NASA Visual Thesaurus Maintenance Documentation

p. 197

Project Icon Image Scaling Laboratory
The University of Texas at Austin

July 1989

Cooperative Agreement NCC 9-16
Research Activity No. IM.10

NASA Johnson Space Center
Center Operations Directorate
Photography and Television Technology Division

ricis

Research Institute for Computing and Information Systems
University of Houston-Clear Lake

INTERIM REPORT

The RICIS Concept

The University of Houston-Clear Lake established the Research Institute for Computing and Information Systems (RICIS) in 1986 to encourage the NASA Johnson Space Center (JSC) and local industry to actively support research in the computing and information sciences. As part of this endeavor, UHCL proposed a partnership with JSC to jointly define and manage an integrated program of research in advanced data processing technology needed for JSC's main missions, including administrative, engineering and science responsibilities. JSC agreed and entered into a continuing cooperative agreement with UHCL beginning in May 1986, to jointly plan and execute such research through RICIS. Additionally, under Cooperative Agreement NCC 9-16, computing and educational facilities are shared by the two institutions to conduct the research.

The UHCL/RICIS mission is to conduct, coordinate, and disseminate research and professional level education in computing and information systems to serve the needs of the government, industry, community and academia. RICIS combines resources of UHCL and its gateway affiliates to research and develop materials, prototypes and publications on topics of mutual interest to its sponsors and researchers. Within UHCL, the mission is being implemented through interdisciplinary involvement of faculty and students from each of the four schools: Business and Public Administration, Education, Human Sciences and Humanities, and Natural and Applied Sciences. RICIS also collaborates with industry in a companion program. This program is focused on serving the research and advanced development needs of industry.

Moreover, UHCL established relationships with other universities and research organizations, having common research interests, to provide additional sources of expertise to conduct needed research. For example, UHCL has entered into a special partnership with Texas A&M University to help oversee RICIS research and education programs, while other research organizations are involved via the "gateway" concept.

A major role of RICIS then is to find the best match of sponsors, researchers and research objectives to advance knowledge in the computing and information sciences. RICIS, working jointly with its sponsors, advises on research needs, recommends principals for conducting the research, provides technical and administrative support to coordinate the research and integrates technical results into the goals of UHCL, NASA/JSC and industry.

Preface

This research was conducted under auspices of the Research Institute for Computing and Information Systems by Dr. Mark E. Rorvig of the Project Icon Scaling Laboratory, Graduate School of Library and Information Science at the University of Texas at Austin. Dr. Peter C. Bishop, Director of the Space Business Research Center, University of Houston-Clear Lake served as RICIS research coordinator.

Funding has been provided by the Center Operations Directorate, NASA/JSC through Cooperative Agreement NCC 9-16 between the NASA Johnson Space Center and the University of Houston-Clear Lake. The original NASA technical monitor for this research activity was Paul R. Penrod, Assistant to the Director, Center Directorate. Upon his retirement, David G. Billingsley, Chief, Photography and Television Technology Division, Center Operations Directorate, NASA/JSC became the technical monitor.

The views and conclusions contained in this report are those of the authors and should not be interpreted as representative of the official policies, either express or implied, of NASA or the United States Government.

NASA Visual Thesaurus Maintenance Documentation

Prepared by:
Project ICON Image Scaling Laboratory
University of Texas at Austin

Table of Contents

Section 1

Introduction

Introduction

What each section contains

Section 1 — This introduction.

Section 2 — This section contains a diagram showing how the various routines are grouped together into functional modules. For example, all routines that involve term maintenance are grouped together. Also, this section has a diagram showing the relationship of the database files and their fields and subfiles. At the end of the section is a page illustrating some conventions used when printing procedure names, types of variables, and referencing layouts, files, and fields.

Section 3 — This section contains a printout of all the layouts in the system along with their associated layout procedures.

Section 4 — This section contains listings of all the global procedures in the system. It also contains a listing of the menu bar and password structure.

Section 5 — This section contains a cross–reference of all identifiers (excluding 4th Dimension's built in routines) used in the system.

Section 6 — This section contains descriptions of the external procedures used in the system.

Further Information

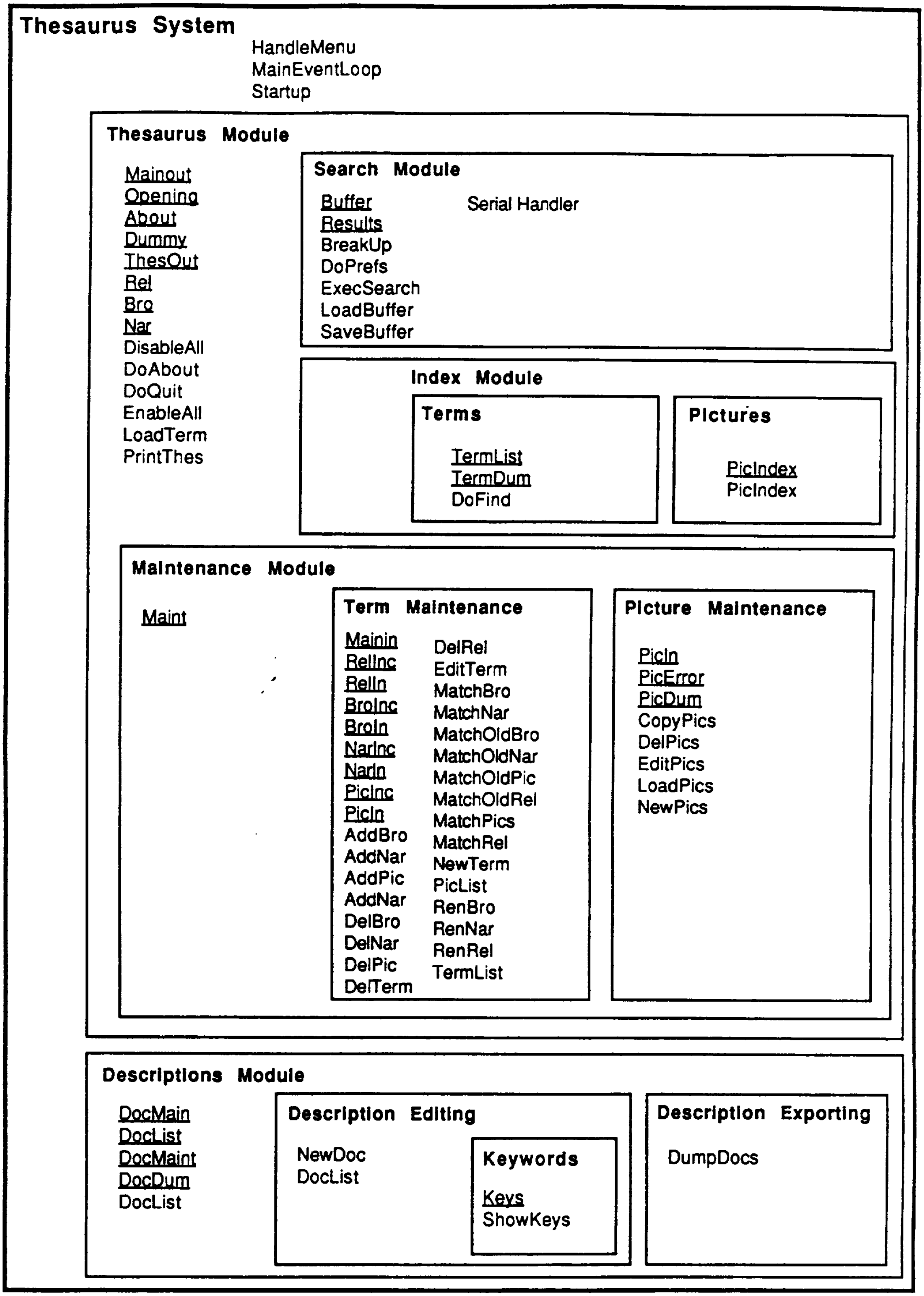
For more information about the procedure and cross-reference listing, please consult the *4th Dimension Utilities and Developer's Notes'* section on the 4D XRef program. For descriptions of 4th Dimension's built in commands, consult the *4th Dimension Command Reference.*

Section 2

Procedure and Database Structure

THESAURUS STRUCTURE

Layouts and layout procedures are underlined.



Thesaurus System

HandleMenu
MainEventLoop
Startup

Thesaurus Module

Mainout
Opening
About
Dummy
ThesOut
Rel
Bro
Nar
DisableAll
DoAbout
DoQuit
EnableAll
LoadTerm
PrintThes

Search Module

Buffer
Results
BreakUp
DoPrefs
ExecSearch
LoadBuffer
SaveBuffer

Serial Handler

Index Module

Terms

TermList
TermDum
DoFind

Pictures

PicIndex
PicIndex

Maintenance Module

Maint

Term Maintenance

MainIn
RelInc
RelIn
BroInc
BroIn
NarInc
NarIn
PicInc
PicIn
AddBro
AddNar
AddPic
AddNar
DelBro
DelNar
DelPic
DelTerm
DelRel
EditTerm
MatchBro
MatchNar
MatchOldBro
MatchOldNar
MatchOldPic
MatchOldRel
MatchPics
MatchRel
NewTerm
PicList
RenBro
RenNar
RenRel
TermList

Picture Maintenance

PicIn
PicError
PicDum
CopyPics
DelPics
EditPics
LoadPics
NewPics

Descriptions Module

DocMain
DocList
DocMaint
DocDum
DocList

Description Editing

NewDoc
DocList

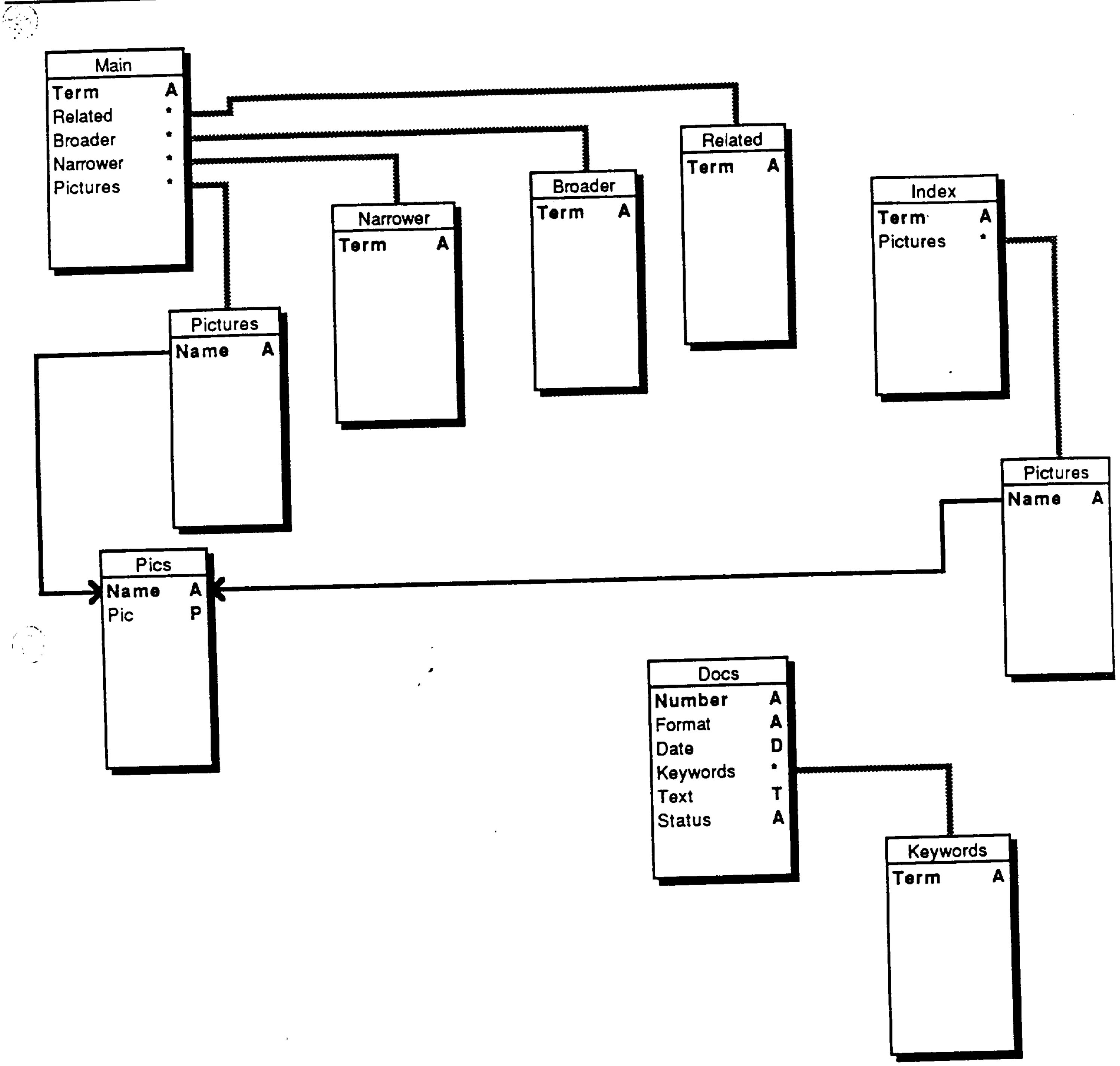
Keywords

Keys
ShowKeys

Description Exporting

DumpDocs

Structure for NASA2



CROSS REFERENCE CONVENTIONS

Layout, File and Field Naming Conventions

LayoutName.[FileName]Field'Subfield

Variable Naming Conventions

bAbc — Layout button variable
vAbc — Layout variable
$abc — Local variable
$0 — Function return value
$1-9 — Parameters

Procedure Display Conventions

BOLD — 4th Dimension procedure
Bold — 4thDimension function
Italic — Global procedure or function
Bold Italic — External procedure

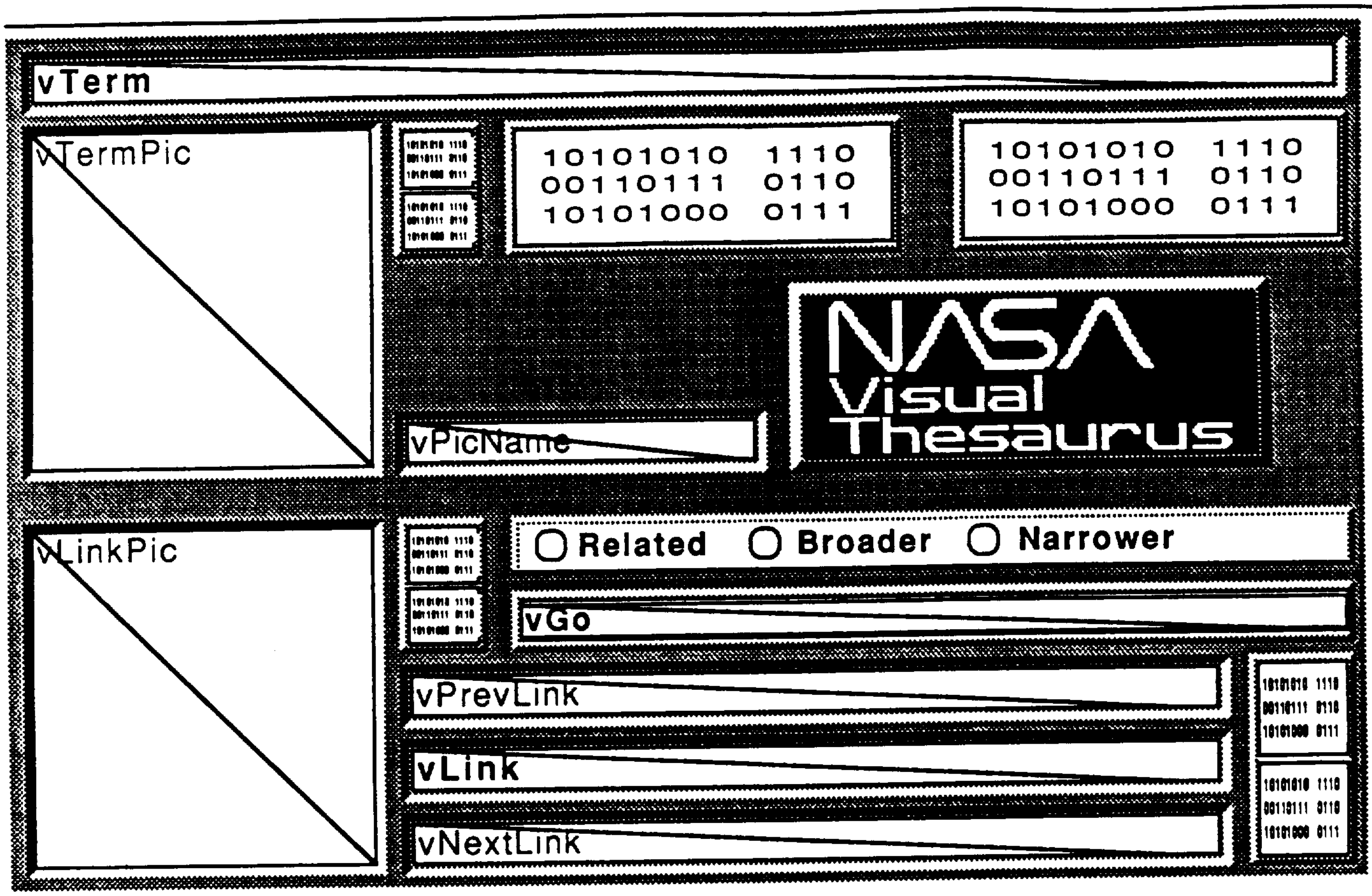
Cross Reference Identifiers

E — External procedure
F — File
L — Layout
P — Procedure
V — Variable

Section 3

Layouts and Layout Procedures

Term	Alpha 40	Indexed; Unique; Mandatory; Enterable; Modifiable
Related	Subfile	
Broader	Subfile	
Narrower	Subfile	
Pictures	Subfile	


vTerm
vTermPic
10101010 1110
00110111 0110
10101000 0111
10101010 1110
00110111 0110
10101000 0111
NASA
Visual
Thesaurus
vPicName
vLinkPic
○ Related
○ Broader
○ Narrower
vGo
vPrevLink
vLink
vNextLink

```
    ` Purpose:  handles the main term display screen
    ` Calls:  LoadTerm, HandleMenu

If (Before)
    LoadTerm
End if

If (During)
    If (Menu selected#0)
        HandleMenu
    Else
            ` add to buffer button
        ReadButt (x;bAdd)
        If (x=1)
            vKeys0:=vKeys0+1
            vKeys{vKeys0}:=[Main]Term
            ALERT([Main]Term+" added to buffer.")
        End if
            ` edit term button
        ReadButt (x;bEdit)
        If (x=1)
            $pass:=Request("Enter Password:")
            If ($pass="master")
                EditTerm2
                LoadTerm
            End if
        End if
            ` scroll term pictures up
        ReadButt (x;bTermPicUp)
        If (x=1)
            PREVIOUS SUBRECORD(Pictures)
            If (Before subselection(Pictures))
                LAST SUBRECORD(Pictures)
            End if
            LOAD LINKED RECORD(Pictures'Name)
            vTermPic:=[Pics]Pic
            vPicName:=[Pics]Name
        End if
            ` scroll term pictures down
        ReadButt (x;bTermPicDow)
        If (x=1)
            NEXT SUBRECORD(Pictures)
            If (End subselection(Pictures))
                FIRST SUBRECORD(Pictures)
            End if
            LOAD LINKED RECORD(Pictures'Name)
            vTermPic:=[Pics]Pic
            vPicName:=[Pics]Name
        End if
            ` scroll link pictures up
        ReadButt (x;bLinkPicUp)
        If (x=1)
            PREVIOUS SUBRECORD([Index]Pictures)
            If (Before subselection([Index]Pictures))
                LAST SUBRECORD([Index]Pictures)
            End if
            LOAD LINKED RECORD([Index]Pictures'Name)
            vLinkPic:=[Pics]Pic
        End if
            ` scroll link pictures down
        ReadButt (x;bLinkPicDow)
```

```
      If (x=1)
         NEXT SUBRECORD([Index]Pictures)
         If (End subselection([Index]Pictures))
            FIRST SUBRECORD([Index]Pictures)
         End if
         LOAD LINKED RECORD([Index]Pictures'Name)
         vLinkPic:=[Pics]Pic
      End if
        ` scroll link terms down
      ReadButt (x;bLinkDow)
      If (x=1)
         EXECUTE("vPrevLink:=[Main]"+RecStr+"'Term")
         EXECUTE("NEXT SUBRECORD([Main]"+RecStr+")")
         EXECUTE("bool:=End subselection([Main]"+RecStr+")")
         If (bool)
            EXECUTE("FIRST SUBRECORD([Main]"+RecStr+")")
         End if
         EXECUTE("LinStr:=[Main]"+RecStr+"'Term")
         vLink:=LinStr
         vGo:="Go to ""+LinStr+"""
         EXECUTE("NEXT SUBRECORD([Main]"+RecStr+")")
         EXECUTE("bool:=End subselection([Main]"+RecStr+")")
         If (bool)
            EXECUTE("FIRST SUBRECORD([Main]"+RecStr+")")
         End if
         EXECUTE("vNextLink:=[Main]"+RecStr+"'Term")
         EXECUTE("PREVIOUS SUBRECORD([Main]"+RecStr+")")
         EXECUTE("bool:=Before subselection([Main]"+RecStr+")")
         If (bool)
            EXECUTE("LAST SUBRECORD([Main]"+RecStr+")")
         End if
         EXECUTE("SEARCH BY INDEX([Index]Term=[Main]"+RecStr+"'Term)")
         ALL SUBRECORDS([Index]Pictures)
         If (Records in subselection([Index]Pictures)<2)
            ButtState (0;bLinkPicUp)
            ButtState (0;bLinkPicDow)
            REDRAW(bLinkPicUp)
            REDRAW(bLinkPicDow)
            If (Records in subselection([Index]Pictures)=1)
               LOAD LINKED RECORD([Index]Pictures'Name)
               vLinkPic:=[Pics]Pic
            Else
               vLinkPic:=MTPic
            End if
         Else
            ButtState (1;bLinkPicUp)
            ButtState (1;bLinkPicDow)
            REDRAW(bLinkPicUp)
            REDRAW(bLinkPicDow)
            LOAD LINKED RECORD([Index]Pictures'Name)
            vLinkPic:=[Pics]Pic
         End if
      End if
        ` scroll link terms up
      ReadButt (x;bLinkUp)
      If (x=1)
         EXECUTE("vNextLink:=[Main]"+RecStr+"'Term")
         EXECUTE("PREVIOUS SUBRECORD([Main]"+RecStr+")")
         EXECUTE("bool:=Before subselection([Main]"+RecStr+")")
         If (bool)
            EXECUTE("LAST SUBRECORD([Main]"+RecStr+")")
      End If
      EXECUTE("LinStr:=[Main]"+RecStr+"Term")
      vLink:=LinStr
      vGo:="Go to "+LinStr+""
      EXECUTE("PREVIOUS SUBRECORD([Main]"+RecStr+")")
      EXECUTE("bool:=Before subselection([Main]"+RecStr+")")
      If (bool)
        EXECUTE("LAST SUBRECORD([Main]"+RecStr+")")
      End If
      EXECUTE("vPrevLink:=[Main]"+RecStr+"Term")
      EXECUTE("NEXT SUBRECORD([Main]"+RecStr+")")
      EXECUTE("bool:=End subselection([Main]"+RecStr+")")
      If (bool)
        EXECUTE("FIRST SUBRECORD([Main]"+RecStr+")")
      End If
      EXECUTE("SEARCH BY INDEX([Index]Term=[Main]"+RecStr+"Term)")
      ALL SUBRECORDS([Index]Pictures)
      If (Records in subselection([Index]Pictures)<2)
        ButtState (0;bLinkPicUp)
        ButtState (0;bLinkPicDow)
        REDRAW(bLinkPicUp)
        REDRAW(bLinkPicDow)
        If (Records in subselection([Index]Pictures)=1)
          LOAD LINKED RECORD([Index]Pictures'Name)
          vLinkPic:=[Pics]Pic
        Else
          vLinkPic:=MTPic
        End If
      Else
        ButtState (1;bLinkPicUp)
        ButtState (1;bLinkPicDow)
        REDRAW(bLinkPicUp)
        REDRAW(bLinkPicDow)
        LOAD LINKED RECORD([Index]Pictures'Name)
        vLinkPic:=[Pics]Pic
      End If
    End If
    ` go to term button
    ReadButt (x;bGO)
    If (x=1)
      SEARCH BY INDEX([Main]Term=vLink)
      LoadTerm
    End If
    ` display related terms
    If ((bRel=1)&(RecStr#"Related"))
      RecStr:="Related"
      vLinkPic:=MTPic
      If (Records in subselection([Main]Related)<2)
        ButtState (0;bLinkUp)
        ButtState (0;bLinkDow)
        REDRAW(bLinkUp)
        REDRAW(bLinkDow)
        If (Records in subselection([Main]Related)=1)
          ButtState (1;bGo)
          REDRAW(bGo)
          SEARCH BY INDEX([Index]Term=Related'Term)
          ALL SUBRECORDS([Index]Pictures)
          If (Records in subselection([Index]Pictures)<2)
            ButtState (0;bLinkPicUp)
            ButtState (0;bLinkPicDow)
            REDRAW(bLinkPicUp)
```

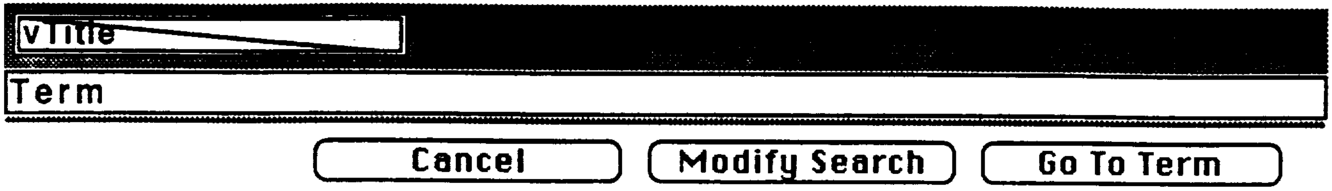
```
         REDRAW(bLinkPicDow)
         If (Records in subselection([Index]Pictures)=1)
            LOAD LINKED RECORD([Index]Pictures'Name)
            vLinkPic:=[Pics]Pic
         Else
            vLinkPic:=MTPic
         End if
      Else
         ButtState (1;bLinkPicUp)
         ButtState (1;bLinkPicDow)
         REDRAW(bLinkPicUp)
         REDRAW(bLinkPicDow)
         LOAD LINKED RECORD([Index]Pictures'Name)
         vLinkPic:=[Pics]Pic
      End if
      vLink:=[Main]Related'Term
      vPrevLink:=""
      vNextLink:=""
      vGo:="Go to "+vLink+""
   Else
      ButtState (0;bGo)
      REDRAW(bGo)
      ButtState (0;bLinkPicUp)
      ButtState (0;bLinkPicDow)
      REDRAW(bLinkPicUp)
      REDRAW(bLinkPicDow)
      vLink:=""
      vPrevLink:=""
      vNextLink:=""
      vGo:=""
   End if
Else
   ButtState (1;bLinkUp)
   ButtState (1;bLinkDow)
   REDRAW(bLinkUp)
   REDRAW(bLinkDow)
   ButtState (1;bGo)
   REDRAW(bGo)
   SEARCH BY INDEX([Index]Term=Related'Term)
   ALL SUBRECORDS([Index]Pictures)
   If (Records in subselection([Index]Pictures)<2)
      ButtState (0;bLinkPicUp)
      ButtState (0;bLinkPicDow)
      REDRAW(bLinkPicUp)
      REDRAW(bLinkPicDow)
      If (Records in subselection([Index]Pictures)=1)
         LOAD LINKED RECORD([Index]Pictures'Name)
         vLinkPic:=[Pics]Pic
      Else
         vLinkPic:=MTPic
      End if
   Else
      ButtState (1;bLinkPicUp)
      ButtState (1;bLinkPicDow)
      REDRAW(bLinkPicUp)
      REDRAW(bLinkPicDow)
      LOAD LINKED RECORD([Index]Pictures'Name)
      vLinkPic:=[Pics]Pic
   End if
   vLink:=[Main]Related'Term
   NEXT SUBRECORD([Main]Related)
```

```
        If (End subselection([Main]Related))
            FIRST SUBRECORD([Main]Related)
        End If
        vNextLink:=[Main]Related'Term
        PREVIOUS SUBRECORD([Main]Related)
        If (Before subselection([Main]Related))
            LAST SUBRECORD([Main]Related)
        End If
        PREVIOUS SUBRECORD([Main]Related)
        If (Before subselection([Main]Related))
            LAST SUBRECORD([Main]Related)
        End If
        vPrevLink:=[Main]Related'Term
        NEXT SUBRECORD([Main]Related)
        If (End subselection([Main]Related))
            FIRST SUBRECORD([Main]Related)
        End If
        vGo:="Go to “"+vLink+"”"
    End If
End If
  ` display broader terms
If ((bBro=1)&(RecStr#"Broader"))
    RecStr:="Broader"
    vLinkPic:=MTPic
    If (Records in subselection([Main]Broader)<2)
        ButtState (0;bLinkUp)
        ButtState (0;bLinkDow)
        REDRAW(bLinkUp)
        REDRAW(bLinkDow)
        If (Records in subselection([Main]Broader)=1)
            ButtState (1;bGo)
            REDRAW(bGo)
            SEARCH BY INDEX([Index]Term=Broader'Term)
            ALL SUBRECORDS([Index]Pictures)
            If (Records in subselection([Index]Pictures)<2)
                ButtState (0;bLinkPicUp)
                ButtState (0;bLinkPicDow)
                REDRAW(bLinkPicUp)
                REDRAW(bLinkPicDow)
                If (Records in subselection([Index]Pictures)=1)
                    LOAD LINKED RECORD([Index]Pictures'Name)
                    vLinkPic:=[Pics]Pic
                Else
                    vLinkPic:=MTPic
                End If
            Else
                ButtState (1;bLinkPicUp)
                ButtState (1;bLinkPicDow)
                REDRAW(bLinkPicUp)
                REDRAW(bLinkPicDow)
                LOAD LINKED RECORD([Index]Pictures'Name)
                vLinkPic:=[Pics]Pic
            End If
            vLink:=[Main]Broader'Term
            vPrevLink:=""
            vNextLink:=""
            vGo:="Go to “"+vLink+"”"
        Else
            ButtState (0;bGo)
            REDRAW(bGo)
            ButtState (0;bLinkPicUp)
            ButtState (0;bLinkPicDow)
            REDRAW(bLinkPicUp)
            REDRAW(bLinkPicDow)
            vLink:=""
            vPrevLink:=""
            vNextLink:=""
            vGo:=""
         End if
   Else
      ButtState (1;bLinkUp)
      ButtState (1;bLinkDow)
      REDRAW(bLinkUp)
      REDRAW(bLinkDow)
      ButtState (1;bGo)
      REDRAW(bGo)
      SEARCH BY INDEX([Index]Term=Broader'Term)
      ALL SUBRECORDS([Index]Pictures)
      If (Records in subselection([Index]Pictures)<2)
         ButtState (0;bLinkPicUp)
         ButtState (0;bLinkPicDow)
         REDRAW(bLinkPicUp)
         REDRAW(bLinkPicDow)
         If (Records in subselection([Index]Pictures)=1)
            LOAD LINKED RECORD([Index]Pictures'Name)
            vLinkPic:=[Pics]Pic
         Else
            vLinkPic:=MTPic
         End if
      Else
         ButtState (1;bLinkPicUp)
         ButtState (1;bLinkPicDow)
         REDRAW(bLinkPicUp)
         REDRAW(bLinkPicDow)
         LOAD LINKED RECORD([Index]Pictures'Name)
         vLinkPic:=[Pics]Pic
      End if
      vLink:=[Main]Broader'Term
      NEXT SUBRECORD([Main]Broader)
      If (End subselection([Main]Broader))
         FIRST SUBRECORD([Main]Broader)
      End if
      vNextLink:=[Main]Broader'Term
      PREVIOUS SUBRECORD([Main]Broader)
      If (Before subselection([Main]Broader))
         LAST SUBRECORD([Main]Broader)
      End if
      PREVIOUS SUBRECORD([Main]Broader)
      If (Before subselection([Main]Broader))
         LAST SUBRECORD([Main]Broader)
      End if
      vPrevLink:=[Main]Broader'Term
      NEXT SUBRECORD([Main]Broader)
      If (End subselection([Main]Broader))
         FIRST SUBRECORD([Main]Broader)
      End if
      vGo:="Go to ""+vLink+"""
   End if
End if
   ` display narrower terms
If ((bNar=1)&(RecStr#"Narrower"))
   RecStr:="Narrower"
```

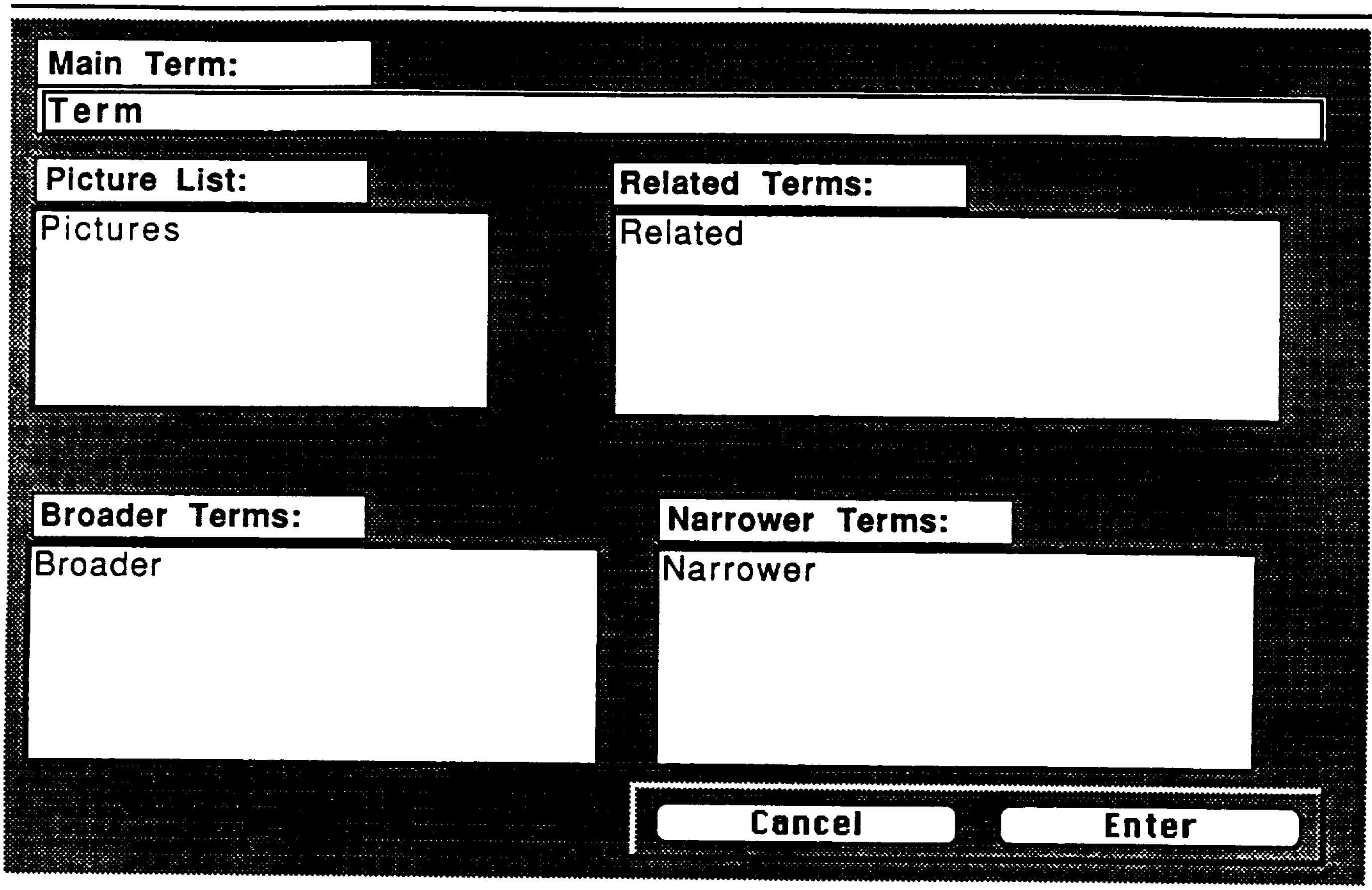
```
vLinkPic:=MTPic
If (Records in subselection([Main]Narrower)<2)
   ButtState (0;bLinkUp)
   ButtState (0;bLinkDow)
   REDRAW(bLinkUp)
   REDRAW(bLinkDow)
   If (Records in subselection([Main]Narrower)=1)
      ButtState (1;bGo)
      REDRAW(bGo)
      SEARCH BY INDEX([Index]Term=Narrower'Term)
      ALL SUBRECORDS([Index]Pictures)
      If (Records in subselection([Index]Pictures)<2)
         ButtState (0;bLinkPicUp)
         ButtState (0;bLinkPicDow)
         REDRAW(bLinkPicUp)
         REDRAW(bLinkPicDow)
         If (Records in subselection([Index]Pictures)=1)
            LOAD LINKED RECORD([Index]Pictures'Name)
            vLinkPic:=[Pics]Pic
         Else
            vLinkPic:=MTPic
         End if
      Else
         ButtState (1;bLinkPicUp)
         ButtState (1;bLinkPicDow)
         REDRAW(bLinkPicUp)
         REDRAW(bLinkPicDow)
         LOAD LINKED RECORD([Index]Pictures'Name)
         vLinkPic:=[Pics]Pic
      End if
      vLink:=[Main]Narrower'Term
      vPrevLink:=""
      vNextLink:=""
      vGo:="Go to "+vLink+""
   Else
      ButtState (0;bGo)
      REDRAW(bGo)
      ButtState (0;bLinkPicUp)
      ButtState (0;bLinkPicDow)
      REDRAW(bLinkPicUp)
      REDRAW(bLinkPicDow)
      vLink:=""
      vPrevLink:=""
      vNextLink:=""
      vGo:=""
   End if
Else
   ButtState (1;bLinkUp)
   ButtState (1;bLinkDow)
   REDRAW(bLinkUp)
   REDRAW(bLinkDow)
   ButtState (1;bGo)
   REDRAW(bGo)
   SEARCH BY INDEX([Index]Term=Narrower'Term)
   ALL SUBRECORDS([Index]Pictures)
   If (Records in subselection([Index]Pictures)<2)
      ButtState (0;bLinkPicUp)
      ButtState (0;bLinkPicDow)
      REDRAW(bLinkPicUp)
      REDRAW(bLinkPicDow)
      If (Records in subselection([Index]Pictures)=1)
```

```
                  LOAD LINKED RECORD([Index]Pictures'Name)
                  vLinkPic:=[Pics]Pic
               Else
                  vLinkPic:=MTPic
               End if
            Else
               ButtState (1;bLinkPicUp)
               ButtState (1;bLinkPicDow)
               REDRAW(bLinkPicUp)
               REDRAW(bLinkPicDow)
               LOAD LINKED RECORD([Index]Pictures'Name)
               vLinkPic:=[Pics]Pic
            End if
            vLink:=[Main]Narrower'Term
            NEXT SUBRECORD([Main]Narrower)
            If (End subselection([Main]Narrower))
               FIRST SUBRECORD([Main]Narrower)
            End if
            vNextLink:=[Main]Narrower'Term
            PREVIOUS SUBRECORD([Main]Narrower)
            If (Before subselection([Main]Narrower))
               LAST SUBRECORD([Main]Narrower)
            End if
            PREVIOUS SUBRECORD([Main]Narrower)
            If (Before subselection([Main]Narrower))
               LAST SUBRECORD([Main]Narrower)
            End if
            vPrevLink:=[Main]Narrower'Term
            NEXT SUBRECORD([Main]Narrower)
            If (End subselection([Main]Narrower))
               FIRST SUBRECORD([Main]Narrower)
            End if
            vGo:="Go to "+vLink+""
         End if
      End if
   End if
   If (Screen#1)
      ValidateDlg
   End if

End if
```

Layout: Termindex.[Main]



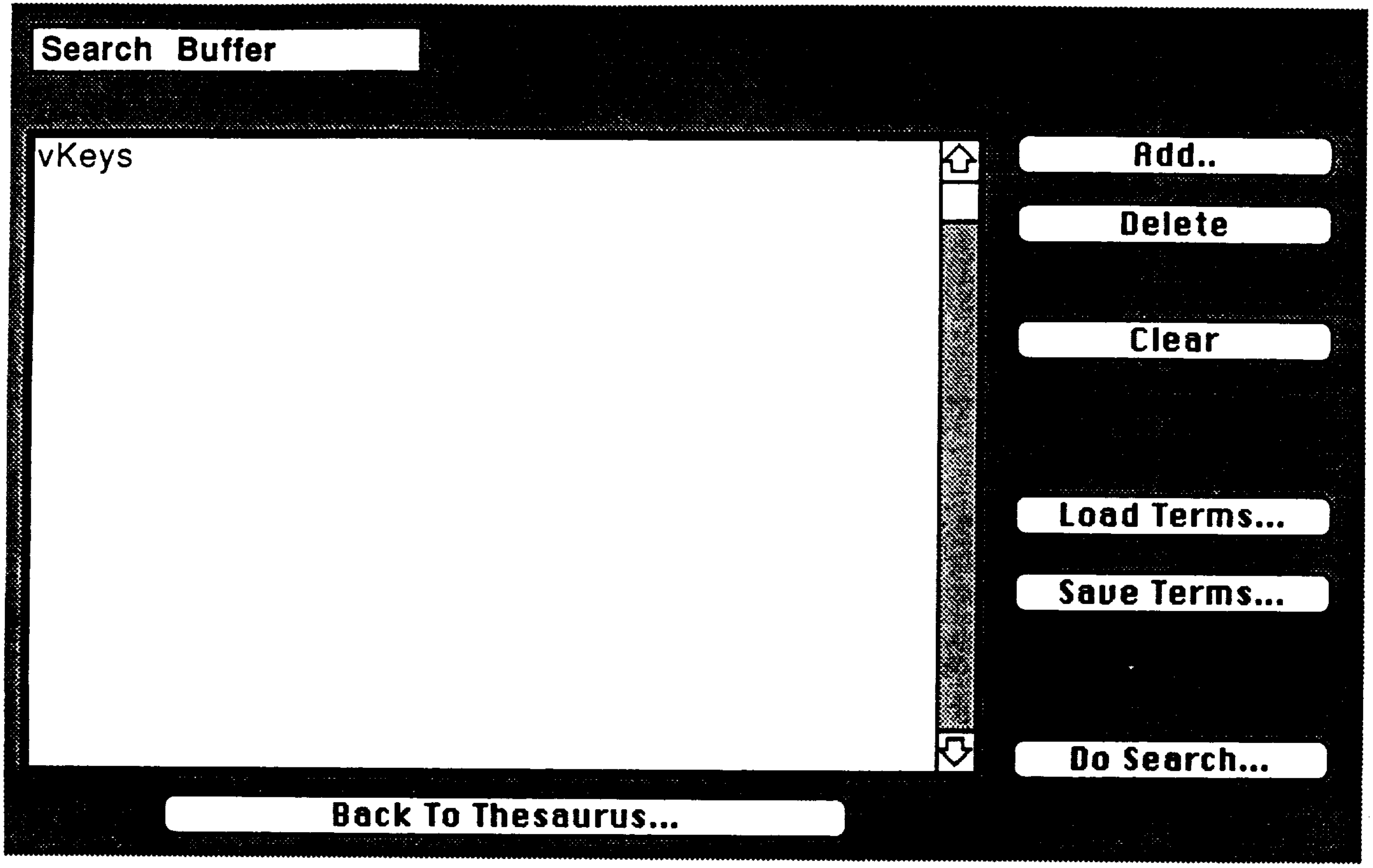
```
` Purpose: handles the term index layout

If (In header)
   SET WINDOW TITLE("Term Index")
   vTitle:="Select a Term:"
End if
If (done=1)
   CancelEntry
End if
```


Main Term:
Term
Picture List:
Pictures
Related Terms:
Related
Broader Terms:
Broader
Narrower Terms:
Narrower
Cancel
Enter

```
` Purpose: handles the main term entry screen

If (Before)
   CREATE EMPTY SET([Pics];"PicCheck")
   CREATE EMPTY SET([Index];"RelCheck")
   CREATE EMPTY SET([Index];"BroCheck")
   CREATE EMPTY SET([Index];"NarCheck")
   If (xEdit=1)
      xEdit:=0
      UNION("OldPics";"PicCheck";"PicCheck")
      UNION("OldRelSet";"RelCheck";"RelCheck")
      UNION("OldNarSet";"NarCheck";"NarCheck")
      UNION("OldBroSet";"BroCheck";"BroCheck")
   End if
   OldMain:=[Main]Term
   SET WINDOW TITLE("Term Entry")
End if

If (During)
   If (Modified([Main]Term))
      [Main]Term:=Uppercase([Main]Term)
   End if
   SORT SUBSELECTION([Main]Pictures;[Main]Pictures'Name;>)
   If ([Main]Pictures'Name="")
      DELETE SUBRECORD([Main]Pictures)
      ALL SUBRECORDS([Main]Pictures)
      SORT SUBSELECTION([Main]Pictures;[Main]Pictures'Name;>)
   End if
   REDRAW([Main]Pictures)
   SORT SUBSELECTION([Main]Related;[Main]Related'Term;>)
   REDRAW([Main]Related)
   SORT SUBSELECTION([Main]Narrower;[Main]Narrower'Term;>)
   REDRAW([Main]Narrower)
   SORT SUBSELECTION([Main]Broader;[Main]Broader'Term;>)
   REDRAW([Main]Broader)
End if

If (After)
   CLEAR SET("PicCheck")
   CLEAR SET("RelCheck")
   CLEAR SET("BroCheck")
   CLEAR SET("NarCheck")
End if

If (bCancel=1)
   CLEAR SET("PicCheck")
   CLEAR SET("RelCheck")
   CLEAR SET("BroCheck")
   CLEAR SET("NarCheck")
End if
```

Layout procedure: Dummy.[Main]

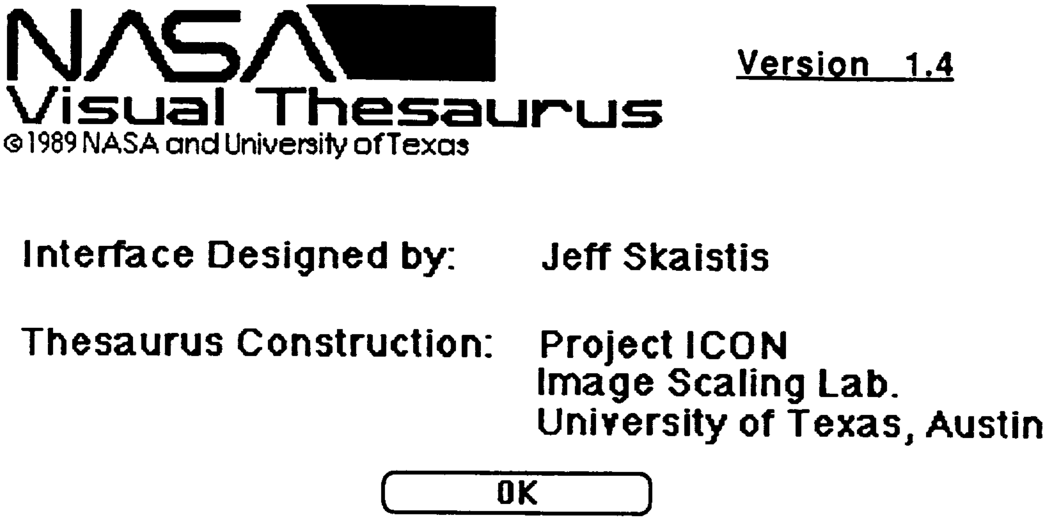
```
   ` Purpose:  handles dummy layout, when called it cancels itself

If (done=0)
   done:=1
End if
CancelEntry
```



Search Buffer

vKeys

```
  ` Purpose: handles search buffer screen
  ` Calls: HandleMenu

If (Before)
  SET WINDOW TITLE("Search Buffer")
  Screen:=2
End if

If (During)
  If (Menu selected#0)
    HandleMenu
  Else
    If (bAdd=1)
      ter:=Request("Enter Keyword:")
      If (ok=1)
        vKeys0:=vKeys0+1
        vKeys{vKeys0}:=ter
      End if
    End if
    If (bDel=1)
      If (vKeys=0)
        BEEP(10)
      Else
        $i:=vKeys
        While ($i<vKeys0)
          vKeys{$i}:=vKeys{$i+1}
          $i:=$i+1
        End while
        vKeys0:=vKeys0-1
        vKeys:=0
        REDRAW(vKeys)
      End if
    End if
    If (bClear=1)
      vKeys0:=0
      REDRAW(vKeys)
    End if
    If (bLoad=1)
      LoadBuffer
    End if
    If (bSave=1)
      SaveBuffer
    End if
    If (bSearch=1)
      ExecSearch
    End if
  End if
  If (Screen#2)
    ValidateDlg
  End if
End if
```



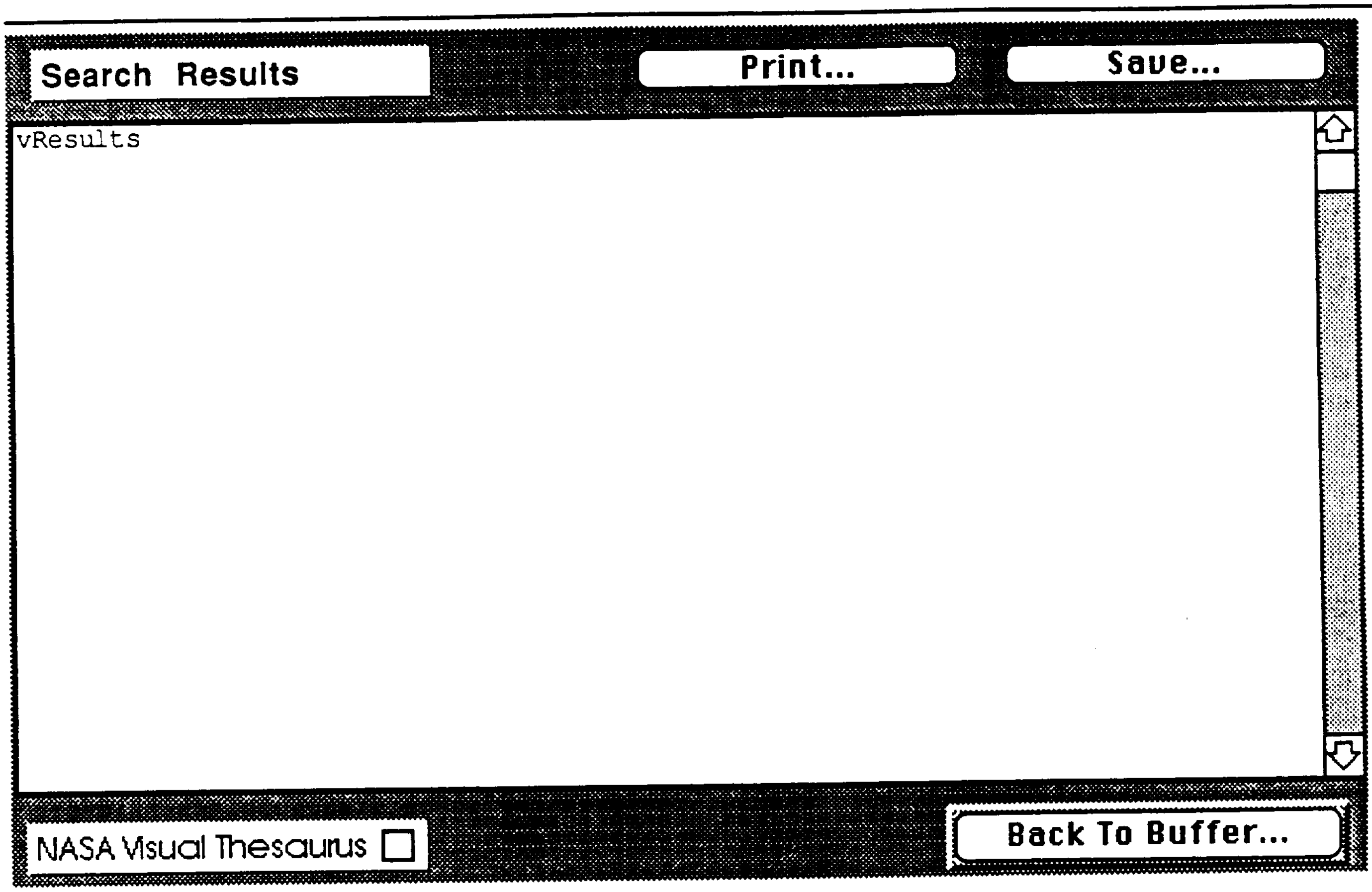
NASA
Visual Thesaurus

Version 1.4

Interface Designed by: Jeff Skaistis

Thesaurus Construction: Project ICON
Image Scaling Lab.
University of Texas, Austin

Layout: Results.[Main]

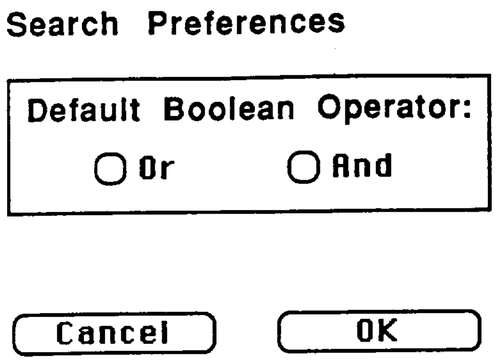


Search Results

vResults

NASA Visual Thesaurus □

```
 ` Purpose: handles the results display screen

If (Before)
   DISABLE BUTTON(bDum)
End if
If (During)
   If (bPrint=1)
      PRINT SETTINGS
      If (OK=1)
         $i:=1
         While ($i<=vResults0)
            vLine:=vResults{$i}
            PRINT LAYOUT([Main];"LineOut")
            $i:=$i+1
         End while
         FORM FEED
      End if
   End if
   If (bSave=1)
      SET CHANNEL(13;"")
      If (ok=1)
         $i:=1
         While ($i<=vResults0)
            SEND PACKET(vResults{$i}+Char(13))
            $i:=$i+1
         End while
      End if
   End if
End if
```



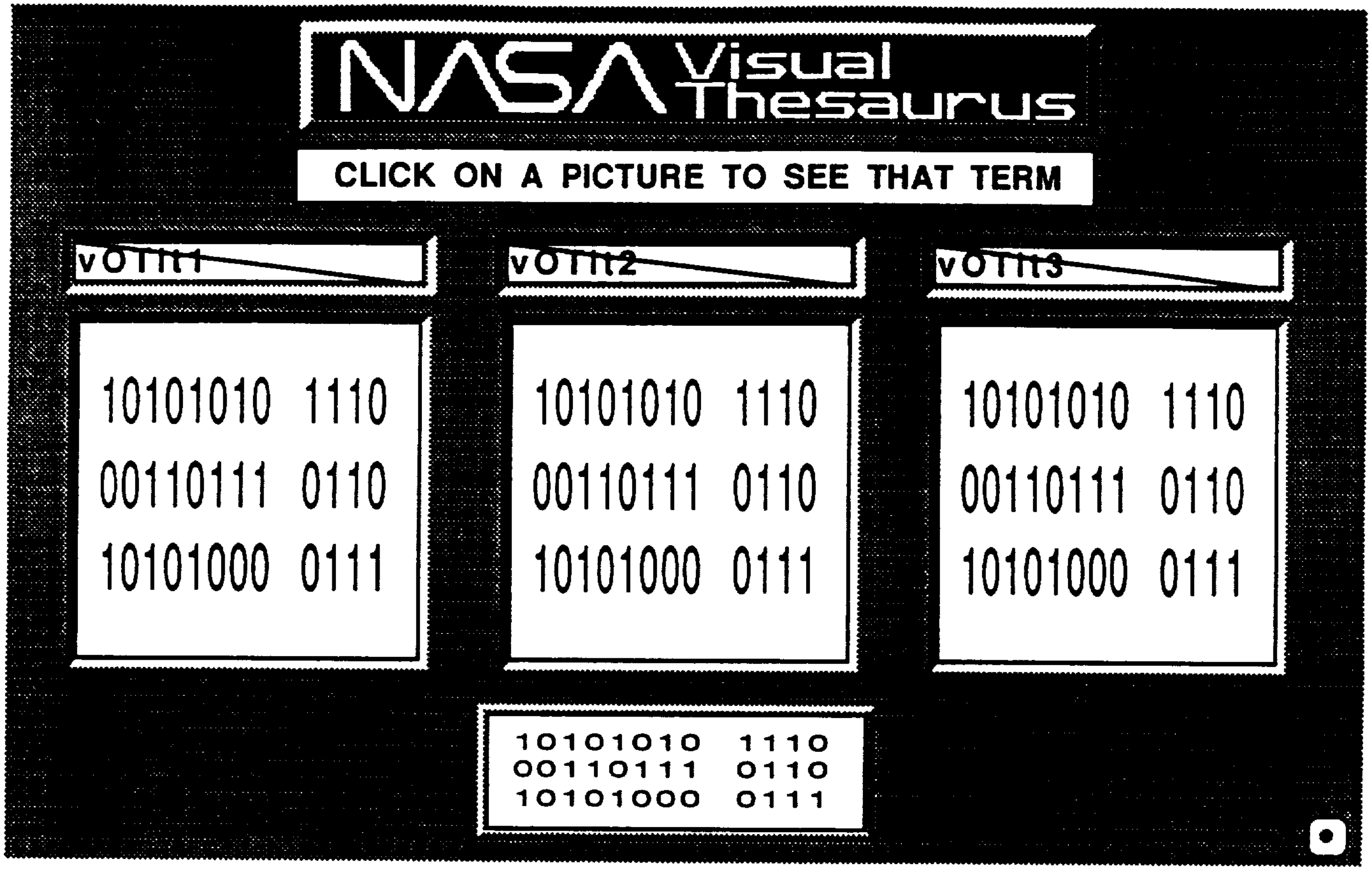
Search Preferences

Default Boolean Operator:

○ Or ○ And

```
` Purpose:  handles the search prefs dialog

Case of
   : (Before)
      If (DefOp="OR")
         vOr:=1
      Else
         vAnd:=1
      End if
End case
```

vLine



NASA Visual Thesaurus

CLICK ON A PICTURE TO SEE THAT TERM

vOTit1

```
10101010 1110
00110111 0110
10101000 0111
```

vOTit2

```
10101010 1110
00110111 0110
10101000 0111
```

vOTit3

```
10101010 1110
00110111 0110
10101000 0111
```

```
10101010 1110
00110111 0110
10101000 0111
```

```
` Purpose: handles the opening screen
` Calls: HandleMenu, DoFind

If (Before)
   vOTit1:="PROGRAMS"
   vOTit2:="FACILITIES"
   vOTit3:="PERSONNEL"
   DISABLE BUTTON(bDum)
   SET WINDOW TITLE("Main Screen")
End if

If (During)
   If (Menu selected#0)
      HandleMenu
   Else
      ReadButt (x;bPic1)
      If (x=1)
         SEARCH BY INDEX([Main]Term=vOTit1)
         screen:=1
      End if
      ReadButt (x;bPic2)
      If (x=1)
         SEARCH BY INDEX([Main]Term=vOTit2)
         screen:=1
      End if
      ReadButt (x;bPic3)
      If (x=1)
         SEARCH BY INDEX([Main]Term=vOTit3)
         screen:=1
      End if
      ReadButt (x;bGoInd)
      If (x=1)
         DoFind
      End if
   End if
   If (Screen#0)
      ValidateDlg
   End if
End if
```

NASA Visual Thesaurus

vPage

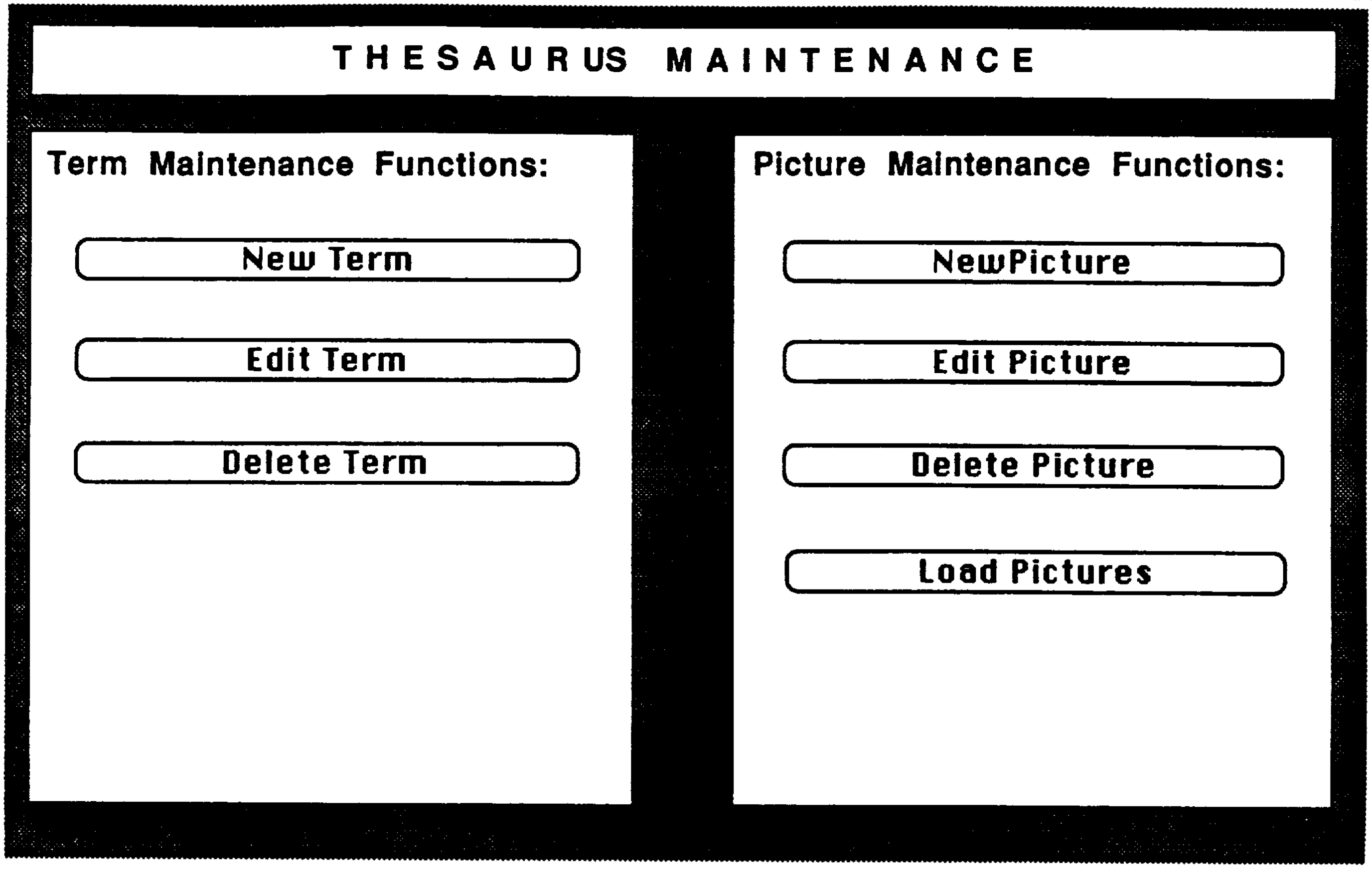
Term

Related

Broader

Narrower

```
` Purpose: handles the layout for printing thesaurus terms

Case of
  : (In header)
    If (Before selection([Main]))
      vPage:=1
    Else
      vPage:=vPage+1
    End if
  : (Before)
    ALL SUBRECORDS([Main]Related)
    SORT SUBSELECTION([Main]Related;[Main]Related'Term;>)
    ALL SUBRECORDS([Main]Broader)
    SORT SUBSELECTION([Main]Broader;[Main]Broader'Term;>)
    ALL SUBRECORDS([Main]Narrower)
    SORT SUBSELECTION([Main]Narrower;[Main]Narrower'Term;>)
End case
```



THESAURUS MAINTENANCE

Term Maintenance Functions:

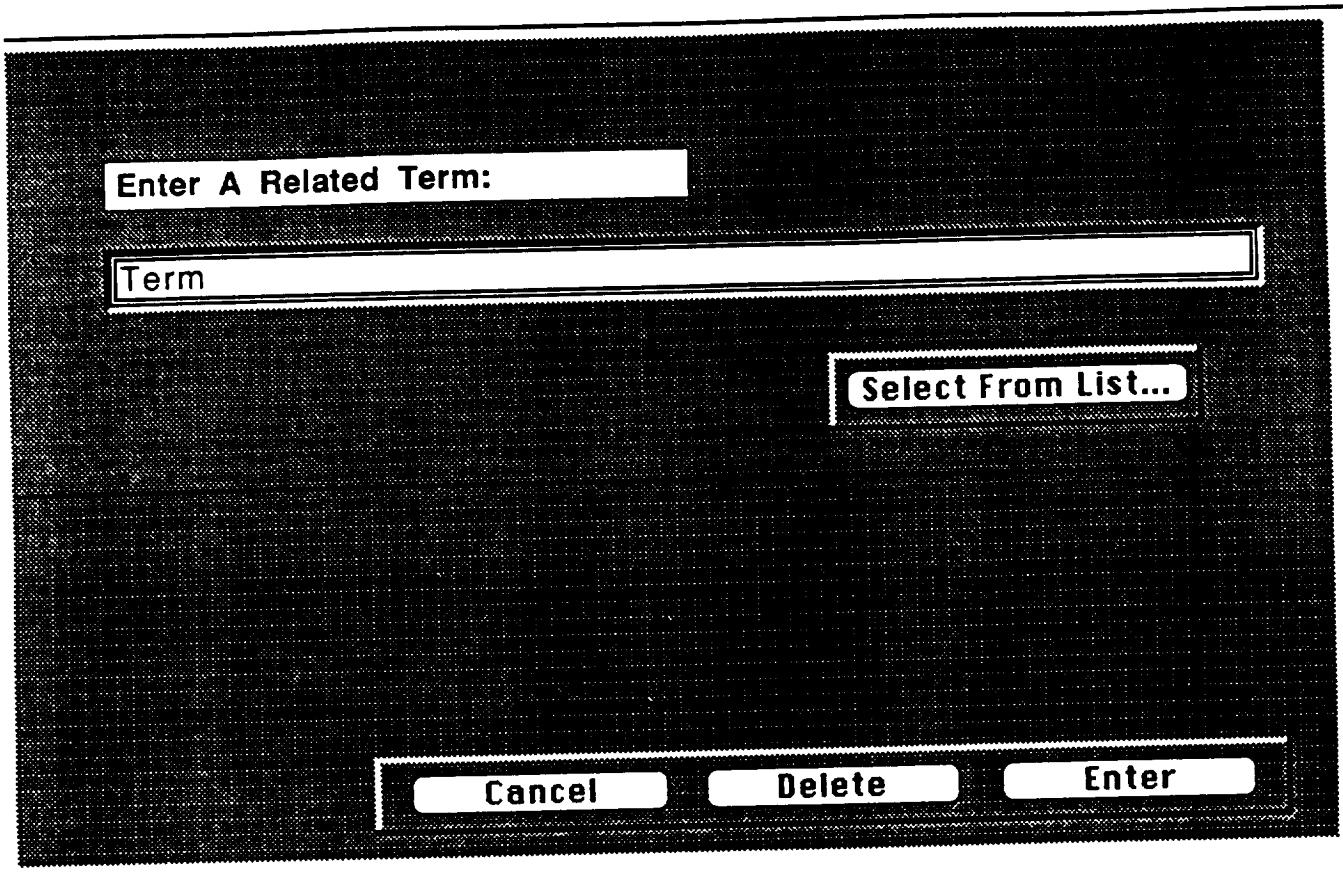
Picture Maintenance Functions:

```
  ` Purpose: handles the maintenance selection screen
  ` Calls: NewTerm, EditTerm, DelTerm, NewPic, EditPics, DelPics, LoadPics

If (Before)
  SET WINDOW TITLE("Thesaurus Maintenance")
End if

If (During)
  If (Menu selected#0)
    HandleMenu
  Else
    If (bNewTerm=1)
      NewTerm
    End if
    If (bEditTerm=1)
      EditTerm
    End if
    If (bDelTerm=1)
      DelTerm
    End if
    If (bNewPic=1)
      NewPic
    End if
    If (bEditPic=1)
      EditPics
    End if
    If (bDelPic=1)
      DelPics
    End if
    If (bLoadPics=1)
      LoadPics
    End if
  End if
  If (Screen#3)
    ValidateDlg
  End if
End if
```

Term	Alpha 40	Indexed; Mandatory; Enterable; Modifiable

vTerm

```
  ` Purpose: included layout for adding related terms

If (Before)
  RelIn:=0
End if

vTerm:=Term

If (During)
  If (RelIn=1)
    ADD TO SET([Index];"RelCheck")
    RelIn:=0
  End if
End if
```


Enter A Related Term:
Term
Select From List...
Cancel
Delete
Enter

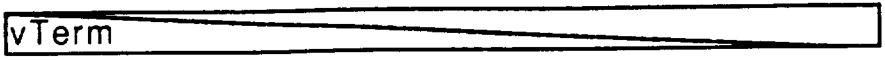
```
 ` Purpose: layout for entering related terms
 ` Calls: TermList

If (Before)
   new:=0
   Relln:=1
   vOTerm:=Term
End if

If (bSelect=1)
   Term:=TermList
   If (Term="")
      new:=0
   Else
      new:=1
   End if
End if

If (Modified(Term))
   new:=1
End if

If ((new=1)&(bCan=0)&(Term#""))
   new:=0
   SEARCH BY INDEX([Index]Term=Term)
   If (Records in selection([Index])=0)
      ALERT("That term is not in the thesaurus.")
      Term:=""
      REJECT(Term)
   Else
      CREATE EMPTY SET([Index];"PicTemp")
      CREATE EMPTY SET([Index];"PicTest")
      ADD TO SET([Index];"PicTemp")
      INTERSECTION("RelCheck";"PicTemp";"PicTest")
      If ((Records in set("PicTest")=1)&(Term#vOTerm))
         ALERT([Index]Term+" is already used with this term.")
         CLEAR SET("PicTemp")
         CLEAR SET("PicTest")
         Term:=""
         REJECT(Term)
      Else
         Term:=[Index]Term
      End if
   End if
End if

If (bCan=1)
   Relln:=0
End if

If (bDel=1)
   DELETE SUBRECORD([Main]Related)
   ALL SUBRECORDS([Main]Related)
End if
```

RT

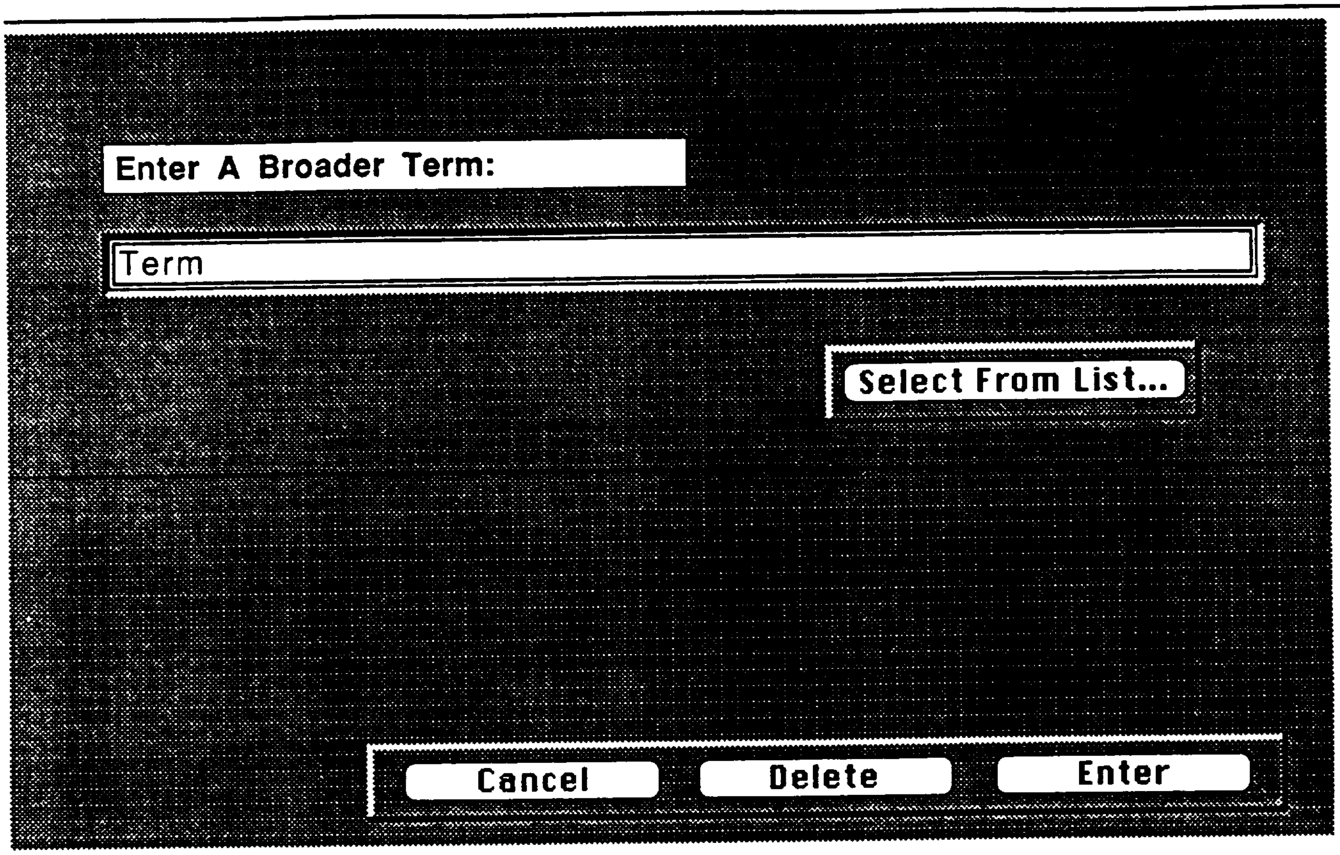
Term

[Main]'Broader

Term	Alpha 40	Indexed; Mandatory; Enterable; Modifiable


vTerm

```
  ` Purpose:  included layout for adding broader terms

If (Before)
   BroIn:=0
End if

vTerm:=Term

If (During)
   If (BroIn=1)
      ADD TO SET([Index];"BroCheck")
      BroIn:=0
   End if
End if
```


Enter A Broader Term:
Term
Select From List...
Cancel
Delete
Enter

```
   ` Purpose: layout for entering broader terms
   ` Calls: TermList

If (Before)
   new:=0
   BroIn:=1
   vOTerm:=Term
End if

If (bSelect=1)
   Term:=TermList
   If (Term="")
      new:=0
   Else
      new:=1
   End if
End if

If (Modified(Term))
   new:=1
End if

If ((new=1)&(bCan=0)&(Term#""))
   new:=0
   SEARCH BY INDEX([Index]Term=Term)
   If (Records in selection([Index])=0)
      ALERT("That term is not in the thesaurus.")
      Term:=""
      REJECT(Term)
   Else
      CREATE EMPTY SET([Index];"PicTemp")
      CREATE EMPTY SET([Index];"PicTest")
      ADD TO SET([Index];"PicTemp")
      INTERSECTION("BroCheck";"PicTemp";"PicTest")
      If ((Records in set("PicTest")=1)&(Term#vOTerm))
         ALERT([Index]Term+" is already used with this term.")
         CLEAR SET("PicTemp")
         CLEAR SET("PicTest")
         Term:=""
         REJECT(Term)
      Else
         INTERSECTION("NarCheck";"PicTemp";"PicTest")
         If (Records in set("PicTest")=1)
            ALERT([Index]Term+" is already used as a narrower term with this term.")
            CLEAR SET("PicTemp")
            CLEAR SET("PicTest")
            Term:=""
            REJECT(Term)
         Else
            Term:=[Index]Term
         End if
      End if
   End if
End if

If (bCan=1)
   BroIn:=0
End if

If (bDel=1)
   DELETE SUBRECORD([Main]Broader)
```

```
|  ALL SUBRECORDS([Main]Broader)
└End if
```

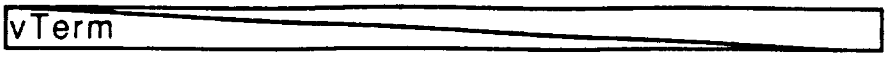
B T

Term

[Main]'Narrower

[Main]'Narrower

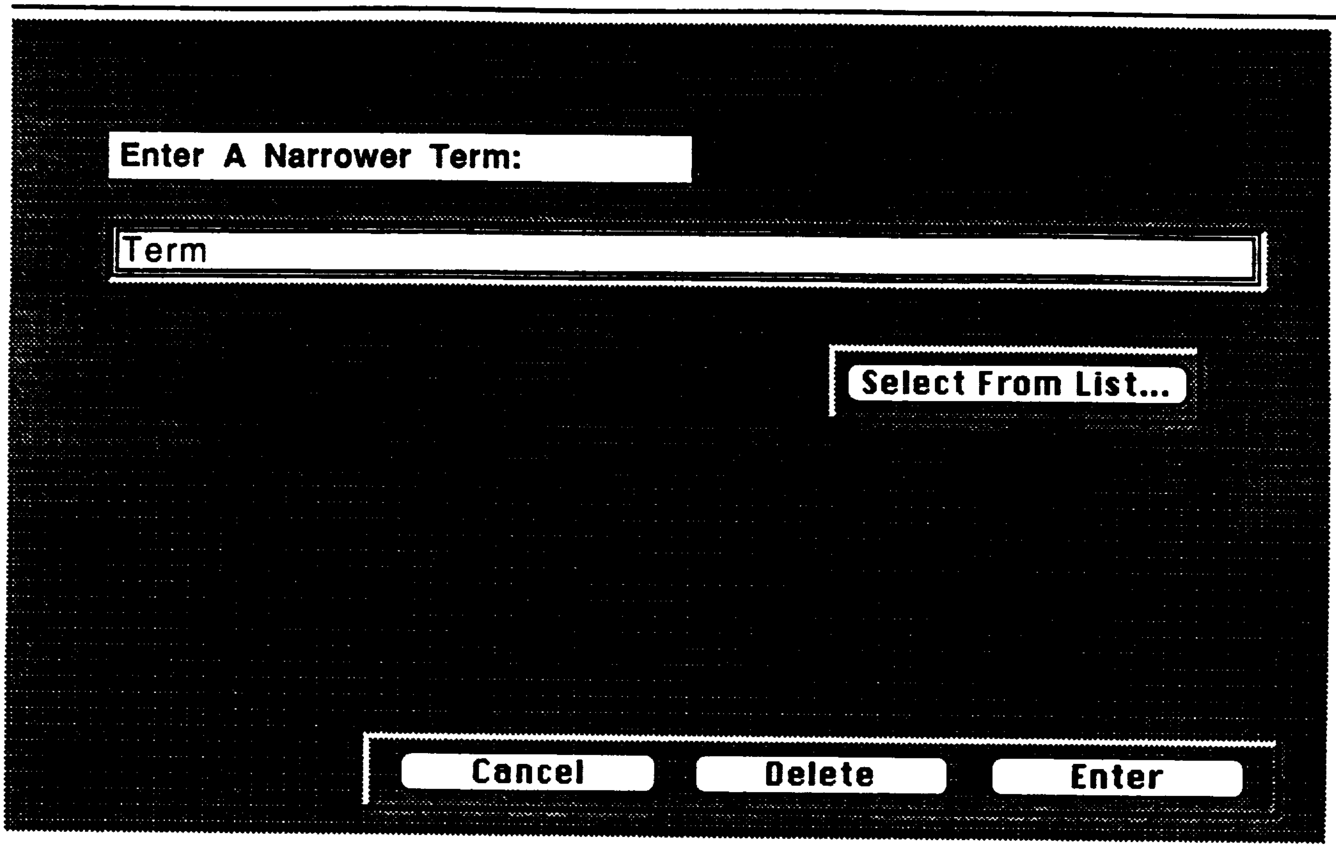
Term	Alpha 40	Indexed; Mandatory; Enterable; Modifiable



vTerm

Layout procedure: NarInc.[Main]'Narrower

```
 ` Purpose:  included layout for adding narrower terms

If (Before)
   NarIn:=0
End if

vTerm:=Term

If (During)
   If (NarIn=1)
      ADD TO SET([Index];"NarCheck")
      NarIn:=0
   End if
End if
```


Enter A Narrower Term:
Term
Select From List...
Cancel
Delete
Enter

```
   ` Purpose: layout for entering narrower terms
   ` Calls: TermList

If (Before)
   new:=0
   NarIn:=1
   vOTerm:=Term
End if

If (bSelect=1)
   Term:=TermList
   If (Term="")
      new:=0
   Else
      new:=1
   End if
End if

If (Modified(Term))
   new:=1
End if

If ((new=1)&(bCan=0)&(Term#""))
   new:=0
   SEARCH BY INDEX([Index]Term=Term)
   If (Records in selection([Index])=0)
      ALERT("That term is not in the thesaurus.")
      Term:=""
      REJECT(Term)
   Else
      CREATE EMPTY SET([Index];"PicTemp")
      CREATE EMPTY SET([Index];"PicTest")
      ADD TO SET([Index];"PicTemp")
      INTERSECTION("NarCheck";"PicTemp";"PicTest")
      If ((Records in set("PicTest")=1)&(Term#vOTerm))
         ALERT([Index]Term+" is already used with this term.")
         CLEAR SET("PicTemp")
         CLEAR SET("PicTest")
         Term:=""
         REJECT(Term)
      Else
         INTERSECTION("BroCheck";"PicTemp";"PicTest")
         If (Records in set("PicTest")=1)
            ALERT([Index]Term+" is already used as a broader term with this term.")
            CLEAR SET("PicTemp")
            CLEAR SET("PicTest")
            Term:=""
            REJECT(Term)
         Else
            Term:=[Index]Term
         End if
      End if
   End if
End if

If (bCan=1)
   NarIn:=0
End if

If (bDel=1)
   DELETE SUBRECORD([Main]Narrower)
```

```
    ALL SUBRECORDS([Main]Narrower)
End if
```

NT

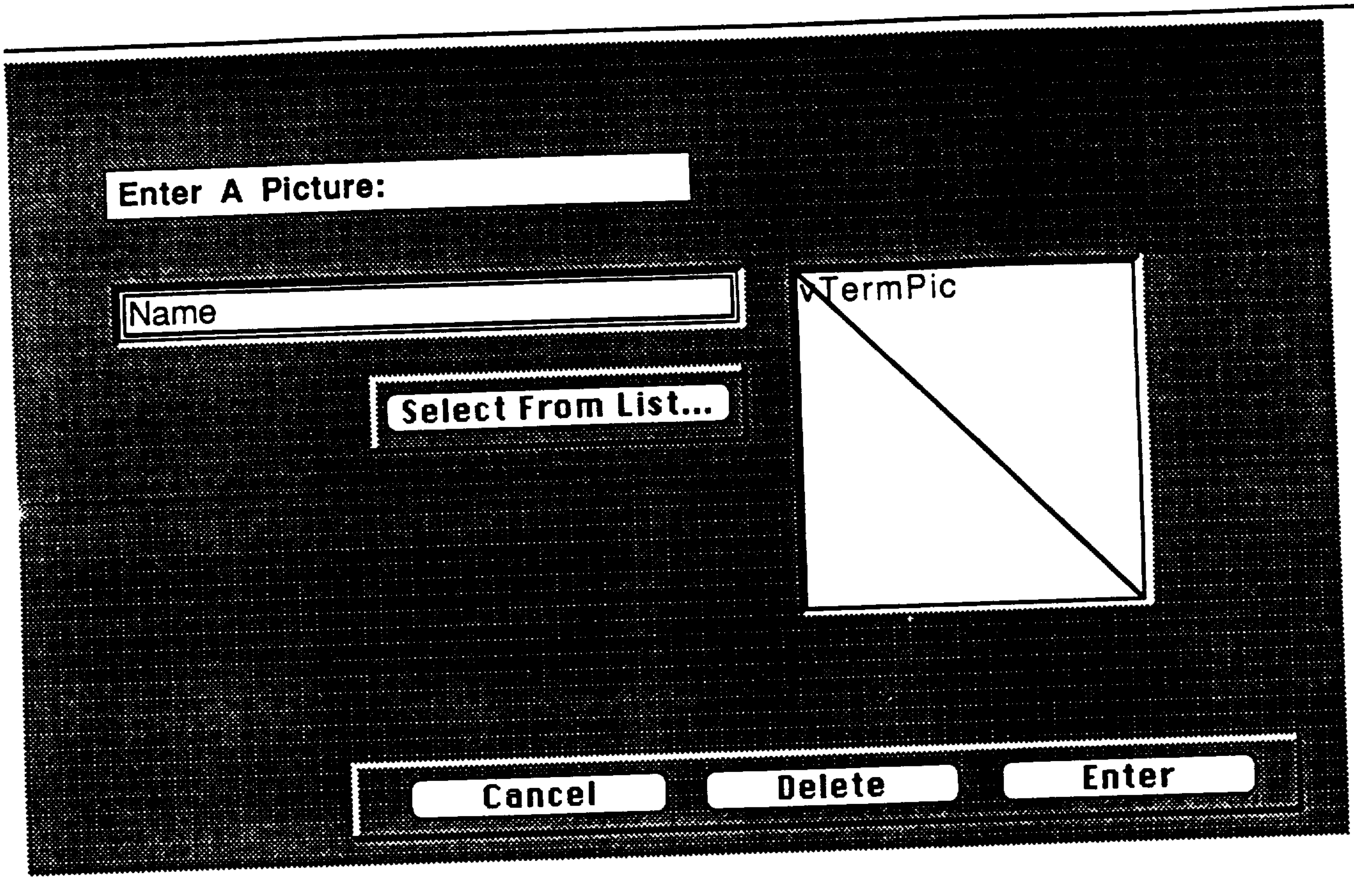
Term

[Main]'Pictures

Name	Alpha 20	Indexed; Enterable; Modifiable

vName

```
  ` Purpose:  included layout for adding pictures

If (Before)
   PicIn:=0
End if

 vName:=Name

If (During)
   If (PicIn=1)
      ADD TO SET([Pics];"PicCheck")
      PicIn:=0
   End if
End if
```



Enter A Picture:

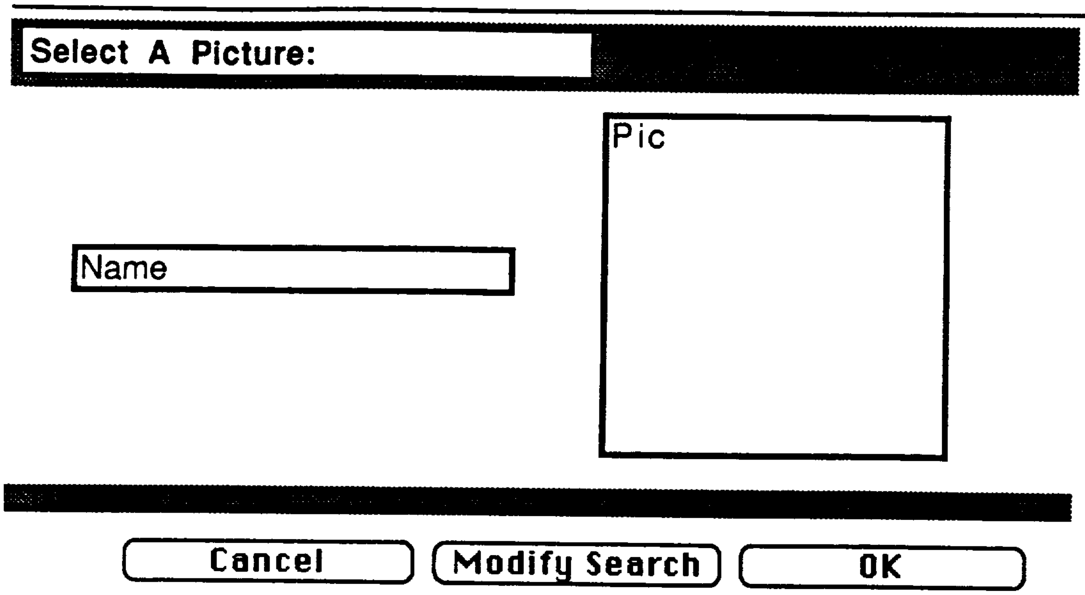
```
   ` Purpose: layout for entering new pictures
   ` Calls: PicList

If (Before)
   new:=0
   PicIn:=1
   vOTerm:=Name
   LOAD LINKED RECORD(Name)
   vTermPic:=[Pics]Pic
End If

If (bSelect=1)
   [Main]Pictures'Name:=PicList
   LOAD LINKED RECORD(Name)
   If ([Pics]Name="")
      new:=0
   Else
      new:=1
   End If
End If

If (Modified(Name))
   new:=1
End If

If ((new=1)&(bCan=0)&(Name#""))
   new:=0
   LOAD LINKED RECORD([Main]Pictures'Name;[Pics]Name)
   If (([Pics]Name="")&([Main]Pictures'Name#""))
      ALERT("That picture is not in the database.")
      Name:=""
      vTermPic:=""
      REJECT(Name)
   Else
      CREATE EMPTY SET([Pics];"PicTemp")
      CREATE EMPTY SET([Pics];"PicTest")
      ADD TO SET([Pics];"PicTemp")
      INTERSECTION("PicCheck";"PicTemp";"PicTest")
      If ((Records in set("PicTest")=1)&(Name#vOTerm))
         ALERT("That picture is already used with this term.")
         CLEAR SET("PicTemp")
         CLEAR SET("PicTest")
         Name:=""
         vTermPic:=""
         REJECT(Name)
      Else
         [Main]Pictures'Name:=[Pics]Name
         vTermPic:=[Pics]Pic
      End If
   End If
End If

If (bCan=1)
   PicIn:=0
End If

If (bDel=1)
   DELETE SUBRECORD([Main]Pictures)
   ALL SUBRECORDS([Main]Pictures)
End If
```

[Pics]

[Pics]

Name	Alpha 20	Indexed; Mandatory; Enterable; Modifiable
Pic	Picture	Enterable; Modifiable

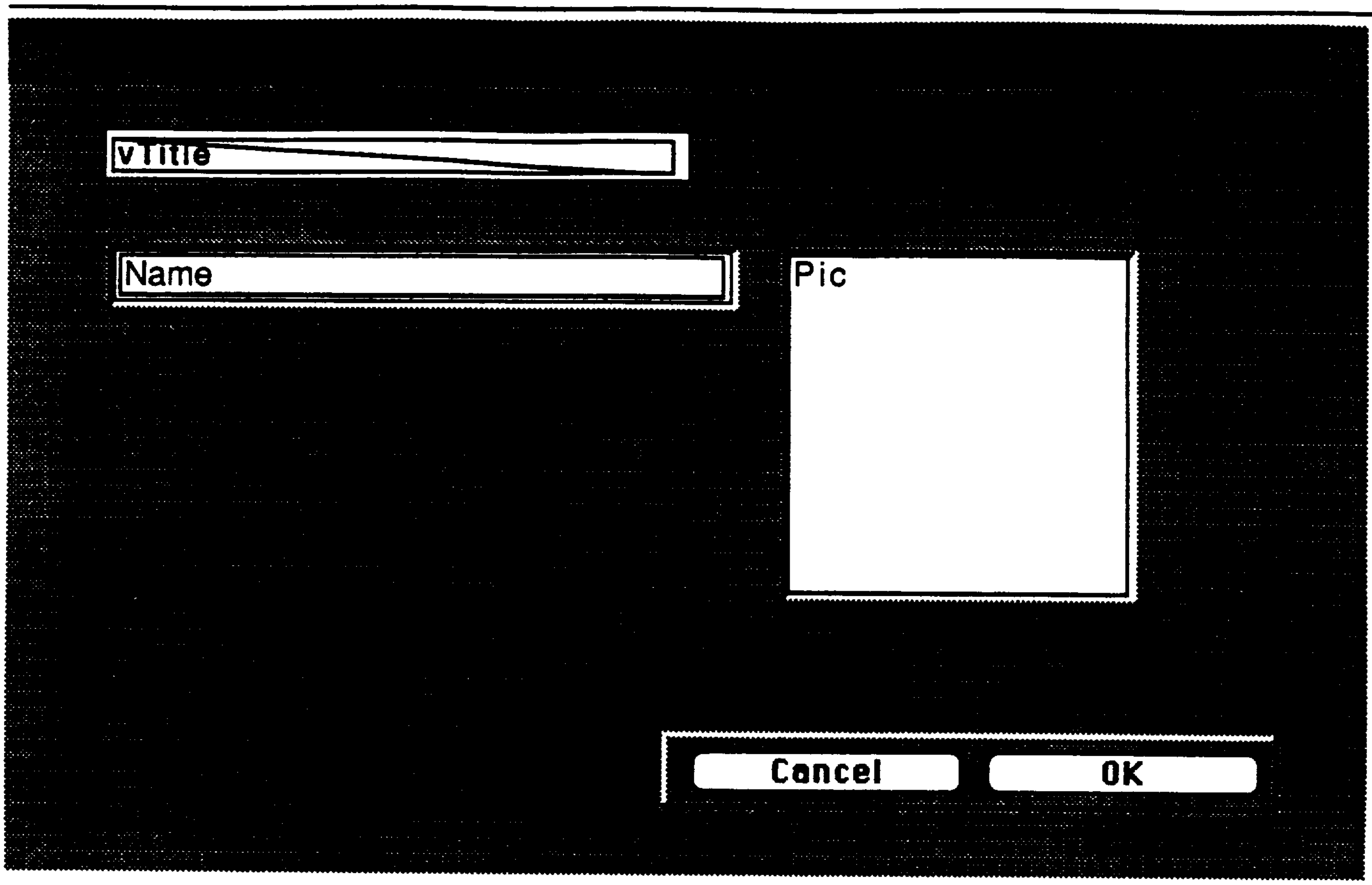
Layout: PicList.[Pics]



Select A Picture:

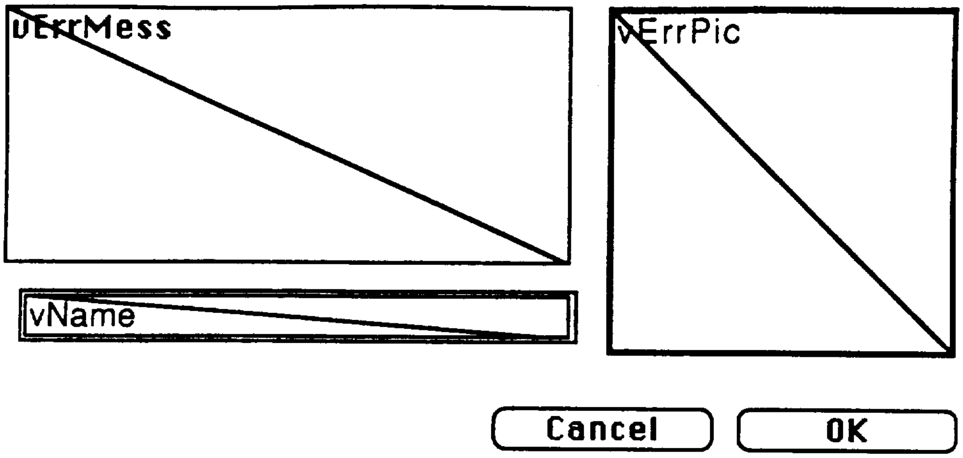
```
  ` Purpose: handles layout for picture list

If (Before)
  If (xPicAll=1)
    DISABLE BUTTON(bMod)
  Else
    ENABLE BUTTON(bMod)
  End if
End if
```

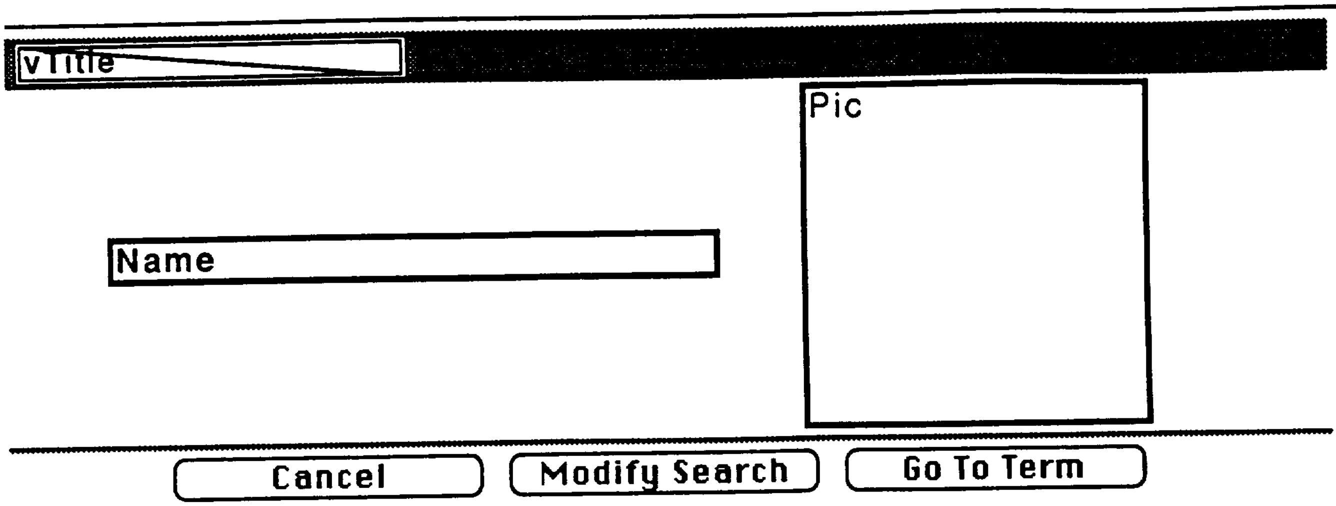
```
` Purpose:  handles dummy layout, validates itself when called

Done:=1
validateentry
```


vTitle
Name
Pic
Cancel
OK

Layout procedure: PicIn.[Pics]

```
` Purpose: handles layout for adding pictures

If (In header)
   SET WINDOW TITLE("Picture List")
End if
```


vErrMess
vErrPic
vName
Cancel
OK

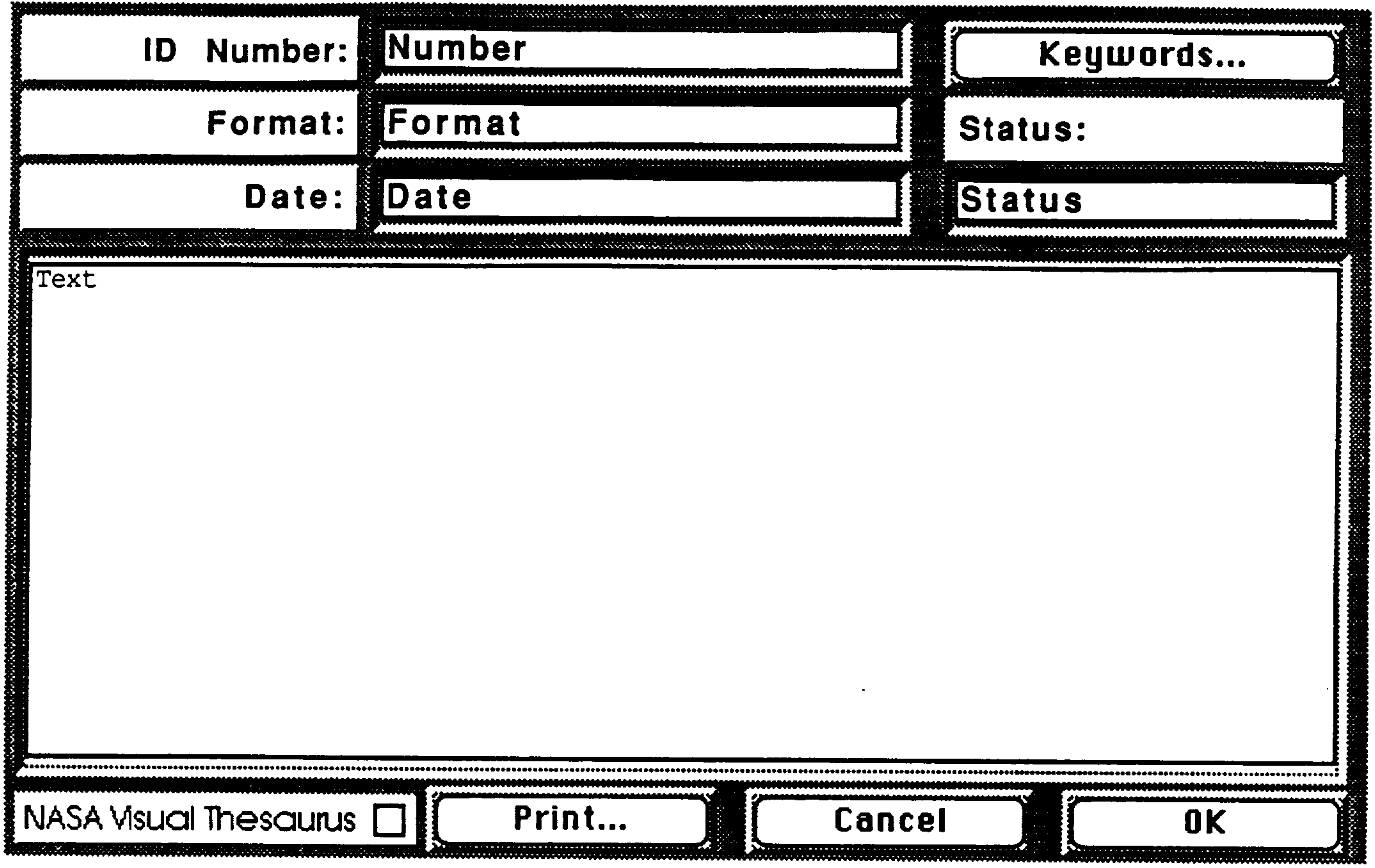

vTitle
Name
Pic
Cancel
Modify Search
Go To Term

```
` Purpose: handles layout for picture index

If (In header)
   SET WINDOW TITLE("Picture Index")
   vTitle:="Select a picture:"
End if
```

[Docs]

[Docs]

Number	Alpha 20	Indexed; Unique; Mandatory; Enterable; Modifiable
Format	Alpha 20	Enterable; Modifiable
Date	Date	Enterable; Modifiable
Keywords	Subfile	
Text	Text	Enterable; Modifiable
Status	Alpha 20	Enterable; Modifiable



ID Number: Number

Format: Format

Date: Date

Status: Status

Text

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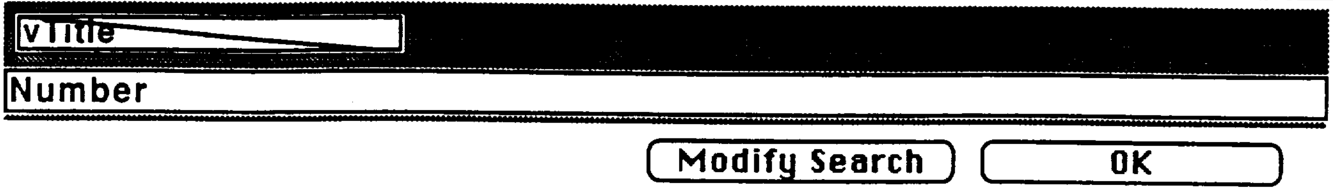
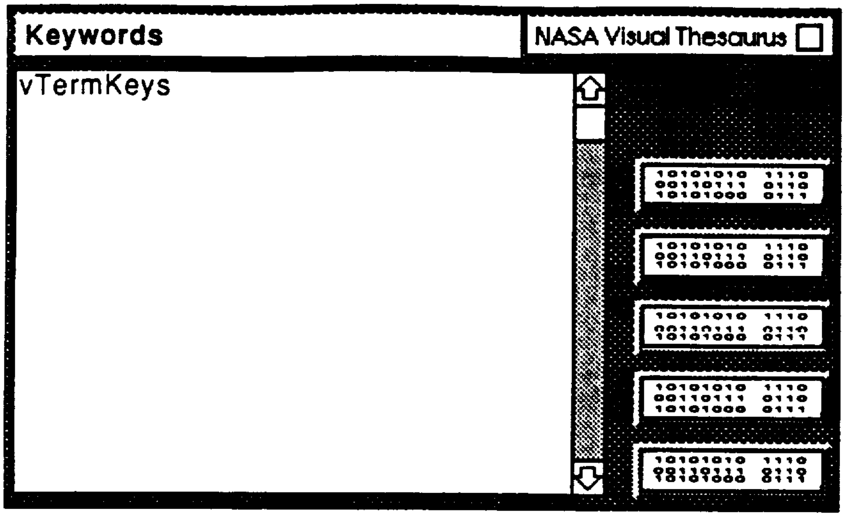
```
` Purpose: handles layout for description entry screen
` Calls: ShowKeys

If (Before)
   SET WINDOW TITLE("Document Entry")
   DISABLE BUTTON(bDum)
   If (xNewDoc=0)
      ALL SUBRECORDS([Docs]Keywords)
      ct:=Records in subselection([Docs]Keywords)
      ind:=1
      vTermKeys0:=ct
      While (ind<=ct)
         vTermKeys{ind}:=[Docs]Keywords'Term
         NEXT SUBRECORD([Docs]Keywords)
         ind:=ind+1
      End while
   Else
      ind:=1
      vTermKeys0:=vKeys0
      While (ind<=vKeys0)
         vTermKeys{ind}:=§("vKeys"+String(ind))
         ind:=ind+1
      End while
   End if
End if
If (During)
   If (bKeys=1)
      ShowKeys
   End if
   If (bPrint=1)
      bPrint:=0
      PRINT SETTINGS
      If (OK=1)
         PRINT LAYOUT([Docs];"DocPrint")
         FORM FEED
      End if
   End if
End if
```


vTitle
Number
Modify Search
OK

```
` Purpose: handles layout for document list

If (In header)
   SET WINDOW TITLE("Description Index")
End if
```



Keywords

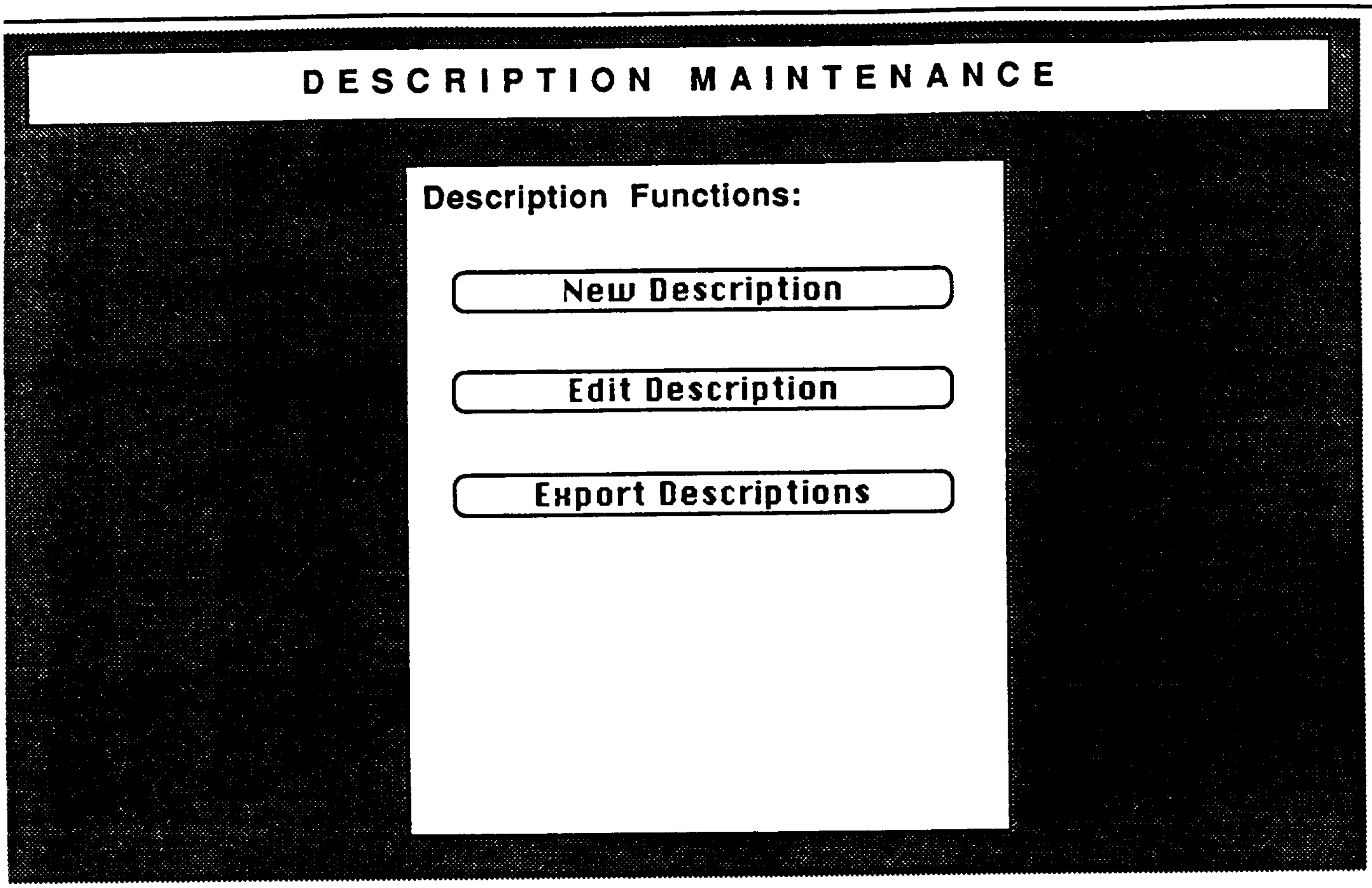
vTermKeys

NASA Visual Thesaurus □

```
  ` Purpose: handles layout for keyword layout

If (Before)
  Paste:=0
  vTermKeys:=0
  ovtk:=0
  ButtState (0;bPaste)
  REDRAW(bPaste)
  ButtState (0;bDelete)
  REDRAW(bDelete)
  DISABLE BUTTON(bDum)
End if

If (During)
    ` import terms from buffer
  ReadButt (x;bImport)
  If (x=1)
    $i:=1
    While ($i<=vKeys0)
      SEARCH SUBRECORDS(Keywords;[Docs]Keywords'Term=vKeys{$i})
      If (Records in subselection(Keywords)=0)
        CREATE SUBRECORD(Keywords)
        Keywords'Term:=vKeys{$i}
      End if
      $i:=$i+1
    End while
    ALL SUBRECORDS(Keywords)
    ct:=Records in subselection(Keywords)
    $i:=1
    vTermKeys0:=ct
    While ($i<=ct)
      vTermKeys{$i}:=Keywords'Term
      NEXT SUBRECORD(Keywords)
      $i:=$i+1
    End while
    REDRAW(vTermKeys)
  End if
    ` export terms to buffer
  ReadButt (x;bExport)
  If (x=1)
    ALL SUBRECORDS(Keywords)
    vKeys0:=Records in subselection(Keywords)
    $i:=1
    While ($i<=vKeys0)
      vKeys{$i}:=Keywords'Term
      NEXT SUBRECORD(Keywords)
      $i:=$i+1
    End while
    ALERT("Keywords exported to buufer.")
  End if
  ReadButt (x;bOK)
  If (x=1)
    ValidateDlg
  End if
    ` paste keyword
  ReadButt (x;bPaste)
  If (x=1)
    Paste:=1
    ValidateDlg
  End if
    ` delete keyword
    ReadButt (x;bDelete)
    If (x=1)
      ALL SUBRECORDS(Keywords)
      SEARCH SUBRECORDS(Keywords;[Docs]Keywords'Term=vTermKeys{vTermKeys}
      DELETE SUBRECORD(Keywords)
      $i:=vTermKeys
      While ($i<vTermKeys0)
        vTermKeys{$i}:=vTermKeys{$i+1}
        $i:=$i+1
      End while
      vTermKeys0:=vTermKeys0-1
      vTermKeys:=0
      REDRAW(vTermKeys)
    End if
    If (vTermKeys#0)
      ButtState (1;bPaste)
      REDRAW(bPaste)
      ButtState (1;bDelete)
      REDRAW(bDelete)
    Else
      ButtState (0;bDelete)
      REDRAW(bDelete)
      ButtState (0;bPaste)
      REDRAW(bPaste)
    End If
  End If
```

` Purpose: handles dummy layout, validates itself when called

ValidateEntry



DESCRIPTION MAINTENANCE

Description Functions:

```
   ` Purpose: handles layout description maintenance selection
   ` Calls: HandelMenu, NewDoc, DocList, DumpDocs

If (Before)
   SET WINDOW TITLE("Description Maintenance")
End if

If (During)
   If (Menu selected#0)
      HandleMenu
   Else
      If (bNewDesc=1)
         NewDoc
      End if
      If (bEditDesc=1)
         DocList
      End if
      If (bExpDesc=1)
         DumpDocs
      End if
   End if
   If (Screen#4)
      ValidateDlg
   End if
End if
```

Photo ID: Number

Format: Format

Date: Date

Status: Status

Keywords: vKeyPrint

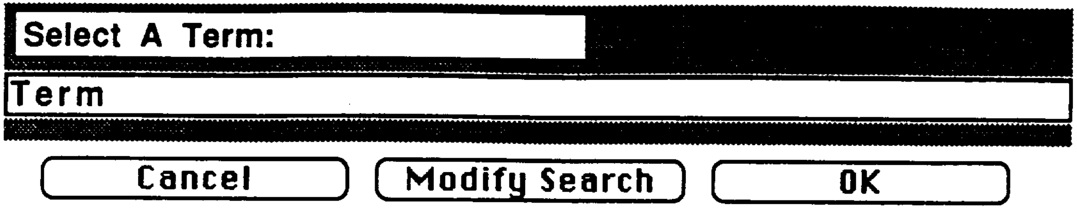
Description: Text

```
` Purpose:  handles layout for printing description entries

If (Before)
   ALL SUBRECORDS(Keywords)
   FIRST SUBRECORD(Keywords)
   vKeyPrint:=Keywords'Term
   While (Not(End subselection(Keywords)))
      NEXT SUBRECORD(Keywords)
      If (Not(End subselection(Keywords)))
         vKeyPrint:=vKeyPrint+", "+Keywords'Term
      End if
   End while
End if
```

Term	Alpha 40	Indexed; Mandatory; Enterable; Modifiable

Term	Alpha 40	Indexed; Unique; Enterable; Modifiable
Pictures	Subfile	

Layout: TermList.[Index]

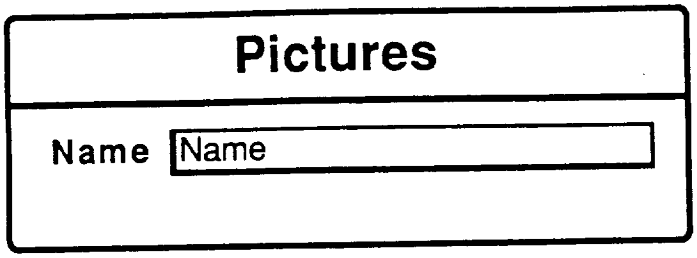


```
` Purpose: handles layout for term index

If (Before)
  If (xDMod=1)
    DISABLE BUTTON(bMod)
  Else
    ENABLE BUTTON(bMod)
  End if
End if
```

```
` Purpose:  handles dummy layout, validates itself when called

Done:=1
ValidateEntry
```

[Index]'Pictures

Name	Alpha 20	Indexed; Enterable; Modifiable



Pictures

Name Name

Section 4

Global Procedures

```
  ` Purpose:  adds a narrower link between the current term and the input parameter
  ` Parameters:  $1 - Name of term to link to

SEARCH BY INDEX([Main]Term=[Index]Term)
CREATE SUBRECORD([Main]Narrower)
[Main]Narrower'Term:=$1
SAVE RECORD([Main])
```

Procedure: AddNar

```
 ` Purpose: adds a broader link between the current term and the input parameter
 ` Parameters: $1 - Name of term to link to

SEARCH BY INDEX([Main}Term=[Index]Term)
CREATE SUBRECORD([Main]Broader)
[Main]Broader'Term:=$1
SAVE RECORD([Main])
```

Procedure: AddPic

```
  ` Purpose: adds a picture to a term

SEARCH BY INDEX([Pics]Name=[Main]Pictures'Name)
CREATE EMPTY SET([Pics];"NewPics")
ADD TO SET([Pics];"NewPics")
  ` use a set to check for duplicates
INTERSECTION("Result";"NewPics";"OldPics")
If (Records In set("OldPics")>0)
   CREATE SUBRECORD([Index]Pictures)
   [Index]Pictures'Name:=[Main]Pictures'Name
   ACTIVATE LINK([Index]Pictures'Name)
End if
CLEAR SET("NewPics")
```

Procedure: AddRel

```
   ` Purpose:  adds a related link between the current term and the input parameter
   ` Parameters:  $1 - Name of term to link to

SEARCH BY INDEX([Main]Term=[Index]Term)
CREATE SUBRECORD([Main]Related)
[Main]Related'Term:=$1
SAVE RECORD([Main])
```

```
 ` Purpose: breaks up a multi-word term into a boolean formula with AND between
 `          words
 ` Parameters: $1 - term to break up
 ` Returns: $0 - boolean formula

If (Position("(";$1)#0)
   str:=Substring($1;1;Position("(";$1)-2)
Else
   str:=$1
End if
x:=Position(" ";str)
If (x=0)
   $0:=str
Else
   temp:="("
   While ((x<Length(str))&(x#0))
      temp:=temp+Substring(str;1;x-1)+" AND "
      str:=Substring(str;x+1;300)
      x:=Position(" ";str)
   End while
   $0:=temp+str+")"
End if
```

```
  ` Purpose: copies a picture from the main file to the index file

CREATE SUBRECORD([Index]Pictures)
[Index]Pictures'Name:=[Main]Pictures'Name
ACTIVATE LINK([Index]Pictures'Name)
```

Procedure: DelBro

```
  ` Purpose: deletes a braoder term from a main term
  ` Parameters: $1 - broader term to delete

SEARCH BY INDEX([Main]Term=[Index]Term)
dum:=$1
SEARCH SUBRECORDS([Main]Narrower;[Main]Narrower'Term=dum)
DELETE SUBRECORD([Main]Narrower)
SAVE RECORD([Main])
```

Procedure: DelNar

```
  ` Purpose: deletes a narrower term from a main term
  ` Parameters: $1 - narrower term to delete

SEARCH BY INDEX([Main]Term=[Index]Term)
dum:=$1
SEARCH SUBRECORDS([Main]Broader;[Main]Broader'Term=dum)
DELETE SUBRECORD([Main]Broader)
SAVE RECORD([Main])
```

Procedure: DelPic

```
  ` Purpose: deletes a picture from the index

SEARCH SUBRECORDS([Index]Pictures;[Index]Pictures'Name=[Pics]Name)
DELETE SUBRECORD([Index]Pictures)
```

```
  ` Purpose:  deletes a picture from the thesaurus
  ` Calls: DisableAll, EnableAll

  ` ask for picture to delete
DEFAULT FILE([Pics])
DisableAll
INPUT LAYOUT("PicDum")
EdTerm:=""
$term:=Request("Enter Picture Prefix To Search (OK for all):")
If (ok=1)
   SEARCH BY INDEX([Pics]Name=$term+"@")
   If (Records in selection([Pics])=0)
      ALERT("No pictures were found that match the prefix ""+$term+"".")
   Else
      OUTPUT LAYOUT("PicList")
      SORT BY INDEX([Pics]Name;>)
      If (OK=1)
         h1:=Screen height/2+10
         w1:=Screen width/2
         h2:=118
         w2:=200
         OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;4;"Picture List")
         Done:=0
         DISPLAY SELECTION([Pics];*)
         While ((bOK=0)&(bCan=0))
            $term:=Request("Enter Picture Prefix To Search (OK for all):")
            If (ok=1)
               SEARCH BY INDEX([Pics]Name=$term+"@")
               If (Records in selection([Pics])=0)
                  ALERT("No pictures were found that match the prefix ""+$term+"".")
                  bCan:=1
               Else
                  SORT BY INDEX([Pics]Name;>)
                  If (OK=1)
                     Done:=0
                     DISPLAY SELECTION([Pics];*)
                  Else
                     bCan:=1
                  End if
               End if
            Else
               bCan:=1
            End if
         End while
         CLOSE WINDOW
         If ((bOK=1))
            USE SET("UserSet")
            EdTerm:=[Pics]Name
         Else
            EdTerm:=""
         End if
      End if
   End if
End if

  ` If a picture was selected, delete it
If (EdTerm#"")
   CONFIRM("Delete picture "+EdTerm+"?")
   If (OK=1)
      SEARCH BY INDEX([Index]Pictures'Name=EdTerm)
      While (Not(End selection([Index])))
```

```
             ` delete the picture from any records in the index file
            SEARCH SUBRECORDS([Index]Pictures;[Index]Pictures'Name=EdTerm)
            DELETE SUBRECORD([Index]Pictures)
            SEARCH BY INDEX([Main]Term=[Index]Term)
             ` delete the picture from any records in the main file
            SEARCH SUBRECORDS([Main]Pictures;[Main]Pictures'Name=EdTerm)
            DELETE SUBRECORD([Main]Pictures)
            SAVE RECORD([Main])
            SAVE RECORD([Index])
            NEXT RECORD([Index])
        End while
        DELETE RECORD([Pics])
    End if
End if
EnableAll
```

Procedure: DelRel

```
  ` Purpose:  deletes a related term from a main term
  ` Parameters:  $1 - related term to delete

SEARCH BY INDEX([Main]Term=[Index]Term)
dum:=$1
SEARCH SUBRECORDS([Main]Related;[Main]Related'Term=dum)
DELETE SUBRECORD([Main]Related)
SAVE RECORD([Main])
```

```
  ` Purpose: deletes a term from the thesaurus
  ` Calls: DisableAll, EnableAll, MatchOldRel, MatchOldBro, MatchOldNar, DelRel
  `       DelBro, DelNar

  ` ask for term to delete
DEFAULT FILE([Index])
DisableAll
INPUT LAYOUT("TermDum")
EdTerm:=""
$term:=Request("Enter Term Prefix To Search (OK for all):")
If (ok=1)
  SEARCH BY INDEX([Index]Term=$term+"@")
  If (Records in selection([Index])=0)
    ALERT("No terms were found that match the prefix ""+$term+"".")
  Else
    OUTPUT LAYOUT("TermList")
    SORT SELECTION([Index]Term;>)
    If (OK=1)
      h1:=Screen height/2+10
      w1:=Screen width/2
      h2:=118
      w2:=200
      OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;4;"Term List")
      Done:=0
      DISPLAY SELECTION([Index];*)
      While ((bOK=0)&(bCan=0))
        $term:=Request("Enter Term Prefix To Search (OK for all):")
        If (ok=1)
          SEARCH BY INDEX([Index]Term=$term+"@")
          If (Records in selection([Index])=0)
            ALERT("No terms were found that match the prefix ""+$term+"".")
            bCan:=1
          Else
            SORT SELECTION([Index]Term;>)
            If (OK=1)
              Done:=0
              DISPLAY SELECTION([Index];*)
            Else
              bCan:=1
            End if
          End if
        Else
          bCan:=1
        End if
      End while
      CLOSE WINDOW
      If ((bOK=1))
        USE SET("UserSet")
        EdTerm:=[Index]Term
      Else
        EdTerm:=""
      End if
    End if
  End if
End if

  ` if a term was selected, delete it
If (EdTerm#"")
  DEFAULT FILE([Main])
  SEARCH BY INDEX([Main]Term=EdTerm)
  ALL SUBRECORDS([Main]Related)
```

```
      ` create sets to store linking terms for deletion

    CREATE EMPTY SET([Index];"OldRelSet")
    APPLY TO SUBSELECTION([Main]Related;MatchOldRel )
    ALL SUBRECORDS([Main]Broader)
    CREATE EMPTY SET([Index];"OldBroSet")
    APPLY TO SUBSELECTION([Main]Broader;MatchOldBro )
    ALL SUBRECORDS([Main]Narrower)
    CREATE EMPTY SET([Index];"OldNarSet")
    APPLY TO SUBSELECTION([Main]Narrower;MatchOldNar )
    ALL SUBRECORDS([Main]Pictures)
    CONFIRM("Delete "+[Main]Term+"?")
    If (OK=1)
      temp:=[Main]Term

        ` delete related links
      ALL SUBRECORDS([Main]Related)
      USE SET("OldRelSet")
      MESSAGES OFF
      APPLY TO SELECTION([Index];DelRel (temp))
      MESSAGES ON

        ` delete broader links
      SEARCH BY INDEX([Main]Term=temp)
      ALL SUBRECORDS([Main]Broader)
      USE SET("OldBroSet")
      MESSAGES OFF
      APPLY TO SELECTION([Index];DelBro (temp))
      MESSAGES ON

        ` delete narrower links
      SEARCH BY INDEX([Main]Term=temp)
      ALL SUBRECORDS([Main]Narrower)
      USE SET("OldNarSet")
      MESSAGES OFF
      APPLY TO SELECTION([Index];DelNar (temp))
      MESSAGES ON

        ` delete the term from the index file and the main file
      SEARCH BY INDEX([Index]Term=temp)
      DELETE RECORD([Index])

      SEARCH BY INDEX([Main]Term=temp)
      DELETE RECORD([Main])

    End if
    CLEAR SET("OldRelSet")
    CLEAR SET("OldBroSet")
    CLEAR SET("OldNarSet")
  End if
  EnableAll
```

```
` Purpose: disables all of the menus

DISABLE ITEM(1;0)
DISABLE ITEM(2;0)
DISABLE ITEM(3;0)
DISABLE ITEM(4;0)
DISABLE ITEM(5;0)
UpdateMenuBar
```

```
 ` Purpose: displays the about box
 ` Calls: DisableAll, EnableAll

h1:=Screen height/2+10
w1:=Screen width/2
h2:=100
w2:=201
disableAll
OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;3)
DIALOG([Main];"About")
CLOSE WINDOW
enableAll
```

```
` Purpose:  displays the search buffer screen

DIALOG([Main];"Buffer")
```

```
 ` Purpose: displays a list of descriptions for editing
 ` Calls: DisableAll, EnableAll

DEFAULT FILE([Docs])
DisableAll
INPUT LAYOUT("DocMain")
vTitle:="Select a description:"
xNewDoc:=0
SEARCH
If (ok=1)
   If (Records in selection([Docs])=0)
      ALERT("No descriptions were found.")
   Else
      OUTPUT LAYOUT("DocList")
      SORT SELECTION([Docs]Number;>)
      If (OK=1)
         Done:=0
         MODIFY SELECTION([Docs];*)
         While ((bOK=0))
            SEARCH
            If (ok=1)
               If (Records in selection([Docs])=0)
                  ALERT("No descriptions were found.")
                  bCan:=1
               Else
                  SORT SELECTION([Docs]Number;>)
                  If (OK=1)
                     Done:=0
                     MODIFY SELECTION([Docs];*)
                  Else
                     bCan:=1
                  End if
               End if
            Else
               bCan:=1
            End if
         End while
         If ((bOK=1))
         End if
      End if
   End if
End if
EnableAll
```

```
  ` Purpose: searches for terms and displays them
  ` Calls: DisableAll, EnableAll, LoadTerm

DEFAULT FILE([Main])
DisableAll
INPUT LAYOUT("Dummy")
$term:=Request("Enter Term Prefix To Search (OK for all):")
If (ok=1)
    ` search for terms
  SEARCH BY INDEX([Main]Term=$term+"@")
  If (Records In selection([Main])=0)
    ALERT("No terms were found that match the prefix "+$term+".")
  Else
    If (Records In selection([Main])=1)
        ` one matching term found so display it
      If (screen=1)
        LoadTerm
      Else
        Screen:=1
      End If
    Else
        ` show the list of terms
      OUTPUT LAYOUT("TermIndex")
      SORT SELECTION([Main]Term;>)
      If (OK=1)
        Done:=0
        DISPLAY SELECTION([Main])
        While ((bGo=0)&(bCan=0)&(Done=0))
            ` user wants to modify search
          $term:=Request("Enter Term Prefix To Search (OK for all):")
          If (ok=1)
            SEARCH BY INDEX([Main]Term=$term+"@")
            If (Records In selection([Main])=0)
              ALERT("No terms were found that match the prefix "+$term+".")
              bCan:=1
            Else
              If (Records In selection([Main])=1)
                If (screen=1)
                  LoadTerm
                Else
                  Screen:=1
                End If
              Else
                SORT SELECTION([Main]Term;>)
                If (OK=1)
                  Done:=0
                  DISPLAY SELECTION([Main])
                Else
                  bCan:=1
                End If
              End If
            End If
          Else
            bCan:=1
          End If
        End while
        If ((bGo=1)|(Done=1))
            ` user has selected a term from the list and wants to display it
          USE SET("UserSet")
          If (screen=1)
            LoadTerm
          Else
            Screen:=1
          End if
        End if
      End if
    End if
  End if
End if
EnableAll
```

```
  ` Purpose: displays a dialog to chand the default boolean operator
  ` Calls: DisableAll, EnableAll

h1:=Screen height/2+10
w1:=Screen width/2
h2:=75
w2:=100
DisableAll
OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;1)
DIALOG([Main];"Prefs")
If (ok=1)
  If (vAnd=1)
    DefOp:="AND"
  Else
    DefOp:="OR"
  End if
End if
CLOSE WINDOW
EnableAll
```

```
` Purpose: exits the thesaurus to the Finder

Quit4D (3)
```

```
  ` Purpose: exports descriptions from the system to a file
  ` Calls: DisableAll, EnableAll

  ` select the descriptions to export
DEFAULT FILE([Docs])
INPUT LAYOUT("DocDum")
DisableAll
vTitle:="Descriptions:"
SEARCH
If (ok=1)
  If (Records in selection([Docs])=0)
    ALERT("No descriptions were found.")
  Else
    OUTPUT LAYOUT("DocList")
    SORT SELECTION([Docs]Number;>)
    If (OK=1)
      Done:=0
      DISPLAY SELECTION([Docs];*)
      While ((bOK=0))
        SEARCH
        If (ok=1)
          If (Records in selection([Docs])=0)
            ALERT("No descriptions were found.")
            bCan:=1
          Else
            SORT SELECTION([Docs]Number;>)
            If (OK=1)
              Done:=0
              DISPLAY SELECTION([Docs];*)
            Else
              bCan:=1
            End if
          End if
        Else
          bCan:=1
        End if
      End while
      If ((bOK=1))
      End if
    End if
  End if
End if

  ` save the descriptions in a file
If (bOK=1)
  CONFIRM("Exporting these descriptions will remove them from the system.")
  If (ok=1)
    SET CHANNEL(12;"")
    If (OK=1)
      MESSAGE("Exporting Descriptions...")
      FIRST RECORD([Docs])
      While (Not(End selection([Docs])))
        SEND PACKET("-NUMBER-"+Char(13))
        SEND PACKET([Docs]Number+Char(13))
        SEND PACKET("-FORMAT-"+Char(13))
        SEND PACKET([Docs]Format+Char(13))
        SEND PACKET("-DATE-"+Char(13))
        SEND PACKET(String(Month of([Docs]Date))+"/"+String(Day of([Docs]Date))+"/"+String(Year of([Docs]Date,
        SEND PACKET("-KEYWORDS-"+Char(13))
        ALL SUBRECORDS([Docs]Keywords)
        While (Not(End subselection([Docs]Keywords)))
```

```
               SEND PACKET([Docs]Keywords'Term+" ")
               NEXT SUBRECORD([Docs]Keywords)
            End while
            SEND PACKET(Char(13))
            SEND PACKET("-TEXT-"+Char(13))
            [Docs]Text:=Uppercase([Docs]Text)
            Text2Array ([Docs]Text;"DocOut";490;"monaco";9;0)
            $i:=1
            While ($i<=DocOut0)
               SEND PACKET(DocOut{$i}+Char(13))
               $i:=$i+1
            End while
            SEND PACKET("-END-"+Char(13)+Char(13))
            NEXT RECORD([Docs])
         End while
         SET CHANNEL(11)
         DELETE SELECTION([Docs])
      End if
   End if
End if
EnableAll
```

```
  ` Purpose: searches for pictures to be edited and edits them
  ` Calls: DisableAll, EnableAll

  ` search for pictures to be edited
DEFAULT FILE([Pics])
INPUT LAYOUT("PicDum")
DisableAll
EdTerm:=""
xPicAll:=0
vTitle:="Edit Picture"
$term:=Request("Enter Picture Prefix To Search (OK for all):")
If (ok=1)
  SEARCH BY INDEX([Pics]Name=$term+"@")
  If (Records in selection([Pics])=0)
    ALERT("No pictures were found that match the prefix ""+$term+"".")
  Else
    OUTPUT LAYOUT("PicList")
    SORT SELECTION([Pics]Name;>)
    If (OK=1)
      h1:=Screen height/2+10
      w1:=Screen width/2
      h2:=118
      w2:=200
      OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;4;"Picture List")
      Done:=0
      DISPLAY SELECTION([Pics];*)
      While ((bOK=0)&(bCan=0))
        $term:=Request("Enter Picture Prefix To Search (OK for all):")
        If (ok=1)
          SEARCH BY INDEX([Pics]Name=$term+"@")
          If (Records in selection([Pics])=0)
            ALERT("No pictures were found that match the prefix ""+$term+"".")
            bCan:=1
          Else
            SORT SELECTION([Pics]Name;>)
            If (OK=1)
              Done:=0
              DISPLAY SELECTION([Pics];*)
            Else
              bCan:=1
            End if
          End if
        Else
          bCan:=1
        End if
      End while
      CLOSE WINDOW
      If ((bOK=1))
        USE SET("UserSet")
        EdTerm:=[Pics]Name
      Else
        EdTerm:=""
      End if
    End if
  End if
End if

  ` edit the picture
If (EdTerm#"")
  INPUT LAYOUT("PicIn")
  SEARCH BY INDEX([Pics]Name=EdTerm)
  MODIFY RECORD([Pics];*)
  If (OK=1)
    temp:=[Pics]Name
    If (EdTerm#temp)
        ` if the picture was renamed, change references to it
      SEARCH BY INDEX([Index]Pictures'Name=EdTerm)
      While (Not(End selection([Index])))
        SEARCH SUBRECORDS([Index]Pictures;[Index]Pictures'Name=EdTerm)
        [Index]Pictures'Name:=temp
        SEARCH BY INDEX([Main]Term=[Index]Term)
        SEARCH SUBRECORDS([Main]Pictures;[Main]Pictures'Name=EdTerm)
        [Main]Pictures'Name:=temp
        ACTIVATE LINK([Main]Pictures'Name)
        ACTIVATE LINK([Index]Pictures'Name)
        SAVE RECORD([Main])
        SAVE RECORD([Index])
        NEXT RECORD([Index])
      End while
    End if
  End if
End if
EnableAll
```

```
  ` Purpose: searches for terms and displays them for editing
  ` Calls:  DisableAll, EnableAll, MatchOldRel, MatchOldNar, MatchOldBro, MatchRel
  `         MatchBro, MatchRel, RenRel, RenBro, RenNar, DelRel, DelNar, DelBro
  `         AddRel, AddBro, AddNar, AddPic, MatchPics, DelPic

  ` search for terms to be editied
DEFAULT FILE([Index])
DisableAll
INPUT LAYOUT("TermDum")
EdTerm:=""
$term:=Request("Enter Term Prefix To Search (OK for all):")
If (ok=1)
   SEARCH BY INDEX([Index]Term=$term+"@")
   If (Records in selection([Index])=0)
      ALERT("No terms were found that match the prefix '"+$term+"'.")
   Else
      OUTPUT LAYOUT("TermList")
      SORT SELECTION([Index]Term;>)
      If (OK=1)
         h1:=Screen height/2+10
         w1:=Screen width/2
         h2:=118
         w2:=200
         OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;4;"Term List")
         Done:=0
         DISPLAY SELECTION([Index];*)
         While ((bOK=0)&(bCan=0))
            $term:=Request("Enter Term Prefix To Search (OK for all):")
            If (ok=1)
               SEARCH BY INDEX([Index]Term=$term+"@")
               If (Records in selection([Index])=0)
                  ALERT("No terms were found that match the prefix '"+$term+"'.")
                  bCan:=1
               Else
                  SORT SELECTION([Index]Term;>)
                  If (OK=1)
                     Done:=0
                     DISPLAY SELECTION([Index];*)
                  Else
                     bCan:=1
                  End if
               End if
            Else
               bCan:=1
            End if
         End while
         CLOSE WINDOW
         If ((bOK=1))
            USE SET("UserSet")
            EdTerm:=[Index]Term
         Else
            EdTerm:=""
         End if
      End if
   End if
End if

  ` edit term
If (EdTerm#"")
   DEFAULT FILE([Main])
   INPUT LAYOUT("MainIn")
```

```
SEARCH BY INDEX([Main]Term=EdTerm)
ALL SUBRECORDS([Main]Related)
 ` create sets for adding and deleting link terms and pictures
CREATE EMPTY SET([Index];"OldRelSet")
APPLY TO SUBSELECTION([Main]Related;MatchOldRel )
ALL SUBRECORDS([Main]Broader)
CREATE EMPTY SET([Index];"OldBroSet")
APPLY TO SUBSELECTION([Main]Broader;MatchOldBro )
ALL SUBRECORDS([Main]Narrower)
CREATE EMPTY SET([Index];"OldNarSet")
APPLY TO SUBSELECTION([Main]Narrower;MatchOldNar )
ALL SUBRECORDS([Main]Pictures)
CREATE EMPTY SET([Pics];"OldPics")
APPLY TO SUBSELECTION([Main]Pictures;MatchOldPic )
xEdit:=1
MODIFY RECORD([Main];*)
If (OK=1)
   temp:=[Main]Term

    ` add, delete, and rename link terms
   ALL SUBRECORDS([Main]Related)
   CREATE EMPTY SET([Index];"NewRelSet")
   APPLY TO SUBSELECTION([Main]Related;MatchRel )
   DIFFERENCE("NewRelSet";"OldRelSet";"Result")
   USE SET("Result")
   MESSAGES OFF
   APPLY TO SELECTION([Index];AddRel (temp))
   MESSAGES ON
   DIFFERENCE("OldRelSet";"NewRelSet";"Result")
   USE SET("Result")
   MESSAGES OFF
   APPLY TO SELECTION([Index];DelRel (EdTerm))
   MESSAGES ON
   If (EdTerm#temp)
      INTERSECTION("OldRelSet";"NewRelSet";"Result")
      USE SET("Result")
      MESSAGES OFF
      APPLY TO SELECTION([Index];RenRel (EdTerm;temp))
      MESSAGES ON
   End If
   CLEAR SET("NewRelSet")

   SEARCH BY INDEX([Main]Term=temp)
   ALL SUBRECORDS([Main]Broader)
   CREATE EMPTY SET([Index];"NewBroSet")
   APPLY TO SUBSELECTION([Main]Broader;MatchBro )
   DIFFERENCE("NewBroSet";"OldBroSet";"Result")
   USE SET("Result")
   MESSAGES OFF
   APPLY TO SELECTION([Index];AddBro (temp))
   MESSAGES ON
   DIFFERENCE("OldBroSet";"NewBroSet";"Result")
   USE SET("Result")
   MESSAGES OFF
   APPLY TO SELECTION([Index];DelBro (EdTerm))
   MESSAGES ON
   If (EdTerm#temp)
      INTERSECTION("OldBroSet";"NewBroSet";"Result")
      USE SET("Result")
      MESSAGES OFF
      APPLY TO SELECTION([Index];RenBro (EdTerm;temp))
```

```
          MESSAGES ON
        End If
        CLEAR SET("NewBroSet")

        SEARCH BY INDEX([Main]Term=temp)
        ALL SUBRECORDS([Main]Narrower)
        CREATE EMPTY SET([Index];"NewNarSet")
        APPLY TO SUBSELECTION([Main]Narrower;MatchNar )
        DIFFERENCE("NewNarSet";"OldNarSet";"Result")
        USE SET("Result")
        MESSAGES OFF
        APPLY TO SELECTION([Index];AddNar (temp))
        MESSAGES ON
        DIFFERENCE("OldNarSet";"NewNarSet";"Result")
        USE SET("Result")
        MESSAGES OFF
        APPLY TO SELECTION([Index];DelNar (EdTerm))
        MESSAGES ON
        If (EdTerm#temp)
          INTERSECTION("OldNarSet";"NewNarSet";"Result")
          USE SET("Result")
          MESSAGES OFF
          APPLY TO SELECTION([Index];RenNar (EdTerm;temp))
          MESSAGES ON
        End If
        CLEAR SET("NewNarSet")

        ` add and delete pictures
        SEARCH BY INDEX([Main]Term=temp)
        ALL SUBRECORDS([Main]Pictures)
        CREATE EMPTY SET([Pics];"NewPics")
        APPLY TO SUBSELECTION([Main]Pictures;MatchPics )
        SEARCH BY INDEX([Index]Term=EdTerm)
        If (EdTemp#temp)
          [Index]Term:=temp
        End If
        DIFFERENCE("OldPics";"NewPics";"Result")
        USE SET("Result")
        MESSAGES OFF
        APPLY TO SELECTION([Pics];DelPic )
        MESSAGES ON
        DIFFERENCE("NewPics";"OldPics";"Result")
        CLEAR SET("NewPics")
        CLEAR SET("Old pics")

        SEARCH BY INDEX([Main]Term=temp)
        ALL SUBRECORDS([Main]Pictures)
        APPLY TO SUBSELECTION([Main]Pictures;AddPic )
        SAVE RECORD([Index])
        CLEAR SET("Result")
        CLEAR SET("NewPics")
        CLEAR SET("Old pics")
      End If
      CLEAR SET("OldRelSet")
      CLEAR SET("OldBroSet")
      CLEAR SET("OldNarSet")
    End If
    EnableAll
```

```
` Purpose: edits the term displayed in the thesaurus screen
` Calls:  DisableAll, EnableAll, MatchOldRel, MatchOldNar, MatchOldBro, MatchRel
`         MatchBro, MatchRel, RenRel, RenBro, RenNar, DelRel, DelNar, DelBro
`         AddRel, AddBro, AddNar, AddPic, MatchPics, DelPic

DEFAULT FILE([Index])
DisableAll
EdTerm:=[Main]Term
DEFAULT FILE([Main])
INPUT LAYOUT("MainIn")
SEARCH BY INDEX([Main]Term=EdTerm)
ALL SUBRECORDS([Main]Related)
CREATE EMPTY SET([Index];"OldRelSet")
APPLY TO SUBSELECTION([Main]Related;MatchOldRel )
ALL SUBRECORDS([Main]Broader)
CREATE EMPTY SET([Index];"OldBroSet")
APPLY TO SUBSELECTION([Main]Broader;MatchOldBro )
ALL SUBRECORDS([Main]Narrower)
CREATE EMPTY SET([Index];"OldNarSet")
APPLY TO SUBSELECTION([Main]Narrower;MatchOldNar )
ALL SUBRECORDS([Main]Pictures)
CREATE EMPTY SET([Pics];"OldPics")
APPLY TO SUBSELECTION([Main]Pictures;MatchOldPic )
xEdit:=1
MODIFY RECORD([Main];*)
If (OK=1)
   temp:=[Main]Term

   ALL SUBRECORDS([Main]Related)
   CREATE EMPTY SET([Index];"NewRelSet")
   APPLY TO SUBSELECTION([Main]Related;MatchRel )
   DIFFERENCE("NewRelSet";"OldRelSet";"Result")
   USE SET("Result")
   MESSAGES OFF
   APPLY TO SELECTION([Index];AddRel (temp))
   MESSAGES ON
   DIFFERENCE("OldRelSet";"NewRelSet";"Result")
   USE SET("Result")
   MESSAGES OFF
   APPLY TO SELECTION([Index];DelRel (EdTerm))
   MESSAGES ON
   If (EdTerm#temp)
      INTERSECTION("OldRelSet";"NewRelSet";"Result")
      USE SET("Result")
      MESSAGES OFF
      APPLY TO SELECTION([Index];RenRel (EdTerm;temp))
      MESSAGES ON
   End if
   CLEAR SET("NewRelSet")

   SEARCH BY INDEX([Main]Term=temp)
   ALL SUBRECORDS([Main]Broader)
   CREATE EMPTY SET([Index];"NewBroSet")
   APPLY TO SUBSELECTION([Main]Broader;MatchBro )
   DIFFERENCE("NewBroSet";"OldBroSet";"Result")
   USE SET("Result")
   MESSAGES OFF
   APPLY TO SELECTION([Index];AddBro (temp))
   MESSAGES ON
   DIFFERENCE("OldBroSet";"NewBroSet";"Result")
   USE SET("Result")
```

```
    MESSAGES OFF
    APPLY TO SELECTION([Index];DelBro (EdTerm))
    MESSAGES ON
  If (EdTerm#temp)
      INTERSECTION("OldBroSet";"NewBroSet";"Result")
      USE SET("Result")
      MESSAGES OFF
      APPLY TO SELECTION([Index];RenBro (EdTerm;temp))
      MESSAGES ON
  End If
    CLEAR SET("NewBroSet")

    SEARCH BY INDEX([Main]Term=temp)
    ALL SUBRECORDS([Main]Narrower)
    CREATE EMPTY SET([Index];"NewNarSet")
    APPLY TO SUBSELECTION([Main]Narrower;MatchNar )
    DIFFERENCE("NewNarSet";"OldNarSet";"Result")
    USE SET("Result")
    MESSAGES OFF
    APPLY TO SELECTION([Index];AddNar (temp))
    MESSAGES ON
    DIFFERENCE("OldNarSet";"NewNarSet";"Result")
    USE SET("Result")
    MESSAGES OFF
    APPLY TO SELECTION([Index];DelNar (EdTerm))
    MESSAGES ON
  If (EdTerm#temp)
      INTERSECTION("OldNarSet";"NewNarSet";"Result")
      USE SET("Result")
      MESSAGES OFF
      APPLY TO SELECTION([Index];RenNar (EdTerm;temp))
      MESSAGES ON
  End If
    CLEAR SET("NewNarSet")

    SEARCH BY INDEX([Main]Term=temp)
    ALL SUBRECORDS([Main]Pictures)
    CREATE EMPTY SET([Pics];"NewPics")
    APPLY TO SUBSELECTION([Main]Pictures;MatchPics )
    SEARCH BY INDEX([Index]Term=EdTerm)
  If (EdTemp#temp)
      [Index]Term:=temp
  End If
    DIFFERENCE("OldPics";"NewPics";"Result")
    USE SET("Result")
    MESSAGES OFF
    APPLY TO SELECTION([Pics];DelPic )
    MESSAGES ON
    DIFFERENCE("NewPics";"OldPics";"Result")
    CLEAR SET("NewPics")
    CLEAR SET("Old pics")

    SEARCH BY INDEX([Main]Term=temp)
    ALL SUBRECORDS([Main]Pictures)
    APPLY TO SUBSELECTION([Main]Pictures;AddPic )
    SAVE RECORD([Index])
    CLEAR SET("Result")
    CLEAR SET("NewPics")
    CLEAR SET("Old pics")
End If
CLEAR SET("OldRelSet")
```

```
  CLEAR SET("OldBroSet")
  CLEAR SET("OldNarSet")
End if
EnableAll
```

```
  ` Purpose: enables the appropriate menus

ENABLE ITEM(1;0)
If ((screen=0)|(screen=1))
   ENABLE ITEM(2;0)
   ENABLE ITEM(3;0)
End If
If (screen=3)
   ENABLE ITEM(5;0)
End If
If (screen=4)
   ENABLE ITEM(4;0)
End If

UpdateMenuBar
```

```
  ` Purpose: executes a search on the external database
  ` Calls: DisableAll, EnableAll, BreakUp

MESSAGE("Searching, Please Wait.")
SET CHANNEL(31;10+16384+3072)
If (vKeys0=0)
  BEEP(10)
Else
  SEND PACKET("GET ")
  $i:=1
  While ($i<vKeys0)
    tem:=BreakUp (vKeys{$i})
    SEND PACKET(tem+" "+DefOp+" ")
    $i:=$i+1
  End while
  ResText:="Search Terms:"+Char(13)
  $i:=1
  While ($i<=vKeys0)
    ResText:=ResText+vKeys{$i}+Char(13)
    $i:=$i+1
  End while
  ResText:=ResText+"Search Results:"+Char(13)
  Done:=0
  xTimeout:=0
    ` 60 second timout
  timeout:=Current time+60
  SEND PACKET(BreakUp (vKeys{vKeys0})+Char(1))
    ` set the serial handler to our routine
  ON SERIAL PORT CALL("SerialHandler")
  While (Done=0)
    If (Current time>=timeout)
      ON SERIAL PORT CALL("")
      xTimeout:=1
      Done:=1
    End if
  End while
  If (xTimeout=0)
    ON SERIAL PORT CALL("")
      ` display the results
    Text2Array (ResText;"vResults";492;"monaco";9;0)
    disableAll
    DIALOG([Main];"Results")
    enableAll
  Else
      ` timeout error
    BEEP(10)
    BEEP(10)
    ALERT("Serial connection timed out.")
    DIALOG([Main];"Dummy")
  End if
End if
```

```
 ` Purpose:  handles menu selections for the system
 ` Calls:  DoAbout, DoFind, PicIndex, DoPrefs, NewDoc, DocList, DumpDocs
 `         NewTerm, EditTerm, DelTerm, NewPic, EditPics, DelPics, LoadPics
 `        PrintThes

$i:=Menu selected
Menu:=Int($i/65536)
Item:=Mod($i;65536)
Case of
        ` file menu
   : (Menu=1)
    Case of
       : (Item=1)
          DoAbout
       : (Item=5)
          Quit4D (3)
    End case
        ` modules menu
   : (Menu=2)
    Case of
       : (Item=1)
          xOldScreen:=Screen
          DISABLE ITEM(1;0)
          DISABLE ITEM(2;0)
          DISABLE ITEM(3;0)
          UpdateMenuBar
          DIALOG([Main];"Buffer")
          screen:=xOldScreen
          ENABLE ITEM(1;0)
          ENABLE ITEM(2;0)
          ENABLE ITEM(3;0)
          UpdateMenuBar
       : (Item=2)
          Screen:=4
       : (Item=3)
          $pass:=Request("Enter Password:")
        If (OK=1)
          If ($pass="master")
             Screen:=3
          Else
             BEEP(10)
          End if
        End if
    End case
        ` thesaurus menu
   : (Menu=3)
    Case of
       : (Item=1)
          Screen:=0
       : (Item=3)
          DoFind
       : (Item=4)
          PicIndex
          CancelDlg
       : (Item=6)
          DoPrefs
    End case
        ` descriptions menu
   : (Menu=4)
    Case of
       : (Item=1)
```

```
            NewDoc
        : (Item=2)
            DocList
        : (Item=4)
            DumpDocs
        : (Item=6)
            Screen:=0
    End case
        ` maintenance menu
  : (Menu=5)
    Case of
        : (Item=1)
            NewTerm
        : (Item=2)
            EditTerm
        : (Item=3)
            DelTerm
        : (Item=5)
            NewPic
        : (Item=6)
            EditPics
        : (Item=7)
            DelPics
        : (Item=8)
            LoadPics
        : (Item=10)
            PrintThes
        : (Item=12)
            Screen:=0
    End case
End case
```

```
  ` Purpose: loads the search buffer from a file

SET CHANNEL(13;"")
If (OK=1)
   RECEIVE PACKET(temp;Char(13))
   vKeys0:=Num(temp)
   $i:=1
   While ($i<=vKeys0)
      RECEIVE PACKET(vKeys{$i};Char(13))
      $i:=$i+1
   End while
   SET CHANNEL(11)
   REDRAW(vKeys)
End if
```

```
 ` Purpose: loads new pictures from a file

DEFAULT FILE([Pics])
SET CHANNEL(10;"")
name:=Document
SET CHANNEL(11)
OpenRes (name;ref)
CountPict (ref;ct)
ind:=1
If (ct#0)
  While (ind<=ct)
    bCan:=0
    GetPict (ref;ind;pic;name;id)
    If (name="")
      vName:=""
      h1:=Screen height/2+10
      w1:=Screen width/2
      h2:=90
      w2:=190
      bCan:=0
      While ((name="")&(bCan=0))
        OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;1)
        vErrMess:="This picture does not have a name.  Please enter a name or hit Cancel to skip."
        vErrPic:=pic
        DIALOG("PicError")
        CLOSE WINDOW
        name:=vName
      End while
    End if
    If (bCan=0)
      SEARCH BY INDEX([Pics]Name=name)
      If (Records in selection([Pics])>0)
        h1:=Screen height/2+10
        w1:=Screen width/2
        h2:=90
        w2:=190
        bCan:=0
        oldname:=name
        While ((name=oldname)&(bCan=0))
          OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;1)
          vErrMess:="The name '"+oldname+"' is already in use.  Please enter another name or hit Cancel."
          vErrPic:=pic
          vName:=""
          DIALOG("PicError")
          CLOSE WINDOW
          name:=vName
          SEARCH BY INDEX([Pics]Name=name)
          If (Records in selection([Pics])>0)
            oldname:=name
          End if
        End while
        If (bCan=0)
          CREATE RECORD([Pics])
          [Pics]Name:=name
          [Pics]Pic:=pic
          SAVE RECORD([Pics])
        End if
      Else
        CREATE RECORD([Pics])
        [Pics]Name:=name
        [Pics]Pic:=pic
        SAVE RECORD([Pics])
      End if
    End if
    CLEAR VARIABLE("pic")
    ind:=ind+1
  End while
Else
  ALERT("No pictures were found in this file.")
End if
CloseRes (ref)
```

```
` Purpose: loads a term into the main screen for display

DEFAULT FILE([Main])
vTermPic:=MTPic
vPicName:=""
vGo:=""
vLink:=""
vNextLink:=""
vPrevLink:=""
RecStr:="Related"
vTerm:="                    LOADING TERM, PLEASE WAIT..."
SET WINDOW TITLE("Term Display")
ALL SUBRECORDS([Main]Pictures)
If (Records in subselection([Main]Pictures)<2)
   ButtState (0;bTermPicUp)
   ButtState (0;bTermPicDow)
   REDRAW(bTermPicUp)
   REDRAW(bTermPicDow)
   If (Records in subselection([Main]Pictures)=1)
      LOAD LINKED RECORD([Main]Pictures'Name)
      vTermPic:=[Pics]Pic
      vPicName:=[Pics]Name
   End If
Else
   ButtState (1;bTermPicUp)
   ButtState (1;bTermPicDow)
   REDRAW(bTermPicUp)
   REDRAW(bTermPicDow)
   LOAD LINKED RECORD([Main]Pictures'Name)
   vTermPic:=[Pics]Pic
   vPicName:=[Pics]Name
End If
ALL SUBRECORDS([Main]Related)
SORT SUBSELECTION([Main]Related;[Main]Related'Term;>)
If (Records in subselection([Main]Related)<2)
   ButtState (0;bLinkUp)
   ButtState (0;bLinkDow)
   REDRAW(bLinkUp)
   REDRAW(bLinkDow)
   If (Records in subselection([Main]Related)=1)
      vLink:=[Main]Related'Term
      vPrevLink:=""
      vNextLink:=""
   End If
Else
   ButtState (1;bLinkUp)
   ButtState (1;bLinkDow)
   REDRAW(bLinkUp)
   REDRAW(bLinkDow)
   vLink:=[Main]Related'Term
   NEXT SUBRECORD([Main]Related)
   vNextLink:=[Main]Related'Term
   LAST SUBRECORD([Main]Related)
   vPrevLink:=[Main]Related'Term
   FIRST SUBRECORD([Main]Related)
End If
ALL SUBRECORDS([Main]Broader)
SORT SUBSELECTION([Main]Broader;[Main]Broader'Term;>)
ALL SUBRECORDS([Main]Narrower)
SORT SUBSELECTION([Main]Narrower;[Main]Narrower'Term;>)
vRel:=1
```

```
vNar:=0
vBro:=0
vLinkPic:=MTPic
If (Records in subselection([Main]Related)>0)
   vGo:="Go to ""+[Main]Related'Term+"""
   ButtState (1;bGo)
   REDRAW(bGo)
   SEARCH BY INDEX([Index]Term=[Main]Related'Term)
   ALL SUBRECORDS([Index]Pictures)
   If (Records in subselection([Index]Pictures)<2)
      ButtState (0;bLinkPicUp)
      ButtState (0;bLinkPicDow)
      REDRAW(bLinkPicUp)
      REDRAW(bLinkPicDow)
      If (Records in subselection([Index]Pictures)=1)
         LOAD LINKED RECORD([Index]Pictures'Name)
         vLinkPic:=[Pics]Pic
      End If
   Else
      ButtState (1;bLinkPicUp)
      ButtState (1;bLinkPicDow)
      REDRAW(bLinkPicUp)
      REDRAW(bLinkPicDow)
      LOAD LINKED RECORD([Index]Pictures'Name)
      vLinkPic:=[Pics]Pic
   End If
Else
   ButtState (0;bLinkPicUp)
   ButtState (0;bLinkPicDow)
   REDRAW(bLinkPicUp)
   REDRAW(bLinkPicDow)
   ButtState (0;bGo)
   REDRAW(bGo)
End If
vTerm:=[Main]Term
ScreenRedraw
```

```
` Purpose: controls the screen display of the thesaurus system

DISABLE ITEM(1;3)
UpdateMenuBar
OldScreen:=0

While (True)

    ` opening screen
  If (screen=0)
    ENABLE ITEM(1;0)
    ENABLE ITEM(2;0)
    ENABLE ITEM(3;0)
    DISABLE ITEM(4;0)
    DISABLE ITEM(5;0)
    UpdateMenuBar
    DIALOG([Main];"Opening")
    OldScreen:=0
  End if

    ` main thesaurus screen
  If (screen=1)
    ENABLE ITEM(1;0)
    ENABLE ITEM(2;0)
    ENABLE ITEM(3;0)
    DISABLE ITEM(4;0)
    DISABLE ITEM(5;0)
    UpdateMenuBar
    DIALOG([Main];"Mainout")
    OldScreen:=1
  End if

  If (screen=2)
  End if

    ` maintenance screen
  If (screen=3)
    ENABLE ITEM(1;0)
    DISABLE ITEM(2;0)
    DISABLE ITEM(3;0)
    DISABLE ITEM(4;0)
    ENABLE ITEM(5;0)
    UpdateMenuBar
    DIALOG([Main];"Maint")
  End if

    ` descriptions screen
  If (screen=4)
    ENABLE ITEM(1;0)
    DISABLE ITEM(2;0)
    DISABLE ITEM(3;0)
    ENABLE ITEM(4;0)
    DISABLE ITEM(5;0)
    UpdateMenuBar
    DIALOG([Docs];"DocMaint")
  End if

End while
```

```
` Purpose:  adds a matching broader term from the index into a set

$temp:=[Main]Broader'Term
SEARCH BY INDEX([Index]Term=$temp)
ADD TO SET([Index];"NewBroSet")
```

```
` Purpose: adds a matching narrower term from the index into a set

$temp:=[Main]NarrowerTerm
SEARCH BY INDEX([Index}Term=$temp)
ADD TO SET([Index];"NewNarSet")
```

Procedure: MatchOldBro

```
  ` Purpose:  adds a matching broader term from the index into a set

$temp:=[Main]BroaderTerm
SEARCH BY INDEX([Index]Term=$temp)
ADD TO SET([Index];"OldBroSet")
```

```
 ` Prupose:  adds a matching narrower term from the index into a set

$temp:=[Main]NarrowerTerm
SEARCH BY INDEX([Index]Term=$temp)
ADD TO SET([Index];"OldNarSet")
```

Procedure: MatchOldPic

```
 ` Purpose: adds a matching picture from the pics file into a set

$temp:=[Main]Pictures'Name
SEARCH BY INDEX([Pics]Name=$temp)
ADD TO SET([Pics];"OldPics")
```

Procedure: MatchOldRel

```
` Purpose:  adds a matching related term from the index into a set

$temp:=[Main]RelatedTerm
SEARCH BY INDEX([Index]Term=$temp)
ADD TO SET([Index];"OldRelSet")
```

Procedure: MatchPics

```
` Purpose: adds a matching picture from the picture file into a set

$temp:=[Main]Pictures'Name
SEARCH BY INDEX([Pics]Name=$temp)
ADD TO SET([Pics];"NewPics")
```

Procedure: MatchRel

```
  ` Purpose:  adds a matching related term from the index into a set

$temp:=[Main]RelatedTerm
SEARCH BY INDEX([Index]Term=$temp)
ADD TO SET([Index];"NewRelSet")
```

```
  ` Purpose: creates a new description and saves it
  ` Calls: DisableAll, EnableAll

INPUT LAYOUT([Docs];"DocMain")
DisableAll
xNewDoc:=1
ADD RECORD([Docs];*)
If (OK=1)
  ind:=1
  While (ind<=vKeys0)
    CREATE SUBRECORD([Docs]Keywords)
    [Docs]Keywords'Term:=vKeys{ind}
    ind:=ind+1
  End while
  SAVE RECORD([Docs])
End if
EnableAll
```

```
  ` Purpose: creates a new picture and saves it
  ` Calls: DisableAll, EnableAll

DEFAULT FILE([Pics])
DisableAll
INPUT LAYOUT("PicIn")
ADD RECORD([Pics];*)

EnableAll
```

```
 ` Purpose: creates a new term and saves it
 ` Calls: DisableAll, EnableAll, MatchRel, MatchBro, MatchNar, AddRel, AddBro
 `       AddNar, CopyPics

DEFAULT FILE([Main])
INPUT LAYOUT("MainIn")
DisableAll
xEdit:=0
ADD RECORD([Main];*)
If (OK=1)

     ` use sets to add new term links and pictures
   temp:=[Main]Term
   ALL SUBRECORDS([Main]Related)
   CREATE EMPTY SET([Index];"NewRelSet")
   APPLY TO SUBSELECTION([Main]Related;MatchRel )
   USE SET("NewRelSet")
   MESSAGES OFF
   APPLY TO SELECTION([Index];AddRel (temp))
   MESSAGES ON
   CLEAR SET("NewRelSet")

   SEARCH BY INDEX([Main]Term=temp)
   ALL SUBRECORDS([Main]Broader)
   CREATE EMPTY SET([Index];"NewBroSet")
   APPLY TO SUBSELECTION([Main]Broader;MatchBro )
   USE SET("NewBroSet")
   MESSAGES OFF
   APPLY TO SELECTION([Index];AddBro (temp))
   MESSAGES ON
   CLEAR SET("NewBroSet")

   SEARCH BY INDEX([Main]Term=temp)
   ALL SUBRECORDS([Main]Narrower)
   CREATE EMPTY SET([Index];"NewNarSet")
   APPLY TO SUBSELECTION([Main]Narrower;MatchNar )
   USE SET("NewNarSet")
   MESSAGES OFF
   APPLY TO SELECTION([Index];AddNar (temp))
   MESSAGES ON
   CLEAR SET("NewNarSet")

   SEARCH BY INDEX([Main]Term=temp)
   ALL SUBRECORDS([Main]Pictures)
   CREATE RECORD([Index])
   [Index]Term:=temp
   APPLY TO SUBSELECTION([Main]Pictures;CopyPics )
   SAVE RECORD([Index])

End If
EnableAll
```

```
  ` Purpose: displays pictures and selects a matching thesaurus term
  ` Calls: DisableAll, EnableAll, LoadTerm

  ` search for pictures
DEFAULT FILE([Pics])
EdTerm:=""
DisableAll
INPUT LAYOUT("PicDum")
$term:=Request("Enter Picture Prefix To Search (OK for all):")
If (ok=1)
  SEARCH BY INDEX([Pics]Name=$term+"@")
  If (Records in selection([Pics])=0)
    ALERT("No pictures were found that match the prefix ""+$term+"".")
  Else
    OUTPUT LAYOUT("PicIndex")
    SORT SELECTION([Pics]Name;>)
    If (OK=1)
      Done:=0
      DISPLAY SELECTION([Pics])
      While ((bGo=0)&(bCan=0)&(Done=0))
        $term:=Request("Enter Picture Prefix To Search (OK for all):")
        If (ok=1)
          SEARCH BY INDEX([Pics]Name=$term+"@")
          If (Records in selection([Pics])=0)
            ALERT("No pictures were found that match the prefix ""+$term+"".")
            bCan:=1
          Else
            SORT SELECTION([Pics]Name;>)
            If (OK=1)
              Done:=0
              DISPLAY SELECTION([Pics])
            Else
              bCan:=1
            End if
          End if
        Else
          bCan:=1
        End if
      End while
      If ((bGo=1)|(Done=1))
        USE SET("UserSet")
        EdTerm:=[Pics]Name
      End if
    End if
  End if
End if

  ` select a matching term and display it
If (EdTerm#"")
  DEFAULT FILE([Index])
  INPUT LAYOUT("TermDum")
  $term:=EdTerm
  If (ok=1)
    SEARCH BY INDEX([Index]Pictures'Name=$term)
    If (Records in selection([Index])=0)
      ALERT("No terms were found that use the picture ""+$term+"".")
    Else
      OUTPUT LAYOUT("TermList")
      SORT SELECTION([Index]Term;>)
      If (OK=1)
        h1:=Screen height/2+10
        w1:=Screen width/2
        h2:=118
        w2:=200
        xDMod:=1
        OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;4;"Term List")
        Done:=0
        DISPLAY SELECTION([Index];*)
        CLOSE WINDOW
        ScreenRedraw
        If ((bOK=1))
          USE SET("UserSet")
          SEARCH BY INDEX([Main]Term=[Index]Term)
          If (screen=1)
            LoadTerm
          Else
            Screen:=1
          End if
        End if
      End if
    End if
  End if
End if
EnableAll
```

```
` Purpose: displays a list of pictures to select for adding to terms

DEFAULT FILE([Pics])
INPUT LAYOUT("PicDum")
OUTPUT LAYOUT("PicList")
ALL RECORDS([Pics])
xPicAll:=1
SORT SELECTION([Pics]Name;>)
bCan:=0
If (OK=1)
   h1:=Screen height/2+10
   w1:=Screen width/2
   h2:=118
   w2:=200
   OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;4;"Picture List")
   Done:=0
   DISPLAY SELECTION([Pics];*)
   CLOSE WINDOW
Else
   bCan:=1
End if

If (bCan=0)
   USE SET("UserSet")
   $0:=[Pics]Name
End if
```

```
  ` Purpose:  prints terms from the thesaurus

DEFAULT FILE([Main])
$term:=Request("Enter Term Prefixes To Print:")
If (OK=1)
   SEARCH BY INDEX([Main]Term=$term+"@")
   SORT BY INDEX([Main]Term;>)
   If (OK=1)
      OUTPUT LAYOUT("ThesOut")
      PRINT  SELECTION
   End if
End if
```

Procedure: RenBro

```
   ` Purpose: renames a broader term
   ` Parameters: $1 - old name, $2 - new name

SEARCH BY INDEX([Main]Term=[Index]Term)
SEARCH SUBRECORDS([Main]Broader;[Main]Broader'Term=$1)
[Main]Broader'Term:=$2
SAVE RECORD([Main])
```

```
 ` Purpose:  renames a narrower term
 ` Parameters:  $1 - old name, $2 - new name

SEARCH BY INDEX([Main]Term=[Index]Term)
SEARCH SUBRECORDS([Main]Narrower;[Main]Narrower'Term=$1)
[Main]Narrower'Term:=$2
SAVE RECORD([Main])
```

Procedure: RenRel

```
  ` Purpose: renames a related term
  ` Parameters: $1 - old name, $2 - new name

SEARCH BY INDEX([Main]Term=[Index]Term)
SEARCH SUBRECORDS([Main]Related;[Main]Related'Term=$1)
[Main]Related'Term:=$2
SAVE RECORD([Main])
```

Procedure: SaveBuffer

```
  ` Purpose: saves terms in the buffer to a file

SET CHANNEL(12;"")
If (OK=1)
   SEND PACKET(String(vKeys0)+Char(13))
   $i:=1
   While ($i<=vKeys0)
      SEND PACKET(vKeys{$i}+Char(13))
      $i:=$i+1
   End while
   SET CHANNEL(11)
End if
```

```
` Purpose:  takes characters from the serial buffer to be displayed in the result
`           screen

RECEIVE BUFFER(Temp)
ResText:=ResText+Temp
If (Position(Char(1);Temp)#0)
   Done:=1
End If
```

```
 ` Purpose: displays the keywords list and pastes the keyword if requested
 ` Calls: EnableAll, DisableAll

DisableAll
OPEN WINDOW((Screen width/2)-186;(Screen height/2)-113;(Screen width/2)+186;(Screen height/2)+114;4;"Keywords"
DIALOG([Docs];"Keys")
CLOSE WINDOW
If (Paste=1)
  If (vTermKeys#0)
    GET HIGHLIGHTED TEXT([Docs]Text;start;end)
    [Docs]Text:=Substring([Docs]Text;1;start-1)+vTermKeys{vTermKeys}+Substring([Docs]Text;end;32767-end)
    HIGHLIGHT TEXT([Docs]Text;start+Length(vTermKeys{vTermKeys});start+Length(vTErmKeys{vTErmKeys}))
  End if
End if
EnableAll
```

```
  ` Purpose: startup initialization procedure

  ` size window
If (Screen width=512)
  SetIntegerRes ("CUST";0;14;1)
Else
  SetIntegerRes ("CUST";0;15;0)
  SetIntegerRes ("CUST";0;16;0)
  SetIntegerRes ("CUST";0;17;342-20)
  SetIntegerRes ("CUST";0;18;512)
  SetIntegerRes ("CUST";0;14;3)
  SetIntegerRes ("CUST";0;19;1)
  SetIntegerRes ("CUST";0;20;0)
End If

  ` define empty picture constant
SEARCH BY INDEX([Pics]Name="Empty")
MTPic:=[Pics]Pic

vKeys:=0
vKeys0:=0

  ` define pictures for opening screen
ProgPic:="S83-35799"
FacPic:="S87-38631"
PerPic:="S64-29940"

SEARCH BY INDEX([Pics]Name=ProgPic)
OPic1:=[Pics]Pic
SEARCH BY INDEX([Pics]Name=FacPic)
OPic2:=[Pics]Pic
SEARCH BY INDEX([Pics]Name=PerPic)
OPic3:=[Pics]Pic

  ` default search operator
DefOp:="OR"

Screen:=0

MENU BAR(1)
DISABLE ITEM(2;0)
DISABLE ITEM(3;0)
DISABLE ITEM(4;0)
DISABLE ITEM(5;0)
UpdateMenuBar
```

```
 ` Purpose: displays list of terms for addind links to terms being edited

DEFAULT FILE([Index])
INPUT LAYOUT("TermDum")
$term:=Request("Enter Term Prefix To Search (OK for all):")
If (ok=1)
   SEARCH BY INDEX([Index]Term=$term+"@")
   If (Records in selection([Index])=0)
      ALERT("No terms were found that match the prefix ""+$term+"".")
   Else
      OUTPUT LAYOUT("TermList")
      SORT SELECTION([Index]Term;>)
      If (OK=1)
         h1:=Screen height/2+10
         w1:=Screen width/2
         h2:=118
         w2:=200
         xDMod:=0
         OPEN WINDOW(w1-w2;h1-h2;w1+w2;h1+h2;4;"Term List")
         Done:=0
         DISPLAY SELECTION([Index];*)
         While ((bOK=0)&(bCan=0))
            $term:=Request("Enter Term Prefix To Search (OK for all):")
            If (ok=1)
               SEARCH BY INDEX([Index]Term=$term+"@")
               If (Records in selection([Index])=0)
                  ALERT("No terms were found that match the prefix ""+$term+"".")
                  bCan:=1
               Else
                  SORT SELECTION([Index]Term;>)
                  If (OK=1)
                     Done:=0
                     DISPLAY SELECTION([Index];*)
                  Else
                     bCan:=1
                  End if
               End if
            Else
               bCan:=1
            End if
         End while
         CLOSE WINDOW
         If ((bOK=1))
            USE SET("UserSet")
            $0:=[Index]Term
         End if
      End if
   End if
End if
```

```
File
     About The Thesaurus...                          DoAbout
     -
     Enter The Thesaurus...                          MainEventLoop
     -
     Quit                                            DoQuit

Modules
     Search Buffer
     Descriptions
     Maintenance

Thesaurus
     Main Screen
     -
     Term Index...
     Picture Index...
     -
     Search Preferences

Descriptions
     New Description...
     Edit Description...
     -
     Export Descriptions...
     -
     Back To Thesaurus

Maintenance
     New Term...
     Edit Term...
     Delete Term
     -
     New Picture...
     Edit Picture...
     Delete Picture
     Load Pictures...
     -
     Print Thesaurus...
     -
     Back To Thesaurus
```

Section 5

Identifier Cross–Reference

```
About.[Main]  (L)   :             DoAbout  (P)

AddBro  (P)  :                    EditTerm  (P)
                                  EditTerm2  (P)
                                  NewTerm  (P)

AddNar  (P)  :                    EditTerm  (P)
                                  EditTerm2  (P)
                                  NewTerm  (P)

AddPic  (P)  :                    EditTerm  (P)
                                  EditTerm2  (P)

AddRel  (P)  :                    EditTerm  (P)
                                  EditTerm2  (P)
                                  NewTerm  (P)

bAdd  (V)  :                      Mainout.[Main]  (L)
                                  Mainout.[Main]  (P)
                                  Buffer.[Main]  (L)
                                  Buffer.[Main]  (P)

bBack  (V)  :                     Buffer.[Main]  (L)

bBro  (V)  :                      Mainout.[Main]  (L)
                                  Mainout.[Main]  (P)

bCan  (V)  :                      TermIndex.[Main]  (L)
                                  RelIn.[Main]'Related  (L)
                                  RelIn.[Main]'Related  (P)
                                  BroIn.[Main]'Broader  (L)
                                  BroIn.[Main]'Broader  (P)
                                  NarIn.[Main]'Narrower  (L)
                                  NarIn.[Main]'Narrower  (P)
                                  PicIn.[Main]'Pictures  (L)
                                  PicIn.[Main]'Pictures  (P)
                                  PicList.[Pics]  (L)
                                  PicIn.[Pics]  (L)
                                  PicError.[Pics]  (L)
                                  PicIndex.[Pics]  (L)
                                  DocMain.[Docs]  (L)
                                  TermList.[Index]  (L)
                                  DelPics  (P)
                                  DelTerm  (P)
                                  DocList  (P)
                                  DoFind  (P)
                                  DumpDocs  (P)
                                  EditPics  (P)
                                  EditTerm  (P)
                                  LoadPics  (P)
                                  PicIndex  (P)
                                  PicList  (P)
                                  TermList  (P)

bCancel  (V)  :                   MainIn.[Main]  (L)
                                  MainIn.[Main]  (P)

bClear  (V)  :                    Buffer.[Main]  (L)
                                  Buffer.[Main]  (P)
```

```
bDel  (V)  :                      Buffer.[Main]  (L)
                                  Buffer.[Main]  (P)
                                  Relln.[Main]'Related  (L)
                                  Relln.[Main]'Related  (P)
                                  Broln.[Main]'Broader  (L)
                                  Broln.[Main]'Broader  (P)
                                  Narln.[Main]'Narrower  (L)
                                  Narln.[Main]'Narrower  (P)
                                  Picln.[Main]'Pictures  (L)
                                  Picln.[Main]'Pictures  (P)

bDelete  (V)  :                   Keys.[Docs]  (L)
                                  Keys.[Docs]  (P)

bDelPic  (V)  :                   Maint.[Main]  (L)
                                  Maint.[Main]  (P)

bDelTerm  (V)  :                  Maint.[Main]  (L)
                                  Maint.[Main]  (P)

bDum  (V)  :                      Results.[Main]  (L)
                                  Results.[Main]  (P)
                                  Opening.[Main]  (L)
                                  Opening.[Main]  (P)
                                  DocMain.[Docs]  (L)
                                  DocMain.[Docs]  (P)
                                  Keys.[Docs]  (L)
                                  Keys.[Docs]  (P)

bEdit  (V)  :                     Mainout.[Main]  (L)
                                  Mainout.[Main]  (P)

bEditDesc  (V)  :                 DocMaint.[Docs]  (L)
                                  DocMaint.[Docs]  (P)

bEditPic  (V)  :                  Maint.[Main]  (L)
                                  Maint.[Main]  (P)

bEditTerm  (V)  :                 Maint.[Main]  (L)
                                  Maint.[Main]  (P)

bExpDesc  (V)  :                  DocMaint.[Docs]  (L)
                                  DocMaint.[Docs]  (P)

bExport  (V)  :                   Keys.[Docs]  (L)
                                  Keys.[Docs]  (P)

bGo  (V)  :                       Mainout.[Main]  (L)
                                  Mainout.[Main]  (P)
                                  TermIndex.[Main]  (L)
                                  PicIndex.[Pics]  (L)
                                  DoFind  (P)
                                  LoadTerm  (P)
                                  PicIndex  (P)

bGoInd  (V)  :                    Opening.[Main]  (L)
                                  Opening.[Main]  (P)

bImport  (V)  :                   Keys.[Docs]  (L)
                                  Keys.[Docs]  (P)
```

```
bKeys  (V)   :                DocMain.[Docs]  (L)
                              DocMain.[Docs]  (P)

bLinkDow  (V)   :             Mainout.[Main]  (L)
                              Mainout.[Main]  (P)
                              LoadTerm  (P)

bLinkPicDow  (V)   :          Mainout.[Main]  (L)
                              Mainout.[Main]  (P)
                              LoadTerm  (P)

bLinkPicUp  (V)   :           Mainout.[Main]  (L)
                              Mainout.[Main]  (P)
                              LoadTerm  (P)

bLinkUp  (V)   :              Mainout.[Main]  (L)
                              Mainout.[Main]  (P)
                              LoadTerm  (P)

bLoad  (V)   :                Buffer.[Main]  (L)
                              Buffer.[Main]  (P)

bLoadPics  (V)   :            Maint.[Main]  (L)
                              Maint.[Main]  (P)

bMod  (V)   :                 TermIndex.[Main]  (L)
                              PicList.[Pics]  (L)
                              PicList.[Pics]  (P)
                              PicIndex.[Pics]  (L)
                              DocList.[Docs]  (L)
                              TermList.[Index]  (L)
                              TermList.[Index]  (P)

bNar  (V)   :                 Mainout.[Main]  (L)
                              Mainout.[Main]  (P)

bNewDesc  (V)   :             DocMaint.[Docs]  (L)
                              DocMaint.[Docs]  (P)

bNewPic  (V)   :              Maint.[Main]  (L)
                              Maint.[Main]  (P)

bNewTerm  (V)   :             Maint.[Main]  (L)
                              Maint.[Main]  (P)
```

```
bOK  (V)   :                        MainIn.[Main]  (L)
                                    Results.[Main]  (L)
                                    RelIn.[Main]'Related  (L)
                                    BroIn.[Main]'Broader  (L)
                                    NarIn.[Main]'Narrower  (L)
                                    PicIn.[Main]'Pictures  (L)
                                    PicList.[Pics]  (L)
                                    PicIn.[Pics]  (L)
                                    DocMain.[Docs]  (L)
                                    DocList.[Docs]  (L)
                                    Keys.[Docs]  (L)
                                    Keys.[Docs]  (P)
                                    TermList.[Index]  (L)
                                    DelPics  (P)
                                    DelTerm  (P)
                                    DocList  (P)
                                    DumpDocs  (P)
                                    EditPics  (P)
                                    EditTerm  (P)
                                    PicIndex  (P)
                                    TermList  (P)

bool  (V)   :                       Mainout.[Main]  (P)

bPaste  (V)   :                     Keys.[Docs]  (L)
                                    Keys.[Docs]  (P)

bPic1  (V)   :                      Opening.[Main]  (L)
                                    Opening.[Main]  (P)

bPic2  (V)   :                      Opening.[Main]  (L)
                                    Opening.[Main]  (P)

bPic3  (V)   :                      Opening.[Main]  (L)
                                    Opening.[Main]  (P)

bPrint  (V)   :                     Results.[Main]  (L)
                                    Results.[Main]  (P)
                                    DocMain.[Docs]  (L)
                                    DocMain.[Docs]  (P)

BreakUp  (P)   :                    ExecSearch  (P)

bRel  (V)   :                       Mainout.[Main]  (L)
                                    Mainout.[Main]  (P)

Broader [Main]  (F)   :             Mainout.[Main]  (P)
                                    MainIn.[Main]  (L)
                                    MainIn.[Main]  (P)
                                    ThesOut.[Main]  (L)
                                    ThesOut.[Main]  (P)
                                    BroIn.[Main]'Broader  (P)
                                    AddNar  (P)
                                    DelNar  (P)
                                    DelTerm  (P)
                                    EditTerm  (P)
                                    EditTerm2  (P)
                                    LoadTerm  (P)
                                    NewTerm  (P)
                                    RenBro  (P)
```

BroIn (V) :	BroInc.[Main]'Broader (P) BroIn.[Main]'Broader (P)
bSave (V) :	Buffer.[Main] (L) Buffer.[Main] (P) Results.[Main] (L) Results.[Main] (P)
bSearch (V) :	Buffer.[Main] (L) Buffer.[Main] (P)
bSelect (V) :	RelIn.[Main]'Related (L) RelIn.[Main]'Related (P) BroIn.[Main]'Broader (L) BroIn.[Main]'Broader (P) NarIn.[Main]'Narrower (L) NarIn.[Main]'Narrower (P) PicIn.[Main]'Pictures (L) PicIn.[Main]'Pictures (P)
bTermPicDow (V) :	Mainout.[Main] (L) Mainout.[Main] (P) LoadTerm (P)
bTermPicUp (V) :	Mainout.[Main] (L) Mainout.[Main] (P) LoadTerm (P)
Buffer.[Main] (L) :	DoBuffer (P) HandleMenu (P)
ButtState (E) :	Mainout.[Main] (P) Keys.[Docs] (P) LoadTerm (P)
CancelDlg (E) :	HandleMenu (P)
CancelEntry (E) :	TermIndex.[Main] (P) Dummy.[Main] (P)
CloseRes (E) :	LoadPics (P)
CopyPics (P) :	NewTerm (P)
CountPict (E) :	LoadPics (P)
ct (V) :	DocMain.[Docs] (P) Keys.[Docs] (P) LoadPics (P)
Date [Docs] (F) :	DocMain.[Docs] (L) DocPrint.[Docs] (L) DumpDocs (P)
DefOp (V) :	Prefs.[Main] (P) DoPrefs (P) ExecSearch (P) Startup (P)

```
DelBro  (P)   :                    DelTerm (P)
                                   EditTerm  (P)
                                   EditTerm2  (P)

DelNar  (P)   :                    DelTerm  (P)
                                   EditTerm  (P)
                                   EditTerm2  (P)

DelPic  (P)   :                    EditTerm  (P)
                                   EditTerm2  (P)

DelPics  (P)   :                   Maint.[Main]  (P)
                                   HandleMenu  (P)

DelRel  (P)   :                    DelTerm  (P)
                                   EditTerm  (P)
                                   EditTerm2  (P)

DelTerm  (P)   :                   Maint.[Main]  (P)
                                   HandleMenu  (P)

DisableAll  (P)   :                DelPics  (P)
                                   DelTerm  (P)
                                   DoAbout  (P)
                                   DocList  (P)
                                   DoFind  (P)
                                   DoPrefs  (P)
                                   DumpDocs  (P)
                                   EditPics  (P)
                                   EditTerm  (P)
                                   EditTerm2  (P)
                                   ExecSearch  (P)
                                   NewDoc  (P)
                                   NewPic  (P)
                                   NewTerm  (P)
                                   PicIndex  (P)
                                   ShowKeys  (P)

DoAbout  (P)   :                   HandleMenu  (P)

DocDum  (L)   :                    DumpDocs  (P)

DocList  (P)   :                   DocMaint.[Docs]  (P)
                                   HandleMenu  (P)

DocList  (L)   :                   DocList  (P)
                                   DumpDocs  (P)

DocMain  (L)   :                   DocList  (P)

DocMain.[Docs]  (L)   :            NewDoc  (P)

DocMaint.[Docs]  (L)   :           MainEventLoop  (P)

DocOut  (V)   :                    DumpDocs  (P)

DocOut0  (V)   :                   DumpDocs  (P)

DocPrint.[Docs]  (L)   :           DocMain.[Docs]  (P)
```

```
Document  (V)  :                LoadPics  (P)

DoFind  (P)  :                  Opening.[Main]  (P)
                                HandleMenu  (P)

done  (V)  :                    TermIndex.[Main]  (P)
                                Dummy.[Main]  (P)
                                PicDum.[Pics]  (P)
                                TermDum.[Index]  (P)
                                DelPics  (P)
                                DelTerm  (P)
                                DocList  (P)
                                DoFind  (P)
                                DumpDocs  (P)
                                EditPics  (P)
                                EditTerm  (P)
                                ExecSearch  (P)
                                PicIndex  (P)
                                PicList  (P)
                                SerialHandler  (P)
                                TermList  (P)

DoPrefs  (P)  :                 HandleMenu  (P)

dum  (V)  :                     DelBro  (P)
                                DelNar  (P)
                                DelRel  (P)

Dummy  (L)  :                   DoFind  (P)

Dummy.[Main]  (L)  :            ExecSearch  (P)

DumpDocs  (P)  :                DocMaint.[Docs]  (P)
                                HandleMenu  (P)

EditPics  (P)  :                Maint.[Main]  (P)
                                HandleMenu  (P)

EditTerm  (P)  :                Maint.[Main]  (P)
                                HandleMenu  (P)

EditTerm2  (P)  :               Mainout.[Main]  (P)

EdTemp  (V)  :                  EditTerm  (P)
                                EditTerm2  (P)

EdTerm  (V)  :                  DelPics  (P)
                                DelTerm  (P)
                                EditPics  (P)
                                EditTerm  (P)
                                EditTerm2  (P)
                                PicIndex  (P)
```

```
EnableAll  (P)   :              DelPics  (P)
                                DelTerm  (P)
                                DoAbout  (P)
                                DocList  (P)
                                DoFind  (P)
                                DoPrefs  (P)
                                DumpDocs  (P)
                                EditPics  (P)
                                EditTerm  (P)
                                EditTerm2  (P)
                                ExecSearch  (P)
                                NewDoc  (P)
                                NewPic  (P)
                                NewTerm  (P)
                                PicIndex  (P)
                                ShowKeys  (P)

end  (V)   :                    ShowKeys  (P)

ExecSearch  (P)   :             Buffer.[Main]  (P)

FacPic  (V)   :                 Startup  (P)

Format [Docs]  (F)   :          DocMain.[Docs]  (L)
                                DocPrint.[Docs]  (L)
                                DumpDocs  (P)

GetPict  (E)   :                LoadPics  (P)

h1  (V)   :                     DelPics  (P)
                                DelTerm  (P)
                                DoAbout  (P)
                                DoPrefs  (P)
                                EditPics  (P)
                                EditTerm  (P)
                                LoadPics  (P)
                                PicIndex  (P)
                                PicList  (P)
                                TermList  (P)

h2  (V)   :                     DelPics  (P)
                                DelTerm  (P)
                                DoAbout  (P)
                                DoPrefs  (P)
                                EditPics  (P)
                                EditTerm  (P)
                                LoadPics  (P)
                                PicIndex  (P)
                                PicList  (P)
                                TermList  (P)

HandleMenu  (P)   :             Mainout.[Main]  (P)
                                Buffer.[Main]  (P)
                                Opening.[Main]  (P)
                                Maint.[Main]  (P)
                                DocMaint.[Docs]  (P)

id  (V)   :                     LoadPics  (P)
```

Ind (V) :	DocMain.[Docs] (P) LoadPics (P) NewDoc (P)
Item (V) :	HandleMenu (P)
Keys.[Docs] (L) :	ShowKeys (P)
Keywords [Docs] (F) :	DocMain.[Docs] (P) Keys.[Docs] (P) DocPrint.[Docs] (P) DumpDocs (P) NewDoc (P)
LineOut.[Main] (L) :	Results.[Main] (P)
LinStr (V) :	Mainout.[Main] (P)
LoadBuffer (P) :	Buffer.[Main] (P)
LoadPics (P) :	Maint.[Main] (P) HandleMenu (P)
LoadTerm (P) :	Mainout.[Main] (P) DoFind (P) PicIndex (P)
MainIn (L) :	EditTerm (P) EditTerm2 (P) NewTerm (P)
Mainout.[Main] (L) :	MainEventLoop (P)
Maint.[Main] (L) :	MainEventLoop (P)
MatchBro (P) :	EditTerm (P) EditTerm2 (P) NewTerm (P)
MatchNar (P) :	EditTerm (P) EditTerm2 (P) NewTerm (P)
MatchOldBro (P) :	DelTerm (P) EditTerm (P) EditTerm2 (P)
MatchOldNar (P) :	DelTerm (P) EditTerm (P) EditTerm2 (P)
MatchOldPic (P) :	EditTerm (P) EditTerm2 (P)
MatchOldRel (P) :	DelTerm (P) EditTerm (P) EditTerm2 (P)
MatchPics (P) :	EditTerm (P) EditTerm2 (P)

```
MatchRel  (P)   :                 EditTerm  (P)
                                  EditTerm2  (P)
                                  NewTerm  (P)

Menu  (V)   :                     HandleMenu  (P)

MTPic  (V)   :                    Mainout.[Main]  (P)
                                  LoadTerm  (P)
                                  Startup  (P)

name  (V)   :                     LoadPics  (P)

Name   (F)   :                    AddPic  (P)
                                  CopyPics  (P)
                                  DelPic  (P)
                                  DelPics  (P)
                                  EditPics  (P)
                                  LoadTerm  (P)
                                  MatchOldPic  (P)
                                  MatchPics  (P)
                                  PicIndex  (P)

Name [Index]'Pictures   (F)   :   ILayout2.[Index]'Pictures   (L)

Name [Main]   (F)   :             Mainout.[Main]  (P)
                                  MainIn.[Main]  (P)

Name [Main]'Pictures   (F)   :    PicInc.[Main]'Pictures   (P)
                                  PicIn.[Main]'Pictures   (L)
                                  PicIn.[Main]'Pictures   (P)

Name [Pics]   (F)   :             Mainout.[Main]  (P)
                                  PicIn.[Main]'Pictures   (P)
                                  PicList.[Pics]   (L)
                                  PicIn.[Pics]   (L)
                                  PicIndex.[Pics]   (L)
                                  AddPic  (P)
                                  DelPic  (P)
                                  DelPics  (P)
                                  EditPics  (P)
                                  LoadPics  (P)
                                  LoadTerm  (P)
                                  MatchOldPic  (P)
                                  MatchPics  (P)
                                  PicIndex  (P)
                                  PicList  (P)
                                  Startup  (P)

NarIn  (V)   :                    NarInc.[Main]'Narrower  (P)
                                  NarIn.[Main]'Narrower  (P)
```

```
Narrower [Main]  (F)   :          Mainout.[Main]  (P)
                                  MainIn.[Main]  (L)
                                  MainIn.[Main]  (P)
                                  ThesOut.[Main]  (L)
                                  ThesOut.[Main]  (P)
                                  NarIn.[Main]'Narrower  (P)
                                  AddBro  (P)
                                  DelBro  (P)
                                  DelTerm  (P)
                                  EditTerm  (P)
                                  EditTerm2  (P)
                                  LoadTerm  (P)
                                  NewTerm  (P)
                                  RenNar  (P)

new  (V)   :                      RelIn.[Main]'Related  (P)
                                  BroIn.[Main]'Broader  (P)
                                  NarIn.[Main]'Narrower  (P)
                                  PicIn.[Main]'Pictures  (P)

NewDoc  (P)   :                   DocMaint.[Docs]  (P)
                                  HandleMenu  (P)

NewPic  (P)   :                   Maint.[Main]  (P)
                                  HandleMenu  (P)

NewTerm  (P)   :                  Maint.[Main]  (P)
                                  HandleMenu  (P)

Number [Docs]  (F)   :            DocMain.[Docs]  (L)
                                  DocList.[Docs]  (L)
                                  DocPrint.[Docs]  (L)
                                  DocList  (P)
                                  DumpDocs  (P)

ok  (V)   :                       Buffer.[Main]  (P)
                                  Results.[Main]  (P)
                                  DocMain.[Docs]  (P)
                                  DelPics  (P)
                                  DelTerm  (P)
                                  DocList  (P)
                                  DoFind  (P)
                                  DoPrefs  (P)
                                  DumpDocs  (P)
                                  EditPics  (P)
                                  EditTerm  (P)
                                  EditTerm2  (P)
                                  HandleMenu  (P)
                                  LoadBuffer  (P)
                                  NewDoc  (P)
                                  NewTerm  (P)
                                  PicIndex  (P)
                                  PicList  (P)
                                  PrintThes  (P)
                                  SaveBuffer  (P)
                                  TermList  (P)

OldMain  (V)   :                  MainIn.[Main]  (P)

oldname  (V)   :                  LoadPics  (P)
```

```
OldScreen  (V)  :               MainEventLoop  (P)

Opening.[Main]  (L)  :          MainEventLoop  (P)

OpenRes  (E)  :                 LoadPics  (P)

OPic1  (V)  :                   Opening.[Main]  (L)
                                Startup  (P)

OPic2  (V)  :                   Opening.[Main]  (L)
                                Startup  (P)

OPic3  (V)  :                   Opening.[Main]  (L)
                                Startup  (P)

ovtk  (V)  :                    Keys.[Docs]  (P)

Paste  (V)  :                   Keys.[Docs]  (P)
                                ShowKeys  (P)

PerPic  (V)  :                  Startup  (P)

pic  (V)  :                     LoadPics  (P)

Pic [Pics]  (F)  :              Mainout.[Main]  (P)
                                PicIn.[Main]'Pictures  (P)
                                PicList.[Pics]  (L)
                                PicIn.[Pics]  (L)
                                PicIndex.[Pics]  (L)
                                LoadPics  (P)
                                LoadTerm  (P)
                                Startup  (P)

PicDum  (L)  :                  DelPics  (P)
                                EditPics  (P)
                                PicIndex  (P)
                                PicList  (P)

PicError  (L)  :                LoadPics  (P)

PicIn  (L)  :                   EditPics  (P)
                                NewPic  (P)

PicIn  (V)  :                   PicInc.[Main]'Pictures  (P)
                                PicIn.[Main]'Pictures  (P)

PicIndex  (P)  :                HandleMenu  (P)

PicIndex  (L)  :                PicIndex  (P)

PicList  (P)  :                 PicIn.[Main]'Pictures  (P)

PicList  (L)  :                 DelPics  (P)
                                EditPics  (P)
                                PicList  (P)
```

Pictures [Index] (F) :	Mainout.[Main] (P) AddPic (P) CopyPics (P) DelPic (P) DelPics (P) EditPics (P) LoadTerm (P)
Pictures [Main] (F) :	Mainout.[Main] (P) MainIn.[Main] (L) MainIn.[Main] (P) PicIn.[Main]'Pictures (P) DelPics (P) DelTerm (P) EditPics (P) EditTerm (P) EditTerm2 (P) LoadTerm (P) NewTerm (P)
Prefs.[Main] (L) :	DoPrefs (P)
PrintThes (P) :	HandleMenu (P)
ProgPic (V) :	Startup (P)
Quit4D (E) :	DoQuit (P) HandleMenu (P)
ReadButt (E) :	Mainout.[Main] (P) Opening.[Main] (P) Keys.[Docs] (P)
RecStr (V) :	Mainout.[Main] (P) LoadTerm (P)
ref (V) :	LoadPics (P)
Related [Main] (F) :	Mainout.[Main] (P) MainIn.[Main] (L) MainIn.[Main] (P) ThesOut.[Main] (L) ThesOut.[Main] (P) RelIn.[Main]'Related (P) AddRel (P) DelRel (P) DelTerm (P) EditTerm (P) EditTerm2 (P) LoadTerm (P) NewTerm (P) RenRel (P)
RelIn (V) :	RelInc.[Main]'Related (P) RelIn.[Main]'Related (P)
RenBro (P) :	EditTerm (P) EditTerm2 (P)

```
RenNar  (P)  :                          EditTerm  (P)
                                        EditTerm2  (P)

RenRel  (P)  :                          EditTerm  (P)
                                        EditTerm2  (P)

ResText  (V)  :                         ExecSearch  (P)
                                        SerialHandler  (P)

Results.[Main]  (L)  :                  ExecSearch  (P)

SaveBuffer  (P)  :                      Buffer.[Main]  (P)

Screen  (V)  :                          Mainout.[Main]  (P)
                                        Buffer.[Main]  (P)
                                        Opening.[Main]  (P)
                                        Maint.[Main]  (P)
                                        DocMaint.[Docs]  (P)
                                        DoFind  (P)
                                        EnableAll  (P)
                                        HandleMenu  (P)
                                        MainEventLoop  (P)
                                        PicIndex  (P)
                                        Startup  (P)

ScreenRedraw  (E)  :                    LoadTerm  (P)
                                        PicIndex  (P)

SetIntegerRes  (E)  :                   Startup  (P)

ShowKeys  (P)  :                        DocMain.[Docs]  (P)

start  (V)  :                           ShowKeys  (P)

Status [Docs]  (F)  :                   DocMain.[Docs]  (L)
                                        DocPrint.[Docs]  (L)

str  (V)  :                             BreakUp  (P)

tem  (V)  :                             ExecSearch  (P)

temp  (V)  :                            BreakUp  (P)
                                        DelTerm  (P)
                                        EditPics  (P)
                                        EditTerm  (P)
                                        EditTerm2  (P)
                                        LoadBuffer  (P)
                                        NewTerm  (P)
                                        SerialHandler  (P)

ter  (V)  :                             Buffer.[Main]  (P)
```

```
Term   (F)   :                   AddBro  (P)
                                 AddNar  (P)
                                 AddRel  (P)
                                 DelBro  (P)
                                 DelNar  (P)
                                 DelRel  (P)
                                 DumpDocs  (P)
                                 LoadTerm  (P)
                                 MatchBro  (P)
                                 MatchNar  (P)
                                 MatchOldBro  (P)
                                 MatchOldNar  (P)
                                 MatchOldRel  (P)
                                 MatchRel  (P)
                                 NewDoc  (P)
                                 RenBro  (P)
                                 RenNar  (P)
                                 RenRel  (P)

Term [Docs]  (F)   :             DocMain.[Docs]  (P)
                                 Keys.[Docs]  (P)
                                 DocPrint.[Docs]  (P)

Term [Index]  (F)   :            Mainout.[Main]  (P)
                                 Relln.[Main]'Related  (P)
                                 Broln.[Main]'Broader  (P)
                                 Narln.[Main]'Narrower  (P)
                                 TermList.[Index]  (L)
                                 AddBro  (P)
                                 AddNar  (P)
                                 AddRel  (P)
                                 DelBro  (P)
                                 DelNar  (P)
                                 DelPics  (P)
                                 DelRel  (P)
                                 DelTerm  (P)
                                 EditPics  (P)
                                 EditTerm  (P)
                                 EditTerm2  (P)
                                 LoadTerm  (P)
                                 MatchBro  (P)
                                 MatchNar  (P)
                                 MatchOldBro  (P)
                                 MatchOldNar  (P)
                                 MatchOldRel  (P)
                                 MatchRel  (P)
                                 NewTerm  (P)
                                 PicIndex  (P)
                                 RenBro  (P)
                                 RenNar  (P)
                                 RenRel  (P)
                                 TermList  (P)
```

```
Term [Main]  (F)  :                  Mainout.[Main]  (P)
                                     TermIndex.[Main]  (L)
                                     MainIn.[Main]  (L)
                                     MainIn.[Main]  (P)
                                     Opening.[Main]  (P)
                                     ThesOut.[Main]  (L)
                                     ThesOut.[Main]  (P)
                                     AddBro  (P)
                                     AddNar  (P)
                                     AddRel  (P)
                                     DelBro  (P)
                                     DelNar  (P)
                                     DelPics  (P)
                                     DelRel  (P)
                                     DelTerm  (P)
                                     DoFind  (P)
                                     EditPics  (P)
                                     EditTerm  (P)
                                     EditTerm2  (P)
                                     LoadTerm  (P)
                                     NewTerm  (P)
                                     PicIndex  (P)
                                     PrintThes  (P)
                                     RenBro  (P)
                                     RenNar  (P)
                                     RenRel  (P)

 Term [Main]'Broader  (F)  :         BroInc.[Main]'Broader  (P)
                                     BroIn.[Main]'Broader  (L)
                                     BroIn.[Main]'Broader  (P)
                                     Bro.[Main]'Broader  (L)

 Term [Main]'Narrower  (F)  :        NarInc.[Main]'Narrower  (P)
                                     NarIn.[Main]'Narrower  (L)
                                     NarIn.[Main]'Narrower  (P)
                                     Nar.[Main]'Narrower  (L)

 Term [Main]'Related  (F)  :         RelInc.[Main]'Related  (P)
                                     RelIn.[Main]'Related  (L)
                                     RelIn.[Main]'Related  (P)
                                     Rel.[Main]'Related  (L)

 TermDum  (L)  :                     DelTerm  (P)
                                     EditTerm  (P)
                                     PicIndex  (P)
                                     TermList  (P)

 TermIndex  (L)  :                   DoFind  (P)

 TermList  (P)  :                    RelIn.[Main]'Related  (P)
                                     BroIn.[Main]'Broader  (P)
                                     NarIn.[Main]'Narrower  (P)

 TermList  (L)  :                    DelTerm  (P)
                                     EditTerm  (P)
                                     PicIndex  (P)
                                     TermList  (P)
```

```
Text [Docs]  (F)   :            DocMain.[Docs]  (L)
                                DocPrint.[Docs]  (L)
                                DumpDocs  (P)
                                ShowKeys  (P)

Text2Array  (E)   :             DumpDocs  (P)
                                ExecSearch  (P)

ThesOut  (L)   :                PrintThes  (P)

timeout  (V)   :                ExecSearch  (P)

UpdateMenuBar  (E)   :          DisableAll  (P)
                                EnableAll  (P)
                                HandleMenu  (P)
                                MainEventLoop  (P)
                                Startup  (P)

ValidateDlg  (E)   :            Mainout.[Main]  (P)
                                Buffer.[Main]  (P)
                                Opening.[Main]  (P)
                                Maint.[Main]  (P)
                                Keys.[Docs]  (P)
                                DocMaint.[Docs]  (P)

validateentry  (E)   :          PicDum.[Pics]  (P)
                                DocDum.[Docs]  (P)
                                TermDum.[Index]  (P)

vAnd  (V)   :                   Prefs.[Main]  (L)
                                Prefs.[Main]  (P)
                                DoPrefs  (P)

vBro  (V)   :                   LoadTerm  (P)

vCan  (V)   :                   Prefs.[Main]  (L)

vErrMess  (V)   :               PicError.[Pics]  (L)
                                LoadPics  (P)

vErrPic  (V)   :                PicError.[Pics]  (L)
                                LoadPics  (P)

vGo  (V)   :                    Mainout.[Main]  (L)
                                Mainout.[Main]  (P)
                                LoadTerm  (P)

vKeyPrint  (V)   :              DocPrint.[Docs]  (L)
                                DocPrint.[Docs]  (P)

vKeys  (V)   :                  Mainout.[Main]  (P)
                                Buffer.[Main]  (L)
                                Buffer.[Main]  (P)
                                Keys.[Docs]  (P)
                                ExecSearch  (P)
                                LoadBuffer  (P)
                                NewDoc  (P)
                                SaveBuffer  (P)
                                Startup  (P)
```

```
vKeys0  (V)   :             Mainout.[Main]  (P)
                            Buffer.[Main]  (P)
                            DocMain.[Docs]  (P)
                            Keys.[Docs]  (P)
                            ExecSearch  (P)
                            LoadBuffer  (P)
                            NewDoc  (P)
                            SaveBuffer  (P)
                            Startup  (P)

vLine  (V)   :              Results.[Main]  (P)
                            LineOut.[Main]  (L)

vLink  (V)   :              Mainout.[Main]  (L)
                            Mainout.[Main]  (P)
                            LoadTerm  (P)

vLinkPic  (V)   :           Mainout.[Main]  (L)
                            Mainout.[Main]  (P)
                            LoadTerm  (P)

vName  (V)   :              PicInc.[Main]'Pictures  (L)
                            PicInc.[Main]'Pictures  (P)
                            PicError.[Pics]  (L)
                            LoadPics  (P)

vNar  (V)   :               LoadTerm  (P)

vNextLink  (V)   :          Mainout.[Main]  (L)
                            Mainout.[Main]  (P)
                            LoadTerm  (P)

vOK  (V)   :                Prefs.[Main]  (L)
                            PicError.[Pics]  (L)

vOr  (V)   :                Prefs.[Main]  (L)
                            Prefs.[Main]  (P)

vOTerm  (V)   :             RelIn.[Main]'Related  (P)
                            BroIn.[Main]'Broader  (P)
                            NarIn.[Main]'Narrower  (P)
                            PicIn.[Main]'Pictures  (P)

vOTit1  (V)   :             Opening.[Main]  (L)
                            Opening.[Main]  (P)

vOTit2  (V)   :             Opening.[Main]  (L)
                            Opening.[Main]  (P)

vOTit3  (V)   :             Opening.[Main]  (L)
                            Opening.[Main]  (P)

vPage  (V)   :              ThesOut.[Main]  (L)
                            ThesOut.[Main]  (P)

vPicName  (V)   :           Mainout.[Main]  (L)
                            Mainout.[Main]  (P)
                            LoadTerm  (P)
```

```
vPrevLink  (V)   :                  Mainout.[Main]  (L)
                                    Mainout.[Main]  (P)
                                    LoadTerm  (P)

vRel  (V)   :                       LoadTerm  (P)

vResults  (V)   :                   Results.[Main]  (L)
                                    Results.[Main]  (P)

vResults0  (V)   :                  Results.[Main]  (P)

vTerm  (V)   :                      Mainout.[Main]  (L)
                                    RelInc.[Main]'Related  (L)
                                    RelInc.[Main]'Related  (P)
                                    BroInc.[Main]'Broader  (L)
                                    BroInc.[Main]'Broader  (P)
                                    NarInc.[Main]'Narrower  (L)
                                    NarInc.[Main]'Narrower  (P)
                                    LoadTerm  (P)

vTermKeys  (V)   :                  DocMain.[Docs]  (P)
                                    Keys.[Docs]  (L)
                                    Keys.[Docs]  (P)
                                    ShowKeys  (P)

vTermKeys0  (V)   :                 DocMain.[Docs]  (P)
                                    Keys.[Docs]  (P)

vTermPic  (V)   :                   Mainout.[Main]  (L)
                                    Mainout.[Main]  (P)
                                    PicIn.[Main]'Pictures  (L)
                                    PicIn.[Main]'Pictures  (P)
                                    LoadTerm  (P)

vTitle  (V)   :                     TermIndex.[Main]  (L)
                                    TermIndex.[Main]  (P)
                                    PicIn.[Pics]  (L)
                                    PicIndex.[Pics]  (L)
                                    PicIndex.[Pics]  (P)
                                    DocList.[Docs]  (L)
                                    DocList  (P)
                                    DumpDocs  (P)
                                    EditPics  (P)

w1  (V)   :                         DelPics  (P)
                                    DelTerm  (P)
                                    DoAbout  (P)
                                    DoPrefs  (P)
                                    EditPics  (P)
                                    EditTerm  (P)
                                    LoadPics  (P)
                                    PicIndex  (P)
                                    PicList  (P)
                                    TermList  (P)
```

```
w2  (V)  :                          DelPics  (P)
                                    DelTerm  (P)
                                    DoAbout  (P)
                                    DoPrefs  (P)
                                    EditPics  (P)
                                    EditTerm  (P)
                                    LoadPics  (P)
                                    PicIndex  (P)
                                    PicList  (P)
                                    TermList  (P)

x  (V)  :                           Mainout.[Main]  (P)
                                    Opening.[Main]  (P)
                                    Keys.[Docs]  (P)
                                    BreakUp  (P)

xDMod  (V)  :                       TermList.[Index]  (P)
                                    PicIndex  (P)
                                    TermList  (P)

xEdit  (V)  :                       MainIn.[Main]  (P)
                                    EditTerm  (P)
                                    EditTerm2  (P)
                                    NewTerm  (P)

xNewDoc  (V)  :                     DocMain.[Docs]  (P)
                                    DocList  (P)
                                    NewDoc  (P)

xOldScreen  (V)  :                  HandleMenu  (P)

xPicAll  (V)  :                     PicList.[Pics]  (P)
                                    EditPics  (P)
                                    PicList  (P)

xTimeout  (V)  :                    ExecSearch  (P)

[Docs]  (F)  :                      DocMain.[Docs]  (P)
                                    DocList  (P)
                                    DumpDocs  (P)
                                    MainEventLoop  (P)
                                    NewDoc  (P)
                                    ShowKeys  (P)
```

```
[Index]  (F)   :                    MainIn.[Main]  (P)
                                    RelInc.[Main]'Related  (P)
                                    RelIn.[Main]'Related  (P)
                                    BroInc.[Main]'Broader  (P)
                                    BroIn.[Main]'Broader  (P)
                                    NarInc.[Main]'Narrower  (P)
                                    NarIn.[Main]'Narrower  (P)
                                    DelPics  (P)
                                    DelTerm  (P)
                                    EditPics  (P)
                                    EditTerm  (P)
                                    EditTerm2  (P)
                                    MatchBro  (P)
                                    MatchNar  (P)
                                    MatchOldBro  (P)
                                    MatchOldNar  (P)
                                    MatchOldRel  (P)
                                    MatchRel  (P)
                                    NewTerm  (P)
                                    PicIndex  (P)
                                    TermList  (P)

[Main]  (F)   :                     Results.[Main]  (P)
                                    ThesOut.[Main]  (P)
                                    AddBro  (P)
                                    AddNar  (P)
                                    AddRel  (P)
                                    DelBro  (P)
                                    DelNar  (P)
                                    DelPics  (P)
                                    DelRel  (P)
                                    DelTerm  (P)
                                    DoAbout  (P)
                                    DoBuffer  (P)
                                    DoFind  (P)
                                    DoPrefs  (P)
                                    EditPics  (P)
                                    EditTerm  (P)
                                    EditTerm2  (P)
                                    ExecSearch  (P)
                                    HandleMenu  (P)
                                    LoadTerm  (P)
                                    MainEventLoop  (P)
                                    NewTerm  (P)
                                    PrintThes  (P)
                                    RenBro  (P)
                                    RenNar  (P)
                                    RenRel  (P)
```

```
[Pics]  (F)   :                    MainIn.[Main]  (P)
                                   PicInc.[Main]'Pictures  (P)
                                   PicIn.[Main]'Pictures  (P)
                                   AddPic  (P)
                                   DelPics  (P)
                                   EditPics  (P)
                                   EditTerm  (P)
                                   EditTerm2  (P)
                                   LoadPics  (P)
                                   MatchOldPic  (P)
                                   MatchPics  (P)
                                   NewPic  (P)
                                   PicIndex  (P)
                                   PicList  (P)
```

Section 6

External Procedure Descriptions

EXTERNAL PROCEDURE DOCUMENTATION

ButtState (x; y)
x : Integer
y : String

Enables or disables the button controlled by the ButtControl external area procedure. If x=0, the button is disabled, x=1, it is enabled. y is the name of the button to be enabled or disabled.

CancelDlg

Cancels the current dialog by posting the key equivalent of hitting a cancel button in a dialog.

CancelEntry

Cancels the current layout by posting the key equivalent of hitting a cancel button in a layout.

CloseRes (x)
x : Integer

Closes the resource file opened by the external OpenRes. x is the reference number returned by OpenRes.

CountPict (x; y)
x : Integer
y : Integer

Counts the number of 'PICT' resources in a file opened by the external OpenRes. x is the reference number of the file returned by OpenRes. y is the number of 'PICT' resources in the file.

GetPict (u; v; x; y; z)
u : Integer
v : Integer
x : Picture
y : String
z : Integer

Retrieves a picture from an open resource file opened by the external OpenRes. u is the reference number returned by OpenRes. v is the index used to retrieve multiple pictures (this external uses the Macintosh routine _Get1IndResource, described in *Inside Macintosh vol. IV*, and the behavior of this parameter is described there.) x is the picture retrieved. y is the resource name. z is the resource id number of the 'PICT' resource.

OpenRes (x; y)
x : String
y : Integer

Opens a resource file. x is the name of the resource file to be opened. y is the reference number returned for accessing the file.

Quit4D (x)

x : Integer

y : String

Quits 4th Dimension. x can have the following values:

x =1, Quit displays the "Are you sure?" dialog, then, if user clicks the OK button, flushes and ejects all disks and ShutDown the Macintosh.

x =2, Quit displays the standard dialog to open another Macintosh application.

x =3, Quit displays the "Are you sure?" dialog, then, if user clicks the OK button, goes back to the Finder.

x =11, like x =1 but without displaying the "Are you sure?" dialog

x =12, like x =2 but when the user quits the launched application he will go back to 4D and not to the Finder.

x =13, like x =3 but without displaying the "Are you sure?" dialog.

If your database is running under multi-user mode : 2 and 12 are not supported. 1 and 11 work respectively like 3 and 13. Quit4D works correctly under multi-user mode only if the database has been opened with a password with an associated startup procedure.

ReadButt (x; y)

x : Integer

y : String

Reads the button controlled by the ButtControl external area procedure. If x=0, the button was not clicked, x=1, it was clicked. y is the name of the button to be tested.

ScreenRedraw

Redraws the screen. Sometimes necessary since 4D does not do proper updating in some cases.

SetIntegerRes (x; y)

v : String[4]

x : Integer

y : Integer

z : Integer

Sets the value of a resource offset. In this case it is used to modify the 'CUST' id 0 resource. This is equivalent to modifying the database defaults using the 4D Customizer program. v is the resource type. x is the resource id. y is the offset in integer quantities. z is the value to set the offset to.

To change 4D defaults use:

SetIntegerRes('CUST'; 0; offset; value)
where offsets are:

1. DAsInPrinting:0 or 1. Default 0: DA's are not accessible during printing. Set to 1 for enabling using DA's during printing.

For running 4D in the background in MultiFinder, this must be set to 1.

2. DAsInThermometers:0 or 1. Default 0: DA's are not accessible during thermometers, i.e. the window during a Search. Set to 1 for enabling using DA's during thermometers.

For running 4D in the background in MultiFinder, this must be set to 1.

3. CursorSpinRate:The spin rate of the Beach–Ball cursor during procedure execution. If it is 0 then the Beach–Ball does not appear. A positive or negative not equal to 0 specifies the spin rate, with the rate being modulo 32 of this value.

Normal value to set is 16, Default value is 0.

4. NewSubRecASCII:The ASCII code of the character to enter a new subrecord.

Default value is 9 (Tab) with modifiers set to the Command key.

5. NewSubRecModifiers:The value of the Modifiers related to 4. NewSubRecASCII.

Default value is 256. (Command key)

6. EnterRecASCII:The ASCII code of the character to enter a record.

Default value is 3 (Enter) with no modifiers.

7. EnterRecModifiers:The value of the Modifiers related to 6. EnterRecASCII.

Default value is 0. (No Modifiers)

8. CancelRecASCII:The ASCII code of the character to not validate a record.

Default value is 46 (Period) with modifiers set to 256 (Command)

9. CancelRecModifiers:The value of the Modifiers related to 8. CancelRecASCII.

Default value is 256. (Command key)

10. ValidateDialogASCII:The ASCII code of the character to validate a DIALOG.

Default value is 3 (Enter) with no modifiers.

11. ValidateDialogModifiers:The value of the Modifiers related to 10. ValidateDialogASCII.

Default value is 0. (No Modifiers)

12. CancelDialogASCII:The ASCII code of the character to not validate a DIALOG.

Default value is 46 (Period) with modifiers set to 256 (Command)

13. CancelDialogModifiers:The value of the Modifiers related to 12. CancelDialogASCII.

Default value is 256. (Command key)

14. WindowPosition:Specifies the default position of the 4D window.

if = 0 then the window size = screen size, and the window title is hidden behind the Menu Bar.

if = 1 (Default) the window size = screen size.
if = 2 then the window is displayed according to the values in the items 15,16,17 and 18.

if = 3 then the window is displayed according to the values in the items 15,16,17 and 18, and is centered on the screen.

15. TopWindow:The value of the Top side of the window.

16. LeftWindow:The value of the Left side of the window.

17. BottomWindow:The value of the Bottom side of the window.

18. RightWindow:The value of the Right side of the window.

{ 15,16,17 and 18 have default values = -1 and can be used only if integer number 14. contains 2 or 3.

19. ResizeWindInEnviron:Allows resizing of the window when changing from Design or User to Custom Environment.

If = 0 (Default) then there is no change.

If = 1 then the window is resized according to the value specified in integer number 14.

20. ResizeWindAfterMenu:Allows resizing of the window after the execution of a 4D procedure called from a Menu.

If = 0 (Default) then thewindow is not resized.

If = 1 then the window is resized according to the value specified in integer number 14.

21. Reserved1:Reserved by program, do not use.

22. Reserved2:Reserved by program, do not use.

23. Reserved3:Reserved by program, do not use.

24. Reserved4:Reserved by program, do not use.

25. Reserved5:Reserved by program, do not use.

26. CancelDuring:Specifies if the "During" phase is called when the user does not validate the data entered, i.e. if the user clicks a Don't Accept button or types the associated Don't Accept Key with Modifiers.

If = 0 (Default) then "During" is called.

If = 1 then "During is not called.

27. Reserved6:Reserved by progarm, do not use.

28. DiacriticalSensitive:Specifies if the Search is diacritical sensitive.

If = 0 then the searching is not diacritical sensitive.

Ex. Search([File1]Name="A") will return all records with Name equal to "A", "a", "Å","å", etc.

If = 128 then searching is diacritical sensitive.

Ex. Search([File1]Name="A") will return all records with Name equal to "A" and "a" only.

For more information please refer to the 4th Dimension Utilities and Developer's Notes and its chapter on 4D customizer.

For example:

SetIntegerRes("CUST";0;3;16) will set the value of the 3rd integer in the CUST resource with
ID = 0 to 16. This sets the CursorSpinRate to 16.

Text2Array (t; u; v; x; y; z)

t : Text
u : String
v : Integer
x : String
y : Integer
z : Integer

Text2Array is an external procedure that will convert a Text variable or field into an array of lines that correspond to the width of each of the lines of the variable. Text2Array when used with the 4D command PRINT LAYOUT are particularly useful for the output of variable length text files. They could also be used to create scrollable arrays that would simulate scrollable text boxes.

t is the name of an alphanumeric 4D variable or Field of type text, it is the text that will be used to create the scrollable array. u is the prefix to your array it is the name of the scrollable array variable that the array would be displayed in, it should not be more then 6 characters in length, v is the width of the output that will be used to display the array, it is calculated in pixels, if you specify 504 that would mean that each line of the array would be formatted to display in 504 pixels or 7 inches, x is the name of the font to be used in the output, If the Font you specify is not installed the default application font (usually Geneva) will be used. y is the size of the font in pixels. z is the style of the font which is derived in the same way as the FONT STYLE command in 4D, ie; Bold =1, Italic = 2, Underline = 4, Outline = 8, and Shadow = 16. Therefore to format a line for Bold, Italic, and Shadow, 19 would be passed in the z paramater.. The Size, Font and Style are used to calculate the width of each line. With non-proportional fonts, like Chicago and Geneva not all characters are the same width, so the proper specification of Size, Font and Style are vital for proper output.

UpdateMenuBar
Redraws the menu bar. Sometimes necessary since 4D does not do proper updating in some cases.

ValidateDlg
Validates the current dialog by posting the key equivalent of hitting an OK button in a dialog.

ValidateEntry
Cancels the current layout by posting the key equivalent of hitting an OK button in a layout.