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NATIONAL RADIOBIOLOGY ARCHIVES DISTRIBUTED ACCESS USER'S MANUAL VERSION 1.1

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NATIONAL RADIOBIOLOGY ARCHIVES

DISTRIBUTED ACCESS
USER'S MANUAL

VERSION 1.1

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Purpose

This supplement to the NRA Distributed Access User's Manual (PNL-7877), November 1991, describes installation and use of Version 1.1 of the software package; this is not a replacement of the previous manual.

Version 1.1 of the NRA Distributed Access Package is a maintenance release. It eliminates several bugs, and includes a few new features which are described in this manual. Although the appearance of some menu screens has changed, we are confident that the Version 1.0 User's Manual will provide an adequate introduction to the system. Users who are unfamiliar with Version 1.0 may wish to experiment with that version before moving on to Version 1.1.

Impact

This is an optional upgrade, either Version 1.0 or 1.1 may be used. We recommend Version 1.1 because of the enhancements to the software and the data set.

History

Version 1.0 diskettes and the User's Manual were distributed to the National Radiobiology Archives Advisory Committee in November 1991. Dr. Charles Watson installed and demonstrated the Distributed Access Package at the laboratories of selected users in December. In January 1992, an advisory meeting was conducted at PNL to review the package. The reviewers made several suggestions and reported a few previously unknown bugs in the software. In February, Jonathan Prather modified the software, Charles Watson modified the menus and the distributed data subset, and Sean Smith revised the installation process.

How to Cite the Archives

Please include the following acknowledgement in all publications containing information from the Distributed Access Package (or otherwise obtained from the NRA).

The authors acknowledge the assistance of the National Radiobiology Archives, operated at Pacific Northwest Laboratory for the U.S. Department of Energy by Battelle Memorial Institute under contract DE-AC06-76RLO 1830.
For information, contact Dr. Charles Watson (509) 376-3483.

Brief Instructions for Installing Version 1.1

(Detailed Instructions start on page 25)

1. Insert NRA Distributed Access 1 into your floppy drive.

2. Execute the following commands.

```
C:\> A:
A:\> INSTALL
```

3. You will be prompted for a hard drive partition to install the software. You should choose a partition with at least 6 megabytes free. If the Install program determines there is not enough space, you will be notified.

4. Next, you will be prompted for a subdirectory to install the software. The default subdirectory is "\NRA". Just hit the Enter key to accept the default and start the process. (Hit the Enter key for the next screen to confirm this default).

5. The Install program will write the files to your hard drive prompting you to insert additional diskettes when ready. This process may take as long as twenty minutes. When the Install program has processed the first disk, the computer will "beep" and you will be prompted to insert the NRA Distributed Access 2 disk.

6. After the files are loaded, the Install program will check your *config.sys* file and notify you if any changes are required. The NRA requires a *config.sys* file with at least: FILES=20 and BUFFERS=20. If a change is necessary, you will have to re-boot before running the Distributed Access software.

7. Finally, you are prompted to re-insert the first diskette to allow the Install program to finish its bookkeeping.

8. To run the NRA Distributed Access application:

```
A:\> C:
C:\> CD NRA
C:\NRA> NRA
```

This Install program is different from the ZOO processor used with Version 1.0. If you encounter any problems installing Version 1.1, please call:

Sean K. Smith (509) 376-5684

Distributed Access Subset

The subset of information from the NRA databases distributed with Version 1.1 is larger and more interesting than that distributed with Version 1.0.

Database Screen	*Rows*	*Remarks*
DOSE-EFFECTS SUMMARY	294	96 dogs injected with ^{90}Sr at Utah 100 typical exposed mice from Oak Ridge 98 typical control animals distributed with version 1.0
BIBLIOGRAPHY	139	Representative of current collection
INVENTORY	590	Inventory of every physical item at NRA which is related to the 294 animals and 139 books.

In addition to the typical control animals previously distributed, two groups of exposed animals have been included. Ninety-six records from the life-span effects study of injected ^{90}Sr on beagles at the University of Utah and 100 records of representative exposed mice from Oak Ridge are now included. The bibliography subset was expanded to include 39 additional citations. These were selected to illustrate the scope of the initial collection.

Browse Screens

The information on the first and second line of the browse screen has been revised. UPIMAGE and DNIMAGE are now known as CHANGE WINDOW. CLIN_TEXT is now shown as PATH_RPT. The ***CTRL-Z*** ZOOM option appears in a window which indicates the field which will be zoomed.

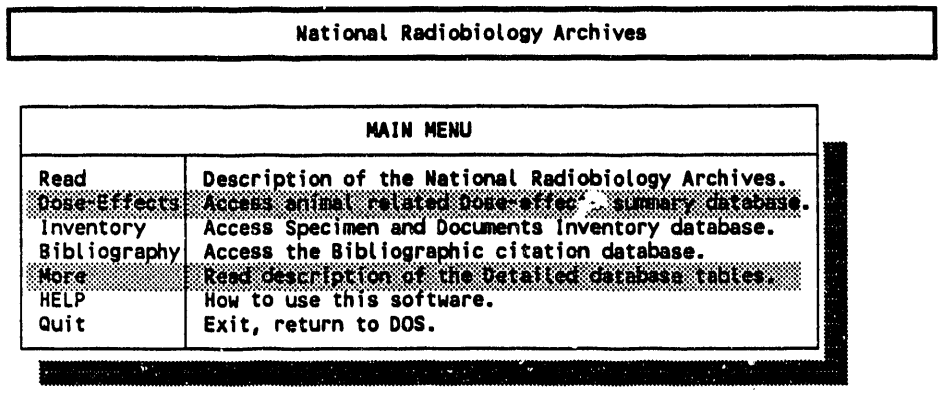
The EFFECT TABLE window on the DOSE-EFFECTS SUMMARY browse screen now includes the DX field. This code qualifies the effect by identifying the source of the information (H = histopath, B = biopsy, C = clinical, etc.). The ***F1*** HELP text was re-written for all fields inside the DOSE TABLE and EFFECT TABLE windows.

Menu Changes

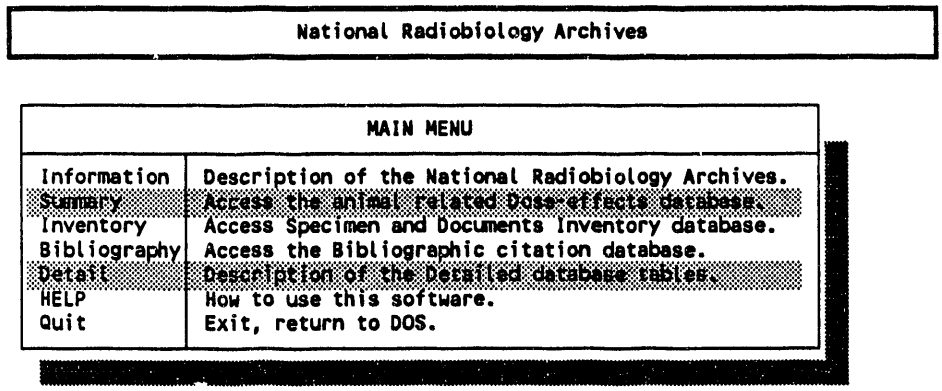
Some of the words on the menus were changed to clarify options and make the first letter of each option unique within a menu. Two new options were added to the HELP menu. The menu titles related to the Dose-effects Summary Database were changed from SUMMARY to DOSE-EFFECTS SUMMARY.

Menu	*Version 1.0*	*Version 1.1*	Reason for change
All menus	HOLDINGS	READ	Clarification of menu option
All menus	SEARCHES	SEARCH	Clarification
All menus	RETURN	PREVIOUS	Unique first letter
Main	SUMMARY	DOSE-EFFECTS	Clarification
Main	DETAIL	MORE	Clarification, unique first letter
Help	None	ZOOM	New help screen
Help	None	MORE ZOOM	New help text
Help	None	GENERAL	New help screen
Help	PURPOSE	SCOPE	Clarification, unique first letter
Search Dose-effects and search Inventory	ANIMAL	NRA ID's	Clarification, unique first letter
Search Dose-effects and search Inventory	ASSIGNED	Lab ID's	Clarification, unique first letter
Search Dose-effects	T-DOSE	DOSE	Clarification, unique first letter
Search Dose-effects	T-EFFECT	EFFECT	Clarification, unique first letter

Example Version 1.1 Main Menu



Example Version 1.0 Main Menu



Operational Changes

The following modifications make Version 1.1 more robust and easier to use:

- The EFFECT window on the DOSE-EFFECTS SUMMARY browse screen is expanded to include the DX field. This code qualifies the effect by identifying the source of the information (H = histopath, B = biopsy, C = clinical, etc.).

- The default on the print options is now the printer, and the print process no longer crashes if the printer is not ready. The error handling on user input print file names was improved.

- The default on the QUIT option is now DOS.

- There is a general help screen available when the ***F1*** key is pressed when viewing a help screen or when doing a zoom.

- The install process is completely new; it has a much more comprehensive user interface and handles problems more gracefully.

- The colors and borders of the text windows are improved in response to reviewers suggestions.

- The ***CTRL-Z*** ZOOM interface on browse screens is new. ***F1*** HELP is supported, and more information about the process is provided in the search string prompt window.

- The user input on SEARCH options is checked more closely for illegal characters.

- All the logical cursor movement keys are now properly mapped to the arrow keys. ***Tab*** and ***Enter*** become right arrow, ***Reverse Tab*** becomes left arrow.

Version 1.1 Dose-Effects Browse Screen

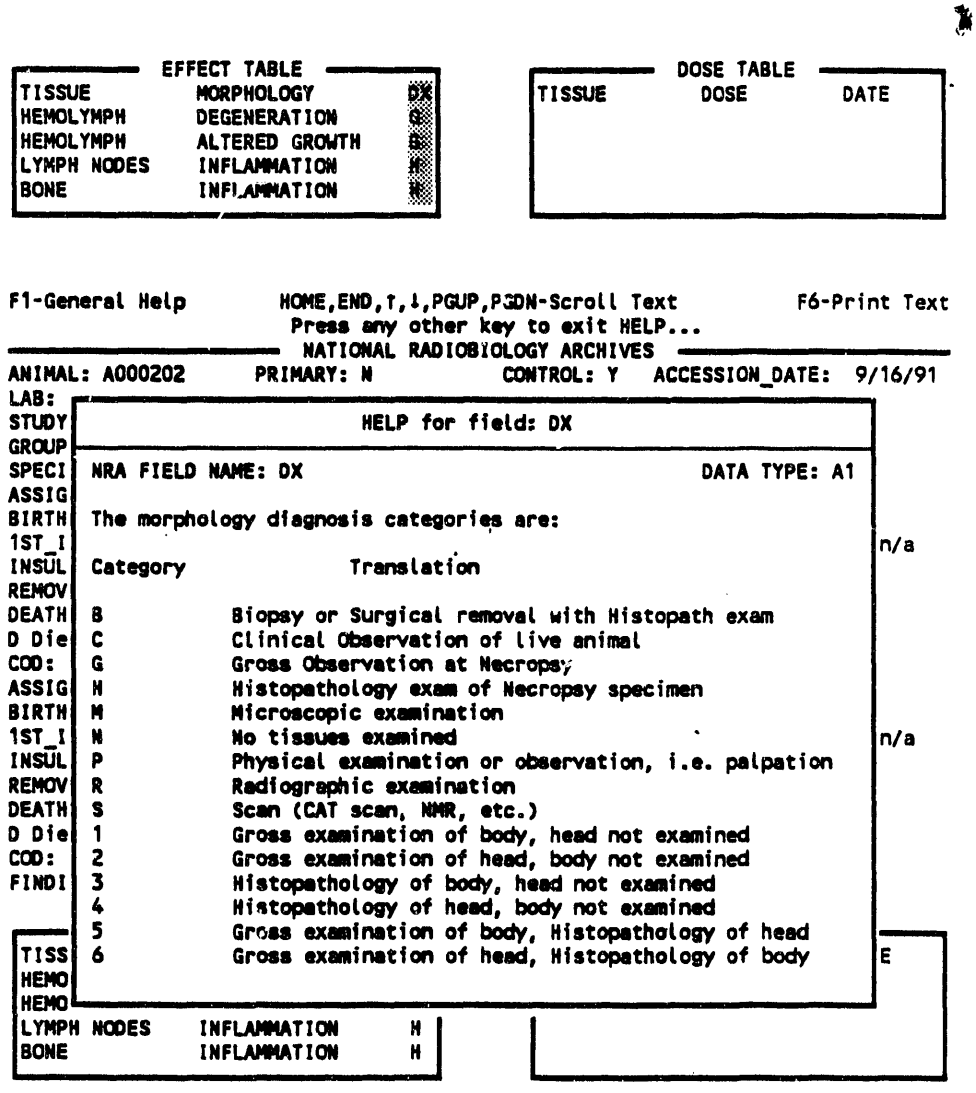
Many of the peer review comments about version 1.0 focused on the Dose-effects browse screen. This section of the manual focuses on improvements made to this screen. Each improvement is described in the interactive HELP. The revised HELP displays are shown on the following pages.

The new dose-effects browse screen has an expanded window showing the EFFECT TABLE. The new field, DX, shows the source of the effect diagnosis. In the example below, DX = G indicates that the degeneration and altered growth in the hemolymph tissue category were based on the gross observations made at necropsy. DX = H indicates that the observations of inflammation in the lymph node and bone category were made by a pathologist as part of the histopathological examination of necropsy specimens.

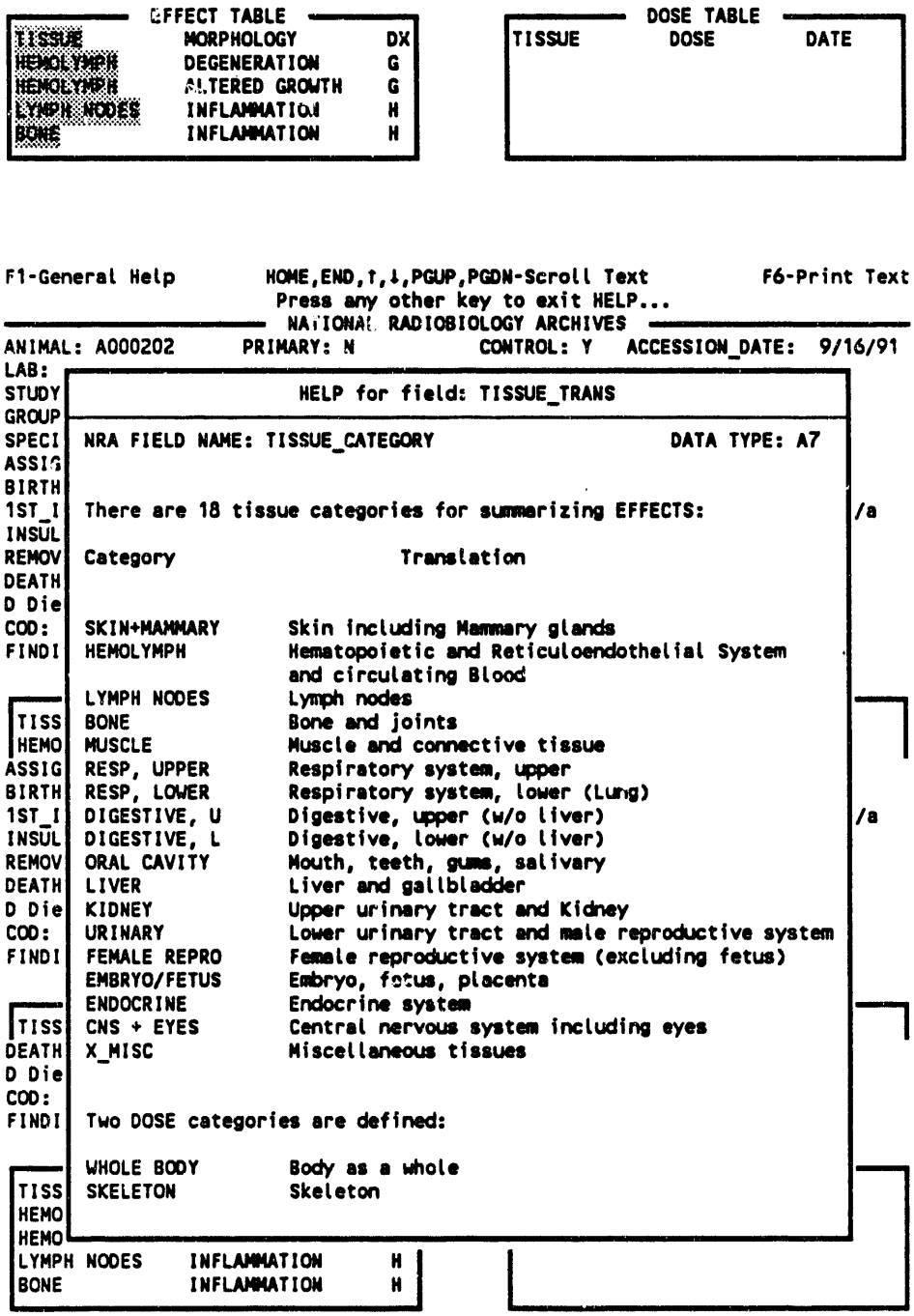
```
F1-HELP  [CTRL][Z]-ZOOM  ESC-RETURN TO MENU              VIEWING RECORD 1 OF 294
F3,F4-CHANGE WINDOW  F5-PATH_RPT  F6-PRINT   HOME,END,↑,↓,PGUP,PGDN-SCAN RECORDS
                    NATIONAL RADIOBIOLOGY ARCHIVES
ANIMAL: A000202      PRIMARY: N          CONTROL: Y   ACCESSION_DATE:  9/16/91
LAB: A Argonne National Laboratory
STUDY: 00 ANL-Undesignated Control, not assigned to any particular study
GROUP: 99 Ancillary Control
SPECIES: Canis familiaris, Beagle
ASSIGNED_IC: 202                         SIRE: A000072  DAM: A000005
BIRTH:  9/30/60      SEX: M
1ST_INSULT:          1ST_INSULT_AGE:n/a  LAST:          LAST_INSULT_AGE: n/a
INSULT:                                  1ST_WEIGHT:
REMOVAL:             REMOVAL_AGE: n/a
DEATH:  2/28/76      DEATH_AGE:  15.4    RESULTS_FINAL: N
D Died - natural causes, see  E for sick animals which were euthanized.
COD:
FINDINGS: Gross COD: SUPPURATIVE PROSTATITIS W/PERITONITIS

        EFFECT TABLE                          DOSE TABLE
TISSUE        MORPHOLOGY          DX    TISSUE      DOSE       DATE
HEMOLYMPH     DEGENERATION        G
HEMOLYMPH     ALTERED GROWTH      G
LYMPH NODES   INFLAMMATION        H
BONE          INFLAMMATION        H
```

The following displays are shown if you press *F1* while the cursor is in the highlighted field of the EFFECT window of the DOSE-EFFECT SUMMARY browse screen or the DOSE window of the DOSE-EFFECT SUMMARY browse screen.

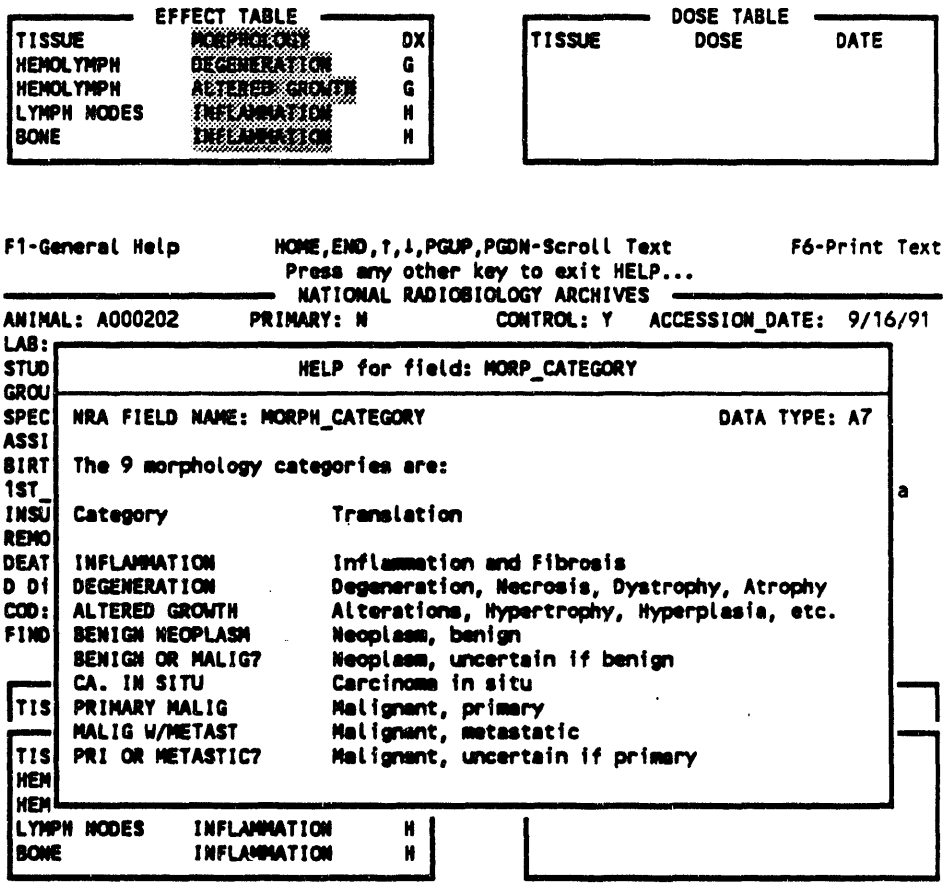
HELP Display for DX field



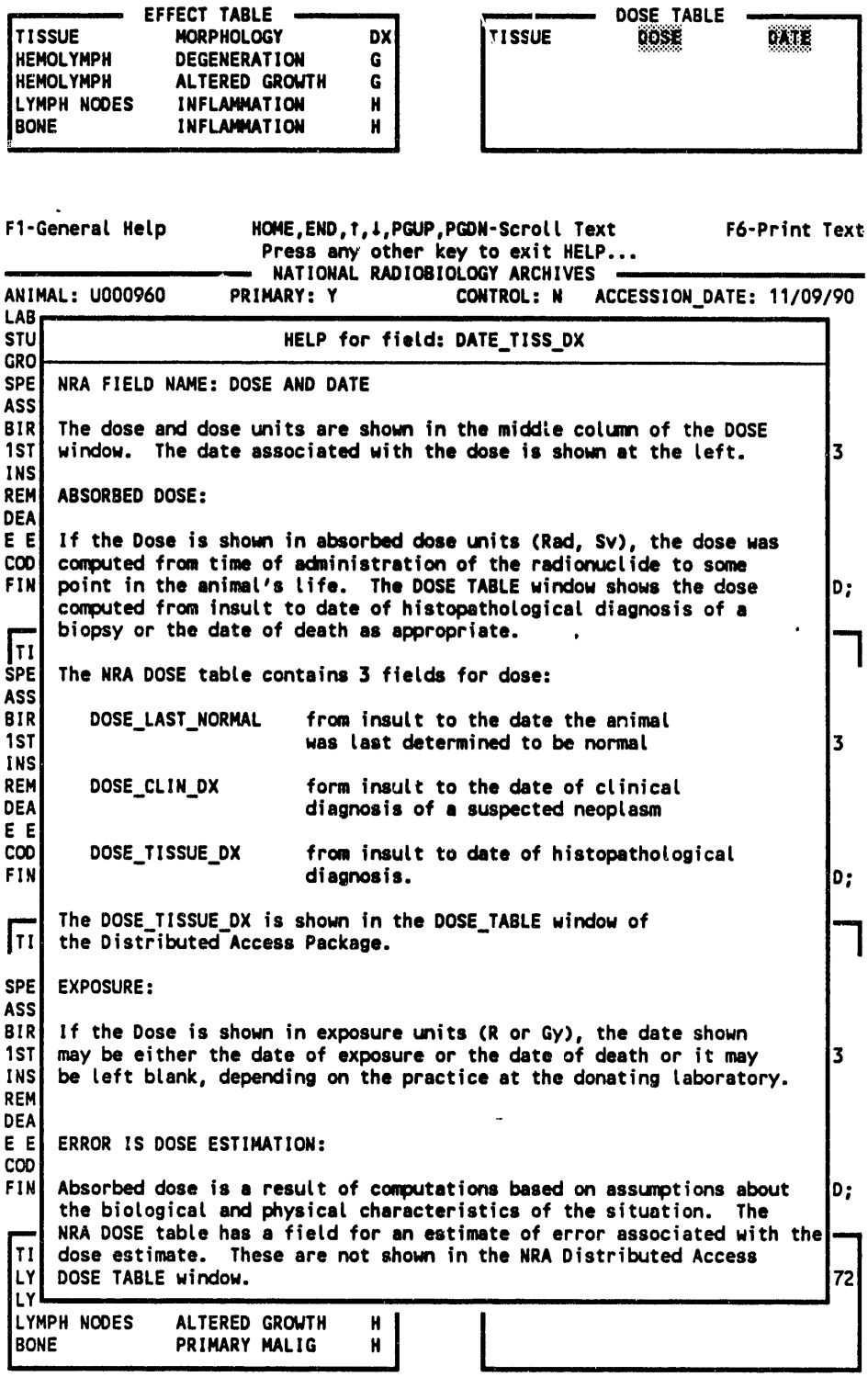
HELP Display for TISSUE CATEGORY



HELP Display for EFFECT Morphology Category



HELP Display for DOSE



Zoom Process

One of the most frequent complaints about Version 1.0 was the inadequate documentation of the zoom process. We have revised the entire zoom process for Version 1.1, and provided instructions in the MORE ZOOM option of the HELP menu.

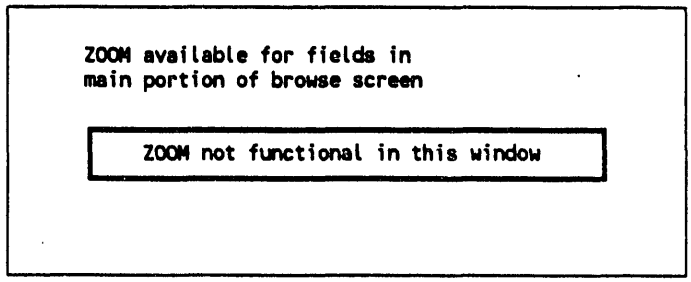
Zoom Instruction Help Screen

```
                NRA DEMONSTRATION - ZOOM INSTRUCTIONS

                        NRA INFORMATION SYSTEMS
                             ZOOM OPTION

    [CTRL][Z] = ZOOM                [ALT][Z] = ZOOM NEXT

The ZOOM option is a powerful way to search for a particular value
in a table, even if you're not sure exactly how it is stored.  You
can either search for an exact value or use one of the wildcard
operators to construct a pattern to use in the search.  The ..
operator stands for a series of any number of characters, including
no characters or blank spaces.  The @ operator stands for any single
character.

The character matching is CASE SENSITIVE unless a wildcard operator
is used.  Thus, if you know exactly what you are looking for, you do
not need a wildcard, otherwise it is advisable to append ".." to your
search string.

In this demonstration system, the ZOOM option is available for all
fields on the main window of any browse screen.  Place the cursor in
the field of interest.  Then press CTRL-Z.  A window will appear near
the top of the screen,

          ┌Zoom to a string in a field:──────────┐
          │            FIELD NAME                │
          │                                      │
          │   Type in search string (wildcard = ..)
          │     [F2], [ENTER]- execute search    │
          └──────────────────────────────────────┘


   You may then type in some characters.  When you press ENTER or F2,
   the browse screen will shift to the next record in the table with
   field contents matching the search string.

   Examples (where FIELD NAME = ANIMAL_ID)

      User enters:        Zoom request:                  Result:

      I00009E        CASE SENSITIVE match               I00009E
      i00009e        CASE SENSITIVE match               Match not found
      i00009e..      CASE INSENSITIVE match             I00009E

      U..            find first animal_id starting      U000002
                     with "U"
      ..2            find first animal_id with a        A000202
                     "2" in any position
      @@@2..         find first animal_id with a        U002085
                     "2" in the 4th character
      ..2@           find first animal_id with a        A000220
                     "2" in the next to last position
```

@@@@@@2	find first animal_id with a "2" in the last position	A000202

If there is no match for the search string, a small message window will appear at the bottom right of the screen.

The ZOOM function is only available for fields in the main browse screen. It cannot find a match for fields in windows which have double line borders.



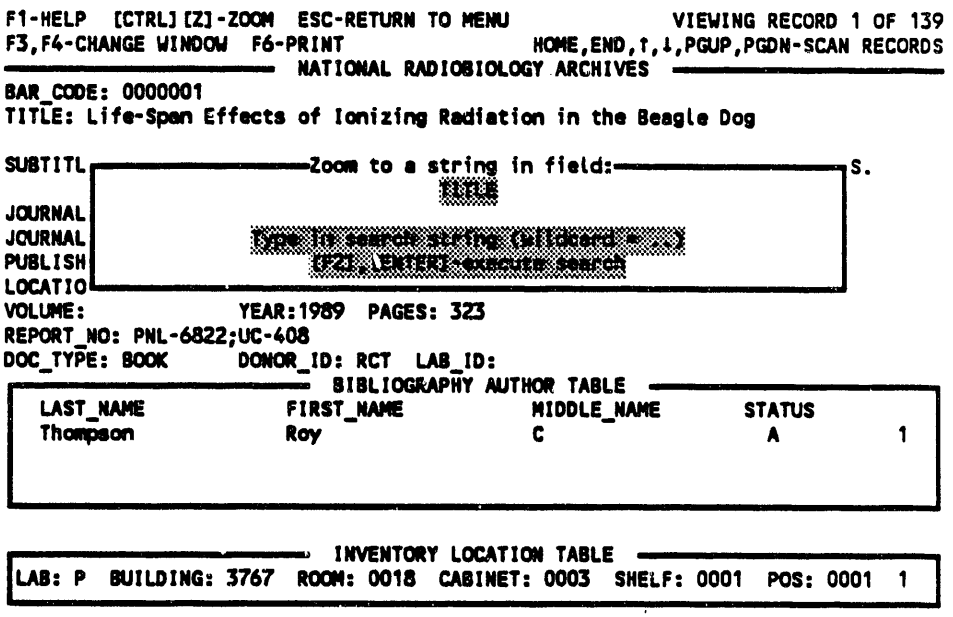
ALT-Z - ZOOM NEXT is used to zoom to the next record which matches the zoom request.

Examples (where FIELD NAME = ANIMAL_ID)

User enters:		Result:
[CTRL][Z]	I00009E	I00009E
[ALT][Z]		Match not found
[CTRL][Z]	U..	U000002
[ALT][Z]		U000019
[ALT][Z]		U000027
[CTRL][Z]	..2	A000202
[ALT][Z]		DD00F12
[CTRL][Z]	@@@2..	U002085
[ALT][Z]		Match not found
[CTRL][Z]	..2@	A000220
[ALT][Z]		A000421
[ALT][Z]		DD00F24
[CTRL][Z]	@@@@@@2	A000202
[ALT][Z]		DD00F02
[ALT][Z]		DD00F12

The following screens, taken from the Bibliography browse screen with the cursor in the TITLE field, show the revised zoom window, its use and associated *F1* help.

Zoom Example - after user enters *CTRL-Z*



Zoom Example - after user enters *F1* for HELP

In addition to the zoom instructions available from the HELP menu, there is a one screen summary available by pressing *F1* while viewing the zoom window.

```
F1-HELP  [CTRL][Z]-ZOOM  ESC-RETURN TO MENU            VIEWING RECORD 1 OF 139
F3,F4-CHANGE WINDOW  F6-PRINT                HOME,END,↑,↓,PGUP,PGDN-SCAN RECORDS
                    NATIONAL RADIOBIOLOGY ARCHIVES
BAR_CODE: 0000001
                              ZOOM HELP
 CTRL-Z - zoom on a browse field (use cursor to select field)

 Zoom is a method of rapid browsing.  You supply a string of characters
 which you want to match in this data field.  If you wish, you may use
 two dots as a wildcard to indicate that you do not care what is found
 in that portion of the field.  The @ operator stands for a single character.

Examples of zoom in the ANIMAL field:

    User input:     Zoom request:                                  Result:

   U000002  zoom to animal U000002
   I..      zoom to first animal which starts with "I"            I00002C
   ..2      zoom to first animal containing a "2"                 A000202
   @@@2..   zoom to first animal with "2" as 4th character        U002085

  ALT-Z will repeat the current zoom request, searching for the next match.

  F2 or ENTER will start the zoom process
                          Press any key to exit Zoom Help...
```

To use the zoom feature, enter the search string in the zoom window and press enter (or *F2*). The following two screens illustrate a case insensitive search of the TITLE field for a title starting with "inhaled." Note that the user appended ".." to the search string "inhaled." This use of a wildcard operator 1) insures that the search is case insensitive, and 2) allows zoom to the first record with title starting "inhaled" followed by any characters.

Zoom Example - after user enters "inhaled.."

```
F1-HELP  [CTRL][Z]-ZOOM  ESC-RETURN TO MENU              VIEWING RECORD 1 OF 139
F3,F4-CHANGE WINDOW  F6-PRINT                  HOME,END,↑,↓,PGUP,PGDN-SCAN RECORDS
                        NATIONAL RADIOBIOLOGY ARCHIVES
BAR_CODE: 0000001
TITLE: Life-Span Effects of Ionizing Radiation in the Beagle Dog

SUBTITL┌──────────────Zoom to a string in field:──────────────┐S.
                      TITLE
JOURNAL                inhaled..
JOURNAL          Type in search string (wildcard = ..)
PUBLISH            [F2],[ENTER]-execute search
LOCATIO└──────────────────────────────────────────────────────┘
VOLUME:            YEAR:1989  PAGES: 323
REPORT_NO: PNL-6822;UC-408
DOC_TYPE: BOOK     DONOR_ID: RCT  LAB_ID:
                    BIBLIOGRAPHY AUTHOR TABLE
 LAST_NAME          FIRST_NAME          MIDDLE_NAME      STATUS
 Thompson           Roy                 C                  A          1

                    INVENTORY LOCATION TABLE
LAB: P  BUILDING: 3767  ROOM: 0018  CABINET: 0003  SHELF: 0001  POS: 0001  1
```

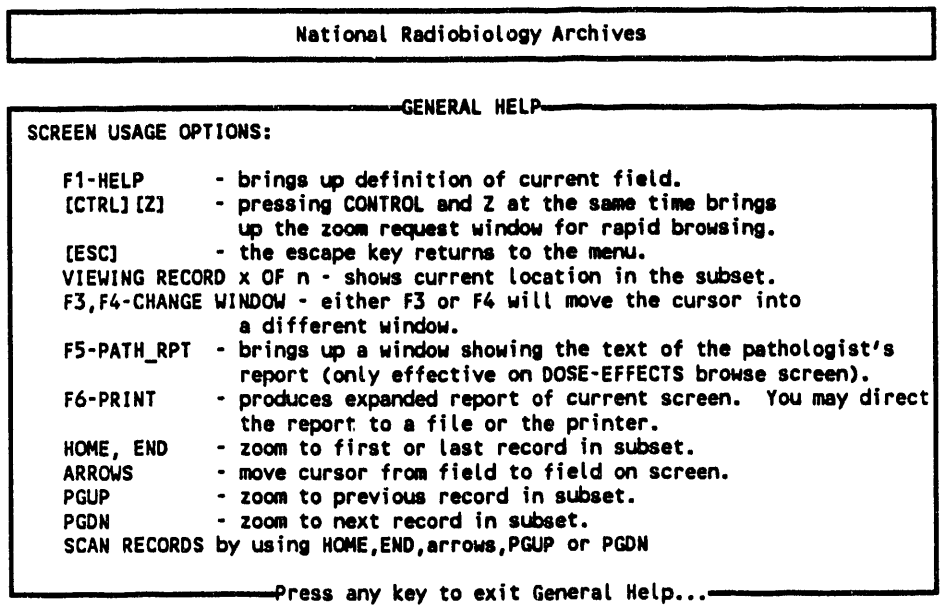
Zoom Example - after zoom to "inhaled.."

```
F1-HELP  [CTRL][Z]-ZOOM  ESC-RETURN TO MENU            VIEWING RECORD 137 OF 139
F3,F4-CHANGE WINDOW  F6-PRINT                  HOME,END,↑,↓,PGUP,PGDN-SCAN RECORDS
                        NATIONAL RADIOBIOLOGY ARCHIVES
BAR_CODE: 0000363
TITLE: Inhaled 239PuO2 and/or Total-Body Gamma Radiation:  Early Mortality and
       Morbidity in Rats and Dogs
SUBTITLE:

JOURNAL:
JOURNAL_SUBTITLE:
PUBLISHER: PNL
LOCATION: Richland, WA
VOLUME:            YEAR:1988  PAGES: 100
REPORT_NO: NUREG/CR-5198  PNL-6586
DOC_TYPE: REPORT   DONOR_ID: CRW  LAB_ID: P
                    BIBLIOGRAPHY AUTHOR TABLE
 LAST_NAME          FIRST_NAME          MIDDLE_NAME      STATUS
 Filipy             E                   R                  A          1
 Buschbom           L                   R                  A          2
 Hlastala           P                   M                  A          3

                    INVENTORY LOCATION TABLE
LAB: P  BUILDING: 3767  ROOM: 0018  CABINET: 0004  SHELF: 0003  POS: 0012
```

General Help Screen

Version 1.1 contains several significant enhancements to the help screens. Those related to the Dose-Effects Summary browse screen are shown in the section showing the revised EFFECTS TABLE window. The help screens associated with the *CTRL-Z* ZOOM process was shown as part of the discussion of the revised zoom interface. Another enhancement in Version 1.1 is called General Help.

General Help is available when *F1* is pressed while viewing a text screen. It is designed to provide the user with a general idea of what options are available.

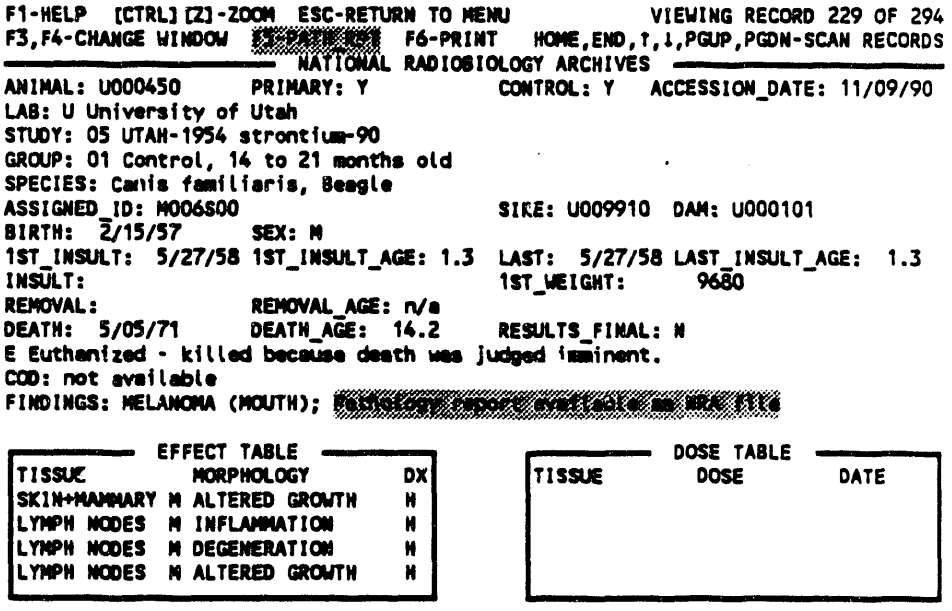


Pathology Text

The pathology text feature was not fully documented in Version 1.0, and it had a confusing name. It was called CLIN_TEXT in Version 1.0, and is known as PATH_TEXT in Version 1.1. This feature allows viewing or printing of a narrative summary written by the pathologist. Pathology summaries have been donated for many of the UTAH beagles. They are not yet available from other donating institutions.

The pathology text is available from the browse screen via the *F5* option. Since most animals do not have associated pathology text, the typical response to the *F5* key is a message, "Pathology text not available for this animal." Utah animals which have pathology text files are indicated by the phrase, "Pathology report available as NRA file," as part of the Findings field.

Pathology Text Availability Message



Pathology Text Example - after user presses F5

F1-General Help HOME,END,↑,↓,PGUP,PGDN-Scroll Text F6-Print Text
Press any other key to return to Summary browse...

NATIONAL RADIOBICLOGY ARCHIVES

ANIMAL: U000450 PRIMARY: Y CONTROL: Y ACCESSION_DATE: 11/09/90
LAB: U University of Utah
STUDY: 05 UTAH-1954 strontium-90
GROUP: 01 Control, 14 to 21 months old

PATHOLOGY REPORT OF ANIMAL: U000450

SUMMARY

M6S0 was sacrificed at 5192 days age and 4726 days postinjection because of an oral melanoma. Clinical factors were: multiple minor bite wound episodes; removal of an embedded brown dog tick; fistula in soft palate that ultimately healed; prominent systolic bruit; proteinuria and persistently elevated BUN noted 2 1/2 years prior to death; tonsillitis that produced difficult swallowing; and an oral melanoma which was noted l month prior to sacrifice. The hemograms indicated an age-related leukopenia; a persistently elevated sedimentation rate at 9 years PI; and a terminal anemia and neutrophilia. The blood chemistry studies were characterized by an elevated cholesterol until 2 years PI and a progressive elevation of the BUN during the final 2 1/2 years. Significant histopathological findings were: An oral melanoma with contingent invasion into the mandible and metastases to several lymph nodes and the lungs; a relatively small cholangiocarcinoma and focal degeneration in the liver; A leydig cell tumor of the testis; a pheochromocytoma of the adrenal gland, with extensions into the inferior vena cava; focal ulceration of the tongue; focal hyperplasia of one mammary gland; a salivary cyst; marked glomerulonephritis; moderate interatitial nephritis; cystic dilatation of multiple kidney tubules; focal interstitial inflammation in the lungs; parathyroid hyperplasia; cystic hyperplasia and mild leukocytosis in the prostate; interstitial fibrosis of the thyroid; a small thyroid adenoma; and leukocytosis in the maxilloturbinate bone.

Radiographic observations at autopsy were: Rarefactions in the palatine bone and in the calvarium (3 mm diameter) which was associated with focal osteogenesis; tumor involving the left mandible in the region extending from the canine to the first premolar; degenerative osteoarthritis of the right stifle joint; ossifying spondylosis of the C6-7and L3-4; marked focal dystrophic calcification of the lungs; and 30 missing teeth.

GNT

Pathology Text Example Output

When the pathology text is shown on the screen (see previous page), an option to print the text is available. When the user presses *F6*, two choices are presented, PRINTER or FILE. The example below was sent to a file.

4/21/92 National Radiobiology Archives Page 1

SUMMARY

M6SO was sacrificed at 5192 days age and 4726 days postinjection because of an oral melanoma. Clinical factors were: multiple minor bite wound episodes; removal of an embedded brown dog tick; fistula in soft palate that ultimately healed; prominent systolic bruit; proteinuria and persistently elevated BUN noted 2 1/2 years prior to death; tonsillitis that produced difficult swallowing; and an oral melanoma which was noted 1 month prior to sacrifice. The hemograms indicated an age-related leukopenia; a persistently elevated sedimentation rate at 9 years PI; and a terminal anemia and neutrophilia. The blood chemistry studies were characterized by an elevated cholesterol until 2 years PI and a progressive elevation of the BUN during the final 2 1/2 years. Significant histopathological findings were: An oral melanoma with contingent invasion into the mandible and metastases to several lymph nodes and the lungs; a relatively small cholangiocarcinoma and focal degeneration in the liver; A leydig cell tumor of the testis; a pheochromocytoma of the adrenal gland, with extensions into the inferior vena cava; focal ulceration of the tongue; focal hyperplasia of one mammary gland; a salivary cyst; marked glomerulonephritis; moderate interstitial nephritis; cystic dilatation of multiple kidney tubules; focal interstitial inflammation in the lungs; parathyroid hyperplasia; cystic hyperplasia and mild leukocytosis in the prostate; interstitial fibrosis of the thyroid; a small thyroid adenoma; and leukocytosis in the maxilloturbinate bone.

Radiographic observations at autopsy were: Rarefactions in the palatine bone and in the calvarium (3 mm diameter) which was associated with focal osteogenesis; tumor involving the left mandible in the region extending from the canine to the first premolar; degenerative osteoarthritis of the right stifle joint; ossifying spondylosis of the C6-7and L3-4; marked focal dystrophic calcification of the lungs; and 30 missing teeth.

GNT

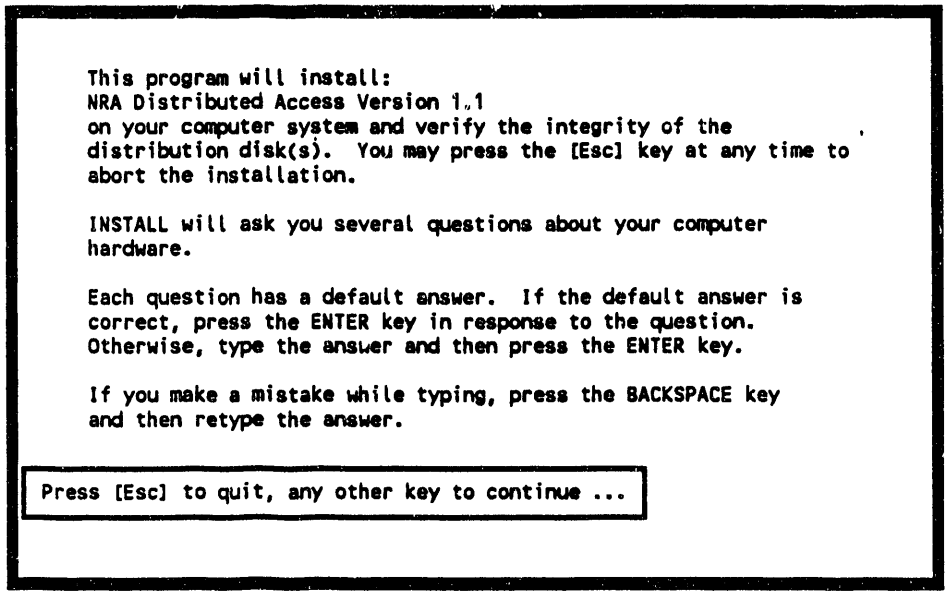
Detailed Installation Instructions

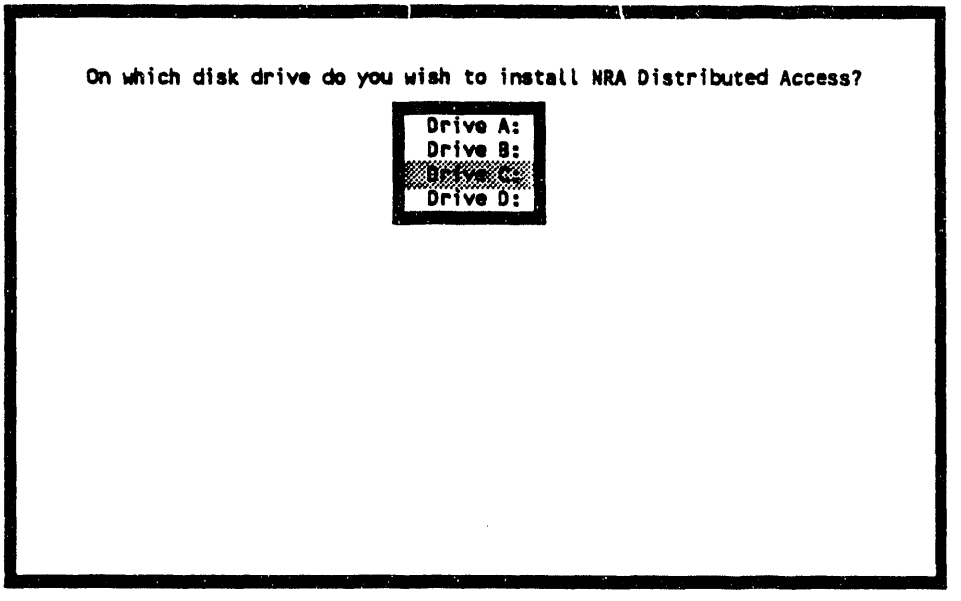
The installation process is quite simple. Place diskette 1 in the floppy disk drive, start the install program, and answer a few questions. We have set the default answers to install the NRA software in a directory named \NRA on the drive of your choice. To accept our defaults, simply hit the enter key in response to all questions.

To start the install process, enter the DOS commands to set your default to the A drive and execute the program INSTALL.

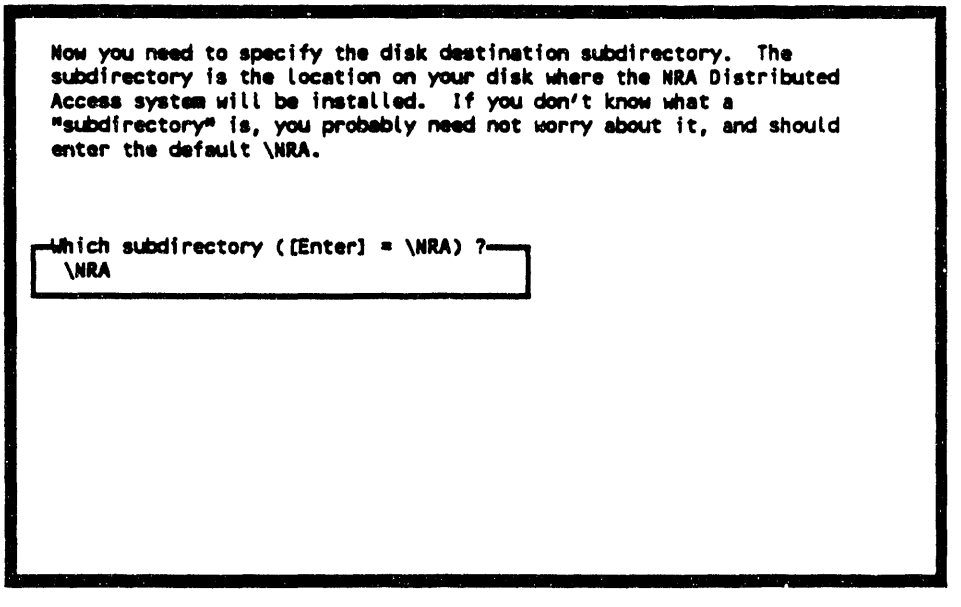
```
C:\> A:
A:\> INSTALL
```

Read each of the following screens. Hit any key to accept the default and continue.



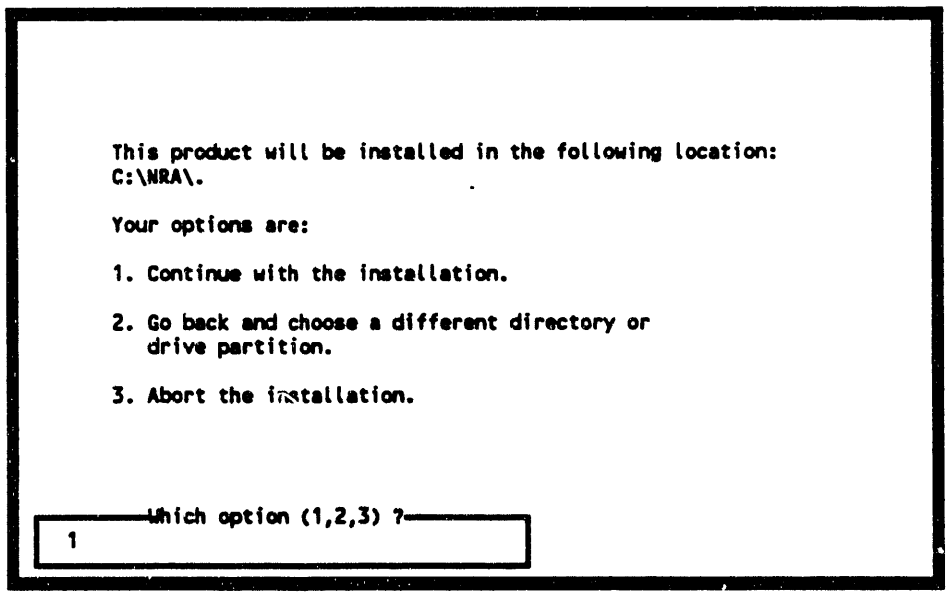


USE ARROW KEYS TO HIGHLIGHT THE DISK YOU SELECT, We chose C: for this example.

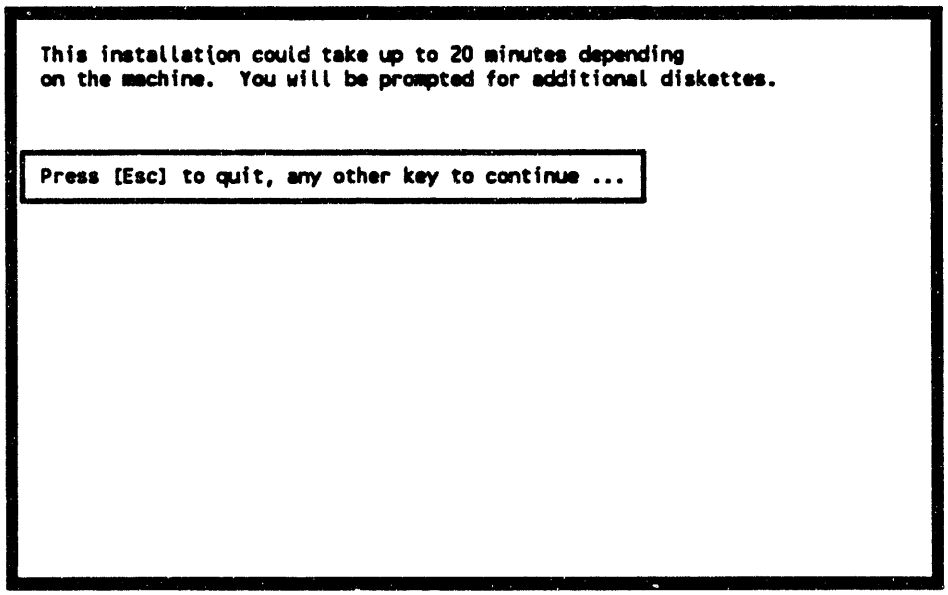


We recommend that you choose the default, \NRA.

You may hit ***Enter*** to confirm your selection:



Then you are advised that the installation could take several minutes.

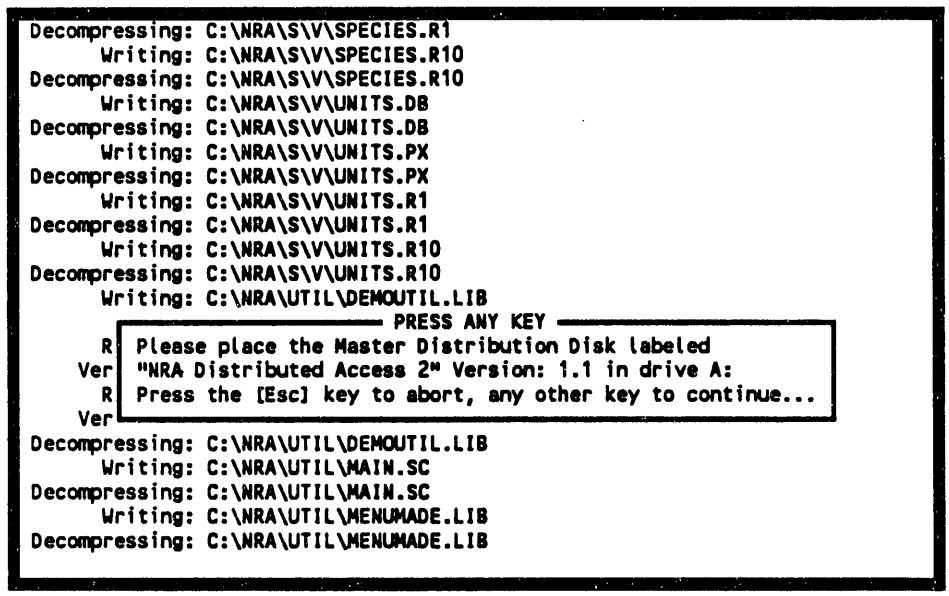


```
Installing NRA Distributed Access - Please Wait . . .
```

After the process gets started, the names of the files will stream by on the screen.

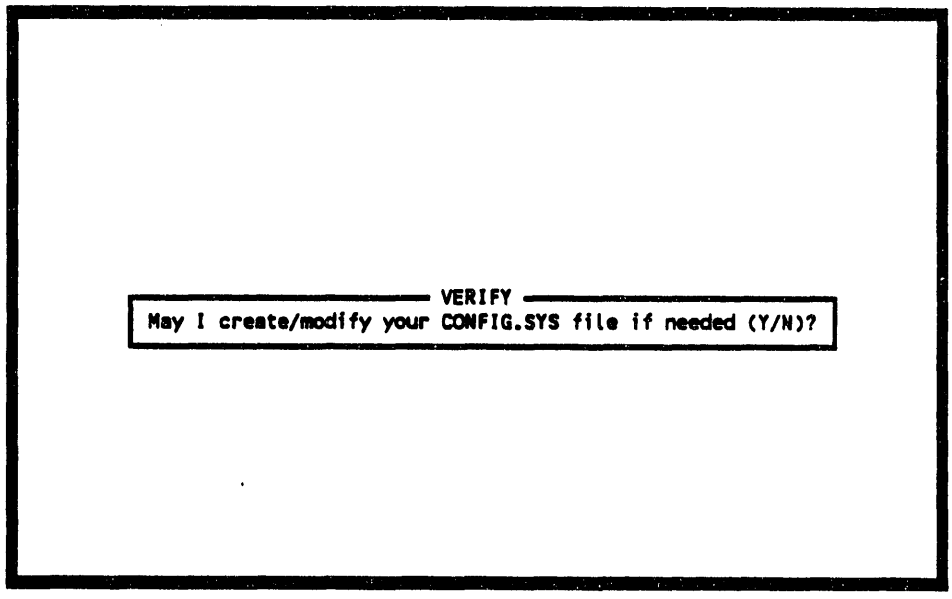
```
    Verifying: CONTAIN.DB
      Reading: Library File --> CONTAIN.PX
    Verifying: CONTAIN.PX
      Reading: Library File --> CONTAIN.R
    Verifying: CONTAIN.R
      Reading: Library File --> ITEM.DB
    Verifying: ITEM.DB
      Reading: Library File --> ITEM.F1
    Verifying: ITEM.F1
      Reading: Library File --> ITEM.PX
    Verifying: ITEM.PX
      Reading: Library File --> ITEM.R
    Verifying: ITEM.R
      Reading: Library File --> POS.DB
    Verifying: POS.DB
      Reading: Library File --> POS.PX
    Verifying: POS.PX
      Reading: Library File --> QUAL.DB
    Verifying: QUAL.DB
      Reading: Library File --> QUAL.PX
    Verifying: QUAL.PX
      Reading: Library File --> QUAL.R
```

The computer will "beep" when it is time to change diskettes.

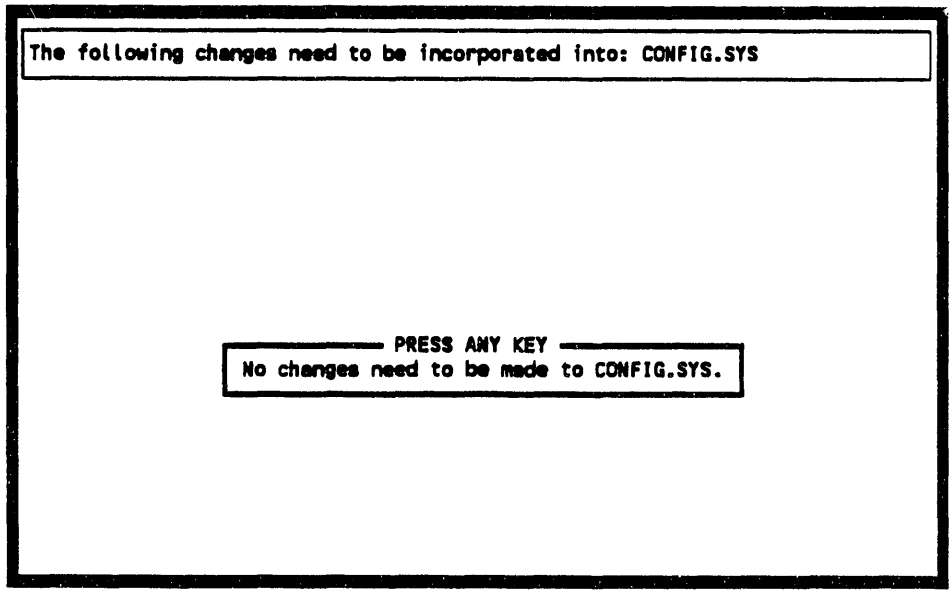


Place the diskette 2 in the disk drive and hit any key to continue.

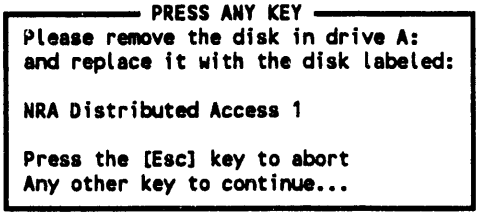
When install is complete, your configuration is checked.



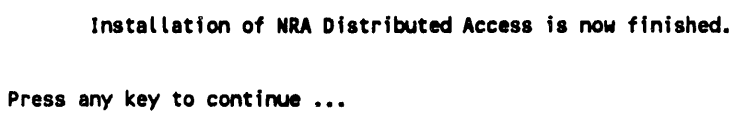
You must have at least FILES = 20 and BUFFERS = 20, if you don't, Install will change things for you. If you are unsure what this step is about, consult your computer support person.



Finally, you must place diskette 1 back in the drive so that the installation program can complete its bookkeeping.



Place diskette 1 back in the disk drive and hit any key to continue.



To run the NRA Distributed Access application, enter commands to change your default to the NRA disk and directory and start the program:

A:\> **C:**
C:\> **CD NRA**
C:\NRA> **NRA**

Suggestions or Problems? - Report them to us

The National Radiobiology Archives is interested in your reaction to this software and associated subset of data. Our goal is to provide you with a convenient way to learn about the archives. We encourage you to "play" with the data.

If you encounter any problems in the use of this software, please describe them on the form appended to this document and send them to the address indicated.

You can also use the same form to send in suggested improvements.

Combined Index for V1.0 and V1.1

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Release Version: 1.1 (June 1992)

Change(s) Requested and/or Problem(s) Reported:

Submitted by:

_____
Name Date

_____
Organization/Address

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