QuickFile

COLLABORATORS

	TITLE : QuickFile		
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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

QuickFile

1.1 Contents

                    QuickFile v3.1   14 September 1994 by Alan Wigginton

This program is not public domain, however it can be freely distributed
provided all documentation and sample files are included unchanged.
Please read the
                conditions of use
                 before proceeding.

  Contents

                Notices

                Conditions of Use

                Program Description

                Getting Started

                Main Window

                Gadgets

                Menus

                Defining Files

                Features

                Possible Problems

1.2 copyright

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this program. Users must evaluate the program and decide its usefulness
for their own purposes.

This version of the program is free, but please let me know if you find it
useful - a postcard would be great.

Donations of money, stamps, software etc will be gratefully accepted. If
you would like to register for updates, bug fixes and support, please send
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order or bank draft - not personal cheques. Any cash currency is OK, but
send it at your own risk.

    Alan Wigginton
    23 Carissa St
    Shailer Park, Queensland 4128.
    AUSTRALIA

I would appreciate any comments or suggestions

1.4 Program Description

                QuickFile is simple and flexible, flat file database. It uses
                random access
                with
                indexes
                 for fast access to records. Files can be larger than available
ram, but as much of the file as possible is kept in ram to reduce disk
accesses. Features include:

    - Multiple indexes with unique and non-unique keys
    - Character, date, integer, floating point and calculation data types
    - Up to 250 characters per field and 250 fields per record.

    - Form and list style displays and reports.
    - Unlimited number of views of each file.
    - Sort over any number of keys, ascending and descending order.
    - Search operators include Like, Equal, Between, Sounds Like, Not Like
      and Not Equal.
    - Fields can be added, changed, or deleted at any time.
    - Flexible export/import
    - Flexible multi column label printing.
    - Multi-level grouping and totalling
    - Any number of open windows
    - Online context-sensitive help

System Requirements

    Any Amiga computer with 512K or more RAM
    Workbench 2.04 or later
    mathieeesingtrans.library }
    mathieeedoubbas.library   }   Included with WB2
    mathieeedoubtrans.library }

QuickFile is written in C using DICE version 3.0.

1.5 Getting Started

                 WARNING. QuickFile is a random access data base that buffers ←
                    records in
   memory. Failure to exit the program properly after updates are
   made will result in lost updates.
ALWAYS   exit the program before a reboot or power off.
DO   backup your files regularly. When backing up a data base make
   sure you backup all of the files - definition, data and indexes.

To install QuickFile to a hard disk or floppy, drag the QuickFile icon to
the drawer of your choice. If you want to use the AmigaGuide help system,
drag the QuickFile.guide icon to the same directory. If you don't already
have AmigaGuide, you can install it by doubleclicking the InstallAmigaGuide
icon.

The current
                 view
                  determines format of the display, reports,
and exported or imported files.

The current
                 index
                  determines the sequence for displays and reports.

                 Sorting
                  and
                 Selecting
                  create temporary indexes.

Two demonstration databases are provided. Click on one of these icons to

start Quickfile and display the first record in the file.

It is a good idea to browse through this document to get a feel for the
program before trying to do too much.

I suggest that you place each database in a separate drawer (directory)
as a number of index and view files for different databases can be
confusing. This also makes it easy to backup the database by simply
dragging the drawer to a backup disk.

                    Starting QuickFile
                     Keyboard Control

1.6 Starting QuickFile

Starting from Workbench

QuickFile can be started from the WorkBench using the QuickFile icon or a
project icon for a data base.

If you start QuickFile from a project, the file is opened and the first
record is displayed.

If you start it from the program icon, the file requester is displayed for
you to select the file you want to open.

Icons are not generated by the program. Sorry, but if you want them you
will have to create them yourself.

Starting from the Shell or CLI"

To start QuickFile from the CLI, type the program name followed by a file
name (optional) as a parameter. For example

   QuickFile data:addressbook

If you include a filename, the file is opened and the first record is
displayed.

If you do not give a file name, a file requester is displayed for you to
select the file you want to open.

QuickFile opens a window on the default public screen. The window is just
slightly narrower and shorter than the screen size. The window size and
position are saved with each view.

1.7 Main Window

                    The Title Bar displays a status line containing the name of the ←
                       current

view, the name of the current index, the current record number and the
total number of records. Status and information messages are also
displayed here

A row of
                    buttons
                     is displayed across the top of the window to control
frequently used functions.

Remaining functions are accessed via
                    Menus
                        .

The vertical scroll bar moves from record to record through the file.

The horizontal scroll bar at the bottom is used to display additional
fields that do not fit in the window. This usage is the same for both
form and list displays.

You can also use the arrow keys to scroll:
   Down arrow   Next record
   Up arrow   Previous record
   Shift-down arrow   Next page
   Shift-up arrow   Previous page

 Keyboard Controls
                    Form Display

                    List Display

1.8 indexes

QuickFile uses indexes to sequence the records and to provide rapid access
by key field value.

Each data base must have at least one index, but you can have any number.
Indexes are automatically maintained as you add, change and delete
records.

If you make an index unique, QuickFile will stop you from creating
duplicate entries.

The current index name is displayed in the title line. If other indexes
are available you can choose them with Indexes item on the View menu.

Indexing has some overheads, but with QuickFile these are quite small. The
downside is that its capacity is limited to relatively small files (like
10,000 to 20,000 records).

1.9 random

Random access means locating a record directly, using its offset from the
start of the file, instead of reading sequentially through the file record
by record until you find the one you want.

This means you don't have to read and write all of the file if you only
want to update one record.

Random access is generally only a useful technique when combined with
indexing. Without indexing you have to supply the number of the record you
want, which isn't particularly useful.

1.10 About Views

                   Views allow you to display data from a file in different ways. ←
                      There are
two basic types
                   FORM
                    and
                   LIST
                      .

Each view has its own field titles, positions and lengths, window size and
report details. Once you have a view set out the way you want it, you can
save it for future use.

The
                   Define View
                    requester is used to select or change the fields included
in a view. The positions of fields on a form can be changed by dragging
them around with the mouse.

When you open a file, QuickFile looks for a view called filename.VIEW.
If this isn't found, it uses its standard layout. To use your favourite
view automatically, save it as filename.VIEW in the same directory as the
data base. A View is only saved if you explicitly save it, otherwise any
changes to a view will be lost when you exit the program.

If you want to keep things simple and are happy with the default view, you
need not define a view at all.

Views are typically used to print labels, export or import selected fields
or print lists containing only selected fields.

1.11 Keyboard Control

    RETURN   Same as OK button
    ESC   Same as CANCEL button
    HELP   Displays help text using AmigaGuide.

Other keyboard shortcuts for gadgets are identified by an underlined
character. For cycle gadgets, pressing the key cycles forward, pressing

the shifted key cycles backward.

NOTE: These will not work if the cursor is in a string gadget. Press
RETURN to deactivate the string gadget then press the required key.

The following keys can be used in string gadgets:

    TAB   Move to next field
    Shift-TAB   Move to previous field
    Down arrow   Move to next field
    Up arrow   Move to previous field
    RETURN   De-activate string gadget
    right Amiga-X   Erase all text in the gadget (as does Control-X)
    right Amiga-Q   Restores the text that was present before you
        changed it.
    Shift-left arrow   Moves the cursor to the beginning of the field.
    Shift-right arrow Moves the cursor to the end of the field.
    Shift-Del   Erases all characters from the cursor to the end of
        the gadget.
    Shift-Backspace   Erases all characters to the left of the cursor.

1.12 Form Display

The FORM DISPLAY shows a single record per screen in the format specified
by the current view.

This can display all details for a record. If there are more fields in the
view than will fit in the window, the horizontal slider can be used to
scroll the display.

The LIST button can be used to quickly change to a list display with the
current view.

Field positions can be changed by dragging fields around the window with
the mouse.

To add or delete fields, change field titles or displayed lengths, press
the VIEW button;

1.13 List Display

                The LIST display shows as many records as will fit in the window ←
                  with a
single line per record.

This allows you to display records in the context of the records before
and after it.

If the records are wider than the window, the horizontal slider can be
used to scroll left or right.

To update a record, double click on it with the left mouse button

Before using the Modify or Delete buttons, select a record using a single
press of the left mouse button.

If You use the
               Modify button
                without a record selected, the first
record on the screen will be displayed for modification.

If you use the
               Delete button
                without selecting a record, you will get an
error message.

1.14 Main Window Gadgets

               Main Window Gadgets

          GoTo Button
               Go to a record by key

          Insert Button
               Insert a new record into the file

          Modify Button
               Modify a record

          Delete Button
               Delete a record

          Form/List Button
               Toggle between list and form

          View Button
               Change view details

          Sliders
               Scroll through records

1.15 QuickFile Menu Commands

                 Project Menu

               Open
                Open a new file in a new window
      Load   Open a new file replacing the current file

               Save
                Save changes to the file

```
                Close
                 Close the file and window

                SaveAs
                 Create a new file from the current file

                New
                 Define a new file

                Alter
                 Alter the current file definition

                Import
                 Import records from a text file

                Export
                 Export records to a text file

                Reorganise
                 Optimise the file

    View Menu

                Views
                 Display list of loaded views

                New
                 Create a new view

                Load
                 Load a view from disk

                Save
                 Save changes to a view

                SaveAs
                 Rename and save a view

                Reset Form
                 Set view back to default layout

    Order Menu

                Indexes
                 Display list of indexes

                Sort
                 Sort file into a new sequence
        Show Sorted    Display file in sorted sequence

                Rebuild Index
                 Rebuild current index

    Selection Menu

                Select
                 Create a subset of records
```

```
            Show Selected
             Display selected records

            Show All
             Display all records

  Print Menu

            Print Displayed Records

            Print Current Index
             Options Menu

            About

            Buffers
```

1.16 features

```
            Block Size

            Insert Record

            Buffers

            Keyboard usage
              Control Breaks
            Label Printing

            Defining Files

            Modify Record

            Delete record

            Program Limits

            Export

            Printing

            Field Types

            Report Groups

            File Types

            Selecting

            GoTo Record

            Sorting
```

Import

Summaries

Indexes, About

Views, About

Index, Define

View, Define

1.17 Block Size

QuickFile reads and writes data in fixed size blocks. Each block contains
a number of records, the number depending on the block size and the size
of each record. This improves performance as fewer reads and writes are
required. Free space is also left in each block to allow records in the
block to expand without having to move them on disk.

Block size is specified when a file is defined and cannot be changed.
Block size must be larger than maximum record size, but is not otherwise
critical. Typical values are in the range of 1000 to 4000 bytes.

1.18 buffers

A buffer is a chunk of ram used to hold a block of records. ←
QuickFile will
try to keep as many blocks in ram as possible to reduce disk accesses.
Performance is much better, particularly with floppies, if records can be
held in ram rather than having to be read from disk.

You can specify the maximum number of buffers to be used for a file when
you define it . You can override the number temporarily by selecting the

Buffers
item from the options menu.

Generally you should try to have the whole file in memory. Limit the
number of buffers if memory is limited or you want to reserve it for
another application.

Buffering combines the speed of a memory based database with the capacity
of a random access.

1.19 Go To Requester

                        GoTo finds a record by key value using the current
                        index
                        . This gives
fast access to any record, even on large files.

Only The key fields for the current index are displayed.

You only need to enter enough of the key to identify the record you want,
but you must start at the beginning of the key – if you enter only the
second key field, you will go to the start of the file.

If the key you enter does not exist, the following record is displayed.
You can enter "SM" to position on the record for SMITH, which will be
followed by SMITHERS, SMITHFIELD etc.

1.20   Insert a Record

Pressing the INSERT button displays a blank form for you to enter values
for a new record.

Press the Copy button to copy the contents of the last record displayed
or added. This is useful if you are entering records with similar values
in some fields of each record. Warning – it replaces anything you have
keyed.

Press Insert (or RETURN) to store the details and clear the fields ready
for the next record.

Press Cancel (or ESC) to return to Browse mode. NB When Cancel is pressed
any values displayed on the screen will be lost. Press Insert to insert
the record, then Cancel.

You cannot insert a record that is completely blank.

The vertical scroll gadget is disabled while you are in insert mode.

The horizontal scroll gadget can be used to scroll the display and access
fields that do not fit in the window.

1.21   Modify a Record

Pressing the MODIFY button displays the current record for you to make
changes.

Press the Update button (or RETURN) to store the changes.

Press the Cancel button (or ESC) to keep the current values.

The vertical scroll gadget is disabled while you are in update mode.

The horizontal scroll gadget can be used to scroll the display and access

fields that do not fit in the window.

A change that would cause a unique index to have duplicate entries is not
allowed.

1.22   Delete the Current Record

Pressing the DELETE button displays a requester asking you to confirm the
deletion.

Press OK (or RETURN) to delete the record.

Press Cancel (or CANCEL) if you really want to keep it.

Once the record has been deleted you cannot get it back.

1.23   Form/List Button

This will toggle the current view between FORM and LIST formats.

This is the same as selecting Views from the View menu, pressing the Alter
button and changing the View type.

Note that changes made in one mode will affect the other mode also. You
may be better off creating another view.

1.24   Alter View

                 Pressing the VIEW button displays the
                 Define View
                  requester showing
the current view ready for your changes.

This is a shortcut for selecting the View menu item, selecting a view and
pressing the Alter button.

1.25   Scrolling

Scrolling is controlled by two slider type gadgets.

Vertical Slider

   This controls movement through the file and works in the usual way.
   Press the arrows to move one record at a time.
   Click in the box to move one page at a time - for the form display this
   is also one record at a time.

Drag the knob to move as far as you like.

Scrolling may also be done using the up and down arrow keys for a
single record, or the shifted keys for a full screen.

Horizontal Slider

If there are more fields than will fit in the current window, this
can be used to display the next group of fields. This works the same as
the vertical slider except that there are no arrows.

1.26   Open a New File

OPEN opens a new file in a new window.

LOAD opens a new file that replaces the file in the current window.

A file requester for you to select the file to process. The
rather complex pattern in the requester hides index, data, and .info
files.

1.27   Save Changes to a File

Selecting the SAVE menu item writes all updated blocks and indexes to disk.
You should use this periodically during a long update session.

1.28   Close the Current Window

Selecting the CLOSE menu item writes all updated records and indexes to
disk and closes the file and window.

Closing the last window will exit the program.

You will asked to confirm that you really do want to close the file.

If you have altered any views, a requester will be displayed for each
changed view to allow you to save them.

1.29   Create a new file from the current file

Selecting the SAVE AS menu item creates a new file from the currently open
file. If the current index is a selection, only the selected records are
written to the new file.

A file requester is displayed for you to enter the new file name. It is
best to create this in a different drawer.

The new file is reorganised as it is written. Indexes for the new file are
not created – they will be built when you first open the new file.

When the file has been created, a requester is displayed to ask if you want
to open the newly created file or continue with the file currently open.

1.30   Reorganise a file

This reorganises a file by creating a new optimised version and then
copying that version over the main file.

Reorganising is not essential, but if you have been doing many additions
and deletions, it may reduce file size and will improve performance.

During reorganisation free space is adjusted to the value specified in
the file definition and records are physically stored in the sequence of
the active key. Select your most used key sequence before reorganising to
optimise access with that key.

You cannot reorganise if you are displaying a selection.

The file requester will be displayed for you to enter a name for the work
file required. This should be in a different drawer to the main file. It
is not automatically deleted and may be kept as a back up if you like.

After the copy is created, a requester is displayed to ensure that you
want to replace your existing file with the reorganised copy.

1.31   Select an Index

Choosing the INDEXES menu item displays a requester showing a list of
indexes for you to choose from. If you have performed a sort or selection,
the list will include "Selected" and/or "Sorted".

Double click on an index to use it, or click once to select it.

When you change indexes, the same record is displayed but the file will be
in a new sequence. e.g. You can use this to find a book by a particular
author, then select the subject index to list all other books on the same
subject.

Pressing the Close Button will remove a "Sort" or "Selection" from memory
and free the space used. To remove any permanent index alter the file
definition.

1.32   Select a View

                       Selecting the VIEWS menu item displays a requester showing a list ←
                           of
currently loaded views for you to choose from. If you have not created or

loaded any views, you will have a single view called filename.VIEW.

Double click on a view to use it, or click once to select it.

Press the Alter button to bring up the
                Define View Requester
                to change the view.

Press the Close button to drop the selected view. You cannot close all
views – you must have at least one loaded.

1.33   Create a New View

                Selecting the NEW VIEW menu item creates a new view called ' ←
                    unnamed' and
displays it in the
                Define View
                 requester.

1.34   Load View

LOAD VIEW

Selecting the LOAD VIEW menu item brings up a file requester for you to
select a view to load. Only filenames ending in ".view" are displayed.
Clear the pattern gadget in the file requester to display all files.

When you load a view, it becomes the current view and the display will
change accordingly.

If fields in the view cannot be located in the file definition, they will
be dropped, and a requester displayed to warn you. This will happen if you
delete fields from, or change field names in the file definition.

The fields in the view and the file definition are associated by name. If
you load a view from another file, it will display only those fields that
are the same in both files.

1.35   Save View

SAVE

Saves changes made to an existing view. If the view has been newly created
a file requester will be displayed to confirm the name.

SAVE AS

Brings up a file requester for you to enter the file name for the view.

The current view name is displayed as a default.

The default view for a file is named filename.VIEW, but a view can have
any name. It is suggested that the .view suffix be used for easy
identification.

It is recommended that you save views in the same drawer as the file
definition.

1.36   Reset field positions in form

This resets field positions for the current view to the default
positions, with the fields listed down the screen. Field sequence is
maintained and the list display is not affected.

This may be useful as a lot of adding and deleting of fields in a view
can cause large gaps, as fields are always added to the end of the
view.

1.37   Define View Requester

The view requester is used to define or change a view.

To create a new view, select NEW from the VIEW menu. The new view is given
the name "unnamed", which you can change.

To change an existing view, press the VIEW button, or select VIEWS from
the VIEW menu, highlight the view you want to change, then press the ALTER
button. You cannot change the name of an existing view – to do this use
the Save As menu item.

The Define View requester contains the following elements

Name
  Identifies the view. This can be changed for a new view, but is display
  only for an existing view.

Available Fields List
  Lists the fields in the current file. Clicking on a field will add it to
  the current view.

View Fields List
  Lists the fields in the current view. Clicking on a field in this list
  will select it and display its title and length below the list box.
  These can then be changed if required. The changes will only affect the
  current view.

  New fields will be added before the current selected field. To add
  fields to the end of the list, select the "== End ==" item.

Type Buttons
  Choose type of view – FORM or LIST.

Headings Check Box
  Field names are displayed if this is checked. This is normally only
  turned off for printing labels.

Field Title String Gadget
  This is the text gadget under the View Fields list. You can change the
  field title for this view only. For example you may want a short title
  for a short field on the list display while keeping the full name for
  the form display. The title can be blank. This gadget is disabled unless
  one of the View Fields is selected.

Length String Gadget
  Use this to reduce or increase the field display length for this view
  only. This can be useful for reducing field lengths on a list display to
  fit in more fields. It can also be used to print an initial instead of a
  first name on a mailing label. This gadget is disabled unless one of the
  View Fields is highlighted.

IMPORTANT NOTE: You must press TAB or RETURN after changing either the
  field name or length or your changes will be ignored.

Clear Button
  Deletes all fields from the View Fields list.

Delete Button
  Deletes the selected field from the View Fields list. No confirmation is
  asked – it is deleted immediately. This gadget is disabled unless one of
  the selected fields is highlighted.

OK Button
  Accepts the new or changed view.

Cancel
  Cancels any changes you have made.

1.38 Sort Requester

The Sort Requester is very similar to the index requester as a sort
effectively creates a temporary index that is updated automatically as you
add, delete and change records. The Sort index is discarded when the file
is closed, but until then you will not need to re-sort to place changed or
new records in the right sequence.

If you request a sort while displaying selected records, only the records
in the selection are sorted.

You can sort over as many fields as you like with a single sort.

The sort technique used requires that all sort keys be resident in memory,
so record buffers are freed to increase the memory available to the sort.
You will notice that disk activity increases after a sort as buffers are
reloaded. If you are short of memory, it may help to sort using less than
the full length of long fields.

```
Available Fields
  Lists the fields defined in this file. Clicking on a field will add it
  to the Sort Fields.

Index Fields
  Lists the fields to be used for the sort. The order of the fields
  in this box determines their priority in the sort. The first field is
  the primary key, the second will only be used for records where the
  first keys are equal and so on.

  Clicking on a field in this list will select it and display its name
  and length below the list box.

  New fields are inserted before the currently selected field. To add a
  field to the end of the list, select the "== End ==" entry.

Length
  Changing this length allows you to sort over part of a long field, to
  save memory and speed sorting

  IMPORTANT: YOU MUST PRESS TAB OR RETURN AFTER CHANGING A LENGTH OR
       YOUR CHANGES WILL BE IGNORED

Order
  Select A..Z for ascending sequence or Z..A for descending. You can mix
  these on different fields in the same index.

Clear Button
  Deletes all fields from the Index Field List

Delete
  Deletes the selected field from the Index Fields list. No confirmation
  is asked – it is deleted immediately.

OK Button
  Performs the sort

Cancel
  Cancels the sort and retains previous sort details.
```

1.39 Define Index Requester

```
              The Define Index requester is displayed when you are adding or  ←
                 changing an
index.

See

              About Indexes
               for general information on indexes.

Gadgets

Name
  Identifies the index and is used to form the file name for the index.
```

Unique CheckBox
  If checked, duplicate index entries will not be allowed.

Available Fields
  Lists fields defined in this file. Clicking on a field will add it to
  the fields selected for this index.

Index Fields
  Lists fields in the current index. The order of the fields in this box
  determines their priority in the sort. The first field is the primary
  key, the second will only be used for records where the first keys are
  equal and so on.

  Clicking on a field in this list will select it and display its name
  and length below the list box.

  If a field is highlighted, any new fields will be added before the
  highlighted field, otherwise new fields will be added at the end. To
  remove highlighting click in the blank part of the box.

Length
  Changing this length allows you to index on part of a long field. This
  reduces memory usage and may increase speed.

  IMPORTANT: YOU MUST PRESS TAB OR RETURN AFTER CHANGING A LENGTH OR
        YOUR CHANGES WILL BE IGNORED

Order Buttons
  Select A..Z for ascending order or Z..A for descending order. You can
  mix these on different fields in the same index.

Delete
  Deletes the highlighted field from the selected fields list. No
  confirmation is asked – it is deleted immediately.

OK Button
  Accepts the new or changed index

Cancel
  Cancels any changes you have made.

1.40   selection

            A selection is a subset of the data base that matches specified
conditions. QuickFile searches through the whole data base looking for
records with fields matching requested values, and creates an index
containing these records. You can then browse, print, export or create a
new database with the selected records.

The selection is updated automatically for deletions and changes but not
additions. Records you add to the data base will not be added to the
selection.

When displaying a selection, the title bar will show the number of records
selected. Don't panic, you haven't lost your file. The full number will be

displayed when you choose a full index again.

The selected data will be in the same sequence as the current Index. You
can sort it into another sequence if required. If the current index is
the result of a previous selection, only the selected records are
searched, which is much faster than searching the full file.

You can use any number of criteria for a search, but the more you have the
slower the search will be.

                        Search Operators

   Search Panel
                          Search Details

1.41   Show selected records

Selecting the "Show Selected" menu item will display only those records
selected by the last search – which may be none at all.

Selecting the "Show All" menu item will display all records using the first
index defined for the file.

1.42   Search Panel

                  The Search Panel displays a list of search criteria with buttons ←
                    for
inserting, modifying and deleting them.

Two values can be specified for each item. The second value is primarily
for the Between operator, but it can be used to specify an alternative
value for the other operators.

Clicking on the Insert or Modify will display the
                  criteria requester
                   for
you to insert or modify the details.

For insertions, the new item will be inserted before the selected item. To
insert a new item at the end of the list, select the "== End ==" item.

Clicking on delete will bring up a requester for you to confirm the
deletion of the selected item.

Search criteria linked with 'and' will select only records that match both
criteria, while search criteria linked with 'or' will select records that
match either criteria.

'And' has higher precedence so criteria are formed into groups split by
'or'. All criteria in a group must be satisfied for a record to be
selected, but a record will be selected if it matches any group. That is

confusing and is probably best explained with an example:

```
      Occupation equal    programmer
  and location    equal    sydney
  or  Occupation equal    programmer
  and location    equal    canberra
```

This will find all programmers who live in Sydney or Canberra. Note that
Occupation had to be repeated. The following would give all programmers
who live in Sydney and EVERBODY who lives in Canberra.

```
      Occupation equal    programmer
  and location    equal    sydney
  or  location    equal    canberra
```

You can also do things like

```
   Name   like   john
  and  Name   notlike smith
```

which would find all persons named John, except those named John Smith.

1.43   Search Details

                 The Search Details requester contains the following items:

And, Or Buttons
  Choose AND or OR to specify how this search item is combined with the
  previous one. It has no effect for the first item.

Available Fields List
  Lsts all fields in the file definition. The current selection is
  displayed under the list. Click on a field to use it for the search.

Comparison Operator (like, equal etc)
  Choose the
                operator
                 to be used for this search item.

Value 1
  Primary search value. It is always used. If you want to search for empty
  fields leave this empty.

Value 2
  Secondary search value. Its primary use is with the between operator but
  can be used to enter an second search value for the other operators.

  Note that with Not Equal and Not Like, value 1 and value 2 are joined by
  AND rather than OR. It will find all records except those that contain
  value 1 or value 2. Using OR in this situation would select every
  record.

1.44 Search Operators

The operators available for searching are:

Like
  Matches fields that contain the search string anywhere within them. eg
  "bit" would find "The Hobbit" and "Bitter Sweet".

Equal
  Matches a field only if it exactly equals the search value. Note that
  case is not significant so that dog will match Dog or even dOG.

Between
  Matches a field with a value equal to or between the specified pair of
  values. This can also be used to perform a less than or greater than
  search. e.g. 'between 41 and 999' is the same as 'greater than 40'.

Sounds Like
  Matches fields where the first word sounds like the search value. This
  is really a bit of a gimmick as it is not very smart. It uses a version
  of the old soundex technique which requires that you know the first
  character, and has a number of other limitations. It can be useful
  though. NOTE it only looks at the first word of the field.

Not Like
  As for like but will only match records that do not contain the search
  value.

Not Equal
  As for equal but will only match records that do not match the search
  criteria.

The above operators can be combined with 'and' and 'or'. For details see
the
                Search Panel
                .

1.45 Rebuild Index

Selecting the Rebuild Index menu item Rebuilds the current index (believe
it or not!!).

This can be used if the index and data files are inconsistent for some
reason (eg a system failure). The index is rebuilt from the data file.

Try using this if the program is failing with a 'Block not found message'
or any messages to the effect that QuickFile could not find a record it
looked for.

1.46 export

EXPORT will write all, or selected, records to an ASCII file for
exchanging data with other applications such as word processors, other
data bases etc.

The order and length of the fields in the export file is determined by the
current view. Before doing the export, you may need to create a new view
to give the record layout you want.

A requester is displayed for you to select the record format to be used.
A number of
                preset formats
                 are provided or you can tailor your own

                record and field Separators
                 by selecting the Custom format.

The headers button determines whether a header record containing the field
names is to be included at the start of the file.

Pressing the OK Button displays a file requester for you to specify the
name of the export file.

All records from the current index will be written. If you are displaying
Selected records, only the selected records will be written.

1.47   import

IMPORT will load records from an ASCII file into your data base.

The sequence and length of fields in the input file are determined from
the current view. You should create and select the view before selecting
the import function.

Both sequence and length can be different from those in the database.
Also, not all database fields need to be present in the ASCII file. Any
fields not present will be set to blank in your data base.

A requester is displayed for you to select the record format to be used.
One
                preset format
                 ("...",) is provided or you can tailor your own by
selecting Custom and choosing the
                Record and Field separators
                NB: It is vital that the sequence and number of fields you set in ←
                 the
selected fields box of the field selector correspond to the sequence of
fields in the ASCII file you are importing.

Be sure to backup your database before you import a file into an existing
database. If you get the format wrong, it is easier to restore than to
fix or delete all of the incorrect records.

Also use plenty of buffers if you are going to import a large number of
records.

```
     Example:

  Data Base
 Surname        40
 First Names    40
 Street         30
 Suburb         30
 Postcode       10
 Date of Birth 11

  ASCII File record example

      "Alan","Wigginton"
      "William","Smith"
```

This will work correctly provided you set up a view with fields
in the sequence that they are in the ASCII file. The Import
field selector should show the selected fields as:-

```
  First Name    40
  Surname       40
```

This will load First Name and Surname to the correct fields in
the data base and set the remaining fields to blank.

1.48   Preset Export/Import Formats

            A number of preset formats are provided including the mailmerge ←
               formats for
a number of wordprocessors. You can choose from:

 Custom
   Allows you to define your own format using predefined

               Separator characters
               .

 "...",
   This is a quote and comma delimited text file such as used for data for
   BASIC programs.

The following preset formats are available only for Export, not Import.

```
    Final Copy
    Interword
    KindWords 3
    ProWrite
    WordWorth
```

Only the KindWords 3 version has been tested. If you have a problem with
any of them please send me a copy of the specification for the format and,
if possible, a sample file that works.

If you require a format that is not included, let me know as I should be
able to include it very easily.

1.49 Field and Record Separators

ou can only select from the predefined delimiter codes in the cycle
gadgets.

  Field Start
  This is fairly obvious and is the character that marks the start of a
  field.

  Field End
  Marks the end of a field. It differs from the field separator in that a
  separator does not appear after the last field in a record while a field
  end character appears after every field.

  Field Separator
  Separates fields in the record. It does not appear after the last field
  in a record

  Record End
  Marks the end of each record

If Field Start is used, a Field End must also be used. If neither Field End
nor Field Separator is used, the records will be fixed length with each
field padded to its maximum length with spaces.

  Example 1   "field1","field2"{LF}

    This is a fairly common text file format and is defined by

      Field Start = "   (Quotation mark)
      Field End   = "   (Quotation mark)
      Field Sep   = , (Comma)
      Record End = {LF} (Line Feed x'0A')

    Example 2 field1{TAB}field2{TAB}{LF}

      Field Start = None
      Field End   = {TAB} (Tab character x'09')
      Field Sep   = None
      Record End = {LF}   (Line Feed x'0A')

The available characters are:

      LF   Line Feed. This is the standard Amiga end of line character.

      TAB   Fields are separated by a TAB character.

      CRLF   MSDOS style end of line character; a carriage return
         followed by a line feed.

      NONE   No character used

```
       '          Single quotation mark

       "          Double quotation mark
```

   Do not use the same character as a field and record separator for
   import.

1.50   print

                    PRINT Displayed Records

Prints the records currently displayed on the screen. This will be a
single record for a form display.

PRINT All~Records in Current Index

Prints all records in the current index (or Sort or Selection).

The fields printed and the style (form or list) of report are determined
by the current view.

The print requester is displayed for you to enter formatting details for
your report. If this is a new report, defaults will be taken from your
current printer preferences.

Your current printer preferences will be restored after the report is
printed.

The Print Requester contains:

Title
  Allows you to enter a title to be printed at the top of each page of
  your report. The title line will also show the current date at the left
  margin and the page number at the right margin. The title will be
  automatically centred.

  The title line is only printed if you enter a Title. Note that even a
  single space will print a blank title. Use CTRL-X to ensure that all
  characters are deleted.

Left and Right Margins
  Allows you to temporarily override the current preferences settings.
  QuickFile will not print beyond the character position specified in the
  right margin.

Lines/Page
  Controls the number of lines QuickFile will use on each page. The
  default is paper size minus 8 to provide a top and bottom margin.

  NB QuickFile issues a Form Feed when a new page is required. This
  depends on you setting the page height on your printer correctly, and
  may be a limitation with some printers. If you have a problem with this,
  let me know and I will look at using the preferences paper size.

  A value of zero will suppress the report title and page breaks.
```

```
Print Pitch Cycle Gadget.
  Chooses print pitch
  PICA  (10 cpi)
  ELITE (12 cpi)
  FINE  (15 or 17 cpi) depending on your printer

Lines Per Inch Cycle Gadget
  Toggles between 6 and 8 lines per inch.

Output To Cycle Gadget
  Allows you to send the report to the printer or the
                window
                 .

If you are printing a FORM view, a number of additional fields are
displayed which allow you to print the form in multiple columns such as
multi-column address labels. See
                labels
                 for full details.

If you are printing a LIST view, a Group By list is displayed. This lists
the report groups defined for this report. See
                Report Groups
                 .

Press the OK button to start printing or the cancel button to cancel any
changes you have entered.

Saving the view will save all of your report settings.
```

1.51 Screen Report

```
Reports may be directed to the screen and will be almost identical to
printed reports except that print pitch is ignored.

Output pauses when the screen is full, and will continue when the RETURN
key or the CONTINUE button is pressed. The report can be terminated by
pressing the ESC key or pressing the CANCEL button.

Backward paging is not provided.

Only about 78 columns will be visible on the screen as there is no
sideways scrolling.
```

1.52 labels

```
                Label printing is available for FORM type views only. You will  ←
                  normally
define a special view as follows:
```

Create a new view using the
            New View
             menu item, or load a suitable
view.

Set Field Labels for the view to No

Arrange the fields in the top left hand corner of the FORM screen to
match the desired label format

Select print and use the following fields in the print requester to
control your label format.

Labels Across
  Number of labels to print across the page

Label Width
  Width of each label in characters. One additional space will be allowed
  between labels. If you want to print labels further apart, increase this
  value.

Labels Down
  Number of labels to print down the page before starting a new column.
  For example 3 across and 4 down will print in the following sequence:

    1   5   9
    2   6 10
    3   7 11
    4   8 12
   13
   14 etc

Label Height
  Height of each label in lines. An additional blank line will be printed
  between each label. The default is the number of lines in the form.

You will probably want to set Lines Per Page to zero to suppress page
breaks.

If you are printing a single column of labels only, you can leave all of
the above fields blank and use the number of lines in the form to
determine the label height.

1.53   about

Says it all really.

1.54   Report Groups

            A "group by" field is only printed when its value changes. You can ←
               also

calculate summary values for each group. Each group can be based on
several fields, although usually only one is used. Any number of fields
may be summarised for a group. You may know report groups as control
breaks.

Note that records must be sorted into the correct sequence for this to
work. They are not sorted automatically.

The types of groups available are

Report. Gives a summary value for the whole report. If used, it must
   be the first group in the list.
Page. Groups will start on a new page. Group fields will print
   before column headings.
Subtitle Prints the group fields on a separate line at the start of each
   group. Reduces line length but looks best when each group
   contains a good number of records.
Normal   Field prints in the first line of the group only, but space is
   used in each line.

You can have several levels of groups of the same type, but they must be
listed from highest level to lowest.

               Example

               Group Requester

1.55   Report Group Example

This example shows two groups with totals.

   Group 1 : City   Type: Normal   Group Fields: City
             Summaries: Value (total)

   Group 2 : Salesman Type: Normal   Group Fields: Salesman
             Summaries: Value (total)

   Resulting report:

    City Salesman Client   Value
    ---------- ------------- --------------   ---------
    Brisbane Fred Smith ABC Company   8000.00
        XYZ Limited   6400.00
        Zip Electronics   12000.00

    Salesman Tot   26400.00

    John Brown ZZZ Computers   5000.00
        GWZ Peripherals   7200.00

    Salesman Tot   12200.00

    City Tot   28600.00

       Sydney George Gray ACE Packaging   500.00

Note: The file would need to be sorted over City and Salesman for this to
print correctly.

1.56 Report Group Requester

                   This defines the type, grouping fields, and summaries for a single ←
                      report
group.

See
                   Report Groups
                    for a general description of the functions.

Gadgets

Group string gadget
  Names the group. This name is printed on summary lines.

Type
  Type of group

View Fields list
  Lists the fields available in the current view for group and summary
  functions. The selected field in this list can be added to either the
  Group Fields or Summaries lists.

Group Fields list
  Fields used for gouping. A new group starts when any of these fields
  change. A group field is not required for a Report level group.

Summaries list
  Fields to be summarised for this group. Selecting an item from this list
  will update the check boxes to show the summaries requested.

  Press the INS button under this list to add the currently selected View
  Field to this list.

  Press the DEL button to delete the currently selected field from this
  list

Tot, Cnt, Avg check boxes
  These identify the summaries required for the currently selected Summary
  field. Any or all may be checked for one field.

OK and Cancel Buttons
  Return to the Print Requester.

1.57 Buffer Control

Displays the number of RAM buffers allowed for the file and allows
you to change it temporarily. The items shown are:

Blocks in file.
  The size of the current file expressed in blocks. This gives the number
  of buffers required to hold the whole file in memory.

Buffers in use.
  The number of ram buffers currently allocated. This starts at 1 when you
  open a file.

Buffer size.
  Gives the amount of ram required for each buffer allocated.

Maximum buffers.
  The maximum number of buffers that QuickFile will use. This can be
  changed to alter the number to be used for the current session. The next
  time you open the file, the maximum will revert to the number specified
  in the file definition.

  To permanently change the maximum number of buffers, alter the
  file definition.

1.58   File Definition

                 Use the New item on the Project menu to create a new file ↩
                     definition.

Use the Alter item on the Project menu to alter the current definition.

The data and any open views are saved before you alter the current
defintion and any sorted or selected details are dropped.

You can change just about everything in a file definition, except the
block size, even after you have loaded data to the file. You can change
field names, types and lengths. You can add or delete fields, and add or
delete indexes. Caution should be used when changing the type for fields
that contain data.

                 File Details
                  Block size, Buffers etc.

                 Defining Fields

                 Defining Indexes
                 Press OK to save any changes you have made and return to the main ↩
                     panel.

Press CANCEL to reload the original file definition.

1.59   File Details

The file details are shown at the top left of the Definition panel.

Block Size
  QuickFile does not read and write single records at a time, but builds
  them into blocks. This reduces the number of disk reads and writes
  required. Around 2000 seems to give good results. The only way to change
  block size is to export the whole file, define a new data base and use
  import to recreate your file. Block size must be larger than the maximum
  record size plus free space, plus some space for control fields (2 bytes
  per field plus 2 bytes for the record length).

Free Space
  Specifies the amount of free space to be left in each block to allow for
  records to expand. As QuickFile only stores the actual data entered (not
  trailing blanks), additional space is required if a change makes a field
  longer. 100 seems to work OK. Records are moved to another block if
  necessary, so this is not critical.

Buffers
  This is the maximum number of buffers QuickFile will use for holding
  blocks of records in memory. Unless you have very large files or are
  short of memory, use a large figure such as 100. QuickFile will never
  use more buffers than are required for the whole file.

  The more of the file in memory, the faster QuickFile works. The memory
  used is approximately (number of buffers * buffer size).

1.60   Defining fields

            WARNING: Deleting a field makes its data inaccessible, even if you
      re-add the same field. If you accidentally delete a field, reload
      the definition without saving your changes and start your changes
      again.

The fields defined so far are listed in the box at the right of the
window.

Use the Add button to add a new field. A
                requester
                  will appear for the
field details. If a field is highlighted when you press add, the new field
will be added before the selected field. To add a field to the end of the
list, select the "== End ==" item. After each field is added the requester
is cleared but remains active for you to add another field. Press CANCEL
when you have finished adding fields.

To change an existing field, click on the field name, then press the
Modify button. The
                Field Requester
                  is displayed for you to enter your
changes.

To delete a field click on the field name, then press the Delete button.
You will be asked to confirm the deletion

1.61   Field Requester

                   Displays the current attributes of a field and allows you to ←
                      change them.

Name string gadget
  Enter a name of up to 12 characters for the field.

Length
  60 characters is a practical maximum length as no left and right
  scrolling is provided and more characters cannot be displayed on a form.
  The maximum is 250. The minimum length of a date field is 11 characters.

  Space is used only for the number of characters entered in each record,
  not for the maximum field length. In fact, if a field is empty it takes
  up no space at all.

Decimals
  Number of decimals stored and displayed for the field. Values entered in
  the field will be rounded to this number of decimals.

Type Cycle Gadget
  Choose the field type from character, date, integer, number (real) or
  calculation. See
                  Field Types
                   for more details.

Mandatory Check Box
  If checked, the field must have a value in all records. You will not be
  able to add a new record without a value in this field.

Justify Right Check Box
  If checked, the field will be displayed with the value right justified.
  This is the default for Integer, Float, and Caculated fields. Character
  and date fields default to justified left.

Expression String Gadget
  This contains the expression to give the result of a calculated field.
  The expression can contain field names, constants, and the add (+),
  subtract (-), multiply (*) and divide (/) operators. Field names
  containing spaces must be enclosed in double quotes ("). Normal
  precedence rules apply and brackets may be used to control sequence.
  Fields must be defined before they can be referenced.

All of these values can be changed at any time without any unexpected
effects. If you reduce the length of a field, excess data is only
discarded from records as they are updated. Increasing the field length
will restore the old data except for records you have changed. Note that
reorganise will reformat ALL records.

1.62   Field Types

Character
  Standard character string.

Date
  These have a minimum length of 11 characters and are always entered as
  day/month/year.

  The separator can be any of /-. or a space.

  Month can be entered as a number or a three character name

  Year can be entered as two or four digits. If two digits are used, a
  number greater than 50 is assumed to be this century, 50 or less, the
  next century.

     eg. 3/6/94   is interpreted as 03-Jun-1994
   1-aug-10 is interpreted as 01-Aug-2010

  Leading zeroes can be omitted.

  Dates are always displayed in the format 14-Apr-1993.

  The following are valid dates
   03/08/93 3-8-93 3.aug.93 03 aug 1993

Integer
  Whole number, no decimals.

Float.
  Real numbers with decimals.

Calculated
  The field value is calculated from other fields, which may themselves be
  calculated fields. The calculation is specified in the Expression string
  gadget.

1.63   Defining Indexes

              You must define at least one index. If you are not sure pick, any ←
                   field
that will give a useful sequence, such as surname, title etc. Each index
can use a number of fields to give precise control of sequence.

You can index on any field type including calculated fields. You can also
define an index as unique to prevent duplicate records being created.

If you change an index on an existing file, it will be rebuilt when you
return to the display panel.

Select the index from the list and press the appropriate button. The

              Index Requester

is displayed for you to define or alter an index
definition.

You can have any number of indexes but you should limit yourself to those
you are going to use regularly.

Indexes are maintained automatically as you add, modify and delete records
on your file so they reduce the need for sorting and resorting.

1.64   File Types

FILES

QuickFile uses four types of file distinguished by extension. These
are not text files and cannot be edited with most text editors. Using a
hex editor will probably corrupt the file. YOU HAVE BEEN WARNED.

The DEFINITION FILE has no extension. This is the name you enter when
specifying a file name for QuickFile.

The DATA FILE has an extension of .Data.

VIEW files usually have an extension of .View, but this is not
essential.

INDEX FILES have an extension of .nameX where 'name' is the name of the
index as specified in the file definition.

1.65   Possible Problems

If you are prevented from saving your changes by a program error, system
or power failure, your file will probably be in an inconsistent state.

1.   The updated indexes will not have been written to disk. This is only
     done if you Save, Exit or Close the file. Each index must be rebuilt.
     See below.

2.   Changed records may not have been written to disk and will have to be
     re-done. Note that because of the way buffering works, changes are not
     necessarily written to disk in the order they are done.

A mismatch between the index and data is indicated by a message such as
"getblock: Block not found".

To correct this you can rebuild an index by selecting the Rebuild Index
item from the QuickFile tools menu, or you can delete the index file
(called filename.indnameX). When you next open the file, the index will
be rebuilt.

BUGS

The program has been reasonably tested, but only on my A500. Some bugs refuse to show up until you hit exactly the right combination of conditions, so please let me know of any problems you find.

Sending a copy of your database and the version of the program you are using together with instructions on how to duplicate the problem will help me to fix the problem.

1.66   limits

Field Length

    While up to 250 characters are allowed per field, this is not very useful as each field is limited to one line.

Record Length

    32,767 bytes

Number of Records per File

    The theoretical limit is currently 65,535. In practice it is much lower because of the indexing technique which will run out of either memory or processor speed. Each index requires a contiguous area of ram 4(n + 200) bytes in size, where n is the number of records in the file. The sort technique also limits the size of the file. The sort loads all sort keys to ram and also requires 8 bytes per record in one contiguous area.

    My largest file is about 2800 records (115 chars per record) and it is fine. The largest file I know of is almost 7000 records and works well even on my 1meg A500. A realistic maximum is probably in the order of 10,000 to 20,000.

    While files can be larger than available memory, operation is much faster if you set the number of buffers large enough to contain the whole file.

Number of fields per record

  250. But I got bored at about 60, so you take your chances if you want to try more.

Number of indexes

  No limit.

Number of views

  No limit.