Section 6

Ad hoc Reports

The Ad hoc reporting system is only available for the file called "FClientsServer" and this resides in the "Estimate.df1" data file.

The ad hoc report plug-in offers you a quick way to generate reports and query your data.

You can create ad hoc reports that access your server or Omnis database. You can also use SQL reports with the Omnis SQL DAM to access an Omnis data file. The term *column* is used in this section to mean both server table columns and Omnis file class fields. Ad hoc reports are based on standard Omnis report classes, hence modifying an ad hoc report is very similar to modifying a standard report, which is described earlier.

6.1 Creating Ad hoc Reports

You access the ad hoc report tool from the Reports menu. You need to install this menu to create or modify ad hoc reports. You also need to open a session using the SQL Browser, or an Omnis data file using the Data File Browser.

To create an ad hoc report

- Open the Tools Menu on the main Omnis menu bar and select the Ad hoc Reports option; the 'Reports' menu is installed on the main menu bar.

- Open the **"Reports"** menu and select **"New"**.
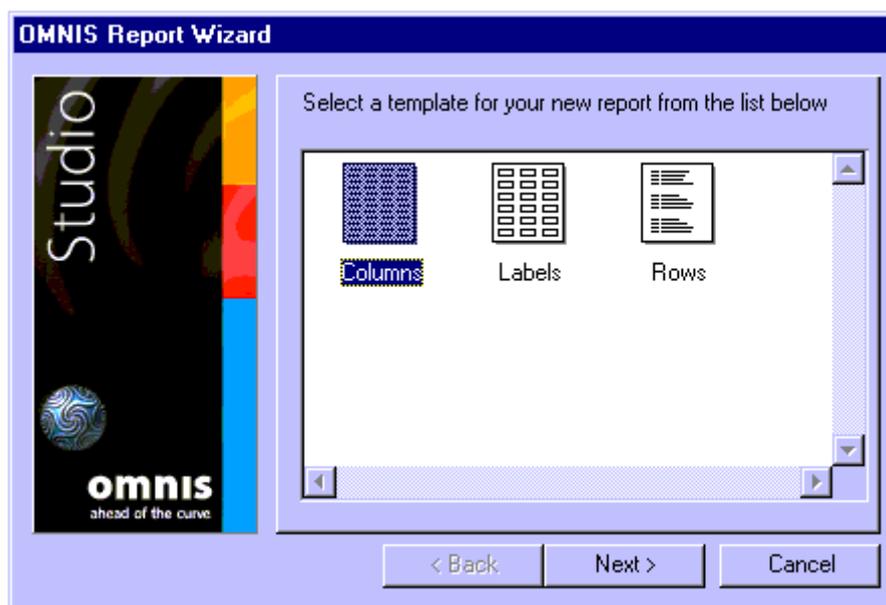
- Select a template and click on **"Next"**. If you select the 'Labels' template the next screen in the wizard prompts you to enter details about your labels. You can set the paper size, label format, margins, and so on, or you can select a label format from the list of Ready Labels.

    For all templates, you next select the columns you want to include on your report.

- Select the data type of your report by clicking on either the Omnis or SQL data radio button: the buttons do not appear for SQL sessions.

- Open the session or data file name in the list and select the columns you want to include on your report.
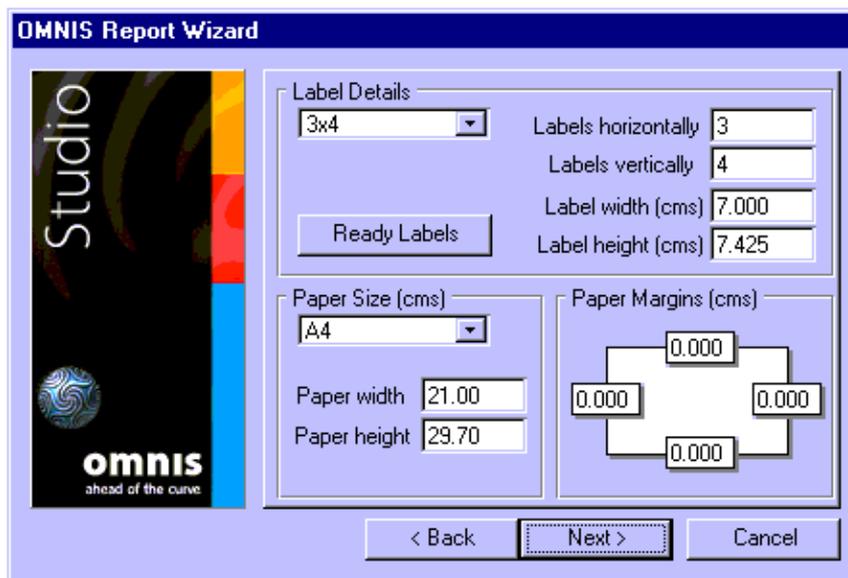
- You can either select a table or file name to include all the columns, or you can open individual tables or files and select individual columns. For Omnis data access you may need to select the Main file as well.
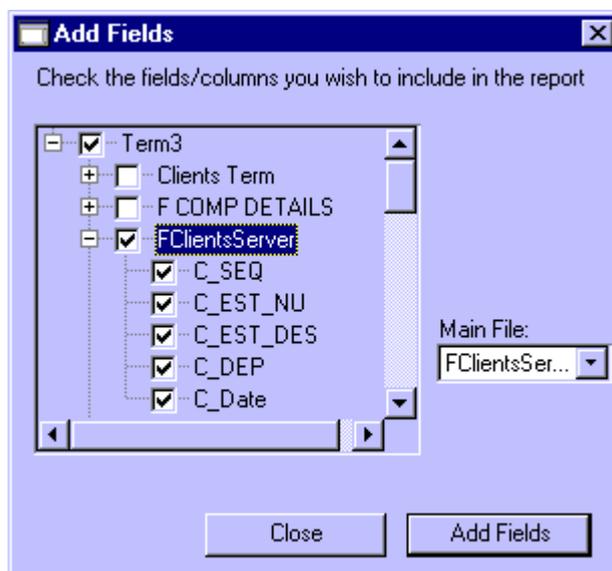
- When you have selected the columns you need, click on **"Finish"**.
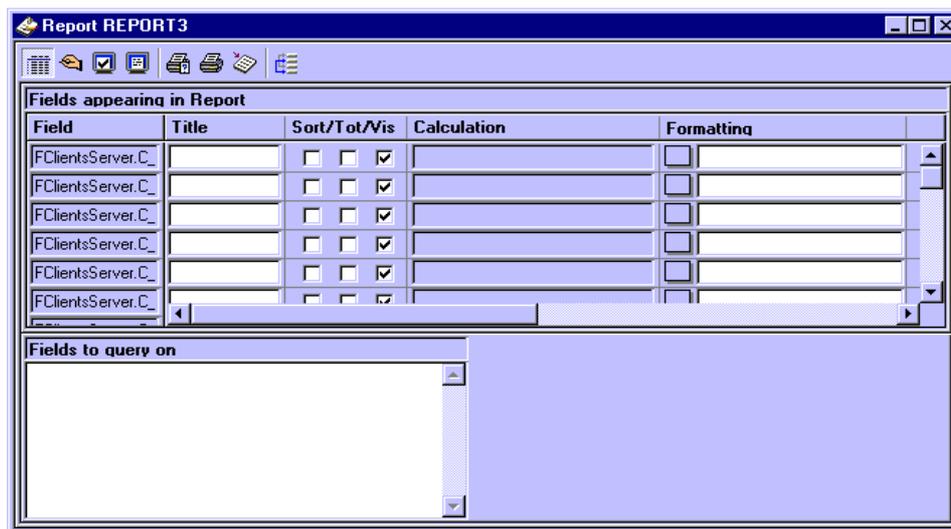
The Query and Field list displays all the columns you included on your report. For each column you can specify a Title or Label, whether or not the column is sorted, totalled, or visible, a calculation, and a formatting string. You can select a formatting string from the dropdown list next to the entry field.

At this stage you can print or view the output of your report on screen, but since you have not added any query or filtering yet you will get back all the data.

6.2   View the Output of the Report

Click on the **"Rebuild Output"** button, or if this is the first query for the current session, click on the **"View Output"** button.

The Output screen displays all your data using the layout you selected in the wizard. You can select data from the output screen by dragging the mouse and selecting **"Copy"** from the 'Edit menu', or you can use **"Select All"** to select all the data in your report and 'Copy'. This copies your data in tab-delimited format into the clipboard. From the Output screen you can also print directly to the current printer or export the data to a file using the appropriate buttons on the toolbar.

6.3   Get back to Query and Field List

Click on the **"Query"** list button in the toolbar. If you attempt to close an ad hoc report without saving, you will be prompted to save before closing.

6.4   Save an Ad hoc Report

- Right-click on the background of your report and select **"Save"**.
- Name your ad hoc report, including the .ahr file extension.

6.5   Adding Columns or Fields

When you create an ad hoc report from scratch you select the columns to include on your report in the wizard, but you can add further columns to your report at any time from the field list context menu.

To add columns or fields

• Right-click on the field list.

• Select the **"Add Fields"** option from the context menu.
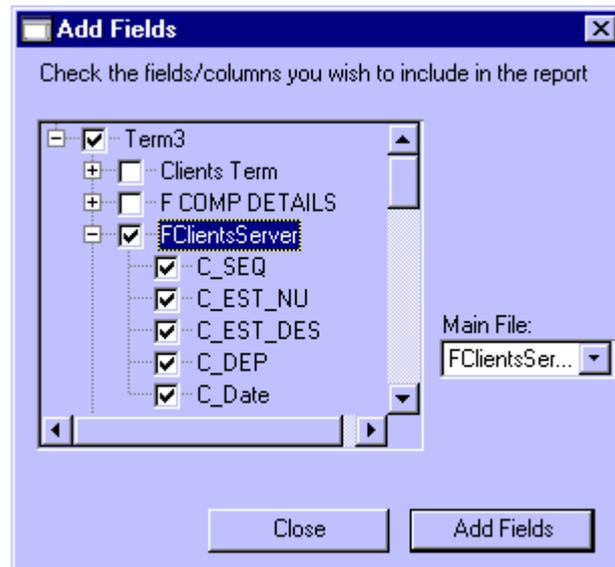
Select the extra columns you want to include on your report, click on the **"Add Fields"** button, and click on **"Close"** when finished.

For ad hoc reports based on Omnis data, you can also change the main file from the 'Add Fields' dialog.

6.6   Adding and Editing Sort Fields

Assuming you have included all the columns you need in your report, you may want to sort the report in a particular order.

To specify a sort field

Check the **"Sort box"** for the appropriate columns or fields.

The order in which you check the 'Sort boxes' determines the sort level, that is, the first column you check is the first sort field, the second column you check is the second sort field, and so on. You can specify up to nine sort fields for a single report.

To edit the current sort fields

Click on the **"Edit Sort Fields"** button in the Query and Field list toolbar.
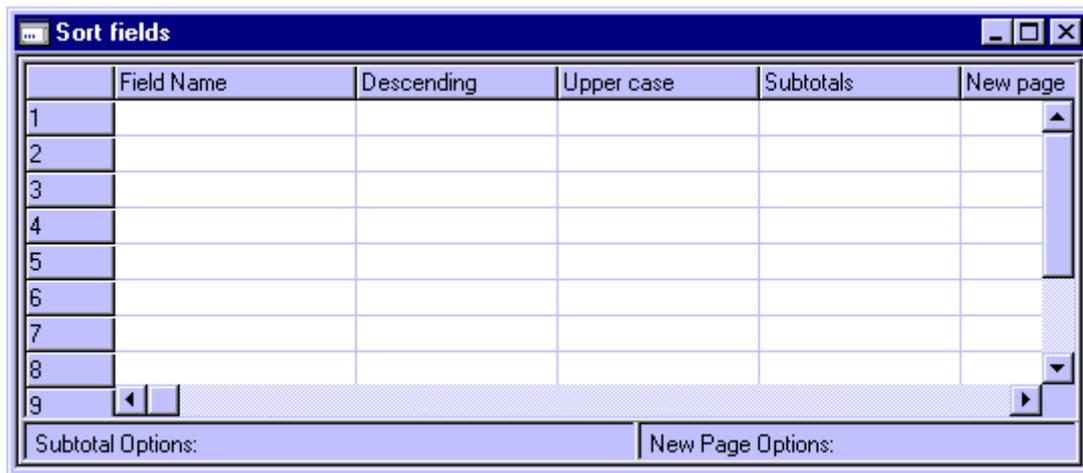
Note: You must add sort fields in the Query and field list by checking the appropriate box, not from the Sort fields screen. For each sort field, you can select the following options:

Descending

When set to kFalse the field is sorted in ascending order, otherwise when kTrue the field is sorted in descending order.

Upper case

When set to kTrue the data is converted to upper case for the purposes of sorting; not available for SQL data.

Subtotals

When set to kTrue it triggers the printing of a subtotal section when the sort field changes value; you can specify the number of characters that have to change to trigger the subtotal.

New page

When set to kTrue it triggers a new page when the sort field changes value; you can specify the number of characters that have to change to trigger a new page.

When you rebuild the report, your data is sorted using the specified sort fields in their correct order. For example, you could sort a Customer file on COUNTRY which is sort field 1, on STATE/COUNTY which is sort field 2, and TOWN which is sort field 3.

6.7   Adding a Query

For each column or field in your report you can specify a query that must be fulfilled if a particular row of data is to be included in the output.

To add a query to your report

In the Query and Field view, drag a column or field from the field list into the query list at the bottom of the ad hoc window; or

Right-click on the column or field in the field list and select **"Add to Query"** from the context menu.

The column or field is added to the query list. The Equal to comparison is selected by default, but you can select a different operator and enter the value or calculation for the comparison. The following operators are available:

- **>=**

    the data in the column or field must be *greater than or equal to* the specified value

- **<=**

    the data in the column or field must be *less than or equal to* the specified value

- **<>**

    the data must be *not equal to* the specified value

- **=**

    the data must be *equal to* the specified value

- **In**

    the data must be *In* the specified set of values, for example, to test if the field iColor is set to one of the values red, blue, or green use the query:

    iColor in 'red', 'blue', 'green', note this is for SQL data only

- **Not In**

    the inverse of the In clause, that is, the data must *Not* be *In* the specified set of values; Note: this is for SQL data only

- **Contains**

    the data must *contain* the specified string value

- **Begins with**

    the data must *begin with* the specified string value

- **Null**

    the data in the column or field must be *null,* that is, a value has not been entered

- **Not Null**

    the data in the column or field must be *not null,* that is, a value has been entered

- **Like**

    the data must be *Like* the specified string, which can include the following wild cards:

    _ (underscore) to represent a single character, or % to represent multiple characters

- **Not Like**

    the data must be *Not like* the specified string, which can include the wild cards described above

- **Between**

   the data must be within a range or *Between* the specified values, for example, to select values between F and G use the query:

   iField Between 'F','G'; note this is for SQL data only

- **Not Between**

   the inverse of the Between clause, that is, the data must *Not* be *Between* the specified values; Note: this is for SQL data only

- **Child of**

   the current record must be a *Child of* the specified parent file name; Omnis data only

- N**ot child of**

   the current record must *Not* be a *Child of* the specified parent file name; Omnis data only

- **Parent of**

   the current record must be a *Parent of* the specified child file; Omnis data only

- **Not Parent of**

   the current record must *Not* be a *Parent of* the specified child file; Omnis data only

   For example: if you want to select all the rows or records from a customer database where the NAME is equal to 'Bob' you can enter the following query:

   Strings must always be quoted, and numeric columns or fields can include numbers or calculated values including other variable names. Boolean fields take values of YES, 1, NO, 0, '' (empty), or Null. You can enter date and times in the comparison field but its interpretation depends on the data format of the column or field.

6.8   Multi-line Queries and Logic

You can add multiple columns or fields to a query. A multi-line query always assumes the connecting logic is "AND", but you can insert your own logic into the query.

To add logic to your query
- Right-click on the query list at the bottom of the ad hoc window

- Select **"Insert AND"** or **"Insert OR"** as appropriate from the context menu.

You can drag and drop lines in a multi-line query to reorder the query, including the 'AND' and 'OR' operators. You can also delete a single line or all lines using the query list context menu. You can group particular lines in a multi-line query by selecting the 'AND' and 'OR' lines and clicking on the promote and demote buttons marked **"< and >"**.

6.9   Adding Calculated Fields

You can 'Add Calculated Fields' to the ad hoc report field list, for example, you can concatenate two values into one report line. The calculations are based on the current values in the columns taken from the current data row or record.

To add a calculated field

- Right-click on the **"Query list".**

- Select the **"Add Calculated Field"** options from the context menu.

- Type the name of the calculated field, select the type and subtype, and click on the **"Add"** button.

- Enter the calculation in the 'Calculation' box in the field list.

  For example: in a label report you can enter a calculated field called C_EST_BY and use the *con()* function to concatenate the First name and Last name fields.

- Right-click and select **"Save"** from the context menu to save your report.

- To see the results, click on the Rebuild Output button

At this stage you may want to change the layout of your report, or add some graphics. Furthermore, if you have added calculated fields to your report you may need to rearrange the fields on the report.

6.10 Modifying your Report

You can change the layout and positioning of the fields on your report at any time by switching the ad hoc window to modify report mode.

To modify your report

Click on the **"Modify Report"** button in the ad hoc window tool bar.
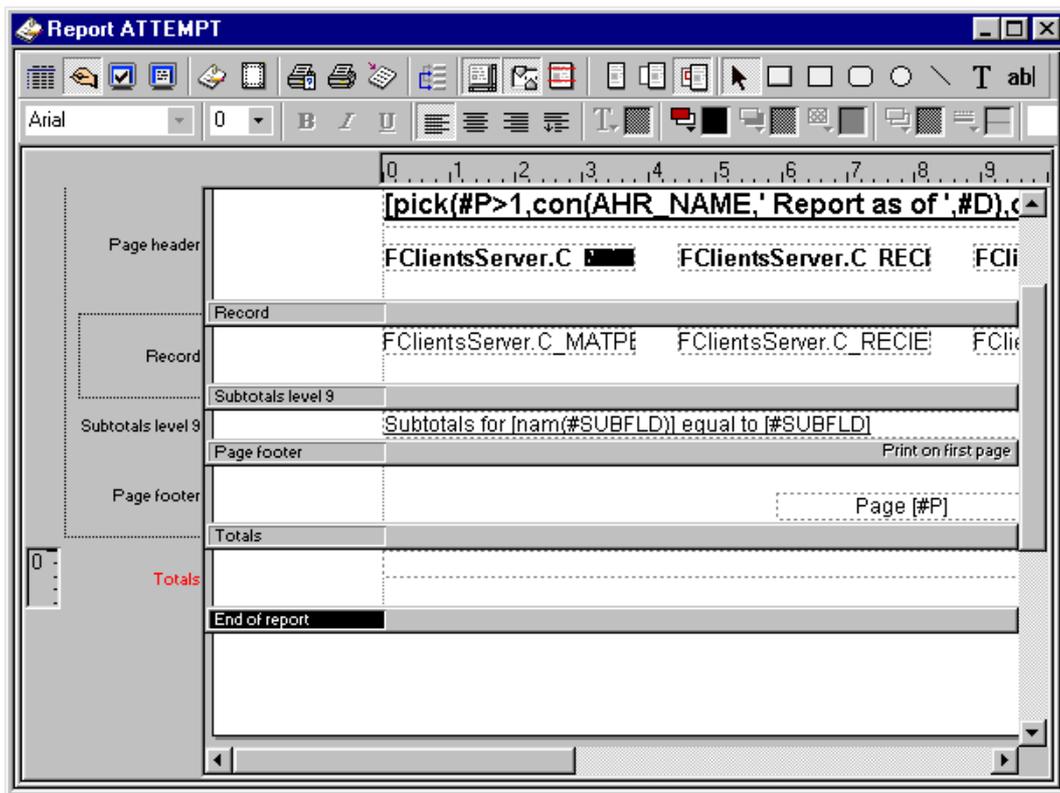
You can add text labels and graphics, and move fields around and change their colours. If you delete columns or fields from the report they will not appear in the output, but they will still be included in the field list and are still part of your query.

When you have made changes to the report modify window you can Right-click and select **"Save"** to save your report.

6.11 Ad hoc Report Templates

When you create a new ad hoc report you base it on one of the templates stored in the ad hoc library, however, you can change the templates via the 'Template Browser'.

To change a report template

Select **"Template Browser"** from the 'Reports' menu.
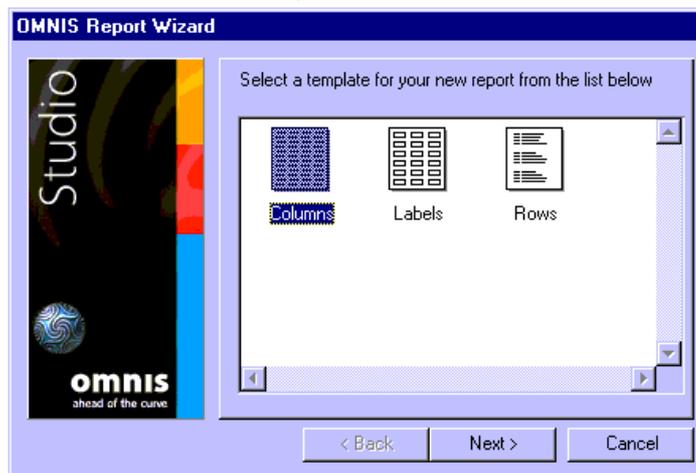
Double-click on the template you want to change.

You can add graphics and change the font and colour properties of any object in a template, and you can examine the methods behind the report. However, you should avoid changing the structure of the sections and programming in the templates provided.

The 'Templates menu' in the 'Template Browser' lets you create your own templates based on standard report classes. Your own templates will appear in the 'Ad hoc Report Wizard' when you next create a new report.

6.12 Re-using Ad hoc Reports

Ad hoc reports are saved to disk as small library files with the .ahr file extension. Each file stores a copy of the report layout and query. You can open an existing ad hoc report file from the 'Reports - Open menu' option.

6.13 Ad hoc report Notation

The public methods $x_newadhoc and $x_openadhoc are available in the ad hoc report tool. You can call a public or tool method using the $dotoolmethod() method, available under the $root.$modes group. $x_newadhoc prompts the user to create a new ad hoc report by launching the ad hoc report wizard, and $x_openadhoc prompts the user to open an existing ad hoc report.

These methods do not take any parameters as follows:

Do $root.$modes.$dotoolmethod(kEnvToolAdhoc,'$x_newadhoc')
Do $root.$modes.$dotoolmethod(kEnvToolAdhoc,'$x_openadhoc')

The table selection window by default has a check box option to display tables for all users if the database supports this feature. You can hide and show this option using the $x_allowanyuseroption() method as follows:

Do $root.$modes.$dotoolmethod(kEnvToolAdhoc,
"$x_allowanyuseroption",[kTrue|kFalse])