

**XCHANGE TRAINING COURSE**

**BRITISH TELECOM BUSINESS SYSTEMS SUPPORT UNIT TRAINING**

## **COPYRIGHT**

Copyright: British Telecom Business Systems Support Unit

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of British Telecom Business Systems Support Unit.

## **TRADEMARK**

Xchange is the registered trademark of the Psion Limited.

TABLE OF CONTENTS

INTRODUCTION	Page 1
USING XCHANGE	3
QUILL - Word Processor Practical Exercises	11
ABACUS - Spreadsheet Practical Exercises	28
EASEL - Business Graphics Practical Exercises	40
ARCHIVE - Database Practical Exercises	52
XCHANGE/DATA TRANSFER Practical Exercises	64

What is XChange?

XChange is a modular integrated suite of business application programs by the Software House Psion.

The package consists of four elements:-

Quill - a word processing program

Easel - for business graphics

Abacus - an electronic spreadsheet

Archive - a wide ranging database

The four application programs, also link together to form an integrated software system which allows the transfer of information between programs with remarkable ease and speed.

Which features are common to the 4 applications?

- 1    **Help** is available in all packages. For 'Tonto' users this appears in cartridge form (to be loaded in the left microdrive)
- 2    **Menu Driven** - guiding the operator through the appropriate function and providing **On-Screen Prompts** in both the **Control** and **Status Areas**
- 3    **Function Keys** to select options from the **Control Area**
- 4    **Commands** - listing the options available for each package
- 5    An on-screen **Display** of the current piece of work
- 6    **Saving work to Memory or Microdrive Cartridge**
- 7    **Transfer or XChange** of information from one package to another, or to a separate part of the system - **Datalink/Advanced Messaging**
- 8    **Multiple Working** of up to 8 tasks at any one time from a combination of the 4 packages
- 9    A **Line Editor** to modify/amend typed data
- 10   **A Cursor** - an on-screen highlighted block showing the operator's current position
- 11   **A Printing Option** - should the system be linked to a printer
- 12   **Housekeeping** facilities for deletions, back-ups, etc of XChange files

### How to Get Started

#### Tonto:-

- a) Insert the XChange RomPack
- b) Power On
- c) Press START key to display TOP LEVEL MENU
- d) Select Option 4 : APPLICATIONS
- e) From the sub-menu select Option 2 : XCHANGE
- f) XCHANGE TASK CONTROL is displayed

### XChange Task Control

The screen is divided into 3 areas:-

Control Area - listing the options available and confirming the choices made

Display Area - showing the Task Control Table, or specific application

Status Area - detailing the status of a piece of work

These areas alter dependent upon the package.

Any files stored in Memory are listed, together with any 'frozen' tasks.

Default settings : help - cartridge loaded in left microdrive

: saving - automatic save to memory unless operator specifies other alternative

HELP press f1	XCHANGE TASK CONTROL  Use space to select the task Press ← to start the task	COMMANDS press f7
PROMPTS press f2		XCHANGE data f6

control area

TASK TABLE      MEMORY USED      MEMORY FILES OPEN      SIZE

ABACUS - NEW TASK  
QUILL - NEW TASK  
ARCHIVE - NEW TASK  
EASEL - NEW TASK

new task  
selection  
table

no memory files

memory  
file table

Display/Application  
Area

current  
defaults  
DEVICES      PRINTER STATUS  
default m:      not printing  
help l:

status  
area

What are Tasks and how may they be used?

- 1 Each new piece of work, in any part of XChange, is known as a TASK
- 2 A name of 8 characters may be allocated to a NEW TASK. Symbols may not be used, nor can the task name begin with numerics
- 3 Once a TASK NAME has been allocated, this name cannot be used to open another Task in any of the applications
- 3 When a TASK is saved it becomes a FILE
- 4 A TASK may be FROZEN, SAVED, DISCARDED, or left OPEN and a new one begun
- 5 Up to 8 TASKS may be OPEN at one time (multiple task working)

Selecting a Task

- a) The tasks available are listed in the display area
- b) Highlight the application new task required using either the cursor or bar space keys
- c) Once highlighted, press the ENTER key and type in a TASK NAME, remembering not to begin with a numeric or include symbols. Press the ENTER key a second time
- d) The initial screen of the package chosen will be displayed

Saving and Freezing Tasks

A task may be saved to memory or microdrive cartridge using the appropriate application 'command'

A task may be 'frozen' by using the function keys (f6) to return to the Task Control Table. To return to the 'frozen' task - simply highlight its name and press the ENTER key.



HELP press f1	XCHANGE TASK CONTROL  Use space to select the task Press ← to start the task	COMMANDS press f7
PROMPTS press f2		XCHANGE data f6

TASK TABLE      MEMORY USED

QUILL - Training 388,000  
ABACUS - NEW TASK  
QUILL - NEW TASK  
ARCHIVE - NEW TASK  
EASEL - NEW TASK

*frozen task*

MEMORY FILES OPEN SIZE

*exported file*  
xchange.exp no 1 Kbytes  
Document.doc no 2 Kbytes  
Training.tmp yes 2 Kbytes

*open file*

*closed file*

DEVICES      PRINTER STATUS  
default m:      not printing  
help l:

What are function keys?

Function keys are used to select an option listed in the Control Area. To use a function key, press down the ALTf key and whilst holding this down, press the appropriate key on the numberpad.

For example:- f7 = selecting the 'commands' available within a particular package or at Task Control

What are commands and how are they used?

- 1 A COMMAND is an instruction given to perform a specified function
- 2 COMMAND LISTS are available in ALL 4 PACKAGES and at XCHANGE TASK CONTROL by keying f7
- 3 The COMMAND LISTS vary dependent upon the application package
- 4 COMMANDS are selected by keying the INITIAL LETTER of the command desired IN QUILL, ABACUS AND EASEL and by keying the WHOLE WORD in ARCHIVE

For example:- Quill f7 : key L for Load Command  
Archive f7 : key Load for this Command

The command is then actioned by pressing ENTER

- 5 COMMANDS may be SUSPENDED - key ESCAPE (shift/\*)
- 6 A QUICK REFERENCE COMMAND GUIDE is provided for the XChange package
- 7 COMMANDS specific to XCHANGE TASK CONTROL are :-  
Backup, Delete, List, Output, Quit, Rename, Set and XChange

What is a file?

- 1 Each TASK is SAVED as a FILE
- 2 A FILE NAME of up to 8 characters may be used. Symbols may not be used, nor can the file begin with numerics
- 3 FILES may be SAVED TO THE SYSTEM'S MEMORY or to MICRODRIVE CARTRIDGE
- 4 XChange does not differentiate between upper and lower case characters for file names
- 5 A FILE EXTENSION is allocated to each file saved. The extension enables the user to differentiate between files saved in particular packages

The FILE NAME and FILE EXTENSION are separated by a full stop. For example:- letter.doc

FILE EXTENSIONS ARE :-     .DOC   - Quill  
                              .ABA   - Abacus  
                              .GRF   - Easel  
                              .DBF   - Archive (.SCN/.PRG)

ALSO :-     .TMP - Temporary (open) File  
             .EXP - XChanged (export) File  
             .LIS - Using 'Output' Command  
                      XChange Task Control

- 6 BACK-UPS of FILES must be taken regularly and STORED IN A SAFE PLACE
- 7 FILE MAINTENANCE COMMANDS - available at XChange Task Control Screen
- 8 A LIST OF MEMORY FILES may be seen at the XCHANGE TASK CONTROL
- 9 A LIST OF FILES STORED ON CARTRIDGE may be obtained using the LIST COMMAND at XCHANGE TASK CONTROL or the MICRODRIVE UTILITIES OPTION of HOUSEKEEPING - Top Level Menu if using a Tonto
- 10 XCHANGE DEFAULT is to SAVE FILES TO MEMORY

For example:- M:filename.doc

### Leaving XChange

- 1     Use **Quit Command** - XChange Task Control
- 2     **Quit Command** will close any temporary or open files and store them in the system's memory
- 3     **Memory files** are not lost when **Quit Command** is actioned and the file list will appear once you enter XChange again
- 4     To leave XChange temporarily use the **Start, Resume or Review** keys

### Unable to Access XChange

A prompt '**Unable to Access XChange**' will appear when the system is out of memory space, or hasn't enough memory to enable the opening of a new task.

To overcome this problem, free some of the system's memory by using the **Store Report** function of the **Housekeeping 'Top Level Menu' Option** and delete the databases/applications which are no longer required.

Review

Try to answer the following questions:-

- 1 What packages form XChange?
- 2 Name 3 features common to all the XChange packages
- 3 How would you enter XChange on Tonto
- 4 Name the 3 screen areas and functions performed in each
- 5 What is a task and how may it be named?
- 6 What is a frozen task?
- 7 What is a saved task known as?
- 8 What are function keys?
- 9 When would a command be used?
- 10 When would unable to Access XChange prompt occur?

Circle or tick the most applicable answer(s):-

- 11 Which of the following file names are correct to XChange
  - a 100memo.doc
  - b memorandum.doc
  - c transfer,aba
  - d pricing
  - e fig:dec
  - f M4000.dbf
  - g comps.docs
- 12 Which of the following file extensions are true to XChange packages:-
  - a .wks
  - b .tmp
  - c .let
  - d .dbf
  - e .lis

QUILL  
THE XCHANGE WORD PROCESSOR

QUILL  
\*\*\*\*\*

What is Quill?

Quill is the XChange Word Processing package.

It is a complete word processing system which enables you to type any kind of letter or document. Quill offers all the facilities of an advanced typewriter together with the advantage of an on-screen display, ease of amendment, movement of text and status information relating to the document produced.

What are Quill's major features?

Screen Formatting

On screen formatting - including left, right and centre justification. Bold, underline, high and lowscript typefaces. Upto 160 characters width. Horizontal and vertical scrolling.

Cursor Control

Movement through a document by character, line, word or paragraph. Finding top, bottom, or specific pages of a document.

Text Movement

Multiple copies of text. 'Cut and Paste' facility. Full search and replace facilities. Hyphenation is also available.

### Headers and Footers

Automatic header/footer facility. Page numbers can be embedded in these, in various formats.

### Tabs

Left, right, centred or decimal tabs can be mixed in any fashion. Tab line displayed on screen when tabs are in use.

### Page Breaks

Automatic page breaks inserted at the end of a page. Forced page breaks can also be inserted at any position in the text.

### Merge

Any other Quill document can be merged into a current document.

### Transportation

Import of data records from Abacus and Archive.

### Quill : Screen Layout

Control Area - Provides Options available:-

Help (f1) - Available in cartridge form.

Prompts (f2) - These provide on-screen guidance, or when switched off provide a larger display area.

Typeface (f4) - Altering the typeface - bold, underscore, high and lowscript.

Cursor Keys - Movement around the screen

Command Selection (f7) - Lists the commands available within the Word Processing package.

XChange (f6) - Returns the operator to XChange Task Control.

Modes (f9) - Insert/Overwrite Modes



HELP press f1	CURSOR move ← with ↑ keys →	TEXT Insert: Type at █ New para: Press █ Delete: CTRL & ←↑↓→ Change mode: f9	TYPEFACE press f4	COMMANDS press f7 XCHANGE task f6
------------------	--------------------------------------	---	----------------------	--

↑ ruler line  
↑ cursor

↑ control area

display area

MODE: INSERT  
TYPEFACE: Normal

WORDS: 0

LINE: 1

PAGE: 1

TASK: trg  
DOCUMENT: no name

↑ status lines

## Display Area

The display area is the largest area in the centre of the 'main display' screen and is reserved for the text of documents. Almost everything typed at the keyboard appears in this area.

Status Area : this provides:-

- |                           |   |
|---------------------------|---|
| the NAME :                | The name of the document currently being worked on. If a New Quill Task has been selected the name field will remain blank                                    |
| the MODE :                | The default mode for Quill is INSERT, therefore anything typed is inserted into the document rather than written over existing text, known as OVERWRITE mode. |
| the TYPEFACE :            | The name of the typeface currently being used. The default is 'normal'.   |
| the LINE<br>WORDS<br>PAGE | The current line and page number being worked on, together with the numbers of words contained in the document.   |

## The Ruler Line

Across the top of the Quill Display Area is the 'ruler'. This is a row of dots, marking each character position across the display; every tenth space being numbered. Upto 160 character width maximum.

## The Cursor

The cursor marks the typing point on screen and is displayed as a small rectangle. Once text has been placed within a document the cursor can be moved around by using the four cursor control keys on the keyboard. These keys are repeat keys (when held down they continue moving in the direction chosen). The cursor will not pass the end of the text, nor will it move from its original position if there is no text in the document.

## Text Options

The option shown in the Control Area, headed Text, indicates the various ways in which text may be inserted or altered.

## Inserting Text

Quill automatically defaults to INSERT MODE (shown in the Status Area)

To insert text, place the cursor at the position where the text is to be inserted and type text.

## Wordwrap

Wordwrap is an automatic facility enabling typing to continue without using the carriage return key. Quill automatically wraps a word on to a new line if the whole word cannot fit on to the previous line.

## Carriage Return

The carriage return should be used where lines have a fixed end, for example at the end of a paragraph or the end of a heading.

The carriage return keeps the line separated from other text when characters are removed and 'close up' occurs.

It also prevents right justification of the line when printing.

## Replacing (overwriting) Existing Text

	Action/Key Stroke Command Required
a) To replace existing text, Quill needs to be changed from INSERT MODE to OVERWRITE MODE	f9 - Status Line default changes to OVERWRITE
b) Move the cursor to the text to be replaced and type the replacement over the old text. Return to INSERT MODE	f9 - INSERT returns

## Typefaces

The appearance of text may be altered by changing the typeface. Quill automatically defaults to 'normal' typeface, but there are four other options available:

- Bold - text is altered to an emboldened form
- High Script - text is printed in the upper half of the line
- Low Script - text is printed in the lower half of the line
- Underline - text is underscored

Any combination of the above options is available, apart from High and Low Scripts together.

Once a typeface has been selected all text typed appears in that particular mode, and remains in effect until re-altered.

### Inserting Text in a particular Typeface

	Action/Key Stroke Command Required
a) Use the function keys to select the typeface option	f4
b) Quill offers the following options:	B(old), H(igh), L(ow), U(nderline) or P to paint or change existing text
c) Select the typeface option(s) required	Type the initial letter(s) corresponding to the typeface
<b>Note:</b> To return to normal typeface, ie. switch off the option previously chosen, simply repeat the above process	For example: B(old) followed by U(nderline) will produce text in both bold and underlined modes

Painting a Typeface

	Action/Key Stroke Command Required
a) Move the cursor to the first character of text to be painted	
b) Use the function keys to display the typeface options	f4
c) Choose the Paint Option	Type P (paint)
d) Select the typeface(s) the text is to be painted in	Type B, U, H, L or a combination of the above
e) Use the right and down cursor keys to paint across the text required	Cursor movement
f) Once painting is complete	Press ENTER key

Command Note: The Margins Command enables the positions of the left, right and indent margins to be altered.

Margins Command

	Action/Key Stroke Command Required
a) Use the function keys to display the Command Options	f7
b) Before selecting the command move the cursor to the position where the margin change is to occur from	Move cursor
c) Choose the Margins Command	Type M (margins)
d) Quill offers three options: Left Indent and Right Highlight the option required	Use the bar space to highlight the option or type the corresponding key (L, I or R)
e) Once the option has been selected, use the left/right cursor keys to move the margin to the required position	Use cursor keys to move margin
f) Leave the Command	Press ENTER

Command Notes

Loading a Document From Memory or From Cartridge

	Action/Key stroke Command Required
a) Use the function keys to display the Command Options	f7
b) Choose the Load Command	Type L (load)
c) Type name of file to be loaded	Specify where the file is to be found: Memory, Cartridge in the Left or Right Microdrive, followed by a colon and the file name, and extension. For example: M:MEMO.DOC or L:MEMO.DOC. Press ENTER
d) Loading Prompt will appear	

If the file name is not known the operator has the option of keying ? followed by ENTER. A list of all the files in the default directory is displayed.

If the file name does not correspond to the name of an existing document, the document does not exist prompt appears and the operator is offered another chance to type in the correct name.

Printing a Document

	Action/Key stroke Command Required
a) Use the function keys to display the Command Options	f7
b) Choose the Print Command	Type P (print)
c) The next stage varies dependent upon the package : simply follow the instructions provided in the Control Area	Follow options provided

Saving a Document to Cartridge or Memory

	Action/Key Stroke Command Required
a) Use the function keys to display the Command Options	f7
b) Choose the Save Command	Type S (save)
c) Enter a File Name  If previously saved a file name is automatically prompted - this may be altered	Specify where the file is to be saved: Memory, Cartridge in the Left or Right Microdrive, followed by a colon and the file name. For example:- M:MEMO L:MEMO Press ENTER key
d) The prompt 'saving' will appear on the screen	
e) Should the file name given be that of a file previously saved, an overwrite option occurs	Overwrite required: Type Y  If not: Press ESC key and type in a different file name
f) Once the document has been saved the operator may:-  Continue working on the document or Return to the Main Display	Press ENTER  Press SPACE BAR

Quill Review

Circle or tick the most applicable answer(s):-

1 Wordwrap is:-

- a automatic wrapping of words onto the next line, without using the carriage return key
- b another word for the carriage return key
- c saving a sentence
- d a Quill Command

2 A Cursor is:-

- a a line editor
- b a highlighted block marking the position where text is to be placed
- c a help facility
- d a Quill Command

3 Which command relates to which function?

- |                               |                  |
|-------------------------------|------------------|
| a Change the margins          | a Load Command   |
| b Remove the task from screen | b Margin Command |
| c Move a piece of text        | c Copy Command   |
| d Retrieves a document        | d Zap Command    |

4 The following typefaces are available in Quill:-

- a Bold, Underline only
- b Italics only
- c Bold, Underline, High and Low Script only
- d High and Low Script only

Which function key enables the typeface change?

How would you carry out the following functions:-

- 5 Save a document to cartridge
- 6 Alter the typeface of an existing piece of text
- 7 Force a new paragraph within existing text
- 8 Quickly move from the end of a document to the beginning of it



QUILL  
\*\*\*\*\*

Exercise 1

- a Select a New 'Quill' Task
- b Move the lefthand margin in 3 spaces and the righthand margin in 3 spaces
- c Type the letter to Mr Ross as shown on handout
- d Use the Goto Command to return to the top of the document
- e Justify the righthand margin
- f Print the document
- g Save to memory, allocating a name of your choice
- h At the Save prompt 'Same Document?' - press the bar space to remove the document from the screen in order that a new one may be begun

XCHANGE  
TRAINING COURSE

Issue 1

QUILL  
\*\*\*\*\*

Exercise 1

Today's date

Mr T H N Ross  
Town Clerk  
Huddersfield Town Hall  
HUDDERSFIELD

— 'bold' typeface please

Dear Mr Ross

Thank you for your letter of (insert suitable date).

We shall be pleased to receive your party at this office on Tuesday, (insert date) at 1430 hours. Will you please assemble at Entrance 3, where you will be met by our Mr Johnson who will show your party around the Meteorological Office.

After tea time your guests may wish to see the Library. It is normally necessary to give the Librarian four days' notice so please telephone my secretary, Miss S Bracken, as soon as possible.

We have arranged for a French Translator to accompany your party in order that your visit may be really worthwhile and interesting.

Yours sincerely

D J Clark  
Principal Meteorological Officer

— 'bold' typeface please

QUILL  
\*\*\*\*\*

Exercise 2

- a Recall, using Load Command, the document saved in Exercise 1
- b Amend as indicated in the handout
- c Re-save the document and 'Overwrite' the original
- d Freeze the Task (f6)

QUILL  
\*\*\*\*\*

Exercise 2

Today's date

Mr T H N Ross  
Town Clerk  
Huddersfield Town Hall  
HUDDERSFIELD

— remove bold

first  
line:  
indent  
para's  
by 5  
spaces

Dear Mr Ross

insert lines & type a heading  
'Visit to Meteorological Office' in caps.

Thank you for your letter of (insert suitable date).

We shall be pleased to receive your party at this office  
on Tuesday, (insert date) at 1430 hours. Will you please  
assemble at Entrance 3, where you will be met by our  
Mr Johnson who will show your party around the  
Meteorological Office.

alter to 1330

After tea time your guests may wish to see the Library.  
It is normally necessary to give the Librarian four days'  
notice so please telephone my secretary ~~Miss S Dracken~~  
as soon as possible.

delete

use  
'copy'  
command  
to alter  
the position  
of these  
paragraphs

We have arranged for a French Translator to accompany your  
party in order that your visit may be really worthwhile  
and interesting.

Yours sincerely

D J Clark  
Principal Meteorological Officer

underline please

**XCHANGE  
TRAINING COURSE**

**QUILL  
\*\*\*\*\***

**Exercise 3**

- a Recall the 'frozen' task
- b Use **Zap Command** to remove the document from the screen
- c Load the file **Document.doc** from the training cartridge provided
- d Amend as indicated on the handout
- e Print the document
- f Re-save to microdrive cartridge allocating a new file name
- g Use **Quit Command** to return to XChange Task Control

QUILL  
\*\*\*\*\*

Exercise 3

/ centre heading

OFFICE AUTOMATION DEDICATED WORD PROCESSOR

More and more businesses are discovering the value of a WP - the time and effort it saves, the super-clean results delivered.

The Quill WP is versatile, simple to use and offers many advanced facilities. The main advantage of a WP is the ease with which errors may be corrected. A WP does not print each letter as it is typed, instead it is displayed on screen so alterations may be made before committing the results to paper.

→ force a new paragraph

Using a WP, you will soon notice other advantages over a typewriter. There is no need to press a carriage return at the end of each line - this is done automatically, or re-type any document again as the sophisticated editing facilities take care of any amendments.

- ① Use Erase Command to delete the first paragraph
- ② Use Replace Command to alter WP to Word Processor throughout the document
- ③ Print the final paragraph in 'underline' typeface

**ABACUS  
THE XCHANGE SPREADSHEET**

ABACUS  
\*\*\*\*\*

What is Abacus?

Abacus is the XChange Electronic Spreadsheet.

It is an 'intelligent' electronic worksheet similar to a financial ledger sheet but vastly more powerful. It may be used for planning, budgeting, calculating or storing and presenting information - whether it be in the finance, engineering, management fields.

Information is represented on a tabulated grid, divided into 255 rows and 64 columns. The intersections of row/column form 16,000 cells in the grid. The spreadsheet is obviously far larger than the screen, so to accommodate this, the screen acts like a window, with the relevant part of the spreadsheet being viewed.

What are Abacus's major features?

Data, Text and Formulae Entry

Direct into cells or whole rows/columns with ranges automatically prompted by Abacus.

Rows, Columns and Cells

User defined names are given to rows, columns and cells - for example : January, February, Sales, Profits etc.

Grid Size

255 rows by 64 columns with 16,000 cells.

Accuracy

Upto 16 significant figures.



### Windows

Horizontal or vertical windowing with joint or individual scrolling.

### Input Line Editor

Providing cursor movement allowing insertion, deletion and recall of previous entry.

### Screen Formats

Automatic switch from 80 column to 40 column screens.

### Units

Integer, decimal, exponent, monetary (with symbols), positive and negative numbers or brackets.

### Transportation

Export of data to Quill, Easel and Archive. Import of data from Easel and Archive.

### Abacus : Screen Layout

Control Area - provides Options available:-

Help (f1), Prompts (f2), Command Selection (f7), XChange (f6)

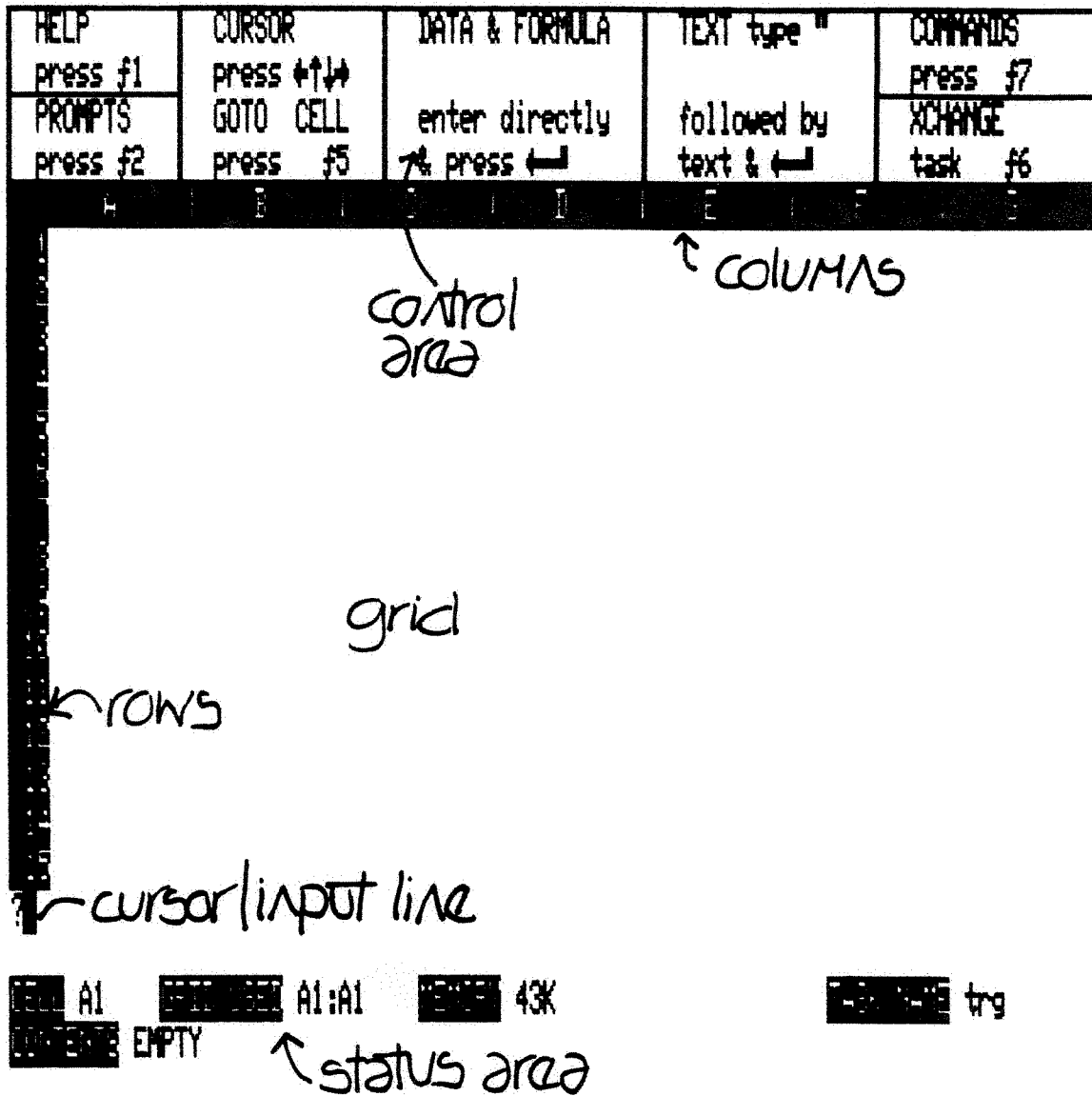
Cursor Keys - movement around the grid

GoTo (f5) - it may be necessary to move around the spreadsheet in large 'jumps' - for example, A1 to G19. The Goto function allows this facility - simply key f5, specify the cell to 'goto' and press the enter key

Text - any text must be preceded by " and followed by the text to be entered

### Display Area

Showing the empty grid. Each column is labelled with an alphabetic character, and each row is numbered. The Screen shows A to G and 1 to 15. Each cell is referenced by a combination of numbers and letters. The cursor is in A1, the very left hand corner of the spreadsheet.



### Status Area

Displays information about the current state of the grid:

- a) Cell reference of the current cell and its contents.
- b) Grid used. This is defined by the top left and bottom right cell of the used portion.
- c) Amount of memory remaining unused.

### Entering Information

Any information to be entered into the spreadsheet is entered on the 'input' line immediately below the spreadsheet window. On pressing return, this information is transferred to the current cursor cell.

Data or formulae can be entered directly into the spreadsheet. When typing text into the grid, the text must start with quotes - E.g "January.

### Functions

Abacus has a number of pre-defined functions, which are used to perform specific calculations on the contents of one or more cells. A function takes a number of values, known as **arguments** (upto 3) and from them calculates a specific result. The result is said to be the value that the function **returns**.

The brackets are a reminder that a function is being performed and allow functions and labels to be easily distinguishable should they have the same name.

### Formulae

A formula is any allowed combination of functions, cell references, labels and arithmetic operators. Formula is typed into a cell using the same principle as for numbers (move cursor to cell, type formula, press ENTER/RETURN key). A note of the formula used to calculate a particular cell value is shown in the Status Area when the cell is highlighted.

Command Notes

Copy Command

This command allows a range of cells to be copied from one area of the grid to another.

	Action/Key Stroke Command Required
a) Use the function keys to display the command options	f7
b) Choose the Copy Command	Type C (copy)
c) Specify the range of cells to be copied, or accept Abacus' suggestion	Type the range of cells (eg. A1:A15), press ENTER key
d) Type the cell reference of the area to which the cells are to be copied	Type cell number, press ENTER key

Echo Command

This command enables data or formula in a particular cell to be copied to all cells in a specified range.

	Action/Key Stroke Command Required
a) Use the function keys to display the command options	f7
b) Choose the Echo Command	Type E (echo)
c) Highlight the cell to be copied (should the cursor be in the correct position simply press enter key)	Cursor movement, press ENTER key
d) Type the range over which the cell contents are to be echoed or accept Abacus's suggestion	Type range, press ENTER key

Rubout Command

This command deletes the contents of a specified cell(s).

	Action/Key Stroke Command Required
a) Use the function keys to display the command options	f7
b) Choose the Rubout Command	Type R (rubout)
c) Specify the range of cells to be deleted	Type cell name (B6) or the range of cells (B6:B12), press ENTER key

Window Command

This command controls whether the display is a single window or split into two parts (horizontally or vertically) showing different portions of the grid.

	Action/Key Stroke Command Required
a) Use the function keys to highlight the command options	f7
b) Choose the Window Command	Type W (window)
c) Move the cursor to the position where the 'split' is to occur	Cursor movement
d) Select Horizontal or Vertical split	Type H or V
e) Select window movement (moving together or separately)	Together - press ENTER key  Separately - Type S
f) Join the window areas together	Enter Window Command, Type J

When the display is split the cursor may be moved from window to window by using f4.

### Grid Command

This command enables changes to be made to the columns and rows of a spreadsheet. The options are delete, insert, change width.

	Action/Key Stroke Command Required
a) Use the function keys to display the command options	f7
b) Choose the Grid Command	Type G (grid)
Abacus offers three options:	
<b>Insert</b>	
Insert empty rows or columns into a grid	Type I, followed by ENTER key to insert rows, or type C to insert columns
<b>Delete</b>	
Delete rows or columns from a grid	Type D followed by ENTER OR type C
<b>Width</b>	
Change the width of one of more columns	Type W, overtype the new width and press ENTER key

### Units Command

This command alters the way that numbers are displayed within a cell or range of cells. The following formats are available:- Integer, Decimal, Exponent, General, Monetary, and Percent

a) Choose the Units Command	Type U (units)
b) To use the command on existing cells or	Press ENTER key
c) To set the default format	Type D
d) In either b) or c) choose the format required	Type initial character of format - follow screen prompts for option selected
e) Specify grid range	Enter range

**XCHANGE  
TRAINING COURSE**

**Abacus Review**

**Try to answer the following questions:-**

- 1 Define a cell reference
- 2 How may text be typed into a spreadsheet?
- 3 How would you move quickly from cell to cell?
- 4 Give an example of the SUM function
- 5 How would you print a large spreadsheet?
- 6 When specifying a range of cells which symbol is used as the separator?

- a :
- b ;
- c \*
- d .

- 7 How would you perform the following functions:-

Add a column of figures  
Copy the figures across the spreadsheet  
Delete a row of figures  
Alter the width of a particular set of cells  
Change the numbers displayed into decimals

XCHANGE  
TRAINING COURSE

Issue 1

ABACUS  
\*\*\*\*\*

Exercise 1

- a Create a spreadsheet "Totals" from the details below:

NAME	PROSPECT	EXISTING	NONSALES	TOTAL	AVE CALL RATE
I Anderson	130	68	2		
G Dewhurst	97	100	15		
L Rogers	80	76	23		
C Ford	104	120	-		
P Clough	85	117	41		
B Dunbar	121	94	32		

TOTALS

- b The spreadsheet should calculate individual totals and Regional Totals. There were 20 working days in the month. All figures should be to 1 decimal place.
- c Print the spreadsheet and save into memory



XCHANGE  
TRAINING COURSE

Issue 1

ABACUS  
\*\*\*\*\*

Exercise 2

- a Create a spreadsheet called expenses.
- b Compile this from the figures listed below:

NAME	MOTOR	ENTER TRAINING	TOLLS	LUNCHES	POSTAGE	LESS PRIVATE MILEAGE	TOTAL DUE
I Anderson	23.04	15.90	5.80	40.00	7.12	8.50	
G Dewhurst	12.04	34.60	3.90	40.00	4.90	12.30	
L Rogers	30.66	12.50	5.40	30.00	4.80	4.00	
C Ford	12.50	30.00	4.60	40.00	3.70	5.70	
P Clough	35.12	4.80	1.90	35.00	6.00	5.00	
B Dunbar	22.60	10.00	2.00	20.00	4.70	6.40	
TOTALS							

n.b. Spreadsheet should total, by salesman the expenses due, DEDUCTING private mileage claimed to give the total due. This should be in monetary format.

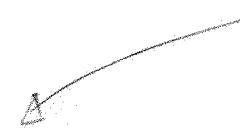
Range  
AVE (B3: B8)  
MAX  
MIN  
SUM

ABACUS  
\*\*\*\*\*

Exercise 3

- a Create a spreadsheet called "Targets", from the details below which should calculate the percentage achievements and totals, to whole numbers only.

NAME	SALES	TARGETS	%ACHIEVEMENT
I Anderson	4500	4400	
G Dewhurst	3900	3750	
L Rogers	3750	4000	
C Ford	4100	3800	
P Clough	4500	4600	
B Dunbar	3800	3700	

 Refers an echo  
back to original cell  
F3/\$F6

**EASEL  
THE XCHANGE BUSINESS GRAPHICS PACKAGE**

EASEL  
\*\*\*\*\*

What is Easel?

Easel is the XChange Business Graphics Package.

Easel makes it easy to present statistics impressively for reports etc. It can produce many variations of bar, line or pie graphs.

The operator simply keys in the values against a particular month, for instance, and Easel automatically calculates the scale. It is possible to view various sets of figures on the same graph as Easel will compare these, showing different highlighting and providing a key to the graph.

What are Easel's major features?

Design

Text, bars, lines, graph paper can be chosen from the defaults available or designed in detail by the user.

On-screen entry of data with multiple representation on one chart.

Bar and line graph combinations.

Vertical or horizontal orientation.

Text

Easy movement of text with automatic insertion of key and labels. Automatic scaling and rescaling of axis.

Formulae and Data Processing

Full range of mathematical functions.

Transportation

Export and import of data from Abacus and Archive.

### Easel : Screen Layout

Control Area - provides Options available:-

Help (f1), Prompts (f2), Command Selection (f7), XChange (f6)

Numbers - use the tab key to select column, then type number

Crosswires - movement using the cursor keys

Formulae - enter directly at cursor point

Text - any text must be preceded by " and followed by the text to be entered

### **Display Area**

Showing the empty bar graph. Each axis is labelled and the original axis range is 0-10. The graph is marked with a grid of vertical and horizontal lines known as cells. Each cell marks the position where one value of a set of figures is to be plotted. Easel automatically provides cell labels of the months of the year.

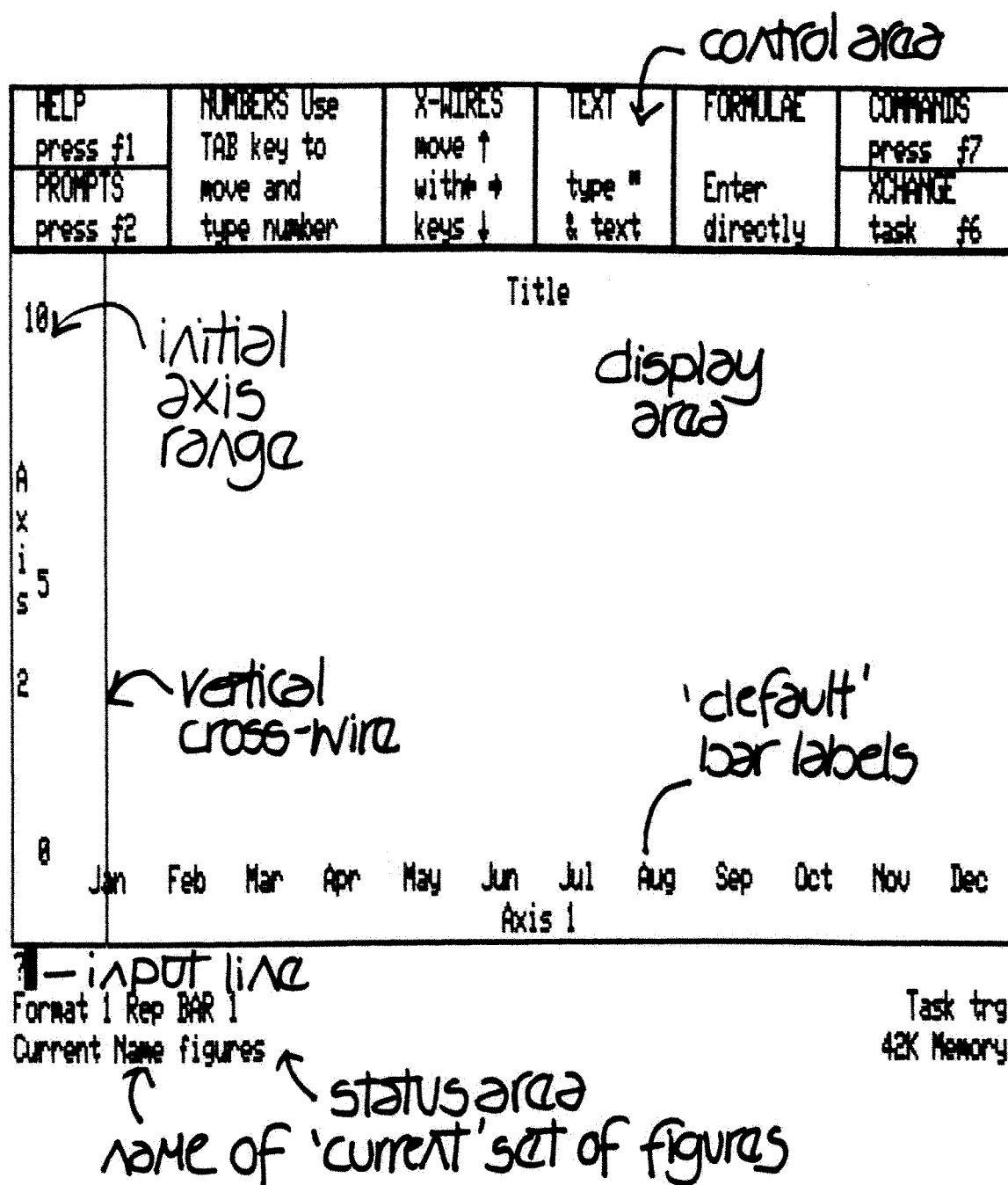
### **Status Area**

Displays information about the current state of the graph:

- a) Format used - which display of bar, line or pie - upto to eight options available.
- b) Current name allocated to a set of figures. The default is 'figures'.
- c) Style - that is bar, line or pie.
- d) Amount of memory remaining unused, and any error messages.

### Crosswires

The cursor keys move the horizontal and vertical axis. Any point on the display may be indicated by moving the crosswires. In addition, the vertical crosswire marks the position on the graph where a number is plotted.



### Text

Text may be added by typing a double, " , or single, ' , quotation mark as the first character. The text will be written in the display at the intersection of the crosswires.

Easel recognises three types of text:-

**Ordinary** - all text except axis and cell label names. It is always printed over the top of the graph.

**Axis Names** - these appear on bar and line graphs only.

**Cell Labels** - the default labels are January-December - these may be altered.

The **Edit Command** is used to amend text; specifying whether text, axis, labels or the key is to be altered.

### Numbers

These are placed directly into the graph. The vertical axis will automatically rescale to the highest value input.

### Formulae

A formula may be used to create a new set of figures. For example, Profits=Sales-Costs will produce profit figures from the sales and costs values.

### Inserting and Deleting Values

To insert a new value to the right of the one marked by the vertical crosswire, simply press function key f5 to open up a new cell. This cell will not automatically be given a label name.

Position the vertical crosswire on the number to erase and use the function key f4.

Newdata Command

Used to create a new set of figures.

	Action/Key Stroke Command Required
a) Use the function keys to display the command options	f7
b) Choose the Newdata Command	Type N (newdata)
c) Type the name of the new set of figures	Name and press ENTER
d) A blank graph appears	

Olddata Command

Allows an existing set of figures to become the 'current' set.

a) Use the function keys to display the command options	f7
b) Choose the Olddata Command	Type O (olddata)
c) Type the name of the old set of figures	Name and press ENTER
d) The required set of figures appears	

View Command

Redisplaying the graph showing all sets of figures.

a) Use the function keys to display the command options	f7
b) Choose the View Command	Type V (view)
c) Accept all figures prompt or choose those required	ENTER or type list of figures separated by comma's



### Command Notes

#### Change Command

This command allows modification of the appearance of a graph. The following options apply:-

Axis - changing : axis colour, line, label colour, axis limits

Bar - changing bar styles. Choice of 16 types

Format - redefine the appearance of the total graph

Graph Paper - select from 7 different types

Line - 16 different line styles

Segment - colour of a pie chart segment

Text - colour and direction of text

#### Edit Command

This command enables the operator to modify the following:-

Axis names, the key, the labels, and text

#### Highlight Command

Allows a specific value in a graph to be highlighted. For example the best set of figures.

#### Rename Command

Allocating an entirely new name to a set of figures.

#### Combining Bar and Line Graphs

To combine different designs, enter the first set of figures in the usual bar format. Select the Newdata Command and enter a second set of figures. Use the Change Command to alter the second (current) set of figures into a Line Graph. Use View Command to display the bar and line graph on screen.

**XCHANGE  
TRAINING COURSE**

**Easel Review**

Circle or tick the most applicable answer(s):-

- 1 What is a crosswire?
  - a a vertical or horizontal line marking the position in a graph where a number is to be plotted
  - b a line drawn across the screen by the operator
  - c a way of entering text into a graph
  - d a line editor
  
- 2 Text is added to a graph by using the following symbol(s):-
  - a '
  - b =
  - c "
  - d ,
  
- 3 Pie Charts cannot display:-
  - a a key
  - b label names
  - c negative figures
  - d more than one set of figures
  
- 4 The following are examples of formula - true or false:-
  - a Profits=Sales-Costs
  - b A:2-4 = B:2-6
  - c figures=figures+2
  - d a=cell
  
- 5 Is it possible to have a combined line and bar graph?
  - a yes
  - b no

- 6 When would a key appear on a graph?
- a all the time
  - b only on a pie chart
  - c when several sets of figures are viewed at one time
  - d when using a formula
- 7 The Change Command allows the following to be altered:-
- a printing
  - b bar design
  - c line design
  - d text colouring
  - e a line graph to a bar chart
- 8 A graph format may be altered. How many styles/formats are available:-
- a 2
  - b 7
  - c 8
  - d 10
- 9 May the Axis and Graph Paper styles be altered - if so name the command used?
- a yes
  - b no
  - c only the graph paper
  - d only the axis

EASEL  
\*\*\*\*\*

Exercise 1

a Open an Easel Task

b Enter the Sales figures as follows:

January	20	May	25	September	26
February	22	June	24	October	21
March	21	July	27	November	19
April	23	August	28	December	20

c Change the bar Design to one of your choice

d Edit the Axis names to read :

Vertical - Thousands  
Horizontal - Months

e Title the graph SALES and centralise

f Highlight the month with the highest Sales figures

g Use a formula to increase the figures by 10  
(figures=figures+10)

h Save the graph to memory, naming it SALES

i Use the Zap Command to clear the screen

EASEL  
\*\*\*\*\*

Exercise 2

- a Load the file named SALES
- b Enter a further (new) set of figures named COSTS  
Cost figures as follows:

January	19	May	24	September	28
February	23	June	25	October	20
March	22	July	28	November	16
April	22	August	30	December	21
- c View the figures in Format 1
- d Change the format of the graph to Format 3
- e Edit the key position
- f Save to microdrive cartridge allocating a name of your choice
- g Use the Zap Command to clear the screen

EASEL  
\*\*\*\*\*

Exercise 3

- a Open an Easel task
- b Load the file SALES
- c Using the relevant commands, design your own bar chart, following the screen prompts
- d Enter the new set of figures called TARGETS

January	32	May	22	September	26
February	30	June	33	October	19
March	26	July	29	November	18
April	25	August	28	December	21

- e Change the new figures into a line graph (option 10)
- f View the two sets of figures

**ARCHIVE  
THE XCHANGE DATABASE**

ARCHIVE  
\*\*\*\*\*

What is Archive?

Archive is the XChange Database Package.

It is an intelligent database which means it can store any kind of information, in whatever format you choose. This information can be retrieved in the same format as it was input, or different formats.

Archive acts as an electronic filing system, so can search all the records automatically. It can be used initially as a simple record card index system, and then progressed to a full multi-file relational database.

File information may be sorted, ordered, selected etc very quickly. There is also a screen layout facility for the user to design the layout of a file.

What are Archive's major features?

Files have a true multifile capability.

The syntax used is similar to that of the BASIC Programming Language.

Rapid sorting of large files.

Comprehensive text and database functions.

Writing Screen Procedures and Screen Layouts.

Writing of programs using Archive's database language.

Export of information to Abacus, Easel and Quill. Import of information from Abacus and Easel.



XCHANGE  
TRAINING COURSE

## ARCHIVE

HELP	COMMANDS	create	look	open	close	COMMANDS
press f1	delete	display	back	alter	find	press f7
PROMPTS	first	insert	last	next	quit	XCHANGE
press f2	type command & press	←	(f7 for more)			task ↑f6

→ archive  
COMMANDS control  
area

Application/Display Area

→ status  
prompt

Command Notes

Creating a File

Before creating a new file the information it is to contain should be decided upon.

Create Command

	Action/Key Stroke Command Required
a) Choose the Create Command	Type create
b) Type the name of the program and allocate a logical name	Type name
c) Type a list of the field names ending with \$ if the field is to hold text	Names, followed by \$
d) After the last field end the creation	Type Endcreate

Insert Command

When a file is created it is stored to memory and may be both read and written to. Records are added to the file using the Insert Command. Archive will provide the logical file name automatically.

	Action/Key Stroke Command Required
a) Choose the Insert Command	Type Insert
b) Select the field in which to insert data	Tab or Enter Key, followed by typed information
c) When the contents of the final field are completed	Press Enter or f5 to add a new record to the file

### Closing a File

Use the Close Command to close a data file. If any changes are made it is the close command that alters the records on the file.

### Opening a File

There are two commands which can be used to open a file.

Look - The look command opens a file so that it can be read, but not written to.

Open - The open command allows a file to be read and written to.

### Displaying Records

To show the first record, type DISPLAY FIRST

NEXT, BACK and LAST are also commands which can be used to display records.

### Searching a File

There are several commands to examine a record file. As some of these commands search the file from the first record it is a good idea to commence the search from this point.

FIND - Searches a file, from the beginning, to find the first occurrence of a specified string of text. Eg. find "Leeds"

Find does not differentiate between upper and lower case.

CONTINUE - If the first record found containing the text is not the one required, by typing CONTINUE, the command is repeated and the next occurrence of the text is presented.

SEARCH - This finds a particular record by one or more specific fields :

search name\$="BT" and town\$="Leeds"

finds the first record in the file which matches both conditions. Search distinguishes between text in capital and small letters.

Select - The select command can be used to pick out from the file all records which satisfy a certain condition. This distinguishes between upper and lower case.

The file then behaves as though only those selected records are present. To restore the file to its original state use the RESET command.

### Sorting a File

Records may be sorted by the contents of a field, whether alpha or numeric. The first eight characters of text are taken into consideration. Sorting is done using the ORDER command. E.g.

Order surname\$a

would sort the records, by surname into ascending order.

("D" would sort into descending order). Up to four sort keys can be specified.

### Modifying a File

Files can be modified using the following commands:

Insert - To insert a record.

Append - As insert.

Delete - To remove a record from a file, use Delete, which will remove the current record.

Alter - Select the record to be altered. Use ALTER and amend the field to be altered.

Update - Select the record first, and type UPDATE. Use the LET command to change the information and change the record by using update again.

### Screen Layouts

Screen layouts can be defined by the user. This allows the user to choose how the information in the record file is presented. The Edit command is used to do this.

### Procedures

An Archive program is made up of one or more separate sections, known as procedures - a named section of a program.

A procedure can be run by typing its name.

**XCHANGE  
TRAINING COURSE**

**Archive Review**

Circle or tick the most applicable answer(s):-

**1 A database is:-**

- a an electronic financial summary sheet
- b an organised and integrated collection of information
- c a stored paragraph
- d a graphical representation

**2 Which command begins a new database?**

- a load command
- b open command
- c create command
- d look command

**3 How would you access an Archive Command:-**

- a use f7, and type the command name in full
- b use f5, and type the command name in capitals
- c use f7, and select the command by its initial
- d use f7, and highlight the command required on screen

**4 An Archive File consists of:-**

- a records and fields, similar to a card index system
- b rows and columns of information within a grid
- c a dictionary/spelling facility
- d a directory of telephone numbers

**5 Which is the odd command - why, and what do all the others enable an operator to do:-**

- a insert
- b delete
- c alter
- d append
- e update
- f quit

XCHANGE  
TRAINING COURSE

Archive Review

6 When creating a database, text fields are defined by the following symbol:-

- a £
- b #
- c \$
- d &

7 The following commands allow searches for specific data to be made:-

- a find
- b look
- c search
- d display
- e select

8 Files may be allocated two types of name:-

- a current and physical
- b activating and recording
- c clear and precise
- d logical and physical

9 The following are advanced functions in Archive - true or false?

- a writing procedures
- b screen layouts
- c programming in Archive
- d a mailing list

ARCHIVE  
\*\*\*\*\*

Exercise 1

a Create a file called 'Details'

b Open the following fields:

Surname\$  
Forename\$  
Address1\$  
Address2\$  
Town\$  
Salary

c When all field names have been completed, endcreate

d Input field information provided:

Surname\$ Rogers  
Forename\$ Len  
Address1\$ 36 Yew Tree Lane  
Address2\$ North End  
Town\$ Manchester  
Salary 9500

Surname\$ Dunbar  
Forename\$ Barrie  
Address1\$ 15 Green Lane  
Address2\$ Halsall  
Town\$ Nottingham  
Salary 11000

Surname\$ Anderson  
Forename\$ Iain  
Address1\$ 40 The Hedgrow  
Address2\$ Halkyn  
Town\$ Holywell  
Salary 9500

Surname\$ Dewhurst  
Forename\$ Graham  
Address1\$ 6 Town Green  
Address2\$ Euxton  
Town\$ Chorley  
Salary 10500

e Close the file



ARCHIVE  
\*\*\*\*\*

Exercise 2

- a Load the file 'Personal' from the training cartridge
- b Display the first record
- c Display the next and last records
- d Amend all the records with salesmen earning £9500 to £10500
- e Delete two records of your choice
- f Insert the following three records:

Surname\$	Porter	Surname\$	Wood
Forename\$	Robert	Forename\$	Brian
Address1\$	34 Washway Road	Address1\$	The Willows
Address2\$	Altrincham	Address2\$	Holyrood
Town\$	Manchester	Town\$	Edinburgh
Salary	10500	Salary	11000

Surname\$	Smith
Forename\$	Alec
Address1\$	3 The Hills
Address2\$	West End Road
Town\$	Leeds
Salary	13000

ARCHIVE  
\*\*\*\*\*

Exercise 3

Using the file 'Personal':-

- a Use the Find Command to locate the first occurrence of the word - Edinburgh
- b Continue the 'find' to locate other records containing Edinburgh
- c Use the Search Command to find the files matching the following conditions:
  - Address2\$ Altrincham and Town\$ Manchester
- d Continue the search for further occurrences
- e Use the Order Command to sort the file alphabetically by Surname
- e Use the Select Command to 'pick out' only those records which match the condition:
  - Town\$ Leeds
- f Close the file

**FILE TRANSFER**

### File Transfer

The transfer of information between the four Xchange application packages involves an EXPORT (saving) operation and an IMPORT (loading) operation.

Using the Xchange command from the Xchange Menu (f6) is the simplest method. It guides the operator through the operation of exporting information from one task and then importing it to another.

Import and Export can also be undertaken directly from the application being used at the time:

For Abacus and Easel they are options of the (F)iles command and in Archive they are separate commands. It is not possible to export from Quill, but it is possible to import into it.

**XCHANGE  
TRAINING COURSE****XChange Notes**

	<b>Key Stroke Required</b>
a) Ensure the task from which the export is to take place is OPEN	Check open task XChange Task Control
b) Open the Quill task to which the import is to occur	Open Quill task, and place cursor at 'import' position
c) Return to Task Control	f6
d) Effect XChange	f6 - Task Control
e) Prompt 'XChange from'	Highlight the source (export task) using the cursor keys or space bar, press ENTER
f) Prompt 'to'	Highlight the destination (import task), press ENTER
g) XChange will now take place	

**Note:** Follow any other instructions which may be given during the process of transfer. For example, the range of cells to be transferred from Abacus etc.

Any Transferred File will assume the extension .EXP

FILE TRANSFER  
\*\*\*\*\*

Exercise 1 - Abacus to Quill

- a Open a New Quill Task  
Type the following :-
- b Listed below are the performance against target figures relating to the Chester, Wrexham, Leeds and Liverpool branches:-
- c Place the cursor on a free line at the margin setting
- d Leave the task open - f6 XChange - and return to the Task Control Menu
- e Open a New Abacus Task
- f Use the LOAD Command to load the spreadsheet prepared in Abacus, Exercise 2
- g Leave the task open - f6 XChange - and return to the Task Control Menu
- h Select the XChange option, press f6
- i Transfer the entire Abacus Spreadsheet into the 'opened' Quill Task, using the screen prompts for guidance
- j Select either to save or quit the resulting Quill document

FILE TRANSFER  
\*\*\*\*\*

Exercise 2 - Archive to Quill

- a Open a New Quill Task
- b Type the following :-  
  
The following Salesmen are currently employed in the  
Northern Territory:-
- c Place the cursor on a free line at the margin setting
- d Leave the task open - f6 XChange - and return to the  
Task Control Menu
- e Check that the Archive File 'Details' is 'open'
- f Select the XChange option, press f6
- g Transfer the entire file 'Details' into the 'opened'  
Quill Task, using the screen prompts for guidance
- h Select either to save or quit the resulting Quill  
document

**XCHANGE  
TRAINING COURSE**

**FILE TRANSFER  
\*\*\*\*\***

**Exercise 3 - Abacus to Easel by Row**

- a Open a New Easel Task
- b Leave the task open - f6 XChange - and return to the Task Control Menu
- c Open a New Abacus Task
- d Use the LOAD Command to load the file named 'TRANSFER.ABA' from the training cartridge provided
- e Leave the task open - f6 XChange - and return to the Task Control Menu
- f Select the XChange option, press f6
- g Transfer the entire spreadsheet to the 'opened' Easel Task by row, using the screen prompts for guidance
- h Select either to Save or Quit the resulting Easel Graph

**Exercise 4 - Abacus to Easel by Column**

- a Using Exercise 3 as a guide, transfer the spreadsheet 'TRANSFER.ABA' to a new Easel Task by Column
- b Select either to Save or Quit the resulting Easel Graph
- c Compare the results of Exercises 3 and 4



File Transfer Review

Circle or tick the most applicable answer(s):-

- 1 Name the two methods of transferring files between the software packages
  - a files command
  - b save command
  - c xchange (f6)
  - d copy command
  
- 2 Which package is the odd one out and why?
  - a Quill - can't export
  - b Quill - can't import
  - c Archive - can't export
  - d Archive - can't import
  
- 3 Spreadsheets may be transferred by either:-
  - a word
  - b column
  - c row
  - d line
  
- 4 To exchange a specific part of a spreadsheet the following is defined:-
  - a the file name
  - b the appropriate grid references
  - c the task name
  - d copy command
  
- 5 Name the file extension given to transferred data:
  - a .tmp
  - b .lis
  - c .exp
  - d .xch