:

3MY　V　MB6　QJS　3　K

3MY then adjusts his transmitter and transmits:

MB6　V　3MY　I̅N̅T̅　QJS　K

3MY　V　MB6　QJS　4　A̅R̅

(2) RL4, suspecting that he is transmitting weak signals, asks S7P to report signal strength and readability:

S7P   V   RL4   $\overline{\text{INT}}$   QJS   $\overline{\text{INT}}$   QSA   K

RL4   V   S7P   QJS   3   QSA   3   $\overline{\text{AR}}$

*b.* Interference and atmospherics may be reported by use of the same number scale used for reporting signal strength, combined with operating signals QRM and QRN.

**12. Net Operation.**—*a.* Radio operators will conform strictly to the following operating rules:

(1) Listen in before transmitting to avoid causing interference.

(2) Make only the minimum transmissions necessary to maintain the net and clear traffic.

(3) Send call signs clearly and accurately.

(4) Transmit at a speed no faster than that of the slowest operator in the net.

(5) Reply promptly to all transmissions requiring a reply.

(6) Conform strictly to prescribed radio procedure and regulations for maintaining signal security.

*b. Authentication.*—Authentication is the proving of the genuineness of a radio station, message, or person. Without it, enemy stations, representing themselves to be friendly, may send false messages and orders, or accept traffic from a station, thereby preventing or delaying delivery of messages to the proper destination. It is the responsibility of the radio operator to authenticate stations with which he is in communication. This is done as prescribed by the system in use. There are several authentication systems available, and the one to be used by any unit is designated in the current Signal Operations Instructions (S. O. I.).

*c.* Stations within a net communicate directly with any other station or stations in the net, making only the minimum transmissions necessary to maintain the net and clear traffic. However, when necessary to maintain net discipline, the NCS may prescribe, by the use of an appropriate operating signal (QKG), that any or all stations in the net obtain permission before transmitting messages. When such an order is given it is considered to be in effect until canceled.

*d.* Radio silence is used to prevent the enemy from learning by radio intercept of the existence or location of units or indi-

vidual stations, and occasionally to maintain net discipline. *When radio silence is imposed on a station, the operator must continue to listen on his net frequency, but must not send anything.* Silence may be imposed on any net or group of nets, or on individual stations, either for all traffic or for all but certain types of messages.   In order that an enemy station may not impose silence upon our stations, orders relating to silence restrictions will be sent only by messages in secret form and properly authenticated.

*e.* Stations, including the NCS, may temporarily leave the net to communicate with stations in another net, adjust equipment, or for other reasons.   Internet traffic, however, should ordinarily be handled by relay.   Whenever the NCS leaves the net, he must designate another station to take over control of the net until his return.

### *Examples*

(1) Subordinate station indicates his intention temporarily to leave the net:

> 3MY   V   TB9   QLG   K

If this action is approved by the NCS he sends:

> TB9   V   3MY   QPZ   $\overline{AR}$

(2) Subordinate station leaves net temporarily to communicate with station AM6 in another net:

> 3MY   V   TB9   QLG   AM6   K
> TB9   V   3MY   QPZ   $\overline{AR}$

(3) A station having obtained permission to leave his own net, to communicate with a station in another net, will first listen in on the frequency of the net in which he is to work temporarily.   Hearing no transmissions, he then calls the net and states the nature of his business.   For example, station TB9, having obtained permission to communicate with station AM6 in another net whose net call is MRM and whose NCS is S7P, sends:

> MRM   MRM   V   TB9   TB9   QMG   QMM   AM6   K

The NCS authorized TB9 to send his message:

> TB9   V   S7P   QPZ   $\overline{AR}$

When the precedence of the message justifies such action, the transmitting station may call the station to whom the message is addressed without obtaining permission from the called station's NCS.

(4) The NCS may refuse a secondary station permission to leave the net to transmit a message and direct that the internet message be handled by relay.

> TB9   V   3MY   QQZ   QQU   K

(5) NCS leaves the net for 30 minutes and designates 4LY as temporary NCS:

(*a*) Calling the new NCS only:

> 4LY   V   3MY   QPG   QLG   30   MINS   K
> 3MY   V   4LY   R   $\overline{AR}$

(*b*) Calling the entire net:

> PSA   V   3MY   QLG   30   MINS   4LY   QPG   K
> All stations receipt in proper order.

*f.* When for any reason radio communication is no longer required within a net or with a certain station, the net or station may be "closed down" and the radio set(s) turned off.  Orders to close down must be correctly authenticated.

### *Examples*

(1) The NCS orders the net closed by using the operating signal QNW:

> ABC   V   MB6   QNW   K
> All stations receipt in proper order.

(2) The NCS closes down one station:

> RL4   V   MB6   QNW   K
> MB6   V   RL4   R   $\overline{AR}$

(3) One station requests permission to close down:

> MB6   V   RL4   $\overline{INT}$   QNW   K
> If this action is approved by the NCS, he sends:
> RL4   V   MB6   QPZ   $\overline{AR}$

(4) One station indicates that it must close down, using operating signal QPW:

> MB6   V   RL4   QPW   $\overline{AR}$   (or K)

*g.* Operators will keep a log at each station, making such entries as may be directed by the unit signal or communication officer. During training periods, logs should be complete, showing all traffic and procedure signals transmitted over the net, operator's names, stations in the net, etc. A portion of a typical complete log appears in figure 2.

### STATION LOG

Date ..MAY 1.. 19 43 Net ..1ST INF......................................... Sheet No. ...2.........

Station Call ...4LY...... Net Call ..PSA...................................... Frequency ..4520...... Kcs.

Enter operators, opening and closing times, frequency changes, traffic delays, and any incidents or conditions affecting net or circuit efficiency.

Remarks ....1ST INF (NCS) – 3MY , 2ND BN – TB9 , 3RD BN – 7LQ..............
........... WJ ON KEY , RC ON GEN...................................................................

| TIME | TO | FROM | TRAFFIC |
|------|-----|------|---------|
| 1008 | 3MY | 7LQ | QMC  K |
|      | 7LQ | 3MY | R  AR |
| 17   | TB9 | 7LQ | K |
|      | 7LQ | TB9 | K |
|      | TB9 | 7LQ | BT NR8  PET  SVT  RMJ  JUJ |
|      |     |      | PSV  FSK  ADT  OLU  BT 0935C  K |
| 19   | 7LQ | TB9 | R-B-7LQ V TB9 (SENT 0937C) K |
| 21   | TB9 | 7LQ | R  AR |
| 30   |     |      | DROPPED MICROPHONE BUT IT SEEMS OK |
| 35   |     |      | RC TO KEY , WJ TO GEN. |

FIGURE 2.—Portion of complete log.

**13. Precedence of Messages.**—*a.* Messages are classified according to importance or urgency. This is done by the writer who assigns a "precedence" to each. Messages are transmitted in order of precedence. In the absence of special instructions to the contrary, messages of the same precedence are transmitted in the order in which they are filed with the operator.

*b.* Message precedence is indicated by prosigns, which, listed in order of precedence, are as follows:

| *Precedence* | *Prosign* |
|---|---|
| Urgent (Highest) | O |
| Operational Priority | OP |
| Priority | P |
| Routine | None—(R)[1] |
| Deferred (Lowest) | D [1] |

*c.* It is desirable to use a minimum number of precedences in order to reduce confusion and expedite transmission of messages. Precedence other than urgent and routine will seldom be used in ground force tactical communication.

**14. Forms of Messages.**—*a. General.*—Messages transmitted by radio stations within the Army are of two forms: the normal form, and the abbreviated form. A majority of tactical messages throughout the Army will be transmitted in the abbreviated form, and all messages transmitted within the division, including those transmitted by division headquarters stations to the stations of subordinate units, will habitually be in abbreviated form. For this reason, only the abbreviated form is discussed in this manual. For the information of operators, an example of the component parts of a normal form message is shown in section III. Operators requiring further information concerning this form may refer to TM 11–454 and FM 24–10.

*b. Abbreviated form message.*—The omission from the heading of a normal form message of such parts as the date-time group, the time of origin, or group count will result in the message being in the abbreviated form. Since most abbreviated form messages omit a majority of the items included in normal form headings, it is not necessary for operators who will habitually handle messages in the abbreviated form to be trained in trans-

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[1] Routine messages bear no precedence indicator when filed, and are not identified by any prosign during transmission. They are identified by the prosign R when reporting precedence of traffic to be transmitted. Deferred precedence is rarely applied to tactical messages, and is not used within the division.

missions of the normal form message. The abbreviated form message will seldom consist of more than the following:

| Part | | When sent | Example |
|---|---|---|---|
| (1) | The call | Always | S7P   V   MB6 |
| (2) | Precedence indicator | If assigned | –O– |
| (3) | Transmission instructions | If necessary | –G–, –F–, –T– |
| (4) | Originator's sign and call sign | If a relay | –A– RL4– |
| (5) | Action addressee (station to which message is addressed for action) | If a relay | –B4P– |
| (6) | Long break | Always | $\overline{BT}$ |
| (7) | Text | As filed with operator | (Text) |
| (8) | Long break | Always | $\overline{BT}$ |
| (9) | Time group (time signed) | When included as part of message | Ø937C |
| (1Ø) | Ending sign | Always | K |

c. The following are typical of messages in the abbreviated form:

Routine message: 3MY   V   MB6   $\overline{BT}$   (TEXT)   $\overline{BT}$   Ø932B   K

Urgent message: 3MY   V   MB6   –O–   $\overline{BT}$   (TEXT)   $\overline{BT}$   Ø932B   K

d. When it is necessary to refer to or to identify a previously transmitted message during subsequent transmissions, the time group is used as the message identification. This group consists of a four-figure group, followed by a letter indicating the time zone in which the station operates. In some cases, and especially in normal form messages, this group appears as a date-time group of six figures, in which the first two represent the day of the month, and the following four the time. For example, the date-time group representing 232Ø hours in time zone C on the eighth day of the current month would be: Ø8232ØC.

**15. Message Handling.**—*a.* A station having message traffic for another calls and reports what he has to transmit.

*Examples*

(1) One message: 3MY   V   MB6   QMM   K
          or: 3MY   V   MB6   K

When no misunderstanding will result, it is common practice to omit the operating signal QMM when calling to send one message.

(2) Two messages: 3MY   V   MB6   QMM   2   K

(3) One urgent message: 3MY   V   MB6   O   K

(4) One urgent, two routine: 3MY   V   MB6   QMM   1   0   2   R   K

*b.* The station called indicates his readiness to receive messages.

*Examples*

(1) Transmit all messages: MB6   V   3MY   K

(2) Transmit only urgent messages: MB6   V   3MY   QOM   O   K

(3) Not ready to take messages: MB6   V   3MY   $\overline{\text{AS}}$

If 3MY must delay for more than a few seconds before taking messages from MB6, the above transmission will terminate in $\overline{\text{AR}}$, thus releasing MB6.

*c.* Under good operating conditions, and when operators are sufficiently proficient, messages may be transmitted without preliminary call.

*d. Corrections and repetitions.*—(1) When an error is made by the transmitting operator, he immediately sends the "Error sign" (EEEEEEEE), repeats the last word, group, prosign, or operating signal sent correctly, and continues with the transmission.

*Example*

3MY   V   TB9   $\overline{\text{BT}}$   NR8   EMP   LDK   EMN
EEEEEEEE   LDK   DMN   BPG   $\overline{\text{BT}}$   0935C   K

(2) Difficult portions of messages should be repeated by the transmitting operator, using the prosign $\overline{\text{IMI}}$.

*Example*

"____ REQUIRE THREE SELSYN $\overline{\text{IMI}}$ SELSYN MOTORS ____"

(3) Receiving operators should obtain repetitions by the "break-in" method whenever their equipment makes it possible, and only when the message is being transmitted to only one receiving station. When using this method, the receiving station "breaks" the transmitting station by sending a series of dashes. Hearing these dashes, the transmitting station stops sending and the receiving station sends:

"▂▂▂▂(last group or word correctly received) K"

The transmitting station then resumes sending, starting with the group or word quoted.

(4) A receiving operator who has missed, or is not sure of, a part or parts of a message, requests repetition by use of the prosign $\overline{\text{IMI}}$, meaning "Repeat," combined with the following prosigns and in some cases with numbers to indicate message groups involved.

| Prosign | Meaning |
|---------|---------|
| AA | All after |
| AB | All before |
| WA | Word or group after |

The above prosigns may also be used in conjunction with the prosigns J, meaning "Verify and send correct version" and C, meaning "Correct" or "Correct version is ▂▂▂▂▂▂▂▂▂."

When requesting repetitions of portions of messages consisting of code groups, the groups concerned will be identified by group number(s) transmitted as numerals, and never by repetition of neighboring groups. In requesting repetitions of portions of a clear text message, words will always be identified by repetition of appropriate neighboring words, and never by reference numbers. Examples of this method are marked with an asterisk (*) in examples below, code groups being used only to present examples in this text.

### Examples

The following message has been transmitted:

RL4   V   MB6   –O–   $\overline{\text{BT}}$   NR8   PET   SVT   RMJ
JUJ   PSV   FSK   ADT   OLU   $\overline{\text{BT}}$   Ø935C   K

| Request | Reply |
|---------|-------|
| 1. Repeat entire message:<br>MB6 V RL4 $\overline{\text{IMI}}$ K<br>   (The foregoing method<br>   is also commonly used<br>   to obtain repetition of<br>   of any part of a very<br>   short message.) | RL4 V MB6—RL4 V MB6-O-<br>$\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ Ø935C K |
| 2. Repeat heading (when all<br>   or any part of heading<br>   was missed):<br>MB6 V RL4 $\overline{\text{IMI}}$ AB $\overline{\text{BT}}$<br>K | RL4 V MB6 AB $\overline{\text{BT}}$—RL4 V<br>MB6-O-K |
| 3. Repeat all after heading:<br>MB6 V RL4 $\overline{\text{IMI}}$ AA $\overline{\text{BT}}$<br>K | RL4 V MB6 AA $\overline{\text{BT}}$—(TEXT)<br>$\overline{\text{BT}}$ Ø935C K |
| 4. Repeat time group:<br>MB6 V RL4 $\overline{\text{IMI}}$ AA 9 K<br>      or<br>*MB6 V RL4 $\overline{\text{IMI}}$ AA<br>OLU K | RL4 V MB6 AA 9—Ø935C K<br><br>RL4 V MB6 AA OLU Ø935C<br>K |
| 5. Repeat all after JUJ, which<br>   is the 5th group:<br>MB6 V RL4 $\overline{\text{IMI}}$ AA 5 K<br><br>      or<br>*MB6 V RL4 $\overline{\text{IMI}}$ AA JUJ<br>K | RL4 V MB6 AA 5—PSV FSK<br>ADT OLU $\overline{\text{BT}}$ Ø935C K<br><br>RL4 V MB6 AA JUJ—PSV<br>FSK ADT OLU $\overline{\text{BT}}$ Ø935C<br>K |
| 6. Repeat all before SVT,<br>   which is third group:<br>MB6 V RL4 $\overline{\text{IMI}}$ AB 3 K<br><br>      or<br>*MB6 V RL4 $\overline{\text{IMI}}$ AB SVT<br>K | RL4 V MB6 AB 3—RL4 V<br>MB6-O-$\overline{\text{BT}}$ NR8 PET K<br><br>RL4 V MB6 AB SVT—RL4 V<br>MB6-O-$\overline{\text{BT}}$ NR8 PET K |
| 7. Repeat SVT, which is<br>   third group:<br>MB6 V RL4 $\overline{\text{IMI}}$ 3 K<br>      or<br>*MB6 V RL4 $\overline{\text{IMI}}$ WA<br>PET K | RL4 V MB6 3—SVT K<br><br>RL4 V MB6 WA PET—SVT<br>K |

| Request | Reply |
|---|---|
| 8. Repeat third to fifth groups:<br>MB6 V RL4 $\overline{\text{IMI}}$ 3 TO 5 K | RL4 V MB6 3 TO 5—SVT RMJ JUJ K |
| or | or |
| *MB6 V RL4 $\overline{\text{IMI}}$ PET TO PSV K | RL4 V MB6 PET TO PSV— SVT RMJ JUJ K |
| 9. Repeat second and fifth to seventh groups:<br>MB6 V RL4 $\overline{\text{IMI}}$ 2—5 TO 7 K | RL4 V MB6 2—PET—5 TO 7—JUJ PSV FSK K |
| or | |
| *MB6 V RL4 $\overline{\text{IMI}}$ WA NR8—RMJ TO ADT K | RL4 V MB6 WA NR8— PET—RMJ TO ADT— JUJ PSV FSK K |
| 1Ø. Verify and send correct version of entire message (identified by time group):<br>MB6 V RL4 J Ø935C K | RL4 V MB6 C Ø935C RL4 V MB6-O-$\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ Ø935C K |
| 11. Verify and send correct version of all after RMJ which is fourth group:<br>MB6 V RL4 J Ø935C AA 4 K | RL4 V MB6 C Ø935C AA 4— JUJ PSV, etc. |
| or | |
| *MB6 V RL4 J Ø935C AA RMJ K | RL4 V MB6 C Ø935C AA RMJ—JUJ PSV, etc. |
| 12. Did you receive my last transmission?<br>RL4 V MB6 $\overline{\text{INT}}$ R K | MB6 V RL4 R $\overline{\text{AR}}$ |
| 13. Did you receive my last message bearing time group Ø935C?<br>RL4 V MB6 $\overline{\text{INT}}$ R Ø935C K | MB6 V RL4 R Ø935C $\overline{\text{AR}}$ |

(5) The correctness of a short portion of a message may be questioned directly by receiving operator using the interrogatory prosign $\overline{\text{INT}}$, but this method will never be used to question a part of a message for which a receipt has been given.

| Request | Reply |
|---|---|
| RL4 asks if the correct time group was Ø935C:<br>MB6 V RL4 $\overline{\text{INT}}$ Ø935C K | RL4 V MB6 C K |

*e. Transmitting messages in strings.*—When radio communication is good, frequently the handling of traffic is facilitated if one station sends several messages to another without interruption. Arrangements for such transmissions may be made between stations concerned by use of operating signal QSG, meaning "Send _____ message(s) at a time." The transmitting station separates each message from the one to follow by the separative sign II. This method is known as "transmitting in strings."

*Example*

MB6 V RL4 $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ Ø845C—MB6 V RL4 $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ Ø847C—MB6 V RL4 $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ Ø851C K

The receiving station receipts for the string, using the writer's time as identification for each message.

*Example*

RL4 V MB6 R Ø845C—Ø847C—Ø851C $\overline{\text{AR}}$

Should the transmitting operator desire a receipt after the second message of the string sent above, he uses the prosign B meaning "More to follow."

*Example*

MB6 V RL4 $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ Ø845C—MB6 V RL4 $\overline{\text{BT}}$ (TEXT) $\overline{\text{BT}}$ Ø847C—B K

The receiving station receipts for part of the string and indicates that the transmitting station is to continue with the string:

RL4   V   MB6   R   Ø845C—Ø847C   K

Transmitting station finishes string and obtains receipt:

MB6   V   RL4   $\overline{\text{BT}}$   (TEXT)   $\overline{\text{BT}}$   Ø851C   K

RL4   V   MB6   R   $\overline{\text{AR}}$

or:   V   MB6   R   $\overline{\text{AR}}$

*f.* Long messages are usually sent in parts, with a receipt after each part. Coded messages are broken every 50 groups and clear text messages every 100 words.

*Example*

MB6   V   RL4   $\overline{\text{BT}}$ (first 50 code groups)—B   K

RL4   V   MB6   R   K

Transmitting station continues with message as follows.

MB6   V   RL4   51—(text beginning with 51st group)

*g.* During the transmission and before it is completed, the transmitting operator may cancel the message by sending the error sign (EEEEEEEE) followed by $\overline{\text{AR}}$. This indicates that the message so interrupted is to be disregarded. A message completely transmitted and for which a receipt has been obtained, can be canceled or annulled only by the transmission of a message directing such action.

**16. Special Portions of Messages.**—*a. Punctuation.*—Unless spelled out by the writer, punctuation marks other than the first four listed below will not be transmitted when appearing in clear text messages.

| *Transmission* | *Meaning* |
|---|---|
| $\overline{\text{AAA}}$ | Period or decimal. (Not to be used as decimal in communication with British forces.) |
| $\overline{\text{DU}}$ | Hyphen. |
| $\overline{\text{KK}}$ | Parenthesis. |
| $\overline{\text{XE}}$ | Slant (written /). |
| POINT | Decimal point when communicating with British forces only. |
| QUOTE: UNQUOTE | Quotation marks (unusual in tactical communication). |

*b. Map grid coordinates.*—Map coordinates written in accordance with the grid system are transmitted by using punctuation marks from the list above.

### Example

Written:   ----(35.6–81.9)----"
Sent: "----$\overline{KK}$ 35 $\overline{AAA}$ 6 $\overline{DU}$ 81 $\overline{AAA}$ 9 $\overline{KK}$----"

*c. Numerals.*—All numerals occurring in procedure messages, including those used to fill blanks in operating signals, will be sent as numerical digits, and not spelled out.

*d.* Numbers appearing in the text of a message will be sent either as numerical digits or spelled out, whichever method is used by the writer of the message.

*e.* Fractions and mixed numbers, unless spelled out by the writer, will be sent as numerical digits, using the "slant sign" $\overline{(XE)}$ and the word "and" for mixed numbers.

### Example

Written: 21½
Sent: 21 and 1  $\overline{XE}$  2

**17. Servicing Messages.**—*a.* Each operator is assigned a "personal sign" consisting of one or two letters which differ from the personal sign of any other operator in the same headquarters.

*b.* Transmitting operators service each message sent, at the time of obtaining a receipt, by writing their personal sign and the time of receipt and drawing a circle around these notations. This entry is spoken of as the "transmitting operator's service" and is written in any convenient place on the message blank. Similarly, the receiving operator services each message received with his personal sign and the time of receipt; these entries constitute the "receiving operator's service." The call sign of the transmitting station is added if it does not otherwise appear on the message. Local instructions may require that operators receiving messages in clear text for delivery direct to the addressee enter in clear the address and designation of sender as determined from the call signs.

FIGURE 3.—Transmitted message, showing operator's service.



FIGURE 4.—Received message, showing operator's service.

**18. Special Methods of Message Handling.**—*a. Relay messages.*—(1) A message originating at one station, and addressed to another station not in direct communication with the originating station, may be delivered by relaying the message through an intermediate station or stations. Some messages may require more than one relay. While only a small percentage of all radio messages are handled by relay, this method is most likely to be used for emergency communication and all operators must be prepared to use it promptly and accurately.

(2) Relaying is indicated by including in the heading of the message a group consisting of—

| *Description* | *Example* |
|---|---|
| Transmission instructions | –T– |
| The originator's sign | –A– |
| Originator's call sign | 4LY |
| Separative sign | II (written—) |
| Action addressee's call sign | MB6 |

<div align="center">

*Example*

</div>

An urgent message originating at station 4LY is sent to station 3MY, in the same net, for relay to MB6 in another net. The group indicating the relay is underlined:

3MY   V   4LY   –O–T–A–4LY–MB6   $\overline{BT}$   (TEXT)
$\overline{BT}$   Ø842E   K

Regardless of the number of relaying stations through which the message passes, the relay group in the heading remains the same, indicating "This message was originally from 4LY and is addressed for action to MB6."

*b. Repeat back messages.*—The originating station may require the receiving station to repeat back a message to insure accurate reception. This is accomplished by inserting the prosign G, meaning "Repeat back," in the heading.

<div align="center">

*Example*

</div>

MB6   V   RL4—G—$\overline{BT}$   NR16   XVRT   LPSM   $\overline{BT}$
Ø742D   K

RL4   V   MB6—MB6   V   RL4—G—$\overline{BT}$   NR16
XVRT   LPSM   $\overline{BT}$   Ø742D   K

When the repetition is correct: MB6   V   RL4   C   $\overline{AR}$

Since MB6 repeated the message back correctly, it is obvious that another transmission to indicate receipt is not necessary.

If the receiving station repeats back any portion of the message incorrectly, the originating station corrects the faulty portion by using the prosign C. When necessary, the prosigns AA, AB, WA, or group numbers are used as is done in requesting repetitions.

*Example*

Station MB6 repeats the second group of the text as "XVBT" which is incorrect. The originating station replies:

```
MB6   V   RL4   C   2—XVRT   K
                or
MB6   V   RL4   C   WA   NR16—XVRT   K
```

Station MB6 repeats back the corrected portion of the message before receiving the "correct" sign from the originating station:

```
RL4   V   MB6   2—XVRT   K
                or
RL4   V   MB6   WA  NR16—XVRT   K
MB6   V   RL4   C   A̅R̅
```

If the message is in clear text, identification of faulty portions is always made by the second method, using neighboring groups, as shown above, and never by group numbers.

*c. Transmitting to silent station.*—When for purposes of deception or concealment or for any other reason it is desired that a receiving station make no transmission whatever in connection with a message addressed to it, the prosign F meaning "Do not answer" is inserted in the heading.

*Example*

```
6PG   V   MB6—F—B̅T̅   (TEXT)   B̅T̅   2325D   A̅R̅
```

If any doubt exists as to the ability of the silent receiving station to receive the message accurately in a single transmission, it is advisable to start the message with a long call and to send each prosign and text group twice.

**19. Executive Method.**—*a.* The prosign I̅X̅ is inserted in the heading of a message, before the first B̅T̅, to mean: "The message following is a preparatory command and is not to be acted upon until the executive signal is received."

*Example*

MB6   V   2FR   $\overline{\text{IX}}$   $\overline{\text{BT}}$   FIRE   INITIAL   ROUND
BY   COMMAND   $\overline{\text{BT}}$   Ø635D   K   2FR   V   MB6
R   $\overline{\text{AR}}$

*b.* Until the signal of execution is sent, no transmission whatsoever will be made in the net unless it pertains directly to the preparatory order just issued, as, for example, a revoking order or the "executive signal." The executive signal consists of the prosign $\overline{\text{IX}}$ followed by a 5-second dash, the end of which is the instant of execution. It is always preceded by a call unless, due to lack of time, it must be included in the initial message.

*Examples*

(1)   MB6   V   2FR   $\overline{\text{IX}}$   *(5-second dash)*   $\overline{\text{AR}}$

(2) Should there be insufficient time to permit receipting for the initial message before transmission of the executive signal, this signal may be transmitted directly at the end of the message, as follows:

MB6   V   2FR   $\overline{\text{IX}}$   $\overline{\text{BT}}$   FIRE   INITIAL   ROUND   BY
COMMAND   $\overline{\text{BT}}$   Ø635D—$\overline{\text{IX}}$ *(5-second dash)*   $\overline{\text{AR}}$

*c.* The prosign $\overline{\text{IX}}$ may be repeated a few times awaiting transmission of the 5-second dash.

**2Ø. Miscellaneous.**—*a. Test signals.*—(1) An operator may test his transmitter by sending a series of five or six V's followed by his call sign and terminating with an ending sign.

*Example*

VVVVVV   AM6   VVVVVV   AM6   $\overline{\text{AR}}$

(2) A station having difficulty tuning in another station's signals may ask that station to send a series of V's to permit tuning in, by using the operating signal QVF meaning "Send series of V's on this frequency (or on _____ kc)."

*Example*

S7P   V   AM6   QVF   K
or
S7P   V   AM6   QVF   4145   K

The latter example indicates that S7P is to send V's on **a** frequency of 4145 kilocycles.

Station S7P complies as follows:

AM6   V   S7P   VVVVV   S7P   VVVVV   S7P   K

This procedure may be repeated if necessary, but in all cases tuning signals will be kept to the minimum required for proper adjustment of equipment.

*b. Timing signals.*—Time may be requested and transmitted by use of the operating signal QYT.

### *Example*

Station 3MY asks $\overline{\text{MB6}}$ for the time:

MB6   V   3MY   $\overline{\text{INT}}$   QYT   K

To give 3MY the time at exactly Ø946D, station MB6 transmits:

3MY   V   MB6   QYT   Ø946D *(5-second dash)* K

The 5-second dash terminates at exactly the time indicated and may be preceded by a series of separative signs when its transmission is slightly delayed.

### SECTION III

### NORMAL FORM MESSAGES

**21. Normal Form Messages.**—*a.* For the information of operators, the following table shows the normal form message in its most complete form:

| | *Examples* |
|---|---|
| (1) The heading which includes — | |
|   (*a*) The call. | ABC  V  MB6 |
|   (*b*) The preamble (station serial number; precedence; transmitting instructions). | NR9–P–S7P–T–MRM–N–B4P |
|   (*c*) The address: | |
|       Originator's sign & call sign | –A–MB6 |
|       Date-time group | Ø3Ø316B |
|       Action call sign(s) | ABC |
|       Information sign and call sign(s) | –W–MRM |
|       Exempt sign and call sign(s) | –N–B4P |
|   (*d*) Message instructions: | |
|       Operating signals | QQB |
|       Group count | GR49 |
|       Long break | $\overline{\text{BT}}$ |

(2) Text: Text as filed with operator.

(3) Message ending:

| | |
|---|---|
| Long break | $\overline{BT}$ |
| Date-time group | Ø3Ø316B |
| Final instructions | 3MY |
| Ending sign | K |

*b.* The message appearing in the example above has the following meaning:

(1) (*a*) The call: "To net ABC from Station MB6."

(*b*) The preamble: "Station serial No. 9; precedence P; station S7P retransmit to net MRM, exempting station B4P."

(*c*) The address: "Message originated by station MB6; writer's date, 3d day of month and writer's time Ø316 in time zone B; message for action to all stations in net ABC and for information only to stations in net MRM, exempting station B4P."

(*d*) Message instructions: "To be deciphered only by an officer (QQB); message consists of 49 groups; text of message follows ($\overline{BT}$)."

(2) Text: As filed with operator.

(3) Message ending: "Text ends ($\overline{BT}$); writer's date-time group (same as in heading); station 3MY answer first; go ahead— reply."

## SECTION IV

## PROSIGNS

**22. Prosigns.**—The following is a complete list of prosigns. These prosigns must be memorized by operators.

| *Prosign* | *Meaning* |
|---|---|
| A | Originator's sign. |
| $\overline{AA}$ | Unknown station. |
| AA | All after. |
| AB | All before. |
| $\overline{AR}$ | Ending sign. "This is the end of my transmission to you, and no response is required or expected." |
| $\overline{AS}$ | Wait. |
| B | More to follow. |
| $\overline{BT}$ | Long break. |
| C | Correct. "You are correct," or "Correct version is _ _ _ _ _ _." |
| D | Deferred (precedence indicator). |
| EEEEEEEE | Error. |

| *Prosign* | *Meaning* |
|---|---|
| F | Do not answer. |
| G | Repeat back. |
| GR | Group or groups. |
| II | Separative sign. |
| $\overline{\text{IMI}}$ | Repeat, or I will repeat. |
| $\overline{\text{INT}}$ | Interrogatory. |
| $\overline{\text{IX}}$ | Execute to follow. |
| $\overline{\text{IX}}$ (*5-second dash*) | Executive signal. |
| J | Verify and send correct version. |
| K | Ending sign. "Go ahead; transmit. This is the end of my transmission to you and a response is necessary." |
| N | Not received, or exempted. |
| NR | Station serial number. |
| O | Urgent (precedence indicator). |
| OP | Operational priority (precedence indicator). |
| P | Priority (precedence indicator). |
| R | Received (also routine precedence indicator). |
| T | Transmit to _____. |
| V | From. |
| W | For information to _____. |
| WA | Word after. |

Section V

OPERATING SIGNALS

**23. Operating Signals.**—*a.* A complete list of operating signals for use within Army Ground Forces and by them for communication with Allied forces appears below. Only those signals marked "AIR" will be used in communicating with aircraft. Those signals most commonly used appear with meanings fully capitalized, and will be memorized by operators.

*b. These signals possess no security and must be regarded as the equivalent of plain language. This must be borne in mind by all operators and great care must be taken to avoid giving away information of value to the enemy.*

*c.* The prosign $\overline{\text{INT}}$ preceding an operating signal indicates that the matter following is in the form of a question. The operating signal QQZ may precede another signal to give a negative meaning in case no signal with the desired negative meaning is listed.

### *Examples*

(1) QYC MB6 means, "I am in communication with MB6."

(2) $\overline{\text{INT}}$ QYC MB6 means, "Are you in communication with MB6?"

(3) QQZ QYC MB6 means, "I am not in communication with MB6."

*d.* Blanks in the meanings of operating signals will usually be filled in, unless inclosed in parentheses, in which case use of the blank space becomes optional. Blanks will be filled in by use of appropriate call signs, time groups, numerals or letters, etc. Only in exceptional cases will clear language be used for this purpose. Types of emission will be indicated when filling in blanks by use of the following International Abbreviations:

> A1 for CW
> A2 for MCW
> A3 for voice (W/T)
> B for spark

*e. Operating signals.*

## Authentication—automatics—aircraft

| Signal | Answer or advice | Question |
|---|---|---|
| QHA | YOU ARE USING AUTHENTICATOR INCORRECTLY _____ (1. VERIFY CIPHER SETUP; 2. PLACE AUTHENTICATOR IN PROPER PART OF TRANSMISSION). | AIR |
| QIA | CHECK YOUR AUTHENTICATION OF LAST TRANSMISSION (OR MESSAGE _____). | |
| QJA | AUTHENTICATION OF MY LAST TRANSMISSION (OR MESSAGE _____) IS _____ (1. CORRECT; 2. INCORRECT. CORRECT AUTHENTICATOR IS _____). | AIR |
| QKA | AUTHENTICATION OF THIS MESSAGE IS _____. | |
| QLA | AUTHENTICATE YOUR LAST MESSAGE (OR MESSAGE _____). (WHEN AN AUTHENTICATOR SYSTEM IS NOT IN FORCE, THE REPLY TO THIS OPERATING SIGNAL WILL BE A CODED OR CIPHERED MESSAGE.) | AIR |

| | Calling and answering—communications | | |
|---|---|---|---|
| QMA | AUTHENTICATE TRANSMISSIONS (_____) (1. ON ALL CIRCUITS; 2. ON THIS CIRCUIT; 3. ON _____ KC). | | |
| QJC | I will call you again at _____ on present frequency (or on _____ kc). | When will you call me again on present frequency (or on _____ kc)? | AIR |
| QLC | Substitute code sign (call sign) of control station of group (net) in place of this operating signal. (This signal is for use with link sign procedure only.) | | |
| QMC | AM MOVING AND WILL ENDEAVOR TO KEEP IN COMMUNICATION WHILE ON THE MOVE. | | |
| QNC | Call me again at _____ on present frequency (or on _____ kc). | When shall I call you again on present frequency (or on _____ kc)? | AIR |
| ² QOC | Answer in alphabetical order of call signs. | | |
| QPC | Answer calls for me on present frequency (or on _____ kc). | | AIR |
| QQC | _____ will answer calls for me (or for _____). | | |
| QWC | I have (or _____ has) been unable to communicate with _____ (since _____). | Did you (or _____) hear _____ (at _____)? | AIR |
| QXC | Nothing heard from you (or _____) (since _____). | When was I (or _____) last heard? | AIR |

² Not to be used when communicating with British Army.

| Signal | Answer or advice | Question | |
|---|---|---|---|
| QYC | I AM (OR _____ IS) IN COMMUNICATION WITH _____ (BY _____). | ARE YOU (OR IS _____) IN COMMUNICATION WITH _____ (BY _____)? | AIR |
| QHK | Make preliminary call before transmitting traffic. | | |
| QRW | Tell _____ that I am calling him (on _____ kc). | Shall I tell _____ that you are calling him (on _____ kc)? | AIR |
| QRZ | You are being called by _____. | Who is calling me? | AIR |

*Delays, defects, distress*

| Signal | Answer or advice | Question | |
|---|---|---|---|
| QHD | Delay (or bad transmission) due to _____. | What is cause of delay (or of bad transmission)? | AIR |
| QID | My _____ is faulty. | Is your _____ faulty? | AIR |
| QJD | Your _____ appears to be faulty. | Does my _____ appear to be faulty? | AIR |
| QCA | You are causing delay by your slowness in answering. | | AIR |
| QCB | You are causing delay by answering out of turn. | | AIR |

*Equipment*

| Signal | Answer or advice | Question | |
|---|---|---|---|
| QLE | _____ (1. Radio; 2. Visual; 3. Telegraph; 4. Teletypewriter (teleprinter); 5. Telephone). | | AIR |
| QOE | _____ (1. Receiver; 2. Transmitter). | | AIR |

*Frequency, frequency adjustments*

| Signal | Answer or advice | Question | |
|---|---|---|---|
| QHF | YOUR FREQUENCY IS SLIGHTLY (OR _____ KC) HIGH. | | AIR |

| Code | | | AIR |
|---|---|---|---|
| QKF | Answer me (or ------) on ------ kc. | | AIR |
| QLF | YOUR FREQUENCY IS SLIGHTLY (OR ----- KC) LOW. | | AIR |
| QMF | YOUR FREQUENCY IS CORRECT. | HOW DOES MY FREQUENCY CHECK? | AIR |
| QNF | Change to normal frequency (or to ------ kc). | Shall I change to normal frequency (or to ------ kc)? | AIR |
| QOF | I am changing to normal frequency (or to ------ kc). | | AIR |
| QQF | I hear you best on ------ kc. | On what frequency do you hear me best? | |
| QVF | SEND A SERIES OF V'S ON THIS FREQUENCY (OR ON ------ KC). | SHALL I SEND A SERIES OF V'S ON THIS FREQUENCY (OR ON ------ KC)? | |
| QWF | Am about to send tuning signal on my present frequency (or on ------ kc). | Will you send tuning signal on your present frequency (or on ------ ke) for 1 minute, or until AS is given? | AIR |
| QYF | I am about to shift receiver to ------ kc. | SHALL I ZERO BEAT (TUNE) MY TRANSMITTER TO YOUR FREQUENCY (OR TO THE FREQUENCY OF ------)? | AIR |
| QZF | ZERO BEAT (TUNE) YOUR TRANSMITTER TO MY FREQUENCY (OR TO THE FREQUENCY OF ------). | | AIR |
| QRH | Your frequency varies. | Does my frequency vary? | |
| QSW | I am going to send on ------ ke and/or on type of wave indicated. | Will you send on ------ ke and/or on type of wave indicated? | |

## GUARDS: GROUPS (NETS)

### Control and duties

| Code | | |
|---|---|---|
| QJG | I AM (OR ------ IS) CONTROLLING STATION (NCS) ON THIS FREQUENCY (OR ------ KC). | WHO IS CONTROLLING STATION (NCS) ON THIS FREQUENCY (OR ------ KC)? |

| Signal | Answer or advice | Question | |
|---|---|---|---|
| QKG | IT IS NECESSARY TO OBTAIN PERMISSION OF THE CONTROLLING STATION (NCS) BEFORE TRANSMITTING MESSAGES. | IS IT NECESSARY TO OBTAIN PERMISSION OF THE CONTROLLING STATION (NCS) BEFORE TRANSMITTING MESSAGES? | AIR |
| QLG | STATION LEAVES NET TEMPORARILY (OR FOR ____ HOURS) (TO COMMUNICATE WITH ____) (WILL BE ON ____ KC). | | AIR |
| QMG QNG | STATION REPORTS INTO THE NET. RESUME NORMAL W/T COMMUNICATION NOW (OR AT ____). | | AIR |
| QOG | Assume W/T organization ____ forthwith (or at ____). | | |
| QPG | TAKE CONTROL OF NET (NCS) (FOR ____) (UNTIL ____). | SHALL I TAKE CONTROL OF NET (NCS) (FOR ____) (UNTIL ____)? | |

Messages—mistakes

| Signal | Answer or advice | Question | |
|---|---|---|---|
| QJM | CHECK ENCIPHERMENT OF MESSAGE ____ (OR PORTIONS INDICATED) AND REPEAT. | | |
| QMM | I HAVE (OR ____ HAS) MESSAGES (NUMERAL ____ INDICATING NUMBER OF MESSAGES MAY BE FOLLOWED BY O, OP, P, OR D TO INDICATE PRECEDENCE (OTHER THAN ROUTINE) FOR YOU (OR ____). | OF WHAT PRECEDENCE (DEGREE OF PRIORITY) AND TO WHOM ARE YOUR MESSAGES? | AIR |

| Code | | | AIR |
|---|---|---|---|
| QOM | TRANSMIT ONLY MESSAGES OF AND ABOVE PRECEDENCE (DEGREE OF PRIORITY) ------. | | AIR |
| QPM | Following message has been read (received or intercepted). | | AIR |
| QVM | This message (or message ------) was incompletely received. Portions missed are indicated by position of QVM in the message. | | AIR |
| QZM | Message (or message ------) acknowledged. | Request you acknowledge message ------. | AIR |
| QQK | Report disposal of message ------. | | AIR |
| QQT | There is no reply to message ------. | | AIR |
| QQU | GIVE ME YOUR MESSAGE ------. I WILL DISPOSE OF IT. | Is there any reply to message ------? | AIR |
| QQX | This message may be sent as written by any means except wireless (radio). | | AIR |
| QQY | This message must be sent in cipher if liable to interception or to fall into enemy hands. | | AIR |

*Operating and interference*

| Code | | | AIR |
|---|---|---|---|
| QHO | I am (or ------ is) unable to use ------. | | |
| QIO | You are (or ------ is) causing interference by inattention to order to wait. | | |
| QLO | USE ------. | SHALL I USE ------? | AIR |
| QMO | Repeat message ------ (or portion indicated ------). | | AIR |
| QNO | Your (or ------) message (------) not received. | | AIR |

| Signal | Answer or advice | Question | |
|---|---|---|---|
| QPO | Following repetition (of ------) is made in accordance with your request. (Note: This signal used in reply to QMO.) | | AIR |
| QRO | Increase power. | Shall I increase power? | AIR |
| QWO | Listen (out) for voice (R/T). | | AIR |
| QAT | Listen before sending; you are interfering; or Listen before sending; you are sending at the same time as ------. | Shall I continue to send? | AIR |
| QDH | The present interference is caused by ------ (and is strength ------ (1 to 5). | What station is causing the present interference? | AIR |
| QQV | Make call signs more distinctly. | | |
| QRN | I am troubled by atmospherics (------) (strength 1 to 5). | Are you troubled by atmospherics? | |
| ³ QRP | Decrease power. | Shall I decrease power? | AIR |
| QRQ | Send faster (------ words per minute). | Shall I send faster? | AIR |
| QRS | Send more slowly (------ words per minute). | Shall I send more slowly? | AIR |
| QRU | I HAVE NOTHING FOR YOU (LAST SERIES NUMBERS WERE ------; OR IDENTITY OF LAST MESSAGE WAS ------). | HAVE YOU ANYTHING FOR ME? | AIR |
| QSG | Send ------ message(s) at a time. | Shall I send ------ message(s) at a time? | AIR |
| QSZ | Send each word or group twice. | Shall I send each word or group twice? | |
| QZH | Use combined radio telegraph (W/T) procedure. (Operator's attention is called to Art. ------). | | AIR |

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³ Not to be used when communicating with British Army.

*Relaying, routing, retransmission*

| QMR | Retransmit message _____ to _____. | | AIR |
|---|---|---|---|
| QNR | Act as radio link (relaying station) between me and _____ (or between _____ and _____). | | |
| QVR | Transmit this message to addressee(s) shown only in the text (number(s) _____). Addressees are numbered consecutively as they appear in the text. (Numbers indicating addressees will be separated by the separative sign.) | | |

*Signal strength and readability serial (series) numbers*

| QJS | THE READABILITY OF YOUR (OR _____) SIGNALS IS _____ (1 TO 5). | WHAT IS THE READABILITY OF MY (OR _____) SIGNALS (1 TO 5)? | AIR |
|---|---|---|---|
| QQS | Signal strengths of group are (or of _____ is) _____ (1. Good; 2. Bad; 3. Varies). | What are signal strengths of group (or _____)? | AIR |
| QCP | Your note is _____ (1 to 5). | 3. How is my note? | AIR |
| QSA | The strength of your signals is _____ (1 to 5). | What is the strength of my signals (1 to 5)? | AIR |
| QYT | TIMING SIGNAL WILL BE TRANSMITTED NOW (OR AT _____). THE NUMERALS INDICATING THE TIME WILL BE FOLLOWED BY A 5-SECOND DASH, TERMINATING EXACTLY AT THE TIME INDICATED. | REQUEST A TIMING SIGNAL NOW (OR AT _____). | AIR |

## Watch keeping

| Signal | Answer or advice | Question | |
|---|---|---|---|
| QJW | Keep continuous watch until further notice (on ------ kc). | | AIR |
| QNW | CLOSE DOWN (REOPEN AT --------). | MAY I CLOSE DOWN (UNTIL ------)? | AIR |
| QOW | Will call you again as soon as possible. Am closing down (due to ------ 1. Air raid warning; 2. Electric storm; 3. Probable attack by hostile aircraft; 4. To effect repair to equipment). | | |
| QPW | I am closing down (until ------). | | |
| QQW | Following stations are keeping watch on ------ kc (or are in net). | What stations are keeping watch on ------ kc (or are in net)? | |

## MISCELLANEOUS

| | | | |
|---|---|---|---|
| QJZ | STAND BY. | | |
| QPZ | AFFIRMATIVE (YES). | | AIR |
| QQZ | NEGATIVE (NO, NOT). | | AIR |
| QVZ | Unable to comply. | | AIR |
| QZZ | Your operating signal (made at ------) (received as ------) (1. Not understood; 2. Not held). | | |