CONTROL DATA
PLATO
USER'S GUIDE FOR
SYSTEM SECURITY

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REVISION RECORD

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LIST OF EFFECTIVE PAGES

New features, as well as changes, deletions, and additions to information in this manual, are indicated by bars in the margins or by a dot near the page number if the entire page is affected. A bar by the page number indicates pagination rather than content has changed.

PAGE	REV	PAGE	REV	PAGE	REV	PAGE	REV	PAGE	REV
Front Cover	-								
ii	-								
iii/iv	-								
v/vi	A								
vii/viii	A								
1-1	A								
2-1 through 2-15	A								
3-1 through 3-3	A								
4-1	A								
5-1	A								
A-1	A								
A-2	A								
Comment Sheet	A								
Back Cover	-								

PREFACE

The CONTROL DATA® PLATO® system is a multimedia computer-based educational delivery system.

This manual describes the security measures available to the user of the system. This information will be incorporated into a PLATO product definition manual to be released in early 1978.

RELATED PUBLICATIONS

Referenced and related CDC PLATO system manuals consist of the following publications:

PLATO Terminal User's Guide	97404800
PLATO User's Guide	97405900
PLATO Director's Guide	97407100

<u>CAUTION</u>

The security measures described in this manual are intended for for use only as described. Security may be lost if the security features described in this document are misused or ignored.

This manual has been prepared by the PLATO Product Management Department. Your comments are solicited. Please use the attached comment sheet and send it to the PLATO Product Management office.

CONTENTS

APPENDIX

FIGURES

This document has been prepared to meet the needs of two broad classifications of readers:

1. The experienced PLATO system user who wants to be more security conscious.

2. The inexperienced PLATO system user who wants to understand the various types of security measures available in the PLATO system.

In order to serve the needs of both of the above classifications of readers, this document will illustrate each feature as if the user is not an experienced PLATO system user.

Two important concepts will be stressed throughout this document:

1. PROTECT YOUR PASSWORD

2. BE SURE TO "SHIFT-STOP" WHEN YOU LEAVE THE TERMINAL

The two concepts stated above will be explained in this document, but it is important to note that these two security measures are controlled by the PLATO system user, YOU, and if YOU do not exercise reasonable precautions, another user could use your sign on and bypass the security features of the PLATO system.

Various options can be used to implement some of the security features described in this document. In order to keep this document simple, only one or two examples are used for each feature. For more information on any of the features described, use the "TERM-consult" option from your terminal. (See appendix A.)

The security of the PLATO system is broken into four sections:

1. User Access Security (section 2)
2. File Access Security (section 3)
3. System Access Security (section 4)
4. Site Access Security (section 5)

The fundamental security control of the PLATO system, or any other system, is the control of who can "sign on" or use the system. In the PLATO system environment, control of user access is accomplished by a hierarchy of control mechanisms consisting of:

- User Security
- PLATO Course Roster Security
- Account Security

USER SECURITY

Every user of the PLATO system must have a sign-on on the system that is entered by a "course director". (See page 2-7). The information included in the sign-on usually consists of:

- user name
- user course roster name
- user password

The user name (PLATO name) is the name selected by the user and the course director to be used when signing on to the PLATO system. The PLATO name can be any combination of up to 18 alphanumeric characters.

Examples: john doe
              doe proj 37
              newuser

The user course roster name (PLATO course) is the name of a file on the PLATO system. This file contains the names of several people who have something in common (i.e., involved in the same project, taking the same lesson, or some other common bond). Course file names can be from three to eight characters long; the first two characters must be alpha and the first character cannot be an "x".

Examples: project9
              cobol37
              newcours

The user password is a series of alphanumeric characters that each user makes up for his/her sign-on. (In some cases a user does not have a password; this will be explained later in this document.) The password selected by each user should be a string of characters that can be remembered by the user, but it should not be something like the user's initials or some other simple or obvious characters that someone may be able to guess. You should change your password periodically to avoid the chance that it has been inadvertently discovered by another user.

When a new user is added to a course roster file in the PLATO system, he/she will be placed in one of four possible user types:

- Student
- Multiple
- Author
- Instructor

A "student" on the PLATO system is a user who simply can execute assigned lessons. Depending on the terminals available to the student, he/she can be routed directly to an assigned lesson without having to provide a password, or can use a password to identify who he/she is and then be routed to his/her lessons. Since in most cases, the student shares a terminal with several other users, he/she will use the password option.

A "multiple" is similar to a student, except that he/she executes lessons using a sign-on that may be used simultaneously by more than one user.

An "author" is a user who, in the process of developing instructional materials, may create, modify, or destroy data contained in various files on PLATO for which he/she knows the change code. (See section 3 for a description of file change codes.)

An "instructor" may study available user lessons and add or delete students from any course roster file for which he/she knows the change code. In addition, the instructor develops curricula and sequences of study for the student and multiple sign-ons in a course roster.

When a new user has been given a "PLATO sign-on name" and the name of a "course roster file", the user is ready to sign on for the first time. The following sequence illustrates the process. (For the purpose of this example, the user's PLATO name will be "newuser" and the PLATO course will be "newcours".)

Press NEXT to begin

Figure 2-1. Sign-on Sequence: "Press NEXT to Begin". Either the display shown here or the display in Figure 2 should be the first you will see at the terminal. If there is something else on the display screen, press the "SHIFT" key and the "STOP" key (SHIFT-STOP) together several times until this display appears.

PM
CST
Monday, October 31, 1977

WELCOME to PLATO

178 users

Type your PLATO name, then press NEXT:

> newuser

GD
CONTROL DATA CORPORATION

Copyright Control Data Corp. 1977
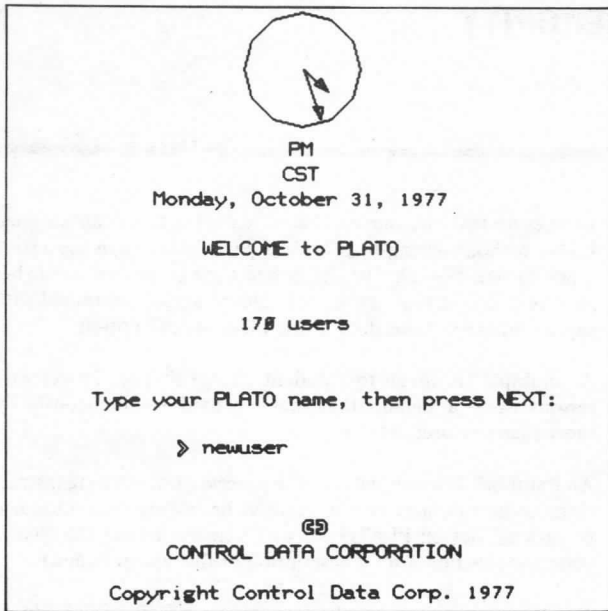
Figure 2-2. Sign-on Sequence: Enter PLATO Name. This display is the first display that requires an input by the user.

Type your PLATO name (Example: newuser) at the "arrow" (>).

Type the name of your PLATO course, then hold down
the SHIFT key and press the STOP key.

When you are ready to leave, you should press
these same keys (SHIFT-STOP) to "sign off."
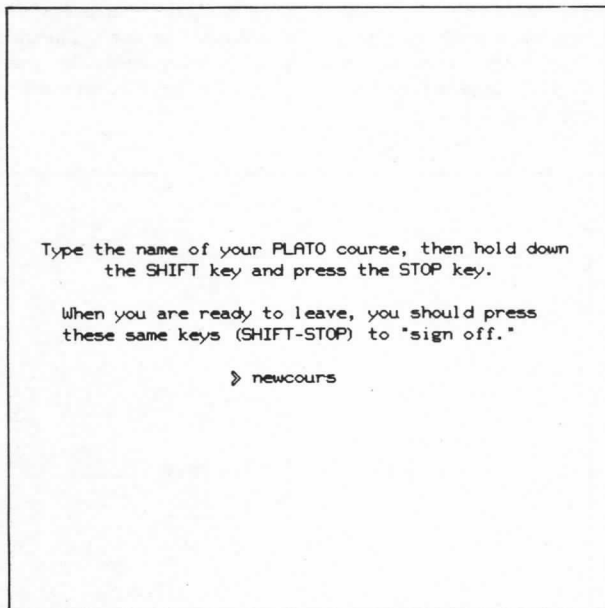
> newcours

Figure 2-3. Sign-on Sequence: Enter PLATO Course. Type in the PLATO course name (Example: newcours) at the arrow(>).

Choose a password for yourself.

Choose some word or number that you will
remember, and DON'T TELL anyone what it is!

Every time you sign-on to this course, you
must type in this password; this serves as
your unique identification.

A random number of Xs will appear for each
key you press so nobody can see what you type.

Type your password, then press NEXT.

> XXXXXXXXX
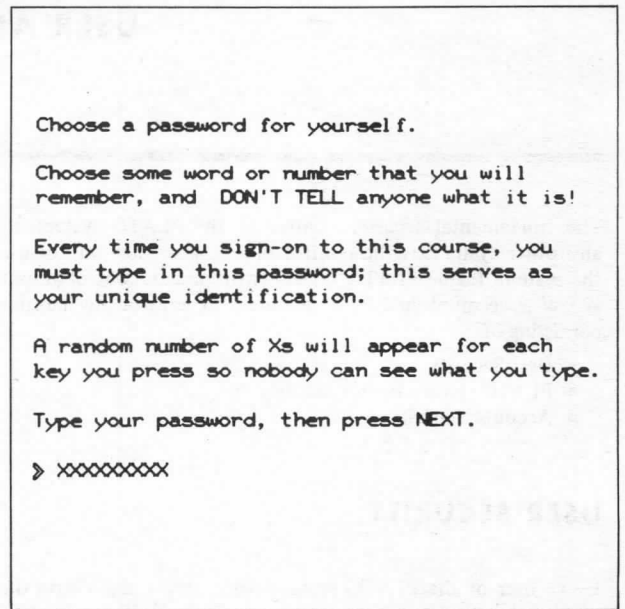
Figure 2-4. Sign-on Sequence: Make up Password. A new user will see this display on his/her first sign-on to allow him/her to make up a password and type it in at the arrow.

Choose a password for yourself.

Choose some word or number that you will
remember, and DON'T TELL anyone what it is!

Every time you sign-on to this course, you
must type in this password; this serves as
your unique identification.

A random number of Xs will appear for each
key you press so nobody can see what you type.

Type your password, then press NEXT.

> XXXXXXXXX

Do it again to make sure.

Type your password, then press NEXT.

> XXXXXXXX

Figure 2-5. Sign-on Sequence: Repeat Password. The system will ask you to retype your password to confirm it and help you remember it.

Note: *No one* can tell you what your password is if you forget it. Your account director can erase your password or assign you a new one, but no one can read your old one.

Since your password is your primary security on the system, you should change it periodically to avoid the possibility that someone else has discovered what your password is. The following sequence illustrates how to change your password.

```
                AUTHOR MODE

           Choose a lesson:


                  >



           HELP available




   This is the first time these records have been used.
```
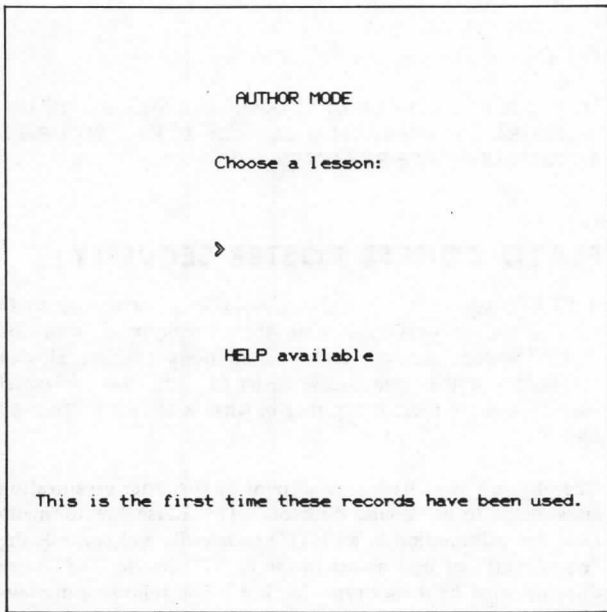
Figure 2-6. Author Mode Page. This is the display that a new author will see following the sign-on process. Note the message indicating that this is the first time these records have been used (i.e., this is the first time "newuser". of "newcours" has signed on).

"Student" or "multiple" sign-ons will go immediately into a lesson determined in advance by the course director.

```
        Type your password, then press NEXT.

           > xxxxxxxxx









        OR...Press the LAB key for additional options
```
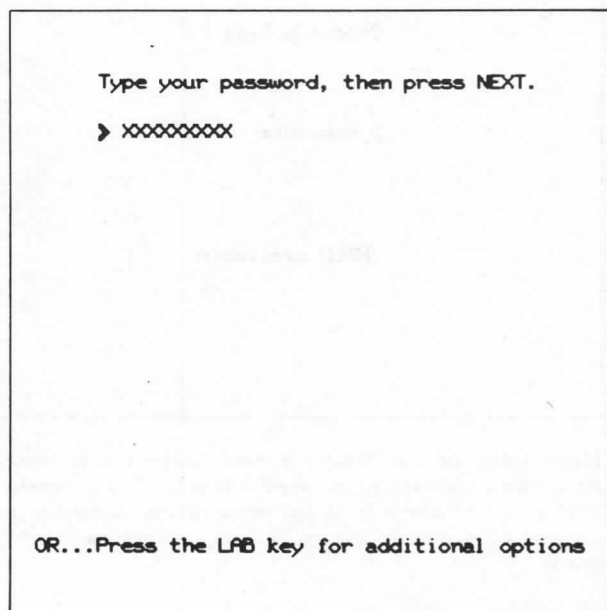
Figure 2-7. Password Change Sequence: Enter Old Password. For a user who has previously selected a password, this display will follow the displays shown in fugures 2-2 and 2-3 (i.e., after you have given your PLATO name and PLATO course. You have two options at this point:

1. Type your password and press NEXT. This will allow you to continue your normal activity.

2. Type your password and press LAB for additional options.

This will allow you to change your password or select some other options.

Note: You have to supply the old password in order to change it.

```
    Press LAB       to change your password
          DATA      for information on your records
          SHIFT-DATA to bypass the site access controller
          NEXT      to continue
```
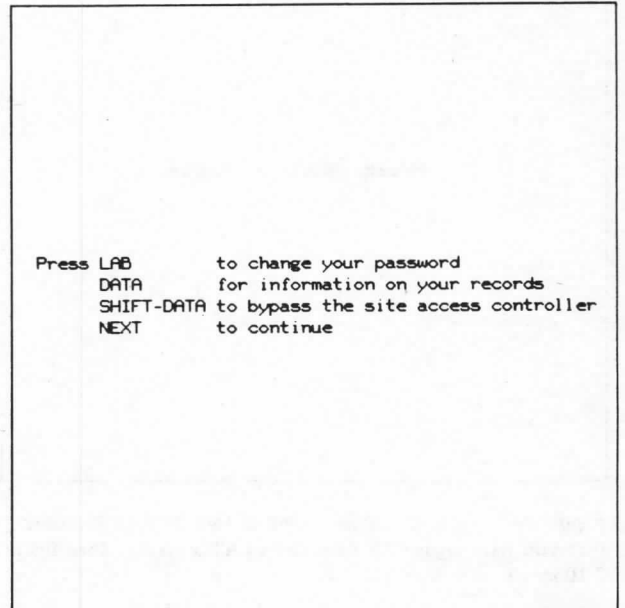
Figure 2-8. Password Change Sequence: Select option. This display gives you a choice of four options:

1. Press LAB to change your password.
    Pressing LAB at this point will allow you to change your password by taking you through the process shown in figures 2-4 and 2-5.

2. Press DATA for information on your records.
    Pressing DATA will show you some information about your use of the system including your cumulative hours on the system, number of sessions, etc.

3. Press SHIFT-DATA to bypass the site access controller.
    Pressing SHIFT-DATA allows the user who knows a code word to bypass "subsite" controls that determine who can sign on at the terminal. Use TERM-consult to discuss this option.

Note: This option may take on special meaning on PLATO systems other than the Control Data PLATO services offering.

4. Press NEXT to continue.
    Pressing NEXT will allow the user to continue without selecting a new password.

In the user sign-on sequence that is illustrated, the two basic security controls of the PLATO system are brought to your attention. In figure 2-3, you are reminded to "SHIFT-STOP" to sign off. If you do *not* do this, but simply walk away from the terminal, the next user can simply continue with your sign-on. This would allow him/her to have access to anything that is available from your sign-on.

When you have completed the "SHIFT-STOP" process, you will see the display in figure 2-9 or figure 2-10.

```



                  Press  NEXT  to begin




```
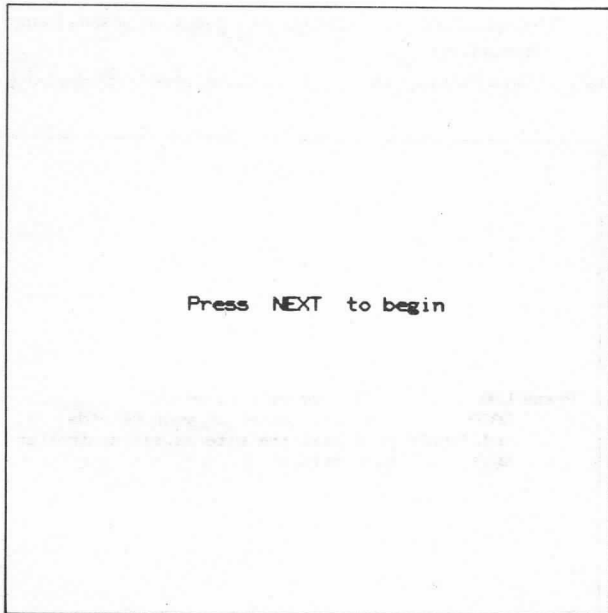
Figure 2-9. Sign-off Display. One of two displays illustrating that you have signed off from the PLATO system. (See figure 2-10 also.)

```

                         ↖↘
                    (clock face)

                       PM
                       CST
            Monday, October 31, 1977

               WELCOME to PLATO


                   159 users


       Type your PLATO name, then press NEXT:

                 ≫


                      (CD)
             CONTROL DATA CORPORATION

         Copyright Control Data Corp. 1977
```
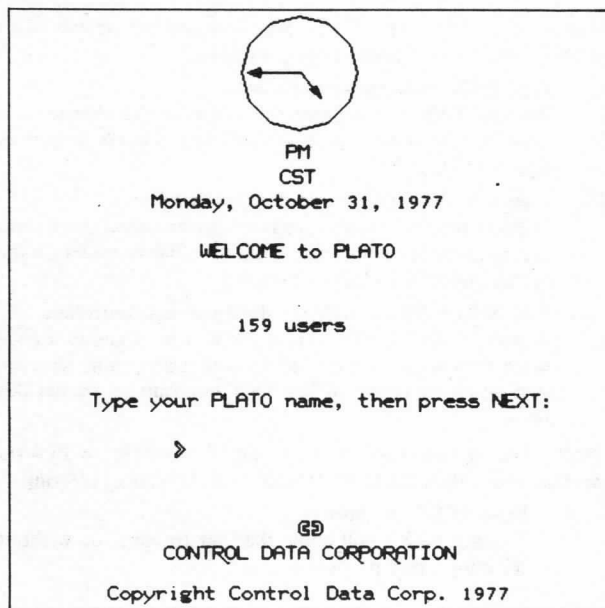
Figure 2-10. Sign-off Display. One of two displays illustrating that you have signed off from the PLATO system. (See figure 2-9 also.)

In figure 2-4, you are reminded to select your password and "DON'T tell anyone what it is." If you allow someone to use your sign-on, including your password, he/she can have access to anything that is available from your sign-on.

It is important that each user protect his/her security by not allowing any other person to use his/her password. If an unauthorized user gains access to the system by using someone's sign-on, there is no way for the PLATO system to detect this event.

IF AN ACCOUNT DIRECTOR SIGN-ON IS USED BY AN UNAUTHORIZED USER, *ALL ACCOUNT LEVEL SECURITY CONTROLS CAN BE BYPASSED.*

IF A COURSE DIRECTOR SIGN-ON IS USED BY AN UNAUTHORIZED USER, *ALL COURSE LEVEL SECURITY MEASURES CAN BE BYPASSED.*

PLATO COURSE ROSTER SECURITY

A PLATO course is essentially a group of persons who share some common denominator in their involvement with the PLATO system. As such, each of these users is registered with the system in the same course roster file, and their individual user records are located together in what is termed a "course" file.

One or more users from one account or customer organization are selected to be "course directors". The course director maintains the information in a PLATO course file and controls the "enrollment" of user names in the PLATO course. The course director must be a user type "author". The following displays illustrate the sequence the course director goes through to handle course maintenance and security.

```

              AUTHOR MODE


           Choose a lesson:



           ≫ newcours



           HELP available

```

Figure 2-11. Course Director Actions: Enter Course Name. At any time while the course director is at the "author mode" display, he/she can type in the name of the course file to execute course director options. (Example course name: newcours).

```
Sorry - you do not have the correct security code.


Type the security code of this course:

  > XXXXXX
```

Figure 2-12. Course Director Actions: Enter Security Code.
The user must supply the correct security code for the course.
This code is selected by the course director. (See figure 2-14
for further information about the code word).

The user can type the code word in now, or preset the code
word in advance by using the "SHIFT-s" option from the
author mode page.

Depending on the options selected on the display shown in
figure 2-14, the security illustrated here may not be required.

```
                    (authors)

        ┌─────────────────────────┐
        │   Course "newcours"     │      2 people
        └─────────────────────────┘      18 spaces left


    Choose an option (or press HELP):

    1   SEE or change someone's record

    2   ROSTER operations
           (list, add, delete, messages, who's running)

    3   STATISTICS on records

    4   SPECIAL options




    Press BACK to leave.

    Press DATA for course description.
```

Figure 2-13. Course Director Actions: Select Option. The first
display for the course director allows a choice of several
options. Figures 2-14 through 2-21 illustrate various actions the
course director can execute.

```
Course newcours     Created  10/31/77
Account traind
Last edited --  10/31/77   16.36.35    station 11-16
         by --  newuser
     course --  newcours 1
last action --  Add student
                (record newstudent)
Choose a letter or number to change an entry:


    1. To change course   --  **********
    2. To inspect course  --  **********
    3. System Access to course --  ALLOWED

    4. Student Notes file    --
    5. Data file name        --
    6. Router lesson name    --


Course Director Information:

a. Name --------------    newuser
b. Dept/Affiliation --
c. Telephone number --

Course Information:

d. Course Designation --
e. Location/School -----

f. One line description of course:
```
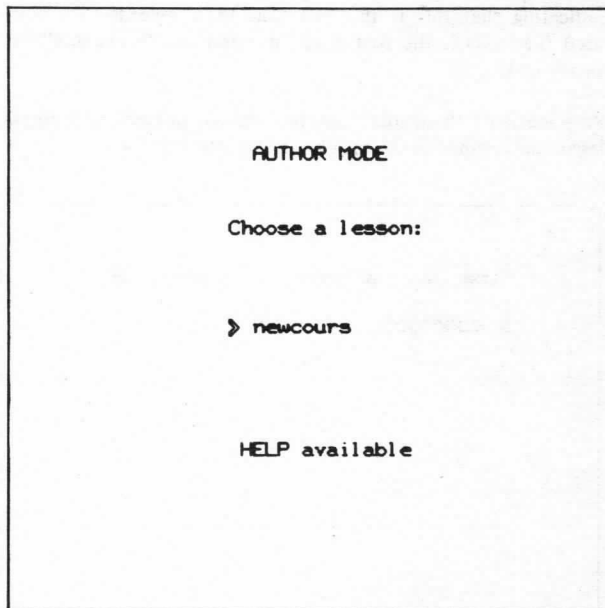
Figure 2-14. Course Director Actions: Course Description.
Pressing DATA from the display in figure 2-13 brings you to the
course description. Items 1, 2, and 3 control the security of
the course.

Item 1 controls who can change (i.e., edit) the course file.
Whoever knows this code word can act as a course director for
course "newcours". Item 2 controls who can inspect (i.e., read)
the course file information. Item 3 indicates access by Control
Data personnel to the course file. (See section 3.)

The security of a course file is controlled in two ways:

1. Control of who can change the course file (i.e., course
    director).

2. Control of who can inspect data contained in the course
    file.

Both options can be controlled either by establishing a code
word or by allowing users from a specific course or account to
have access. The latter method is referred to as a "group code".
Selecting the "code word" options implies that the course
director must make up and remember a code word and enter it
each time he/she wants to edit the course. If the code word is
divulged to another user, that user can also execute course
director options. If an unauthorized user randomly guesses
the code word, he/she can also execute course director control.
(Changing a code word is illustrated in figures 2-15, 2-16 and
2-17.)

```
Course newcours    Created  18/31/77
Account traind
Last edited --  18/31/77   16.36.35   station 11-16
       by --  newuser
     course --  newcours 1
last action --  Add student
                (record newstudent)
Choose a letter or number to change an entry:
       Enter new code, or press LAB for GROUP codes
       1. To change course  --> XXXXXX
       2. To inspect course --  **********
       3. System Access to course --  ALLOWED

       4. Student Notes file    --
       5. Data file name        --
       6. Router lesson name    --


Course Director Information:

a. Name --------------    newuser
b. Dept/Affiliation --
c. Telephone number --

Course Information:

d. Course Designation --
e. Location/School -----


f. One line description of course:
```

Figure 2-15. Course Security Actions: Enter Change Code Word.
By typing "1" on the display in figure 2-14, the system clears
the previous code word to change the course. Typing a new code
word at the arrow appears as a random number of "X"s. Press
NEXT when you are done.

```
Course newcours    Created  18/31/77
Account traind
Last edited --  18/31/77   16.36.35   station 11-16
       by --  newuser
     course --  newcours 1
last action --  Add student
                (record newstudent)
Choose a letter or number to change an entry:
       Enter new code, or press LAB for GROUP codes
       1. To change course  --> XXXXXX      Do it again.
       2. To inspect course --  **********
       3. System Access to course --  ALLOWED

       4. Student Notes file    --
       5. Data file name        --
       6. Router lesson name    --


Course Director Information:

a. Name --------------    newuser
b. Dept/Affiliation --
c. Telephone number --

Course Information:

d. Course Designation --
e. Location/School -----


f. One line description of course:
```

*Figure 2-16. Course Security Actions: Repeat Change Code
Word.* The system asks you to repeat the new code word to help
you remember and verify it. Press NEXT when you are done.

```
Course  newcours    Created  18/31/77
Account traind
Last edited --  18/31/77   16.48.36   station 11-16
       by --  newuser
     course --  newcours 1
last action --  Change system access

Choose a letter or number to change an entry:


       1. To change course  --  **********
       2. To inspect course --  **********
       3. System Access to course --  ALLOWED

       4. Student Notes file    --
       5. Data file name        --
       6. Router lesson name    --


Course Director Information:

a. Name --------------    newuser
b. Dept/Affiliation --
c. Telephone number --

Course Information:

d. Course Designation --
e. Location/School -----


f. One line description of course:
```

Figure 2-17. Course Security Actions: Completed Code Word.
The new code word is entered.

Use of group codes allows the course director to specify that
only those users in the same course or the same account as the
course director can have access to the course file. This method
of control prevents accidental disclosure of a code word that
would allow unauthorized access. Since a user must be in a
specific course or account, the system will prevent all other
users from accessing the course file. If group codes are used,
the security code request illustrated in figure 2-12 will not be
a requirement. (Establishing group codes is illustrated in figures
2-18 through 2-21.)

```
Course  newcours    Created  18/31/77
Account traind
Last edited --  18/31/77   16.36.35   station 11-16
       by --  newuser
     course --  newcours 1
last action --  Add student
                (record newstudent)
Choose a letter or number to change an entry:
       Enter new code, or press LAB for GROUP codes
       1. To change course  -->
       2. To inspect course --  **********
       3. System Access to course --  ALLOWED

       4. Student Notes file    --
       5. Data file name        --
       6. Router lesson name    --


Course Director Information:

a. Name --------------    newuser
b. Dept/Affiliation --
c. Telephone number --

Course Information:

d. Course Designation --
e. Location/School -----


f. One line description of course:
```

Figure 2-18. Course Security Actions: Change Code Words.
By typing a "1" from the display in figures 2-14 or 2-17, you
can select the group code option by pressing the LAB key.

```
Course  newcours    Created  10/31/77
Account  traind
Last edited --   10/31/77   16.36.35   station 11-16
        by --  newuser
      course --  newcours 1
last action --  Add student
                (record newstudent)
Choose a letter or number to change an entry:
      Press 1 for COURSE code; 2 for ACCOUNT code
      1. To change course  -->
      2. To inspect course -- **********
      3. System Access to course --  ALLOWED

      4. Student Notes file    --
      5. Data file name        --
      6. Router lesson name    --


Course Director Information:

a. Name -------------    newuser
b. Dept/Affiliation --
c. Telephone number --

Course Information:

d. Course Designation --
e. Location/School -----

f. One line description of course:
```

Figure 2-19. Course Security Actions: Select Group Codes.
You can now select option 1 which will enter the course name
that you, the course director, are a part of, (see figure 2-20) or
you can select option 2 which will enter your account name.
(See figure 2-21.)

```
Course  newcours    Created  10/31/77
Account  traind
Last edited --   10/31/77   16.36.35   station 11-16
        by --  newuser
      course --  newcours 1
last action --  Add student
                (record newstudent)
Choose a letter or number to change an entry:

      1. To change course  --  COURSE newcours
      2. To inspect course -- **********
      3. System Access to course --  ALLOWED

      4. Student Notes file    --
      5. Data file name        --
      6. Router lesson name    --


Course Director Information:

a. Name -------------    newuser
b. Dept/Affiliation --
c. Telephone number --

Course Information:

d. Course Designation --
e. Location/School -----

f. One line description of course:
```

Figure 2-20. Course Security Actions: Sample Group Code.
This display illustrates that a user listed in course "newcours"
who has been given authority to edit course files can edit course
"newcours". You must be an "author" or an "instructor" to
edit courses. (See figures 2-29 through 2-34 for user type
Author/Instructor options.)

```
Course  newcours    Created  10/31/77
Account  traind
Last edited --   10/31/77   16.36.35   station 11-16
        by --  newuser
      course --  newcours 1
last action --  Add student
                (record newstudent)
Choose a letter or number to change an entry:


      1. To change course  --  ACCOUNT traind
      2. To inspect course -- **********
      3. System Access to course --  ALLOWED

      4. Student Notes file    --
      5. Data file name        --
      6. Router lesson name    --


Course Director Information:

a. Name -------------    newuser
b. Dept/Affiliation --
c. Telephone number --

Course Information:

d. Course Designation --
e. Location/School -----

f. One line description of course:
```

Figure 2-21. Course Security Actions: Sample Group Code.
This display illustrates that any user type "author" in account
"traind" can act as a course director for course "newcours".

"System access to course" is explained in section 4 of this
document.

The course director determines who is in a course file. This
control allows the course director to determine who can access
the PLATO system and what a user can do after he/she has
signed on. The following displays illustrate this process.

```
Last edited by newuser of newcours
on 10/31/77 at station 11-16

            (authors)

      +-------------------+
      |                   |      5 people
      | Course "newcours" |      15 spaces left
      +-------------------+


      Choose an option (or press HELP):

      1  SEE or change someone's record

      2  ROSTER operations
         (list, add, delete, messages, who's running)

      3  STATISTICS on records

      4  SPECIAL options




      Press BACK to leave.

      Press DATA for course description.
```

Figure 2-22. Course Roster Actions: Select Options. This is the
first display for the course director. By selecting option 2,
"roster" operations can be executed. Note: Press HELP for an
explanation of the other options.

```
        Roster operations for "newcours"

     5 people            15 spaces left


   Choose an option:

        a   SEE or change someone's record

        b   see the ROSTER of people

        c   ADD someone to the roster

        d   DELETE someone from the roster

        e   leave a MESSAGE for someone

        f   see who is now RUNNING


   (Press BACK for main choice page.)
```
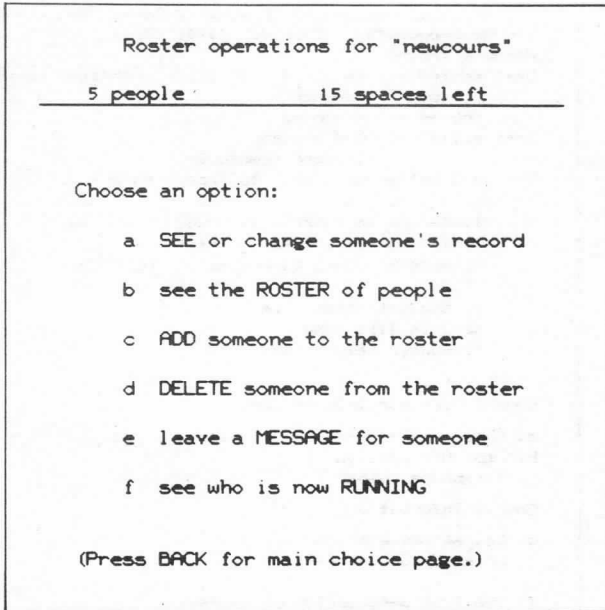
Figure 2-23. Course Roster Actions: Select Options. This display illustrates the available roster operations. By exercising various options here, the course director can control access to the PLATO system by users in his/her PLATO course. The process of adding someone to the roster is illustrated in figures 2-24 through 2-40. Select option c here.

```
        Course "newcours"

     3 persons          17 spaces left


   Names may be 18 characters long and may
   contain lower-case letters and numbers.


   Enter the name of the new author,
   then press NEXT to add, or LAB to set
   the password first.
   (All author options OFF.)

        》 newauthor


            For help press HELP
```

Figure 2-25. Course Roster Actions: Enter New PLATO Author Name. Enter the new author sign-on name (Example: newauthor).

```
   Choose the type of record:

        1   student

        2   multiple

        3   author

        4   instructor
```

Figure 2-24. Course Roster Actions: Select New User Type. Select one of the four user types. Figures 2-25 through 2-34 illustrate adding a new "author". (An "instructor" is very similar.) Select 3 and continue. Figures 2-35 through 2-40 illustrate adding a new "student". (A "multiple" is very similar.) Select 1 and go to figure 2-35.

```
        Press DATA if you want to change
        the new author record.
```

Figure 2-26. Course Roster Actions: Change Author Record. Press DATA if you want to select various author options.

```
"newstudent" (student)                        lesson:
                                                unit:
Started   10/31/77
Last on
Total hours =    0.0
Signon password:   (blank)--NOT CHOSEN YET


     Choose an option:

        1   change PASSWORD

        2   change spelling of student's NAME

        3   leave a MESSAGE

        4   SPECIAL options


Press SHIFT-HELP for:  delete, turn-off

Press SHIFT-NEXT for next person in roster
      SHIFT-BACK for previous person
      HELP for help
```

Figure 2-27. Course Roster Actions: Select Option. The course director can preset or change the password by selecting option 1. Option 2 allows the course director to select several variables that will affect what the author can do. (See figures 2-28 through 2-33.) Use "TERM-consult" for any questions you have. (See appendix A.)

```
        Press DATA if you want this person to have
               the same options you have,

           or  NEXT to set individual options.
```

Figure 2-28. Course Roster Actions: Select Author Options. Press NEXT to see all selectable variables.

```
Change options that newauthor can use.
These options will hold true at all times.

Options this Author can pass on to an Instructor


     no   a   choose a lesson from an instr. file CATALOG

     no   b   choose ANY lesson (by lesson name)

     no   c   see who is running at the SITE

     no   d   see system-wide list of USERS

     no   e   access PUBLIC notes and system announcements




Page 1 of 6.   Press NEXT to go on.
```

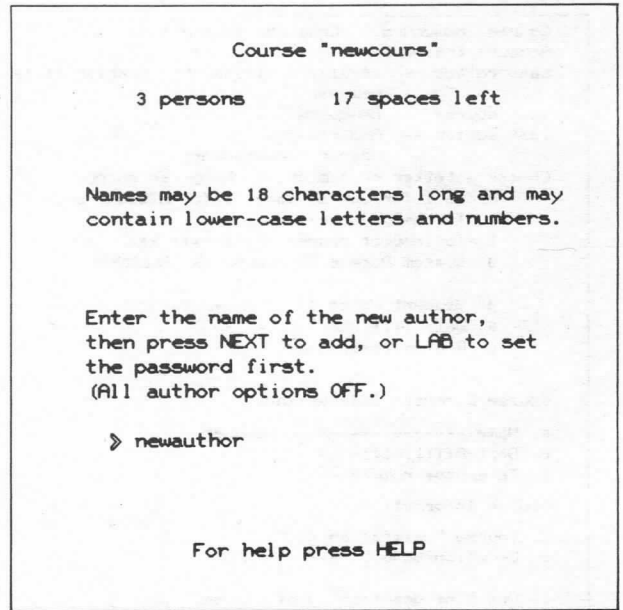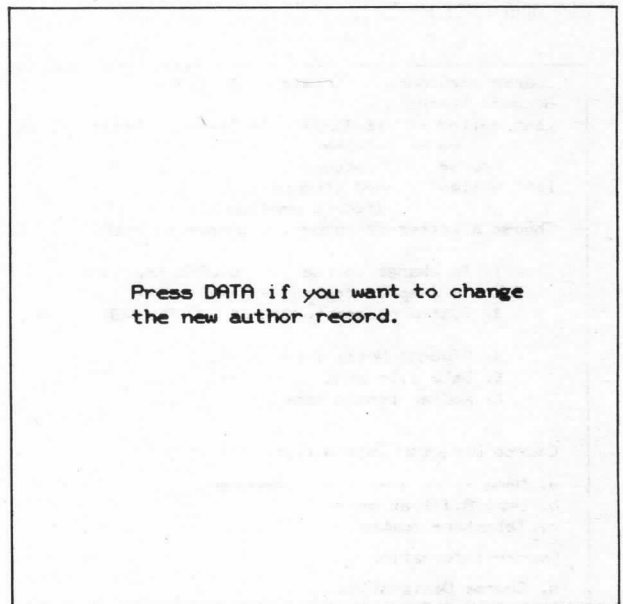*Figure 2-29. Course Roster Actions: Page 1 of 6 Author Options.* Page 1 of author/instructor variables. Use "TERM-consult" for information on what each option does. Simply type a letter to change the setting to "yes".

```
    Change options that newauthor can use.
    These options will hold true at all times.

        no   a   EDIT course "newcours" (with specified options)
                 (author must also have course "change" code)
        no   b   edit OTHER courses (with specified options)
                 (person must also have course "change" code)
        no   c   EDIT student or multiple records

        no   d   EDIT author or instructor records

        no   e   SEE someone's record

        no   f   see the ROSTER of people

        no   g   STATISTICS on students

        no   h   leave a MESSAGE for someone

        no   i   see who is RUNNING

        no   j   monitor a running student

        no   k   sign-out a running student

        no   l   send message to a running student
    Page 2 of 6.   Press NEXT to go on.
```

Figure 2-30. Course Roster Actions: Page 2 of 6 Author Options. Page 2 of author/instructor variables. Use "TERM-consult" for information on what each option does.

```
Change options that newauthor can use.
These options will hold true at all times.

    no   a   create STUDENT record

    no   b   create MULTIPLE record

    no   c   create AUTHOR record

    no   d   create INSTRUCTOR record

    no   e   TURN OFF someone's record

    no   f   DELETE someone from the roster

    no   g   change signon PASSWORD

    no   h   change spelling of student's NAME

    no   i   see individual DATA collection options

    no   j   change individual DATA collection options

    no   k   set author/instructor OPTIONS

    no   l   manage personal NOTES activity

Page 3 of 6.  Press NEXT to go on.
```

Figure 2-31. Course Roster Actions: Page 3 of 6 Author Options.
Page 3 of author/instructor variables. Use "TERM-consult" for information on what each option does.

```
Change options that newauthor can use.
These options will hold true at all times.

The following options apply if "mrouter" is used.

    no   a   see CURRICULUM design

    no   b   see individual curriculum STATUS

    no   c   change curriculum MODULES

    no   d   change module completion CRITERIA

    no   e   change module PROGRESSION order

    no   f   change curriculum SEQUENCES

    no   g   change lesson CATALOG

    no   h   change individual curriculum MODULE setting

    no   i   create individual curriculum SEQUENCE

    no   j   change individual SCORE or lesson COMPLETION

Page 5 of 6.  Press NEXT to go on.
```

Figure 2-33. Course Roster Actions: Page 5 of 6 Author Options.
Page 5 of author/instructor variables. Use "TERM-consult" to get information on what each option does.

```
Change options that newauthor can use.
These options will hold true at all times.

    no   a   see student variables

    no   b   change student variables

    no   c   see router variables (if not using mrouter)

    no   d   change router variables (if not using mrouter)

    no   e   change current lesson

    no   f   change current unit

    no   g   change course DESCRIPTION

    no   h   change course CODEWORDS or FILES (router etc.)

    no   i   set up a "TEMPLATE" record

    no   j   change course-wide DATA COLLECTION options

    no   k   COPY a record from another course

    no   l   DELETE ALL records

Page 4 of 6.  Press NEXT to go on.
```

Figure 2-32. Course Roster Actions: Page 4 of 6 Author Options.
Page 4 of author/instructor variables. Use "TERM-consult" for information on what each option does.
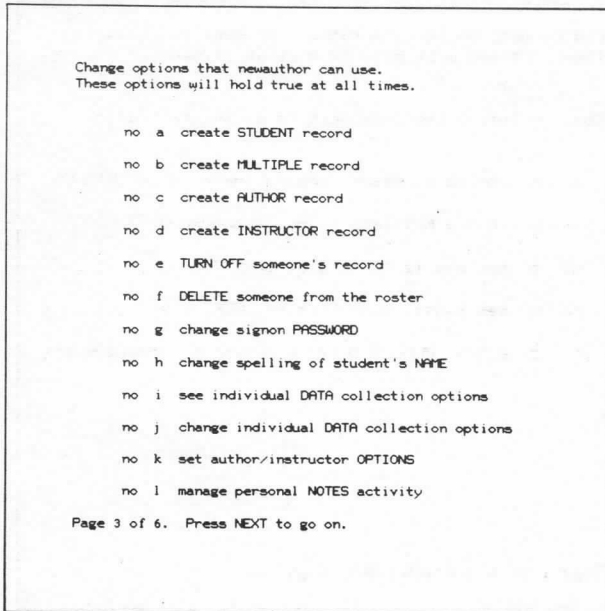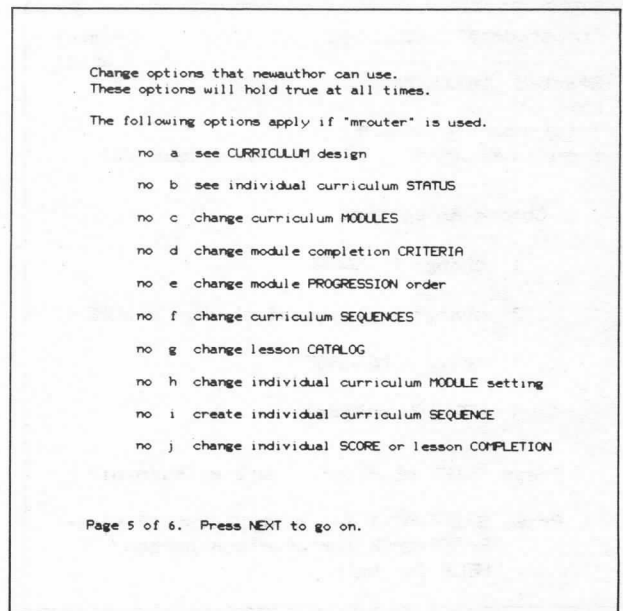
```
Change options that newauthor can use.
These options will hold true at all times.

The following options apply if "mrouter" is used.

    no   a   change instructor file information

    no   b   COPY from another mrouter CATALOG

    no   c   COPY another INSTRUCTOR file

    no   d   extend curriculum SPACE (no. of modules, etc.)

    no   e   DESTROY all MODULES

    no   f   DESTROY all SEQUENCES

    no   g   DESTROY the CATALOG

Page 6 of 6.  Press NEXT to go on.
```
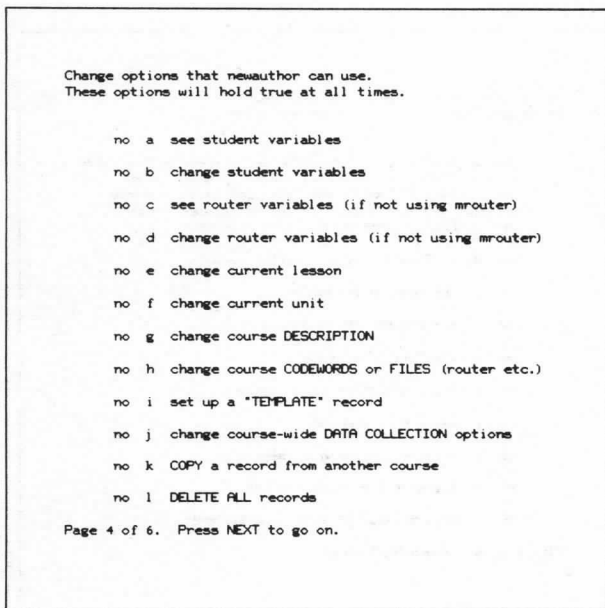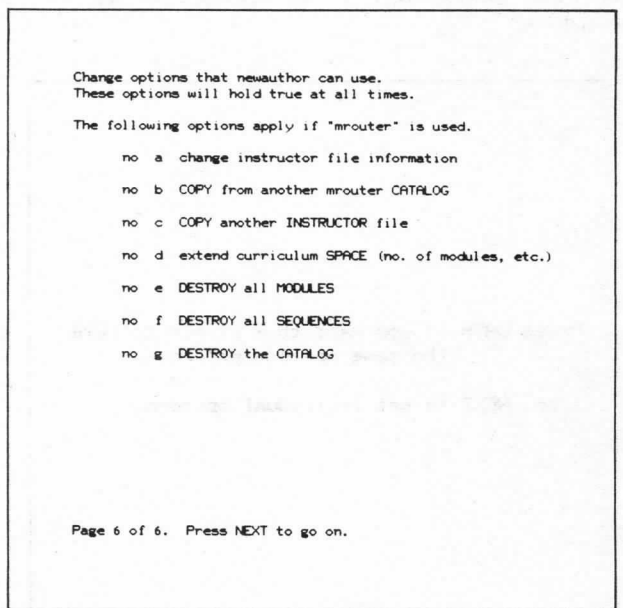
Figure 2-34. Course Roster Actions: Page 6 of 6 Author Options. Page 6 of author/instructor variables. Use "TERM-consult" for information on what each option does.

Many of the options in the six pages shown in figures 2-29 through 2-34 relate to security controls. For example, options "a" and "b" on "page 2 of 6" (figure 2-30) indicate that an author can (yes) or can't (no) edit course files. In other words, if an author has a "no" here, he/she cannot edit (change) course files even if he/she either knows the code words or is in the right group code course or account.

```
                Course "newcours"

       1 persons        19 spaces left


   Names may be 18 characters long and may
   contain lower-case letters and numbers.


   Enter the name of the new student,
   then press NEXT to add, or LAB to set
   the password first.


       > newstudent



           For help press HELP
```

Figure 2-35. Course Roster Actions: Enter New PLATO Student Name. Enter the new student sign-on name (Example: newstudent).

```
                Course "newcours"

       2 persons        18 spaces left


   Names may be 18 characters long and may
   contain lower-case letters and numbers.


   Enter the name of the new student,
   then press NEXT to add, or LAB to set
   the password first.


       > newstudent ok

       student "newstudent" added




   To change the record of the new student, press DATA.
           For help press HELP
```

Figure 2-36. Course Roster Actions: Select Student Options. Press DATA to select student options.

```
 "newstudent"  (student)              lesson:
                                      unit:
 Started  18/31/77
 Last on
 Total hours =    8.8
 Signon password:   (blank)--NOT CHOSEN YET



      Choose an option:

        1   change PASSWORD

        2   change spelling of student's NAME

        3   leave a MESSAGE

        4   SPECIAL options

      Press SHIFT-HELP for:  delete, turn-off

      Press SHIFT-NEXT for next person in roster
            SHIFT-BACK for previous person
            HELP for help
```

Figure 2-37. Course Roster Actions: Select Option. The course director can preset or change the password by selecting option 1. Figures 2-38 through 2-40 illustrate how to change a password or how to eliminate it if desired for student records only. Use "TERM-consult" for any questions.

```
 "newstudent"  (student)              lesson:
                                      unit:
 Started  18/31/77
 Last on
 Total hours =    8.8
 Signon password:   (blank)--NOT CHOSEN YET
              >                    Press LAB to clear it.
                                   Press DATA if no password
                                   is required.
      Choose an option:

        1  change PASSWORD

        2  change spelling of student's NAME

        3  leave a MESSAGE

        4  SPECIAL options




      Press SHIFT-HELP for:  delete, turn-off

      Press SHIFT-NEXT for next person in roster
            SHIFT-BACK for previous person
            HELP for help
```

Figure 2-38. Course Roster Actions: Change Student Password. Type "1", then either press LAB to clear the old password, press DATA if none is required (see figure 2-40), or type in the new password and press NEXT.

```
"newstudent"  (student)              lesson:
                                       unit:
Started  18/31/77
Last on
Total hours =   8.8
Signon password:  XXXXXXXXXX
               >                 Press LAB to clear it.
                  Do it again.   Press DATA if no password
                                 is required..
       Choose an option:

       1  change PASSWORD

       2  change spelling of student's NAME

       3  leave a MESSAGE

       4  SPECIAL options



       Press SHIFT-HELP for:  delete, turn-off

       Press SHIFT-NEXT for next person in roster
             SHIFT-BACK for previous person
             HELP for help
```

Figure 2-39. Course Roster Actions: Re-enter New Password.
Type in the new password again to confirm it and press NEXT.

```
"newstudent"   (student)             lesson:
                                       unit:
Started   18/31/77
Last on
Total hours =    8.8
Signon password:  none required



    Choose an option:

    1   change PASSWORD

    2   change spelling of student's NAME

    3   leave a MESSAGE

    4   SPECIAL options

    Press SHIFT-HELP for:  delete, turn-off

    Press SHIFT-NEXT for next person in roster
          SHIFT-BACK for previous person
          HELP for help
```

Figure 2-40. Course Roster Actions: Remove Student Password.
If you press DATA at the display in figure 2-38, a password is
not required.

Since the course director has access to student records of the
people enrolled in his/her course roster file, the director should
be aware of the federal and state laws requiring that student
records be maintained confidential.

ACCOUNT SECURITY

The "account" is the capability in the PLATO system that
allows a group of people to have access to it. An "account
director" can perform the following tasks:

- create files
- destroy files
- rename files
- copy files
- lengthen files
- shorten files
- change file code words
- list the titles of all files in the account

These tasks can be categorized as file management actions. In
a file-oriented system such as PLATO, this is an important part
of the overall security of the system. Note: Since the account
director can change file code words, he/she can access any file
within the account structure.

The account director accomplishes the above tasks by use of
the system lesson "accounts".

When a new account is created, CDC PLATO systems personnel
create an account name and a course roster file in the new
account. The new account director's sign-on name is entered
into the course roster and control of the account is turned
over to him/her. The new account director will work with
someone in the PLATO services group during his/her first con-
tact with account options.

The following displays illustrate the sequence the account
director goes through to do account level activities, including
handling the security of the account. Example account name:
traind.

```
          AUTHOR MODE


      Choose a lesson:



        > traind



          HELP available
```

Figure 2-41. Account Director Actions: Select Account. Type in
the name of your account (Example: traind) and press NEXT.

```
Account ----------- traind

         a.  Files for this account

         b.  Selected major users list

         c.  References by other accounts

         d.  References to lessons

         e.  Usage data by lesson

         f.  Current users in this account

         g.  Log of file operations


     NEXT:  PLATO file management options

     LAB:  CMI file management options

     DATA:  General account information
```

Figure 2-42. Account Director Actions: Account Options. The first display for the account director lists the various options available. Press NEXT to see the general account information shown in figure 2-43.

```
Account ----------- traind

Account Director -- newuser - newcours


     Spaces remaining -----  102
     Spaces allotted  -----  110
     Files in account -----    5

     Subscriptions -------- 2

     1.  Inspect code ---------------- No code--director only
     2.  Data change code ----------- No code--director only
     3.  File change code ----------- No code--director only
     4.  Access by system personnel -- ALLOWED

     5.  Lesson Notes File -----------

Press the number to change an item.
```

Figure 2-43. Account Director Actions: General Account Information. The general account information as shown here illustrates that only the account director, newuser-newcours, has access to this information. The account director is the only sign-on who can change the data on this display. However, by using various code word options, the account director can allow other users to do some account director activities (see figures 2-44 through 2-48).

The three codes: inspect code, data change code, and file change code, allow the account director the option to let other sign-ons execute some account director options. Each code can be left as shown in figure 2-41, allowing only the account director, or the codes can be set as code words or group codes as discussed for the course director. Only the account director (newuser-newcours) can change the settings of the code words.

- The "inspect code" determines who can inspect the account information.
- The "data change code" determines who can clear (i.e., re-initialize) data that is collected about the use of lessons from the account.
- The "file change code" is the most powerful option the account director can allow other sign-ons to use. This allows the user to carry out all file management operations within the account.

```
Account ----------- traind

Account Director -- newuser - newcours


     Spaces remaining -----  102
     Spaces allotted  -----  110
     Files in account -----    5

     Subscriptions -------- 2
      Enter code, or press LAB for GROUP codes
     1.  Inspect code ---------------- ⟩ XXXXXXXXXX
     2.  Data change code ----------- No code--director only
     3.  File change code ----------- No code--director only
     4.  Access by system personnel -- ALLOWED

     5.  Lesson Notes File -----------

Press the number to change an item.
```

Figure 2-44. Account Director Actions: Change Security Codes. By entering a "1", the account director can type in a security code that would allow anyone who knows the code word to "inspect" the account information. (Press NEXT after you have completed the code word.)

```
Account ----------- traind

Account Director -- newuser - newcours


     Spaces remaining -----  102
     Spaces allotted  -----  110
     Files in account -----    5

     Subscriptions -------- 2              and again
      Enter code, or press LAB for GROUP codes
     1.  Inspect code ---------------- ⟩ XXXXXXXXXX
     2.  Data change code ----------- No code--director only
     3.  File change code ----------- No code--director only
     4.  Access by system personnel -- ALLOWED

     5.  Lesson Notes File -----------

Press the number to change an item.
```

Figure 2-45. Account Director Actions: Repeat Code Word.

The system requests a repeat of the code word to confirm it.
(Press NEXT.)

```
Account ---------- traind

Account Director -- newuser - newcours


      Spaces remaining ----- 102
      Spaces allotted  ----- 110
      Files in account -----     5

      Subscriptions -------- 2
       Enter code, or press LAB for GROUP codes
      1.  Inspect code ---------------- XXXXXXXXXX
      2.  Data change code ------------ >
      3.  File change code ----------- No code--director only
      4.  Access by system personnel -- ALLOWED

      5.  Lesson Notes File -----------

Press the number to change an item.
```

Figure 2-46. Account Director Actions: Select Group Codes.
By selecting a "2", the account director can enter a code word as
illustrated in figures 2-44 and 2-45, or by pressing the LAB key,
group codes can be implemented as shown in figures 2-47 and
2-48.

```
Account ---------- traind

Account Director -- newuser - newcours


      Spaces remaining ----- 102
      Spaces allotted  ----- 110
      Files in account -----     5

      Subscriptions -------- 2
       Press 1 for COURSE code; 2 for ACCOUNT code
      1.  Inspect code ---------------- XXXXXXXXXX
      2.  Data change code ------------ >
      3.  File change code ----------- No code--director only
      4.  Access by system personnel -- ALLOWED

      5.  Lesson Notes File -----------

Press the number to change an item.
```

Figure 2-47. Account Director Actions: Select Course Code.
After pressing the LAB key, the account director can type a
"1" for a course code (figure 2-48) or a "2" for an account
code (figure 2-49).

```
Account ---------- traind

Account Director -- newuser - newcours


      Spaces remaining ----- 102
      Spaces allotted  ----- 110
      Files in account -----     5

      Subscriptions -------- 2

      1.  Inspect code ---------------- XXXXXXXXXX
      2.  Data change code ------------ COURSE newcours
      3.  File change code ----------- No code--director only
      4.  Access by system personnel -- ALLOWED

      5.  Lesson Notes File -----------

Press the number to change an item.
```

Figure 2-48. Account Director Actions: Sample Course Code.
According to the data change code, anyone in PLATO course
"newcours" can carry out the account director options in
this area.

```
Account ---------- traind

Account Director -- newuser - newcours


      Spaces remaining -----  102
      Spaces allotted  -----  110
      Files in account -----      5

      Subscriptions -------- 2

      1.  Inspect code ----------------- COURSE newcours
      2.  Data change code ------------ COURSE newcours
      3.  File change code ------------ COURSE newcours
      4.  Access by system personnel -- ALLOWED

      5.  Lesson Notes File -----------

Press the number to change an item.
```

Figure 2-49. Account Director Actions: Sample Account Code.
Anyone in account "traind" can carry out the file management
options of the account director.

An effective security control measure for the account director
is the establishment of a special course (example: newcours),
in which the account director is listed along with other in-
dividuals who are authorized to do account director options.
By setting all of the codes to group codes for that course,
(see figure 2-50) no unauthorized access can occur.

```
Account ----------- traind

Account Director -- newuser - newcours


      Spaces remaining -----  102
      Spaces allotted  -----  110
      Files in account -----    5

      Subscriptions -------- 2

      1.  Inspect code ---------------- XXXXXXXXXX
      2.  Data change code ------------ COURSE newcours
      3.  File change code ------------ ACCOUNT traind
      4.  Access by system personnel -- ALLOWED

      5.  Lesson Notes File -----------

Press the number to change an item.
```

Figure 2-50. Account Director Actions: Sample Security Measure.

The "access by system personnel" code can be set as "allowed" or "restricted". This code word is explained in section 4 of this document.

Several different types of files are available to the PLATO system user. From a security point of view, you can exercise two types of control mechanisms:

a.   Control of the file content
(File Content Security)

b.   Control of who can execute a lesson file
(Lesson Execution Security)

FILE CONTENT SECURITY

The mechanism used to control access to the contents of any file are similar to the code words or group codes already discussed for the account director and the course director.

The displays shown in figures 3-1 through 3-4 illustrate creating a file and the resulting information that can be set for security control. (Example file name: newlesson).

```
Account -------------- traind
Files ---------------- 5
Spaces allotted/used-- 11Ø / 8


    File management options:  ≫

    1.   Create a file

    2.   Destroy a file

    3.   Re-name a file

    4.   Make another copy of a file

    5.   Lengthen a file

    6.   Shorten a file

    7.   Change file code words

    8.   Inspect lesson information
```

Figure 3-1. Account Director File Mgmt.: File Request Options.
From the account director option page (see figure 2-42), press NEXT to get here. Type a "1" to create a new file.

```
Create a file:


    Select new file type:  ≫

    a.   Normal TUTOR lesson      h.   Group notes file
    b.   Router lesson            i.   Dataset
                                  j.   Nameset
    c.   Course
    d.   Personal notes file

    e.   Instructor file
    f.   Student notes file
    g.   Student data file
```

Figure 3-2. Account Director File Mgmt.: Select File Type. These are the types of files that can be created. For this example, select "a" to create a lesson file — "newlesson".

```
Create a file:


    Select new file type:   a ok

    a.   Normal TUTOR lesson      h.   Group notes file
    b.   Router lesson            i.   Dataset
                                  j.   Nameset
    c.   Course
    d.   Personal notes file

    e.   Instructor file
    f.   Student notes file
    g.   Student data file


    Enter new file name:   newlesson ok



    Enter number of spaces:   3 ok



    File created.
```

Figure 3-3. Account Director File Mgmt.: Create a File. This display represents the results of several user actions. After "select new file type", an "a" was typed; response "OK". Next, the file name "newlesson" was entered with a response of "OK". (Note: Each file name on the entire system must be unique.) Finally, three spaces were requested for the file, response "OK", and the file was created.

```
Lesson name ---- newlesson          Disk pack -- emast
Starting date -- 11/03/77           Account ---- traind

Last edited ---- 11/03/77 15.31.09
         by ---- newuser of newcours
         at ---- 11-16


Press the associated letter to change an entry.

SECURITY CODES:
      a. To change lesson --- blank--OPEN TO ALL
      b. To inspect lesson -- blank--OPEN TO ALL
      c. To access common -- blank--OPEN TO ALL
      d. To -use- lesson ---- blank--OPEN TO ALL
      e. To -jumpout- to ---- blank--OPEN TO ALL

Access to file by system personnel:
      f. System Access ------ ALLOWED

Reference for -use- command:
      g. Lesson name --------


         Press NEXT for Lesson/Author Information
```

Figure 3-4. Account Director File Mgmt.: Set File Security Words. By entering "newlesson" on the author mode page and pressing NEXT, the new lesson file created by "newuser" of "newcours" can now be edited and the various code words can be set. For questions about anything on this display, use "TERM-consult" from your terminal.

LESSON EXECUTION SECURITY

Execution of a lesson file by a user is one of the most important tasks on the PLATO system. The owner of a lesson file must determine who should be allowed to execute his/her lesson. The default security, i.e., the option implemented unless the owner changes it, is to allow all users who know the file name to execute the lesson file. The owner of a lesson file can take advantage of special author language commands, -course-and-name-, as well as a system-reserved word "zacnam" to build his/her security schema into the lesson. The security schema can be as simple or as complex as the owner (author) wishes to make it. The following display illustrates 2 samples of lesson execution security. Example 1 (figures 3-5 and 3-6) will allow only 1 sign-on to execute the lesson. Example 2 (figures 3-7 through 3-9) establishes a mechanism that can be used to screen several sign-ons and assign a variable level of security to each user that can then be used in the lesson to determine what units each user will be allowed to execute.

```
         BLOCK 1-b = blockb          SPACE = 275
 1  unit     usertest        $$test lesson
 2  do        security       $$execute security check
 3  next      continue       $$continue with lesson
 4  *
 5  *
 6  unit     security
 7  define   name=n1,course=n2
 8  name     name
 9  course   course
10  jumpout  name≠'newuser'$or$course≠'newcours';q;x
11  at       1610
12  write    you may continue in this lesson
13  box      1400;1750;5
14  *
15  *
16  unit     continue
```

Figure 3-5. Lesson Executing Control: Sample Control Program. This display contains author language statements that allow "newuser" of "newcours" to go on to unit "continue" while the "jumpout" command on line 10 causes any other user to exit from the lesson. Lines 11, 12, and 13 simply confirm that the test was successful as shown in figure 3-6.

```
┌─────────────────────────────────────┐
│ you may continue in this lesson      │
└─────────────────────────────────────┘
```

Figure 3-6. Lesson Execution Control: Sample Message.

```
        BLOCK 1-b = check              SPACE = 112
 1  define  slevel=n1,name=n2,namex=n3,course=n4
 2  name    name
 3  course  course
 4  *
 5  define  zaccnam=n5       $$ redefine sys word for test only
 6  unit    proof   $$ This unit for illustration only
 7  do      test    $$ enable only for coding check
 8  do      scheck
 9  at      2214
10  write   That security level is <s,slevel>.
11          Press NEXT for another check.
12  next    proof   $$enter next unit name here
13  *
```

Figure 3-7. Lesson Execution Control: Sample Control Program. This display illustrates some sample author language statements for a general security schema. Note: Line 5 will cause a minor condenser error and should be removed along with unit "test" after this method has been successfully tested.

```
        BLOCK 1-b = check              SPACE = 112
 1  unit    test    $$ enabled only to test updates...
 2  at      1014
 3  write   type sample  name
 4  arrow   1214
 5  long    18
 6  storea  name,18
 7  ok
 8  endarrow
 9  at      1414
10  write   type sample course
11  arrow   1614
12  storea  course
13  ok
14  endarrow
15  at      1814
16  write   type sample  account name
17  arrow   2014
18  storea  zaccnam
19  ok
20  endarrow
```

Figure 3-8. Lesson Execution Control: Sample Test Program. The code used here allows the author to input sample PLATO names, PLATO courses, and account names to check the execution security of his/her lesson.

```
        BLOCK 1-b = check              SPACE = 112
 1  unit    scheck  $$ security check
 2  * update here when account info is known
 3  if      zaccnam='wkshops'
 4  .       if      course='s'
 5  .       .       if      name='bilbo'
 6  .       .       .       calc    slevel+4
 7  .       .       elseif name='frodo'
 8  .       .       .       calc    slevel+2
 9  .       .       elseif name='merryweath'$and$namex='er'
10  .       .       .       calc    slevel+3
11  .       .       else    $$ any other 's' hobbits, default
12  .       .       .       calc    slevel+3
13  .       .       endif
14  .       elseif course='newauth'
15  .       .       calc    slevel+3
16  .       else    $$ all other courses-this account, default
17  .       .       calc    slevel+1
18  .       endif
19  elseif zaccnam='corpx'
20  .       calc    slevel+1
21  else    $$ all other accounts default
22  .       calc    slevel+0
23  endif
24  * update here when account info is not available
25  if      course='cbess'
26  .       calc    slevel+6
27  elseif course='cbemgt'
28  .       calc    slevel+2
29  *else   change nothing from earlier checks
30  endif
31  *
```

Figure 3-9. Lesson Execution Control: Sample Control Program. Unit "scheck" performs the security checks for this lesson. Each user attempting to execute the lesson will be checked and assigned a security level "slevel" from 0 to 6. The author can then use the value of "slevel" to determine what parts of his/her lesson, if any, the user will be allowed to execute.

In order to provide the services of the PLATO system, it is necessary that a small group of Control Data personnel have access to virtually all parts of the system including user files. The capability of systems personnel to have access to all files in a given system is inherent in all computer systems. Control Data personnel who work in this environment will exercise this capability only in order to assist a user or to fix a system-related problem.

If the owner of a file selects 'System Access — ALLOWED,' CDC personnel registered in special courses "s" or "pso" can inspect the contents of the file.

If the owner of a file selects 'System Access — RESTRICTED,' CDC personnel are not allowed to inspect a file unless they use special options. The use of special options to inspect a file that is restricted will only be done in order to assist a user or to investigate a system-related problem.

Control Data personnel in course "s" using specially located terminals can override file code words and inspect or edit any file on the system if necessary. Action of this type will only be done to investigate causes for major system-related problems. Any time Control Data personnel override code words in "edit" mode, this activity is logged by the system. If Control Data personnel actually make a change to a user file, the next time the owner of the file accesses the file, the following display will appear.

```
Lesson name ---- newlesson        Disk pack -- dmast
Starting date -- 11/03/77          Account ---- traind

Last edited ---- 11/04/77 10.37.14
          by ---- reichenborn of s
          at ---- 0-1


Press the associated letter to change an entry.

SECURITY CODES:
      a. To change lesson --- **********
      b. To inspect lesson -- **********
      c. To access common --- **********
      d. To -use- lesson ---- **********
      e. To -jumpout- to ---- **********

Access to file by system personnel:
      f. System Access ------ RESTRICTED


Reference for -use- command:
      g. Lesson name -------- test




        Press NEXT for Lesson/Author Information
```

Figure 4-2. System Access: Sample Edit Message. Note the information that the file was last edited by "reichenborn of s".

```
      LAST AUTHOR WAS reichenborn   s

          SITE  0   STATION  1

      AT 10.37.14. ON 11/04/77
```

Figure 4-1. System Access: Sample Edit Message. This display appears if anyone from course "s" edited your file. In this case, "reichenborn" of course "s" edited file "newlesson". A further indication of this action is shown in figure 4-2.

Access to the PLATO system is accomplished via a CDC PLATO terminal that is connected to the central system by one of several communications options.

- Terminal connected directly to central system access port (hardwired)
- Terminal connected to central system access port via a "Data Access Arrangement" (DAA) using a regular telephone line and a modem (single line dial-up)
- Terminal connected to central system access port via a dedicated telephone line and modem (dedicated single line)
- Several terminals connected to several ports via multiplexors and telephone lines
    a. Terminals connected directly to multiplexor (hardwired MUX)
    b. Terminals connected to multiplexor via DAA device (dial-up MUX)

The educational nature of the PLATO system assumes periods of time where the user (student, author, etc.) will *not* be actively involved pressing keys or typing responses. The "think time" requirement makes it impractical for the system to "time-out" an inactive terminal, i.e., disconnect an "inactive" terminal. Therefore, if a user leaves his/her terminal without properly signing off (SHIFT-STOP), another person may gain unauthorized access to the system. The unauthorized user will have the same access privileges as the previous user. This may or may not cause a security problem.

In terminals that are connected directly to a specific access port (hardwired, dedicated single line, or hardwired MUX), the user can decrease the potential problem by controlling the physical access to the terminal. Where a user has a communication link to the PLATO system via a dial-up connection (single line dial-up or dial-up MUX), the user should be aware of a possible additional security measure. If the dial-up connection is broken by either hanging up the phone or by some undetermined interruption of the dial-up connection, the dial-up port on the PLATO system is still active. If the user has not completed the "SHIFT-STOP" exit procedure which terminates a user session, there is a possibility that another user could

dial up, be connected to the active port, and gain access to the previous user's access to the system.

The probability of a security problem caused by the above situation can be minimized if the user exercises the following procedures:

a. Teach all users of PLATO terminals to execute the proper "SHIFT-STOP" exit from the system rather than simply walking away from the terminal or hanging up the phone.

b. When communications are interrupted by some undetermined factor, re-dial immediately. If the re-dial goes back to the same port, the user will recover his access at the point where communications were interrupted. If the user is connected to a different port, by executing his/her sign-on, PLATO will perform an "auto-disconnect" of the interrupted port. If for some reason the user cannot re-dial from his/her terminal, a call to the PLATO hot line should be made so that the active port can be disconnected.

The hardware of the communications network is being changed so that a "loss of carrier" (i.e., an interruption in communication) will immediately trigger an "auto-disconnect". This hardware change will completely eliminate the possibility of a security problem on a dial-up access due to an interruption of communications. All users will be advised when this change takes effect.

An additional method can provide the account director with some additional security measures as well as the ability to control the user activity at a terminal. This method involves the use of a system lesson "subsite". If you are interested in exploring this option, please contact the PLATO Services Organization (course pso) for assistance.

The real security of the PLATO system depends on YOU, the user. By implementing the features described in this manual, you can maintain the level of security you want for the protection of your stored lessons or data.

TERM-CONSULT

The TERM-consult feature of PLATO gives you, the user, an opportunity to get help at the terminal whenever you have a question.

TERM-consult can be used at *any* time while you are signed-on to the PLATO system. To use TERM-consult, first locate the "TERM" key on your keyboard. Figures A-1 and A-2 illustrate the upper and lower case keyboard. Note the TERM key in the upper right corner of the upper case keyboard.
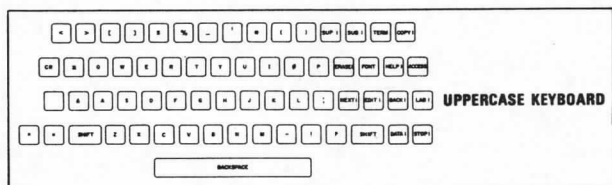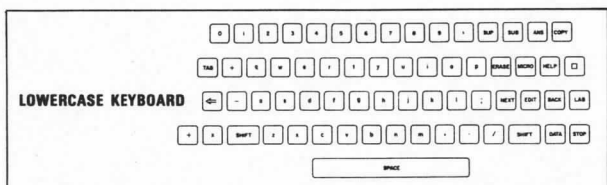

Figure A-1. Upper Case PLATO Keyboard

Figure A-2. Lower Case PLATO Keyboard

By pressing the "SHIFT" key and the "ans/TERM" key at the same time (TERM), a message "what term" appears on the bottom line of your display.

At the arrow, type the word "consult" as shown in figure A-3 and press NEXT.
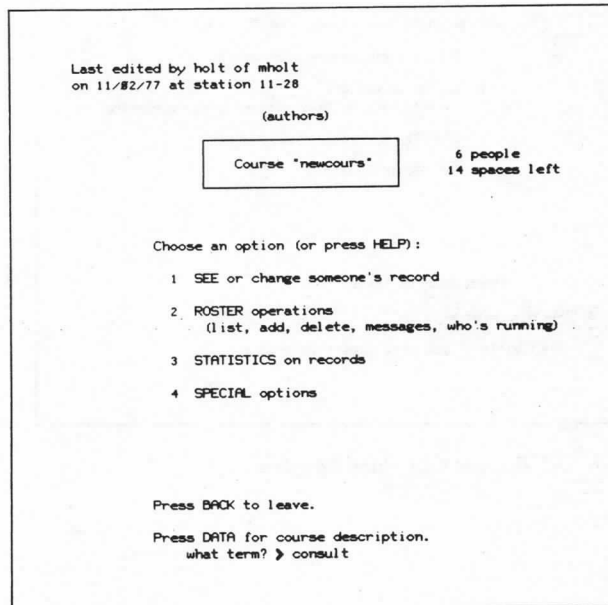

Figure A-3. Request Consulting Help Sequence

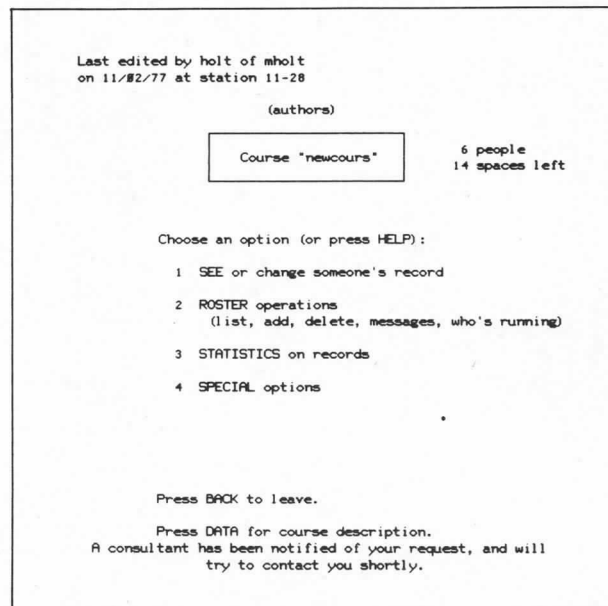The message shown in figure A-4 appears for a short time until a consultant contacts you.

Figure A-4. Request Consulting Help Sequence

A consultant will "monitor" your screen. This means that the consultant's terminal is a copy of yours. The consultant can type messages to you across the bottom of the screen and you can respond by pressing TERM and then typing a message.

```
                    (authors)

            ┌─────────────────────────┐
            │   Course "newcours"     │        6 people
            └─────────────────────────┘       14 spaces left


        Choose an option (or press HELP):

            1   SEE or change someone's record

            2   ROSTER operations
                    (list, add, delete, messages, who's running)

            3   STATISTICS on records

            4   SPECIAL options




        Press BACK to leave.

    > Cheers -- whazup?
    >
        chuck miller - pso also sees this display
```

Figure A-5. Request Consulting Help Sequence

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