Contents

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players, simply address a note to:

Pioneer Corporation of America Laser Optical Prod-
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Finally...

On this disk is a program entitled "NEXUS.READ". This is a "read-only" version of your Nexus program. It will allow your friends, students, and/or clients to view and retrieve files.

If you're going to send a Nexus set (see documentation) and files to someone who does not yet own Nexus, PLEASE send him or her the "NEXUS.READ" program and NOT "Nexus". That way, you won't be giving away our program, which violates our copyright, and is against the law. You may pass out as many copies of "NEXUS.READ" as you like.

Thanks - your cooperation makes it possible for us to supply Nexus without copy-protection, making Nexus easy to use, instead of making you stumble your way through some inconvenient copy-protection scheme.

Current configuration (02/28/90)

REQUIRES GSOS 5.0.2, the new tools, and 1.25 meg.

The link-set needs to be on-line during the use of Nexus. Number of files linked in any given set is limited to 1000; each file linked requires 256 bytes of disk space. The Word Topic List (WTL) is 64K long and is loaded into memory. At 7 - 10 characters per linked word, this allows an upper limit of 6000-7000 words per link-set. (Words are NOT duplicated in the WTL.) Up To eight windows may be simultaneously open. Sufficient user memory is required to handle this. Up to 45 words per text document may be linked in context in a single host. Up to 16 Graphic areas may be linked in a single graphic.

Welcome to Nexus!

s: noun; a linked or sequential list.

Nexus © is a unique product for the Apple GS Nexus establishes links between your own hics documents. It is this capability, to use te with **your own** word-processor and or with AppleWorks*, which gives versatility and usefulness. With need to create special "cards", or even (if you have files already which you). Start anywhere - there is no "home- : there aren't any cards at all - just your own files!

The world is full of **existing** information: there should be **no** need to re-enter it all, just to link it together - hence Nexus. Additionally, information **changes**, and this should not invalidate the links: Nexus handles this situation as well.

Nexus is painless to use: a link can be added in as few as 2 mouse-clicks: no buttons to add; no stacks to create; no fancy programming language to learn; no data to re-create or enter: just click and go!

LINKSWARE
641 LILY STREET
MONTEREY, CA 93940

The uses for Nexus are limited only by the imagination. Here are a few examples:

1)   An encyclopedia. With the advent of CD-ROM, vast amounts of information can be cross linked. Links can be broad and general, or limited to specific sub-topics. A museum could use Nexus to provide information about a particular display. Since both text AND graphics can be linked then the links could be definitions of technical terms, exploded or zoomed subsections of a larger picture.

2)   Governments: Using the exploded pictures and data mentioned above, municipalities could scan in photos of maps of the area, streets, and buildings for the fire department and city planning. This could also be used in business.

3)   Business: here the possibilities are overwhelming. A proposal could include photos of the building or product. These could be linked from a text description, and equally the photo could be exploded for more detail, or present descriptions of its features by simply clicking on the section of the photo in question. (For example, a photo of a building - click on the entrance way and get a photo of the entrance way; click on the door and get a photo of the main lobby; click on the reception desk and get a text description of the woodwork and materials, or click instead on the floor and get the graphic of the floor-plan.)

A list of facts and figures could be linked to documents showing the detail of how those figures were determined. A building directory could be constructed where clicking on the name of the person

the right edge. Even some of Apple's own programs can't properly open the AWGS APF files! We have informed Claris of the problem, and they have acknowledged it. Nexus will load the AWGS APF files correctly 99.99% of the time. If you have a problem however, or want other programs to be able to load the AWGS APF files, try this:

load your AWGS APF picture (or if you're working on a new one) and then, using the scroll bars, go to the lower right-hand corner of the frame. (Drag the vertical thumb to the bottom and the horizontal thumb to the right). Now make a mark in the lower right corner. To get that exact last dot on the screen you can use the fill-can or the paintbrush, set to the background color you choose, even white. Now you can save the picture in APF format and most other programs will be able to load it correctly.

CAUTION: Read the documentation on the feature "Change Nexus Path.." VERY carefully. It should be used ONLY when transferring a Nexus set AND files to a different disk or directory! This feature CHANGES where Nexus will look for your files. It changes the CURRENT SET : the one you are using. This means that if you change the path, without moving all your files to the new path FIRST, the set you're using WILL FAIL to operate correctly. You MUST "Switch Nexus Set..." if you're going to keep using Nexus after changing the paths...

And a word about pathnames: Nexus keeps track of the full path to your linked files, and it leaves room for 63 characters to do so. If the full pathname of a file you're trying to link to is greater than 63 characters long, Nexus will let you know that it can't handle the extra length. To solve the problem (which will occur only in very deeply nested folders), you'll have to move the file closer to the root level, or perhaps just shorten the name.

Sound Files

Nexus handles sound files as well. Nexus knows a sound file (like other files) by its filetype. Sound files are filetype $D8 (decimal 214). Be warned that there are sound files saved as text. If you open one of these by mistake, you'll get a window full of what looks like garbage: weird text. Nexus cannot play this type of sound file, since it thinks it is text!.

Adding sound files is just like adding any other type of file, except that you'll not get a window; instead the sound will play. If you have not yet added a particular sound file to the Nexus set, you'll be asked to set the playback rate of the file. Most sound files play back best at around a rate of 400, but you can adjust them in a range of 1 to 32000. Additionally, you can set the file to play back just once when it's activated or to loop continously until you press a key. Once a sound file has been added to the current Nexus set, if you add it again (in another document) Nexus knows that you've already set the playback rate, and won't ask for it again. (You can adjust the rate later, by using "Adjust Sound..." under the Links menu.)

Graphic Files

Nexus is designed to run in the 640 mode of your AppleGS. Therefore, if you are designing graphics for a Nexus set, please create them in the 640 mode. Nexus will read and display graphics created in the 320 mode, but you'll get a brief odd screen flash, and the colors may not be as you designed them...

We have done the best we can to load AppleWorks GS (AWGS) Apple Prefered Format files (APF). Unfortunately, no program we tested (besides AWGS) could load AWGS APF files: GraphicWriter III won't even open them; PaintWorks Gold yeilds multiple copies; 816 Paint does too; SHRConvert has a vertical line at

sought would yield the floor, phone-number, map of how to get there, and even a photo. (It could equally yield the personnel file...).

Imagine a lawyer asking his/her secretary for "all documents regarding client Jill Jones". Nexus could provide this in a flash - and in its "expanded" mode, could also provide all other documents which MIGHT be related.

A real estate agent could get floor plans, photos of the property, contracts, client data and so on.

A pharmacist would look up medication for Mrs. Smith, and check for contra-indications. (Since Nexus uses standard text/graphics, Mrs.Smiths file could change as she purchased new or different medications.)

4)   Education: Using a regular word processor and graphics program, lessons could be prepared on virtually any subject. Tests could be created by linking correct and incorrect answers. Equally, the student could search for understanding about a topic in his/her own way, investigating subjects in an order determined by each individual child. (Since Nexus is so easy to use, the students could build a huge library of linked information themselves!)

5)   Writers & books: an table of contents could take one directly to the chapter; an index would have no page numbers, but jump directly to the subject (and in fact might prove un-necessary, since the word can be linked directly!). Contents/index to a CD-ROM. Writers could use it as an outliner. Programmers could find that subroutine in any of a hundreds of source files.

Truly, the possibilities are endless!

Nexus features:

Nexus uses existing standard files. Files can be updated without requiring a re-linking. Since Nexus does NOT use physical position (except with graphics), the linked word can be found regardless of changes made to the text after linking.

Nexus has a "context" and "expanded" mode of retrieval. In the context mode, Nexus will retrieve only those documents (text or graphics) which were specifically linked to the host document. In the expanded mode, Nexus will respond to a target word if it has EVER been linked, even in a different document! (For example, if the word "elephant" was linked in the host file "India" to a file describing elephants, but the user is looking at a file called "Zoo", then if the word "elephant" is in the zoo file, but was NOT linked there, the expanded mode will respond by retrieving the elephant file anyway!)

Words linked in a document are unique to that document, thus you can link the word "contract" in one host file to one document and the same word "contract" in a different host file to a different document, and Nexus will retrieve the proper document in each case. The context/expanded mode is one of Nexus' most powerful features.

Suppose you can't remember what file contains a given linked word. Nexus will list all the linked words for you. Click on the word you want and Nexus will show you all the files in which it was linked. Click on the file name, and away you go! Equally, Nexus can show you all the files which have been linked, regardless of words.

Miscellaneous Notes:

Special nexus commands:

WA = wait-for-key press

WK = WA + "any key continues..." at the bottom of the screen

WU = Let the user use the arrow keys during a display, and prints "<+>" at the bottom-left of the screen.

Limitations: 251 characters total per link.

Document Files

Nexus will read TEXT files and most graphic files created in the 640 mode. AppleWorksGS users should save their documents in these formats. (Nexus will read AppleWorks 3.0 files, but they will not be formatted properly...)

AppleWorks GS users should save their documents in Text format/ APF format. To include a spreadsheet or database file, first copy it to the word-processor and then save in the text format.

ThunderScan users should select the "Ultra" mode for scanned files, and save them as unpacked (single screen) for fastest loading, or Apple Preferred (Slower loading, but less disk space used.)

#1 replies:

P00 = door open

P01 = disc not spinning

P04 = normal play going on

P05 = still picture

P06 = Pause

P09 = playing at multi-speed

#2 replies:

ABCDE

a = disc loaded	1 = yes	0 = no
b = CAV/CLV	0	1
c = disc size	8	12
d = disc side	2	1
e = chapter code	yes	no

('X' = unknown)

#3 these indicate a sophisticated code generally not needed for normal programming of a Pioneer player. Users interested in these codes should request a manual, as noted below. We should note however, that Register A must be set to 7 for printing commands to function. Nexus takes care of this for you...

"Aha!", you say. "But what if a file is moved or renamed?". No problem: Nexus has a sophisticated routine which will automatically find the file for you and re-establish the link. NOTE that Nexus IN NO WAY alters the original document.

Naturally, Nexus allows the user to create, use and switch between multiple link-sets.

USING NEXUS

OPENING A FILE

Nexus comes up with the standard desktop interface. Simply choose "Open" from the file menu and open the document you're interested in. With Nexus, there is no "first" document you're required to open.

TO SEE A LINKED DOCUMENT

To open a linked document, simply double click on the word you're interested in (or if its a graphic you've opened, click on the area of the picture). Nexus will retrieve the appropriate file. If the expanded mode is not set, only those files SPECIFICALLY linked in this host will be eligible for retrieval. If the "expanded" mode is set, then ANY link of that word will yield a file. (The expanded mode does not apply to graphics.).

If the cursor does not change to a watch-cursor, then that word has not been linked.

When Nexus opens a document, the expanded mode is off. To switch to the expanded mode, simply hit Open-Apple E or select "Expanded" from the link menu.

SEEING WHICH WORDS HAVE BEEN LINKED

To see which words have been linked (or areas of a graphic), simply hit Open-Apple L or select "Show links" form the Link menu. The words (or areas) will be highlighted. To turn off the display of linked words, simply hit Open-Apple L again (or use the menu). If expanded is off, then only the context words will be

PLAYER ACTIVE REQUEST   ?P #1

    returns coded string about player's state

DISC STATUS REQUEST   ?D #2

    returns coded string about type of disc

COMMUNICATION CONTROL   CM & #3

CCR MODE REQUEST   ?M #3

DOOR CLOSE   CO

    close drawer

LVP MODEL NAME REQUEST   ?X

    returns coded string for player model #

KEY LOCK   KL &

    turns access to remote/front panel on/off

REG A SET (DISPLAY)   RA & #3

REG B SET (SQ CONT)   RB & #3

REG C SET (MISC)   RC & #3

CLEAR SCREEN   CS

    clears the PRinted stuff from the screen

PRINT   PR &

    sets line for following text print to screen

LEAD OUT SYMBOL   LO #3

REG A REQUEST $A #3

REG B REQUEST $B #3

REG C REQUEST $C #3

STOP MARKER   SM &

>set the stop marker

FRAME   FR

>set the mode to frame access

TIME   TM

>set the mode to time access

CHAPTER   CH

>set the mode to chapter access

AUDIO CONTROL   AD &

>turns sound on/off/channels

VIDEO CONTROL   VD &

>turns the picture on/off

DISPLAY CONTROL   DS &

>turns the display of access mode on/off

CLEAR   CL

>clears the last command

FRAME NUMBER REQUEST   ?F

>returns the current frame number

TIME CODE REQUEST   ?T

>returns the current time

CHAPTER NUMBER REQUEST   ?C

>returns the current chapter

highlighted, and if the mode is expanded, then all linked words, regardless of document, will be displayed.

You do not have to be displaying the links in order to retrieve a linked document: Nexus will retrieve a link with or without the topics highlighted.   That's all there is to it!

ADDING A LINK

Adding a link to a document (text or graphics) is equally simple.

To add a link from a word to a document, hit Open-Apple A (or use "Add" from the Links menu.) You'll get a special box cursor. Now simply highlight the word you want linked. When you do, you'll get an open dialog box. Simply find the file name you want linked, and either double-click on it, or highlight it and press "Open". The link is done.

The only difference between a regular open dialog, and the Nexus open dialog is the addition of a "View file" check box. If you activate this feature then when you select a file, it will first be displayed, so that you can verify that this is, indeed, the file you wish to link. Select either "Yes" or "No". If "Yes", the link is created else you may search further or cancel.

To add a link to a graphic file, simply press Open-Apple A (or use the Menu). As when adding a word, the cursor will change into a cross shape. Move into the area of the picture and press down the mouse button. As you keep it pressed, a rectangle will be drawn. We suggest starting in the upper left and

dragging to the lower right. Once the button is released, you'll get the same open dialog as above. Select the file to link, press open, and the link is done!

REMOVING A LINK

To remove a link, select "Remove Link..." from the Link menu. The cursor will change to a series of lines, as if 'crossing out' the word. Click on the word or data area to remove. You'll be presented with a dialog box to confirm your deletion. Select "Yes" to go ahead and remove the link or "No" to cancel.

Note: In order for Nexus to function properly, it must have constant access to its "Nexus Set" (see below) which is a file on the disk. This means that you cannot remove the disk which has the Nexus Set on it, and expect the program to be able to retrieve or show or add links. Keep the Nexus set "on line" at all times.

COPYING TO THE CLIPBOARD

Since you are using Nexus to retrieve information, you may want to select some of it to copy into another program. To this end, you may use the "Copy" feature in the "Edit menu". In a text document, simply highlight the area to be copied and select "Copy" from the menu, or press Open Apple C. In a graphic file, select "Copy" _first_ and the cursor will change to a cross. As with adding a topic, press down the mouse button when you are at the upper left-hand corner of the area you wish to copy, and drag down to the lower right-hand corner, and then let go. The Selection will be placed on the clipboard without further ado.

PLAY   PL *

    play (*play until)

PAUSE   PA

    pause

STILL   ST

    still frame

STEP FORWARD   SF

    move ahead one frame

STEP REVERSE   SR

    move back one frame

SCAN FORWARD   NF

    scan forward by about 500 frames

SCAN REVERSE   NR

    ditto except in reverse

MULTI-SPEED FORWARD MF *

    scan at rate set in SPeed (*ms until)

MULTI-SPEED REVERSE   MR

    ditto except in reverse

SPEED   SP &

    set the speed for multi-scan

SEARCH   SE &

    search for a frame/time/chapter

30000SM (this is important!!! DO NOT USE 30000PL!!)

WU

PL

(Here's why you MUST use the Stop Mark command: the player has to FULLY execute a command before the next one is accessible. If you had used 30000PL, the player would have to reach frame # 30000 before the keyboard could be checked for a key press. Instead, you should set the Stop Mark (ie 30000SM) which takes only a moment to complete, then issue a PLay command. Since this simply starts playing, it too takes just a moment, and the keyboard can be checked almost immediately...)

Here are the commands for the Pioneer LD-V2200/ 4800/8000 series of players. Not all commands work on all players.

(In the following, * means an optional number may precede the command ie 2345PL or PL & means a number MUST precede the command ie 2345SE # means see the footnote)

OPEN   OP

    open drawer (2200 only)

REJECT   RJ

    stop disc rotation

START   SA

    start disc rotation

SPECIAL FEATURES

"LOST" FILES

Since Nexus uses stand-alone documents, and they may be located in different subdirectories or disks, the user may, when not using Nexus have moved or renamed or deleted the file. Naturally then, when using Nexus, and a retrieval is attempted, the file will not be found.

A special dialog box will appear. With this control, the user can have Nexus try to find the file. You may select between several options. Usually just choosing "Best guess" will work. You may narrow the computer's choices however, by selecting "Moved", "Copied" or "Renamed". Using one of these options narrows the search routines to using only one type of criteria. For example, if you are sure the file was NOT renamed, but simply moved to a different subdirectory, then choosing "Moved" or "Copied" may find the file. (There are subtle differences between the two.) "Best guess" will work as well, but may show you more possible "finds" than you wish. On the other hand, if you are pretty sure that the file WAS renamed, then select the "Renamed" option. Selecting "ALL guesses" will surely eventually find the file (assuming that it wasn't deleted...). Nexus will proceed with the search, and on a find, will display the file, and ask for confirmation.

Equally, you may elect to find the file yourself, in which case the same open-dialog as used to link a file is presented. Additionally, you may mark the file as missing, or simply cancel the whole operation.

This automatic find feature will ONLY search the drive from which the Nexus program was launched. If your link was to a file on a different drive, select manual find. Note: it is possible to so thoroughly alter a document as to make the Nexus Auto-find feature fail. In this case, you'll have to select "Manual" and find the file yourself. This is rare, however...

MULTIPLE NEXUS SETS

The user is not limited to a single link-set, but may create and use and switch between any number of link-sets.

To create a new link-set, the user simply selects "Create Nexus set..." from the "Nexus" menu, and enters the name to be used. Nexus will automatically create the Nexus file by concatenating "NXS" to the user's entered name (ie Mylinks becomes Mylinks.NXS etc.). Because of this automatic appendage when entering a name for a new Nexus set, DO NOT add the "NXS" suffix yourself: Nexus will do it for you.

There must be at least 256 blocks free on a volume for Nexus to create a Nexus set. Every two files added to the set will require one extra disk block (256 bytes each). Thus, to be practical, you should have sufficient additional space for the number of files you'll be linking, in addition to the minimum 256 blocks required.

To switch between link-sets, select "Switch Nexus sets..." from the "Nexus" menu. A standard open dialog will appear allowing the user to select the new link set to use.

Any key continues... (print this - exactly 20 chars)

WA   (Nexus WAIT for key press command)

CS   (clear the screen)

Note: Nexus has a special command which is the same as typing the previous 4 lines: WK

SF   (Step forward 1 frame)

WK

SF   (Step forward 1 frame)

WK

5) Tell the user to turn over the disc

PA   (pause)

7RA   (see above)

8PR Please turn the disc

9PR to the other side...

WK

OP   (open the drawer for them)

WK

CO   (close the drawer)

6) using the arrow-keys (go to a location on the disk and play, allowing the user to use the arrow-keys to pause or step during playback.)

12345SE

23456SE

23900PL

(search for frame 23456:   23456SE play until frame 23900   23900PL)

2)   go to a frame and show it

23456SE WA   (or WU...because if you just SEarch, the screen will return immediately- not what you want if the user has a video overlay card.)

3) show 9 frames (beginning at frame 23456) at 1 second intervals and stop

2SP   (set the speed = 2 x the desired fps)

23456SE   (search for the first frame -#23456)

23465SM   (set the stop make 9 frames later - at 23465)

MF   (start multi-scan Forward at rate 1)

or 2SP

23456SE

23465MF

4) show 3 frames (begin at 23456), put up a text overlay about the first, wait for a key press before going on to the next.

7RA   (usually optional, just to be sure...)

23456SE 1PR   (on the first line...)

Flemish Painters   (print this line - it's < 20 chars long)

11PR   (on the last line...)

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The user can always get a list of the files in a given link set by selecting "File list..." in the "Links" menu. This can be used to select a file to open, or simply verify that the appropriate link-set has been selected.

Equally, the user can get a list of the words in a given link set by selecting "Word List..." from the "Links" menu. All the words in that set will be listed. Selecting "Open" in this list will yield a list of files (in the set) which have the selected word linked. Selecting "Open" here will open the chosen file.

Words List

Under the Links menu, this option will display a list of ALL the words linked in the current Nexus set. By highlighting a word and then pressing the "Select" button, a second list will be presented: the

Files List

This box will contain the file(s) in which the word (from the list above) was linked. Highlight the file you're interested in seeing and click on the "Select" button, and the file will be displayed.

Using "Word list" and (automatically) "File list" will let you quickly find a word you remember was linked, but don't remember the document it was linked in.

"File list" may also be invoked directly from the menu, without using "Show Words List" first. In this case, you will get a list of all the files in the current Nexus set.

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Double Page Graphics

In the Utilities menu is an item called "Double Page Graphics". This item is either checked (and thus active) or unchecked (not active). It applies to graphic files saved in the "Apple Preferred Format". Most paint programs will save a file in this format (which may save some disk space), but it also usually creates files which are two-screens high (396 lines versus 200 lines). Loading one of these files requires 64,000 bytes of memory, while a 200 line file requires only 32,000 bytes. Since Nexus allows up to 8 files open at once, these file/windows could eat up over 512,000 bytes of memory! Additionally, many times the graphic itself is confined only to the single upper screen: thus the "bottom-half" of the window is empty anyway - and wasting memory. So...

When "Double Page Graphics" is OFF (the default), only the first 200 lines of an "Apple Preferred Format" file is read in, using the normal 32,000 bytes. With "Double Page Graphics" turned on (checked) then the entire document is read in, using all 64,000 bytes.

INSTALLING NEXUS ON YOUR HARD DRIVE

Copy the file Nexus to your hard drive. You may place it in a folder if you like. Also copy the folder "Nexus.help" and place it in the same folder as you placed Nexus.

12345SE   (search for frame 12345)

13000PL   (play until frame 13000)

B) go to a frame and show it

(Click on the RESET Button if you have been " 'messin' around ".)

1)   Be sure recording is off (the script pad will be missing...) by clicking on the STOP button.

2)   Go to the frame you want to show.

3)   Click on the RECORD button to turn recording on.

4)   From the VALUES menu, click on SEARCH.

5)   From the MISC. menu, select WAIT, USE ARROWS or WAIT KEY.

6)   Click on STOP to turn recording back OFF.

Click on TRY to try it out.

(Here's the 'expert' way to do the same thing - if you want frame #23456 , then type into the script-pad this line:

23456SE WA (or WK or WU))

Here are some samples of the most common links you'll be making, and how they will appear on the script-pad:

1)   go to a place on the disc; start playing and quit when you get to another place:

2) Go to the place you want to start playing. Do this by pressing the PLAY button and then hitting the STILL button when you get there. You can use the STEP buttons [< or >] (if you're using a CAV disc) to get the exact position.

3) Click on the RECORD button to turn recording on.

4) From the VALUES menu, click on SEARCH. (Verify that there is no number in the NUMBER BOX: turning on Record clears the NUMBER BOX for you. If you click on any value item and there is no number in the number box, the Nexus will get and use the CUR-RENT value.) This will insert a SEarch with the current frame number.

5) Click on STOP to turn recording back OFF.

6) Now find the point where you want to stop. You can use the single frame step buttons as noted above to get it just right.

7) Click on the RECORD button to turn recording on.

8) Once again from the VALUES menu, click on STOPPLAY. Nexus will supply the proper frame number for you.

9) Click on STOP to turn recording back OFF.

Click on TRY to try it out.

(If you want to KEEP the link, you'd next lick on the ACCEPT button to establish the link.)

(Here's the 'expert' way to do the same thing: type these two lines into the script-pad:

RUNNING NEXUS FOR THE FIRST TIME

The first time you run Nexus, you will not have a Nexus set file, so Nexus will create one for you. It will be entitled "UNTITLED.NXS". You are free to use this set, or create another set. You should NOT rename this Nexus set (or any Nexus set : the file with the ".NXS" on the end) since there is a file called "NEXUS.CFG" which contains the name of the ".NXS" file. This is how Nexus determines which Nexus set to load when you first start the program. If you have renamed the Nexus set (such as from the finder) then the NEXUS.CFG file will contain the wrong name and will not be able to find the set to open. In this case, you'll be asked to find it yourself.

A DO-IT-YOURSELF DEMO

Here's a simple do it yourself way to get started:

1) Go into your text editor/word processor and type: "You are standing before a small building. There are roads to the east and west." Save this file as normal text under the name "One". Now make a new file named "Two" and type in "You are on the east road". Finally, make another file named "Three" and type in "You are now on the west road". Go into your paint program and enter the 640 screen mode. Draws a picture of a building and save the file as "Four" in either uncompressed or APF format. Now run the Nexus program. (If you don't have a Nexus set yet, create one first - see above) From the file menu select "Open" and open the file "One". Select "Add link..." from the link menu. Place the cursor over the word "east" and double-click. When the Open-File dialog

box appears, double-click on the file "Two". Select "Add link..." again and click on the word 'west'. When the Open-File dialog box appears, double-click on the file "Three". Select "Add link..." again and click on the word 'building'. When the Open-File dialog box appears, double-click on the file "Four".   Your links are done. Now try just double-clicking on the words "east" "west" and "building". That's all there is to it.

Moving Your Nexus Files to a Different Disk

After creating and filling a Nexus set with links, you may wish to move the files and the Nexus set from (say) your hard disk to a 3.5" disk to share with a business associate or a friend. The Nexus set however, is all set up with prefixes and folders for your hard drive. If you just copy the files and the Nexus set onto the 3.5" disk, and then send it off, all the prefixes will be incorrect and the links will fail.

There are two ways to correct the situation: 1) you can copy the files and Nexus set to the 3.5" disk and then RENAME the disk AND folders to match your names on the hard drive; 2) you can use "Change Nexus Path..." from within Nexus. The menu item under "Utilities" "Change Nexus Path..." will allow you to replace all given prefixes with a different prefix.

For example, if the prefix for most, or all, of your files is "/HARDDISK/MYFOLDER/(name)" and you wish to move you files to a disk & folder of "/DISKONE/NEWFOLDER/" then enter "/HARDDISK/MYFOLDER" to the first prompt and then enter "/DISKONE/NEWFOLDER" at the second prompt. All files with the prefix "/HARDDISK/MYFOLDER/" will be renamed to "/DISKONE/NEWFOLDER/" in the Nexus set. (Don't include the quote marks.)

When the video-link window opens, you are in the "immediate" mode: that is, any commands you give the player will happen right away. *You are not making a link when you are in this mode:* you're just "messin' with the player". (Go ahead...it's FUN!)

To actually make a link, you have to turn recording on. This is done by clicking on the button "Record". Now, all the commands you issue will appear on the script-pad, instead of immediately going out to the player. To see if you've got it just right, click on the "Try" button. This will send the commands on the script-pad out to the player, one at a time, first to last. The script pad is fully editable, just like a "mini-word processor".

When you're satisfied with the script, click on the "Accept" button: this will actually establish the link by updating the Nexus.set and will then exit from the video-link window. (To see the link in action, naturally all you have to do from now on is just click on the linked word/graphic...)

The most common player command is "SE": SEarch. By entering a number followed immediately by SE (12345SE) the player is instructed to search for that numbered frame, if you are in the Frame mode. If you are in the Time mode, you number should be expressed as HourMinuteSecond. Thus 05923 is 0 hours, 59 minutes and 23 seconds. In the Chapter mode, the number is a chapter number: 5SE searches for the fifth chapter.

The next most common command is "PL": PLay. If you do not enter a number before the PL, then playing will begin where you currently are on the disc.

If you DO enter a number before the PL (ie 12345PL) then playing will begin from where you are, and then STOP when the number is reached.

From these two we can see that to play a particular section of a disc, all you have to do is

     1) SEarch for the place to start   (ie 12345SE)

     2) PLay until you get to the stopping point (ie 13000PL)

How the Commands Work:

The Pioneer player must fully complete one command before starting another. This means that if you tell the player to SEarch for frame 0, it cannot do anything else until it has found frame #0. Likewise, if you then tell it to play until it reaches frame 30000 (30000PL), then it cannot execute any other commands until it has reached frame #30000. That's why, for example, there is a difference between the SM (Stop Mark) command and the PL (Play) command. (See example #6 for more information). EXAMPLES (At last! You actually get to try some...) So, here's how to..

A)   make a link which will go to a place on the disc; start playing and quit when you get to another place:

(Click on the RESET Button if you have been " 'messin' around ".)

1)   Be sure recording is off (the script pad will be missing...) by clicking on the STOP button.

Equally, you can use this feature to simply move document files to a different folder on your hard disk by entering "/HARDDISK/FOLDER1" at prompt one and "/HARDISK/FOLDER2" at the second.

"Change Nexus Path" works on the CURRENTLY used file! So to actually move your files and Nexus set, here's the step-by-step process:

1)   Using the Finder, or any file-copying program, move your documents to the new location. (We'll call it "NEW" and your old prefix "OLD").

2)   Copy the Nexus set to "NEW". If the name of your set is "MYSET", then the set file is MYSET.NXS.

3)   Copy the "NEXUS.READ" file onto "NEW", if you are going to send the "NEW" disk to someone who doesn't own Nexus already. Remember to copy the "NEXUS.HELP" folder & files too.

4)   Launch the program NEXUS.READ <<< FROM THE "NEW" DISK! >>>

Now, in this order do:

5)   Select "Switch Nexus Set..." from the Utilities menu.

6)   Be sure that you're in the right "NEW" disk and folder, and then select "MYSET.NXS", and open it.

7)   Select "Change Nexus paths..." from the Utilities menu. Enter your "OLD" path name to the first prompt (ie "/OLD" - without the quotes) and the "NEW" pathname at the second prompt.

8)   You're done. Remember that "Change Nexus Path" changes only the PREFIX for your document files, not the file names themselves. You can see the current prefix(es) by using the "View Nexus files..." feature in the Links menu. If you use this list on your "OLD" files, you'll see a list of files such as

/OLD/MYFOLDER/FILEONE

/OLD/MYFOLDER/MYGRAFIX

/OLD/MYFOLDER/MOREFILES

If you had copied 'MYFOLDER' to your "NEW" disk and followed the instructions above, then you would see

/NEW/MYFOLDER/FILEONE

/NEW/MYFOLDER/MYGRAFIX

/NEW/MYFOLDER/MOREFILES

StopMark (SM): this is the frame or time where playing will automatically quit.

MultiRight (MF) MultiLeft (MR): using the speed number you have entered this will do a multi-scan either Forward or Reversed at that rate.

StopPlay (PL) : starts playing and will continue to play until the number you entered is reached (time or frame).

There ARE additional commands which are NOT included in the pop-up menus. You DO have access to these commands, but you'll have to type them in yourself: using the script-pad.

Script-Pad

The script-pad not only shows you what you've recorded but just it can be used by itself to enter a script: it is a fully editable pad. In fact, after you've grown used to the commands, you probably find yourself using this feature _more_ than the menus and buttons: just type in what you want to have happen, "Try" it, and either re-edit or "Accept" it. To get the script-pad, click on "Record". Click on "Stop" to make it go away without losing your commands. The script-pad is FULLY EDITABLE with standard Apple controls (i.e. double clicking; cut, paste, delete and clear). Thus, to clear it out, highlight all the text you want to remove, and press the "clear" or "delete" key.

How To Do Simple Links, using just the buttons and pop-up menus.

(Suggestion: just read the following first; in only a few paragraphs are some examples for you to try...)

and release the button. (If you have Recording on, you'll then see "1234SE" appear on the script-pad; if recording is not on the machine will immediately search for that frame.) In the following, the two letters in (parenthesis) are the actual command sent by Nexus to the player.

Print (PR):   enter a number between 1 & 11 for the line on which you wish to print UP TO 20 characters. (Then to actually do the printing, enter the text (IT MUST BE LESS THAN 21 CHARACTERS LONG!!) and press return. If you have recording on, here's exactly how you'd print the text "Hello World" on line 5:

> (optional: Click on "Reset")

> Click on "Record"

> enter the number 5 in the NUMBER-BOX

> select Print from the VALUE-menu

> click the mouse BELOW the line "5PR" which
is now on the script-PAD

> type in Hello World (no quote marks) and press
return

> (click on the "Try" button to see it work)

NOTE!!! this will work ONLY if you have set RegA to the number 7. THIS IS DONE AUTOMATICALLY FOR YOU BY NEXUS, but it may have been reset accidentally. If so, the print command won't show you anything. The command for setting RegA to 7 (enabling screen printing) is : 7RA.

Search (SE): this will search for the frame number you entered in the number-box.

NEXUS AND LASERDISC PLAYERS

Nexus works with Pioneer's excellent and popular series of LaserVision players. Specifically, Nexus will work with the Pioneer models 2200, 4200 & 8000. It REQUIRES that the cable for the player be attached to the modem serial port of the GS. Be sure that the baud rate is set to 4800 in the GS control panel.

Pioneer's LaserVision players are quite powerful and versatile, and while most programs use only a tiny fraction of the player's features, Nexus gives you complete control of ALL the LaserVision's capabilities, including not only playing a section, or showing a single frame, but : setting all scan rates; multiscanning; printing text on the screen; changing screen displays; changing access modes; changing user-register; setting the speed; adjusting sound; open/close the drawer; locking out the controls; ...and ALL other features!

Additionally, Nexus allows you to combine commands into a "script" so that multiple player-actions can happen at the press of a single key.

(For example, if your link was to the name of a painter, and your laserdisc was the National Gallery of Art, you could establish a script which would : go to the disc; show a single frame a one painting; put some text overlaid on top describing the painting; wait for the user/student to press a key; proceed to the next example painting; put up a different text-overlay; wait for a key press; and then show 2 minutes of the tour of the national gallery which involved that painter's period: all with a single click on the Nexus link.)

Nexus can tell the user which disc to use with this set of links; open and close the drawer automatically for the user (on the 2200); and even knows which side of the disc to use, and will prompt the user to turn it over if the wrong side is up.

Naturally, Nexus keeps it all simple to do as well...

CONTROLLING A PIONEER LASERDISC PLAYER

CONTROLLING the LaserVision is really pretty simple, and Nexus has tried to make it even more simple for you. The actual commands are straightforward: for example to find, say, frame # 2234, the Pioneer player wants the command "2234SE" (the SE is for SEarch). To start playing, the Pioneer command is "PL", for PLay. You may either enter these commands yourself, or have Nexus do it for you: we've tried to make it both simple and versatile.

When adding a link to the video disk for the first time, or playing back the first link to the video disc, you will be asked to verify that you have the LaserVision player attached to your computer, and that you have a disk installed, and the machine IS ON. If the laser player is not powered on THE PROGRAM WILL HANG UP AND YOU'LL HAVE TO REBOOT!

If you do not have a player, or do not want to use it, answer by clicking on the "No Player" button. From then on, during this Nexus session, the laser player option will be disabled. To use the laser player again, you'll have to exit the program and start over.

Pause: inserts a pause command.

Special Nexus-only commands:

Wait: inserts a command to wait for a key press before doing the next command.

Show Wait: same as above but puts a message on the screen.

Use Arrows: toggles use of the keyboard arrow-keys on or off in the playback mode. The right & left arrow-keys will step forward or backward by a single frame (on a CAV disc). The up-arrow will start forward play; the down-arrow will do a still or pause. If you are allowing the use of arrows, then "<+>" will appear on the screen in the lower-left corner, indicating that the keys are active. The user may them use the arrow-keys AND the ESCape key to exit the video play. Enabling use of the arrow keys makes life nicer for the user, but it also gives him or her control over the range of the disc, and not just the area you have specified.

Values : These commands REQUIRE that a number FIRST be entered in the small box just below this menu BEFORE selecting one of these menu items. ONLY NUMBERS will be accepted. This one-line tall box is called the "number-box". To enter a number click the mouse pointer in the box. To clear out a number in the box, press the "Clear" key on the keyboard's keypad. All standard editing features are enabled. THEN, once you have the number you want showing in the box, use the Values menu-items to select which command the number applies to. For example, to enter the command to search for frame number 1234, enter "1234" in the one-line box and then click on the Values menu, and, holding the button down, slide it to the word "Search"

The Pop-Up Menus

Speed: this pop-up is used to select the frame rate for the multi-scan feature. You may select from triple-time to 1 frame per second. It defaults to 30 fps (normal speed).

Sound: lets you select either channel, both or no-sound. Stereo is the default.

Mode: this is the access method by which you'll be finding locations on the disc. CAV disks use either chapter or frame mode. CLV discs may use chapter and do use time. Usually, you'll select Frame mode for CAV and Time mode for CLV. Frame is the default. In the Frame mode, you'd do a search for frame number 12345 as "12345SE" and in the time mode, to go to 0 hrs 18 min 22 sec you'd use "01822SE". In the chapter mode, going to chapter 7 is "7SE".

Misc.: Commands which didn't fit in any other menu...

Open: opens the drawer.

Close: closes the drawer.

Start: starts the motor.

Reject: turns off the motor.

Clear: clears the players input buffer, including any numbers; Search, stopmarker, and AutoStop.

ClearScreen: clears text from the screen (but not the FTC display)

Video: toggles the display of video on or off

Lock: toggles access to the player's remote & keys on/off. Display: toggles the FTC (frame/time/chapter) display on/off.

In order to access the add-video-link screen, select "Add Link" as usual. After you have selected your word to link, and the file-open dialog box comes up, you'll notice a button at the top of the dialog box named "LaserDisc". By clicking on this, you'll be taken to the video-link screen.

THE VIDEO LINK SCREEN

(If you're going through this for the first time, we suggest that you wait until you get to the examples before trying anything: it will help to understand it first. The "panic button" is labeled "Reset" and is near the lower right of the screen.)

Across the top, you'll see four buttons: Record, Stop, Try & Accept. Here's what they do:

Record: by clicking on this button, each action you take with the other controls (which send commands to the player) will be 'recorded' on the script pad in the lower right hand corner, instead of being sent directly out to the player. When you first start, the script pad is not displayed. To display the pad, click on "Record".

Stop: stops sending your commands to the script pad and starts sending them directly to the player. This also causes the script pad to be removed from the screen, but without losing any commands you have entered.

Try : sends out to the player all the commands currently on the script pad. The script pad does not need to be displayed for "Try" to work. In fact, we suggest that you first turn OFF record before choosing "Try" since you may otherwise add something to the script-pad which you did not intend.

Accept: click here when you are satisfied with the script and want to file it in the Nexus set, so that it will be executed when the user clicks on the linked word (or area of a graphic). If this is the very first link to a video disc, you'll be asked to enter a name for the disc. This name will be recorded by Nexus, so that when the user tries to play his/her very first video link, a message will appear, not only remaining them to turn on the player, but telling them the name of the disc which this Nexus set uses (the name you entered above).

Nexus also records which side of the disc to use. Since Nexus is free-form this will (on the model 2200 player) open the drawer ask the user to flip over the disc close the drawer then play the link IF the incorrect side was up when the link was retrieved.

In the lower right-hand corner, is the button "Cancel": it cancels everything done so far (except "Accept") and exits the video link dialog.

Reset : resets the player to it's normal mode - the same as when you first entered the video-link window. This is IMMEDIATE command: it cannot be scripted. (Consider it your "Panic Button"...) It sets:

video ON

audio STEREO

RegA 7

motor ON

pause ON

display ON

mode FRAME (or time if CLV)

clearScreen ON

KeyLock OFF

Recording OFF

scriptPad EMPTY

Speed NORMAL

StopMark CLEARED

All the rest of the pop-up menus, buttons and text-editing controls are used to send commands to the player (or the script pad, if recording is on.)

At the bottom left you'll see a row of buttons. These are much like the buttons on a tape recorder, but with an extra pair on the end. Here's what they do:

Play: starts the player playing.

Still: freezes the frame (on a CAV/standard play disc) or pauses (with a CLV/extended play disc). (Hit Play to resume.)

< & >: steps forward or back a single frame at a time (CAV only).

<< & >>:   scans forward or backward about 500 frames at a time.

<<< & >>>: the "multi-scan" function. This is similar to play, but will work either forward or backward, and will run at a rate which you can set with the "Speed" pop-up menu. The normal speed is 30 fps (frames per second), but you can go at up to triple speed (90 fps) or as slow as 1 frame per second. (Sound is disabled when using multi-scan).