

**RESTRICTED**

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## INSTRUCTIONS FOR THE USE OF SLIDEX RT CODE

### 1. General

(a) This code will be used exclusively to conceal *those portions* of a RT or key conversation which it is considered might be of value to the enemy. It will NOT be used to encode the *whole* of a conversation unnecessarily.

(b) All officers and such other ranks as may have to carry on, transmit, receive or handle either type of conversation must know how to use the code.

### 2. Equipment

The equipment consists of a folding case, code cards and cursors, long and short. The case has a pocket in which the cards and cursors are kept. In use, the case is opened so that the pocket lies to the left. On the right is a frame consisting of two vertical metal strips to hold the card in use and two channels, one across the top and one down the left-hand side, into which the cursors slide.

### 3. Code Cards

(a) All code cards have 12 columns and 17 rows forming 204 rectangles. Separate cards are provided as under:—

Ops/Sigs, Med, RA, RE, RAC/REME, Air, Q(a) for use down to Corps rear links, Q(b) for use forward of Corps, Unit.

(b) Each type of card has,

(i) A vocabulary, printed in black, appropriate to the user, except the Unit card. The words, phrases, etc., are arranged alphabetically by rows. Unit cards are blank and it is the intention that each unit shall prepare and insert on its Unit cards a vocabulary suitable for use within its own unit.

(ii) Numbers 0—9, 00—99 and the letters of the alphabet printed in red in the top left-hand corners of the rectangles. The numbers 00—99 are arranged in numerical order by columns, interspersed with letters and single figures. The single figures are arranged so that 0 precedes 00, 1 appears between 09 and 10, 2 between 19 and 20, and so on. The letters are in alphabetical order, a complete alphabet to every four columns, thus each letter appears three times on the card. In one alphabet on each card E and T are duplicated and so appear four times each.

- (iii) Twelve switches, six SWITCH ON and six SWITCH OFF, also printed in red.

#### 4. Cursors

- (a) Cursors are of two kinds.
- (i) LONG, having divisions the width of a card column. They slide into the horizontal channel above the card and "horizontal keys" (q.v.) are written on them.
  - (ii) SHORT, having divisions the width of a row on the card. They slide into the vertical channel to the left of the card and "vertical keys" (q.v.) are written on them.
- (b) Cursors, both LONG and SHORT, are known as BLACK, GREEN or RED according to the colour of their division lines. They are also marked at either end, on one side with a band of colour and on the other side with coloured square dots.
- (c) LONG cursors have 16 divisions, SHORT cursors have 21 divisions.

#### 5. Keys

The device may be used with either sliding keys or fixed keys, the latter being used with the UNIT card only.

- (a) When sliding keys are used,
- (i) A horizontal key and a vertical key (known as a "key pair") are required. Also, one of the rectangles on the card will be designated as the "key rectangle" by which the settings of the cursors for a conversation are indicated.
  - (ii) Each horizontal key will consist of the first 12 letters of the alphabet (A--L) in jumbled order, with the first four letters of the jumble repeated at the end so that, when it is written on the cursor, each division will contain a letter.
  - (iii) Each vertical key will consist of the first 17 letters of the alphabet (A--Q) in jumbled order, with the first four letters of the jumble repeated at the end so that, when it is written on the cursor, each division will contain a letter.
  - (iv) With each key pair a "key rectangle", chosen at random, will be issued. It will be indicated by giving the red number or figure in the chosen rectangle. As each letter appears on the card more than once, it will be necessary when the rectangle chosen contains a letter to indicate which particular rectangle is meant by specifying, e.g., 1st N, 2nd N, 3rd N (i.e., the first, second or third N in sequence on the card).

Example:—

Horizontal Key	}	G C B F J A L E I D K H G C B F
Vertical Key	}	I C H B K A G J N F O Q M P D L E I C H B

Key Rectangle 2nd N.

- (b) When fixed keys are used, i.e., with UNIT card only,
- (i) A "key pair" only is required consisting of the first 12 letters of the alphabet in jumbled order for the horizontal key and the first 17 letters of the alphabet in jumbled order for the vertical key.

(ii) The repeated letters and key rectangle mentioned in para. 5 (a) are NOT required.

(c) It is essential that the letters of all keys be arranged haphazardly and that the sequence of letters vary from key to key. "Key rectangles" must also be chosen at random.

#### 6. Issue of Keys

(a) Each divisional headquarters will prepare and issue key pairs and key rectangles as in para. 5 (a) for use by all holders down to unit level within the division. These keys will be written on BLACK cursors.

(b) Army headquarters will prepare and issue key pairs and key rectangles as in para. 5 (a) for use

(i) by all holders behind division down to unit level,

(ii) between divisions,

(iii) between divisions and higher formations.

These keys will be written on RED cursors.

(c) The Army Commander may, at his discretion, order the use of the "Army" key pair and key rectangle by all holders of one or more types of card; *e.g.*, holders of the RA card may be instructed to use the "Army" keys for conversations at all levels throughout the Army. In the interests of security this arrangement should be used as seldom as possible.

(d) Units will work with fixed keys and will prepare key pairs as in para. 5 (b) for use within the unit. These keys will be used with Unit cards and will be written on GREEN cursors.

*Note.*—Indelible pencil must not be used for writing on cursors.

#### 7. Key Changes

Normally, key pairs and key rectangles will be changed daily at midnight, but whenever the volume of traffic makes it desirable on security grounds, keys may be changed twice daily at the discretion of the Army Commander. For this purpose

(a) Two key pairs and, preferably, a key rectangle for each, will be provided daily.

(b) The keys to be used for the first part of the day will be written on the sides of cursors end-marked with coloured DOTS; those for use during the remainder of the day will be written on the sides end-marked with a coloured BAND.

(c) The time for the change during the day will be the same throughout an Army and should be chosen so that approximately equal weights of traffic are thrown on each key pair.

#### 8. Lateral Communication

Lateral communication at and behind divisional headquarters within the same Army will be carried out on the Army keys. All other demands for such communication will be met by an *ad hoc* passing of keys.



### 9. Unit Vocabularies

Each unit will prepare for internal use with and between sub-units a vocabulary which will be written in the blank rectangles of unit cards in a convenient order. These vocabularies will be amended or changed completely, as necessary.

### 10. Distribution

The Army commander will, according to operational requirements, lay down what distribution is to be given to,

- (a) The keys issued at all levels.
- (b) The vocabularies produced by units for their own use.

### 11. How to use the Code

(a) Select from the cards provided the one appropriate to the conversation contemplated.

(b) Place the card in the frame. To do this insert the edge of the card under one of the vertical metal strips. Slightly bend the card and slip its other edge under the other strip.

(c) Insert the cursors, bearing the appropriate key. Users who require to use one key pair only will find it convenient to keep the cursors permanently in the channels.

(d) When sliding keys are used (BLACK or RED cursors) move the cursors, the vertical up or down, the horizontal left or right into any position relative to the card but ensuring that every row and every column of the card has a key letter opposite to it. The variation of co-ordinates from message to message given by this arrangement adds materially to the security. When fixed keys are used it is only necessary to adjust the cursors so that the keys are in the correct positions relative to the card.

(e) Normally, because of the net employed, the receiver will know which card the originator is using. Should there be any variation, the originator will give the card number (printed in the bottom right hand corner of the card) before beginning the conversation.

(f) If sliding keys are used, the originator of the conversation will indicate to the receiver the position in which he has set his own cursors by giving the co-ordinates of the "key rectangle" and allowing the receiver a sufficient interval to set his cursors before continuing. With fixed keys this is not necessary.

(g) Each phrase, word, letter or number which has to be concealed will now be encoded by taking the letter co-ordinates of the rectangle in which it appears.

(h) The first letter of a co-ordinate will be taken from the horizontal key, the second letter from the vertical key.

(i) Users are advised for quick reference to make a note of the key rectangle on a convenient part of one of the cursors to which it pertains.

(j) The phonetic alphabet will always be used when giving co-ordinates.

### 12. Spelling

(a) Words which do not appear in the vocabulary and which, for security reasons, cannot be mentioned in clear will be encoded by means of the red letters as follows:—

Give the co-ordinates for one of the SWITCH ON rectangles, if necessary, and then give the co-ordinates for each letter of the word to be encoded, concluding the spelling with the co-ordinates for one of the SWITCH OFF rectangles if necessary. Alternatives are provided for all letters and switches. *Full use* will be made of these alternatives.

(b) If a letter is repeated in a word, each of the repeats will be taken from a *different* alphabet.

### 13. Figures

(a) When figures have to be encoded the red numbers will be used as follows:—

Give the co-ordinates for one of the SWITCH ON rectangles, if necessary before encoding the figures and, if necessary, the co-ordinates for one of the SWITCH OFF rectangles at the end of the figures.

(b) Numbers of more than two figures will be encoded two figures at a time, the odd figure, if any, being encoded last. (*See examples, para. 15.*)

### 14. Security

(a) Whenever it is possible to do so without confusing the decoder, the use of either or both switches will be avoided. *E.g.*, when spelling or figures ends a conversation SWITCH OFF will not be used. An encoded passage which can be nothing but spelling or figures to the receiver, needs neither switch.

(b) Care should be taken to frame conversations so that the portions given in clear afford as little clue as possible to the nature of the encoded portions.

(c) Unit vocabularies should be compiled with a view to keeping the necessity for switching to a minimum.

(d) Formations and units responsible for issuing keys will provide emergency keys for use if and when required.

(e) The loss or compromise of any key or list of keys will be reported immediately to the issuing authority who will take the necessary steps to restore security.

(f) If circumstances arise in which this code is in imminent danger of capture, all keys will be burnt as a first priority, after which all vocabulary cards and the instructions will be destroyed by the same means. N.B.—The cursors are inflammable.

### 15. Examples

These examples are founded on the diagram on pages 4 and 5 and the keys given in para. 5 (a).

(a) *Vocabulary.*

Cancel move—DA CB LO.

Report location harbour—DA BM DF GJ.

What is your centre line—DA What is your LK.

*(b) Spelling*

NORTHAMPTON—DA KM\* CB AJ AQ KH IN FA DH CF  
CE DG AA CI\*.

*(c) Figures.*

29 DA DQ\* LP AG\*  
300 DA EF\* LI FH IO\*  
2004 DA LN\* AP FM HP\*  
71625 DA BC\* HL KP DB GD\*  
033289 DA JA\* FO DN CD FK\*

*Note.*—Switch co-ordinates (marked with an asterisk in the above examples) will not be used unless they are necessary. All the possible switch groups have been used in *(b)* and *(c)*.

*(d)* With the omission of the co-ordinates of the key rectangle, *i.e.*, DA, the above examples give the coded version which would be obtained from a UNIT card having the vocabulary given in the diagram and key pair,

Horizontal—F J A L E I D K H G C B

Vertical—H B K A G J N F O Q M P D L E I C