IDEAlink PC User's Manual

IBM Midrange File Transfer for the IBM PC and PS/2 Families

IDEA

Rev. 22

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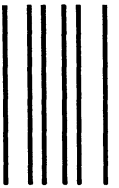

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1. Were there any errors in the manual? If yes, list page numbers and kind of error:

2. Was information:
   easy to understand _____
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Section I: Overview

IDEAlink is IDEA's file transfer utility. It allows you to transfer files between the IBM midrange and the personal computer. Features include:

- Transfer of host data to a PC file, with the option to append or overwrite
- Data security: data can only be appended to the host for normal host processing
- Creation and editing of host data views on the AS/400 and System/38 from the PC
- Transfer of selected fields only between host and PC via a host data view
- Record selection criteria based on field values on the AS/400 and System/38
- Transfer of host records selected by numeric or alpha values
- Choice of national language
- Automatic transfer with automatic log–on and log–off, even if you have a customized log–on or log–off screen
- Creation of batch files for convenience in running standard transfers with no need to log on manually either to IDEAlink or to the host
- Saving of partial or all logon defaults to avoid lengthy typing.

- Conversion of host data to popular PC formats such as DIF and Lotus 1–2–3
- Copying of a library member or source file from the host to a personal computer for editing and replacement of the edited file in the host library
- Compatibility with IBM API interface
- Availability of context sensitive help
- Support of customized sign on screens with fields anywhere on the sign–on screen

Requirements

- A PC, XT, or AT with DOS 2.0 through 3.3, or PS/2 with DOS 3.3.

- IDEAcomm midrange emulation running in your personal computer.

  With IDEAcomm 5250/Remote, Remote Gateway, and Remote Share, API Compatibility set to Yes for the host session you will use.

- IDEAlink files installed on the personal computer.

- A CONFIG.SYS file with the lines:

  FILES = 30
  BUFFERS = 20

- The DOS utility MORE.COM available through your DOS search path (for viewing the log file and the error codes)

- If you are already signed on to the host, your host cursor must be at a command entry option. If you are not signed on, your cursor must be at the sign–on screen.

- The host and your PC must have the proper data transfer files installed. If your host does not have the IDEA file transfer software, you can order it on the appropriate diskette size with the form included with this package. Software for the AS/400 is also available on tape or cartridge. Call IDEA Technical Support for information.

- If you have a System/36 host, you may create and run file transfers from DOS. However, the views necessary for the transfer specifications

must be created and edited with IDEAlink on the host.

- An AS/400 host must have System/38 mode available. This mode is invoked with **CALL QCL**.

- On the System/38 and AS/400, you must have DLINK in your library list. If you need to add it:

  - On the System/38, there is only a password to enter. Then you must get to a point where the command entry option is available, or the menu allows you to choose option 5, Enter command. Select 5, then be sure the cursor is on the command entry option. If DLINK is not on your library list, enter:

    ADDLIBLE DLINK

  - On the AS/400, on the first command entry option, enter:

    CALL QCL

    You see a new blank screen. If DLINK is not in your library list, enter:

    ADDLIBLE DLINK
    CALL QCL

General Rules

- You cannot log onto IDEAlink without first logging on to a host session. You can log on to the host:

  – manually from the host sign–on screen

  – automatically through IDEAlink

  If you are only running file transfers, you do not need to log on manually to either. See Section II.

- File transfers are run by means of file transfer specifications, which you or the host administrator must create using IDEAlink.

- A file transfer specification contains a host view name, a PC filename, and a log–on sequence.

- Before data can be transferred to or from a host file, you or the host administrator must create a **view** for that host file. The view gives the general characteristics of the file, but may show only some of its fields, and specifies that transfer is either **from** the file (Read view) or **to** the file (Enter view). Library views may also be created for library members.

- Before data can be transferred to the host, the host file must exist. IDEAlink does not create host files.

- Data transferred to a host file is never allowed to erase data already in the file. Enter view data is appended to existing host data. To replace host data with this new information, the operator must run a host program to update the file. (Library views, however, do allow replacement of existing data.)

Documentation

This manual describes the functions available to you at your PC and how to use them. The manual assumes that you are familiar with your PC, with DOS, and with host operating procedures.

IDEA provides a manual for the host administrator that describes how to install IDEAlink on the host and how to read the View Report. This manual is included in the free host package from the order form included with this package.

The file READ.ME on your diskette includes any new information on the software.

The IDEAlink utility includes extensive help files that guide you though basic procedures.

Overview of Steps for Transfer Specification Creation

Read or Enter View

1. Log on (Section II).
2. Select Create or Load Transfer Specification (top menu) (Section III).
3. Create a transfer specification (sub–menu of Create).
4. Enter the specification name (8 character maximum).
5. Escape to the top menu.
6. Edit Transfer Specification (top menu).
7. Select Host Data (sub–menu of Edit).
8. Select View (sub–menu of Host Data).
9. Select Read or Enter view from list. Escape to previous menu.
10. Select PC Data (sub–menu of Edit).
11. Enter PC filename, File Operation for Read view, File Format.
12. Escape, then Save Changes in answer to the prompt.
13. Escape to the top menu.

This transfer specification can now be run.

Library View

1. Log on (Section II).
2. Select Create or Load Transfer Specification (top menu) (Section III).
3. Create a transfer specification (sub–menu of Create).
4. Enter the specification name (8 character maximum)
5. Escape to the top menu.
6. Edit Transfer Specification (top menu).
7. Select Host Data (sub–menu of Edit).
8. Select View (sub–menu of Host Data).
9. Select a Library view from the list (Section V).
10. Specify Send or Receive (Send = upload to host, Receive = download from host).
11. Select or specify Member, Member Type. For a Send, specify Record Length and Host File Operation.
12. Escape, then Save Changes.
    Escape to the Host Data sub–menu.
13. Select PC Data (sub–menu of Edit).
14. Enter PC filename, File Operation for Read view, File Format.
15. Escape, then Save Changes in answer to the prompt.
16. Escape to the top menu.

This transfer specification can now be run.

Section II: Basic Use of IDEAlink

Starting IDEAlink

Please check that you have fulfilled the requirements on page 1–3.

1. To start IDEAlink, move to the directory containing IDEAlink, for example:

   CD C:\IDEALINK <Enter>

   With IDEAcomm 5251/OS, move to the DOS shell and use the same directory.

2. Invoke IDEAlink with the command

   IDEAlink <Enter>

   If you just want to run file transfers in a previously created batch file: **invoke IDEAlink with the command**

   IDEALINK /Bfilename <Enter>

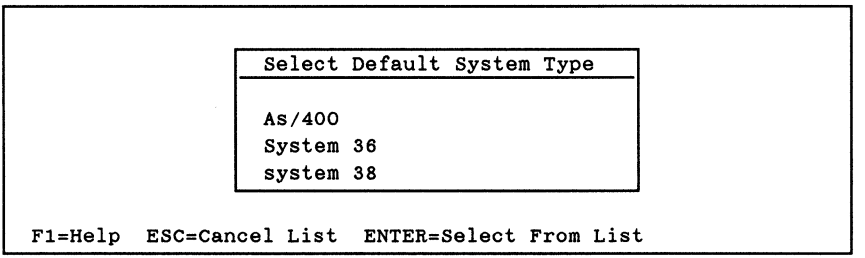
   In this case, IDEAlink will run the file transfers and return you to DOS. If you see error messages during the file transfer, check the log file described on page 6–2.

A Warning About Your Midrange Host Screen

If you are already signed on to the host, your host cursor must be at the command entry line. If you are not signed on, the cursor must be at the sign–on screen.

Selecting a Default Host

If this is the first time that you have run IDEAlink, you first see a request to select the host:

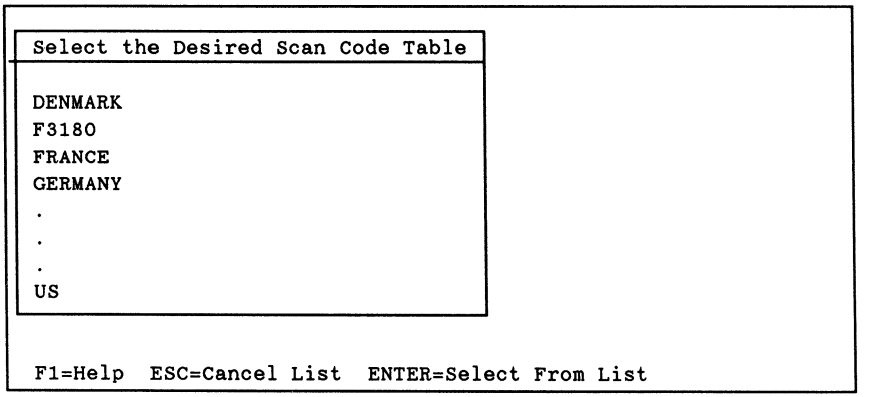


Use the arrow keys to move the cursor to the host that you normally use. If you will run file transfer specifications without logging on, be sure to select the host that will be used for this purpose. Press Enter to select.

For more about the files used in this selection, see Customizing Log–On and Log–Off on page 6–10.

Selecting a Language

If this is the first time that you have run IDEAlink, you first see a request to select a language:



Use the arrow keys to move the cursor to the language used by your host midrange computer. Press Enter to select.

Whether to Log On or Not

You next see the IDEAlink initial screen:

```
 IDEAlink File Transfer  VX.X Tuesday  January 1, 19xx  9:06 am

 Log On   Run Transfer   Exit IDEAlink
 Log onto host system


F1=Help ESC=Cancel Menu ENTER=Select Menu Item Arrow Keys=Hilight
Item
```

You have the choice of logging on through the Log On screen, running a file transfer, or exiting IDEAlink.

The Log On option allows you to select log on values for to the host, IDEAlink, or both.

Select Log On if:

- You plan to create or edit views on the host or update files on the host.
- You plan to create or edit file transfer specifications.

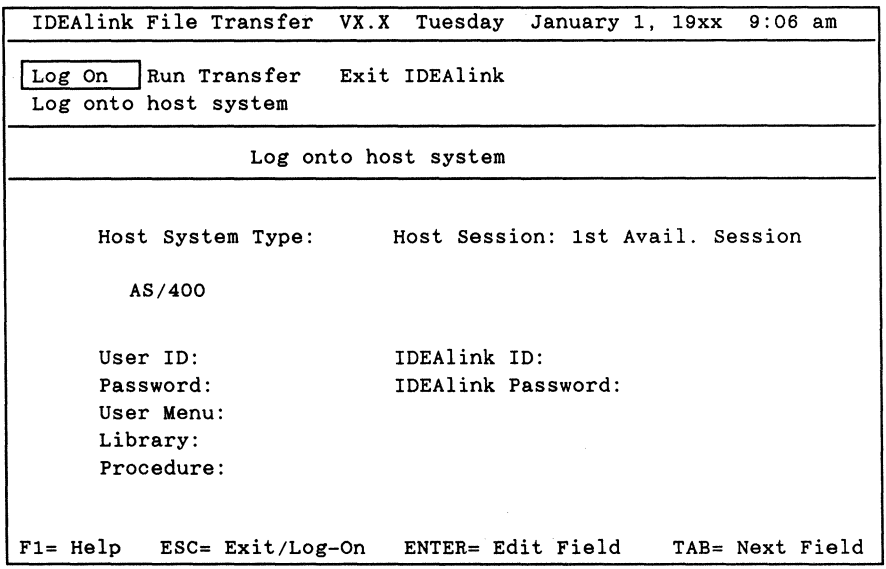
Run Transfer automatically logs you on to the host if you are not logged on, then logs you on to IDEAlink.

Select Run Transfer if:

- You are only going to run file transfer specifications already created. Be sure one host session is at the sign–on screen and matches the default host you chose earlier.

Moving Around the Log On Screen

If you select **Log On** from the preceding screen, you see the IDEAlink Log On screen:



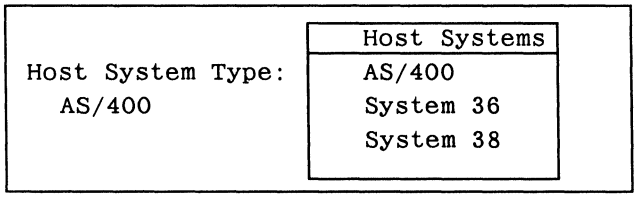
Keys to Use

- F1 provides help for the field pointed to by your cursor.
- Tab to the field you want to change.
- Press Enter at that field to get a list of options.
- Start typing at that field to enter an ID, password, menu, library, or procedure.
- Press Esc to leave the screen and either log on or exit IDEAlink.

Fields on the Log On Screen

Host System Type

If you need to change the default, tab to this field and press Enter for a list of host systems available:



Use the cursor arrows to move to your host system and press Enter.

User ID

If you need to log on to the host, enter your User ID.

Password

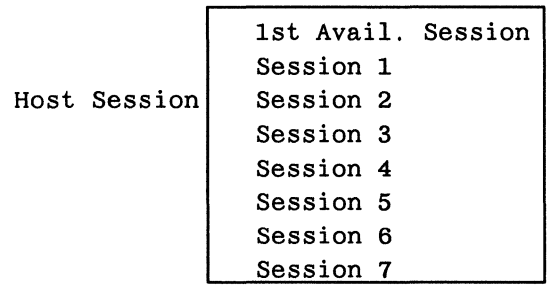
If you need to log on to the host, enter your password. For security, only asterisks will appear in the field.

User Menu, Library, and Procedure

Type information into these fields if your host system is set up to take you to certain menus, libraries, or procedures. Do not enter any fields that cannot be processed by the host. These options, which are not used by the System/38, disappear if that system is selected.

Host Session

Tab to this field and press Enter for a list of available display sessions.



If you are not signed on to the host and your host setup does not require that you use a certain session, IDEA recommends that you choose **1st Avail. Session**. If you are signed on to the session you want to use, it is important to select that session number.

IDEAlink ID

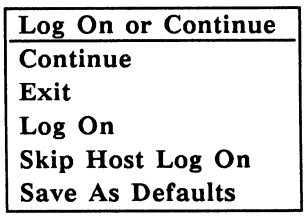
Enter your IDEAlink User ID. This is a required field.

IDEAlink Password

Enter your IDEAlink password. This is a required field. For security, only asterisks will appear in the field.

Logging On

1. When you have filled in the necessary fields, press Esc. You see a prompt box:



2. Use the arrow keys to move the cursor to:

- **Skip Log On** if you are already logged on to the host. (You will still log on to IDEAlink.) Be sure, however, that you have filled in the host type and session number that you are using, and that your cursor is at the command entry option of emulation.
- **Log On** if you are not logged on to the host.
- **Continue** to continue editing values.
- **Exit** to leave IDEAlink.
- **Save As Defaults** to save any parameters entered so far to the file LOGON.DAT. From then on, anyone invoking IDEAlink on this personal computer will start with these defaults filled in to save keystrokes. Any values not filled in (such as passwords) must still be entered by the user. To remove these defaults, erase the file LOGON.DAT.

3. Press Enter to get to the next screen.

If You Get an Error Message at Logon:
Error code 2013 means the host has a message for you. Hot key to the host, respond to the message (usually with the emulated Reset key), and hot key back to IDEAlink. Now Press Esc again and select **Skip Log On** to continue. Other error codes are explained in Appendix A.

Running File Transfers

To run a file transfer specification that has already been created:

1. Run file transfers from the IDEAlink file transfer screen below. To get to this screen:

- Select Run Transfer from the initial screen, or
- Fill in the Log On Screen and press Esc, then select Log On or Skip Log On from the prompt box.

Note

The host file for which you have selected a view must exist before you run the transfer specification, even for an Enter view.

2. Use the arrow keys to place the cursor on **Run Transfer** and press Enter to get the following screen.

```
IDEAlink File Transfer  VX.X  Tuesday  January 1, 19xx  9:07 am
----------------------------------------------------------------
[Run Transfer] Edit T.Spec Create/Load T.Spec Create/Edit View
Execute File Transfer
                               Execute File Transfer(s)
                     Curre          A
                                    AAA
                     PC Dat         ANNE
                                    AXY

View:                               CCC
View Type:                          I
Library:                            K
File:                               PSB1
Member:                             PSB2
Member Type:                        PSB4A
Record Length:                      PSB4B
File Operation:                     PSB4BP

F1=Help  ESC=Cancel  F5=Mark/Unmark Item  ENTER=Run Marked Items
```

3. From the list of file transfer specifications that appears, select the ones you want with the arrow keys and F5. (You can also change your mind again by pressing F5 a second time.) To select only the file currently highlighted, just press Enter.

4. You see a window with a series of messages such as:

   Executing Transfer Specification xxx
   Logging Onto Host ... Please Wait
   Executing Transfer Specification
   Running Transfer for View xxx (Read)
   Transfer Specification xx Successfully Completed
   Terminating Host IDEAlink ...

   Press F10 to check the file transfer log, where these messages are saved. If necessary, press F9 to scroll through a list of error codes. (To exit the error log before the end, press Ctrl–C plus any key.)

Other Operations

How to create file transfers, or the views used by file transfers, is discussed in the following sections.

Note

To save time, IDEAlink makes a copy of the directory of libraries on the host. If you or other people add and delete files on the host, you should update IDEAlink's copy of the library directories on the host. See the section on Additional Functions.

Exiting

From the File Transfer Screen

1. Press Esc from the top menu line to see:

   Terminate Host IDEAlink Application
   No
   Yes

2. **No** returns you to the file transfer screen. **Yes** terminates IDEAlink on the host, the cursor is returned to the command entry, and then you see the following prompt:

   Log Off Host (Return to Sign On Screen)
   No
   Yes

   Yes logs you out of the host. It goes back to the host sign–on screen in emulation, and to the initial IDEAlink screen in DOS. If you continue using IDEAlink on the PC, you must log on again when you are ready to return to the File Transfer screen. (If you were logged onto other sessions before invoking IDEAlink, you are not logged out of those sessions.)

   No leaves you logged on to the host in emulation, and on the initial IDEAlink screen in DOS. If you continue using IDEAlink on the PC, select **Skip Log On** when you are ready to return to the File Transfer screen.

From the Initial IDEAlink Screen

1. Use the arrow key and Enter to select Exit IDEAlink from the top menu line. You see:

   Exit IDEAlink
   No
   Yes

2. Use the arrow keys and Enter to select Yes and return to DOS.

Section III: Creating File Transfer Specifications

In order to create or edit file transfer specifications, you must log on to IDEAlink on the Log On screen.

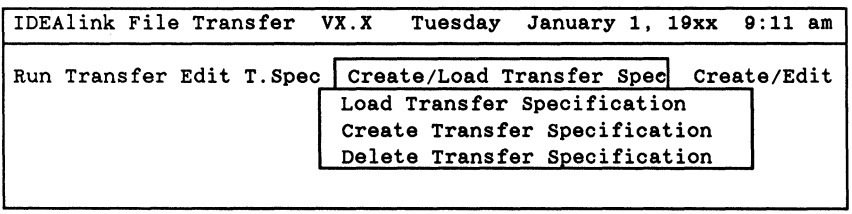
Note

This discussion assumes that views needed for file transfer specifications already exist. To create views, see page 4–1.

Creating and Editing a Specification

To create a file transfer specification:

1. Invoke IDEAlink, fill in the Log On screen, press Esc, and select Log On from the prompt box. You see the following screen.
2. Use the arrow keys to move the highlight to **Create/Load Transfer Spec.** Press Enter.



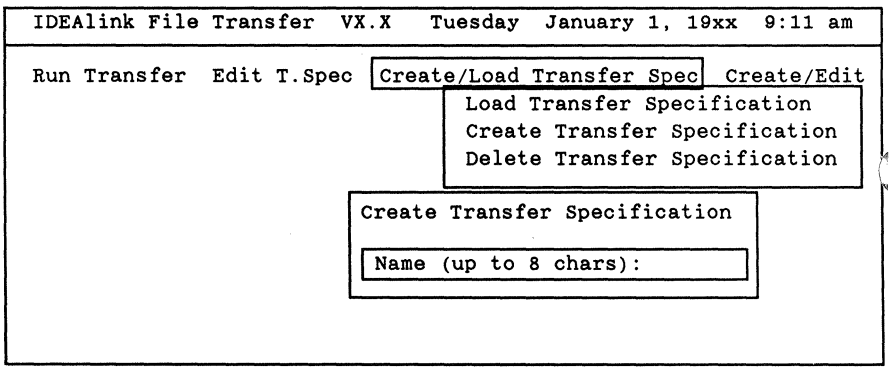
Note

The easiest way to create a new specification is to load an existing

specification that has similar options. Then return to **Create Transfer Specification** and make any changes necessary in steps 3 through 5 below.

If there is no current transfer specification loaded, then any newly created transfer specification will be blank except for the host log on information supplied when you logged on to the host.

3. From the Create/Load options, select **Create Transfer Specification** and press Enter. You see the following request for specification name:



4. Enter an alphanumeric name with a maximum of eight characters and press Enter. You return to the Load/Create/Delete option box. (If a specification with that name exists, you see: **Transfer Specification xxx Exists: Overwrite? (No/ Yes).**

5. Press Esc to return to the top menu line.

6. Move to **Edit Transfer Spec** and press Enter.

7. Follow the instructions for editing a transfer specification on the next pages.

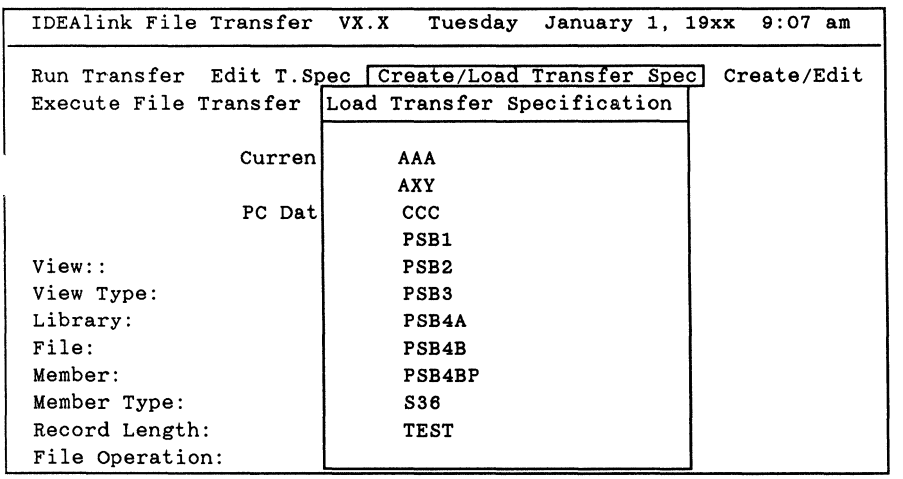
Selecting and Editing a Specification

To edit an existing file transfer specification:

1. Invoke IDEAlink, fill in the Log On screen, press Esc, and select Log On from the prompt box. You see the following screen.

2. Use the arrow keys to move the highlight to **Create/Load Transfer Spec**. Press Enter.

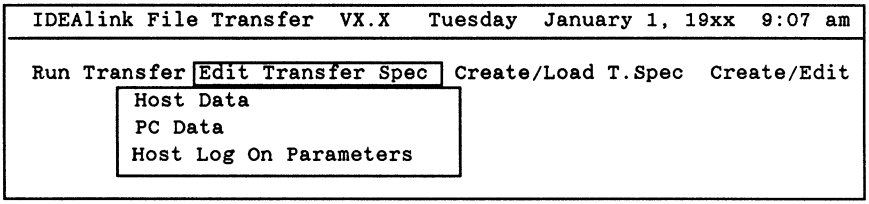
3. From the Create/Load options, select **Load Transfer Specification** and press Enter. You see the following request for specification name:



4. Use the arrow keys and Enter to select the specification you want. It is loaded into memory, and becomes the **current** transfer specification. You return to the Load/Create/Delete prompt.

5. Use Esc to return to the top menu line.

6. Move the highlight to **Edit Transfer Spec** and press Enter. You see the screen below:



Caution

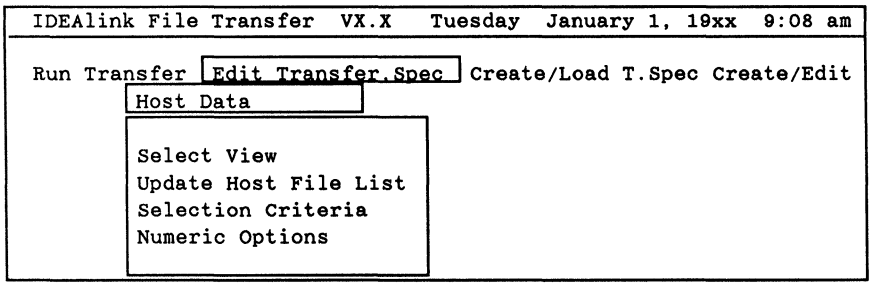
Edit Transfer Spec always edits the current transfer specification (the one last loaded).

Choosing a view from Host Data updates the information immediately, without choosing to **Save**.

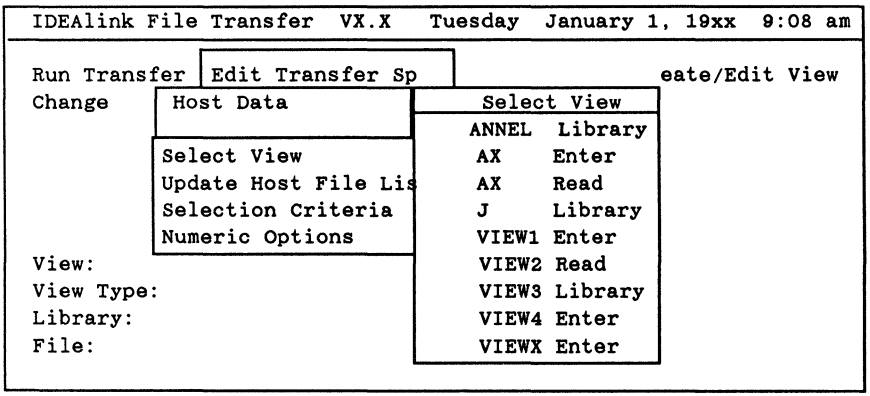
7. Fill in Host Data, PC Data, and Host Log On Parameters as instructed on the following pages.

Host Data

1. Move the highlight to **Host Data** and Press Enter. You see the following options:



2. Move the highlight to **Select View** and press Enter. You see a list of views:



Following each view name is a code denoting the view type:

Read =	Download Only
Enter =	Upload Only
Library =	Download and Upload Library Members

3. Use the arrow keys and Enter to select the view you want. It then becomes part of the current

transfer specification. It will overwrite any previously specified view for that specification.

If it is a library view, you see the prompt:

Send or Receive File Via Library View xxx
Receive File From Host **Send File To Host**

See Working with Library Views on page 5–1 for a discussion.

4. Press Esc to exit. You see a prompt box that allows you to save changes, exit with no changes, or continue editing.

5. Select Save Changes and press Enter. You return to the **Host Data** options.

6. See Section VI for detailed instruction on the other Host Data options:

   Update Host File List updates the list that IDEAlink keeps of libraries on the host.

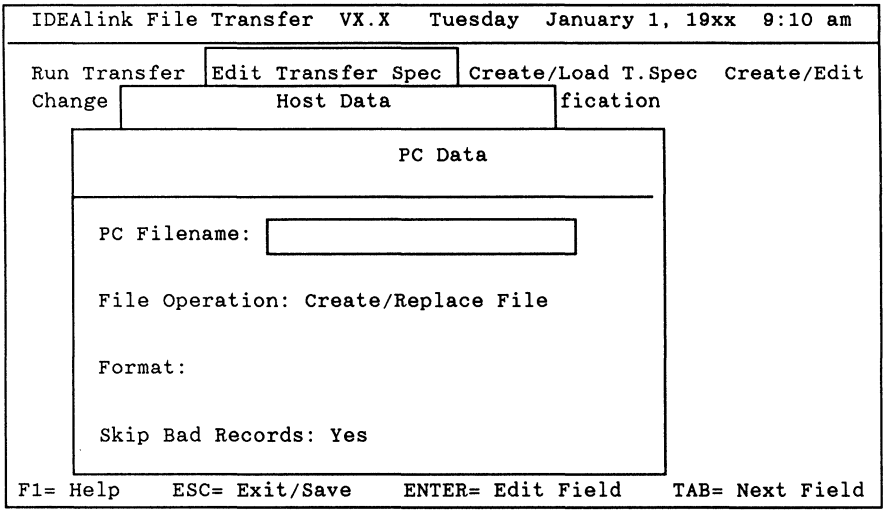
   Selection Criteria allows transfer of only those records whose fields meet certain criteria.

   Numeric Options allows substitution of other characters for period and comma in numeric expressions (for non–U.S.A. files).

7. Press Esc to return to the **Edit Transfer Spec** options. With a System/38 or AS/400, you will see the host data fields displayed on the IDEAlink screen.

PC Data

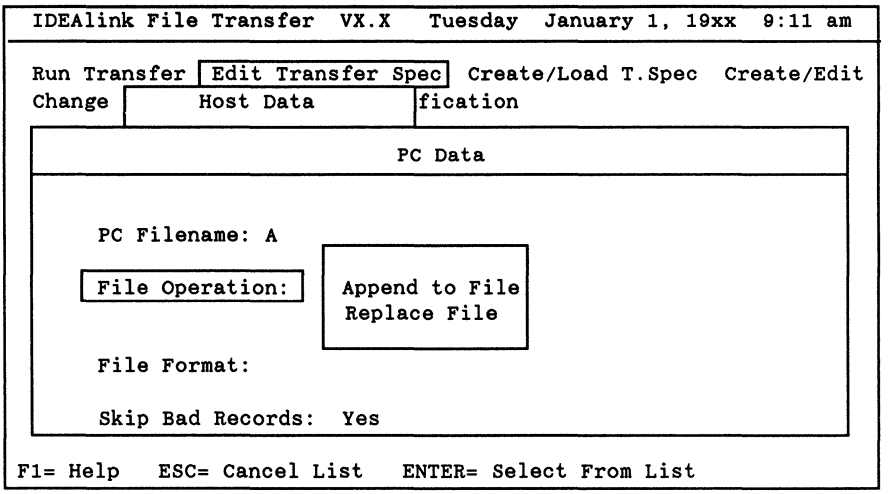
1. From the Edit Transfer Spec options, select PC Data and press Enter. You see a new screen:



2. **PC Filename:** Type in the name of the PC file you will use and press Enter. (For a Read or download operation, this file need not exist.) Maximum length is 28 characters.

3. Use the arrow keys or Tab to move to **File Operation**. (This item is only used if you chose a Read view. It is ignored for Enter or upload transfers.)

4. Press Enter for a list of choices:

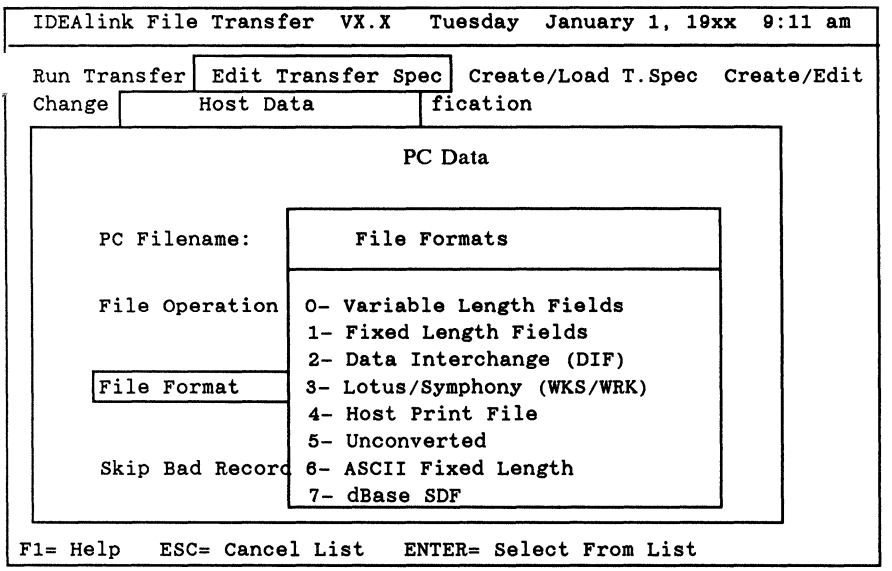


- **Append** to append data to an existing file or create a new one.
- **Replace** to overwrite an existing file with new data.

In either case, if the file does not exist, it will be created during the Read operation.

5. Use Tab or the arrow keys to move to **Format.**

6. Press Enter for a list of choices:



7. Use the arrow keys and Enter to select a file format. This is only used for Read or Enter views, not for Library views. Considerations on the choice to make are in Appendix B.

   Press Enter.

8. Use the arrow keys or Tab to move to **Skip Bad Records** and press Enter. Note that this option is only relevant to Enter views.

   Normally, when bad records are detected in the PC data file on an Enter, the operation is aborted, and an error code is generated. If the data file is likely to contain bad records, this option can be used to skip over such records.

   An example of a bad field would be an alpha field occupying a numeric field's position (field mismatch), or a numeric field over the allowable size for the host field.

If you leave the default **No**, IDEAlink will abort the current file transfer if it finds a record that does not correspond to the current View.

If you select **Yes**, IDEAlink will skip records that do not conform to the View of the data in your File Transfer Specification, depending on the format you have chosen. For how this option is handled, see the discussion for the Format you have chosen in Appendix B.

9. Press Esc to exit the PC Data screen. You see a prompt:

Exit or Continue?
Continue
Exit With No Changes
Save Changes & Exit

10. Select Save Changes & Exit and press Enter. You return to the **PC Data** options.

11. Press Esc to return to the **Edit Transfer Spec** screen.

Automatic Host Log On Parameters

Use this screen if you want future users of this file specification to run it without needing to know how to log in to the host or to IDEAlink.

1. Access this screen from the **Edit Transfer Spec** options. Move the highlight to **Host Log On Parameters** and press Enter. You see the following screen:

```
IDEAlink File Transfer  VX.X  Tuesday  January 1, 19xx  9:06 am

[Log On] Run Transfer   Exit IDEAlink
Log onto host system

                        Log onto host system

      Host System Type:       Host Session: 1st Avail. Session

        AS/400                  Force Logon:    No

      User ID:                IDEAlink ID:
      Password:               IDEAlink Password:
      User Menu:
      Library:
      Procedure:

F1= Help   ESC= Exit/Save   ENTER= Edit Field    TAB= Next Field
```

2. Follow the instructions for the IDEAlink Log On screen on page 2–4 with the following additions.

3. **Force Log On** means that the software will log the user out of the host (if the user logged in through IDEAlink, not manually) and log back on again. If the user is not logged on, the software just logs on. If the user is logged on, the cursor must be at the midrange command entry option.

This option forces a transfer specification to use its own log–on parameters (especially the password) instead of those of the previous specification or of the user who is already logged in.

After all transfer specifications are executed, IDEAlink returns the user to the initial status, logged on or logged off of emulation.

4. To exit this screen, press Esc to get the following prompt:

Exit or Continue?
Continue
Exit With No Changes
Save Changes & Exit

5. Select **Save Changes** and press Enter.

Below is a typical completed file transfer specification:

```
IDEAlink File Transfer  VX.X  Tuesday  September 11, 19xx 12:06 pm
```

```
Run Transfer  Edit T.Spec  Create/Load T.Spec  Create/Edit View
Change the current transfer specification
```

```
 Current Transfer Specification: DNLIB   Transfer Type: Receive


            Host Data                              PC Data

   View:                PSBVW        PC File:          PSB.TXT
   View Type:           Enter        File Format:      1-Fixed Length
   Library:             TESTLIB      File Operation:   N/A
   File:                HELPTEXT     Skip Bad Records:No
   Member:              PSB
   Member Type:         N/A
   Record Length:       N/A
   File Operation:      Append


F1= Help   ESC= Cancel Menu   ENTER= Select Menu Item  Arrow Keys=
Hilight Item
```

Section IV: Views

A view is a picture of the host data as you want it to be seen from the personal computer. You must include a view in each file transfer specification.

Creating Views

This section tells you how to create a view whose fields correspond to those of the host file.

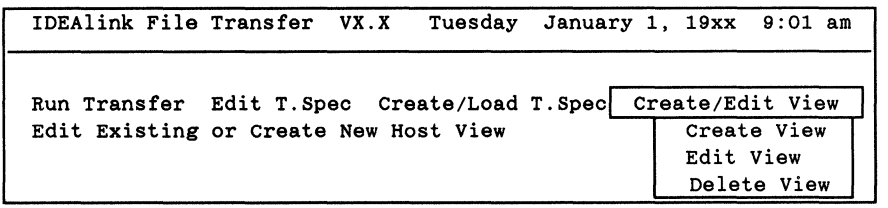
Notes

System/36 views must be created and edited on the host.

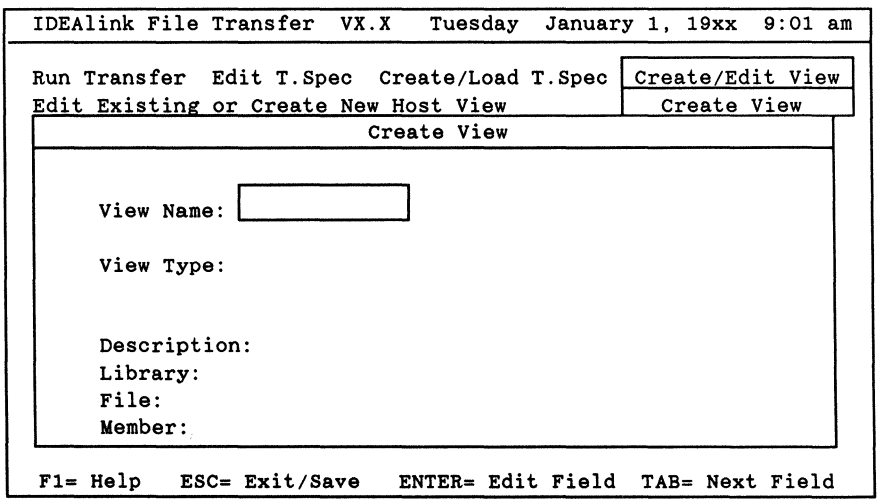
Be sure that you know the layout of the host file. If a host data field has more than 256 bytes, you must create its view with IDEAlink on the host.

Steps for Creating a View

1. Access these screens from the **Create/Edit View** option of the IDEAlink file transfer screen. Move the highlight to **Create/Edit View** and press Enter. You see the Create/Edit View options:



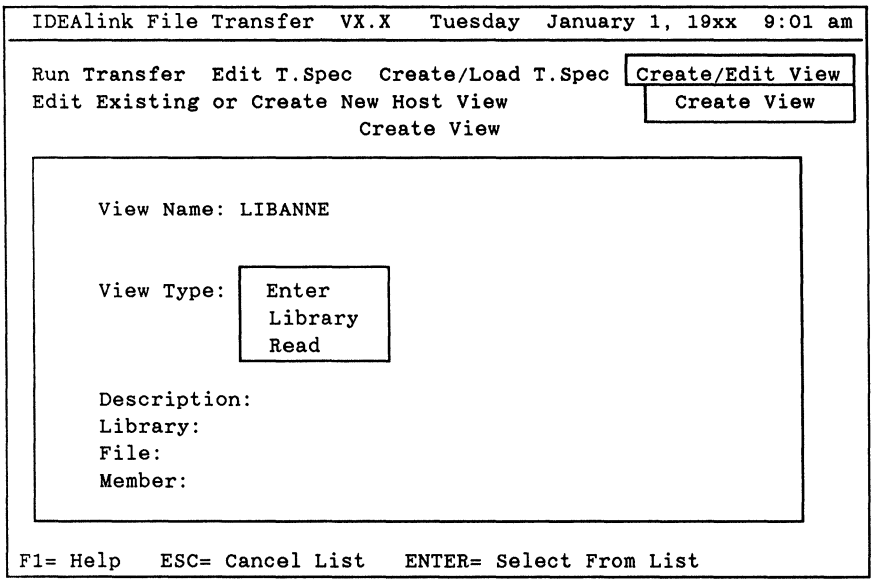
2. Move the highlight to **Create View** and press Enter. You see the following screen:



3. Use Tab or the arrow keys to move through the fields:

4. **View Name:** Enter a name with a maximum of 6 alphanumeric characters.

5. **View Type:** Press Enter for a list: Read, Enter, or Library.



Note that Member disappears if you select Library. For Library views, member information is specified when you load a view into the file transfer specification with the Host Data option.

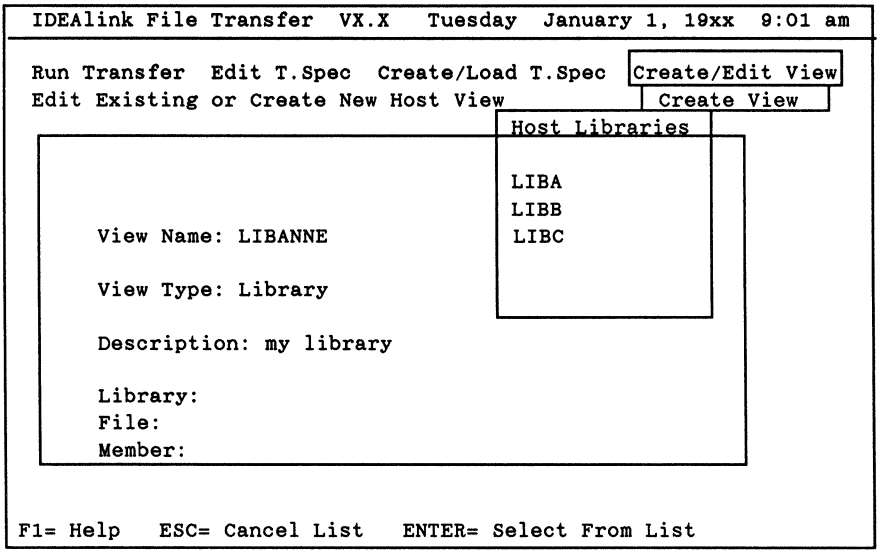
6. **Description:** Enter any text that is helpful to you or other users.

7. **Library:** On the System/36, type in the name of the host library, or press Enter for a list of libraries available on the host. You must know the names of the library, file, and member and type them in.)

   If you choose the list, use the arrow keys and Enter to select one of the library names.

   Note

   You must specify a library before you can specify a filename, and a filename before you can specify a member.



8. **File:** Type in the name of the host file, or press Enter for a list of files on the host.

9 If you choose the list, you see the prompt;

Enter Filename to Start List From:

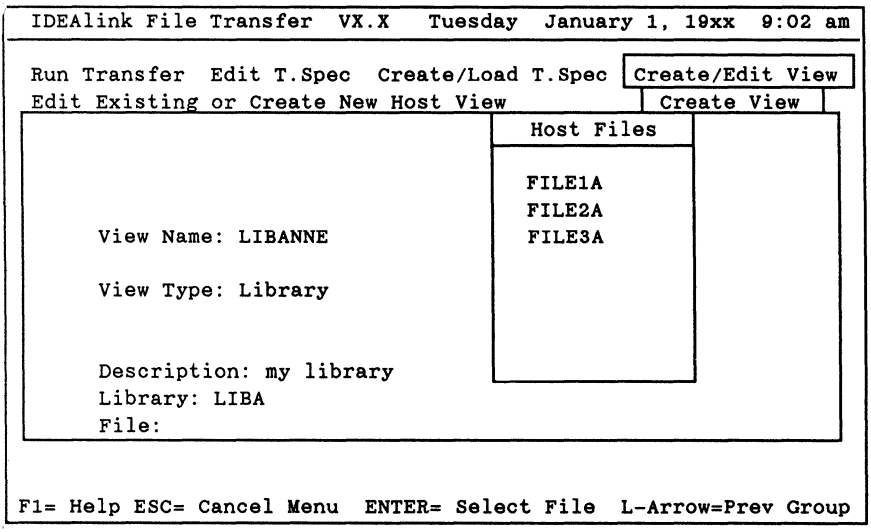
On the AS/400 or System/38, enter the first filename that you want to see, or the first letter(s). To see all files, just press Enter.

Use the arrow keys and Enter to select one of the file names.

Note that the host file need not exist at this point. If it does not exist, you must type in a name. Before running the file transfer specification, you must create the file on the host. (IDEAlink itself cannot create host files, only members.)

The host may have more files than can fit in the list. In this case, use the up and down

arrow keys to scroll through the visible names, or the left and right arrow keys to scroll to a different section of the list.



10. **Member:** On the AS/400 or System/38, type in the name of the member, or press Enter for a list of members.

    If you choose the list, use the arrow keys and Enter to select one of the member names.

11. To exit the Create View screen, press Esc for the following prompt:

    Exit or Continue?
    Assign View Fields (Read/Enter views only)
    Continue
    Exit With No Changes

12 Select **Assign View Fields.** You then see the Edit View Options screen on page 4–7. If you have no more changes, select **Save View to Host.** If you want to select certain host fields to be in your view, see page 4–9

Editing Views

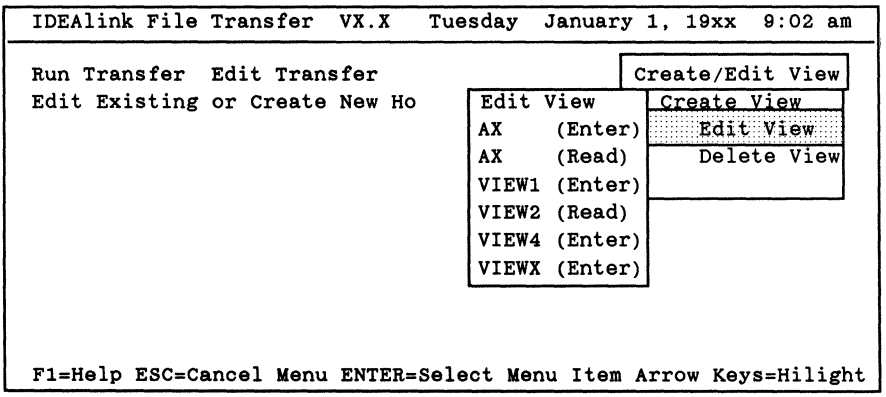
Notes

Library Views are not listed on the Edit View screen. To edit a library view, see page 5–1.

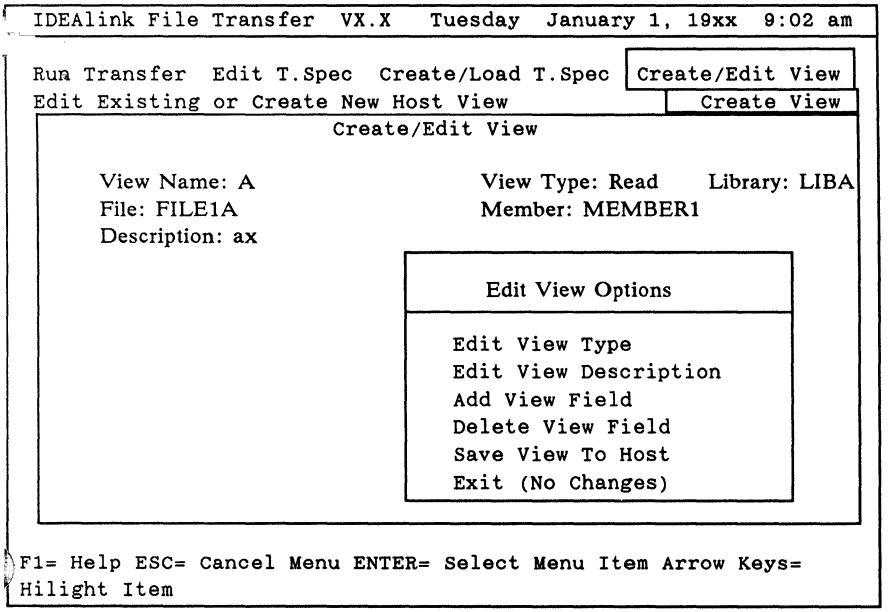
System/36 views must be created and edited with IDEAlink on the host.

Steps for Editing a View

1. Access the Edit View screen from the IDEAlink file transfer screen. On the top menu, move the highlight to **Create/Edit View** and press Enter. You see a list of views with their types (only Enter, Read):

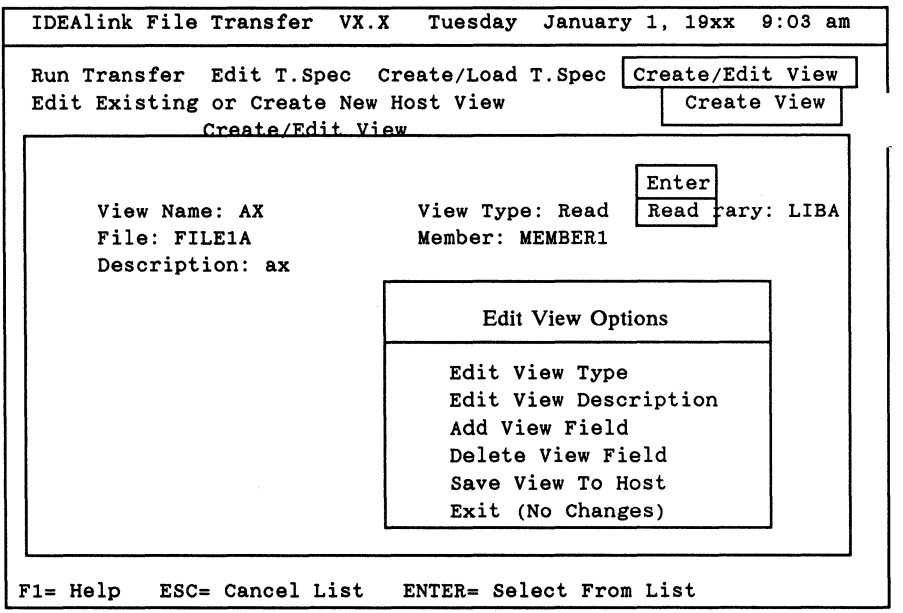


2. Move the highlight to the view you want and press Enter. You see the following screen.

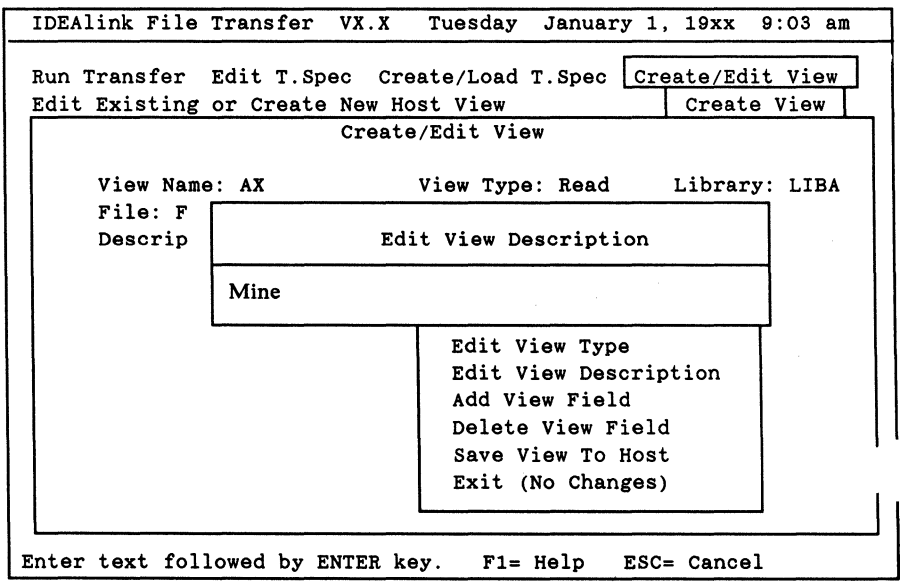


3. Use the arrow keys and Enter to move the highlight to the option you want:

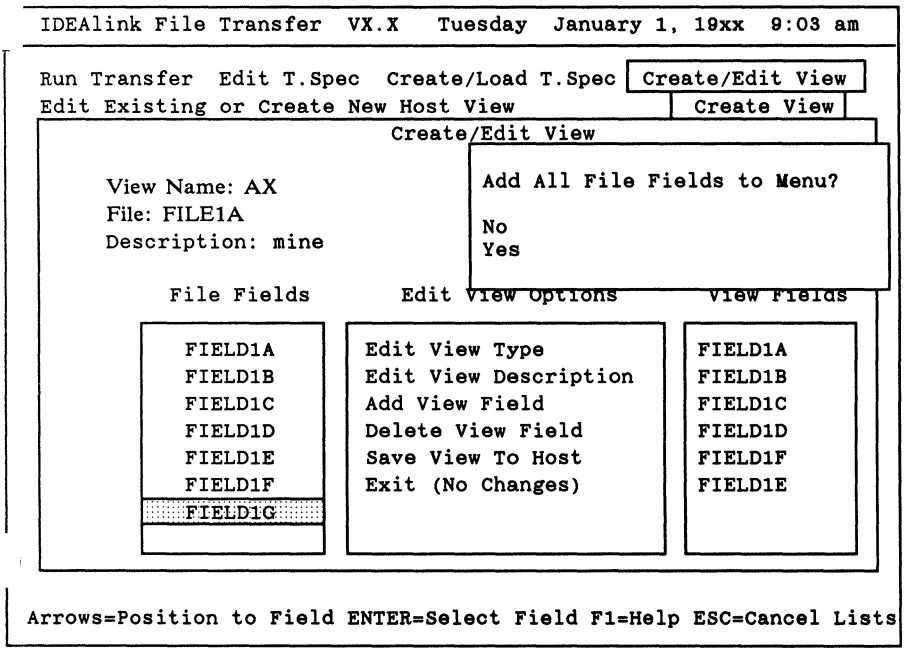
   Edit View Type allows you to change the type of Read and Enter views (not Library Views). A prompt lets you choose Read or Enter.



Edit View Description allows you to change the description text for this view.



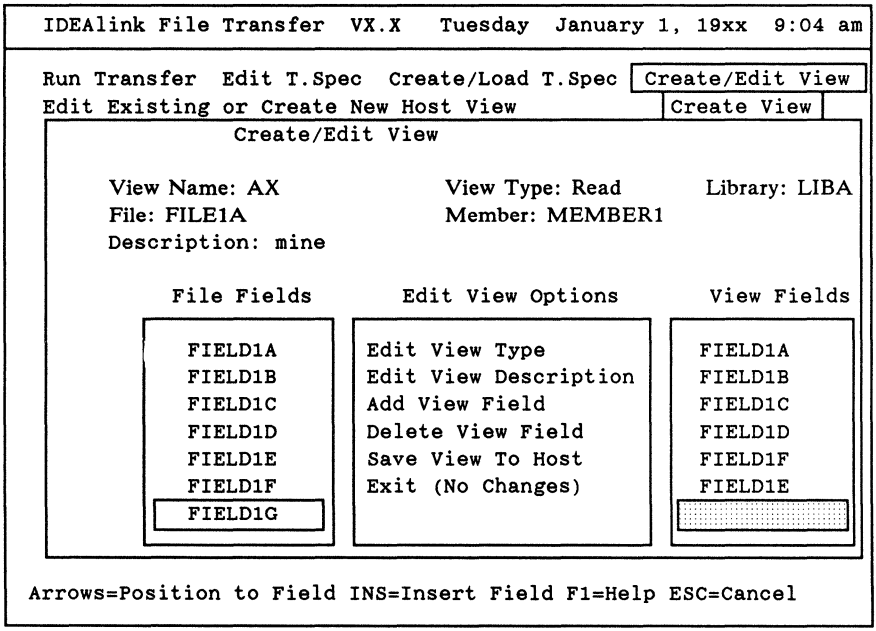
Add View Field allows you to add a host file's field to the view. You see the following screen:



To add all fields from the host file, select **Yes** in the first prompt.

You may, however, show only selected fields of the host file, and you may reorder them. To do so:

- In the bottom left column, use the arrow keys and Enter to select a field that is not already listed in the right column.



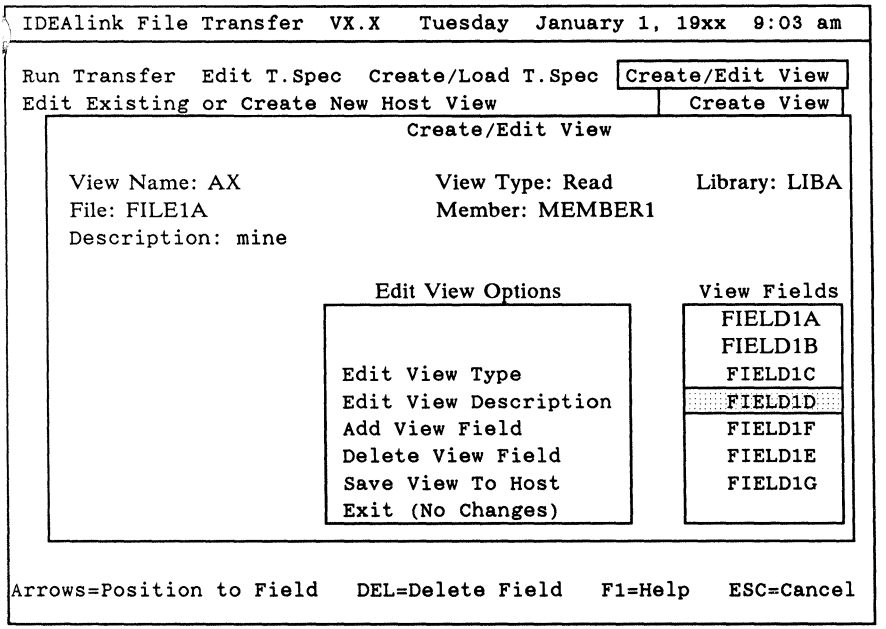
- In the bottom right column, use the arrow keys to position to the field before which you want to add the field.

- Press the Ins key.

Note on Using This Screen

Insert, not Return, is required here. On an Enhanced Keyboard, use the top Insert key, not the Ins key on the numeric keypad.

Delete View Field allows you to delete a field from the view. You see the following screen:



Move the highlight to the field that you want to delete and press the Delete key.

Note on Using This Screen

Delete, not Return, is required here. On an Enhanced Keyboard, use the top Delete key, not the Del key on the numeric keypad.

Save View to Host is required to save any changes made elsewhere on this list. (All changes made to views are resident only in the PC memory.) **Save View to Host** updates the view on the host with these changes.

Exit leads to the following prompt if you have made changes:

EXIT NOW? (All Changes Will Be Lost!)

No
Yes

If you have made changes but have not selected **Save View to Host**, then **Exit** will leave the host view unchanged.

Section V: Working with Library Views

Library views are intended for the editing of host source and procedure files on the PC. A library member is chosen when a file specification is created, not at view creation. Library views, unlike Enter views, allow overwriting of data on the host.

Specifying Member Information

When you select **Edit Transfer Spec** and then Host Data and then Select View, if the view is a library view you see the prompt:

Send or Receive File Via Library View xxx
Receive File From Host
Send File To Host

Select the correct option and press Enter.

For a Send Library view, you then see:

Member: **Member Type:**
File Operation: (Send only)
Record Length: (Send only)

For a Receive view, you see only **Member** and **Member Type.**

Tab through the options to enter the following information:

Member: Type in the name of the member, or press Enter for a list of members.

The System/36 does not display a list of members. You must know the member name and type it in on this screen.

Member Type: The choices depend on your host.

For the System/36:

Procedure (such as a command file)
Source (such as a COBOL program file)

For the System/38 and AS/400:

Program = Program Maintained Source (entire record downloaded)
System = System Maintained Source (12 byte sequence/date prefix to data removed on download)

IDEAlink strips zeros from date and sequence fields of system maintained files before transfer to the PC; it adds them to these fields before transfer to the host.

For transfer to the System/38 or AS/400, a 12 byte sequence/date prefix will be added to each record for a System Maintained source member (no addition for a Program Maintained member).

File Operation: Append to File or Replace File for the System/38 and AS/400. On these systems, the file is created if it does not exist.

For the System/36, the options are Create File and Replace File. An attempt to create a file that already exists, or to replace a file that does not exist, will cause an error at transfer time.

Note

The preceding restrictions for the System/36 mean that if you create a file transfer specification for a file that does not exist, you must choose Create here. However, before you run the transfer specification a second time, change Create to Replace.

Record Length: For the System/36, the default for type S is 96 and the default for type P is 120 (values 4 to 120 are valid).

For the System/38, the default is 92 for type S or 120 for type P. For the AS/400, it is 92 or 132.

To leave this screen, press Esc. You see:

Exit or Continue?
Continue
Exit With No Changes
Save Changes & Exit

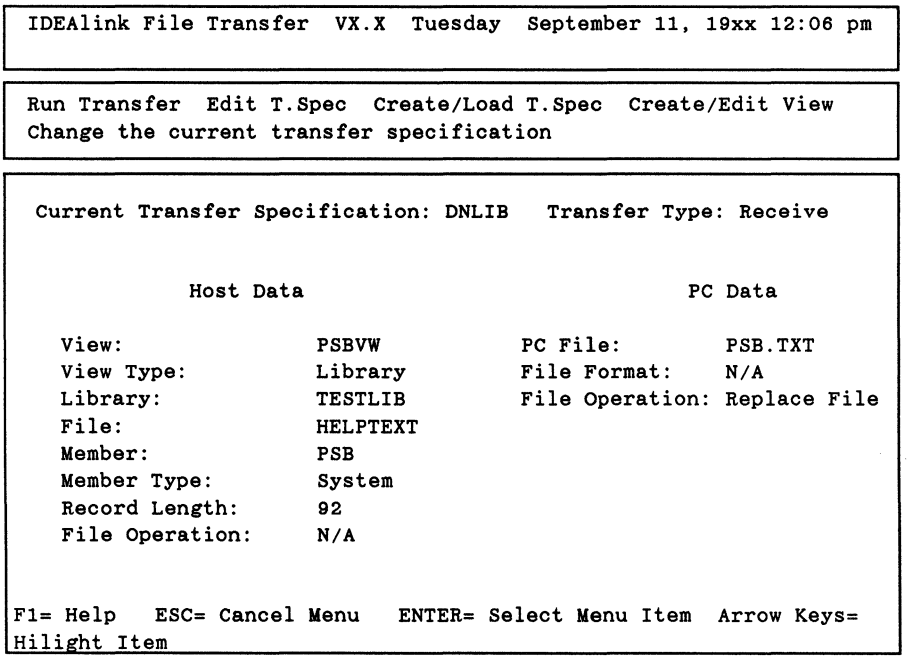
Select **Save Changes & Exit** to return to the Host Data sub–menu.

Editing Library Views

Library Views are not listed on the Edit View screen. To edit a library view:

1. Select Create View.
2. Specify the Library view name.
3. Supply new values.
4. At the prompt, **Overwrite Existing View?**, answer Yes.

Below is a sample transfer specification that contains a Library view:



File Format in Library Files

In Reads, all records transferred to the PC are terminated by CRLF (carriage return and line feed). In Enters, all records on the PC must have each record or line already terminated by CRLF. Records should not exceed the Record Length set on the **Send or Receive File Via Library View** screen.

For uploads (Enters), records are padded out to the record length with spaces.

For downloads (reads), spaces are stripped.

Section VI: Additional Functions

Creating Batch Files

You may create a file of transfer specification names that anyone may run without knowing the log–on information either for the host or for IDEAlink.

1. Use a text editor or the DOS command COPY CON to create a file that contains transfer specification names in this format:

   spec1
   spec2
   .
   .
   specn

   where **spec1, spec2,** etc. are the names you have given to the file transfer specifications with IDEAlink.

   Do not use the extension .XFR. Enter the names one per line, each line ending with carriage return and line feed. On most word processors, pressing Enter or Return implements both of these functions.

2. Run this file with the command:

   IDEALINK /Bfilename

How IDEAlink runs these specifications depends on the Automatic Log On information entered (page 3–11).

If IDEAlink cannot run one of the file transfers in the batch file, it puts an error message on the screen and into the log file explained below. Then it continues with the next file transfer, if any.

After all transfer specifications are executed, IDEAlink returns the user to the initial status, logged on or logged off of emulation.

Note

To run a batch file, you must be signed off emulation, with the cursor at the sign–on screen.

The Log File

A log file called IDEALINK.LOG is created whenever transfer specifications are executed from within IDEAlink or from a batch file. It lists the name of each file transferred (successfully or not), followed by all messages for that operation and the number of records transferred. This file is overwritten by the next execution of transfer specifications. An example is:

```
Date  time

Running Transfer Specification upload0.xfr

Logging Onto Host
Transfer Specification upload0.xfr Successfully Completed
240 Records Transferred, Elapsed Time: 0 Mins 36 Seconds

Running Transfer Specification dnload0.xfr

Transfer Specification dnload0.xfr Successfully Completed
478 Records Transferred, Elapsed Time:  0 Mins  33 Seconds

Done With File Transfers
```

To see the log file, press F10. To see explanations of error messages, press F9. Your DOS search path must include the file MORE.COM. Otherwise, exit from IDEAlink and use TYPE or a word processor to examine the file IDEALINK.LOG.

Selection Criteria

You may specify that, in a transfer, only certain records are downloaded from the host file. To do so, use the selection criteria from the **Host Data** option of **Edit Transfer Spec** on the IDEAlink file transfer screen. A file transfer specification must already be loaded with a Read view specified.

Note

Selection Criteria, like all view editing functions, are not available on the System/36.

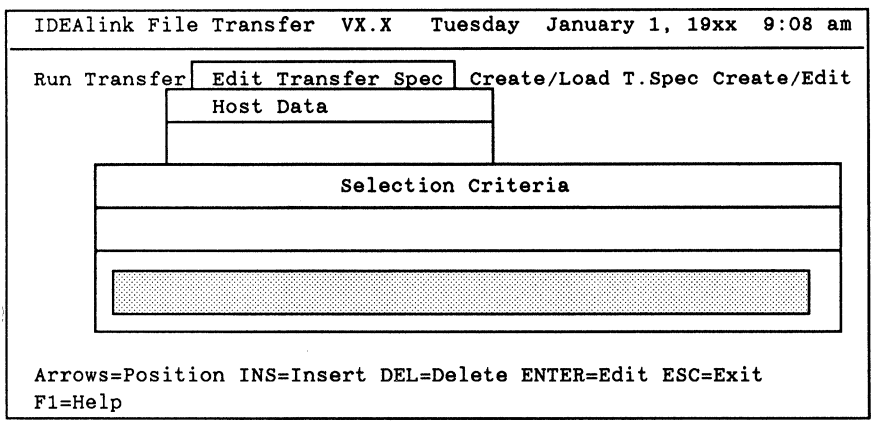
You may make restrictions in the form:

FIELD1A <=2 OR FIELD1A >10 AND FIELD1B = HARRY

IDEAlink will apply these restrictions one at a time. To make a compound restriction of the form **FIELD1 > 2 AND (FIELD2 = 4 OR FIELD3 = 5)**, enter:

FIELD1 > 2 AND FIELD2 = 4 OR FIELD1 > 2 AND FIELD3 = 5

1. Select **Selection Criteria** and press Enter. You see the following screen.



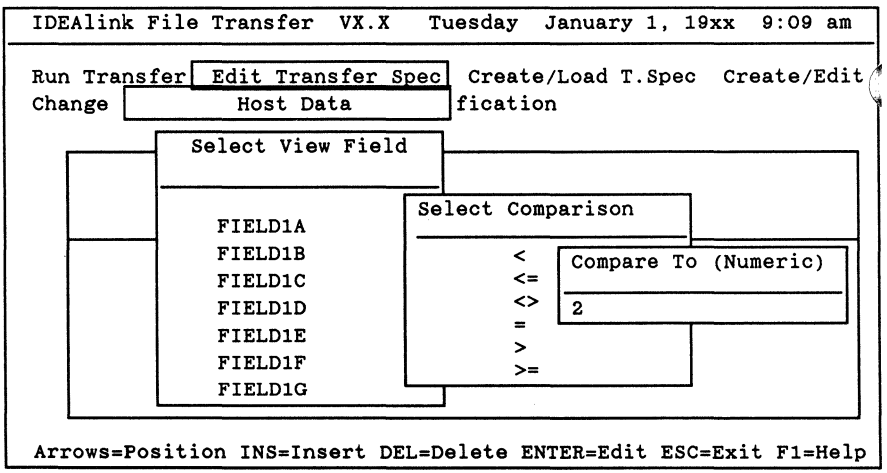
2. Use the arrow keys to move down one space and press Ins.

> Note on Using This Screen
>
> Insert and Delete, not Return, are required here. On the Enhanced keyboard, use the top Insert and Delete keys, not Ins and Del on the numeric keypad.

If you see the message:

Cannot Insert in Front of First Entry
--Press <Esc> to continue--

just press Esc and then use the down arrow to create a new blank line.

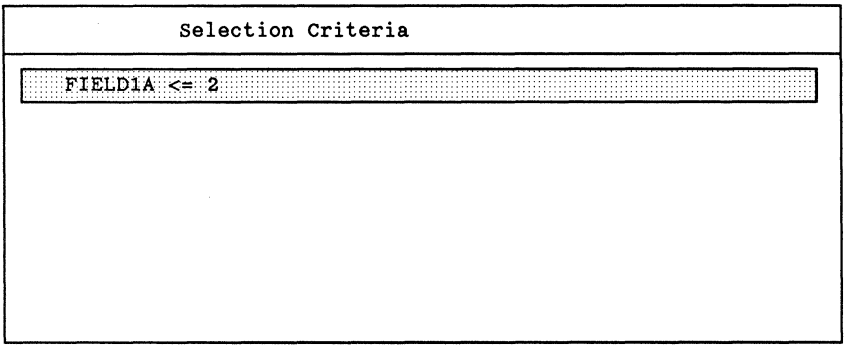


3. Move the highlight to the field that you want to restrict and press Enter. You then see a list of possible comparisons.

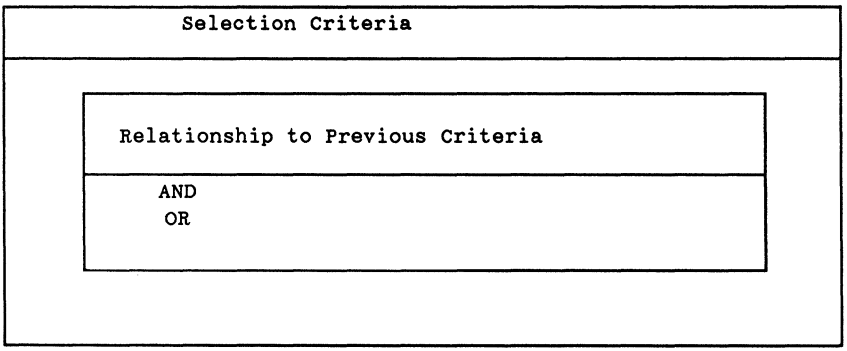
4. Move the highlight to the comparison you want the press Enter. You then see a prompt for entering the numeric or alpha value for comparison.

5. Enter a number for a numeric field or an alphanumeric value for an alpha field. Do not put quotes around the alphanumeric value.

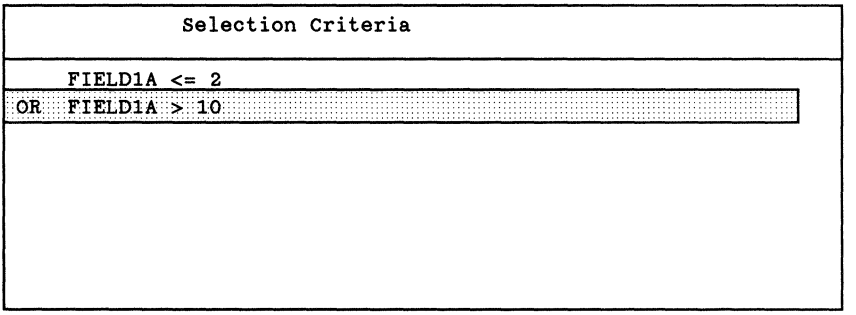
6. Press Enter to see the first line of the restriction:



7. If you want to make a compound comparison, use the down arrow to move down one line and press Enter to see the next prompt:



8. Select AND or OR and repeat the previous steps until you have the desired restriction, such as:



9. To end, press Esc for this prompt:

   Save Changes to Selection Criteria?
   No
   Yes

10. Select Yes to save and return to the Host Data options.

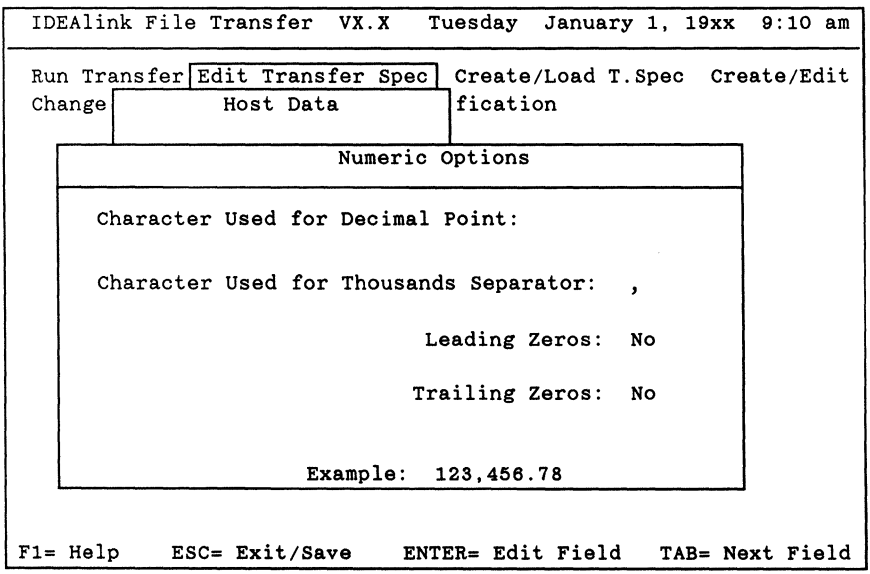
Numeric Options

This option allows you to:

- Use non–U.S.A. notation for decimals and thousands.
- Suppress leading and decimal zeros.

Access this screen from the Host Data options of **Edit Transfer Spec** on the top line of the IDEAlink file transfer screen.

1. Select Numeric Options. You see the following screen:



2. Tab or use arrow keys to move among fields.

Notes on Using This Screen

Enter and Backspace are required here.

The Thousands Separator is used only for transferring files to the host.

3. For **Decimal Point** and **Thousands Separator**, press Enter and then backspace to erase the current character. Enter the character you want. For example, French notation uses the comma for a decimal point and the period for a thousands separator.

4. Press Return at the Leading or Trailing Zeros field to see a prompt box, **Yes/No**.

   As you make changes, the example at the bottom of the screen changes. If you switch the decimal point and thousands separator and specify both leading and trailing zeros, the example is:

   Example: 00123,456.7800

5. To end, press Esc for the next prompt:

Exit or Continue?
Continue
Save Changes & Exit

6. Select **Save Changes** and press Enter to return to the Host Data options.

Changing the Language Selection

You can change your original language selection in two ways:

- Replace the current language table with another one supplied by IDEA. How to do this is explained on this page.
- Edit any language table. This is explained in Appendix C.

The language tables are the same as those supplied with IDEAcomm 5251/Plus. They are used only to send log on information to the host. They are not used during file transfer.

To change the language, exit to DOS and delete the file SCANCODE.TBL. Then when you invoke IDEAlink, you will be asked to select a new language table. The list of selections comes from the files ending in .CFS on the IDEA diskettes.

Customizing Log–On and Log–Off

If your host system has a customized log–on or log–off string, or a customized layout of entries, you can still log on and off automatically with IDEAlink. The first time you run IDEAlink, you choose one of the files SIGNON.400, SIGNON.38, or SIGNON.36. Use an ASCII text editor to edit the appropriate file to show the customized strings.

Note

Before you first run IDEAlink and choose a default host system, you can modify the original file such as SIGNON.400. After you run IDEAlink, however, SIGNON.400 has been copied to SIGNON.DAT, so SIGNON.DAT is the file you should modify. Alternately, you can still modify SIGNON.400 and then copy it to SIGNON.DAT.

To change default hosts entirely, copy another host SIGNON file to SIGNON.DAT.

As an example, below is the default SIGNON.400, with the standard IBM positions for all entries:

```
IDEALINK V2.0 HOST SIGN-ON/OFF STRINGS AND SCREEN OFFSETS
---------------------------------------------------------
The first entry in this file will become the default system
type for the initial log-on.
---------------------------------------------------------
AS/400:
   SIGNON          = "Sign On"
   SIGNOFF         = "SIGNOFF"
   SIGNON ROW      = 01
   SIGNON COL      = 36
```

```
   USER ID ROW     = 06
   USER ID COL     = 53
   PASSWORD ROW    = 07
   PASSWORD COL    = 53
   MENU ROW        = 09
   MENU COL        = 53
   LIBRARY ROW     = 10
   LIBRARY COL     = 53
   PROCEDURE ROW   = 08
   PROCEDURE COL   = 53
SYSTEM 38:
   SIGNON          = "sign on"
   SIGNOFF         = "SIGNOFF"
   SIGNON ROW      = 01
   SIGNON COL      = 20
   USER ID ROW     = 03
   USER ID COL     = 15
   PASSWORD ROW    = 04
   PASSWORD COL    = 15
SYSTEM 36:
   SIGNON          = "SIGN ON"
   SIGNOFF         = "OFF"
   SIGNON ROW      = 01
   SIGNON COL      = 39
   USER ID ROW     = 06
   USER ID COL     = 56
   PASSWORD ROW    = 08
   PASSWORD COL    = 56
   MENU ROW        = 10
   MENU COL        = 56
   LIBRARY ROW     = 12
   LIBRARY COL     = 56
   PROCEDURE ROW   = 14
   PROCEDURE COL   = 56
```

Rules

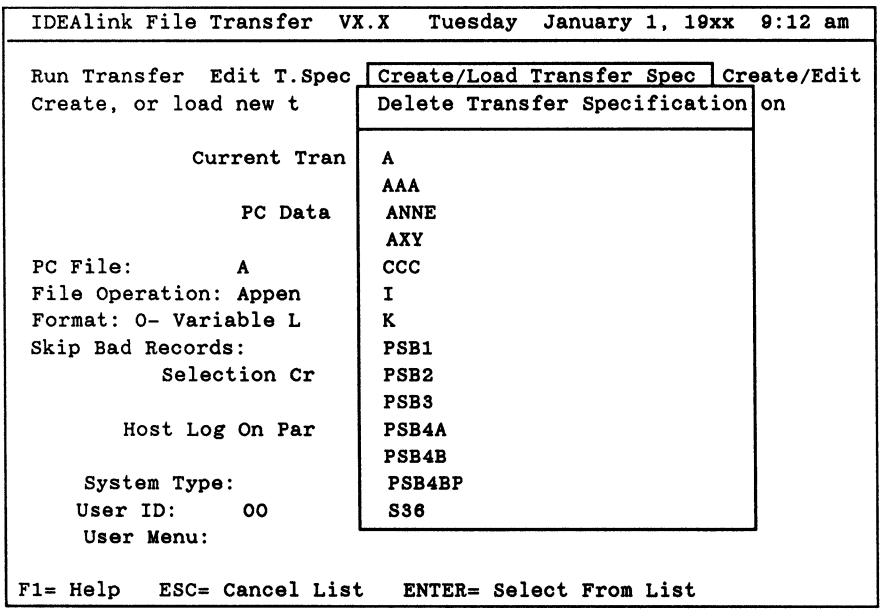
- The system type (such as SYSTEM 36) must start in the first column.
- The sign–on and sign–off strings must be enclosed in quotes.
- The row and column, which denote the position of the strings, must have two digits each. Numbering starts with 01.
- The first entry (such as AS/400) will be the default system type displayed when IDEAlink is invoked.

Deleting a File Transfer Specification

To delete a file transfer specification:

1. Select **Create/Load Transfer Spec** from the top menu of the IDEAlink file transfer screen.

2. Select the **Delete Transfer Specification** option to get a screen similar to the following:



3. Use the arrow keys and Enter to select one file for deletion at a time. You see a confirming prompt:

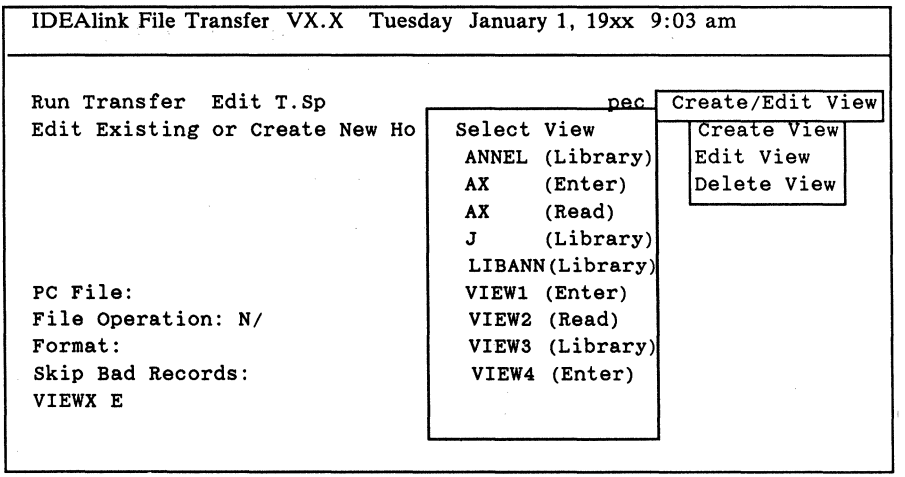
   Delete Transfer Specification xxx ?
   No
   Yes

4. Select Yes if you really want to delete the specification.

Deleting a View

1. Select Create/Edit View from the top menu of the IDEAlink file transfer screen.

2. Select the Delete View option to get a screen similar to the following:



3. Use the arrow keys and Enter to select one view for deletion at a time. You see a confirming prompt:

   Delete View VIEW4 ?
   No
   Yes

4. Select Yes if you really want to delete the view.

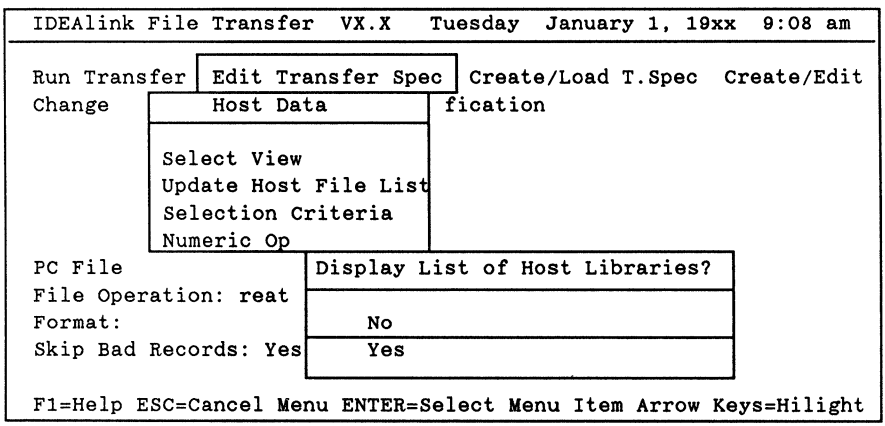
Updating Host Library Directories

To save time, IDEAlink makes a copy of the directory of libraries supported by IDEAlink on the host. If you or other people are adding and deleting files on the host, you should update IDEAlink's copy of the library directories on the host. Be aware that updating can be a time–consuming process on the host.

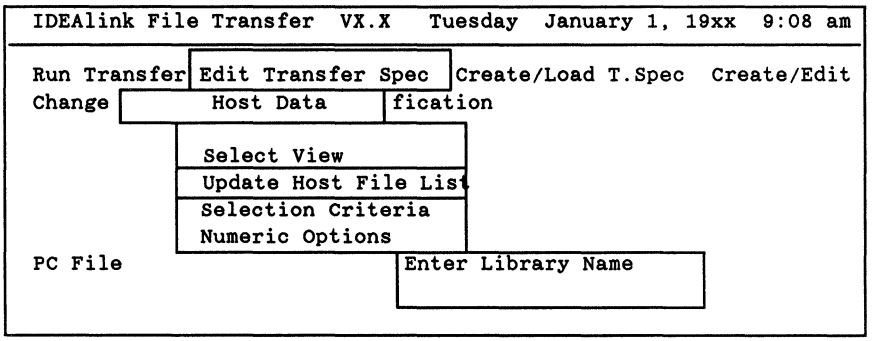
This function is not available for the System/36.

To update:

1. Be sure that some transfer spec is loaded.
2. Select **Update Host File List** from the Host Data Options.



3. You see a prompt asking whether to display a list of host libraries. If you do not know what libraries to update, select yes. You will see a display of those libraries already supported by IDEAlink. If you have only one or two libraries that interest you, select No to get the next prompt:



4. Enter the name of the host library of which you want a new copy.

Adding a Library

You may add a library to IDEAlink's display as long as it already exists on the host.

1. Select **Update Host File List.**

2. Answer No to the prompt, **Display List of Host Libraries?**

3. Type in the new host library name.

4. Answer Yes to the prompt, **Adding Library xxx to IDEAlink Library List?**

Adding the new library may take quite a while, depending on the host's priorities.

Functions Available on the Host IDEAlink

You can also run IDEAlink on the host, either from a host console or from your personal computer running emulation. IDEAlink on the host allows you to do these specialized functions:

- Create and edit System/36 views (you can run transfer specifications for the System/36 from IDEAlink on DOS.)
- Sett security on selected fields
- Restrict access to certain views or transfer specifications
- Use partial fields in your view
- Designate key fields
- Choose relative versus indexed record files
- Create Views for files with fields of more than 256 bytes

Installing IDEAlink

Normally, you should install IDEAlink while you are installing the IDEAcomm emulation files. Follow the instructions in the manual for that product.

If you decide to create a separate subdirectory for IDEAlink, or if you want to delete files you do not need, check the file VERSION.DOC for the latest list of files. Below is a list of files included on the release diskette for version x.xx:

IDEALINK.EXE	IDEAlink executable program
ILINKHLP.HLP	IDEAlink context sensitive help screens
SYSS$MSG.DTA	System message file
SYS$ERR.DTA	System error message file
SYS$HELP.DTA	System help file
xxx.CFS	Scan code tables for your language: one is required.
SIGNON .400/38/36	Host log–on strings and screen coordinates
ERRORS.TXT	List of error code meanings

Technical Notes

For EBCDIC to ASCII and ASCII to EBCDIC conversions, IDEAlink uses the table pointed to by the API, to build its own table when the user logs on. Untranslatable characters are converted to EBCDIC spaces. For how to change this table, see the *IDEAcomm 5251/Plus Software Guide*. For information on the IDEAcomm 5251/Plus API (Applications Programming Interface), see the *IDEAcomm 5251/Plus Technical Reference Guide*.

Performing DOS Functions While in IDEAlink

Pressing **F8** (**Cmd 8**) invokes a secondary DOS command processor or DOS shell. You can use this feature to create, copy, or check a file, or to perform any other DOS operations.

To return to IDEAlink, enter **EXIT**.

Do not use this feature instead of exiting IDEAlink when you have finished file transfer. While the new command processor is operating, IDEAlink is still resident. Use CHKDSK to see how much memory you have left before executing any memory–intensive operations from this command processor.

Appendix A: Troubleshooting

Things to Remember About Emulation

1. The most frequent sources of trouble are:

   - being logged off of the host but not with your cursor at the host sign–on screen.

   - being logged on to the midrange host, but with your cursor someplace other than the command entry option.

     System/38 and AS/400 Users: If you are logged on to the host, before you hot key to DOS and invoke IDEAlink, the cursor on the emulation screen must be positioned at a command or option field. In the case of the Programmer's Menu, a 5 must be in the menu option field with the cursor positioned at the command field.

   - Selecting **1st Avail. Session** when you are already logged on to the only available session.

   - Selecting **Log On** from the Logon Prompt Box (reached with Esc) when you are already logged on to the host.

2. Be sure that DLINK is on your library list. If it is not, use **ADDLIBLE DLINK** on the S/38

before hot keying to DOS to call IDEAlink. On the AS/400, use **CALL QCL**, then **ADDLIBLE DLINK**.

3. On the AS/400, the emulated session assigned for file transfer should not be in Workstation Break Mode. Authorized users of the SNDBRKMSG command must take care not to interrupt an emulated workstation using IDEAlink.

4. In the case of an unexpected or uncertain error on the AS/400, hot key to emulation and press F10 to display detailed messages.

Things to Remember About the PC Data File and DOS

1. The second most frequent source of trouble is data in PC files that does not match views on the host. Check the format of your data. Appendix E of the host manual explains how to check the View Report for correctness of file descriptions. It may be necessary to consult the programmer who originally created the host file to determine the format used.

2. When you name the PC file to go in your file transfer specification, it may be on a different drive or in a different directory from IDEAlink. If so, give the entire pathname for the PC file:

   drive:dir\subdir\subdir\filename

3. File transfer specifications are stored in the IDEAlink directory with the name format:

   specname.XFR

4. Format 0 data must use commas as record separators.

5. Check the host job log for messages such as authority not granted or file missing.

6. If you try to upload (Enter) to an indexed file, the transfer will fail with no message.

7. If spacing of data columns on the host is not what you expected, it is because tabs are not translated. If possible, use a word processor to expand tabs before transferring the data.

8. If you are using Format type 1, remember to allow a large enough field to accommodate the CRLF (two bytes) at the end of each record.

9. If Format 3 is used, a record represents a row.

10. With Format 6, if you are getting one more character than expected in a field, or a blank separator between numeric fields, you may not be treating a merged sign correctly. Do not use numbers where an alpha field will do (for example, for zip codes).

11. Only the first 512 bytes any record can be used. Further, a field of more than 256 bytes must be described as two fields in the view. This means that you must use IDEAlink on the host to create a view for such a field.

12. If data files contain square brackets [ ], the EBCDIC to ASCII mapping tables must handle them. The default U.S. table translates square brackets to spaces.

13. For host print files to be downloaded correctly, the view field must have a total of 136 bytes in order to include the 4–byte printer control information at the beginning of the record. If the view was created via DLINK on the host, this length is automatically correct; if you create the view through the PC, you must verify it.

14. The CONFIG.SYS file should include:

    FILES = 30
    BUFFERS = 20

15. If the screen display is wrong or menus are not displayed on a PS/2, be sure the mode is set correctly to MODE CO80 or MODE BW80.

16. If F9 and F10 do not display the error and log files, check that the DOS utility MORE.COM is in the DOS search path.

Numbered Error Codes

Should problems occur during file transfer, the following error numbers appear on your screen and are stored in the error log IDEALINK.LOG.

File Transfer

2000 **Microcode not running**
TWINAX is not running. Start TWINAX emulation, then hot key to DOS and start IDEAlink.

2001 **Download failed**
IDEAlink was unable to download (Read) data from the host. Check the values in your file specification and retry. If this error occurs with a Lotus Symphony file, be sure that the last record (Row) ends with a non–null field (Column).

2002 **EBCDIC to ASCII conversion failed**
Most likely the wrong data Format Type was specified on a download. The EBCDIC to ASCII table might be missing or corrupted. Recopy all the files from your IDEAcomm diskettes and retry.

2003 **Not on a log–on screen**
You are in emulation, but IDEAlink did not find the sign–on string specified in SIGNON.DAT. Check that you specified the correct host system, and check the strings in SIGNON.DAT. If you are already logged on, select **Skip Host Log On**.

2004 **Field not found**
A field filled in on the IDEAlink log–on screen does not exist on the host, or you do not have access rights to it. Check your view definition against the host file

definition. For a library member, the library member set may be full: contact host operations.

2005 No ID field
The log–on information includes an ID, but the host does not expect this information. Recheck the log–on information needed by the host.

2006 No password field
The log–on information includes a password, but the host does not expect this information. Recheck the log–on information needed by the host.

2007 No user menu field
The log–on information includes a user menu, but the host does not expect this information. Recheck the log–on information needed by the host.

2008 No library field
The log–on information includes a user library, but the host does not expect this information. Recheck the log–on information needed by the host.

2009 No procedure field
The log–on information includes a procedure, but the host does not expect this information. Recheck the log–on information needed by the host.

2010 Time–out
The PC waited too long for data from the host, usually because Input Inhibit was on too long on the host. Hot key to emulation and then press the emulated Reset key.

2011 Wait failed
The PC waited too long for data from the host. Usually this is because Input Inhibit was on too long on the host. Retry, then notify the host operator.

2012 Still on log–on screen
The log–on information supplied may have lacked a user ID or password, or an error such as wrong password may have caused the cursor to remain on the log–on screen. Check the log–on information needed by the host and retry.

2013 Input inhibit on after time–out
At log–on, hot key to the host to see if you have a message. Respond to it (usually with the emulated Reset key) and hot key back to IDEAlink. Then press Esc and select **Skip Log On**. You may have selected **1st Avail Session** when you were already logged on to the only session. Otherwise, probably an error has occurred on the host, requiring a Reset. Check the log–on information required by the host and retry.

2016 Already at sign–on screen (log–off)
You selected Exit IDEAlink, but you are already logged off the host. No action is necessary.

2017 Not logged off host
The host log–off failed. Check the host screen for error messages.

2018 No sessions available
A transfer specification has its session number set to **1st Available Session**, but no display sessions are available (running and at the sign–on screen). One cause is that the user has logged on through

emulation rather than the IDEAlink log on screen, so that when the user selects **Run Transfers**, IDEAlink tries to log on again.

2500 **Memory allocation error**
You may have run out of PC memory. Reboot the PC, remove resident programs other than IDEAcomm. If you are downloading a large file to the PC, try using selection criteria to receive fewer records.

2501 **Bad host view record**
The view selected on the host may be corrupted. You may need to recreate it.

3000 **Upload failed**
An upload (Enter) of a view or data to the host failed. Check the PC record length(s) against the view's field record length(s). Retry.

3001 **Host IDEAlink not started**
IDEAlink must be installed on the host according to the host manual. You may have selected **Skip Host Log on** instead of **Log On** from the Logon prompt box. Check that you are using a valid IDEAlink ID and password, and that the library DLINK is in your library list.

3002 **ASCII to EBCDIC conversion error**
Most likely the data Format Type is incorrect on an upload (Enter). The EBCDIC to ASCII table might be missing or corrupted.

3003 **Host IDEAlink is down**
IDEAlink on the host has stopped running. Notify the operator.

3005 **Invalid selection criteria**
The selection criteria stored on the PC are corrupted. Recreate them.

3006 PC record conversion failed
Check the data format type specified for the PC file.

3007 Exceeded selection criteria buffer limit
There are too many or too complicated selection criteria, or some of the host data fields that you are comparing have too long a description. Simplify the selection criteria.

3008 Invalid PC data format
You selected an invalid data format type for this file transfer. (For example, you cannot specify Format 4 for an Enter or upload).

3009 PC file not in proper format
The format of the PC file does not match the data format type selected. Be sure that the PC data, the format type, and the host field are compatible.

3010 Too many records for this PC format
You tried to download too much data into a spreadsheet. Use selection criteria to limit the number of records downloaded, or change the host data.

3011 Error opening PC file
The PC file in the specification does not exist or is corrupted. If the file is not in the same directory with IDEAlink, be sure that you have specified the correct path **(drive:dir\subdir\filename)**.

3012 Error writing PC file
The disk may be full, or write protected, or may be corrupted. Remove some other files and retry.

3013 Error reading PC file
The PC file or its disk may be corrupted. Make a new PC data file and retry.

4000 Unknown NAK (negative acknowledgment from the host)
An undetermined error has occurred. Retry, then notify the operator.

4001 Invalid command
The version of IDEAlink running on the host does not support the command for this operation. Be sure that you have installed the most recent version of the host software.

4002 Invalid ID
You entered an invalid IDEAlink ID. The system administrator must assign you an ID and Password.

4003 Invalid password
You entered an invalid IDEAlink password. The system administrator must assign you an ID and Password.

4004 View not found
The view specified for a file transfer was not found in the host directory. The view may have been deleted since the file transfer was specified.

4005 No authority
Your security level does not allow access to a file, view, or service on the host. Contact the host operator or system administrator.

4006 Read only
You tried to upload (Enter) to a host file that allows Read operations only.

4007 Enter only
You tried to download (Read) from a host file that allows Enter operations only.

4008 File not sequential
IDEAlink on the PC can only transfer

sequential files. To download indexed (keyed) files, use IDEAlink on the host.

4009 Bad record format
Most likely there is an error in the Format Type specified for PC data. Check Appendix B for the format needed for your file transfer. To check the type in the host file ask for a View Report (see the host IDEAlink manual).

4010 Not supported
Contact the host operator.

4011 Host Read error
Contact the host operator.

4012 Host file not found
The host file could not be opened because either the file or specified member was not found.

4013 Host file empty
You tried to download (Read) data from an empty host file.

4014 Host file full
You tried to upload (Enter) to a host file that is full.

4015 Host disk error
A disk I/O error occurred during an operation. Try the operation again. If the problem persists, contact the host operator.

4016 Not authorized job
A job was submitted to a job description to which the user is not authorized. Contact the host operator.

4017 Job not found
A job was to be submitted to a job description that could not be found. Contact the host operator.

4018 Job submit error
On a library update, there was an error submitting the job. Contact the host operator.

4019 File open error
Error opening a file on the host. Contact the host operator.

4020 Member not found
On the System/36, you attempted to replace a member that does not exist.

4021 Library not found
A library typed in during view creation could not be found. Check the library name on the host.

4022 Library authorization error
You tried to use a library that is not on your library list. Contact the host operator.

4023 Error opening view
Use IDEAlink on the host to check the view, or contact the host operator.

4024 Add member to view error
Error adding a member to a view. Use IDEAlink on the host to check the view, or contact the host operator.

4025 Delete member error
It is not possible to delete a library member using IDEAlink on the PC.

4026 Create view error
Error creating a view on the host. Use IDEAlink on the host to create the view, or contact the host operator.

4027 Create library view error
Error creating a view on the host. Use IDEAlink on the host to create the view, or contact the host operator.

4028 Delete view error
You tried to delete a view that does not exist or is corrupted. Use IDEAlink on the host to delete the view, or contact the host operator.

4100 No member space in library
Contact the host operator.

4101 No directory space in library
Contact the host operator.

4102 Library member in use
The library member in the view is in use. Retry or contact the host operator.

4103 Library member exists
On the System/36, you specified Create member, but the member exists. Change the file transfer specification.

5000 User pressed ESC during host operation
You pressed the Esc key during file transfer to abort the operation. If you did not press Esc, notify the host operator.

For downloads or Reads in this situation, the PC will store all records received up to that point. For uploads or Enters, results are unpredictable.

Other Error Messages

Emulation Not Running - Press F1 for Help
IDEAcomm emulation is not running, there is no emulation card in your system, or the card cannot be identified. Start emulation, or check switch settings and configuration according to your emulation manual.

With IDEAcomm 5250/Remote, Remote Gateway, or Remote Share, be sure that the API compatibility has been set to Yes for the LU you are using. See that product manual.

Appendix B: Data Formats

This appendix defines the data formats that can be selected from the PC Data screen. These formats allow data retrieved from the IBM host to be written onto PC files in formats that are directly usable by common PC application programs.

The table on the next page lists the formats to use with common application programs. If your application is not included, contact IDEA Technical Support to determine which format to use.

In the majority of the cases you only need to know the format number; unless you are doing your own PC application programming or are using an unusual application package, a thorough understanding of this appendix is not needed.

Summary of Data Formats

Formats 0 through 7 can be used to handle the popular PC applications:

Format 0 – Variable length fields (BASIC format)

Format 1 – Fixed length fields (IBM BASIC random format)

Format 2 – DIF (Data Interchange Format)

Format 3 – WKS (Lotus 1–2–3) or WRK (Symphony)

Format 4 – IBM host print files

Format 5 – Unconverted (direct binary image)

Format 6 – ASCII fixed length fields (COBOL, dBASE, etc.)

Format 7 – dBASE SDF files

Application Program	Format
DATASTAR	0
WORDSTAR (MAILMERGE)	0
VISICALC	2
LOTUS 1–2–3 or SYMPHONY	3
BASIC (Sequential Files)	0
BASIC (Random Files)	1
dBASE II	0,6,7
dBASE SDF	7
BABY 34/36	5
COBOL and most other applications	6

Format Type 0: Variable Length Fields

This file format is used for BASIC or C-BASIC sequential files and C-BASIC random files. It can also be used to examine data visually on the screen or with a text editor. It is the default format type. Typical applications are INFOSTAR and MAILMERGE.

A file of this format consists of records that end with Carriage Return and Line Feed characters (hex 0D0A). Fields within a record consist of variable length strings of ASCII characters and are separated from each other by a comma.

If IDEAlink sees a comma within a text field, it will enclose that field in quotes. If a quote happens to be in that field, IDEAlink will add an additional quote.

Example

Suppose a host file with records of 6 characters each:

Host Data	PC Data
ABCDEF123.45	ABCDEF,123.45
ABC,DE123.40	"ABC,DE",123.40
A,"BC"123.40	"A,""BC""",123.40

Skip Bad Records Option

If this option was set to Yes on the PC Data screen, when a field data error is encountered, the entire PC record including CR/LF is skipped.

Format Type 1: Fixed Length Fields and Records

This format is used mostly with IBM PC and M–BASIC random files and with application programs that use these file types. This particular format allows increased speed in some situations, but is not commonly encountered in commercially available programs. It might be used by those who write their own programs in BASIC.

Records of this file type are of fixed length and each field is of fixed length. No special characters are used to separate fields or records. Numeric fields are stored as BASIC 8 byte double precision format, whereas alpha fields consist of a string of ASCII characters with blank fill.

Example

Suppose a host file with records of 6 characters in each:

Host data	**PC data**
123.45	123.45
ABCDE	ABCDEb

where b stands for a blank.

Skip Bad Records Option

Records are not delimited, so cannot be skipped. A data error will still cause transfer to abort, whether this option on the PC Data screen is set to Yes or No.

Format Type 2: DIF (Data Interchange Format)

This is a standard format used by applications programs such a Visicalc to exchange data with other programs. Files created in this format should be given the extension .DIF in order to be recognized as DIF files by the applications programs.

If the data in this format is created by a spreadsheet program, care should be taken to avoid null row or column positions that usually default to alpha fields regardless of the content of the rest of the spreadsheet. Such null fields might end up in the position normally occupied by numeric data, causing a bad field format.

Example

Suppose a host file to be downloaded to a spreadsheet with a Read view:

Host Data	PC Data
JAN23.4FEB24.8	row 1, col. 1: JAN
	col. 2: 23.4
	row 2, col. 1: FEB
	col. 2: 24.8

Skip Bad Records Option

If this option on the PC Data screen is set to Yes, a field data error (mismatch field type, or not a NUMERIC or STRING entry) will cause the entire PC record to be skipped, up to the next "-1,0" entry. If the record does not start with a "BOT" entry, the transfer will still abort.

Format Type 3: WKS (Lotus 1–2–3 Format) or WRK (Symphony)

Although Lotus 1–2–3 and Symphony will accept data in Format type 2 (DIF), this requires an additional step and is rather inefficient. Format 3 is directly compatible with the Lotus WKS and WRK formats and loads directly into the spreadsheet. It can be created directly from the spreadsheet. Files created using this format should be given the appropriate extension (.WKS or .WRK) in order to be recognized by the Lotus program.

Downloading Data to a Spreadsheet (Read Views)

For downloads (Reads), IDEA recommends that you append only to a file that was created by IDEAlink, or make sure that only NUMBER and LABEL entries are in the file. NUMBER entries correspond to numeric fields. LABEL entries correspond to alpha fields.

Data transfer from the host can be directly downloaded to LOTUS 1–2–3 or Symphony using IDEAlink Format 3.

In appending to an existing file during a download (read), the file is scanned for NUMBER and LABEL entries to determine the highest row number in the file. Additional records will start at the next row number. All other entries (such as FORMULA) are ignored.

Once the file is downloaded it can be viewed within LOTUS with the command sequence:

/FILE RETRIEVE <filename>.

It may not be possible to create a view for a data file that directly matches the spreadsheet application. This is because some rows and columns in the spreadsheet are used for formulas, formatting, and so on. When a view can not be created to match the spreadsheet application, use the **/FILE COMBINE** command to merge the downloaded data file into an unused portion of the spreadsheet.

Once the data is in the spreadsheet, formulas or macros can be used to distribute the data to the correct cells. The exact LOTUS operation is to position the cursor at the address of the range to which the data is to be inserted and to issue the following command sequence:

/FILE COMBINE COPY ENTIRE FILE <filename>

Example

Here is a simple income statement where the rows and columns are defined as follows:

ROW A:	Titles	ROW H:	Titles
ROW B:	------	ROW I:	Product Expenses
ROW C:	Product Revenues	ROW J:	Sales Expenses
ROW D:	Service Revenues	ROW K:	G&A Expenses
ROW E:	------	ROW L:	-----
ROW F:	+C+D (Total Revs.)	ROW M:	+I+K+L (Total Expenses)
ROW G:	(blank)	ROW N:	(blank)
		ROW O:	+F-N (Profit)
COL 1:	Titles	COL 3:	Year 2
COL 2:	Year 1	COL 4:	Year 3

Assume that you wish to obtain from the host the data for "Year 1." This data must be inserted into COL 2, ROWS C, D, I, J, and K. These rows are not contiguous and therefore it is necessary not to place data in ROWS A, B, E, F, G, H, L, M, N,

and O. This can be accomplished by Combining the downloaded data into the spreadsheet in COL 5, ROWS A – E and inserting the following formulas into the spreadsheet:

at C2	+A5	at D2	+C5	at I2	+C5
at J2	+D5	at K2	+E5		

This operation can be expanded to distribute data into any position in your spreadsheet and will work in all cases where there is enough free memory in the spreadsheet to receive the data.

Uploading Spreadsheet Data (Enter Views)

If you must upload the data after it is operated on by LOTUS, it will be necessary to copy the data to a contiguous range and then save this range using the LOTUS command sequence:

/FILE XTRACT VALUES <filename> <range>

Again, formulas can be inserted into the spreadsheet to create the contiguous range of data required for the upload. Also, in this case it is necessary that a valid view be prepared on the host to receive the uploaded data.

On uploading, be aware that null spreadsheet cells do not appear as data fields in the WKS or WRK files. When Format 3 is specified, the absence of such fields is detected and fill–in data (blanks or zeros) is generated.

In order to understand what contiguous range and null cells are, be aware of how LOTUS spreadsheets store data. Each spreadsheet consists of many cells that can contain data. Individual cells can be addressed given a row and column.

Since not all the cells in a viewed spreadsheet have data in them, it would not make sense to to save

cells that have no useful data in them. **Only the cells that actually contain data are stored on disk** along with the row and column of the cell. Cells that are not formatted or do not contain actual data are not written to disk.

IDEAlink views the file as "what you see is what you get." If you have a spreadsheet with data in cells adjoining each other and in which the rows and columns form meaningful groupings, then the range over which these conditions exist is contiguous.

With a contiguous range you can define a view according to the layout of the spreadsheet. IDEAlink will then fill in any blank (null) cells by looking at the row and column position of each cell that has been stored on disk **and IDEAlink will fill in any missing fields between the last row and column position read and the current row and column being read.** (See the following example.)

Usually entire rows or columns of cells are used to format the spreadsheet. For example, a blank (null) row may separate your totals on the bottom of the spreadsheet from previous rows of subtotals.

Example

Column 1 (40 wide) contains names, column 2 (9 wide) contains net income. The view for the logical fields would be:

key,	**1 to 1,**	**alpha;**	**logical field 0;**
Names,	**1 to 40,**	**alpha;**	**logical field 1;**
Income,	**41 to 49,**	**numeric;**	**logical field 2.**

On the PC side there is a null cell in B–5. If Format 3 is used without any options the null cell

B–5 will be converted to a numeric field of 0s; no error will be returned.

Skip Bad Records Option

If this option on the PC Data screen is set to Yes, a numeric conversion error will still abort the transfer. Otherwise, if a field data error occurs, such as a field data mismatch or a field that is not a NUMBER or LABEL field, only the field in the PC record is skipped. This is useful if the PC record has extra fields that should be ignored. For example, setting **Skip Bad Records** to Yes in the PC Data screen will allow correct file transfer between the following items:

View	**PC Data**
Alpha	Alpha
Numeric	Alpha (extra field to be ignored)
Alpha	Numeric
	Alpha

Format Type 4: Host Print Files

This format is used to convert host data files extracted from the host spool file to a format for printing at the Personal Computer. It is only applicable for a download (Read) function. If this format is selected for a view that does not designate an extracted spool file entry, an error message will occur.

DLINK on the host provides a prototype view called V$CPRT for these files, which you can copy and rename to use as your view for print files. How to do so is described in Section IV of the host operations manual. This is a two–field view. (See Appendixes B and C of that manual for how to use V$CPRT on the System/38 and AS/400.)

You can also create a view through IDEAlink on the PC. Format 4 creates records of one field each, the field always containing 136 bytes. This includes a 4–byte printer control prefix on each host print record.

This format creates files that contain form feed characters and that use a combination of carriage return and line feed to make a new line. Double striking is supported.

Skip Bad Records Option

No data conversion takes place, so the Skip Bad Records option is ignored.

Format Type 5: Unconverted (Binary Image)

Format type 5 is used to pass data between the host and the PC without conversion and without end of record or file marks. Data is moved as is. This format is provided for RPG and applications (such as BABY 36) that prefer to do their own conversion of the data. It also allows moving data from one host to another. No EBCDIC to ASCII conversion is done.

In addition, Format 5 can be used to store and retrieve an image of any PC diskette or disk file. For this use, define two special views (one for Enter and one for Read) with one binary field of length 1 and one alpha field of length 127 or 255 for a total record length of 128 or 256. When data is uploaded or entered, the last record transferred will be padded with binary zeroes to the length specified by the view if the number of data bytes remaining is less than the record length. On a download or Read then, the size of the file will be a multiple of the specified view record length. For example, if 130 bytes are sent to a file where the record length is specified as 128, 256 bytes are written (128, plus 2 padded to 128).

Skip Bad Records Option

No data conversion takes place, so the Skip Bad Records option is ignored.

Format Type 6: ASCII Fixed Length Fields

This is the most common format. It is used for Line Sequential files in many languages, for Direct Access files that do not require a file header, for C Direct Access files, and with application programs that use these file types.

Records are of fixed length and each field is of fixed length. No special characters are used to separate fields or records. Alpha fields remain as they were on the host (but converted to ASCII).

Numeric fields are converted to ASCII strings with the sign leading and separate and an explicit decimal point. Numeric fields are stored right justified and padded with leading and trailing zeros.

Field Size Examples

Host Data Type		PC Length
Alpha	=	same length
Zoned numeric	=	# of zoned bytes + 1
Packed numeric	=	# of packed bytes x 2
1 to 2 byte Binary number	=	6 bytes
3 to 4 byte Binary number	=	11 bytes
10 byte Alpha	=	10 bytes ASCII alpha
6 byte Zoned numeric	=	7 bytes ASCII number
3 byte Packed numeric	=	6 bytes ASCII number
1 byte Binary number	=	6 bytes ASCII number
4 byte Binary number	=	11 bytes ASCII number

Add 1 to the length in the examples if the decimal point is explicit.

Please consult the discussion of Format 7 for more information on transferring dBASE files.

Skip Bad Records Option

Records are not delimited, so cannot be skipped. A field data error will still cause transfer to abort.

Format Type 7: dBASE SDF

Format 7 defines the dBASE SDF record format and can also be used to examine data visually on the screen or with a text editor.

Records are terminated with a carriage return and line feed (hex 0D0A). The carriage return and line feed are not included in the record length. On a read, host records are read up to the CR/LF and padded or truncated to the host record size.

Data Transfer Between IDEAlink and dBASE II

IDEAlink Formats 0, 6, and 7 can be used to download (Read) or upload (Enter) a dBASE text file. The text file can be appended to or copied from dBASE files.

Moving Text Files In and Out of dBASE II Using Format 0 and the "Delimited" Option

Format 0 is compatible with dBASE II text files created with the **DELIMITED WITH** " command. All fields are separated with a comma (,) and any field that contains a comma is surrounded with double quotes (").

Once the host file has been downloaded to a PC text file using Format 0 (for dBASE II), it is necessary to activate dBASE and **APPEND FROM** the text file to an existing dBASE file using the **DELIMITED** option.

For example, to append a file <textfile> to a dBASE file <dbfile> the following commands would be used:

USE <dbfile>
APPEND FROM <textfile> DELIMITED

It is assumed that a dBASE file <dbfile> was created on the PC with the same structure as the data downloaded from the host <textfile>. Note that if the PC text file is given an extension of ".TXT" then the extension need not be added to the <textfile> name. The above operation will append the downloaded data to the file presently in use, if the file structures are compatible.

Uploading to the host (with an Enter view) requires that a correctly structured VIEW exist on the host and a dBASE text file be created. To create the text file <textfile> for upload, using Format 0, the dBASE **COPY** command will be used with the **DELIMITED WITH "** option. The exact commands would be:

USE <dbfile>
COPY TO <textfile> DELIMITED WITH "

Using Format 7

The dBASE II & III SDF record format can be described using Format 7. This format specifies a fixed length field and record format, with leading sign and explicit decimal point for numeric fields.

Once the host file has been downloaded to a PC text file using Format 6 (this works for dBASE II & III), activate dBASE and **APPEND FROM** the text file to an existing dBASE. For example, to append a file <textfile> to a dBASE file <dbfile> the following commands would be used:

USE <dbfile>
APPEND FROM <textfile> SDF

Again, the dBASE file <dbfile> must have the same structure as the data downloaded from the host <textfile>. The above operation will append the downloaded text file data to the dBASE file in use only if the file structures are compatible.

Use of Format 7 avoids the double quote problem that may occur with Format 0.

To create a text file <textfile> for uploading with Format 7 (dBASE II & III), use the dBASE **COPY** command with the **SDF** option, for example:

USE <dbfile>
COPY TO <textfile> SDF

For more information on text files and copy options, see your dBASE manual.

Skip Bad Records Option

If this option on the PC Data screen is set to Yes and a field data error is encountered, the entire PC record including CR/LF is skipped.

Data Conversion Notes

1. The host and personal computers use different 8 bit codes to represent characters. The host uses EBCDIC and the personal computers use ASCII. Both character sets contain the letters, digits and normal special characters. There is, however, not a complete one–to–one correspondence between ASCII and EBCDIC.

   Therefore, when EBCDIC data is converted to ASCII or vice versa, the space character replaces those characters for which there is no corresponding code.

2. The Personal Computer can handle both smaller and larger numbers than the host. If a number sent to a host field has more digits after the decimal than specified for the field, normal arithmetic rounding occurs in Formats 1 and 3. For example, if the host field allows 2 digits after the decimal point, then:

PC Number	Resulting Host Number (Formats 1 and 3)
1.125	1.13
1.33333	1.33
3.14159	3.14
0.0000	0.00

   If the integer portion of the number will not fit in a host field, an error is posted and the session is aborted. For example, a host field of length 4 with 2 digits after the decimal point will not accept a number greater than 99. If rounding would cause an overflow of the integer portion of the field, the number is instead truncated. In the previous example, 99.999 would be converted to 99.99, as 100.00 would not fit in the field.

Appendix C: Editing the Language Table

Below is the language table for U.S. English. During log–on, it converts the ASCII codes for IDs and passwords to their associated scan code sequences. You may change it with any ASCII text editor.

```
; U.S. SEND Editor ASCII to 5250 Conversion File
; KEYSCAN
;
; ASCII Scan Codes              Comment
; Code    Sent
;
  20    0F                  ; Space
  21    57 2B D7            ; Exclamation Point
  22    57 1B D7            ; Double Quote
  23    57 33 D7            ; Number Sign
  24    57 34 D7            ; Dollar Sign
  25    57 35 D7            ; Percent Sign
  26    57 37 D7            ; Ampersand
  27    1B                  ; Single Quote
  28    57 39 D7            ; Left Parenthesis
  29    57 3A D7            ; Right Paren
  2A    57 38 D7            ; Asterisk
  2B    57 3C D7            ; Plus Sign
  2C    08                  ; Comma
  2D    3B                  ; Hyphen
  2E    09                  ; Period
  2F    0A                  ; Slash
  30    3A                  ; Number 0
  31    31                  ; Number 1
  32    32                  ; Number 2
  33    33                  ; Number 3
  34    34                  ; Number 4
  35    35                  ; Number 5
  36    36                  ; Number 6
  37    37                  ; Number 7
```

```
38    38                ; Number 8
39    39                ; Number 9
3A    57 1A D7          ; Colon
3B    1A                ; Semi Colon
3C    0E                ; Less Than
3D    3C                ; Equal Sign
3E    57 0E D7          ; Greater Than
3F    57 0A D7          ; Question Mark
40    57 32 D7          ; At Sign
41    57 11 D7          ; Letter A
42    57 05 D7          ; Letter B
43    57 03 D7          ; Letter C
44    57 13 D7          ; Letter D
45    57 23 D7          ; Letter E
46    57 14 D7          ; Letter F
47    57 15 D7          ; Letter G
48    57 16 D7          ; Letter H
49    57 28 D7          ; Letter I
4A    57 17 D7          ; Letter J
4B    57 18 D7          ; Letter K
4C    57 19 D7          ; Letter L
4D    57 07 D7          ; Letter M
4E    57 06 D7          ; Letter N
4F    57 29 D7          ; Letter O
50    57 2A D7          ; Letter P
51    57 21 D7          ; Letter Q
52    57 24 D7          ; Letter R
53    57 12 D7          ; Letter S
54    57 25 D7          ; Letter T
55    57 27 D7          ; Letter U
56    57 04 D7          ; Letter V
57    57 22 D7          ; Letter W
58    57 02 D7          ; Letter X
59    57 26 D7          ; Letter Y
5A    57 01 D7          ; Letter Z
5C    2C                ; Back Slash
5F    57 3B D7          ; Underline
60    3E                ; Apostrophe
61    11                ; Letter a
62    05                ; Letter b
63    03                ; Letter c
64    13                ; Letter d
65    23                ; Letter e
66    14                ; Letter f
67    15                ; Letter g
68    16                ; Letter h
69    28                ; Letter i
6A    17                ; Letter j
```

```
  6B    18                  ; Letter k
  6C    19                  ; Letter l
  6D    07                  ; Letter m
  6E    06                  ; Letter n
  6F    29                  ; Letter o
  70    2A                  ; Letter p
  71    21                  ; Letter q
  72    24                  ; Letter r
  73    12                  ; Letter s
  74    25                  ; Letter t
  75    27                  ; Letter u
  76    04                  ; Letter v
  77    22                  ; Letter w
  78    02                  ; Letter x
  79    26                  ; Letter y
  7A    01                  ; Letter z
  7B    1C                  ; Left Brace
  7C    57 2C D7            ; Vertical Bar
  7D    57 1C D7            ; Right Brace
  7E    57 3E D7            ; Tilde

; SPECIAL
;
; Key                Scan Codes      Comment
; Label                Sent
;
   '<cent>'            2B              ; Cent Sign
   '<linebar>'         57 31 D7        ; Line Bar
   '<bkspc>'           3D              ; Back-space
   '<s-bkspc>'         57 3D D7        ; Shift
   Back-space
   '<cmd>'             6F              ; Command
   .
   .
```

Meaning of Items

ASCII Code is the ASCII code for the key you press. See the Comment column. Do not change this code.

Scan Codes Sent is the code or codes that IDEA sends by default to the IBM midrange. A few users may need to change these codes.

Key Label	corresponds to the symbol used in emulation for a certain key or combination. These are not used by IDEAlink.
Comment	helps to identify the key symbol for you.

How to Change the Table: an Example

1. Suppose that you want always to send upper case characters to the host in logging on. Therefore, you want a lower case character, such as **a**, to send the scan code for its upper case counterpart (**A**).

2. Locate in the listing above the scan code for the upper case A. It is 57 11 D7.

3. Locate the scan code for lower case A. It is 11.

4. With a text editor, open the file US.CFS.

5. On line 68 (Letter a), replace 11 with 57 11 D7:

   ```
   61      57 11 D7          ; Letter a
   ```

6. Repeat the procedure for every lower case letter of the alphabet.

7. File the new text under the same file name (US.CFS).

8. Before restarting IDEAlink, erase the file SCANCODE.TBL.

9. When you invoke IDEAlink, you will see the prompt to select a language:

   Select the Desired Scan Code Table

   FRANCE
   GERMANY
   US
   .
   .

   Select the language for the table you have changed. From now on, the lower case **a** will send the scan code for upper case **A**.

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