

MODULE 15: PRINTING

On completion of this module you will be able to alter and re-program a printer and how to print documents and graphics accordingly.

MODULE 15.1: PRINTING

Subject Outcome 1: Introduction

Subject Outcome 2: List Printers with default printer

Subject Outcome 3: Printer Information & Specifications

Subject Outcome 4: Convert Pixels to MM

Subject Outcome 5: Printer Dialog

Subject Outcome 6: LPrint & LFlush

Subject Outcome 7: Printing

Subject Outcome 8: Alter default printer

15.1 INTRODUCTION

A printer is defined as a device that puts text and/or images on paper or other print media. Examples are ink jet and laser jet printers. All programs should be able to print otherwise the user is unable to have a presentable and achievable document.



The most difficult part of printing a document from your program is to understand the differences in printers. Due to different quality settings (all printers differ), the X and Y coordinates where you print will never be the same. You therefore don't print on defined X and Y coordinates, but rather at X% and Y% values relative to the page.

Later on you will learn External Transfers whereby you can transfer your data to a MS Word ® document or MS Excel ® spreadsheet and print it from there (instructed by your program and not the user). This will cancel all the settings of each different printer as MS Word ® and MS Excel ® has already fixed that for you – if the default settings are correctly set.

15.2 DETERMINE INSTALLED PRINTERS AND DEFAULT PRINTER

We need to be able to list all the installed printers of that computer for the user to select from. The default printer must always be selected and displayed with the startup of your program. We will use a ComboBox to assign the printer list.

SNO	CODING	EXPLANATION
1	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> dim i as single CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create totprinters as qlabel left=20:top=380 caption="Total: "+str\$(printer.printerscount) end create create insprint as qcombobox left=20:width=250:style=3 end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers[i] next i insprint.itemindex=printer.printerindex </pre>	<p>List the printers within a COMBOBOX.</p> <p>This label will indicate the total printers installed (including network printers). This is the global numerical variable that holds the value of the total installed printers. It is a number, so you need to use the STR\$() command to display it.</p> <p>The printers are listed in PRINTER.PRINTERS(?) Loop and add them to the combobox. The default printer is PRINTER.PRINTERINDEX</p>

SNO	CODING	EXPLANATION
	<pre>SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) Form.ShowDialog</pre>	

15.3 PRINTER INFORMATION

You need to obtain the specifications of the selected printer to determine the position of X and Y printing. We will use the QPRINTERINFO element to obtain that information. All printers have different sizes [pixels] related to page sizes. Page sizes on printers are measured in DPI-pixels [x/y]. The higher the pixel size [x/y], the better quality printer it is.

The DPI size are is further influenced by the page selection, quality selection, portrait or landscape, etc.

The following methods will display the information that is required by the program to ensure that the correct measures are calculated to ensure the correct printing of text and especially graphics:

- HORZPAGESIZE – return page width in millimeters (printing area without margin area).
- VERTPAGESIZE – return page height in millimeters (printing area without margin area).
- PHHORZ – return physical page width in millimeters (including margin area).
- PHVERT – return physical page height in millimeters (including margin area).
- PAGEWIDTH – return page width in pixels (excluding margin).
- PAGEHEIGHT – return page height in pixels (excluding margin).
- PHWIDTH – return physical page width (including margin).
- PHHEIGHT – return physical page height (including margin).
- PHLEFTMARGIN/PHRIGHTMARGIN – return physical margin X in pixels.
- PHTOPMARGIN/PHBOTTOMMARGIN – return physical margin Y in pixels.

SNO	CODING	EXPLANATION
1	<pre>\$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim i as single declare sub alterprinterdetail CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create totprinters as qlabel left=20:top=380:caption="Total: "+str\$(printer.printerscount) end create</pre>	<p>Add the PRINTERINFO component and establish it.</p> <p>The sub program where all the specifications of the printer will be displayed.</p>

SNO	CODING	EXPLANATION
	<pre> create insprint as qcombobox left=20:width=250:style=3 onchange=alterprinterdetail end create create sizereport as qlistbox left=10:top=50:height=250:width=250 end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers[i] next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) alterprinterdetail Form.ShowDialog sub alterprinterdetail printer.printerindex=insprint.itemindex sizereport.clear sizereport.additems "Page Width: "+str\$(qprint.horzpagesize)+"mm" sizereport.additems "Page Height: "+str\$(qprint.vertpagesize)+"mm" sizereport.additems "" sizereport.additems "Full Page Width: "+str\$(qprint.phhorz)+"mm" sizereport.additems "Full Page Height: "+str\$(qprint.phvert)+"mm" sizereport.additems "" sizereport.additems "Page Margin X: "+str\$(qprint.phmarginx)+"cm" sizereport.additems "Page Margin Y: "+str\$(qprint.phmarginy)+"cm" sizereport.additems "" sizereport.additems "Page X: "+str\$(qprint.pagewidth)+" pix" sizereport.additems "Page Y: "+str\$(qprint.pageheight)+" pix" sizereport.additems "" sizereport.additems "Full Page X: "+str\$(qprint.phwidth)+" pix" sizereport.additems "Full Page Y: "+str\$(qprint.phheight)+" pix" sizereport.additems "" sizereport.additems "Margin X: "+str\$(qprint.phleftmargin)+" pix" sizereport.additems "Margin Y: "+str\$(qprint.phtopmargin)+" pix" end sub </pre>	<p>We will list the information regarding the printer here.</p> <p>Call the printer information of the current loaded printer (default printer).</p> <p>Display information of printer in MM and P</p>

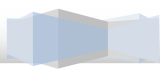
The selected printer is altered as you select the printer listed within the QCOMBOBOX. The printer's information will be updated as you activate the printer.

More detailed information regarding the printer:

- **SCALE:** return the printer's scale for image bitmap.
- **DPI:** return number of points (printing points) by inch – the higher, the better the quality print.
- **PPM:** return the number of pixels by millimeter – the higher the better quality print.



SNO	CODING	EXPLANATION
1	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> #include <qprinterinfo.inc> dim qprint as qprinterinfo dim i as single declare sub alterprinterdetail CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create totprinters as qlabel left=20:top=380:caption="Total: "+str\$(printer.printerscount) end create create insprint as qcombobox left=20:width=250:style=3:onchange=alterprinterdetail end create create sizereport as qlistbox left=10:top=50:height=250:width=250 end create create dscale as qlabel left=300:top=50:caption="Scale:" end create create ddpi as qlabel left=300:top=70:caption="DPI:" end create create dppm as qlabel left=300:top=90:caption="PPM:" end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) alterprinterdetail Form.ShowModal sub alterprinterdetail printer.printerindex=insprint.itemindex:sizereport.clear sizereport.additems "Page Width: "+str\$(qprint.horzpagesize)+"mm" sizereport.additems "Page Height: "+str\$(qprint.vertpagesize)+"mm" sizereport.additems "" sizereport.additems "Full Page Width: "+str\$(qprint.phhorz)+"mm" sizereport.additems "Full Page Height: "+str\$(qprint.phvert)+"mm" sizereport.additems "" sizereport.additems "Page Margin X: "+str\$(qprint.phmarginx)+"cm" sizereport.additems "Page Margin Y: "+str\$(qprint.phmarginy)+"cm" sizereport.additems "" sizereport.additems "Page X: "+str\$(qprint.pagewidth)+" pix" sizereport.additems "Page Y: "+str\$(qprint.pageheight)+" pix" sizereport.additems "" sizereport.additems "Full Page X: "+str\$(qprint.phwidth)+" pix" sizereport.additems "Full Page Y: "+str\$(qprint.phheight)+" pix" sizereport.additems "" sizereport.additems "Margin X: "+str\$(qprint.phleftmargin)+" pix" sizereport.additems "Margin Y: "+str\$(qprint.phtopmargin)+" pix" dscale.caption="Scale (image): "+str\$(qprint.scale) ddpi.caption="DPI: "+str\$(qprint.dpi) dppm.caption="PPM: "+str\$(qprint.ppm) end sub </pre>	<p>We will assign the specification data to some QLABELs</p> <p>Assign info to the labels.</p>



15.4 CONVERTING PIX TO MM & MM TO PIX

For any graphical program you need to be able to convert MM to PIX and visa-versa. Remember that photos and any other digital image (BMP) are measured in Pixels and not MM.

SNO	CODING	EXPLANATION
1	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> #include <qprinterinfo.inc> dim qprint as qprinterinfo dim i as single declare sub alterprinterdetail CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create totprinters as qlabel left=20:top=380 caption="Total: "+str\$(printer.printerscount) end create create insprint as qcombobox left=20:width=250:style=3 onchange=alterprinterdetail end create create sizereport as qlistbox left=10:top=50:height=250:width=250 showhint=1 end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong[Form.Handle, -8, 0] SetWindowLong[Application.Handle, -8, Form.Handle] alterprinterdetail Form.ShowModal sub alterprinterdetail printer.printerindex=insprint.itemindex sizereport.clear sizereport.additems "MM -> Pix: "+ str\$(qprint.metrictopixel(1)) sizereport.additems "Pix -> MM: "+ str\$(qprint.pixeltometric(100)) end sub </pre>	<p>Convert 1 mm to pixels. Convert 100 pixels to mm</p>

15.5 PRINTER DIALOG

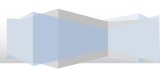
This component (QPageSetup) is a printer dialog box for the page setup.

SNO	CODING	EXPLANATION
1	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> #include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup </pre>	<p>Establish component</p>

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	<pre> dim i as single declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create document as qrighedit left=10:top=50:width=450:height=270:scrollbars=2 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here" onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) Form.ShowDialog sub printnow if printsetup.execute then end if end sub </pre>	<p>Sub program where printer dialog box will be called.</p> <p>This is a document page. This will be printed.</p> <p>The print button will call the printer dialog.</p> <p>This will call the printer dialog and await the OK button.</p>
2	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim i as single declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create document as qrighedit left=10:top=50:width=450:height=270:scrollbars=2 end create create printbtn as qbutton left=10:top=340:caption="print": showhint=1:hint="print here" onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) Form.ShowDialog sub printnow printsetup.caption="SETUP PAGE" end sub </pre>	<p>CAPTION="..." This will name the dialog box.</p>



SNO	CODING	EXPLANATION
	<pre>printsetup.marginleft=5:printsetup.marginright=5 printsetup.margintop=5:printsetup.marginbottom=5 if printsetup.execute then end if end sub</pre>	<p>MarginLeft=n% MarginRight=n% MarginTop=n% MarginBottom=n%</p> <p>The abovementioned settings will alter the margin settings in MM.</p>
3	<pre>\$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim i as single declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create document as qrichedit left=10:top=50:width=450:height=270:scrollbars=2 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here" onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong[Form.Handle, -8, 0] SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowModal sub printnow printsetup.caption="SETUP PAGE" printsetup.marginleft=5 printsetup.marginright=5 printsetup.margintop=5 printsetup.marginbottom=5 if printsetup.execute then document.addstrings "Orient: "+str\$(printsetup.orientation) document.addstrings "Margin Left: "+str\$(printsetup.marginleft) document.addstrings "Margin Right: "+str\$(printsetup.marginright) document.addstrings "Margin Top: "+str\$(printsetup.margintop) document.addstrings "Margin Bottom: "+str\$(printsetup.marginbottom) document.addstrings "Page Height: "+str\$(printsetup.pageheight) document.addstrings "Page Width: "+str\$(printsetup.pagewidth) end if end sub</pre>	<p>Reading the values.</p> <p>Orientation=0 (portrait). Orientation=1 (landscape). Margin settings.</p> <p>Page height. Page width.</p>
4	<pre>\$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim i as single declare sub printnow CREATE Form AS QFORM</pre>	<p>Disable/enable Dialog Box options. You may prevent the user from altering information within the dialog box. 0 (zero) will enable the setting and 1 will disable.</p>



SNO	CODING	EXPLANATION
	<pre> Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create document as qrichedit left=10:top=50:width=450:height=270:scrollbars=2 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here" onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong[Form.Handle, -8, 0] SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowDialog sub printnow printsetup.caption="SETUP PAGE" printsetup.marginleft=5 printsetup.marginright=5 printsetup.margintop=5 printsetup.marginbottom=5 printsetup.disableprinter=0 printsetup.disablepaper=1 printsetup.disableorient=0 printsetup.disablemargins=1 if printsetup.execute then document.addstrings "Orient: "+str\$(printsetup.orientation) document.addstrings "Margin Left: "+str\$(printsetup.marginleft) document.addstrings "Margin Right: "+str\$(printsetup.marginright) document.addstrings "Margin Top: "+str\$(printsetup.margintop) document.addstrings "Margin Bottom: "+str\$(printsetup.marginbottom) document.addstrings "Page Height: "+str\$(printsetup.pageheight) document.addstrings "Page Width: "+str\$(printsetup.pagewidth) end if end sub </pre>	<p>Printer. Paper selection Orientation selection Margin settings. Remember that 1 disables that setting and 0 (zero) enables it.</p>

You will during the next lesson see how these settings will be used to code the printer before printing starts.

15.6 LPRINT & LFLUSH

This is a direct printing method. No settings, no new page, etc. As you print, it will print on the already selected printer default. The next page will auto start as the page end is reached. This component can only print text.



SNO	CODING	EXPLANATION
1	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim i as single declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create document as qrichedit left=10:top=50:width=450:height=270:scrollbars=2 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here" onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong[Form.Handle, -8, 0] SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowModal sub printnow printsetup.caption="SETUP PAGE" printsetup.marginleft=5 printsetup.marginright=5 printsetup.margintop=5 printsetup.marginbottom=5 printsetup.disableprinter=0 printsetup.disablepaper=1 printsetup.disableorient=0 printsetup.disablemargins=1 if printsetup.execute then document.addstrings "Orient: "+str\$(printsetup.orientation) document.addstrings "Margin Left: "+str\$(printsetup.marginleft) document.addstrings "Margin Right: "+str\$(printsetup.marginright) document.addstrings "Margin Top: "+str\$(printsetup.margintop) document.addstrings "Margin Bottom: "+str\$(printsetup.marginbottom) document.addstrings "Page Height: "+str\$(printsetup.pageheight) document.addstrings "Page Width: "+str\$(printsetup.pagewidth) end if for i = 0 to document.linecount-1 lprint document.line(i) next i lflush end sub </pre>	<p>Print each line from the RICHEDIT element. LFLUSH will start the printer. Everything is loaded into memory and LFLUSH means the loading is done and printing must start.</p>



15.7 PRINTING

This component is global and need not to be created; therefore the name, PRINTER, is used as the component name. PRINTER component can print text (with different FONT settings) and graphics.

SNO	CODING	EXPLANATION
1	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> dim i as single declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here" onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) Form.ShowModal sub printnow printer.begindoc printer.enddoc end sub </pre>	<p>PRINTER.BEGINDOC PRINTER.ENDDOC</p> <p>These two commands will start the printing and end the printing – ENDDOC will startup and print with the printer.</p>
2	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> dim i as single declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here" onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) </pre>	<p>Printer.Title="..."</p> <p>This will set the title that will appear in the Printer Status Dialog Box (queue register).</p>



SNO	CODING	EXPLANATION
	<pre>SetWindowLong(Application.Handle, -8, Form.Handle) Form.ShowDialog sub printnow printer.title="Test Document" printer.begindoc printer.enddoc end sub</pre>	<p>Name the printout for the printer status register.</p>
3	<pre>\$TYPECHECK ON \$INCLUDE <RapidQ2.inc> dim i as single declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here" onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) Form.ShowDialog sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.begindoc printer.enddoc end sub</pre>	<p>Copies=n%</p> <p>This will determine and print copies (if valid) of the same document.</p> <p>If copies may be made by the printer, then print (in this case; 3 copies).</p>
4	<pre>\$TYPECHECK ON \$INCLUDE <RapidQ2.inc> dim i as single declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here":onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i</pre>	<p>Orientation=?</p> <p>=0 (portrait) =1 (landscape)</p>



SNO	CODING	EXPLANATION
	<pre> insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowDialog sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.orientation=0 printer.begindoc printer.enddoc end sub </pre>	
5	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim i as single dim printpos as double declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here":onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowDialog sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.orientation=0 printpos=50 printer.begindoc printer.textoutf[printsetup.marginleft,printpos,"HEADING",12976128,-1] printer.enddoc end sub </pre>	<p>X: marginleft value Y: printpos. Text to be completed. Color of the text. Background color of text.</p>



SNO	CODING	EXPLANATION
6	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim font1 as qfont:font1.size=30:font1.name="Arial Rounded" dim font2 as qfont:font2.size=20:font2.name="Arial" dim i as single dim diemiddle as double dim printpos as double dim diewoord as string declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left= 10:top=340:caption="print" showhint=1:hint="print here":onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additerns printer.printers[i] next i insprint.itemindex=printer.printerindex SetWindowLong[Form.Handle, -8, 0] SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowModal sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.orientation=0 printpos=50 printer.begindoc printer.font=font1 printer.textout(printsetup.marginleft,printpos,"HEADING",12976128,-1) printpos=printpos+10+printer.textheight("heading") printer.font=font2 diewoord="1. This is the first paragraph" printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) diewoord="2. This is the 2nd paragraph" printpos=printpos+5+printer.textheight(diewoord) printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) diewoord="NEW HEADING" printpos=printpos+5+printer.textheight(diewoord) diemiddle=(printer.pagewidth/2)-(printer.textwidth(diewoord)/2) printer.textout(diemiddle,printpos,diewoord,255,-1) printer.enddoc end sub </pre>	<p>More text and centering of text.</p> <p>TEXTOUT(x,y,s\$,color,bcolor)</p> <p>To have a transparent background use -1.</p> <p>printer.textheight(s\$)</p> <p>This will determine the height (in pixels) of the text within S\$.</p> <p>Assign FONT1 to printer Assign text to string. Print the string. Alter text to string. Determine next Y position. Determine center of page. Print test string in the middle of the screen.</p>
7	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim font1 as qfont:font1.size=30:font1.name="Arial Rounded" dim font2 as qfont:font2.size=20:font2.name="Arial" </pre>	<p>Draw a Line. Take note that all drawing tools are the same as the GCANVASEX drawing tools, it is just called by the printer instead of the CANVAS.</p>



SNO	CODING	EXPLANATION
	<pre> dim i as single dim diemiddle as double dim printpos as double dim diewoord as string declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left= 10:top=340:caption="print" showhint=1:hint="print here":onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers[i] next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) Form.ShowModal sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.orientation=0 printpos=50 printer.begindoc printer.font=font1 printer.textout(printsetup.marginleft,printpos,"HEADING5",12976128,-1) printpos=printpos+10+printer.textheight("heading") printer.font=font2 diewoord="1. This is the first paragraph" printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) diewoord="2. This is the 2nd paragraph" printpos=printpos+5+printer.textheight(diewoord) printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) diewoord="NEW HEADING" printpos=printpos+5+printer.textheight(diewoord) diemiddle=(printer.pagewidth/2)-(printer.textwidth(diewoord)/2) printer.textout(diemiddle,printpos,diewoord,255,-1) printer.line(0,0,printer.pagewidth,printer.pageheight,255) printer.line(printer.pagewidth,0,0,printer.pageheight,255) printer.enddoc end sub </pre>	<p>The following drawing tools are applicable:</p> <ul style="list-style-type: none"> • Circle • Line • FillRect • PSET • Rectangle • RoundRect
8	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim font1 as qfont:font1.size=30:font1.name="Arial Rounded" dim font2 as qfont:font2.size=20:font2.name="Arial" dim i as single dim diemiddle as double dim printpos as double dim diewoord as string dim diewoord as string </pre>	<p>New Page (next page to be printed on)</p>



SNO	CODING	EXPLANATION
	<pre> dim diewoord as string declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here":onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong[Form.Handle, -8, 0] SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowModal sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.orientation=0 printpos=50 printer.begindoc printer.font=font1 printer.textout(printsetup.marginleft,printpos,"HEADING5",12976128,-1) printpos=printpos+10+printer.textheight("heading") printer.font=font2 diewoord="1. This is the first paragraph" printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) diewoord="2. This is the 2nd paragraph" printpos=printpos+5+printer.textheight(diewoord) printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) printer.newpage:printpos=50 diewoord="NEW HEADING" printpos=printpos+5+printer.textheight(diewoord) diemiddle=(printer.pagewidth/2)-(printer.textwidth(diewoord)/2) printer.textout(diemiddle,printpos,diewoord,255,-1) printpos=printpos+20+printer.textheight(diewoord) printer.line(0,0,printer.pagewidth,printer.pageheight,255) printer.line(printer.pagewidth,0,0,printer.pageheight,255) printer.enddoc end sub </pre>	<p>Start a new page. Remember to reset the Y-Position to the top of the page again.</p>
9	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> #include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim bittie as qbitmapex dim font1 as qfont:font1.size=30:font1.name="Arial Rounded" dim font2 as qfont:font2.size=20:font2.name="Arial" dim i as single dim diemiddle as double dim printpos as double </pre>	<p>Printing a BMP image (or other image JPG, etc.) You will not be able to print a BMP image directly. You will need a QBITMAP to load the image and then only use DRAW to print it to the page at the given coordinates.</p>



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	<pre> dim diewoord as string declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here":onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong(Form.Handle, -8, 0) SetWindowLong(Application.Handle, -8, Form.Handle) Form.ShowModal sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.orientation=0 printpos=50 printer.begindoc printer.font=font1 printer.textout(printsetup.marginleft,printpos,"HEADING5",12976128,-1) printpos=printpos+10+printer.textheight("heading") printer.font=font2 diewoord="1. This is the first paragraph" printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) diewoord="2. This is the 2nd paragraph" printpos=printpos+5+printer.textheight(diewoord) printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) printer.newpage:printpos=50 diewoord="NEW HEADING" printpos=printpos+5+printer.textheight(diewoord) diemiddle=(printer.pagewidth/2)-(printer.textwidth(diewoord)/2) printer.textout(diemiddle,printpos,diewoord,255,-1) printpos=printpos+20+printer.textheight(diewoord) printer.line(0,0,printer.pagewidth,printer.pageheight,255) printer.line(printer.pagewidth,0,0,printer.pageheight,255) bittie.loadfromfile "c:\ms3\mybis\gx\beauty.bmp" printer.draw(50,300,bittie.bmp) printer.enddoc end sub </pre>	
10	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim bittie as qbitmapex dim font1 as qfont:font1.size=30:font1.name="Arial Rounded" dim font2 as qfont:font2.size=20:font2.name="Arial" dim i as single dim diemiddle as double dim printpos as double </pre>	<p>Printing an image at the center of the screen.</p>



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	<pre> dim diewoord as string declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here":onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong[Form.Handle, -8, 0] SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowModal sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.orientation=0 printpos=50 printer.begindoc printer.font=font1 printer.textout(printsetup.marginleft,printpos,"HEADING5",12976128,-1) printpos=printpos+10+printer.textheight("heading") printer.font=font2 diewoord="1. This is the first paragraph" printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) diewoord="2. This is the 2nd paragraph" printpos=printpos+5+printer.textheight(diewoord) printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) printer.newpage:printpos=50 diewoord="NEW HEADING" printpos=printpos+5+printer.textheight(diewoord) diemiddle=(printer.pagewidth/2)-(printer.textwidth(diewoord)/2) printer.textout(diemiddle,printpos,diewoord,255,-1) printpos=printpos+20+printer.textheight(diewoord) printer.line(0,0,printer.pagewidth,printer.pageheight,255) printer.line(printer.pagewidth,0,0,printer.pageheight,255) bittie.loadfromfile "c:\ms3\mybis\gx\beauty.bmp" diemiddle=(printer.pagewidth/2)-(bittie.width/2) printer.draw(diemiddle,300,bittie.bmp) printer.enddoc end sub </pre>	<p>Image is drawn on page 2 of the printout.</p>
11	<pre> \$TYPECHECK ON \$INCLUDE <RapidQ2.inc> \$include <qprinterinfo.inc> dim qprint as qprinterinfo dim printsetup as qpagesetup dim bittie as qbitmapex:dim rect2 as qrect dim font1 as qfont:font1.size=30:font1.name="Arial Rounded" dim font2 as qfont:font2.size=20:font2.name="Arial" dim i as single:dim diewoord as string </pre>	<p>Stretching an image. We will according to % determine the correct size. Let's say we want the image to be 10cm in width (100mm) Step 1: Determine size of image. Step 2: Determine pixels for 10cm (100mm).</p>



SNO	CODING	EXPLANATION
	<pre> dim diemiddle as double:dim printpos as double dim imagewidth as double:dim imagescale as double dim rescale as double declare sub printnow CREATE Form AS QFORM Caption = "Form":Width = 500:Height = 450:Center create insprint as qcombobox left=20:width=250:style=3 end create create printbtn as qbutton left=10:top=340:caption="print" showhint=1:hint="print here":onclick=printnow end create END CREATE insprint.clear for i = 0 to printer.printerscount-1 insprint.additems printer.printers(i) next i insprint.itemindex=printer.printerindex SetWindowLong[Form.Handle, -8, 0] SetWindowLong[Application.Handle, -8, Form.Handle] Form.ShowDialog sub printnow printer.title="Test Document" if printer.capabilities.copies=1 then printer.copies=3 end if printer.orientation=0 printpos=50 printer.begindoc printer.font=font1 printer.textout(printsetup.marginleft,printpos,"HEADING5",12976128,-1) printpos=printpos+10+printer.textheight("heading") printer.font=font2 diewoord="1. This is the first paragraph" printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) diewoord="2. This is the 2nd paragraph" printpos=printpos+5+printer.textheight(diewoord) printer.textout(printsetup.marginleft,printpos,diewoord,255,-1) printer.newpage:printpos=50 diewoord="NEW HEADING" printpos=printpos+5+printer.textheight(diewoord) diemiddle=(printer.pagewidth/2)-(printer.textwidth(diewoord)/2) printer.textout(diemiddle,printpos,diewoord,255,-1) printpos=printpos+20+printer.textheight(diewoord) printer.line(0,0,printer.pagewidth,printer.pageheight,255) printer.line(printer.pagewidth,0,0,printer.pageheight,255) bittie.loadfromfile "c:\ms3\mybis\gx\beauty.bmp" imagewidth=bittie.width imagescale=qprint.metrictopixel(100) rescale=imagescale/imagewidth rect2.left=100:rect2.top=100 rect2.right=100+imagescale rect2.bottom=100+(rescale*bittie.height) printer.stretchdraw(rect2,bittie.bmp) printer.enddoc end sub </pre>	<p>Step 3: Assign left and top position of image on page.</p> <p>Step 4: Recalculate width according to scaling.</p> <p>Step 5: Recalculate height according to re-scaling.</p> <p>Image will be printed on page 2.</p> <p>Determine width of image. Determine pixels for 10cm Determine scale to convert to 10cm. Left top position. Right position for 10cm. Bottom position according to rescaling. Draw the BMP image.</p>



