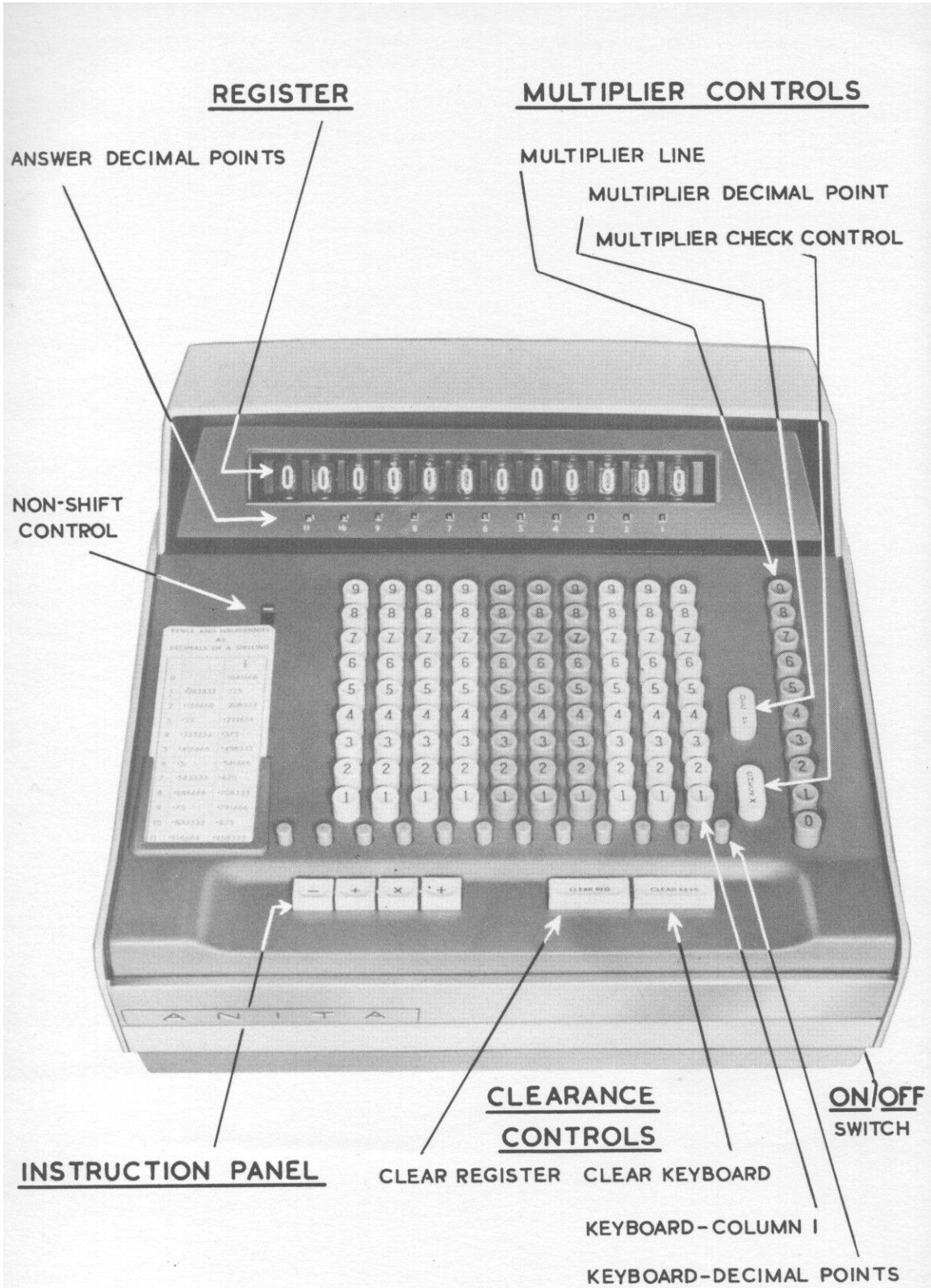
To be returned to,
Sumlock Comptometer Ltd.
Green Dragon House,
High Street,
Croydon.
Surrey.

OPERATING INSTRUCTIONS

ANITA

SUMLOCK COMPTOMETER LIMITED

39, ST. JAMES'S STREET, LONDON, S.W.1.


REGISTER
MULTIPLIER CONTROLS
ANSWER DECIMAL POINTS
MULTIPLIER LINE
MULTIPLIER DECIMAL POINT
MULTIPLIER CHECK CONTROL
NON-SHIFT CONTROL
ANITA
CLEAR REG
CLEAR KEYS
INSTRUCTION PANEL
CLEARANCE CONTROLS
CLEAR REGISTER
CLEAR KEYBOARD
ON/OFF SWITCH
KEYBOARD-COLUMN 1
KEYBOARD-DECIMAL POINTS

This Instruction Booklet Introduces

ANITA

A New Inspiration to Arithmetic

and

The Worlds First Electronic Desk Calculator

Electronic benefit on the office desk,
as a desk aid to all Arithmetic is unique.

It means

SIMPLICITY * SPEED * ACCURACY * SILENCE

SIMPLICITY – via the Instruction Panel and left to right keyboard entry

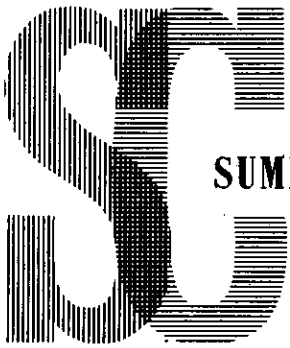
SPEED – via Electronic Processing

ACCURACY – via Automatic Decimal Pointing and Verification Control

SILENCE – via Instantly Illuminated Answers

There is a photograph of ANITA at the front of this booklet with the Instruction Panel, Keyboard and Operating Controls clearly marked to help you identify reference to them in the Notes.

We have a staff of fully trained personnel always available so that if you require further instruction or advice on your figure-work problems please do not hesitate to contact your nearest office of Sumlock Comptometer Limited. A list of Offices is given at the back of this booklet.



SUMLOCK COMPTOMETER LTD

are proud to anounce that

A N I T A IS ENTIRELY BRITISH

BRITISH Invented

BRITISH Designed

BRITISH Manufactured

A major British Electronic contribution to the world of business arithmetic.

INDEX

HOW TO USE ANITA

First, touch the red ON/OFF switch at the bottom right hand side of the casework; this will illuminate the Register. So that the electronic circuits will function properly ANITA requires a few minutes to warm up before you start to operate.

Touch simultaneously the Controls marked "Clear Register" and "Clear Keys".

Make sure the Non-Shift Control is in the up position; that is with its black section showing.

ANITA is now ready to receive your instructions.

ANITA can be used at four different heights. At the rear of the Unit are telescopic legs which have three positions. They are operated by pushing the latches inwards then raising the rear from the desk when the legs which consist of metal rods with notches at three different positions will slide out and engage. To lower the Unit push the latches inwards and let the weight carry it to the next position releasing the latches as soon as the last position has been passed.

INSTRUCTION PANEL

Engage the required Control; these are clearly marked as to their function. When engaging an alternative Control, that which was previously engaged will automatically restore to its neutral position.

The character of the keyboard when [+] or [−] is engaged allows for "direct" entry of information; touch any key and its value is instantly recorded in the Register, and the key restores automatically to its neutral position.

When Controls [÷] or [X] are engaged the character of the keyboard is changed, so that the keys selected are held in an engaged or pre-set position on the keyboard in readiness for further instruction which will be carried out by selection of a key or keys on the Multiplier line.

Sometimes we need to engage two of these Controls at the same time, e.g. [−] and [X] as in Negative Multiplication. The Controls must be engaged simultaneously or if one is already engaged it should be lightly held whilst the other is engaged.

KEYBOARD AND KEYBOARD DECIMAL POINTS

The keyboard consists of 10 columns each of nine keys marked from 1 at the bottom to 9 at the top. For identification the right hand column of keys is referred to as number 1 column going across to number 10 for the left hand column. Between and below the horizontal row of keys marked 1 are the keyboard decimal points number 0 at the right to 11 on the left; as figures are "written" onto the keyboard the decimal point within them will be entered in its appropriate sequence by touching the keyboard decimal point. If a decimal point is not required in the Register touch the keyboard decimal point marked "0".

THE MULTIPLIER LINE AND MULTIPLIER DECIMAL POINT

With [X] engaged on the Instruction Panel any factor pre-set on the keyboard will be multiplied instantly by each figure entered on the Multiplier Line. Multiplier figures are entered onto this Line in the sequence in which they are read including the decimal point.

With [÷] engaged on the Instruction Panel any divisor pre-set on the keyboard will be divided instantly into the dividend already in the Register by touching the "0" key of the Multiplier Line.

CLEARANCE CONTROLS

There are two, one of which will clear the Register and the other keyboard. They can be used individually or simultaneously.

CHECK X

This Control is used to verify any multiplication as fully explained in the section dealing with checking - Note No. 5.

A further use of this Control is explained in Note No. 11.

THE NON-SHIFT CONTROL

The term "non-shift" applies only in multiplication where it is required to avoid the keyboard factor moving across from left to right as it does normally. This condition can be achieved when the non-shift control is moved in the direction of the arrow leaving its "red" section showing. A use of this control is explained in Notes No. 3 and No. 23.

DECIMAL CHART

To the left of the main keyboard is a small metal fitting which holds a decimal chart showing pence and halfpence as decimals of a shilling on one side and of a £ on the reverse side.

KEYBOARD MARKER

Supplied with each ANITA is a keyboard marker. This is placed over any key line to establish a fixed decimal position on the keyboard.

A use of the keyboard marker is explained in Notes No. 1 - Multiplication - Accumulative, Constant Factor and Negative.

NOTE NO. 1

MULTIPLICATION - TWO FACTOR

1. **Example** 37.5 x 186.25

   Engage [X] on the Instruction Panel

   Enter 37.5 onto keyboard commencing column 10, touch keyboard decimal point No. 8; that is after entering 7 and before entering 5.

   Enter 186.25 on the Multiplier line; touch the Multiplier decimal point after entering 6 and before entering 2.

   Register reads 6984.375 with the decimal point illuminated in its correct position.

   No pre-setting of decimal points! The point is "written" onto the keyboard in its correct sequence, as the figures are entered; the Multiplier decimal point need only be used when the Multiplier contains a decimal. We can therefore make the maximum use of our capacity.

2. Now touch Clear Register and Clear Keys Controls and try the following examples. See how easily, silently and speedily the answers appear, ALWAYS with the decimal point illuminated in the correct position.

13.125	x	83.6	=	1097.25
4.329	x	16.4	=	70.9956
329.8	x	61.02	=	20124.396
221	x	45.001	=	9945.221
356.8	x	237	=	84561.6

Note When the Multiplier is a decimal number tell ANITA there are no whole numbers by first entering "O" on the Multiplier line. A Multiplier of .86 will be entered as 0.86, one of .057 as 0.057 and so on.

7.143	x	.86	=	6.14298
27.5	x	.057	=	1.5675

NOTE NO. 1

MULTIPLICATION - THREE OR MORE FACTORS - 1

1. **Example** 3.64 x 21.75 x 48

Engage [X] on the Instruction Panel

Enter 3.64 onto keyboard commencing column 10; include keyboard decimal point.

Enter 21.75 on Multiplier line; include Multiplier decimal point. — Register reads 79.17

Clear keyboard; copy Register figures to keyboard placing the decimal point in its correct sequence.

Clear Register

Enter 48 on Multiplier line — Register reads 3800.16

2. Practice on the following examples

18	x	13.5	x	.25	=	60.75
.43	x	2.5	x	22.6	=	24.295
42.5	x	14.3	x	3.59	=	2181.8225
36.875	x	18.5	x	1.025	=	699.2421875
22 x 14	x	.95	x	.005	=	1.463

NOTE NO. 1

MULTIPLICATION - ACCUMULATIVE

1. **Example**

75.5 x 13.26

34.25 x 62.125

18.76 x 29.17

Engage [X] on the Instruction Panel

Enter 75.5 onto keyboard commencing column 10; include keyboard decimal point.

Enter 13.26 on Multiplier line, include Multiplier decimal point.

Clear keyboard

Enter 3425 onto keyboard commencing column 10

Enter 62125 on Multiplier line

Clear keyboard

Enter 1876 onto keyboard commencing column 10

Enter 2917 on Multiplier line. Register reads 3676.14045

Note It is essential to enter:

(a) The keyboard decimal point **and**

(b) The Multiplier decimal point

for the first line of an accumulation. It is not necessary to use either for the second and subsequent lines.

It may be necessary to:

(i) Use the keyboard marker to help you 'fix' your decimal position.

(ii) "Balance" the whole number entry of the Multipliers

NOTE NO. 1 - MULTIPLICATION - ACCUMULATIVE (Continued)

2. The following example will explain both (i) and (ii)

Example

45.6 x 127.5

216.3 x 38.142

24.5 x 6.27

Let the first factor in each line be the keyboard entry so that the maximum whole numbers we must allow for is three. Place the keyboard marker, therefore, over column 7.

In order to 'balance' the whole number entry of the Multipliers the second line will be entered as 038142 and the third as 00627.

Enter 45.6 onto keyboard commencing column 9; include keyboard decimal point.

Enter 127.5 on Multiplier line; include Multiplier decimal point.

Clear Keyboard

Enter 2163 on keyboard commencing column 10.

Enter 038142 on Multiplier line

Clear Keyboard

Enter 245 on keyboard commencing column 9

Enter 00627 on Multiplier line

Register reads
14217.7296

NOTE NO. 1

MULTIPLICATION CONSTANT FACTOR

1. **Example**

2.45 x 156

2.45 x 168

2.45 x 215

2. **Line by line Extension**

Engage [X] on the Instruction Panel

Enter 2.45 onto keyboard commencing column 10, include keyboard decimal point. Further identify the decimal point position by placing the keyboard marker over column 9.

Enter 156 on Multiplier line. — Register reads 382.2

Clear register and reposition keyboard decimal point (This is very easily done by lightly touching the decimal point immediately below the keyboard marker).

Enter 168 on Multiplier line — Register reads 411.6

Clear Register and reposition keyboard decimal point.

Enter 215 on Multiplier line — Register reads 526.75

3. **Accumulative - Method 1**

Engage [X] on the Instruction Panel

Enter 2.45 onto keyboard commencing column 10

Enter 156 on Multiplier line; include decimal point

Engage [÷] then [X] on the Instruction Panel

Enter 168 on Multiplier line

Engage [÷] then [X] on the Instruction Panel

Enter 215 on Multiplier line — Register reads 1320.55

4. **Accumulative - Method 2**

Engage [+] on the Instruction Panel

Add 156, 168, 215 on the right hand of the keyboard — Register reads 539

Engage [X] on the Instruction Panel

Enter 539 onto keyboard commencing column 10; include decimal point.

Clear Register

Enter 2.45 on Multiplier line — Register reads 1320.55

NOTE NO. 1

MULTIPLICATION NEGATIVE

1. **Example** (21.5 x 16.5) - (12.25 x 15)

Engage [X] on the Instruction Panel

Enter 21.5 onto keyboard commencing column 10; include keyboard decimal point.

Enter 16.5 on Multiplier line. Register reads 354.75

Clear keyboard

Simultaneously engage [-] and [X] (i.e. negative multiplication) on the Instruction Panel.

Enter 1225 onto keyboard commencing column 10.

Enter 15 on Multiplier line. Register reads 171

Note:

Negative multiplication should be treated as an accumulation. This means:

(a) entry of keyboard decimal point and

(b) entry of Multiplier decimal point for multiplication of the first two factors only.

(c) using the keyboard marker to help you 'fix' the decimal point position.

(d) 'balancing' the Multiplier by the use of 0's to obtain a constant number of figure entries before the decimal point.

2. Practise on the following examples:

(32.76	x	2.85)	-	(15.8	x	3.94)	=	31.114
(14.93	x	34.57)	-	(12.6	x	25.48)	=	195.0821
(875	x	11.05)	-	(98.7	x	7.5)	=	8928.5

↓

[To comply with rules of accumulation this factor will be entered as 075]

NOTE NO. 2

D I V I S I O N

Where reference is made to "adjusting" the decimal point in Division, this means the placing of it correctly in the Register before the answer appears.

It will be noticed that the decimal point positions for the Register are numbered identically with the Keyboard decimal points so that movement from one position to another is simple.

1. **Example** 8561.44 ÷ 36.5

   Engage [+] on the Instruction Panel

   Add 8561.44 commencing column 10; include decimal point.

   Engage [÷] on the Instruction Panel

   Enter 365 onto keyboard commencing column 10.

   Adjust decimal point.

   > "**Where there are whole numbers in the divisor** e.g. 36.5, move the **Dividend** decimal point illuminated in the Register one place to the left for each Divisor whole number **plus** one further place for the decimal point." (i.e. for 36.5 the decimal point should be moved three places to the left).

   Touch "0" key on Multiplier line. Register reads 234.56

2. **Example** 18.6 ÷ .625

   Engage [+] on the Instruction Panel

   Add 18.6 commencing column 10; include decimal point.

   Engage [÷] on the Instruction Panel

   Enter 625 onto keyboard commencing column 10.

   Adjust decimal point.

   > "**Where there are no whole numbers and where the first figure immediately follows the decimal point** e.g. .625 move the **Dividend** decimal point illuminated in the Register one place to the left only - for the Divisor decimal point." (i.e. for .625 the decimal point should be moved one place to the left).

   Touch "0" key on Multiplier line. Register reads 29.76

NOTE NO. 2 - DIVISION (Continued)

3. **Example** 581.9785 ÷ .0062

Engage [+] on the Instruction Panel

Add 581.9785 commencing column 10; include decimal point.

Engage [÷] on the Instruction Panel

Enter 62 onto keyboard commencing column 10

Adjust decimal point.

> "**Where there are no whole numbers and where one or more "0"'s immediately follow the decimal point** e.g. .0062 move the **Dividend** decimal point illuminated in the Register one place to the **right** for each "0" in the Divisor **minus** one place for the decimal point."
> (i.e. for .0062 the decimal point should be moved one place to the right.)

Touch "0" key on Multiplier line.

Register reads
93867.5

Note: The divisor is **ALWAYS** added onto keyboard with its most significant figure in column 10.

Note: Figures of quotient displayed in the last three answer tubes must be completely ignored.

4. **Example** 623.56 ÷ 723

Engage [+] on the Instruction Panel

Add 623.56 commencing column 10; include decimal point.

Engage [÷] on the Instruction Panel

Enter 723 onto keyboard commencing column 10.

Adjust decimal point (i.e. four places to left)

Touch "0" key on Multiplier line.

Register reads
0.86246196403

Answer is recorded as
.86246196

NOTE NO. 2 - DIVISION (continued)

5. The keyboard decimal point to the left of 11 is 0 and to the left of 0 is 1 and so on. This particular movement of the decimal point can be thought of as "going round" the Register.

   When this happens, in reading the answer which starts with the decimal point, all figures in the Register to its right are treated as "0"'s following which come all the figures appearing in the Register reading across from left to right but ignoring completely the last three figures on the right.

Examples:-	7.525	÷	**344**	Register reads 21875000000.0
				Answer is recorded as .021875
	6.55	÷	51257	Register reads 127787424.203
				Answer is recorded as .000127787424
	.325	÷	41375.25	Register reads 07854937.4602
				Answer is recorded as .0000078549374

NOTE NO. 3

ADDITION

1. **Example - Whole Numbers**

38
76
112
27
43
269
565

Engage ⊞ on the Instruction Panel.

Touch keyboard decimal point "O"

Add 38, 76 etc., adding UNITS in column 1, TENS in column 2, HUNDREDS in column 3.

Register reads 565

2. **Example - Whole Numbers and Decimals**

125.25
276.37
39.14
148.2
9.15
27.4
625.51

Use a keyboard decimal point to illuminate the decimal point position in the Register; whole numbers will be added to the left of this position and decimals to the right of it.

Register reads 625.51

3. **Example £. s. d.**

£.	s.	d.
1.	15.	6.
6.	9.	11.
12.	14.	8.
32.	7.	9.
9.	16.	3.
10.	9.	7.
3.	18.	10.
42.	9.	5.
16.	4.	6.
2.	12,	8.

Touch keyboard decimal point "O"

Add pence in columns 1 and 2, shillings in columns 4 and 5 and £'s in columns 7, 8, 9 and 10.

Register reads £133 113 073d.

NOTE NO. 3 - ADDITION (Continued)

To convert pence to shillings and pence

Engage [X] on the Instruction Panel.

Move Non-Shift Control in the direction of the arrow leaving its "red" section showing.

Enter 988 on keyboard in columns 3, 2 and 1.

Touch Multiplier key 1 until pence have reduced to less than 12. This reducing process can be accelerated by the use of a higher valued Multiplier key than 1 such as will obviously leave a remainder less than 12.

Register reads £133 119s 001d.

To convert shillings to £'s and shillings

Clear keyboard and enter 98 in columns 6 and 5.

Touch Multiplier key 1 (or higher) until shillings have reduced to less than 20.

Register now reads £138.19.1d.

Return Non-Shift Control to its upward position so that "black" section is showing.

4. Addition on ANITA is direct; this means that as soon as a key is touched its value appears in the Register. Direct addition means fast addition. Ask one of our Demonstrators to show you how to 'touch add' so that your addition becomes even faster.

   ANITA prefers you to add with one hand only.

NOTE NO. 4

SUBTRACTION

1. **Whole Numbers**

Example 8675 - 5421

Engage [+] on the Instruction Panel
Touch keyboard decimal point "0"
Add 8675 at right hand side of keyboard
Engage [−] on the Instruction Panel
Add 5421 at right hand side of keyboard

Register reads
3254

2. **Whole Numbers and Decimals**

Use a keyboard decimal point to illuminate the decimal position in the Register; whole numbers will be added to the left of this position and decimals to the right of it.

3. **£. s. d.**

Example £18.19.6d. - £13.16.2d.

Engage [+] on the Instruction Panel
Add 18 in columns 8 and 7, 19 in columns 5 and 4 and 6 in column 1
Engage [−] on the Instruction Panel
Add 13 in columns 8 and 7, 16 in columns 5 and 4 and 2 in column 1

Register reads
000005003004
= £5.3.4d.

Example £3.2.6d. - 18s.11d.

Engage [+] on the Instruction Panel
Add 3 in column 7, 2 in column 4 and 6 in column 1
Engage [−] on the Instruction Panel
Add 18 in columns 5 and 4 and 11 in columns 2 and 1

Register reads
000002983995

With [−] still engaged on the Instruction Panel:-
Add 988 in columns 3, 2 and 1

Register reads
000002983007

Add 98 in columns 6 and 5

Register reads
000002003007
= £2.3.7d.

CHECKING

INTRODUCTION

Checking plays an important role in producing any type of figurework for until figures are verified they are of little value.

Proving the accuracy of figurework is done in various ways including:

- checking visually
- by calling back
- by doing the work a second time

We consider that proving the accuracy of figure work is important enough to devote a separate section to it.

NOTE NO. 5

CHECKING MULTIPLICATION

1. **Example** 48.23 x 127.66

Engage [X] on the Instruction Panel

Enter 48.23 onto keyboard, commencing column 10

Enter 127.66 on Multiplier line

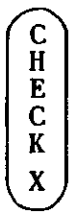
Register reads
6157.0418

The Electronic approach to checking Multiplication is unique because all aspects of the calculation are checked automatically by the use of the control marked

The function of this control is to divide the result in the Register by the figures pre-set on the keyboard.

Let us consider the result in the Register - 6157.0418 (which should now be written down and visually checked against the Register) as the Dividend and the keyboard factor - 48.23 - as the Divisor.

Adjust decimal point as for Division i.e. two places to the left for the two whole numbers in the Divisor **plus** one for the decimal point, making three in all.

Touch 

Your checking is instantly completed in all aspects and with the following proofs:-

(i) Both factors used in the Multiplication are visible for inspection -
The Multiplicand 48.23 pre-set on the keyboard and the Multiplier 127.66 whose figures and the order in which they were entered now appear in the Register.

(ii) The decimal points were entered correctly onto keyboard and Multiplier line.

(iii) By Check Multiplying ANITA automatically switched its circuit from Multiplication to Division proving the internal arithmetic carried out.

NOTE NO. 5

CHECKING DIVISION

1. **Example** 31.647 ÷ 4.62

Engage [+] on the Instruction Panel

Add 31.647 commencing column 10

Engage [÷] on the Instruction Panel

Enter 462 onto keyboard commencing column 10

This is the point at which Division is checked **BEFORE** the quotient is produced.

(i) Is the Dividend (31.647) correct with regard to both figures and decimal point?

(ii) Check also the Divisor (462) which figure-wise is pre-set on the keyboard.

When you are satisfied that both are correct proceed:-

Adjust decimal point. i.e. move it two places to left.

Register reads
6.85

Touch "0" key on Multiplier line

Write down answer

2. If still in doubt:-

Engage [X] on the Instruction Panel, and Clear Register.

Insert keyboard decimal point between 4 and 6 to regain its original position as 4.62

Register reads
31.647
= Dividend

Enter 6.85 (quotient) on Multiplier line

NOTE NO. 5

CHECKING ADDITION

1. **Example**

135
29
86
427
221
38
445

1381

Engage ⊞ on the Instruction Panel

Touch keyboard decimal point "O"

Add 135, 29, etc. adding UNITS in column 1, TENS in column 2, HUNDREDS in column 3.

Register reads 1381

Write down answer

Engage ⊟ on the Instruction Panel

Now add this column of figures in reverse order i.e. 445, 38, etc.

Register reads ZERO

This method of Addition and Zero-Proof checking can also be applied to a column of figures containing whole numbers and decimals.

NOTE NO. 5

CHECKING SUBTRACTION

Example 4565 - 2213

Engage [+] on the Instruction Panel

Touch keyboard decimal point "0"

1. Add 4565 at right-hand side of keyboard (columns 1, 2, 3 and 4)

Engage [-] on the Instruction Panel

2. Add 2213 in columns 1, 2, 3 and 4 — Register reads 2352

Write down answer; clear Register

Engage [+] on the Instruction Panel

3. Add 2352 and 2213 at right-hand side of keyboard — Register reads 4565

NOTE NO. 5

CHECKING MULTIPLICATION OF THREE OR MORE FACTORS

Checking that the Register figures have been correctly copied to the keyboard

1. **Example** 37.46 x 185.21 x 1.25

   Engage [X] on the Instruction Panel

   Enter 37.46 onto keyboard commencing column 10

   Enter 185.21 on Multiplier line — Register reads 6937.9666

   Clear keyboard; copy Register figures to keyboard placing the decimal point in its correct sequence.

   Touch CHECK X Control — Register reads 100000.000000

   Clear Register

   Enter 1.25 on Multiplier line — Register reads 8672.45825

2. **Example** 7.625 x 28.42 x 63.7

   Engage [X] on the Instruction Panel

   Enter 7.625 onto keyboard commencing column 10

   Enter 28.42 on Multiplier line — Register reads 216.7025

   Clear keyboard; copy Register figures to keyboard placing the decimal point in its correct sequence.

   Touch CHECK X Control — Register reads 00000.0000000

   Clear Register

   Enter 63.7 on Multiplier line — Register reads 13803.94925

NOTE When the Control marked "CHECK X" is touched the Register will read 1 (in the 12th answer tube) or zero. This proves that the result of A x B figurewise was correctly copied to the keyboard. Further, it will not be possible to multiply by the third or subsequent factor until Clear Register Control has been operated.

NOTE NO. 6

SIMPLE EXTENSIONS

1. **Example** 58 articles @ 3/9d. each

Before we can carry out multiplications such as these it is necessary to convert pence or both shillings and pence to decimals. The decimal chart will help with this conversion.

Engage [X] on the Instruction Panel

2. **Method used with shillings as whole numbers**

Enter 3.75 onto keyboard.
Enter 58 on Multiplier line — Register reads 217.5

The whole number part of this answer is in shillings; the decimal part of it needs converting to pence.

217 shillings, therefore, is £10.17.0d.
.5 as a decimal of 1/- is 6d.
= £10.17.6d.
(See ANITA Chart No. 1)

3. **Method used with £'s as whole numbers**

Here we have to convert both shillings and pence to decimals and add them together.

3/-	as decimals of £1	=	.15
9d.	"	"	"	=	.0375
Therefore 3/9d.	"	"	"	=	.1875

(See ANITA Chart No. 2)

Enter .1875 onto keyboard
Enter 58 on Multiplier line — Register reads £10.875

The whole number part of this answer is in £'s; the decimal part of it needs converting to shillings and pence - refer ANITA Chart No. 2. — £10.17.6d.

4. Here are some practise examples:

63	articles	@ 26/6d.	=	£83. 9. 6.
77	"	" 4/10½d.	=	£18.15. 4½.
131	"	" £4.10.8d.	=	£593.17. 4.
129	"	" £1. 9.1d.	=	£187.11. 9.
52	"	" 7/2½d.	=	£18.14.10.
19	"	" £2.17.3d.	=	£54. 7. 9.

NOTE NO. 7

DISCOUNTS AND INCREMENTS

Discounts and Increments are always quoted per cent (%) - per 100. When calculating Discounts or Increments we must first mentally divide the % figure by 100.

i.e. 25% becomes $\frac{25}{100} = .25$ 5% becomes $\frac{5}{100} = .05$

DISCOUNT

1. **Example** £25.3.0d, less 5%

Engage [X] on the Instruction Panel

Enter 25.15 onto keyboard commencing column 10.

Enter 1 on Multiplier line; include decimal point. Register reads 25.15

Simultaneously engage [−] and [X] on the Instruction Panel

Enter 005 on Multiplier line Register reads 23.8925

= £23.17.10d.

INCREMENT

2. **Example** £18.15.0d, plus 4½%

Engage [X] on the Instruction Panel

Enter 18.75 onto keyboard commencing column 10

Enter 1.045 on Multiplier line Register reads 19.59375

= £19.11.11d.

NOTE NO. 8

SIMPLE EXTENSIONS WITH DISCOUNTS AND INCREMENTS

DISCOUNT

1. On ANITA we calculate the Net Amount before the Discount.

Example 69 articles @ £2.4.0d. each, less 7½%.

Engage [X] on the Instruction Panel

Enter 69 onto keyboard commencing **column 9**; include decimal point. Column 9 must be the first column of entry because we do not want the result of the multiplication to carry beyond the 10th answer tube.

Enter 2.2 on Multiplier line

Register reads
151.8
= £151.16.0d.

Clear keyboard; copy Register figures to keyboard - **in alignment.**

Simultaneously engage [−] and [X] on the Instruction Panel

Enter 0075 (7½ ÷ 100) on Multiplier line

Register reads
140.415
= £140.8.4d.
- Net Amount

Clear Register

Engage [÷] then [X] on the Instruction Panel

Enter 0.075 (7½ ÷ 100) on Multiplier line

Register reads
11.385
= £11.7.8d.
- Discount

NOTE NO. 8
SIMPLE EXTENSIONS WITH DISCOUNTS AND INCREMENTS (Continued)

INCREMENT

2. On ANITA we calculate the Increment before the Gross Amount.

Example 34 articles @ £2.12.6d. each, plus 8%

Engage [X] on the Instruction Panel

Enter 2.625 onto keyboard commencing column 10.

Enter 34 on Multiplier line — Register reads 89.25 = £89.5.0d.

Clear keyboard, copy Register figures to keyboard. placing the decimal point in its correct sequence.

Clear Register

Enter 0.08 (8 ÷ 100) on Multiplier line — Register reads 7.14 = £7.2.10d. **- Increment**

Simultaneously engage [X] and [+] on the Instruction Panel

Enter 1 on Multiplier line — Register reads 96.39 = £96.7.10d. **- Gross Amount**

NOTE NO. 9

SIMPLE INVOICES

1. **Example**

23	@	£1.4.6d.	each	28. 3. 6.
84	@	3.9d.	"	15. 15. 0.
45	@	£1.3.1d.	"	51. 18. 9.
				95. 17. 3.
		Less 5½%		5. 5. 5.
				90. 11. 10.

Engage [X] on the Instruction Panel

Enter 1.225 onto keyboard

Enter 23 on Multiplier line

Clear Register; clear keyboard

Register reads 28.175 = £28.3.6d.

Enter .1875 onto keyboard

Enter 84 on Multiplier line

Clear Register; clear keyboard

Register reads 15.75 = £15.15.0d.

Enter 1.15416 onto keyboard

Enter 45 on Multiplier line

Clear Register; clear keyboard

Register reads 51.9375 = £51.18.9d.

Engage [+] on the Instruction Panel

Add each extension in decimal form at left hand side of keyboard, i.e.

28.175
15.75
51.9375

Register reads 95.8625 = £95.17.3d.

(a) **NET AMOUNT**

Simultaneously engage [−] and [X] on the Instruction Panel

Copy figures in Register (95.8625) to keyboard - **in alignment**

Enter 0.055 (5½ ÷ 100) on Multiplier line

Register reads 90.5900625 = £90.11.10d.

(b) **DISCOUNT**

Clear Register

Engage [÷] then [X] on the Instruction Panel

Enter 0.055 (5½ ÷ 100) on Multiplier line

Register reads
5.2724375
= £5.5.5d.

2. **Example**

143	@ 35.6d.	each	253. 16. 6.
28	@ 18.6d.	"	25. 18. 0.
58	@ £1. 2.9d.	"	65. 19. 6.
			345. 14. 0.
	Plus 12½%		43. 4. 3.
			388. 18. 3.

Extend each line and add as before

Register reads
345.7
= £345.14.0d.

(a) **INCREMENT**

Engage [X] on the Instruction Panel

Copy Register figures (345.7) to keyboard

Clear Register

Enter 0.125 (12½ ÷ 100) on Multiplier line

Register reads
43.2125
= £43.4.3d.

(b) **GROSS AMOUNT**

Simultaneously engage [X] and [+] on the Instruction Panel

Enter 1 on Multiplier line

Register reads
388.9125
= £388.18.3d.

NOTE NO. 10

MISCELLANEOUS EXTENSIONS

Engage [X] on the Instruction Panel

1. **AVOIRDUPOIS**

   (a) **Lbs. and ozs. @ price per lb.**

   Treat lbs. as whole numbers and decimalise ozs. as 16ths from ANITA Chart No. 7.

   Multiply by price.

   (b) **Ozs. and drams @ price per oz.**

   Treat ozs. as whole numbers and decimalise drams as 16ths from ANITA Chart No. 7.

   Multiply by price.

2. **TONNAGE**

   (a) **Tons. cwt. qrs. and lbs. @ price per ton**

   Treat tons as whole numbers and decimalise cwts. qrs. and lbs. from ANITA Chart No. 6.

   Multiply by price.

   (b) **Cwts. qrs. and lbs. @ price per cwt.**

   Treat cwts. as whole numbers and decimalise qrs. and lbs. from ANITA Chart No. 5.

   Multiply by price.

3. **GROSS, DOZENS**

   (a) **Gross, Dozens and Singles @ price per gross**

   Treat gross as whole numbers and decimalise dozens and singles from ANITA Chart No. 9.

   Multiply by price.

   (b) **Dozens and Singles @ price per dozen**

   Treat dozens as whole numbers and decimalise singles to dozens as pence to shillings from ANITA Chart No.1.

   Multiply by price.

4. **YARDAGE**

   (a) **Yards, feet and inches @ price per yard**

   Treat yards as whole numbers and decimalise feet and inches from ANITA Chart No. 8.

   Multiply by price.

(b) **Feet and Inches • price per foot**

Treat feet as whole numbers and decimalise inches to feet as pence to shillings from ANITA Chart No. 1.

Multiply by price.

5. LIQUID MEASURE

(a) **Gallons, quarts and pints • price per gallon**

Treat gallons as whole numbers, multiply quarts by 2, add pints and decimalise as 8ths.

Multiply by price.

(b) **Quarts and pints • price per quart**

Treat quarts as whole numbers and decimalise pints as halves.

Multiply by price.

6. WORK PRICED PER HUNDRED AND PER THOUSAND

100 = C, or % or per hundred
1000 = M, or % or per thousand

Multiply quantity by price then move the decimal point two places to the left for price per hundred, or three places to left for price per thousand.

Note: per cwt. is sometimes written as per C or C/T

7. WAGES

The following are examples among very many methods of calculating wages and bonuses.

(a) **Hours and quarters • rate per hour**

Treat hours as whole numbers and decimalise quarters as .25, .5 or .75.

Multiply by price.

(b) **Hours and minutes • rate per hour**

Treat hours as whole numbers and decimalise minutes from ANITA Chart No. 10.

Multiply by price.

(c) **Hours and Overtime • rate per hour**

Accumulate: standard hours and overtime hours
(i.e. number of hours • time and a quarter
" " " " " " " half etc.)

Transfer the total accumulated hours to keyboard.

Multiply by price.

NOTE NO. 11

MISCELLANEOUS EXTENSIONS WITH DIVISION

1. **Example** 412 lbs @ £2.14.0d. per cwt.

Engage [X] on the Instruction Panel

Enter 412 onto keyboard commencing **column 9** and include the decimal point. Column 9 must be the first column of entry in this type of calculation because we do not want the result of the multiplication to carry beyond the 10th Answer Tube.

Enter 2.7 on Multiplier line — Register reads 1112.4

Clear keyboard

Enter 112 on keyboard commencing column 10; adjust decimal point as for division i.e. four places to the left.

Touch CHECK X Control — Register reads 9.9321 etc. = £9.18.8d.

2. The following examples should be calculated in a similar manner.

867 singles	@	£1. 7. 6.	per	gross	£8. 5. 7.
42½ inches	@	12.10.	"	yard	15. 2.
22 pints	@	10. 9.	"	gallon	£1. 9. 7.
52¼ hours	@	£12.10. 0.	"	40 hr. week	£16. 6. 7.
7¾ ozs.	@	5. 6.	"	lb.	2. 8.

NOTE

As the CHECK X Control divides the keyboard factor into the Register it can be used for all those extensions which fall into the category of A x B ÷ C; this eliminates the need to change the Instruction Panel from [X] to [÷] and back again when there are a number of calculations of similar type to be done consecutively.

NOTE NO. 12

MULTIPLICATION - THREE OR MORE FACTORS - 2

This Note deals with a quick method of multiplication when more than two factors are involved. It can be applied to many of the Notes appearing in this booklet.

Multiply the first two factors together commencing two or three columns in from the left-hand side of the keyboard. Copy the result to the keyboard in correct alignment with those figures in the Register.

Enter the next Multiplier less "one" from its first figure.

Although this method eliminates the need for clearing the Register between each stage of multiplication it does involve moving the decimal point illuminated in the Register if the third or subsequent factor just entered on the Multiplier line is **above 9 or below 1.**

This is the adjustment necessary:-

(a) **Above 9**
The decimal point illuminated in the Register is moved one place to the right for each whole number other than a Unit.

OR

(b) **Below 1**
One place to the left when the first figure immediately follows the decimal point and one further place for each "0".

1. **Example** 24.5 x 36.8 x 3.25

Engage [X] on the Instruction Panel

Enter 24.5 onto keyboard commencing **column 9**

Enter 36.8 on Multiplier line — Register reads 901.6

Clear keyboard and copy Register figures to keyboard **in alignment.**

Enter 225 on Multiplier line — Register reads 2930.2

NOTE NO. 12
MULTIPLICATION - THREE OR MORE FACTORS - 2 (Continued)

2. **Example** 5.78 x 86 x 12.5 x .05

Engage [X] on the Instruction Panel

Enter 5.78 onto keyboard commencing **column 8**

Enter 86 on Multiplier line; include decimal point — Register reads 497.08

Clear keyboard and copy Register figures to keyboard **in alignment.**

Enter 025 on Multiplier line. Move decimal point illuminated in position 6 to position 5. — Register reads 6213.5

Clear keyboard and copy Register figures to keyboard **in alignment.**

Enter 4 on Multiplier line. Move decimal point illuminated in position 5 to position 7. — Register reads 310.675

Note When the third or subsequent factor is below 1 any O's immediately following the decimal point will be ignored and the Multiplier will commence with the first significant figure less "one".

NOTE NO. 13

CHAIN DISCOUNTS AND INCREMENTS

Chain Discounts are a series of 'less' percentages subtracted from the original amount and Chain Increments are a series of 'plus' percentages added to the original amount. Sometimes both 'less' and 'plus' appear in the same chain.

Normally only the final answer is required.

1. **Example** £42.15.0., less 5%, less 10%, less 15%

   Engage [X] on the Instruction Panel

   Enter 42.75 onto keyboard commencing column 10

   Enter 1 on Multiplier line; include decimal point — Register reads 42.75

   Simultaneously engage [−] and [X] on the Instruction Panel.

   Enter 005 (5 ÷ 100) on Multiplier line — Register reads 40.6125

   Clear keyboard; copy Register figures to keyboard in alignment

   Enter 01 (10 ÷ 100) on Multiplier line — Register reads 36.55125

   Clear keyboard; copy Register figures to keyboard in alignment

   Enter 015 (15 ÷ 100) on Multiplier line — Register reads 31.0685625 = £31.1.4d.

2. **Example** £37.10.0., plus 5%, plus 2½%, plus 15%

   Engage [X] on the Instruction Panel

   Enter 37.5 onto keyboard commencing column 9

   Enter 1.05 (100 + 5 = 105 ÷ 100 = 1.05) on Multiplier line. — Register reads 39.375

   Clear keyboard; copy Register figures to keyboard in alignment

   Enter 0025 (2½ ÷ 100) on Multiplier line — Register reads 40.359375

   Clear keyboard; copy Register figures to keyboard in alignment

   Enter 015 (15 ÷ 100) on Multiplier line — Register reads 46.413 etc. = £46.8.3d.

NOTE NO. 13 - CHAIN DISCOUNTS AND INCREMENTS (Continued)

3. **Example** £52.12.6., less 5%, plus 15%, less 7½%

Engage [X] on the Instruction Panel

Enter 52.625 onto keyboard commencing column 10

Enter 1 on Multiplier line; include decimal point

Simultaneously engage [−] and [X] on the Instruction Panel

Enter 005 (5 ÷ 100) on Multiplier line — Register reads 49.99375

Engage [+] on the Instruction Panel
(This has the effect of clearing the keyboard and alerting the Instruction Panel to receive [X])

Engage [X] on the Instruction Panel

Copy Register figures to keyboard in alignment

Enter 015 (15 ÷ 100) on Multiplier line — Register reads 57.4928125

Simultaneously engage [−] and [X] on the Instruction Panel

Clear keyboard; copy Register figures to keyboard in alignment

Enter 0075 (7½ ÷ 100) on Multiplier line — Register reads 53.1808 etc. = £53.3.7d.

NOTE NO. 14

CHAIN DISCOUNT TABLES

When Chain Discount work occurs frequently it often happens that the same discounts apply to a number of different amounts. If, therefore, we find a "constant" our work resolves itself into simple and direct multiplication.

1. **Example** less 12½% less 5% less 2½%

Engage [X] on the Instruction Panel

Enter 1 on keyboard in **column 9** and include decimal point

Enter 1 on Multiplier line; include decimal point — Register reads 1.0.....0.

Simultaneously engage [−] and [X] on the Instruction Panel

Enter 0125 on Multiplier line — Register reads .875

Clear keyboard; copy Register figures to keyboard **in alignment**

Enter 005 on Multiplier line — Register reads .83125

Clear keyboard; copy Register figures to keyboard **in alignment**

Enter 0025 on Multiplier line — Register reads .81046875

Clear keyboard; copy Register figures to keyboard

This figure is then treated as a Constant Factor for all those amounts which carry the same series of discounts.

This chain of discounts and many others, however, can be found on ANITA Chart No. 12 which will simplify your chain discount work even further.

2. **Example** £45.15.0., less 12½%, less 5%, less 2½%

Engage [X] on the Instruction Panel

Enter .810469 (from ANITA Chart No. 12) onto keyboard commencing column 10.

Enter 45.75 on Multiplier line — Register reads 37.0789 etc. = £37.1.7d. **- Net Amount**

To find the **Actual Discount**

Substract Net Amount £37.1.7d. from Gross Amount £45.15.0d. = £8.13.5d.

NOTE NO. 15

RECIPROCALS

When several items are to be divided by the same amount the 'reciprocal' of the divisor may be used as a constant multiplicand. Multiplying this reciprocal by the item gives the same result as direct division.

The reciprocal of any number is found by dividing it into 1.

1. **Example**

£12. 9. 6.)
£6.10. 4.) All to be divided by 17.285
£503. 4. 9. etc.)

Engage [+] on the Instruction Panel

Add 1 in column 10; include decimal point.

Engage [÷] on the Instruction Panel

Enter 17285 onto keyboard commencing column 10; adjust decimal point. i.e. move it three places to left.

Register reads .057853631

Touch "0" key on Multiplier line

Clear keyboard

Engage [X] on the Instruction Panel

Copy 57853631 to keyboard starting with keyboard decimal point number 10 and entering figures into columns 9, 8, 7 etc.; place keyboard marker over column 10.

Clear Register.

Enter 12.475 on Multiplier line

Register reads .7217 etc. = 14/5d.

Clear Register and re-position keyboard decimal point.

Enter 6.516 on Multiplier line

Register reads .3770 etc. = 7/6d.

Clear Register and re-position keyboard decimal point.

Enter 503·2375 on Multiplier line

Register reads 29.1141 etc. = £29.2.3d.

and so on.

NOTE NO. 16

FOREIGN CONVERSION

Where "Amounts" and "Conversion Rates" are in "different" currencies always **MULTIPLY.**

Where "Amounts" and "Conversion Rates" are in "similar" currencies always **DIVIDE.**

Amount to be Converted		Conversion Rate		
£5.12.6.	@	$2.80 to £1	)	These are "different" currencies, therefore **MULTIPLY**
£5.12.6.	@	13.85 frcs to £1	)	
$84	@	$2.80 to £1	)	These are "similar" currencies, therefore **DIVIDE**
103.88 frcs	@	13.85 frcs to £1	)	

1. **Example** £5.12.6d. to $ @ $2.80 to £1

   Engage [X] on the Instruction Panel

   Enter 5.625 onto keyboard commencing column 10

   Enter 2.8 on Multiplier line

   Register reads 15.75
   = $15.75

2. **Example** 103.88 francs to £'s @ 13.85 francs to £1

   Engage [+] on the Instruction Panel

   Add 103.88 commencing column 10

   Engage [÷] on the Instruction Panel

   Enter 1385 onto keyboard commencing column 10; adjust decimal point. i.e. move it three places to left.

   Touch "0" key on Multiplier line

   Register reads 7.5003 etc.
   = £7.10.0d.

NOTE NO. 16 - FOREIGN CONVERSION (Continued)

The method for converting several amounts with the same conversion rate

3. **Example** £25.10.0. to $ @ $2.80¼ to £1
£872.15.0.
£18. 3.6. etc.

Engage [X] on the Instruction Panel

Enter 2.8025 onto keyboard commencing column 10. Use this factor as a constant; place the keyboard marker over column 9.

Enter 25.5 on Multiplier line — Register reads 71.463 etc. = $71.46

Clear Register and re-position keyboard decimal point.

Enter 872.75 on Multiplier line — Register reads 2445.881 etc. = $2445.88

Clear Register and re-position keyboard decimal point.

Enter 18.175 on Multiplier line — Register reads 50.935 etc. = $50.94

and so on

4. **Example** 1500 D.Marks to £.s.d. @ 11.26½ D.Marks to £1
485 D.Marks
790 D.Marks etc.,

Conversion calculations such as these would normally involve Division. When there are several such conversions a 'constant' can be used for the rate of exchange. This means dividing the rate given into 1 and using the result as a constant keyboard factor.

Engage [÷] on the Instruction Panel

Add 1 in column 10; include decimal point.

Engage [÷] on the Instruction Panel

Enter 11265 onto keyboard commencing 10; adjust decimal point i.e. move it three places to left.

Touch 'O' key on Multiplier line — Register reads .088770528800 Constant = .088770528

Clear keyboard

4. **Example (Continued)**

Engage [X] on the Instruction Panel

Copy 88770528 to keyboard starting with keyboard decimal point number 10 and entering figures into columns 9, 8, 7 etc.; place keyboard marker over column 10.

Clear Register

Enter 1500 on Multiplier line — Register reads 133.155 etc. = £133.3.1d.

Clear Register and re-position keyboard decimal point.

Enter 485 on Multiplier line — Register reads 43.0537 etc. = £43.1.1d.

Clear Register and re-position keyboard decimal point.

Enter 790 on Multiplier line — Register reads 70.1287 etc. = £70.2.7d.

and so on.

NOTE NO. 17

METRIC CONVERSION

For the following types of calculations use ANITA Chart No. 11.

1. **Example** 235 Kilos @ 4/3d. per lb. (1015)

   Engage [X] on the Instruction Panel

   Enter 235 onto keyboard commencing column 9; include decimal point.

   Enter 4.25 on Multiplier line

   Clear keyboard

   Enter 453125 (from ANITA Chart No. 11) onto keyboard commencing column 10; adjust decimal point as for division, i.e. one place to left.

   Touch CHECK X Control

   Register reads 2204.137 etc. = £110.4.2d.

2. Now try the following examples

(a)	16,600 Kilos @ £35.0.0d. per ton (Exact.)	=	£571. 16. 6d.
(b)	76.45 Metres @ 18/9d. per yard	=	£78. 7. 8d.
(c)	16½ Feet @ 7/6d. per Metre	=	£1. 17. 9d.
(d)	105 Litres @ 4/8d. per Gallon	=	£5. 7. 10d.
(e)	45.25 Sq.Metres @ 25/- per sq.yard	=	£67. 13. 0d.

NOTE NO. 18

PERCENTAGES

1. **To find a percentage of an amount**

Example What is 25% of £376.10.0d.?

Engage [X] on the Instruction Panel

Enter 376.5 onto keyboard commencing column 10

Enter 0.25 (25 ÷ 100) on Multiplier line

Register reads
94.125
= £94.2.6d.

2. **To find what per cent one amount is of another**

Example What per cent is 475 of 1278?

Engage [+] on the Instruction Panel

Add 475 commencing column 10; include decimal point

Engage [÷] on the Instruction Panel

Enter 1278 onto keyboard commencing column 10; adjust decimal point. (Five places to left to divide by 1278 and two places to right to multiply by 100)

Touch "O" key on Multiplier line

Register reads
37.1674 etc.
= 37.17%

NOTE

Regardless of how this type of calculation is expressed the amount following "OF" is always the divisor.

NOTE NO. 19

PRO - RATING

To Pro-rate means to spread one amount over other amounts in proportion to their size.

Add amounts to be pro-rated and check total.

Divided this total into amount to be pro-rated to obtain a "constant".

Multiply this constant by each item recording individual answers.

Add each "new" figure; the total must agree exactly with the amount pro-rated.

RECIPROCAL PERCENTAGE METHOD

1. **Example** Find % of each item to the total

		£
Dept.	A	368
	B	2865
	C	127
	D	435
	E	1876

Engage [+] on the Instruction Panel

Add 368, 2865, etc. in columns 1, 2, 3 and 4. — Register reads 5671

Write down answer.

Engage [−] on the Instruction Panel

Add 1876, 435 etc., in columns 1, 2, 3 and 4. — Register reads ZERO

Engage [+] on the Instruction Panel

Add 100 commencing column 10; include decimal point. (The amount to be pro-rated being 100%)

Engage [÷] on the Instruction Panel

Enter 5671 onto keyboard commencing column 10; adjust decimal point. i.e. move it five places to left.

Touch "O" key on Multiplier line. — Register reads .017633574 Which is the Constant

Clear Keyboard

NOTE NO. 19 - PRO-RATING (Continued)

1. **Example (Continued)**

Engage [X] on the Instruction Panel

Copy 17633574 onto keyboard starting with keyboard decimal point number 10 and entering figures into columns 9, 8 etc.; place keyboard marker over column 10.

Clear Register

Enter 368 on Multiplier line — Register reads 6.4891 etc. = 6.49%

Clear Register and re-position keyboard decimal point.

Enter 2865 on Multiplier line — Register reads 50.5201 etc. = 50.52%

Clear Register and re-position keyboard decimal point.

Enter 127 on Multiplier line — Register reads 2.2394 etc. = 2.24%

Clear Register and re-position keyboard decimal point.

Enter 435 on Multiplier line — Register reads 7.6706 etc. = 7.67%

Clear Register and re-position keyboard decimal point.

Enter 1876 on Multiplier line — Register reads 33.0805 etc. = 33.08%

Clear Register

Engage [+] on the Instruction Panel

Add each individual answer 6.49, 50·52 etc. in columns 1, 2, 3 & 4 — Register reads 100 = 100%

CONSTANT METHOD

2. A constant differs from a reciprocal only because the total of the amounts to be "spread" is divided into another amount - not 1, and in the case of percentage, not 100. The method of working however, is the same. Each step will be the same as that for reciprocal percentage.

Example Pro-rate £21.15.0d. over the following

	£
Dept. A	126
B	38
C	79
D	45
E	176

The total of the departments is £464

The "constant" is .046875

£126	becomes	£5. 18. 2.
£38	"	£1. 15. 7.
£79	"	£3. 14. 1.
£45	"	£2. 2. 2.
£176	"	£8. 5. 0.

The total of each "new" figure is £21. 15. 0d. which is the amount we were asked to pro-rate.

NOTE NO. 20

INCREASE OR DECREASE
and
PERCENTAGE OF INCREASE OR DECREASE

AMOUNT. This is the simple difference up or down between two figures.

PERCENTAGE. Divide the difference figure by the prime amount and multiply by 100 to obtain percentage. When dates are attached to figures the prime amount will always be the earlier date.

1. **METHOD I**

(a) **INCREASE** Example 1961 £2576
1960 £2218

Engage [+] on the Instruction Panel

Add 2576 commencing column 10; include decimal point.

Engage [−] on the Instruction Panel

Add 2218 commencing column 10

Register reads 358 = Increase of £358 over 1960

Engage [÷] on the Instruction Panel

Enter 2218 onto keyboard commencing column 10 and adjust decimal point. (Five places to left to divide by 2218 and two places to right to multiply by 100).

Touch "O" key on Multiplier line

Register reads 16.1406 etc. = 16.141% INCREASE

(b) **DECREASE** Example 1961 £5214
1960 £5639

Engage [+] on the Instruction Panel

Add 5639 commencing column 10; include decimal point.

Engage [−] on the Instruction Panel

Add 5214 commencing column 10

Register reads 425 = Decrease of £425 below 1960

NOTE NO. 20 - INCREASE OR DECREASE (continued)

1. (b) **DECREASE (Continued)**

Engage [÷] on the Instruction Panel

Enter 5639 onto keyboard commencing column 10 and adjust decimal point. (Five places to left to divide by 5639 and two places to right to multiply by 100).

Touch "O" key on Multiplier line

Register reads
7.5367 etc.
= 7.537%
DECREASE

2. **METHOD 2**

(a) **INCREASE** This method should only be used when there are the same quantity of whole numbers in each amount.

Example 1961 £3287
1960 £2856

Engage [+] on the Instruction Panel

Add 3287 commencing column 10; include decimal point.

Simultaneously engage [−] and [X] on the Instruction Panel

Enter 2856 onto keyboard commencing column 10

Enter 1 on Multiplier line

Register reads
431
= Increase of
£431 over 1960

Touch (C H E C K X) Control; adjust decimal point.
(Five places to left to divide by 2856 and two places to right to multiply by 100).

Register reads
15.091 etc.
= 15.091%
INCREASE

NOTE NO. 20 - INCREASE OR DECREASE (continued)

2. (b) **DECREASE** Example 1961 £4353
1960 £4678

Engage [-] on the Instruction Panel

Add 4353 commencing column 10; include decimal point.

Engage [X] on the Instruction Panel

Enter 4678 onto keyboard commencing column 10.

Enter 1 on Multiplier line

Register reads
325
= Decrease of
£325 below 1960

Touch (C H E C K X) Control; adjust decimal point.
(Five places to left to divide by 4678 and two places to right to multiply by 100).

Register reads
6.9474 etc.
= 6.947%
DECREASE

NOTE:
When there are fewer whole numbers in the later dated amount e.g. 1961 £917 and 1960 £1234, they must be entered onto keyboard commencing **column 9.**

NOTE NO. 21

PROFIT OR LOSS
and
PERCENTAGE OF PROFIT OR LOSS

Find the difference between the Cost and Selling Prices on which Profit or Loss is to be shown. Divide this figure by the Selling price and multiply by 100 to obtain percentage.

1. **METHOD I**

(a) **PROFIT** Example Selling Price £3.15.0.
Cost Price £3. 2.6.

Engage [+] on the Instruction Panel

Add 3.75 commencing column 10.

Engage [−] on the Instruction Panel

Add 3.125 commencing column 10.

Register reads
.625
= 12/6d

Engage [÷] on the Instruction Panel

Enter 375 onto keyboard commencing column 10; adjust decimal point. (Two places to left to divide by 3.75 and two places to right to multiply by 100).

Touch "O" key on Multiplier line

Register reads
16.6666 etc.
= 16.667%
PROFIT

(b) **LOSS** Example Selling Price £25. 0. 0.
Cost Price £28.10. 0.

Engage [+] on the Instruction Panel

Add 28.5 commencing column 10

Engage [−] on the Instruction Panel

Add 25 commencing column 10.

Register reads
3.5
= £3.10.0d.

Engage [÷] on the Instruction Panel

Enter 25 onto keyboard commencing column 10, adjust decimal point. (Three places to left to divide by 25 and two places to right to multiply by 100).

Touch "O" key on Multiplier line

Register reads
14
14% LOSS

NOTE NO. 21 - PROFIT OR LOSS (continued)

2. **METHOD 2**

(a) **PROFIT** Example Selling Price £42.10.0d.
Cost Price £38.15.0d.

Engage [-] on the Instruction Panel

Add 38.75 commencing column 10.

Engage [X] on the Instruction Panel

Enter 425 onto keyboard commencing column 10.

Enter 1 on Multiplier line

Register reads 3.75 = £3.15.0d.

Touch CHECK X Control; adjust decimal point. (Three places to left to divide by 42.5 and two places to right to multiply by 100)

Register reads 8.8235 etc. = 8.824% PROFIT

NOTE:
When there are fewer whole numbers in the Cost Price, e.g. Cost Price £95; Selling Price £115, the Cost Price must be entered commencing **column 9.**

(b) **LOSS** This method should only be used when there are the same quantity of whole numbers in each amount.

Example Selling Price £52.12.6d.
Cost Price £78.15.0d.

Engage [+] on the Instruction Panel

Add 78.75 commencing column 10.

Simultaneously engage [-] and [X] on the Instruction Panel

Enter 52625 onto Keyboard commencing column 10.

Enter 1 on Multiplier line

Register reads 26.125 = £26.2.6d.

Touch CHECK X Control; adjust decimal point. (Three places to left to divide by 78.75 and two places to right to multiply by 100).

Register reads 49.6437 etc. = 49.644% LOSS

NOTE NO. 22

DEBITS AND CREDITS

1. **Example**

234
21
- 85
627
- 342
455 Dr.

Engage [+] on the Instruction Panel

Add on right hand side of keyboard 234, 21 and 627.

Engage [−] on the Instruction Panel

Add 85 and 342 — Register reads 455

2. **Example**

147
67
- 238
- 189
176
37 Cr.

Engage [+] on the Instruction Panel

Add on right hand side of keyboard 147, 67 and 176.

Engage [−] on the Instruction Panel

Add 238 and 189 — Register reads 99.....963

The appearance of 9's at the left hand side of the Register denotes a credit answer, the figures to the right of the 9's being the complement of the true value.

To find the amount of credit:-

Simultaneously engage [−] and [X] on the Instruction Panel

Copy 63 appearing in the Register, in alignment, onto the keyboard with two 9's immediately to its left.

Touch "2" key on Multiplier line — Register reads 999999980037

Ignoring figures at left-hand side of Register true answer reads 37

NOTE NO. 23

NON-SHIFT CONTROL

One use of this Control, which applies only to multiplication, has been explained in Note No. 3.

Another use is for all calculations where the value, or keyboard factor, is constant and where there are only slight variations in the quantities or Multipliers.

The procedure is to carry out the first calculation in the usual way but with the Non-Shift Control engaged for all or part of this calculation.

The second calculation will involve a Multiplier entry only - the difference between the first Multiplier entry and what would normally be the second Multiplier entry.

It is not necessary to Clear Register between each calculation.

1. **Example**

8	articles	@	13/9d.	each
9	"	@	"	"
12	"	@	"	"
16	"	@	"	"

Engage [X] on the Instruction Panel

Move Non-Shift Control in the direction of the arrow leaving its "red" section showing.

Enter 13.75 onto keyboard commencing column 10.

Enter 8 on Multiplier line; include decimal point.	Answer	£5.10.0d.
Enter 1 (9 less 8) on Multiplier line	"	£6. 3.9d.
Enter 3 (12 less 9) on Multiplier line	"	£8. 5.0d.
Enter 4 (16 less 12) on Multiplier line	"	£11. 0.0d.

Return Non-Shift Control.

NOTE NO. 23 NON-SHIFT CONTROL (Continued)

2. **Example** Calculate the following to square feet and two decimal places

5'9" x 10½'
11'
11½'
12'
12½'

Engage [X] on the Instruction Panel

Enter 5.75 onto keyboard commencing column 10.

Enter 10 and the decimal point, on the Multiplier line.

Move Non-Shift Control in the direction of the arrow leaving its "red" section showing.

Enter 5 on Multiplier line (5 being the last digit in the first Multiplier (10.5) and also the amount of variation for the other Multipliers). Answer 60.38 sq.ft.

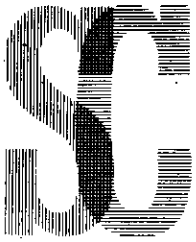
Enter 5 on Multiplier line " 63.25 " "

Enter 5 on Multiplier line " 66.13 " "

Enter 5 on Multiplier line " 69 " "

Enter 5 on Multiplier line " 71.88 " "

Return Non-Shift Control.



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