Fun with Fields

Filling in the pieces…

Fields are all about Links and Labels, CheckBoxes and TextBoxes, Drop Downs and Edit-Combos — and Lookups — and much, much more. We dig into Date/Time pickers and enhance the Form layout component type with more Special Controls. And, of course, you need to know about validating your data. It's all coming up now, so grab a cup of coffee and let's start stacking.
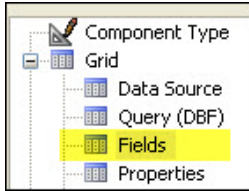
What you'll find here…

Component Re-Views

- For a pictorial review of components in this chapter
see page 459.

How the material is organized

GRID BUILDER NAVIGATOR

In this section, we will concentrate on the fields page in the Grid section. Some of these features also apply to Search and/or Detail View part fields.

CONTROL TYPES

The study of fields begins with Control Types because they define how the field will appear and function. A textbox allows for data entry. A label does not. A link can connect the Grid to the Detail View or allow the user to send an email. Checkboxes, Radio Buttons and Drop Down boxes make data entry easier. Date and time fields have special conditions that we will also examine.

PICK THE DATE AND TIME

Date and Time pickers will have the end user entering data quickly and accurately. We'll show you how to configure them and add a bonus that shows how to filter a picker based on contents in another field.
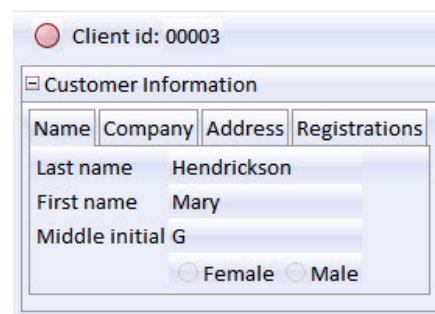
LOOKUPS

Then it's on to Lookups — there are four styles, all of which can fill in additional fields, if desired.

- •Edit-Combo is like a drop down box, except that you can add values that do not exist in the table or list.
- •Auto Suggest presents a list that narrows as the user types. "C" will find Carol, Carlos and Christopher; "ca" will find just Carol and Carlos.
- •Action JavaScript makes it easy to auto-fill the city and state when you enter the zip code. When you know the value, this fill is fast.
- •Lookups can also get data from a Grid Component that is based on a table or a view.

SPECIAL CONTROLS

As we have already seen, the Form layout component type is very flexible, due to its wide range of special controls.

- • **Linked Grids**: We will use a Linked Grid control to combine two grids into the equivalent of an Alpha Five *One-to-Many Set,* aka *Master-Detail,* so we can view and/or enter registrations for a given client. A grid based on the Clients table will serve as the master, while another with fields from the Registrations table will give the detail.

•**Frame and tabs:** For the display, we will combine the grids into a tidy tabbed package surrounded by a frame. The Name, Company and Address tabs come from the master grid, while the Registrations tab opens the detail.

•**Images**: We'll also add a pink or blue ball based on the contents of the *gender* field.

•**Containers**: By using container controls, we will be able to place the ball adjacent to the Client Id field. rather than below it.

- • **Buttons:** We'll finish up by putting a button on the Registrations grid that will print a registration receipt.

DATA VALIDATION

We took a quick peek at data validation in the last chapter. Here, you'll find details on the basic settings for components and a description of the way Alpha Five Field

Rules fit into the mix. There are also tips on modifying sample Xbasic in order to add more capability at the component level.

Preparation for the lesson

The exercises in this chapter should be placed in the *MyGridComponentDemo* web project that was created in Chapter 5 (see "Important note" on page 132). Copies of the completed examples should be in this project.

- The **GridComponentDemo** web project also has completed examples. File naming is discussed on page x and Web Projects are explained on page 22.

Notes on fields

Here are some things to keep in mind as you design your component.

FIELDS FIRST

Fields must be selected before you can preview the grid. Makes sense, if you think about it, because a grid is made up of rows and columns, the basis of which are – duh! – fields.

Adding and removing fields
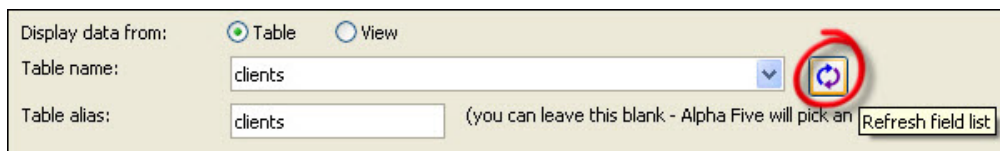
COMPONENT

You can add fields to the grid component at any time by moving them from the *Available Fields* list to *Selected*. To remove them, reverse the process.

SOURCE TABLE

We've said this before and we'll say it again because you really need to remember it when you begin designing your application:

If you add, change or remove fields in your **database table structure** *after* you have defined your field selection in the grid component, the new ones will not appear in the Available Fields list until you do the following:

a. Return to Grid > Query.

b. Click **Refresh field list** at the right of the *Table Name* entry box.

c. Return to the fields list and the new or modified ones will then appear in the list of *Available Fields*.

It also stands to reason that if you delete a field from the database that is already in the Selected list, you will get an error message that the grid can't find the field.

Choosing a Control Type

HINT!

Options for fields depend on the Control Type selected. We saw a couple in action in the previous chapter, when we changed a grid from read only to updateable. At that time, labels that only display data were changed into text boxes that allow data entry.[*]

The first property for each field is Display Type, from which the *Control Type* is chosen.

LABEL

• Read only grids: Labels are the default.

• Updateable grids: Textboxes are the default, but labels may be set for any field in order to prevent user access.

TEXT BOX
Allows data entry. Grid or Detail View must be updateable.

CHECK BOX
Commonly used for Logical fields that look for a Yes/No (True/False) response. Grid or DV must be updateable. See page 247.

CUSTOM
Advanced. Custom control types can be designed using Xbasic.

RADIO BUTTON
Ideal for very short list. Updateable grids only. See page 248.

DROP DOWN BOX
Good for longer lists and table references. Updateable grids only. See page 248.

LINK ADDRESS TYPE
• **Detail View link:** We created a detail view link at "Opening the Detail View in a window" on page 216.
• **Field value is an email address:** We created an email address link on page 28.
• Other options are: Field value is link address, Computed from fields in the Grid and JavaScript.

DATE & TIME FIELDS
Calendars are automatically added to updateable date fields. While not technically a control type, we mention it here because, while it appears as a textbox, the field properties are very different. See "Understanding Date and Time Pickers in Grids" on page 239.

Understanding hidden controls

Sometimes you need the value of a field – in an Argument, for example – but you don't want it to appear on the page.

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[*]. See "Choosing Read Only or Updateable" on page 193.

There are two ways you can hide data from the user. Hang on a minute while we get a bit technical here, because it is important to understand the difference between them.

- You can hide a row or a column.
  - Field Properties > Row or Column Properties > Hide Row or Column.
- You can use a *Hidden* control.
  - Field Properties > Display Settings > Control Type > Hidden.

In both cases, the field or value is not placed on the page. The difference is in which is where it can be used in calculations – client- or server-side.

HIDE ROW OR COLUMN
The field or value in the row or column is not placed on the page.

- **Server-side = Yes.** The field or value is available to server-side code.
- Client-side = No. Client-side action is not available and any value for the field is not submitted on page submit.

HIDDEN CONTROL
A hidden control is an HTML hidden control and it is in the page source HTML code, but just hidden from view on the browser.

- **Client Side = Yes.** It can be manipulated by client-side code, such as JavaScript, and is submitted.

Selecting Control Types

The following control types are available for fields in the *Grid* part. The properties for each can be found in the chart and page references.

- **User input types:** In order tor the control type to allow user input, the grid must be updateable. In other words, you can give a field a RadioButton control type in a read only grid, but nothing will happen when the user clicks on the button
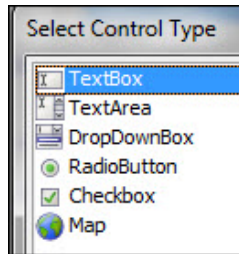
GRID FIELDS
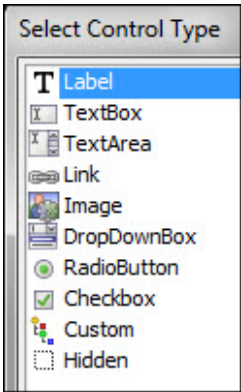
- Checkbox
- Custom
- DropDownBox
- Hidden Control
- Image
- Label
- Link
- Radio Button
- TextArea (allows Lookup)
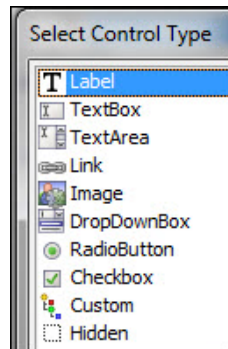- TextBox (allows Lookup and Updates)

SEARCH PART FIELDS
The following control types are available for fields in the *Search* part:

- Checkbox.
- DropDownBox
- RadioButton
- TextArea (allows Lookup – Edit-Combo or Auto Suggest only).
- Text Box (allows Lookup – Edit-Combo or Auto Suggest only).
- Map*

DETAIL VIEW FIELDS   The following control types are available for fields in the *Detail View* part.

- Checkbox
- Custom
- DropDownBox
- Hidden
- Image
- Label (with Column & Row properties0
- Link
- RadioButton
- TextArea (allows Lookup)
- TextBox (allows Lookup & Updates)

Understanding Date and Time Pickers in Grids

COMPLETED COMPONENT   The finished component is *DateTimeExample*.

VIDEO! SEE P. 247

Because date and time pickers are more about settings than about learning how to use them, you may want to watch the videos first. They demonstrate the pickers and give configuration options for **Dialogs**.

But.

Be sure to return here to learn how to define date/time entry in **Grids** because, while set up is similar to that for dialogs, there are some *significant* differences.

To see data entry first hand, we will use the completed example. After the demonstration, we will examine the settings. Lastly, we will move to the practice component to learn how to set up the fields.

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*. "Certain SQL databases (such as SQL Server, Oracle, DB2, MySQL, Postgres) support a special data type called 'Location'. If a table has a location field (which contains information about a record's position - latitude and longitude), then you can perform 'geography' searches. For example, you can find all records that are within x miles of a certain location, or all records that fall within an area marked by the latitude and longitude of 3 or more points." See Help > Video Finder > #GM 10, 11, 12.

1. Open the **DateTimeExample** grid in Design Mode.
    - Grid with Search part based on the *date_time* table.
    - Each of the fields is titled by their Alpha Five field types:
        - *Time* = Date + time: 12/31/2015 09:56:07 am
        - *Date* = Date only: 12/31/2015
        - *Short_time* = Time only: 09:56:58 am.
        - *Sql_short_time* = Character field configured as time picker.
        - *Start_* and *End_Date* are Date fields.

2. Go to Working Preview.

Using the Date and Time pickers

We are sure you have used innumerable date pickers and maybe a few time pickers. These Alpha Five varieties make selection quick and simple.

DATE PICKER
In addition to the standard back and forward arrows (circled), one can also click on the Month or Year to bring up full pages of choices. These features make data entry friendly, quick and accurate.

- Date pickers are appropriate for Date field types.
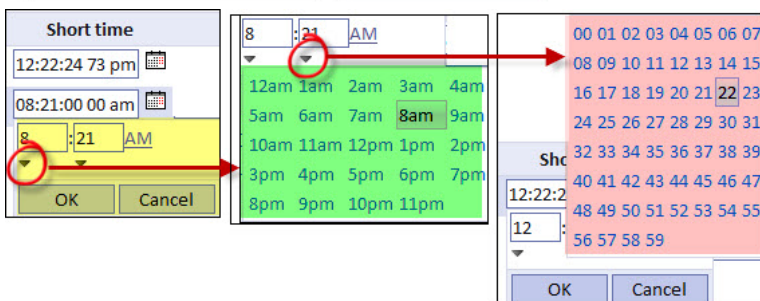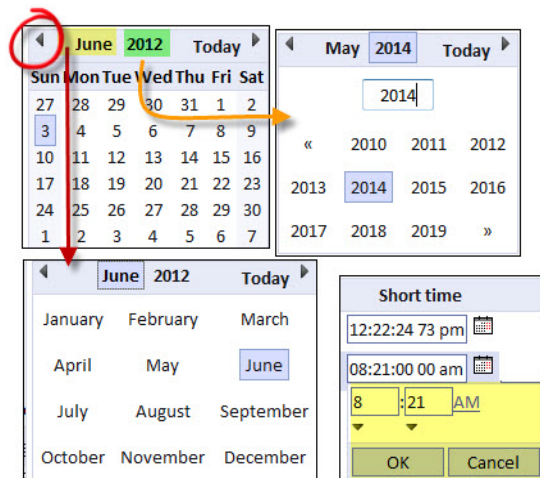
TIME PICKER
The time picker initially appears with time text boxes where the time can be entered manually or one can click on the arrows (circled) to bring up hour and minute selections.

- Time pickers can be used for Time and Character field types.

DATE/TIME PICKER
You can also opt for a picker that combines date and time choices. It functions the same way as the individual pickers.

- Date/Time pickers can be used for Time and Character field types.

OK & CANCEL BUTTONS
The time picker and the date/time picker have *OK* and *Cancel* buttons because multiple selections are being made. The date picker does not need them because a single click makes the selection and closes the window.

3. Experiment with the date pickers for **Time**, **Date**, **Short Time** and **Text**.

4. Try making manual entries. When you begin typing, a mask will appear for all except the **Time** field which has been configured to use only the picker.

5. **Start Date** field: Choose a date.

6. **End Date** field: Bring up the picker and notice that you cannot select dates previous to the Start Date.
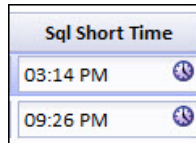
7. Return to Design mode.

Choosing the right tools

A5 FIELD TYPES

At the database level, Alpha Five has three types of date/time fields:

- Date = Date only.
- Time = Date + Time
- ShortTime = Time only.

SQL FIELD TYPES

Most SQL databases have date/time and date only field types as above, but no time only. To fill this gap, you can place a time picker in a character field. (Sql_short_time field in our example.)

COMPONENT LEVEL

All field types use the TextBox control type for data entry.

PICKERS

Date and Time pickers are configured in two places:

- Grid > Properties.
  - Specify **default** for all time/date fields in component.
- Field Properties.
  - Specs for individual fields. Can be set to used **default** (above property settings) or override them.

DATA ENTRY

Entries can be defined as follows:

- Manual only.
- Manual plus Date and/or Time picker.
- Date and/or Time picker only.

Understanding the Properties settings

The first step is to define the default properties for the date and time pickers.

8. Go to Grid > Properties > Miscellaneous.

- There are several settings relevant to date/time formats.

•**Use legacy date picker:** For components made with Alpha Five versions prior to V11.

•**Date format:** See below.

•**Switch year:** Default = 20. For 2 digit year entry. Means that if you enter 99, it is presumed to be 1999. 05 is presumed to be 2005.

•**Day** names and **month** names: Values can be changed for non-English speaking countries.

•**First day of week**: Days of week are numbered Sunday = 0, Monday = 1, etc.

•**Today** and **Close** buttons are self explanatory.
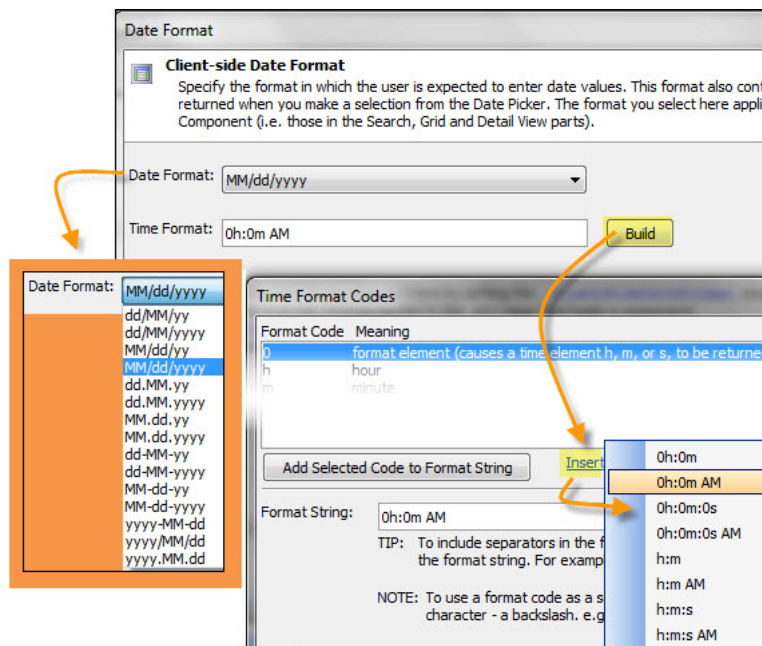
DATE FORMAT

There is a full range of date formats supplied (inset at left). The default setting is *MM/dd/yyyy*.

•To change and/or enter a time format:

a. *Date format:* Click the button.

Dialog Title: Date Format

You can choose from a wide selection of date formats (orange at left).

b. *Time Format:* Click the **Build** button.

Dialog Title: Time Format Codes

c. Click Insert pre-defined format string (partially hidden at left).

d. Choose **0h:0m AM**.

e. Click OK (twice).

•Grid > Properties: The Date Format entry is now: MM/dd/yyyy&&0h:0m AM

Understanding the Field property settings

Three sections have relevant properties. We will outline them and then go into detail.

9. Go to Grid > Fields > Field Properties.

•Display settings > **Display format**. In some cases, you will need to select a pre-defined format.

•Client Side Properties: Client side formatting = Yes; Format type = **Mask**.

•Manual entry will be much clearer if you add a Mask.

•**Date/Time Picker Properties**:

•*Date Picker* = Yes or No.

•*Date format:* Choose type of picker (Date, Time, Date/Time) using default set at Grid > Properties.

•Other settings as desired.