The Icetips Previewer

Your own customizable Clarion Report Previewer

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Welcome

Welcome to the Icetips Previewer. This product, like so many others, was created to meet our own needs: a report previewer that could be customized based on client needs. It also allows the developer to change the look and feel of the visual controls to conform with their own visual standards.

Introduction

The Icetips Previewer is created as a window procedure in your application. All the code necessary for the Previewer's functionality is in embedded code in the previewer procedure. The developer can modify any part of it, and remove or add functionality if needed. You can create multiple previewers for one application and use them for separate reports, or call each one conditionally, based on user login for example.

To make calling the previewer easier, we provide an extension template that you apply to the reports. Reports that you don't apply the extension template to will simply call whatever previewer that is the standard.

The Icetips Previewer is compatible with the CPCS reporting templates as well as both ABC and Legacy (Clarion) templates. The Icetips Previewer is compatible with and has been tested with Clarion 4, Clarion 5 and Clarion 5.5.

In this document we will go through the Installation, the Previewer and the Wizard and Extension templates that generate the Previewer and add it to your reports.

Note that where you see the light bulb image in the left margin, it means that there is some important tips or information in the text.

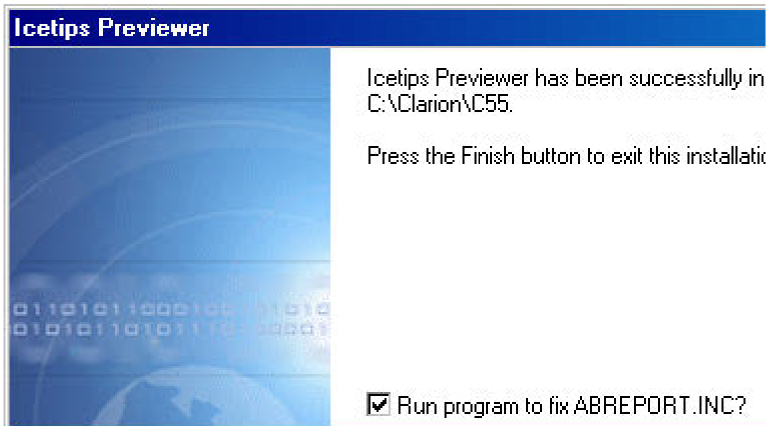
Tips and info

Also note that in some places we have edited windows a little bit to make them fit into this document - made them narrower than they really are, or shorter than they really can be in the Clarion IDE. When you see screenshots in this document that don't look "real" that is because we have "doctored" them a little bit to make them fit.

> *In some places we have added some technical notes. These notes are printed in a different font and have a frame around them.*

Installation

The Icetips Previewer is supplied as a standalone ITPreview.exe installation file created with SetupBuilder 4 from Linder Software. The installation software should register the templates in the Clarion version you selected to install it for.



Icetips Previewer has been successfully in C:\Clarion\C55.

Press the Finish button to exit this installatic

☑ Run program to fix ABREPORT.INC?

Section of the Installation window prompting to run the program to fix abreport.inc

At the end of the installation, you will be asked if you want to run a program that we provide, whose sole purpose is to check the abreport.inc file in the LibSrc directory to make sure that one line in that file is correct. The ABC Classes use a PROTECTED attribute on the queue that contains the imagefilenames. The program we provide simply comments part of that line so that the ImageQueue is no longer protected. If you want to modify the file manually, then uncheck the checkbox and continue with the installation.

Change abreport

Manually changing ABREPORT.INC

To make the changes manually, please follow these steps:

1. Make a backup copy of the **ABREPORT.INC** file
2. Open the **ABREPORT.INC** file in the Clarion4\LibSrc, Clarion5\LibSrc or C55\LibSrc directory.
3. Scroll down the file until you find:

```
PrintPreviewClass CLASS(WindowManager),TYPE,MODULE('ABREPORT.CLW')...
```

4. Continue scrolling down the file, a few more lines, until you find:

```
ImageQueue          &PreviewQueue,PROTECTED
```

5. Comment out the ,PROTECTED attribute, so the line looks like:

```
ImageQueue          &PreviewQueue  !,PROTECTED
```

6. Save the file.
7. Compile or recompile your application.

In the abreport.inc file for Clarion 5.5 Gold, this is line number 66 and this part of the file looks like this:

```
PrintPreviewClass CLASS(WindowManager),TYPE,MODULE('ABREPORT.CLW'),|
                  LINK('ABREPORT.CLW',_ABCLinkMode_),DLL(_ABCDllMode_)
AllowUserZoom       BYTE
ConfirmPages        BYTECurrentPage         LONG
FirstPage           LONG,PRIVATE
ImageQueue          &PreviewQueue,PROTECTED
```

After the change it should look like this:

```
PrintPreviewClass CLASS(WindowManager),TYPE,MODULE('ABREPORT.CLW'),|
                  LINK('ABREPORT.CLW',_ABCLinkMode_),DLL(_ABCDllMode_)
AllowUserZoom       BYTE
ConfirmPages        BYTE
CurrentPage         LONG
FirstPage           LONG!,PRIVATE
ImageQueue          &PreviewQueue,PROTECTED
```

Please note that we split the line with the Class declaration in to two lines for this document.

All that the program does is to put the exclamation mark there for you. The original abreport.inc is saved as abreport.$$$ in the LibSrc directory.

After the installation is complete, make sure that the template was registered without problems.

Now you are ready to use the Icetips Previewer Wizard in your applications to create your own previewer and then apply the Extension template to reports that you want to use your new previewer. The Wizard template and the Extension templates are discussed later in this document. You can at any time go into your Previewer procedure and make any changes you want to. The Wizard template creates the Previewer procedure either by using predefined color themes for the icons, or by using your own, which you set up in the Icetips Previewer Editor. Later in this document we briefly discuss the internals of the Previewer.

Installed components

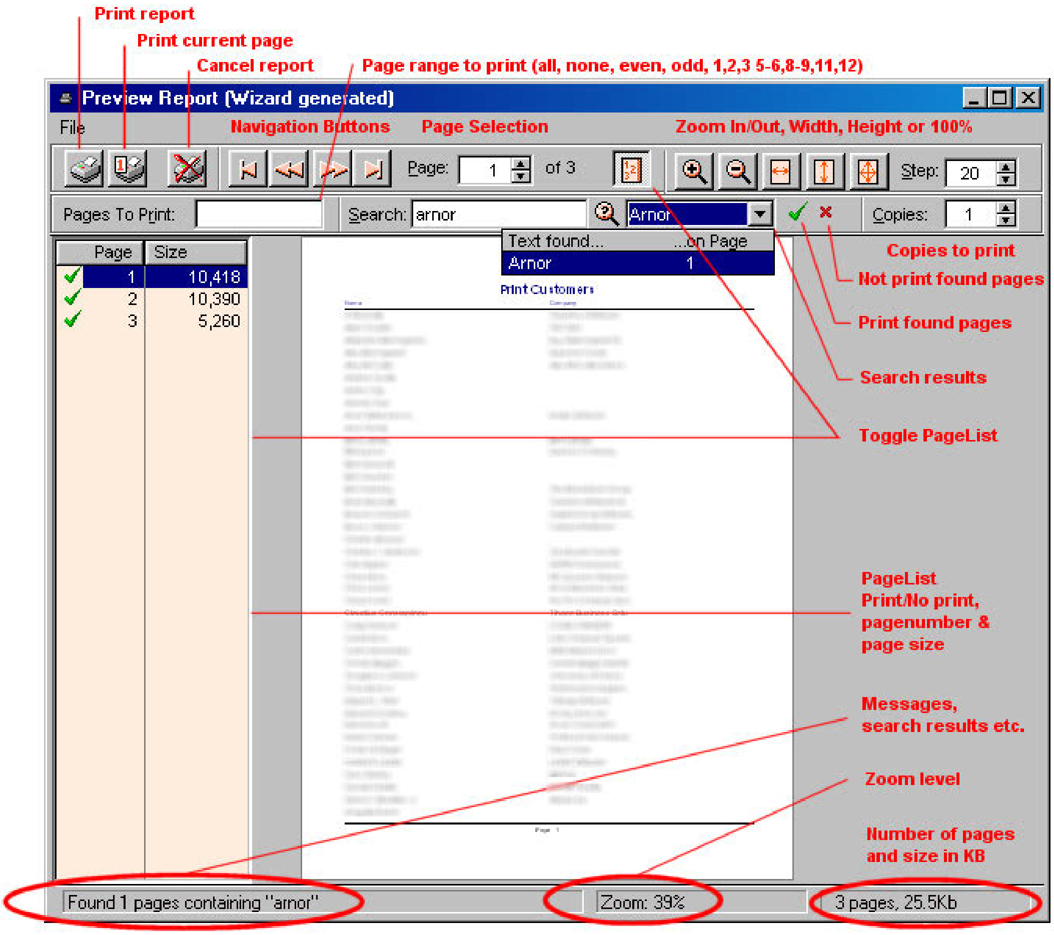
The installation installs several components for you

1. The Wizard template
2. The Documentation in Word97 format and PDF format
3. The Previewer Editor
4. Supporting programs and files to change the abreport.inc and make changes to your redirection file, etc.

Now, let's take a look at the Previewer procedure the wizard will create for you and the functionality that is provided as a standard.

The Previewer

The Icetips Previewer comes fully loaded with a lot of functionality, much more than the standard Legacy or ABC previewers. The image below shows in one clear image the main functionalities in the Previewer as it is in version 1.000 (released in January 2002).



Page: 1 of 3

Step: 20

Pages To Print:

Search: arnor

Arnor

Copies: 1

Page	Size
✓ 1	10,418
✓ 2	10,390
✓ 3	5,260

Text found...	...on Page
Arnor	1

Found 1 pages containing "arnor"

Zoom: 39%

3 pages, 25.5Kb

The Icetips Previewer compiled in a Clarion 4, Legacy program

Toolbar

There is a two "row" toolbar at the top. The top row contains navigation, page selection, and zoom levels. The second row contains page selection, searching and copies to print. The pagelist on the left shows all the pages in the report, double click to toggle between print and not print.

Pages to Print

Pages to print supports words like All, None, Even, Odd as well as individual pages in comma separated lists, like 1,2,3. It also supports ranges, like 1-3 and any kind of combinations: 1,2,3,5-7,9-12,15,18,20-22. If the user gets the ranges wrong, like 12-10, it will automatically "fix" it to be 10-12. Invalid numbers will either be interpreted as the first page or the last page, example 0-5 in a 3 page report will be automatically corrected to 1-3.

Search

The Search uses a simple Instring() search combined with Upper() so it is case insensitive. On a 1.0GHz machine it takes about 1 second to search through a 40 page report where each page is about 20K. If there are a lot of images on the report, you may consider checking for the total size of the report before you let the user search it. If the search text is found on a page, the page is added to the search page list and then the rest of the page is skipped. When a page is selected from the search results drop down listbox, the previewer automatically jumps to that page. The two buttons next to the search drop down toggle all the pages in the list to be printed, or not to be printed. While the search is running, a progress bar pops up where the dropdown is in the screenshot. The dropdown and the two buttons are only visible if the text is found, and are hidden when the previewer starts.

Copies

The Copies to Print works in a very simple way as it simply copies the ImageQueue entries x number of times. The way it is set up it will print each copy of the report then the next copy (collated printing). It is a matter of changing a few lines of code to have it print x copies of page 1 then x copies of page 2 etc. if this required.

Zoom, Step

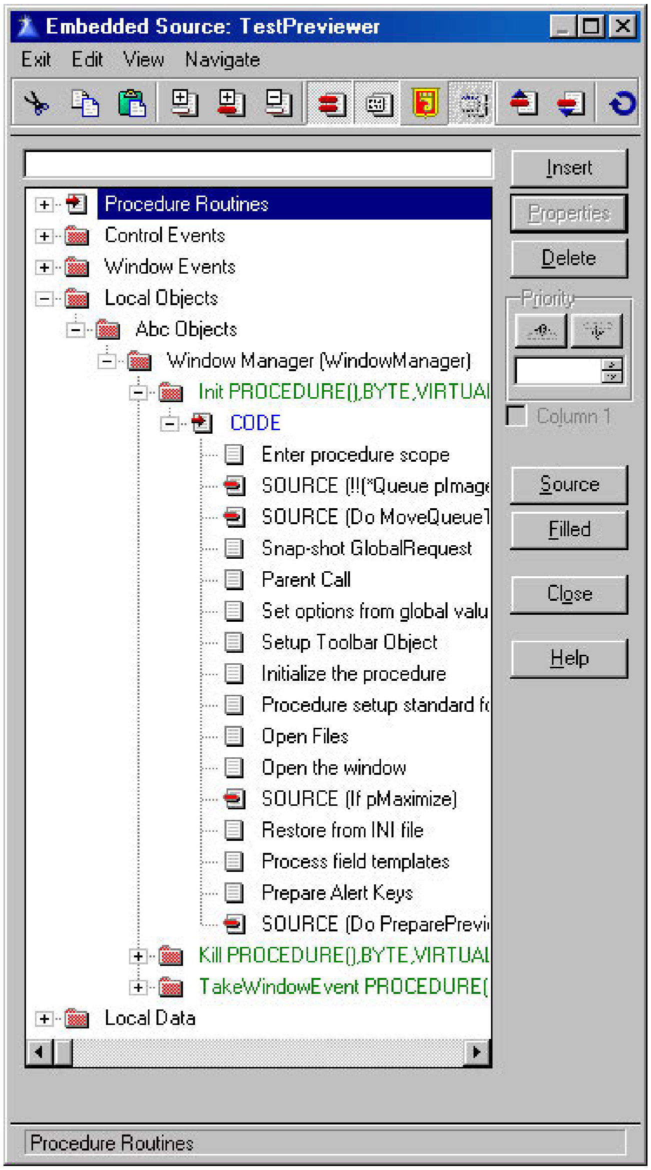
Zoom is very flexible and by default in the range of 25% to 300%. The zoom step can be changed on the toolbar in steps of 5%. Two buttons allow to zoom in and zoom out, 3 next buttons zoom to page width, page height or 100%. Left click on the page to zoom in, right click to zoom out.

Toggle / PageList

The Toggle button that is in the top left corner is only visible when the pagelist is hidden. It simply shows and allows the user to toggle if the page should be printed or not. Green checkmark and the page prints, red cross and the page will not print.

When the previewer starts, the ImageQueue passed to it is moved to a local queue which contains information about size and the toggle field. When the previewer is closing, the pages that are marked not to print are simply not placed into the ImageQueue before it returns.

If you have selected to print more than one copy, the pagequeue is simply added x number of times to the ImageQueue before the previewer returns. If you use this option, please remember that the report is printed, then printed again, etc. You don't get x copies of page 1, then x copies of page 2, etc. By modifying the code in the MoveQueueFromLocal routine you can easily do this yourself.



Clarion 5.5 Embed tree showing some of the Previewer embeds with code

Full source provided

When the Icetips Previewer Wizard creates the Previewer procedure, it includes all the source and it's all there for you to use, modify, add to - do whatever you want, once you have created the procedure it is YOUR previewer! The code for Legacy and ABC is very similar, the only difference is a few embeds that use the Init, Kill and TakeWindowEvent methods of the WindowManager object. Other than that, the code is all in control event embeds, window event embeds, data embeds and routines. Most of the actual code is in routines (17 routine embed entries).

Some of you may ask why we didn't write this as OOP? The reason is extremely simple: This way everything is included in one file and when you have created a previewer procedure it is all in the same procedure, nothing external to worry about, it's all there, right at your fingertips to play with!

We have tried to design the code and the window so it's in logical entities. The buttons and controls are grouped together into Groups on the toolbar and usually there is only two or three lines of code in each embed, if it was more than that we moved it into routines that are called instead. There are some exceptions, particularly for alert key event handling on the window and some of the controls on the window (not the toolbar).

Previewer code and design

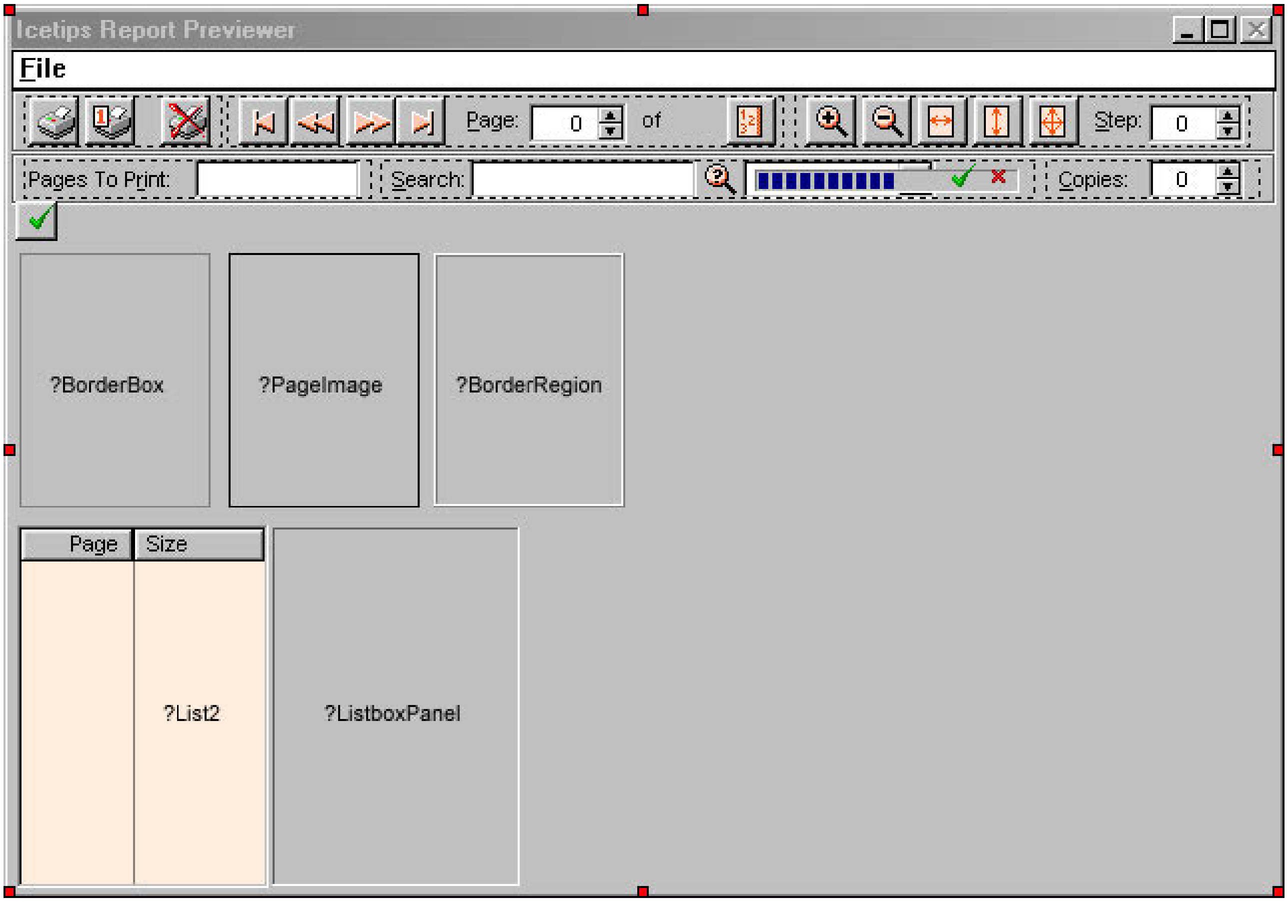
In-dept discussion follows...

Oops!

Techno stuff follows...

If you don't want to know you don't need to read.

This section will not discuss the actual code for the previewer, but we will discuss some important things to note about how the previewer works and how it is designed.



Preview window in Clarion 5.5 Window Formatter showing standard window controls for the Previewer

Prototype and Parameters

The Previewer procedure takes several parameters that determine how the previewer works. The prototype is:

```
(*Queue pImageQueue, Short pZoom, Byte pMaximize, String pWindowCaption, Byte
pStartPageList),Byte
```

Let's look at each of the parameters passed to the previewer:

Parameter	Function
PImageQueue	This is the queue passed to the previewer which contains the name of the windows metafile image. At the end of the procedure, this queue is free'd and filled again with the pages that should be printed.
PZoom	The pZoom parameter specifies what type of zoom should be applied when the previewer starts. Any positive value above 0 is interpreted as an actual percentage zoo, example if you pass the value 50, the zoom will be 50% at startup. Three values have special meaning: -2 (negative two) will zoom to PageHeight, -1 (negative one) will zoom to PageWidth and 0 will zoom to 100%
PMaximize	If True the previewer window is maximized on startup. If it is not True, the previewer will use whatever setting there is in the ini file like any other window in your application or use the initial size.
PWindowCaption	Specifies the caption you want to use for the preview window. The default caption of the window is "Icetips Report Previewer" but the default passed to the previewer by the extension template is "Preview Report"
PStartPageList	Specifies if the pagelist should be visible when the report starts. The default by the extension template is True.
ITP:Response (returned)	The value of ITP:Response which is the return value of the Previewer is set to True only if the user clicks on either the ?PrintAllButton or the ?PrintOneButton button. This is used by the extension template to determine if the report should be flushed to the printer or not.

Change Prototype

If you want to change the prototype, for example pass some more information to it, there is nothing that prevents you from doing that. The extension template that you apply to your reports to call the previewer both has options for you to type in additional parameters and also to not generate code to call the previewer. If you don't generate the code, it is actually still generated, but it's commented out, so you can see exactly where it is and how it looks like in the embeds around it. If you want to modify the template to support additional parameters as default, you only need to modify the line that creates the %ITPPreviewCall symbol as it is always the same. Look for a line that starts like

```
#SET(%ITPPreviewCall,...
```

and modify it to suit your needs.

New Parameters

If you add parameters to the previewer, it would be a good practice to make those parameters omittable by enclosing them in the <> like:

```
(*Queue pImageQueue, Short pZoom, Byte pMaximize, String pWindowCaption, Byte
pStartPageList, <BYTE pMyParam>,<STRING pReportName>),Byte
```

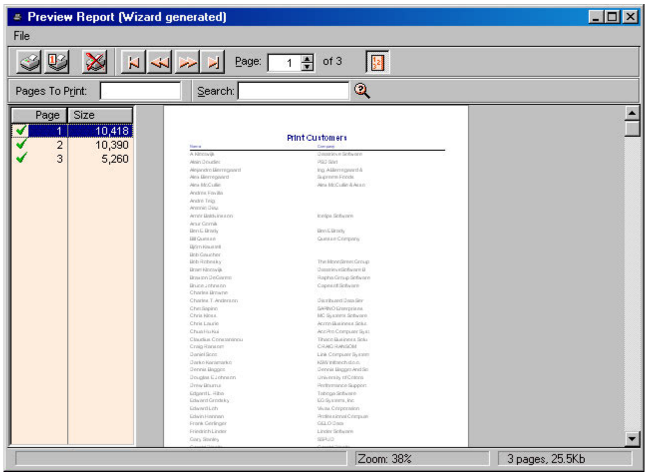
that way you could still use that same previewer for reports that don't pass the additional parameters.

Changing the Previewer

You can modify the Previewer as much as you like. The source is all there and there is nothing hidden from you. But that said, you need to exercise care when you start modifying and make sure that you don't remove vital parts of the product or it will not work. All the controls on the window itself (not the toolbar) are required except the listbox, ?List2, and the ?ListboxPanel which are only used for the PageList. The ?BorderBox control provides a visual border around the page. Do not remove it, but you can change it's properties if you want. The ?PageImage is also required as it shows the pages. The ?BorderRegion is used to trap the right and left mouseclicks on the page for the zoom to work.

Removing functionality

If you want to remove functionality from the previewer, the safest way is simply to hide the controls or the entire group of controls if that is what you want. For example if you want to disable the entire navigation group, just hide it and the group is gone. Then you can move the groups around and get the hidden one(s) out of the way for example move the hidden groups over to the right.



Page	Size
1	10,418
2	10,390
3	5,260

Previewer with the ZoomGroup and SizeGroup hidden

On the toolbar there are two panel controls that extend horizontally over the entire window. At the very top of the toolbar is a black line that also extends over the entire window. All the groups, except the ones further to the left, have a bevel style of 24576, which shows up as a separator between the groups on the toolbar when the previewer runs. This is set at runtime, in the SetupWindow routine. If you do not want the separators to show up, set the values there to 0 or comment out the lines.

Group Separators

In the Data embed a few constants are defined that affect how some parts of the Previewer work. Let's take a brief look at these constants:

```
! Constants

! Minimum and Maximum zoom values in percent
ITP:MinimumZoom EQUATE(25)
ITP:MaximumZoom EQUATE(300)

! Zoom Constants
ITP:ZoomPageHeight EQUATE(-2)
ITP:ZoomPageWidth  EQUATE(-1)

! Events
ITP:EVENT:Sized    EQUATE(501h)
```

The first two constants set the minimum and maximum zoom that the previewer will allow. You can change it to whatever you want. The next two are used to equate the two zoom values that can be passed and are not actual zoom percents, that is -1 and -2. There is no need to change those values. The last equate defines a user event that is used to draw the page when the EVENT:Sized is fired. The reason for this extra event is that to get the size of the window clientarea reliably in Clarion 4, we had to create a control on the fly as it did not support PROP:ClientHeight and PROP:ClientWidth as Clarion 5 and Clarion 5.5 do. These two properties are not documented, but are used in the Clarion 5 and Clarion 5.5 report previewers. The problem we ran into was that EVENT:Sized is modal so controls can not be created during the event. We get around that by posting our own event from EVENT:Sized and do the processing there.

Clarion 4 compatibility

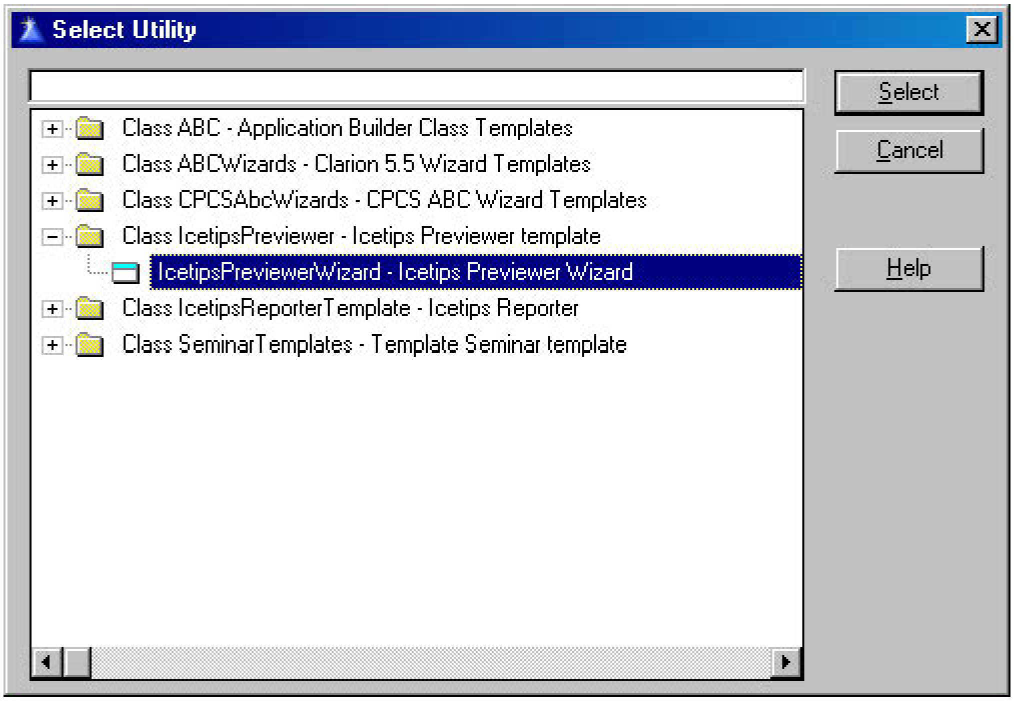
Some of this technological mumbo jumbo above might come in handy to read over — you never know...

Wizard template

The Wizard template that is provided with the Previewer and creates the Previewer procedure is a very simple one. The only thing it needs to know is the name of the procedure. Note that you cannot create a new procedure and select the Previewer wizard from the wizard list, because it is not tied to any procedure template.

Run the Wizard

To run the wizard start by selecting "Application|Template Utility" from the main menu

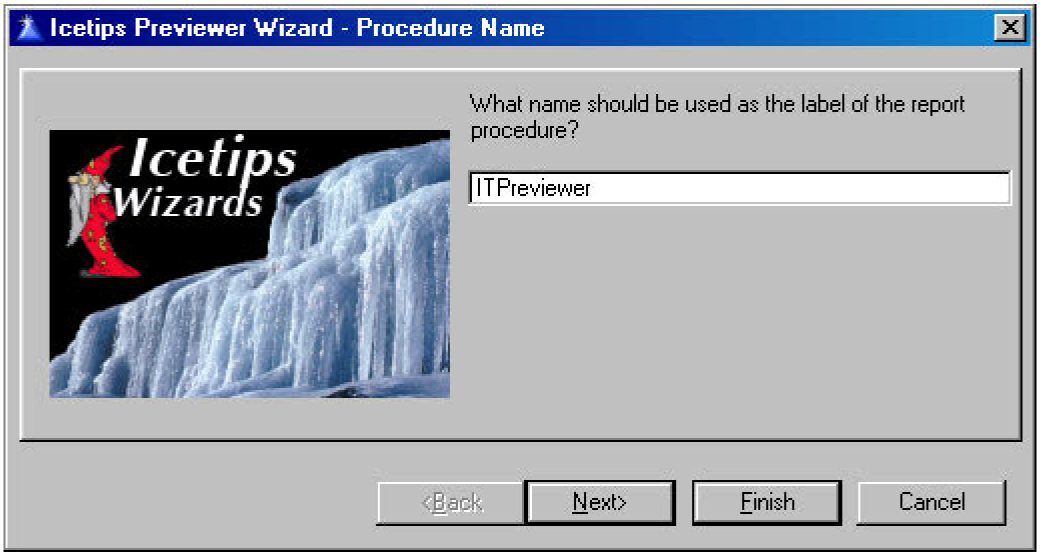

Select Utility
Class ABC - Application Builder Class Templates
Class ABCWizards - Clarion 5.5 Wizard Templates
Class CPCSAbcWizards - CPCS ABC Wizard Templates
Class IcetipsPreviewer - Icetips Previewer template
IcetipsPreviewerWizard - Icetips Previewer Wizard
Class IcetipsReporterTemplate - Icetips Reporter
Class SeminarTemplates - Template Seminar template
Select
Cancel
Help

Selecting the Icetips Previewer Wizard

in Clarion. Locate the "Class IcetipsPreviewer - Icetips Previewer Wizard" from the list and then select the "IcetipsPreviewerWizard - Icetips Previewer Wizard" from the list.

Enter Procedure name

Click on the Select button and the Icetips Previewer Wizard pops up and prompts you for a name for the procedure.



Icetips Previewer Wizard - Procedure Name

What name should be used as the label of the report procedure?

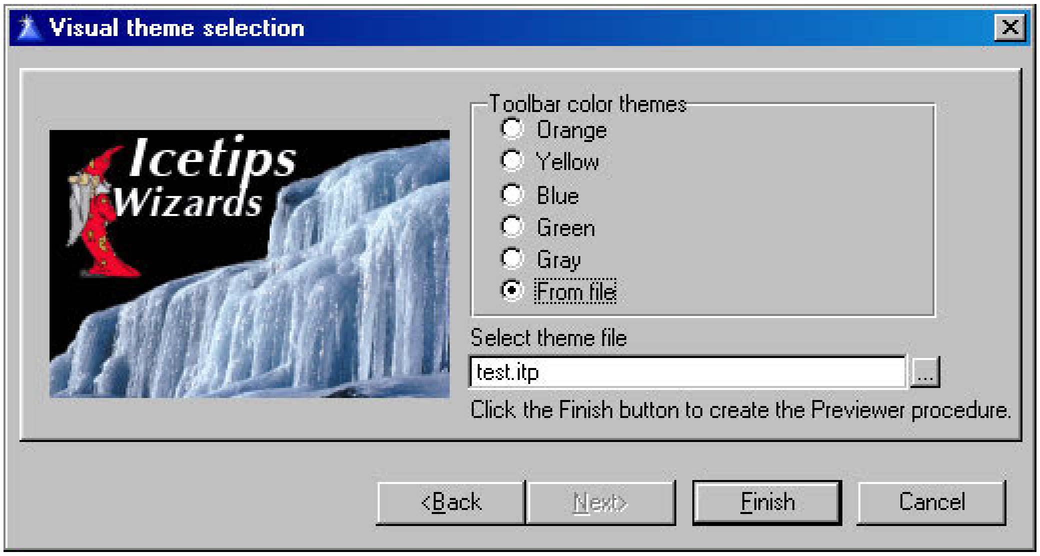
ITPreviewer

Previewer Wizard - Prompting for Procedure name

Type in the name of the procedure and click on the Next button.

Select Toolbar color theme

The Wizard template allows you to select from one of 5 predefined color themes for the previewer. These themes affect the colors of the icons that are used on the buttons in the previewer toolbar. The themes are Orange (default), Yellow, Blue, Green and Gray.



Visual theme selection

Toolbar color themes
- ○ Orange
- ○ Yellow
- ○ Blue
- ○ Green
- ○ Gray
- ● From file

Select theme file

test.itp

Click the Finish button to create the Previewer procedure.

Selecting a theme file or pick one of the predefined themes

Selecting a Theme file

You can also use the Icetips Previewer Editor, discussed later in this document, to create theme files, which allow you to set up the icons, change the window background etc. When you select the "Select theme file" in the wizard it allows you to select a theme file, which has .itp as a default extension, and use that instead of the predefined themes. Do not forget that whatever you select here, you can change when you have created the previewer, this is simply to make it easier for you to do so.

Fully customizable

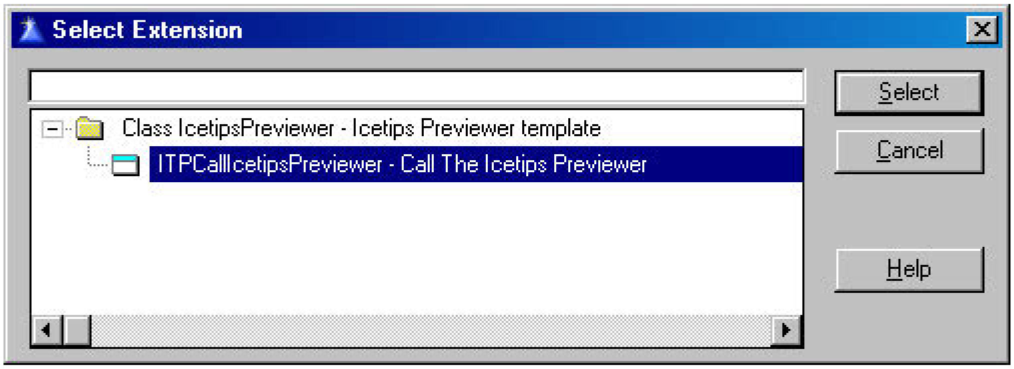
The Wizard will now create your previewer procedure for you and you can now use it from your reports by applying the Extension template to the report procedures. The Extension template is discussed in the next section.

Remember that when the Wizard has created your Previewer procedure, you have access to everything in it, including a window with over 40 controls on it, almost 1,000 lines of embedded code that make it all work and almost 100 icon files to go with it all! You don't like something? Go change it!

Extension Template

In order for you to use your new previewer procedure in your application, you need to apply an extension template to your report procedures. You can only apply the extension template to report procedures.

Apply the Extension


Select Extension
Class IcetipsPreviewer - Icetips Previewer template
ITPCallIcetipsPreviewer - Call The Icetips Previewer
Select
Cancel
Help

Selecting the Call The Icetips Previewer Extension template

Select Extension template

Select the "Call The Icetips Previewer" from your list of Extension templates. This applies the Extension to the report and will generate all the code for you that is needed to call your previewer.

Using multiple previewers

In-dept discussion follows...

You can add as many instances of this extension template as you want, each calling a different previewer, or with different parameters. Each condition is validated separately, in an If statement. The logic of the generated code is very simple:

```
If FirstCondition
  Previewer1
End
If SecondCondition
  Previewer2
End
```

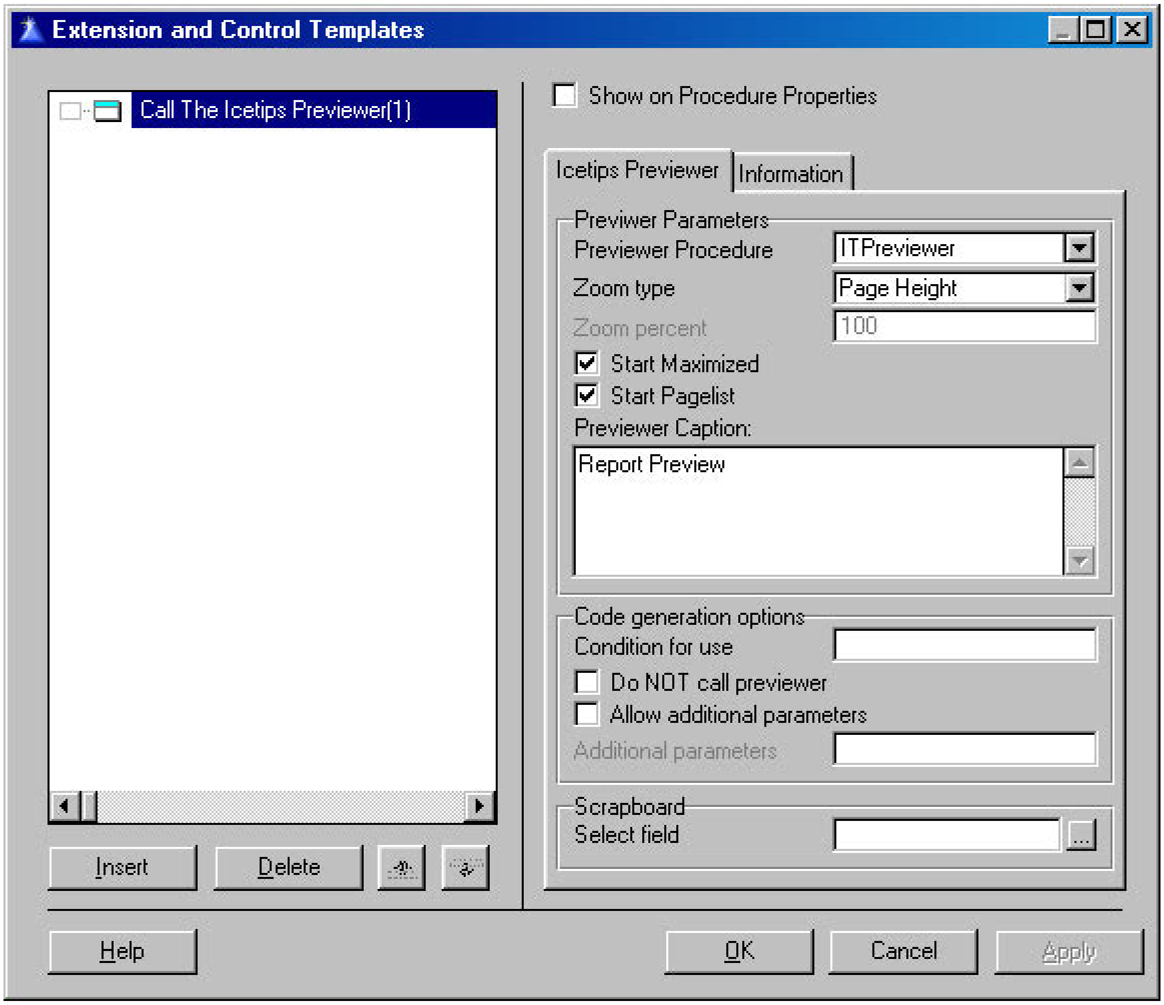
And so forth. This does mean that you can have FirstCondition and SecondCondition both be true, which will results in both previewers running and the second one will probably not have any pages to display because after the first one finishes, it prints or discards the pages, so there's nothing left for the second one!

Using the standard previewer as an option

The Demo program supplied with the Icetips Previewer shows a simple way to deal with this as it sets one variable and then this one variable is used in the conditions. It shows how to call a selection window where you can select the previewer you want to use and then use a variable to conditionally run the previewer of choice. Note that Clarion's or CPCS' standard previewer is never called if you apply the extension templates. If you want to use Clarion's or CPCS' standard previewer as an alternative, you need to handcode it in the approperiate embeds. The Demo program shows how to do that in a simple way.

Note that in Clarion 4 ABC, the code generated is actually Legacy code. After spending days on trying to find a solution to an obscure problem when importing TXA for Clarion 4 ABC procedure with all the embeds, we finally gave up and used the Clarion 4 Legacy TXA instead, which works perfectly in Clarion 4 ABC! Clarion 5 and Clarion 5.5 had no problems with the same TXA code.

When you have applied the extension template, you only need to select the previewer



Extension and Control Templates

Call The Icetips Previewer(1)

□ Show on Procedure Properties

Icetips Previewer | Information

Previwer Parameters

Previewer Procedure: ITPreviewer

Zoom type: Page Height

Zoom percent: 100

☑ Start Maximized

☑ Start Pagelist

Previewer Caption: Report Preview

Code generation options

Condition for use:

□ Do NOT call previewer

□ Allow additional parameters

Additional parameters:

Scrapboard

Select field:

Icetips Previewer Template - Showing default values after Previewer has been selected procedure from the dropdown list, where the template prompts you for "Previewer Procedure". All the other prompts are filled out by defaults, which will work fine.

Zoom type

The **Zoom type** set's the initial zoom that is used when the previewer is called. This can be "Page Height", "Page Width", "Full (100%)" or "Value". If you select the Value from the drop down, the **Zoom percent** field is enabled and you can type in whatever percent value you want the previewer to start in.

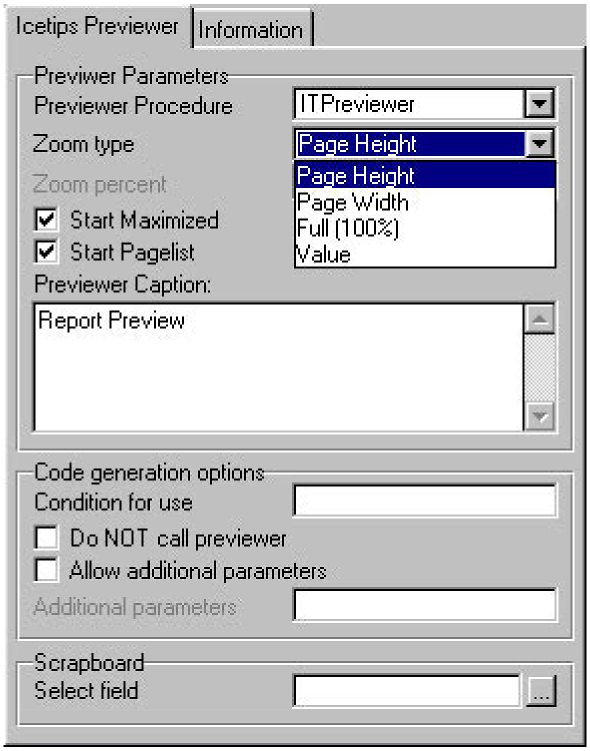
The two checkboxes, Start Maximized and Start Pagelist affect how the previewer starts.

Start Maximized

Start Maximized will maximize the window when it runs. If this is not checked, the previewer will start in either the designed size (which should fit in a 640x480 window, though it may be a bit tight...) or at whatever size was saved for it, if the window size/position is being saved to an ini file. Start Maximized is checked by default.

Start Pagelist

The **Start Pagelist** specifies if the PageList should be started when the previewer window opens or not. Start Pagelist is checked by default.



Icetips Previewer | Information

Previewer Parameters
Previewer Procedure: ITPreviewer
Zoom type: Page Height
Page Height
Page Width
Full (100%)
Value
Zoom percent
☑ Start Maximized
☑ Start Pagelist
Previewer Caption:
Report Preview

Code generation options
Condition for use
☐ Do NOT call previewer
☐ Allow additional parameters
Additional parameters

Scrapboard
Select field

Zoom type drop down on Icetips Previewer Extenstion Template window

Previewer Caption

The **Previewer Caption** sets up the text you want to use as caption for the previewer.

Code generation options

The group that is called **Code generation options** sets up the condition for using the previewer. Note that if you set up a condtion and it is false and there is no other instance of the previewer, there will be no preview at all!

Condition for use

The code that you put in to the **Condition for use** field is used directly in an If statement and if the condition evaluates to True the previewer runs.

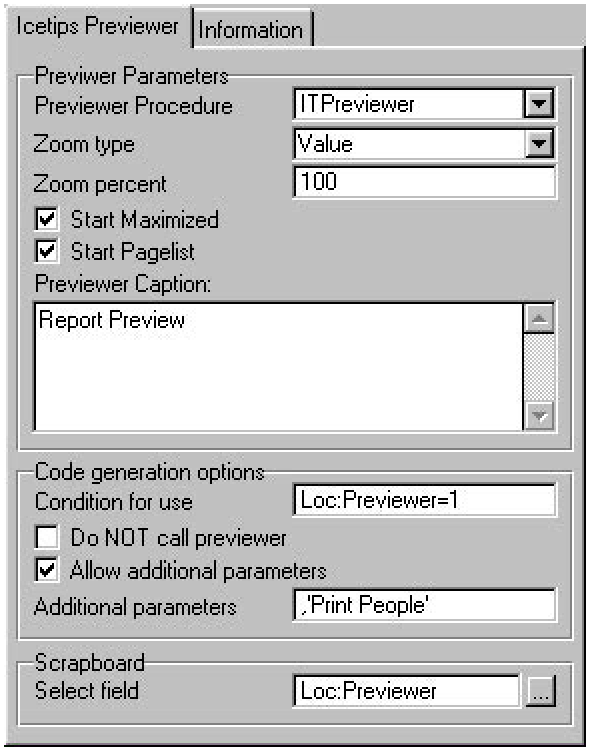
The Demo program, supplied with the Previewer, has code that shows how to select a previewer and how to use the standard previewer. Condition for use is empty by default.

Do NOT call previewer

The **Do NOT call previewer** can come in handy if you want to hand code the calls to the previewer. What it does is comment the generated code, rather than not generate it. That way you can see how the generated code looks like when you review the code and edit it in the Embeditor in Clarion. Do NOT call previewer is unchecked by default.

Allow additional parameters

Allow additional parameters allows you to add parameters to your call to the previewer. This comes in handy if you have added parameters to the preview procedure and need to add your parameters here. Note that these parameters are in addition to the standard, default parameters used by the template. Allow additional parameters is unchecked by default.



Previewer Procedure: ITPreviewer
Zoom type: Value
Zoom percent: 100
☑ Start Maximized
☑ Start Pagelist
Previewer Caption: Report Preview
Condition for use: Loc:Previewer=1
☐ Do NOT call previewer
☑ Allow additional parameters
Additional parameters: ,'Print People'
Select field: Loc:Previewer

Passing Additional Parameters to your Previewer

Additional parameters

As an example, let's say you wanted to pass an additional parameter to the previewer procedure with a descriptive name of the procedure. You simply check the Allow additional parameters, and type the parameter into the **Additional parameters** entry field:

```
'Print People information'
```

You need a comma as the first character to separate it from the parameter list, but if you forget, the template will put it there for you. This will now generate the following call to the previewer:

```
If ITPreviewer(SELF.Preview.ImageQueue, 100, 1, |
   'Report Preview', 1,'Print People information')
```

Instead of the standard:

```
If ITPreviewer(SELF.Preview.ImageQueue, 100, 1, 'Report Preview', 1)
```

In the previewer procedure, you would add this as `,<STRING pProcedure>` or something similar at the end of the standard parameter list, don't forget to update both the Parameter and Prototype for the previewer! Good practice is also to copy the prototype and put it as a comment in one of the first embed points in the procedure, that way you can see it when you are in the embed tree. The Additional parameters field is empty by default and disabled.

The last group on the window is a simple scrapboard. It has only one entry, the Select field, which is not used for anything, but allows you to pick variables to use in the Condition for use and use copy/paste to copy the text. The Select field entry is empty by default. It is only provided for your convenience:)

Information tab

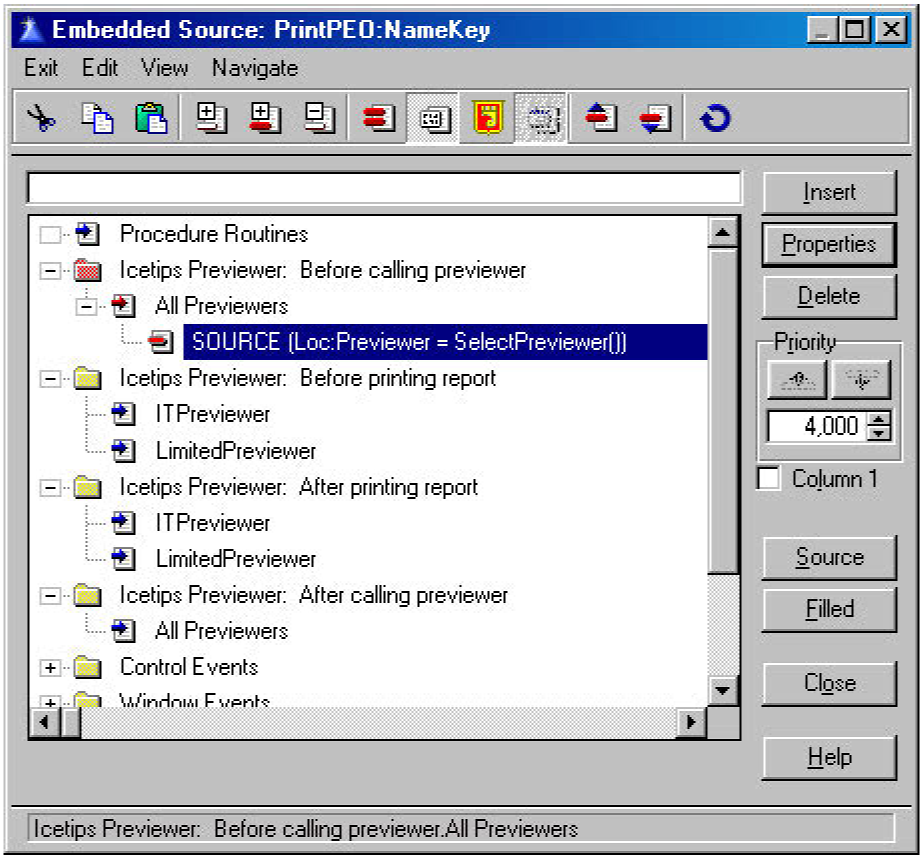
The Information tab only has some generic information about the conditional calls to the previewer procedure. It simply stresses the need to make sure that at least one condition evaluates to true when you conditionally call the previewer or nothing will preview or print.

Previewer Extension Embed points

When you apply the Extension template to your report, it automatically inserts 4 embeds that you can use to do anything you like before and after calling the previewer. Note that CPCS report templates will only have 2 embeds, not 4, due to the different design of CPCS reports.

Two of these embeds are previewer dependent, two are not. Please refer to the image to the left. As you can see there are 2 entries for Icetips Previewer: Before calling previewer, which has only one instance, the same as Icetips Previewer: After calling previewer.

Then there are two entries for Icetips Previewer: Before printing report and Icetips Previewer: After printing report. Both of these have two



- Procedure Routines
- Icetips Previewer: Before calling previewer
  - All Previewers
    - SOURCE (Loc:Previewer = SelectPreviewer())
- Icetips Previewer: Before printing report
  - ITPreviewer
  - LimitedPreviewer
- Icetips Previewer: After printing report
  - ITPreviewer
  - LimitedPreviewer
- Icetips Previewer: After calling previewer
  - All Previewers
- Control Events
- Window Events

Icetips Previewer: Before calling previewer.All Previewers

Embed tree in Clarion 5.5 ABC showing embeds for two instances of Icetips Previewer instances, one for each instance of the Extension template. The first embed, the Before calling previewer, is inserted before any calls to a previewer and this is the perfect place to set conditional variables etc and do anything that needs to be done before the previewers are called. In the demo program, in the PrintPEO:NameKey procedure, this is what you will find in the **Icetips Previewer ABC: Before calling previewer** embed:

How to conditionally use the standard perviewer

```
Loc:Previewer = SelectPreviewer()
If Loc:Previewer = 0                          ! Selection Cancelled
  SELF.Report {PROP:FlushPreview} = False
  Free(SELF.Preview.ImageQueue)
End
If Loc:Previewer = 3                          ! Use the standard ABC Previewer
  PARENT.AskPreview
End
```

This is the only code needed to call the selection window and either cancel the report or use one of three previewers available! Note that when you use the Icetips Perviewer Extension template, the Clarion or CPCS standard previewer is never called unless you call it manually. If you want to use it you must call it in code. All the code you need is **Parent.AskPreview** - see the code above. This applies to ABC. In Legacy there is a little bit more code needed. Please read about that in the Compatibility issues section later in this document.

The two embeds that have one instance for each previewer are handy to execute code that is previewer dependent before and/or after the previewer procedure is called. Again note that the way the embeds show up may differ between versions of Clarion and it is possible that last minute minor changes were made to the embed structure after this document was finished.   There may be ever so slight differences between what you see in Clarion and what you see in this document. We try to keep these changes to a minimum and get new screenshots into the documentation as quickly as possible.

The Icetips Previewer Editor

The Icetips Previewer Editor enables you to edit the theme files so you can select icons for the Previewer buttons, etc. so they are all correct once you have created the Previewer procedure. This saves you time in going in and picking the icons each time you create a new previewer. You can also set the window background and the background for the pagelist.

The theme files use .itp extension. The first time the Previewer Editor runs, it automatically associates the .itp extension to the Icetips Previewer Editor so you can simply double click on any files with the .itp extension to load them into the Icetips Previewer Editor. That said, the .itp files are simple ini files so you can use any editor that supports pure ascii to edit these files, also an example file is at the end of this section.

We provide you with no less than 89 icons and cursors in 5 different color themes, Orange, Yellow, Blue, Green and Gray for you to pick from and you can, of course, use your own.

The Previewer Editor attempts to do it's absolute best to conform to the Clarion standard search path for image files. When you pick an icon and you opt to use the filename only, i.e. not get the whole path with it, the Editor will go searching for the appropriate icon.

Because you can be editing for any version of Clarion from Clarion 4 to Clarion 5.5 at the same time, the logic we have applied is to look for the most recent version of Clarion first, i.e. C5.5, then C5 and finally C4. We use the Clarion Redirection file for each version to search for the images. The Redirection file can have entries like:

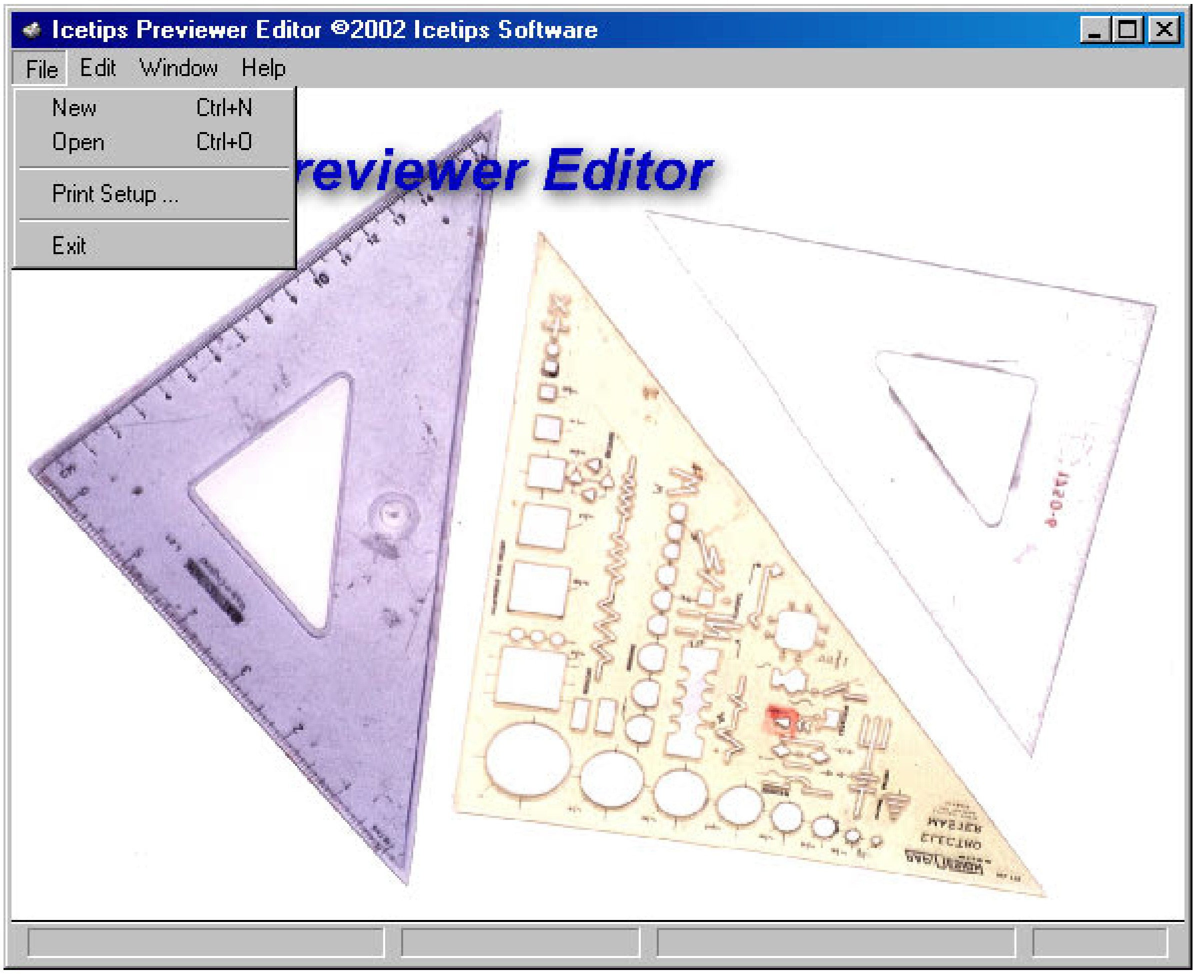
```
*.ico=.;.\z-icons ; %ROOT%\3RDPARTY\Images; %ROOT%\images ; %ROOT%\template
```

This means that we will first look in the current app directory (.), then in \z-icons from the app directory (my personal setup), then in the %ROOT%\3rdParty\Images and so on and so forth. If you have C5.5, C5 and C4 installed, it will start searching based on the C5.5 Redirection file, then the C5 redirection file, then the C4 file.

If the image cannot be found in any of these directories, it means that either you mistyped it (if you didn't select it) or the path you selected it from is not in the redirection file, in which case the Clarion linker will not find it either and will be unable to link your application using a Previewer procedure created by this theme file.

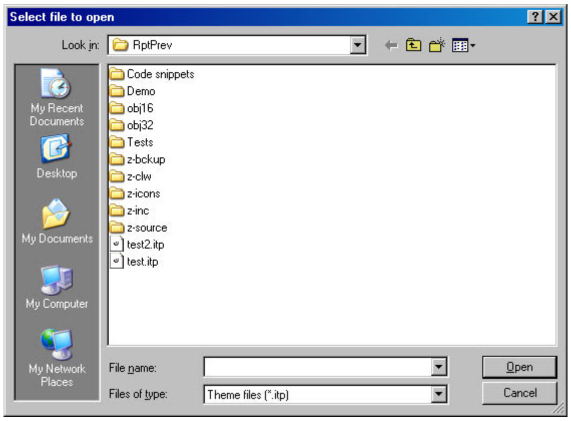
The main menu in the Icetips Previewer Editor allows you to create new files and open existing files from the File menu. In both cases it will ask you for a filename to create or open, unless you have run it by double clicking on an existing file in Windows Explorer. If you are creating a new file, you do not have to type the itp extension, the program will automatically append it to the filename.

Main window



The Icetips Previewer Editor Window

The Previewer Editor uses the Ctrl+N hotkey for New file and Ctrl+O for Open file.



Open File dialog box in Windows XP

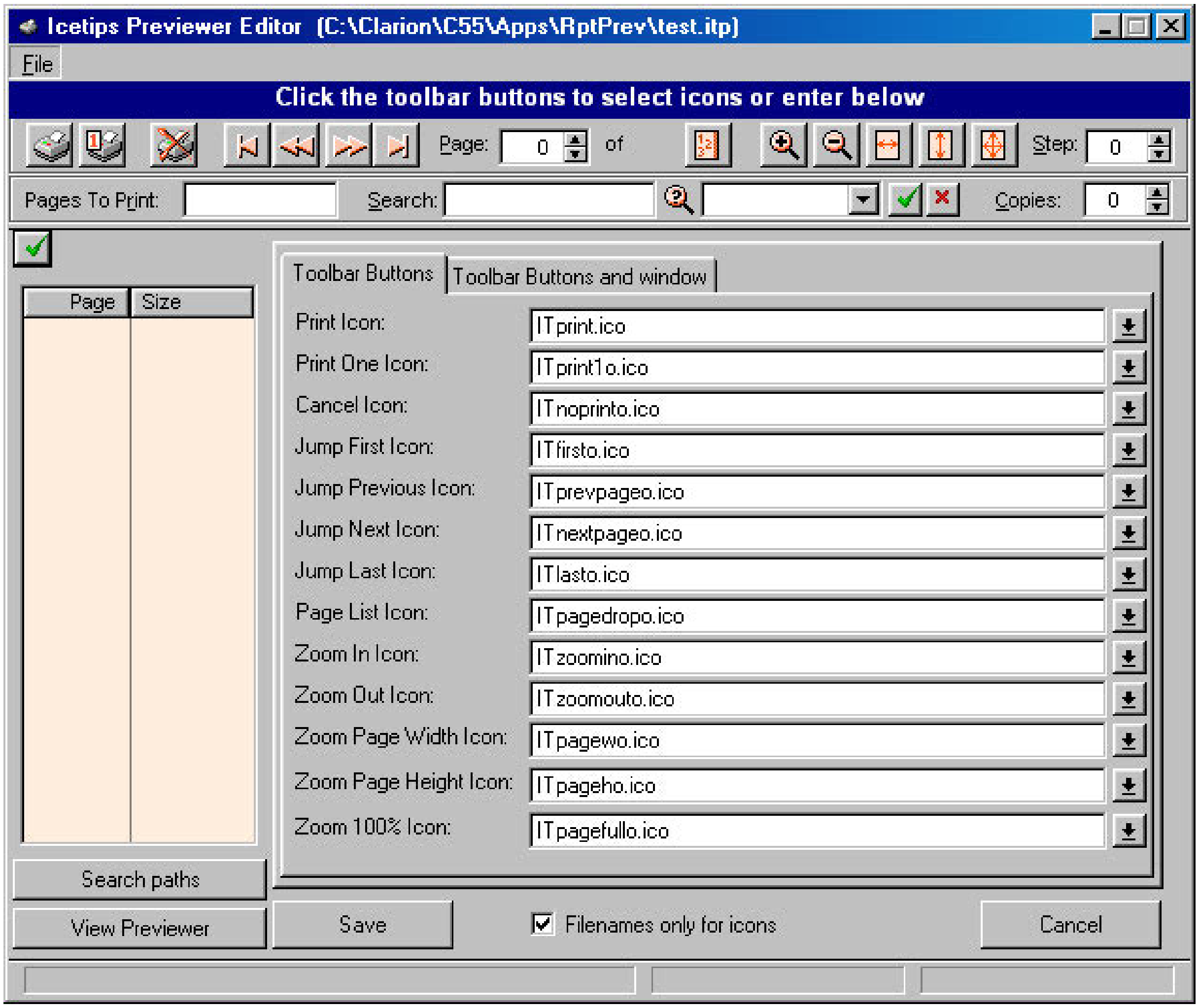
When you use the File|Open, you will be prompted for a file to open. Note that the screenshot here is from Windows-XP and will probably be different if you are running other versions of Windows.

The Editor window

When the Editor window opens, you will see a toolbar with icons a the top. We have made this window look like the true Previewer, so that you can see how it will look when you use the Wizard to create your previewer using your theme file. On top of that, you can run an actual previewer right from the editor that is fully functional, except it does not print the page.

Toolbar Buttons tab

The first tab on the main window, "Toolbar Buttons", has entries for all the icons on the top row on the toolbar.



Icetips Previewer Editor (C:\Clarion\C55\Apps\RptPrev\test.itp)

Click the toolbar buttons to select icons or enter below

Page: 0 of

Step: 0

Pages To Print:

Search:

Copies: 0

Print Icon:	ITprint.ico
Print One Icon:	ITprint1o.ico
Cancel Icon:	ITnoprinto.ico
Jump First Icon:	ITfirsto.ico
Jump Previous Icon:	ITprevpageo.ico
Jump Next Icon:	ITnextpageo.ico
Jump Last Icon:	ITlasto.ico
Page List Icon:	ITpagedropo.ico
Zoom In Icon:	ITzoomino.ico
Zoom Out Icon:	ITzoomouto.ico
Zoom Page Width Icon:	ITpagewo.ico
Zoom Page Height Icon:	ITpageho.ico
Zoom 100% Icon:	ITpagefullo.ico

☑ Filenames only for icons

The Icetips Previewer Editor window

To select the icon, you can either click on the buttons on the toolbar or the buttons to the right of the icon entry fields.

Filenames only for icons option

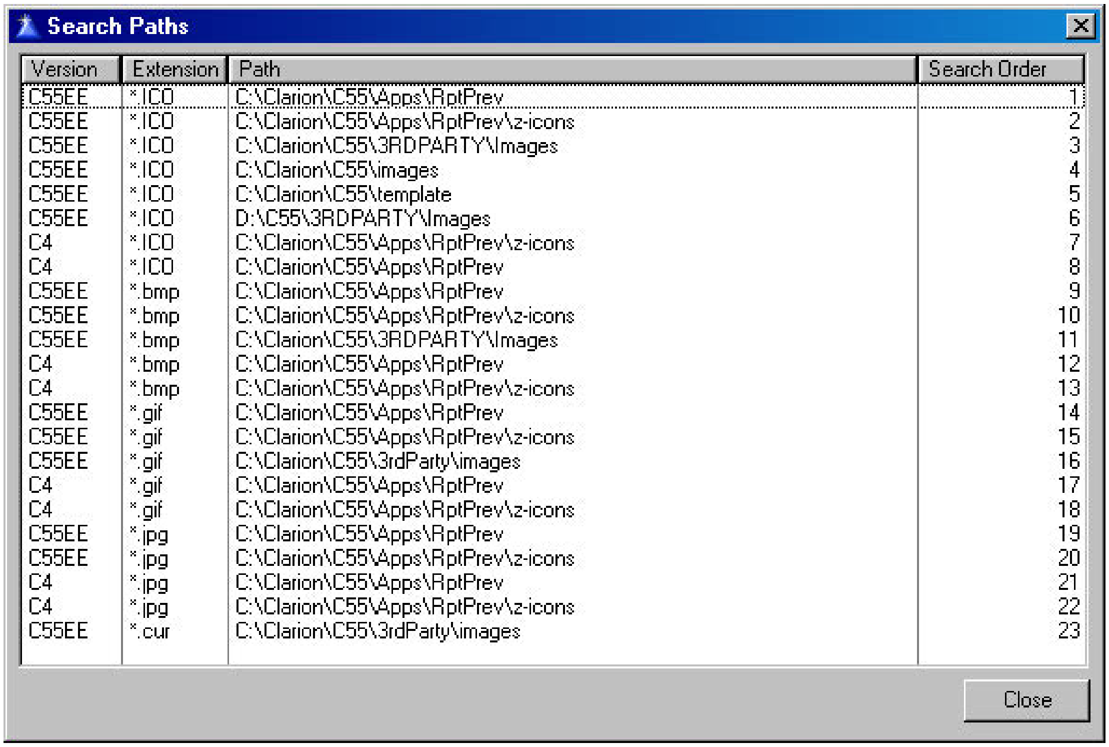
The "Filenames only for icons" option will strip the path off the icon names when you select them. If this option is unchecked the filename will contain drive and pathname when you select it. This means that the icon path will be hard coded into the Previewer procedure with path and everything - if you move the icon on your hard drive, the linker will not be able to find it any more!

We suggest you play around in this editor for a while to get familiar with how it works and what icon is what.

If you click the Cancel button you will lose your changes, but you will be warned so you can go back and hit the Save button instead.

Search Path button

The Search Path button simply allows you to view the search paths that the program will use to find icons and other images. You can use .ico, .bmp, .gif or .jpg files as "icons" in the previewer, so it will show you the search paths for all the image types.



Version	Extension	Path	Search Order
C55EE	*.ICO	C:\Clarion\C55\Apps\RptPrev	1
C55EE	*.ICO	C:\Clarion\C55\Apps\RptPrev\z-icons	2
C55EE	*.ICO	C:\Clarion\C55\3RDPARTY\Images	3
C55EE	*.ICO	C:\Clarion\C55\images	4
C55EE	*.ICO	C:\Clarion\C55\template	5
C55EE	*.ICO	D:\C55\3RDPARTY\Images	6
C4	*.ICO	C:\Clarion\C55\Apps\RptPrev\z-icons	7
C4	*.ICO	C:\Clarion\C55\Apps\RptPrev	8
C55EE	*.bmp	C:\Clarion\C55\Apps\RptPrev	9
C55EE	*.bmp	C:\Clarion\C55\Apps\RptPrev\z-icons	10
C55EE	*.bmp	C:\Clarion\C55\3RDPARTY\Images	11
C4	*.bmp	C:\Clarion\C55\Apps\RptPrev	12
C4	*.bmp	C:\Clarion\C55\Apps\RptPrev\z-icons	13
C55EE	*.gif	C:\Clarion\C55\Apps\RptPrev	14
C55EE	*.gif	C:\Clarion\C55\Apps\RptPrev\z-icons	15
C55EE	*.gif	C:\Clarion\C55\3rdParty\images	16
C4	*.gif	C:\Clarion\C55\Apps\RptPrev	17
C4	*.gif	C:\Clarion\C55\Apps\RptPrev\z-icons	18
C55EE	*.jpg	C:\Clarion\C55\Apps\RptPrev	19
C55EE	*.jpg	C:\Clarion\C55\Apps\RptPrev\z-icons	20
C4	*.jpg	C:\Clarion\C55\Apps\RptPrev	21
C4	*.jpg	C:\Clarion\C55\Apps\RptPrev\z-icons	22
C55EE	*.cur	C:\Clarion\C55\3rdParty\images	23

The Search Paths window, showing search paths for C5.5 and Clarion 4.

When the Editor searches for the files for you, it will start at the first entry for the correct file extension, for example, if it's looking for .gif files, it will start on entry number 14 in the list and work down to entry number 18. If the Editor can't find it, the button will show up without any icon, so you should notice if your icon is not found.

View Previewer button

The View Previewer button allows you to see how the previewer will look using your theme file. When you click on the View Previewer button, the program prompts you to save the changes you have made so they will show up in the Previewer. If you do not save the changes, the Previewer will show you how the theme file was before you made any changes.

Toolbar Buttons and Window tab

The second tab, "Toolbar Buttons and Window", contains entries for the three buttons on the second row on the toolbar and the "Print this Page" toggle button which is on the window, top left corner.

Flat Buttons option

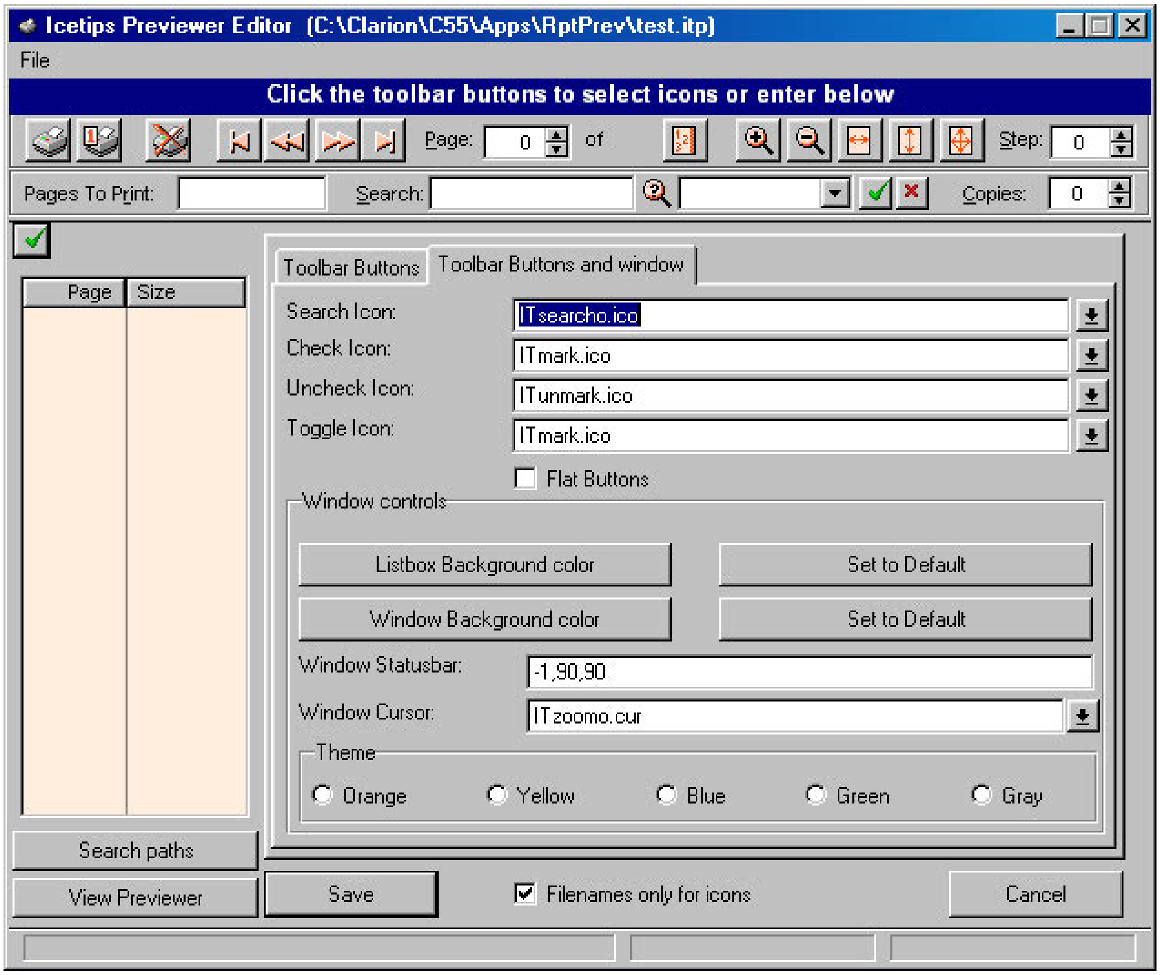
The Flat Buttons option will set all the buttons either flat or not flat, except the Search button, which is flat by default because of it's location.

Previewer Window and pagelist background

The second tab also allows you to set up the window background color and the page list background color. The "Set to Default" buttons will reset the window background color back to **`COLOR:BtnFace`** and the listbox background color to **`0DCEDFEH`** which is a pale tan color.

Previewer Window statusbar

The window statusbar entry allows you to set up the statusbar for the window. By default it is set up to use -1,90,90 which means that there are two 90 dialog unit sections to the right of an adjusting section, which follows the window size. The Previewer uses 3 sections in it's code, so there should be 3 sections there unless you plan on changing the previewer code to accommodate fewer sections.



Icetips Previewer Editor (C:\Clarion\C55\Apps\RptPrev\test.itp)

File

Click the toolbar buttons to select icons or enter below

Page: 0 of

Step: 0

Pages To Print:

Search:

Copies: 0

Page | Size

Toolbar Buttons | Toolbar Buttons and window

Search Icon: ITsearcho.ico

Check Icon: ITmark.ico

Uncheck Icon: ITunmark.ico

Toggle Icon: ITmark.ico

☐ Flat Buttons

Window controls

Listbox Background color | Set to Default

Window Background color | Set to Default

Window Statusbar: -1,90,90

Window Cursor: ITzoomo.cur

Theme

○ Orange ○ Yellow ○ Blue ○ Green ○ Gray

Search paths

View Previewer

Save

☑ Filenames only for icons

Cancel

The Toolbar Buttons and Window tab in The Icetips Previewer Editor

Cursor

The Window Cursor allows you to select the cursor for the window, which is used when the mouse cursor is hovering over the page image. The default cursor is from the orange theme. It is a little magnifying glass with a plus and minus in it. There is one cursor file provided for each color theme, named ITCursor?.cur, where the ? is o for Orange, y for Yellow, g for Green, b for Blue and r for Gray.

Theme option

The Theme option allows you to reset all the icons to a particular sheme. Note that this will override any changes or settings that you have made to the icons and the cursor selections. If you click one of the theme options, you will be asked if you want to override any of the options.

Save As

The Save As button prompts to you save the current setup in a new itp file. Again, if you do not type in the extension, the program will add it automatically. Note that if you pick an existing filename the program will immediately overwrite it - i.e. the file is saved immediately to the new name.

The Search Path window

The Search Path window allows you simply to view the order in which the Previewer Editor searches for image files, and it should be the same sort order as Clarion uses. Because of the multi-version compatibility in the Icetips Previewer, it is possible that it may find icons from more recent version before it finds the one for a previous version, which may be the one you are working with.

The .itp file format

The itp files are simple ini files. You can use any program to edit the files that can edit and save ascii files.

> *If you at any time attach files of this type to emails, it may cause problems when you try to use them. The reason is that when text files are sent by email they are usually reformatted to unix text files, which means that the CR+LF pair is reduced to a single LF character. If you need to send itp files in emails, use WinZip or similar products to create a zip file with the itp files and then email the zip file.*

```
[Icons]
; Print icon does not change with themes
ITPPrintIcon=ITprint.ico
ITPPrintOneIcon=ITprint1g.ico
ITPPrintCancelIcon=ITnoprintg.ico
ITPJumpFirstIcon=ITfirstg.ico
ITPJumpPrevIcon=ITprevpageg.ico
ITPJumpNextIcon=ITnextpageg.ico
ITPJumpLastIcon=ITlastg.ico
ITPPageListIcon=ITpagedropg.ico
ITPZoomInIcon=ITzooming.ico
ITPZoomOutIcon=ITzoomoutg.ico
ITPZoomPageWIcon=ITpagewg.ico
ITPZoomPageHIcon=ITpagehg.ico
ITPZoomPage100Icon=ITpagefullg.ico
ITPSearchIcon=ITsearchg.ico
; The test of the icons do not change with themes
ITPCheckIcon=ITmark.ico
ITPUnCheckIcon=ITunmark.ico
ITPToggleIcon=ITmark.ico

[Colors]
Listbox back=14478846
Window back=12632256

[Window]
Statusbars=-1,90,90

[Buttons]
Flat Buttons=0
```

```
[Cursor]
ITPZoomCursor=ITzoomo.cur
```

The .itp file format is registered as ITPFile in the registry. There are two entries in the HKEY_CLASSES_ROOT to implement the association and the key values are as follows:

```
HKEY_CLASSES_ROOT\.itp\default = ITPFile
HKEY_CLASSES_ROOT\ITPfile\shell\open\command\default =
C:\Clarion\C55\3rdParty\Tools\ITPrev\ITPrevEd.exe %1
```

Compatibility & technological issues

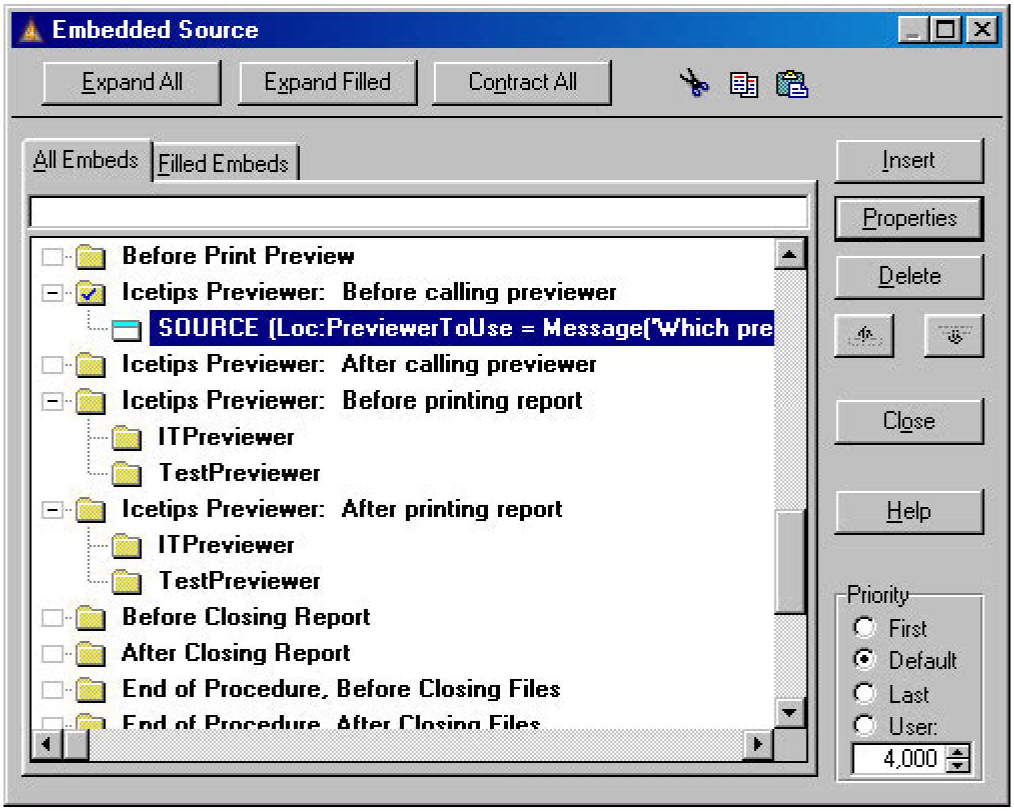
Although there are a few things to consider when using the Icetips Previewer, it is easy to use and we have done everything we can to make it so.

AbReport.inc

If you go back to the Installation section at the beginning of this manual, there is an issue with the abreport.inc file, which protects the image queue which holds the names of the temporary files used in the previewers. The Protected attribute must be removed for the previewer to compile when using ABC. There is no way around that. We do provide a program that can do this automatically, but we refer you to the instructions in the Installation section for how to do that manually.

Clarion 4, ABC

Clarion 4, ABC, presented us with a strange challenge in the way that it would not under any circumstances import the TXA correctly. Even if all the code was there in the embeds, it was not generated at all and some standard code that should have been generated was simply left out. The "fix" was simply to import the Legacy TXA into the ABC window procedure and it works fine, BUT it means that you have Legacy embed points in the otherwise ABC structured procedure, which may be confusing.



- Before Print Preview
- Icetips Previewer: Before calling previewer
  - SOURCE (Loc:PreviewerToUse = Message('Which pre
- Icetips Previewer: After calling previewer
- Icetips Previewer: Before printing report
  - ITPreviewer
  - TestPreviewer
- Icetips Previewer: After printing report
  - ITPreviewer
  - TestPreviewer
- Before Closing Report
- After Closing Report
- End of Procedure, Before Closing Files
- End of Procedure, After Closing Files

Priority: ○ First ● Default ○ Last ○ User: 4,000

The Icetips Previewer embeds in Clarion 4, Legacy application

Optionally using the Clarion or CPCS standard previewers

In order to use the Clarion or CPCS Standard previewer in Legacy and ABC, you need to handcode it as it is never called after you apply the Icetips Preveiwer Extension template to your report.

In Legacy this requires a few lines of code that should go into **Icetips Previewer: Before calling previewer** embed. Example:

```
If Loc:PreviewerToUse = 3
  ReportPreview(PrintPreviewQueue)
  If GlobalResponse = RequestCompleted
    MyReport{PROP:FlushPreview} = True
  End
End
```

In ABC the code goes into the same embed - **Icetips Previewer: Before calling previewer**:

```
If Loc:PreviewerToUse = 3
  PARENT.AskPreview
End
```

Note that depending on what version of Clarion you are using, the embeds may look a little bit different from the images you see in this document. The Icetips Previewer embeds are always called the same, but depending on what version you are using, and also if it is an ABC, Legacy or CPCS report, the embeds may be in a different order. For example in C4, Legacy, the **Before calling previewer** and **After calling previewer** embeds are both above the **Before printing report** embeds.

Other Clarion third party products

The Icetips Previewer has not been tested extensively with other third party products. If you find any problems using it with your other tools, then we would appreciate it if you would let us know. We will do everything we can to resolve the problem as soon as possible.

The Icetips Previewer has been developed mostly in Clarion 4 build B and Clarion 5.5 Enterprise Edition, build E. It has also been tested in Clarion 5 Enterprise Edition, build B. We would like to know if you find any problems using the Icetips Previewer with any other builds so we can fix it as soon as possible.

The installation is built with LinderSoft SetupBuilder version 4. The post-installation software that we include is still under testing and we would appreciate any reports of problems with it.

Technical Support

Email

We offer technical support by email. Please email your questions to either **`support@icetips.com`** or **`wizard@icetips.com`** and we will get back to you as soon as possible. We usually respond to technical support emails within an hour.

Newsgroups

You can also post questions on the **`Topspeed.Topic.Third_Party`** newsgroup on the **`news.softvelocity.com`** news server or **`comp.lang.clarion`**, which you can get to at that same news server or on the web at:

`http://groups.google.com/groups?hl=is&group=comp.lang.clarion`

We have a Internet Bulletin Board at the Icetips website, where you are welcome to post questions. We monitor it regularly, and there are quite a few people who visit it frequently. Go to **`http://www.icetips.com/wwwboard/index.htm`**

Happy Previewing!