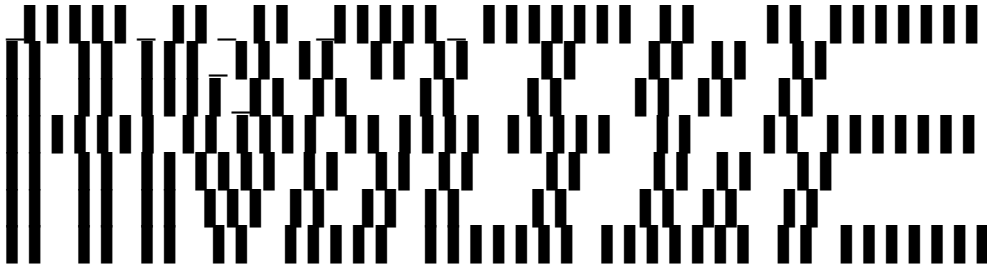


ANGELIB for BC7/PDS



CONTENTS

I.	DISCLAIMER OF WARRANTY	1
II.	COPYRIGHT	1
III.	LICENSE	1
IV.	TECHNICAL SUPPORT (HOW TO REACH ME)	2
	Official Distribution Bulletin Boards	2
V.	INTRODUCTION	2
VI.	NOTES ABOUT THIS RELEASE	3
VII.	REGISTRATION	4
	A. How To Order	5
	B. Pricing	5
	INVOICE & REGISTRATION	9
VIII.	SYSTEM REQUIREMENTS	10
IX.	FILES WHICH MAKE UP ANGELIB	10
X.	USING ANGELIB	11
	Creating a QLB (Quick Library)	11
XI.	REFERENCE	12
XII.	USING PRINTER FUNCTIONS	49

ANGELIB for BC7/PDS

DISCLAIMER OF WARRANTY

I use the routines in *ANGELIB* almost every day as I write software and I am regularly adding, enhancing, or fixing. My software will never be "done," and I hope that it gets better and better. In any case, I can't guarantee that it's perfect; in fact, I'll guarantee that it's not. By using this software and documentation ("*ANGELIB*") you must accept this disclaimer of warranty:

ANGELIB is provided "as is" without any warranties or conditions, expressed or implied, including, but not limited to, those concerning merchantability and fitness for a particular purpose. By using *ANGELIB*, you are expressly releasing the author, Angel Babudro, from any liability resulting from the use of this software and documentation. You must assume the entire risk of using *ANGELIB*.

COPYRIGHT

The author retains the copyright for all *ANGELIB* source code, documentation, assorted files, and all libraries. However, once provided with registration from the author you may distribute any program you write with the benefit of *ANGELIB*, in compiled form only, without royalties to the author. You must have written consent from the author prior to distributing *ANGELIB* source code in part or in whole, whether modified or in original form.

LICENSE

1. *ANGELIB* is being distributed as Shareware. This library is not free, although license is hereby granted for evaluation of the Unregistered Edition for an unlimited time.
2. You may keep as many backup copies of *ANGELIB* as you wish. The Registered Edition is limited to simultaneous use on the number of computers indicated by your registration level. The Unregistered Edition may be used on any number of computers. You may share *ANGELIB* with others in complete and unmodified form. REGISTERED USERS may NOT distribute the files ending in OBJ.
3. You MUST NOT charge any fee or receive any consideration for distributing the *ANGELIB* files and you MUST NOT include *ANGELIB* with another business transaction (e.g., a hardware sale) unless you have express written consent from the copyright holder, Angel Babudro. You MAY charge a fee of not more than US\$6 (six dollars) for the disk and/or service of distribution.

TECHNICAL SUPPORT (HOW TO REACH ME)

ANGELIB for BC7/PDS

If my wording is unclear or can't find some topic in here, give me a holler and help me fix it or add it to the manual. A letter or BBS message is preferred (and less expensive for you). Phone calls are fine between 9am and 5pm Eastern Time as long as you are a registered user or intend to become one. I thank you for your help in making this library better.

Sysops please read SYSOP.DOC for special deals. Shareware vendors please see VENDOR.DOC for distribution information.

I can be reached via the mail or BBS. The bulletin boards below should always have current versions of all my software and I will get any messages left there for me.

Mail Angel Babudro, "Organic Computer Wizardry", 28 Mulberry Street,
Clinton, NY 13323-1506, (315) 853-1070 Mon-Fri 9am-5pm Eastern Time

Official Distribution Bulletin Boards

On bulletin boards I use the first name "Angelo" since it avoids gender confusion. I go by either name, anyhow.

East Coast	Excalibur, Central NY (315) 736-3792 USR 14.4 This is my local distribution board where you can always find the latest updates to all of my software. I will get messages left here within a few days. My software can be FREQed from this board via RBBS Net address A:954/401, FIDO Net address 1:26501, or ICN Net 91:315/101.
West Coast	Researcher's BBS, So Cal (805) 949-8151 USR DS This is my west coast distribution board which is updated every 2-3 weeks with the latest versions of all my software. Leave messages for me in conference #136 (Organic Software).

My software can also be found on many of the nations larger bulletin boards, such as Exec-PC and Channel 1.

INTRODUCTION

ANGEL.QLB is a "high level" BC7 library for developing business applications, especially data base uses. These are the routines I use in developing my apps (with some help from three other shareware libraries, most notably John Strong's EZ-Windows which is terrific).

ANGELIB for BC7/PDS

I put in the things that are simple but a pain to code every time, like a "percent completed" bar graph in a window, and things that are more complicated, such as a scrollable information window with mouse support. *ANGELIB* is written in BASIC. Even though it's not the "tightest" code of its kind I think you will find it very easy to use.

Some of my routines trade flexibility for ease of use, like the percentage graph which is always the same colour and at the same spot on the screen. This keeps things simple and provides built-in consistency. Just in case my ideas for standards aren't the same as yours :) I have decided to offer the licensing of my source code.

Well, what more can I say? I hope my library helps you to write a bit better and faster. If so maybe I'll see your registration in my mail someday.

NOTES ABOUT THIS RELEASE

Every release fixes bugs found in previous releases and/or adds a few new features. Here are some notes about each release:

1.9a Routines updated: SayOk, ChooseFile\$/ChooseFiles\$

Parameters modified: GetValidPath\$, IsPath%

1.9 Full LIB file is now included. I was severely chastised by the dBASIC Toolkit BBS' sysop for distributing "crippled" software. Sorry I never saw it that way before, and I find that I am in agreement. Now you can compile to EXE form, but if you want to distribute and/or sell your software please register the library.

1.8m All printer & font routines have been updated to allow use on networks using DOS SHARE.

1.8k Routines updated: ErrScn, FileBackup, SelfFont, SelfFonts

Documentation corrected for HelpIndex

1.8j I slaps myself inna face & says, "What was I thinking?" as I notice that StrFmt's parameters are in reverse order compared to every other similar function in the known universe. Oops. Mask & source strings have been swapped.

Fixed: ChoosePtr% (problem if over 16 printers), Inform% (highlight problem)

Parameters modified: HelpIndex

ANGELIB for BC7/PDS

Routines dropped: BackupMethod%, ChooseCountry% - These simple menus are easy to create with John Strong's EZ-Windows, so I took them out to save space.

Documentation corrected: I forgot to update the documentation for some routines. Now you can actually use InputDate, FileBackup%, FileRestore%, FileRestores%, FmtFDD%

1.8i New routines: BarMenu%

1.8h New routines:
ChooseFiles\$ allows multiple file names to be chosen (whereas ChooseFile\$ allows only one).
FileRestores% allows single or multiple files to be selected from a back-up copy.
GetFileNames\$ allows more than one input file to be selected.
OutDevs\$ is identical to OutDev\$ but is for use with these other new routines (which all use a common routine from John Strong's EZ-Windows library).
GetFileDesc\$ retrieves a file's long name from the DESCRIPT.* file

Renamed ToFDD% to FileBackup% and FromFDD% to FileRestore% - I think these names are easier to remember.

REGISTRATION

Although I hope that you are so happy with *ANGELIB* that registering will be reward enough in itself, but I think it's more fun & exciting to get something new. *ANGELIB* is the library I use for developing all of my applications, so it is constantly updated. Your registered version will be an up-to-the-minute copy. Other benefits of registration that come to **my** mind include:

1. You'll get OBJ files so you can create your own custom libraries. I use the EZ-Windows and PBClone libraries for some routines (why re-invent the wheel?), so you will need to get them if you want to create custom libraries. Buying all three libraries will cost around \$70 which is far less than most commercial packages.
 2. Within days you will get a library that would probably take so long to develop yourself that by the time you've done it you won't need it anymore
 3. You can order a printed & bound manual for \$8
 4. Technical support is possible! You can contact a **real programmer** who is 98% knowledgeable about the library (nobody's prefect) via mail, phone, or BBS
 5. You'll have helped one of the little guys — someone who isn't a huge corporation.
- (Thank you...)

How To Order

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U.S. customers please send cash, check, or money order. Canadian customers please send cash or Canadian International Money Order (CIMO). Customers in other countries please send U.S. funds drawn on a U.S. bank. If you send cash use a "security" no-see-through envelope and you may want to send it via Registered mail, too.

If you prefer to use a credit card, you can order *ANGELIB* from Public (software) Library with your MC, Visa, AmEx, or Discover card by calling 800-242-4PsL (from overseas: 713-524-6394) or by FAX to 713-524-6398 or by CompuServe to 71355,470. THESE NUMBERS ARE FOR ORDERING ONLY. I CANNOT be reached at those numbers. To contact me for information about dealer pricing, volume discounts, site licensing, the status of shipment of the product, the latest version number, or for technical information, call 315-852-6942 or write me at 28 Mulberry Street, Clinton, NY USA 13323-1506. Shareware is "try before you buy" so please understand that product returns are not allowed.

When ordering from PsL ask for product #10799 and please note that PsL will add \$3 for shipping & handling to U.S. as well as Canadian orders.

Pricing

Registration with Disk — A single copy costs \$25. You will receive the latest version of *ANGELIB* in LIB (so it can be merged with other libraries) and OBJ (to make custom libraries) formats. You will also receive notification of major updates. At this time, updates for registered users are \$5 or send me a disk and return postage (I'll re-use your envelope). See below for printed manuals.

Multiple Copies — Each copy may be used on a single computer at a time. To ease the financial burden and thank you for being honest, you may apply the following discounts when ordering more than one copy:

2 to 5 copies	40% discount
Over 5 copies	50% discount

Site License — Register a single copy of *ANGELIB* and purchase a site license which allows you to make copies of the registered version for use on more than one computer owned by the same business. I would prefer that you order a registered copy and Site License for each physical location of the same business, but this is not required unless you would like to receive update notices at each location.

Up to 4 computers	\$30.00 per site
Up to 10 computers	\$70.00 per site
Up to 20 computers	\$125.00 per site
Any number of computers	\$400.00 per site

Manuals — I will print the latest version of the manual you are reading right now (using

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Ventura Publisher and a laser printer) and bind it. I am offering this as a service to those who want a printed, bound manual with their software. Most of the cost involved here is for materials and extra shipping costs. Remember that ASCII and WP documentation files are always on disk and if you provide your printer model on the registration form I will send you a file ready to print on your printer.

- One copy \$8.00
- Two or more copies \$6.00 per copy

Source Code License — You may license the use of the source code for *ANGELIB* for just \$30. Thereafter, updates will be available for \$5 plus shipping. Please note that I call routines from EZ-Windows (by John Strong) and PBClone (by Tom Hanlin) in my library (why re-invent their wheels?), so you will need to register one or both of these to use some OBJs in creating custom libraries. I recommend both of them highly and will gladly share unregistered versions of these with you - just ask.

Complimentary Registered Editions - I would like to give you a complimentary registration if you will give me a bit of marketing assistance:

1. Write a review of my software and post it on a bulletin board, send me a copy of it showing the BBS's header and the name and phone number of the BBS. Just give me your honest praise and criticism in a decent review. Your review will be most helpful to me if it mentions your best & worst-liked features and any ideas you have for improvement. This will help me decide the future of *ANGELIB* and for that help I will send you a complimentary registered disk.
2. It helps me to know which BBSs carry my software and the more the better, of course! If you will upload a package to at least five public ("open") BBSs, send me their names and phone numbers and I'll send you a complimentary registered disk. I would appreciate you uploading to time-share systems, private ("closed") BBSs, or part-time BBS, but please do not use these to apply for a complimentary registered edition. BTW: I use an HST 14.4 modem so it would be best if you provided me with BBSs which also use HSTs so I can hook-up at high speed.
3. If you are a consultant or other type of computer professional and your recommendation leads to one or more of your clients purchasing one of my packages, just send me a note with your client's registration or have them mention your name when they register. I will send a complimentary registered edition or an update for every registration you get for me. This is in lieu of a multiple copy discount; I intend it for consultants who choose not to deal with sales tax.

One complimentary registration per person or company. A complimentary registration is just like a paid one - you can upgrade it with a site license, purchase manuals, etc. It helps when you send back disks to be re-used - even the envelopes can be re-used. When you

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Please also fill in the Invoice on the following page (put \$0 for the disk). Include \$2.00 for shipping within the U.S. or the amount indicated for addresses outside the U.S. Remember to order printed manual(s) if you so desire.

☐ Review posted on (BBS name & number) _____
Include a copy of the review, please. Thank you very much!

☐ I uploaded (archive name, like ANGEL18E.ARJ) _____
to these five 24-hour public ("open") BBSs:

	<u>BBS Name</u>	<u>Phone Number/Modem Type</u>	<u>Sysop Name</u>
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____

These offers subject to withdrawal or change at any time without notice. All prices are subject to change without notice. Bulletin Board Sysops please see the file SYSOP.DOC for special pricing and information; vendors & sysops please see VENDOR.DOC.

Angel Babudro — "Organic Computer Wizardry"
28 Mulberry Street • Clinton, NY 13323-1506
(315) 853-6942 Mon-Fri 9am-5pm Eastern Time
(home phone; remember we're 3 hours later than Pacific coast)

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Drive density ☐ Low (DD) required ☐ High (HD) okay
Extended densities ☐ FDFORMAT extended densities okay

Which version are you using now? _____

Where did you get it? _____

ANGELIB has been delivered to and accepted by customer. Upon receipt of this paid invoice the latest Registered Edition disk and any options chosen above will be sent. Send U.S. funds

ANGELIB for BC7/PDS

or CIMO. NYS orders add local sales tax. Mail this page with your cash (use Registered mail), cheque or money order to Angel Babudro, 28 Mulberry Street, Clinton, NY USA 13323-1506. Please allow 1-3 weeks. Thank you!

ANGELIB for BC7/PDS

SYSTEM REQUIREMENTS

All you need is PC/MS-DOS 3.3 or later, PDS/BC 7.1, and a computer. You will need 200k to 500k of disk space for the files, depending on which ones you decide to keep around.

FILES WHICH MAKE UP ANGELIB

The unregistered edition is made up of the following files:

ANGEL.LIB	The linker library to make EXE files (check MAKEQLB.BAT for help making a Quick Library)
ANGEL.BI	The include file, function & subroutine definitions
COLOURS.BI	Colour codes definitions, use is optional
FKEYS.BI	Function key definitions, use is optional
ANGEL.TXT	The ASCII text file of this document
ANGEL.WP	The WordPerfect file of this document (so you can format it for your printer)
QSORT.BAS	Source code to this public domain routine
FKEY.LST	Sample file for use with FKEYS routine
READ.ME	A file containing late-breaking news... May or may not be part of the package you get
ORDER.FRM	Order form for all of my software
SYSOP.DOC	Sysop information
VENDOR.DOC	Disk vendors & Sysops: pricing, detailed description, and distribution information
COMPARE.EXE	A byte-by-byte file compare utility. Displays in hex, decimal, and ASCII. Type COMPARE for help.
DUMP.EXE	Hex/octal/decimal file viewer. Type DUMP for help.

The registered edition also includes:

FAROBJ.EXE	Object modules for creating custom libraries (self-extracting archive)
MLIB.BAT	Sample batch file for creating custom libraries from OBJ modules. I use it all the time to re-compile libraries during software development. Allows OBJs to be anywhere you like rather than all in one directory
MLIB.LSP	Sample specification file for MLIB.BAT
ANGEL.INF	Object module information file for use with Tom Hanlin's LIBWIZ utility - this makes it MUCH easier to create your own custom libraries if you've never done it before.

ANGELIB for BC7/PDS

USING ANGELIB

Basically, just put the files wherever you want them and use the INCLUDE meta-command to place the .BI definition files in your programme (e.g., '\$INCLUDE: 'Angel.bi' and '\$INCLUDE: 'PtrRec.def'). Using the \$INCLUDE file lets you call subroutines without the CALL key word.

Creating a QLB (Quick Library)

If you want to use ANGEL.LIB routines in the QBX interactive environment you need to make a file called ANGEL.QLB first. To do this just use the command:

```
link /qu angel.lib,angel.qlb,nul,qbxqlb;
```

If you get "Bad command or file name" you will need to supply the drive and path containing the file LINK.EXE.

When you start QBX just use "QBX /L d:\path\ANGEL" (replacing d:\path with your drive and pathname) — this will load the quick library into memory so you can run the routines. Please note that it's a large library; if you have extended memory QBX will load some of the library "high." If you run out of memory with a large programme I can only console you with the fact that most of my software is too large to run in the QBX environment and the Microsoft help-line wasn't even able to help me.

Rather than write a probably-lame demonstration programme to show off *ANGELIB*'s functions, I would like to suggest that you check out my shareware from whence this library sprang: What Mailing List? (WML), What Vehicle History? (WVH), What Job Summary? (WJS), What Floppy Format? (WFF), and What Tape Back-up (WTB).

Registered Edition users have individual OBJ files which can be combined into custom libraries, even adding OBJs from other libraries (such as EZ-Windows) or your own routines. I find it easiest to make a file, using an ASCII editor, which contains all of the names of the OBJs I want in the library (see MLIB.LSP for a sample). This file contains one routine per line, preceded by a "+" and ending with a "&" (which is what LIB requires since this file is passed directly to LIB.EXE). This makes it easy to recompile the library if you changed some code or want to add or delete routines.

Another alternative for making your own libraries is to use Tom Hanlin's LIBWIZ utility. This makes things very easy since LIBWIZ is smart enough to figure out if a routine requires others (for example, the INFORM%() function requires several other routines) and will include those other routines automatically. The drawback to LIBWIZ is that it has no "save" feature so you have to select each module every time (which can get a bit tedious if you have 50 modules or so). If you've never tried LIBWIZ you ought to at least check it out. The most current

ANGELIB for BC7/PDS

version I know of is LIBWIZ13. To use it just enter **LIBWIZ ANGEL mylibname** (where "mylibname" is your library's name).

REFERENCE

ANGELIB is made up of functions and subroutines. Functions return a value to a variable — e.g., `a% = CalcAttr(White, Blue)` puts a value in `a%` — whereas subroutines do not — e.g., `BackUpMsg` just prints a message on the screen.

The general syntax of a function call is `var = Function(param1,param2,etc)`. For a subroutine, the "formal" syntax is `"[CALL] subname(param1, param2, etc.)"` although "CALL" is not needed when you include `ANGEL.BI` in your code.

Subroutines do not yield any "result," but they often modify one or more variables which are passed to them. `DBFHeader` is a good example of this.

The routines below each show their name at the left margin and a sample calling sequence aligned with the right margin, under which is the english explanation of the routine's purpose followed by the definition of variables.

BackupMsg	BackupMsg
BarMenu%	<code>opt% = BarMenu%(r%,c%,norm%,rev%,opts\$(),seed%,getit%,ms%)</code>
CalcAttr%	<code>attr% = CalcAttr% (Fore%, Back%)</code>
ChooseFD\$	<code>fdd\$ = ChooseFD\$</code>
ChooseFile\$	<code>File\$ = ChooseFile\$(FSpec\$,Exclude\$,ExtInfo%,ms%)</code>
ChooseFileS\$	<code>F\$ = ChooseFileS\$(Inc\$,Exc\$,Info%,many%,ms%)</code>
ChoosePort%	<code>PtrPort% = ChoosePort%(default%, ms%)</code>

ANGELIB for BC7/PDS

ChoosePtr% Ok% = ChoosePtr%(pType\$, path\$, PtrNo%, PtrPort%, ms%)

ContCan% i% = ContCan%

DateFmt\$ FormattedDate\$ = DateFmt\$(d%, m%, y%, intl%)

DateVal% dv% = DateVal%(TheDate\$)

DBFHeader DBFHeader file\$, Fld\$(), reclen%, recs&, NoFlds%

DBFPickFld% fld% = DBFPickFld%(iRow%, iCol%, field\$())

DBFShowFields DBFShowFields row%, col%, show%, field\$(), hilite%

Delay Delay Sec!

DrawFDD DrawFDD Light%, iRow%, iCol%

DrawHDD DrawHDD Light%, iRow%, iCol%, Msg\$

DrvSpace DrvSpace (Drive\$, Total&, Free&, EC%)

ElapsedTime ElapsedTime STime\$, ETime\$, Hour%, Minutes%, Secs%

ErrScn ErrScn ErrCode%, Module\$

ErrSolve\$ ErrSolve\$ Number%

ErrText\$ ErrText\$ Number%

ANGELIB for BC7/PDS

FileBackup%	ec% = FileBackup%(FileMask\$, Method%)
FileRestore%	ec% = FileRestore%(FileMask\$, Method%)
FileRestores%	ec% = FileRestores%(FileMask\$, Method%)
FKeys	FKeys Keys\$
FmtFDD%	ec% = FmtFDD%
FontDL	FontDL FontFile\$, Pts%, Port%, FontNo%
GetDate	GetDate d%, m%, y%, Intl%, Row%, Col%
GetFileDesc\$	desc\$ = GetFileDesc\$(file\$)
GetFileName\$	afile\$ = GetFileName\$(InOut%, ttl\$, msg\$, dflt\$, ms%)
GetFileNames\$	files\$ = GetFileNames\$(InOut%, ttl\$, msg\$, dflt\$, ms%)
GetFontInfo	GetFontInfo File\$, FontName\$, PtSize%
GetNum\$	n\$ = GetNum\$(iRow%, iCol%, NumMask\$, OrigNo\$, ExitCode%)
GetValidPath	GetValidPath Drv\$, path\$, Msg\$, InOut%, ms%
GoodbyeScreen	GoodbyeScreen Pkg\$, Reg%, FirstUse\$, TimesUsed%

ANGELIB for BC7/PDS

HelpIndex	HelpIndex Topic\$, FileSpec\$
Inform%	ok% = Inform%(iRow%, iCol%, iWid%, iType%, ms%, snd%, Msg\$)
InformFill	InformFill Row%, Col%, BegLine%, WinSize%, MLines\$()
InputDate	InputDate Mo%, Dy%, Yr%, DtStr\$, Row%, Col%, ExitCode%
IsColour%	x% = IsColour%
IsPath%	stat% = IsPath%(Pathname\$, InOut%)
Max% Highest%	= Max%(A%, B%)
MaxL&	Highest& = MaxL&(A&, B&)
MaxS! Highest!	= MaxS!(A!, B!)
Min% Lowest%	= Min%(A%, B%)
MinL&	Lowest& = MinL&(A&, B&)
MinS! Lowest!	= MinS!(A!, B!)
MonthDays%	NoDays% = MonthDays%(M%, Y%)
OutDev\$	PDev\$ = OutDev\$(Port%, ms%)
OutDevs\$	PDev\$ = OutDevs\$(Port%, ms%)

ANGELIB for BC7/PDS

ParseFSpec ParseFSpec TheName\$, Drv\$, Pathname\$, TheName2\$

PctDone PctDone Percent%, title\$

PrintRptMsg PrintRptMsg Msg\$

PtrReady% ok% = PtrReady%(Port%)

QSort QSort Wrk%(), Arr1\$(), Arr2\$(), NoDims%, NoItems%, SortField%

Repl\$ cmd\$ = Repl\$(St\$, Target\$, Item\$)

SayOk SayOk Row%, Col%, ms%

SearchPath\$ a\$ = SearchPath\$(FileName\$)

SelectFont% ok% = SelectFont%(m\$,path\$,PtrNo%,Pts%,Ext\$,SFdir\$,ms%)

SelectFonts% ok% = SelectFonts%(m\$,path\$,PtrNo%,Pts%,Ext\$,SFdir\$,ms%)

SelectFontSize% Pts% = SelectFontSize%(Font\$, IsPts%, ms%)

SelectSoftFont\$ Font\$ = SelectSoftFont\$(Path\$, Ext\$, ms%)

SelectSoftFonts\$ Font\$ = SelectSoftFonts\$(Path\$, Ext\$, ms%)

StrFmt\$ ph\$ = StrFmt\$(Mask\$, St\$, reverse%)

ANGELIB for BC7/PDS

StripSymbols\$ new\$ = StripSymbols\$(Old\$)

Trim\$ b\$ = Trim\$(a\$)

ZipFmt\$ a\$ = ZipFmt\$(TheZip\$, Intl%)

zTrim\$ b\$ = zTrim\$(a\$)

ANGELIB for BC7/PDS

USING PRINTER FUNCTIONS

In order to use the printer functions, you will need to include the data structures definition file `PtrRec.DEF` in your source code. Place the line **'\$INCLUDE: 'PtrRec.DEF'** near the beginning of your code.

Next, you will need to dimension the variables to hold the records. I use both local and the global (common) variables; either will work fine unless your programme is strapped for memory one way or the other. For local variables use `DIM`; to make the variables global use `DIM SHARED`. The record types are:

LaserPtrRec — Control codes which are not font-specific
LaserFontRec — Font-specific control codes
DMPtrRec — Dot matrix codes which are not font-specific
DMFontRec — Font-specific dot matrix control codes

The records are all the same length so that the single file, `PRINTER.DAT`, can contain all four record types. Laser printer records start with a greater-than (>) sign (for example, ">Panasonic KX-P4450"). Dot matrix printer records start with a dot (for example, ".NEC P5300"). Both record types (dot matrix and laser) begin with a Model field, so you can use a LaserPtrRec variable to read a dot matrix record, then, if the Model begins with a period, re-read the record as a DMPtrRec variable.

Here are the steps your programme will need to take to set everything up:

1. Use the `ChoosePtr%` function to get and save the user's choice for a printer
2. Use `SelectFont%` to get the user's font choice(s).
3. Save printer & font choices in a configuration file.
4. Either at programme start-up or before printing read the printer control codes into memory. For example:

```
DIM SHARED Lz as LaserPtrRec
DIM SHARED DM as DMPtrRec
PtrFile% = FREEFILE
OPEN HomePath$ + "Printer.DAT" FOR RANDOM ACCESS READ SHARED
    AS PtrFile% LEN = LEN(Lz)
GET #PtrFile%, PtrRec%, Lz
IF LEFT$(Lz.Model, 1) = "." THEN
    GET #PtrFile%, PtrRec%, DM
END IF
```

5. At programme start-up or before printing read the printer font codes into memory (like the example below)

ANGELIB for BC7/PDS

```
DIM LF as LaserFontRec
DIM DF as DMFontRec
' Normally you would already have PtrFile% open from the
' above routine (to read the printer codes). If not, you
' would need to open the file as in the above routine.
m$ = "Reports": Ext$ = "SFP"      'Portrait fonts (SFP)
FontRec%=SelectFont%(m$, PtrRec%, Pts%, Ext$, SFDir$, ms%)
SELECT CASE FontRec% 'Check result
  CASE 0 'User hit Escape key
    EXIT SUB
  CASE -1 'User chose soft font
    PRINT #PrintFile%, zTrim$(Lz.Init); 'Reset laser
    Done% = FontDL(SFont$, FPts%, PtrPort%, 400) 'Download font
    IF NOT Done% THEN 'User aborted download; flag routine as 'cancelled'
      EXIT FUNCTION or SUB
    END IF
    IF FPts% > 0 THEN 'FontDL got a size?
      Fcpi% = 120 \ FPts% 'Cvt points to rough CPI for calcs
    ELSE 'No size in font hdr
      Fcpi% = 10 'Assume 12pt/10cpi for calcs
    END IF
    PRINT #PrintFile%, CHR$(27); ")400X"; 'Secondary, ID #400
  CASE ELSE
    IF Ptr$ = "D" THEN 'DOT MATRIX PRINTER
      GET #PtrFile%, FontRec%, DF
      PRINT #PrintFile%, zTrim$(DM.Init); 'Reset
      PRINT #PrintFile%, zTrim$(DF.Select); 'Select font
      T$=Trim$(DM.HTab) + CHR$(2 * Fcpi) + CHR$(0) 'Set tab @ 2"

    ELSE 'LASER PRINTER
      GET #PtrFile%, FontRec%, LF
      PRINT #PrintFile%, zTrim$(LF.SymSet2); 'Make secondary
      PRINT #PrintFile%, zTrim$(LF.Select2); 'Use SymSet1 etc
      PRINT #PrintFile%, zTrim$(LF.Spacing); 'to make Primary
      IF VAL(LF.Pitch) = 0 THEN 'Scalable font?
        PRINT #PrintFile%,LTRIM$(STR$(Pts%)); 'Point size
        END IF '(from SelectFont%)
      PRINT #PrintFile%, zTrim$(LF.Pitch); 'Pitch select cmd
      PRINT #PrintFile%, zTrim$(LF.Slant); 'Upright/italic
      PRINT #PrintFile%, zTrim$(LF.Weight); 'Light/Med/Bold
      PRINT #PrintFile%, zTrim$(LF.Number); 'PCL font number
      IF RIGHT$(zTrim$(LF.Pitch), 1) = "h" THEN 'Mono-spaced?
        Fcpi% = VAL(LF.Pitch) 'Store cpi
```

ANGELIB for BC7/PDS

```
        FPts% = 120 \ temp1%      'Cvt cpi to rough pts if nec
ELSE
    FPts% = VAL(LF.Pitch)        'Store points
    Fcpi% = 120 \ TPts%         'Cvt pts to rough cpi if nec
END IF
END IF
END SELECT
CLOSE #PtrFile%
```

Now you have the printer ready to go and you have the variables Fcpi% and Fpts% to work with in calculating TAB locations, line length, etc.

You will notice that I use zTrim\$() rather than just printing a variable. This is because BASIC pads TYPE fields with nulls — CHR\$(0)'s. The zTrim\$() function removes CHR\$(0)'s but leaves trailing spaces (which may be part of the command string).

There are some things that you must know, such as that the pitch command for a PCL (laser) printer ends in "h" if it is mono-spaced (cpi) and "v" if it is proportionally-spaced (points). Also, in setting a TAB string in the above example I used the Epson-standard which terminates the setting of TABs with a CHR\$(0). This is the best solution I have come up with, and every printer I've seen in the past five years uses Epson codes anyhow, so I figure this technique will work 90% of the time or better.

You can make your own PRINTER.DAT file or modify the one supplied just by using the PtrRec.DEF file. Someday soon I will make a programme for modifying the PRINTER.DAT file, but for now it will have to be done manually. I would really appreciate it if you would share with me any new printers you install by sending me your modified PRINTER.DAT file.