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NATIONAL RADIOBIOLOGY ARCHIVES
DISTRIBUTED ACCESS USER'S MANUAL
VERSION 1.1

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June 1992

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the U.S. Department of Energy
under Contract DE-AC06-76RLO 1930

Pacific Northwest Laboratory
Richland, Washington 99352

MASTER

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NATIONAL RADIOBIOLOGY ARCHIVES

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Charles R. Watson**

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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.

| <i>Database Screen</i> | <i>Rows</i> | <i>Remarks</i> |
|-------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 ⁹⁰Sr 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 **FI** 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

| National Radiobiology Archives | |
|--------------------------------|-----------------------------------------------------|
| MAIN MENU | |
| Read | Description of the National Radiobiology Archives. |
| Dose-Effects | Access animal related dose-effect summary database. |
| Inventory | Access Specimen and Documents Inventory database. |
| Bibliography | Access the Bibliographic citation database. |
| More | Read description of the Detailed database tables. |
| HELP | How to use this software. |
| Quit | Exit, return to DOS. |

Example Version 1.0 Main Menu

| National Radiobiology Archives | |
|--------------------------------|----------------------------------------------------|
| MAIN MENU | |
| Information | Description of the National Radiobiology Archives. |
| Summary | Access the animal related Dose effects database. |
| Inventory | Access Specimen and Documents Inventory database. |
| Bibliography | Access the Bibliographic citation database. |
| Detail | Description of the Detailed database tables. |
| HELP | How to use this software. |
| Quit | Exit, return to DOS. |

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,T,I,PGUP,PGDN-SCAN RECORDS
----- NATIONAL RADIOBIOLOGY ARCHIVES -----
ANIMAL: A000202      PRIMARY: N      CONTROL: Y  ACCESSION_DATE: 9/15/91
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
BIRTH: 9/30/60      SEX: M      SIRE: A000072  DAM: A000005
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 | | |
|--------------|----------------|----|
| TISSUE | MORPHOLOGY | DX |
| HEMOLYMPH | DEGENERATION | G |
| HEMOLYMPH | ALTERED GROWTH | G |
| LYMPH NODES | INFLAMMATION | H |
| BONE | INFLAMMATION | H |

| DOSE TABLE | | |
|------------|------|------|
| TISSUE | DOSE | DATE |
| | | |

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

| EFFECT TABLE | | DOSE TABLE | |
|--------------|----------------|------------|------|
| TISSUE | MORPHOLOGY | TISSUE | DOSE |
| HEMOLYMPH | DEGENERATION | | |
| HEMOLYMPH | ALTERED GROWTH | | |
| LYMPH NODES | INFLAMMATION | | |
| BONE | INFLAMMATION | | |

| DOSE TABLE | | DATE |
|------------|------|------|
| TISSUE | DOSE | DATE |
| | | |

F1-General Help HOME,END,T,I,PGUP,PGDN-Scroll Text F6-Print Text
 Press any other key to exit HELP...
 NATIONAL RADIOBIOLOGY ARCHIVES

ANIMAL: A000202 PRIMARY: N CONTROL: Y ACCESSION_DATE: 9/16/91

LAB: _____

STUDY _____

GROUP _____

SPECI _____

ASSIG _____

BIRTH _____

1ST_I _____

INSUL _____

REMOV _____

DEATH _____

D Die _____

COD: _____

ASSIG _____

BIRTH _____

1ST_I _____

INSUL _____

REMOV _____

DEATH _____

D Die _____

COD: _____

FINDI _____

HELP Display for TISSUE CATEGORY

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

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

NATIONAL RADIOBIOLOGY ARCHIVES

ANIMAL: A000202 PRIMARY: N CONTROL: Y ACCESSION_DATE: 9/16/91

LAB:

STUDY

GROUP

SPECI

ASSIG

BIRTH

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HEMO

HEMO

LYMPH

BONE

HELP for field: TISSUE_TRANS

NRA FIELD NAME: TISSUE_CATEGORY

DATA TYPE: A7

There are 18 tissue categories for summarizing EFFECTS:

Category

Translation

SKIN+MAMMARY

Skin including Mammary glands

HEMOLYMPH

Hematopoietic and Reticuloendothelial System
and circulating Blood

LYMPH NODES

Lymph nodes

BONE

Bone and joints

MUSCLE

Muscle and connective tissue

RESP, UPPER

Respiratory system, upper

RESP, LOWER

Respiratory system, lower (Lung)

DIGESTIVE, U

Digestive, upper (w/o liver)

DIGESTIVE, L

Digestive, lower (w/o liver)

ORAL CAVITY

Mouth, teeth, gums, salivary

LIVER

Liver and gallbladder

KIDNEY

Upper urinary tract and Kidney

URINARY

Lower urinary tract and male reproductive system

FEMALE REPRO

Female reproductive system (excluding fetus)

EMBRYO/FETUS

Embryo, fetus, placenta

ENDOCRINE

Endocrine system

CNS + EYES

Central nervous system including eyes

X_MISC

Miscellaneous tissues

Two DOSE categories are defined:

WHOLE BODY

Body as a whole

SKELETON

Skeleton

LYMPH NODES INFLAMMATION H

BONE INFLAMMATION H

HELP Display for EFFECT Morphology Category

| EFFECT TABLE | | |
|--------------|----------------|----|
| TISSUE | EFFECT | DX |
| HEMOLYMPH | DEGENERATION | G |
| HEMOLYMPH | ALTERED GROWTH | G |
| LYMPH NODES | INFLAMMATION | H |
| BONE | INFLAMMATION | H |

| DOSE TABLE | | |
|------------|------|------|
| TISSUE | DOSE | DATE |
| | | |

F1-General Help

HOME,END,F,I,PGUP,PGDN-Scroll Text

F6-Print Text

Press any other key to exit HELP...

NATIONAL RADIOBIOLOGY ARCHIVES

ANIMAL: A000202

PRIMARY: N

CONTROL: Y

ACCESSION_DATE: 9/16/91

LAB:

STUD

GROU

SPEC

ASSI

BIRT

1ST

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D DI

COD:

FIND

TIS

HEM

HEM

HEM

LYMPH

BONE

INFLAMMATION

INFLAMMATION

H

H

HELP for field: MORP_CATEGORY

NRA FIELD NAME: MORP_CATEGORY

DATA TYPE: A7

The 9 morphology categories are:

| Category | Translation |
|------------------|---------------------------------------------|
| INFLAMMATION | Inflammation and Fibrosis |
| DEGENERATION | Degeneration, Necrosis, Dystrophy, Atrophy |
| ALTERED GROWTH | Alterations, Hypertrophy, Hyperplasia, etc. |
| BENIGN NEOPLASM | Neoplasm, benign |
| BENIGN OR MALIG? | Neoplasm, uncertain if benign |
| CA. IN SITU | Carcinoma in situ |
| PRIMARY MALIG | Malignant, primary |
| MALIG W/METAST | Malignant, metastatic |
| PRI OR METASTIC? | Malignant, uncertain if primary |

HELP Display for DOSE

| EFFECT TABLE | | |
|--------------|----------------|----|
| TISSUE | MORPHOLOGY | DX |
| HEMOLYMPH | DEGENERATION | G |
| HEMOLYMPH | ALTERED GROWTH | G |
| LYMPH NODES | INFLAMMATION | H |
| BONE | INFLAMMATION | H |

| DOSE TABLE | | |
|------------|------|------|
| TISSUE | DOSE | DATE |
| | | |

F1-General Help

HOME,END,r,l,PGUP,PGDN-Scroll Text

F6-Print Text

Press any other key to exit HELP...

NATIONAL RADIOBIOLOGY ARCHIVES

ANIMAL: U000960

PRIMARY: Y

CONTROL: N

ACCESSION_DATE: 11/09/90

LAB

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HELP for field: DATE_TISS_DX

NRA FIELD NAME: DOSE AND DATE

The dose and dose units are shown in the middle column of the DOSE window. The date associated with the dose is shown at the left.

ABSORBED DOSE:

If the Dose is shown in absorbed dose units (Rad, Sv), the dose was computed from time of administration of the radionuclide to some point in the animal's life. The DOSE TABLE window shows the dose computed from insult to date of histopathological diagnosis of a biopsy or the date of death as appropriate.

The NRA DOSE table contains 3 fields for dose:

DOSE_LAST_NORMAL from insult to the date the animal was last determined to be normal

DOSE_CLIN_DX form insult to the date of clinical diagnosis of a suspected neoplasm

DOSE_TISSUE_DX from insult to date of histopathological diagnosis.

The DOSE_TISSUE_DX is shown in the DOSE_TABLE window of the Distributed Access Package.

EXPOSURE:

If the Dose is shown in exposure units (R or Gy), the date shown may be either the date of exposure or the date of death or it may be left blank, depending on the practice at the donating laboratory.

ERROR IS DOSE ESTIMATION:

Absorbed dose is a result of computations based on assumptions about the biological and physical characteristics of the situation. The NRA DOSE table has a field for an estimate of error associated with the dose estimate. These are not shown in the NRA Distributed Access DOSE TABLE window.

| | | |
|-------------|----------------|---|
| LYMPH NODES | ALTERED GROWTH | H |
| BONE | PRIMARY MALIG | H |

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 | |
| <p>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.</p> <p>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.</p> <p>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,</p> | | |
| <div style="border: 1px solid black; padding: 10px; margin: 0 auto; width: 80%;"> <p>Zoom to a string in a field: _____</p> <p style="text-align: center;">FIELD NAME</p> <p style="text-align: center;">Type in search string (wildcard = ..)</p> <p style="text-align: center;">[F2], [ENTER]- execute search</p> </div> | | |
| <p>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.</p> | | |
| <p>Examples (where FIELD NAME = ANIMAL_ID)</p> | | |
| User enters: | Zoom request: | Result: |
| 100009E | CASE SENSITIVE match | 100009E |
| i00009e | CASE SENSITIVE match | Match not found |
| i00009e.. | CASE INSENSITIVE match | 100009E |
| U.. | find first animal_id starting with "U" | U000002 |
| ..2 | find first animal_id with a "2" in any position | A000202 |
| aa2.. | find first animal_id with a "2" in the 4th character | U002085 |
| ..2@ | find first animal_id with a "2" in the next to last position | A000220 |

```

aaaaaa2      find first animal_id with a      A000202
               "2" in the last position

```

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.

ZOOM available for fields in
main portion of browse screen

ZOOM not functional in this window

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 [ALT] [Z] | I00009E Match not found |
| [CTRL] [Z] U.. [ALT] [Z] [ALT] [Z] | U000002 U000019 U000027 |
| [CTRL] [Z] ..2 [ALT] [Z] | A000202 DD00F12 |
| [CTRL] [Z] aaaa2.. [ALT] [Z] | U002085 Match not found |
| [CTRL] [Z] ..2a [ALT] [Z] [ALT] [Z] | A000220 A000421 DD00F24 |
| [CTRL] [Z] aaaaaa2 [ALT] [Z] [ALT] [Z] | A000202 DD00F02 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*

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.

JOURNAL

JOURNAL

PUBLISH

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 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,T,I,PGUP,PGDN-SCAN RECORDS
 NATIONAL RADIOBIOLOGY ARCHIVES

BAR_CODE: 0000001
 TITLE: Life-Span Effects of Ionizing Radiation in the Beagle Dog

SUBTITLE: Zoom to a string in field: S.
 TITLE

JOURNAL:
 JOURNAL: Type in search string (wildcard = ..)
 PUBLISH: [F2],[ENTER]-execute search
 LOCATION:

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 |

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,T,I,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: MUREG/CR-5198 PNL-6586
 DOC_TYPE: REPORT DONOR_ID: CRM LAB_ID: P

| BIBLIOGRAPHY AUTHOR TABLE | | | | |
|---------------------------|------------|-------------|--------|---|
| LAST_NAME | FIRST_NAME | MIDDLE_NAME | STATUS | |
| Filipy | E | R | A | 1 |
| Buechbom | L | R | A | 2 |
| Hiestala | P | M | A | 3 |

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.

| National Radiobiology Archives | |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| -----GENERAL HELP----- | |
| SCREEN USAGE OPTIONS: | |
| F1-HELP | - brings up definition of current field. |
| [CTRL][Z] | - pressing CONTROL and Z at the same time brings up the zoom request window for rapid browsing. |
| [ESC] | - the escape key returns to the menu. |
| VIEWING RECORD x OF n | - shows current location in the subset. |
| F3,F4-CHANGE WINDOW | - either F3 or F4 will move the cursor into a different window. |
| F5-PATH_RPT | - brings up a window showing the text of the pathologist's report (only effective on DOSE-EFFECTS browse screen). |
| F6-PRINT | - produces expanded report of current screen. You may direct the report to a file or the printer. |
| HOME, END | - zoom to first or last record in subset. |
| ARROWS | - move cursor from field to field on screen. |
| PGUP | - zoom to previous record in subset. |
| PGDN | - zoom to next record in subset. |
| SCAN RECORDS by using HOME,END,arrows,PGUP or PGDN | |
| -----Press any key to exit General Help.----- | |

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

```

F1-HELP [CTRL][Z]-ZOOM ESC-RETURN TO MENU          VIEWING RECORD 229 OF 294
F3,F4-CHANGE WINDOW F5-PATH TEXT F6-PRINT HOME,END,T,I,PGUP,PGDN-SCAN RECORDS
                     NATIONAL RADIOBIOLOGY 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
SPECIES: Canis familiaris, Beagle
ASSIGNED ID: M006S00      SIKE: U009910  DAM: U000101
BIRTH: 2/15/57      SEX: M
1ST INSULT: 5/27/58 1ST_INSULT_AGE: 1.3  LAST: 5/27/58 LAST_INSULT_AGE: 1.3
INSULT:                                1ST_WEIGHT: 9680
REMOVAL:                                REMOVAL_AGE: n/a
DEATH: 5/05/71      DEATH_AGE: 14.2      RESULTS_FINAL: N
E Euthanized - killed because death was judged imminent.
COD: not available
FINDINGS: MELANOMA (MOUTH); Pathology report available as NRA file

```

| EFFECT TABLE | | |
|--------------|------------------|----|
| TISSUE | MORPHOLOGY | DX |
| SKIN+MAMMARY | M ALTERED GROWTH | N |
| LYMPH NODES | M INFLAMMATION | N |
| LYMPH NODES | M DEGENERATION | N |
| LYMPH NODES | M ALTERED GROWTH | N |

| DOSE TABLE | | |
|------------|------|------|
| TISSUE | DOSE | DATE |
| | | |
| | | |
| | | |

Pathology Text Example - after user presses F5

F1-General Help HOME,END,↑,↓,PGUP,PGDN-Scroll Text F4-Print Text
Press any other key to return to Summary browse...
NATIONAL RADIOBIOLOGY 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 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 C6-7 and 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

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 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 C6-7 and 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.

This program will install:
NRA Distributed Access Version 1.1
on your computer system and verify the integrity of the
distribution disk(s). You may press the [Esc] key at any time to
abort the installation.

INSTALL will ask you several questions about your computer
hardware.

Each question has a default answer. If the default answer is
correct, press the ENTER key in response to the question.
Otherwise, type the answer and then press the ENTER key.

If you make a mistake while typing, press the BACKSPACE key
and then retype the answer.

Press [Esc] to quit, any other key to continue ...

On which disk drive do you wish to install NRA Distributed Access?

| |
|----------|
| Drive A: |
| Drive B: |
| Drive C: |
| Drive D: |

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

Now you need to specify the disk destination subdirectory. The subdirectory is the location on your disk where the NRA Distributed Access system will be installed. If you don't know what a "subdirectory" is, you probably need not worry about it, and should enter the default \NRA.

Which subdirectory ([Enter] = \NRA) ?

\NRA

We recommend that you choose the default, \NRA.

You may hit *Enter* to confirm your selection:

This product will be installed in the following location:
C:\NRA\.

Your options are:

1. Continue with the installation.
2. Go back and choose a different directory or drive partition.
3. Abort the installation.

Which option (1,2,3) ?

1

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

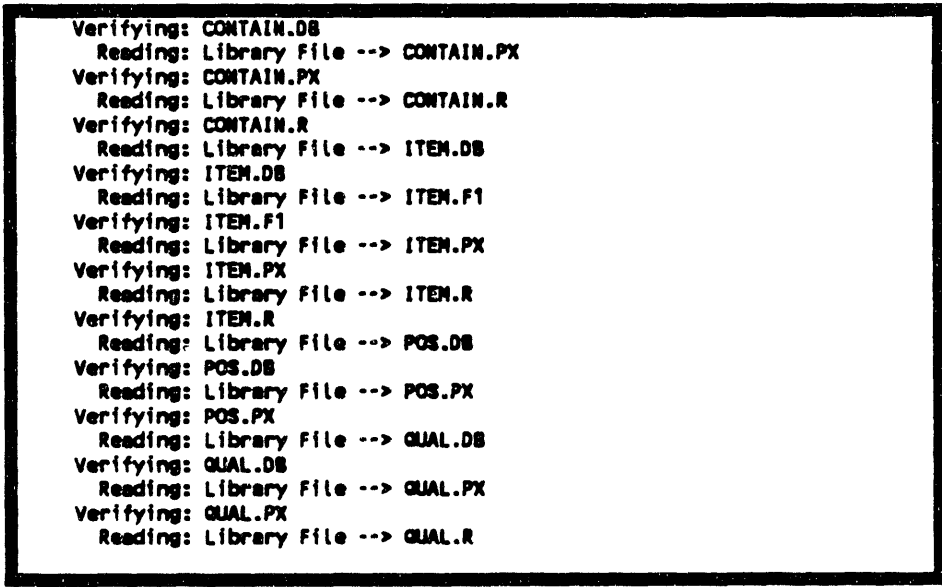
This installation could take up to 20 minutes depending on the machine. You will be prompted for additional diskettes.

Press [Esc] to quit, any other key to continue ...



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

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



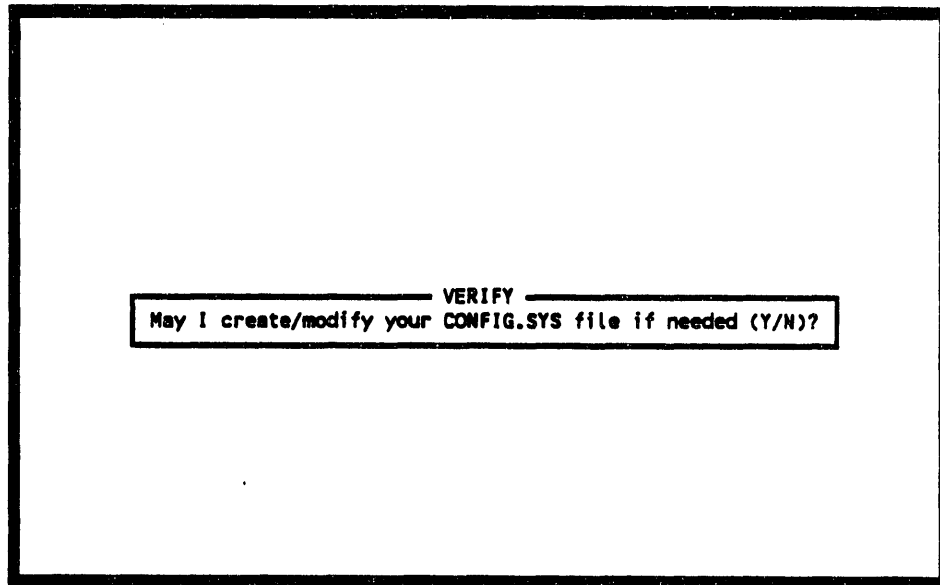
```
Verifying: CONTAIN.DB  
Reading: Library File --> CONTAIN.PX  
Verifying: CONTAIN.PX  
Reading: Library File --> CONTAIN.R  
Verifying: CONTAIN.R  
Reading: Library File --> ITEM.DB  
Verifying: ITEM.DB  
Reading: Library File --> ITEM.F1  
Verifying: ITEM.F1  
Reading: Library File --> ITEM.PX 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

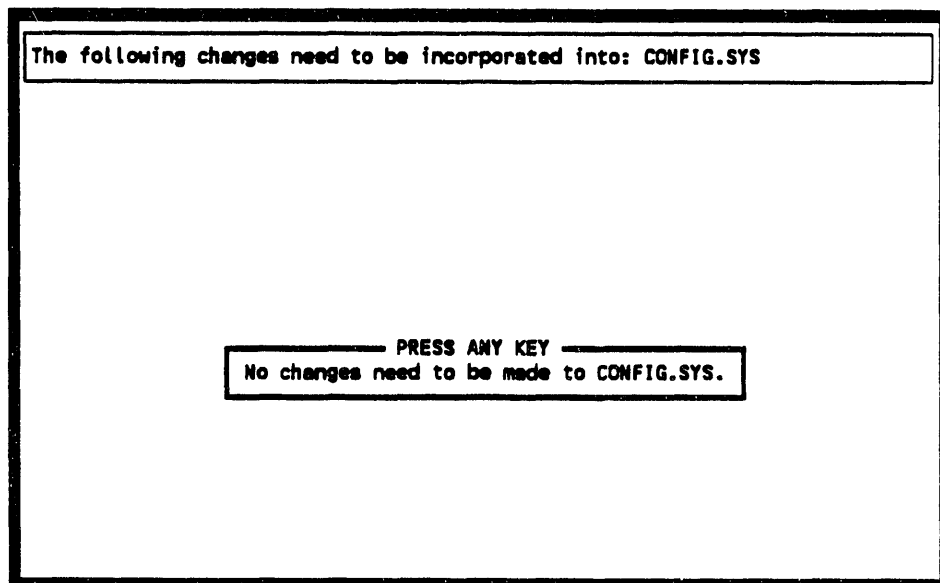
```
Decompressing: C:\NRA\S\V\SPECIES.R1
Writing: C:\NRA\S\V\SPECIES.R10
Decompressing: C:\NRA\S\V\SPECIES.R10
Writing: C:\NRA\S\V\UNITS.DB
Decompressing: C:\NRA\S\V\UNITS.DB
Writing: C:\NRA\S\V\UNITS.PX
Decompressing: C:\NRA\S\V\UNITS.PX
Writing: C:\NRA\S\V\UNITS.R1
Decompressing: C:\NRA\S\V\UNITS.R1
Writing: C:\NRA\S\V\UNITS.R10
Decompressing: C:\NRA\S\V\UNITS.R10
Writing: C:\NRA\UTIL\DEMOUTIL.LIB
      PRESS ANY KEY
R Please place the Master Distribution Disk labeled
Ver "NRA Distributed Access 2" Version: 1.1 in drive A:
R Press the [Esc] key to abort, any other key to continue...
Ver
Decompressing: C:\NRA\UTIL\DEMOUTIL.LIB
Writing: C:\NRA\UTIL\MAIN.SC
Decompressing: C:\NRA\UTIL\MAIN.SC
Writing: C:\NRA\UTIL\MENUMADE.LIB
Decompressing: C:\NRA\UTIL\MENUMADE.LIB
```

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.

```

      PRESS ANY KEY
Please remove the disk in drive A:
and replace it with the disk labeled:

NRA Distributed Access 1

Press the [Esc] key to abort
Any other key to continue...

```

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

Installation of NRA Distributed Access is now finished.

Press 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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 "@" wildcard (V1.1: 16)
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J

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K

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