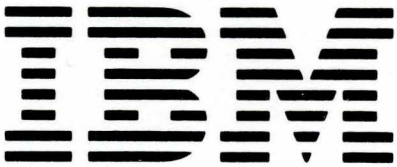
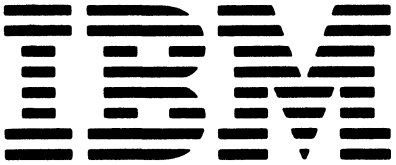


SC21-7657-4

File No. S34-32

IBM System/34
Source Entry Utility
Reference Manual

Program Number 5726-UT1



SC21-7657-4

File No. S34-32

IBM System/34
Source Entry Utility
Reference Manual

Program Number 5726-UT1

Fifth Edition (January 1982)

This is a major revision of, and obsoletes, SC21-7657-3 and Technical Newsletters SN21-8133, SN21-8144, and SN21-8106. Miscellaneous changes occur throughout the manual. Changes or additions to the text and illustrations are indicated by a vertical line to the left of the change or addition.

This edition applies to release 8, modification 0 of the IBM System/34 Utilities Program Product (Program 5726-UT1) and to all subsequent versions and modifications until otherwise indicated in new editions or technical newsletters. Changes are periodically made to the information herein; changes will be reported in Technical Newsletters or in new editions of this publication. Use this publication only for the purposes stated in the *Preface*.

Preface

The source entry utility (SEU) is part of the System/34 Utilities Program Product, Program 5726-UT1. The purpose of this manual is to describe SEU for programmers who define SEU jobs. Also, this manual contains an operating summary for programmers who operate SEU themselves to create and maintain System/34 source and procedure members. This manual describes:

- The purpose and functions of SEU
- The display screen formats provided with SEU
- How to change supplied display screen formats and create new ones
- How to call SEU and how to end an SEU job
- SEU prompts
- How to use command function keys and function control keys in each SEU mode

This reference manual is intended not only for account programmers but also for IBM field support personnel. The manual is not intended to be a substitute for SEU portions of System/34 classes offered by IBM or for equivalent SEU training.

This program provides ideographic support when used with the ideographic version of the SSP and the ideographic hardware devices that version supports.

How this Manual Is Organized

This manual contains six chapters, two appendixes, a glossary, and an index. Chapter 1 presents an overview of SEU. Chapters 2 through 5 describe details of SEU. Chapter 6 is an SEU operating summary.

Appendix A contains a sample listing of the display screen format specifications that define one of the display screen formats provided with SEU. Appendix B lists the diagnostic messages issued by SEU.

System Requirements

For a list of system requirements, see the *IBM System/34 Planning Guide*, GC21-5154.

Prerequisite Publications

- *IBM System/34 Introduction*, GC21-5153
- *IBM System/34 Planning Guide*, GC21-5154
- *IBM System/34 System Support Reference Manual*, SC21-5155

Related Publications

- *IBM 5250 Information Display System Introduction*, GA21-9246
- *IBM 5251 Display Station Operator's Guide*, GA21-9248
- *IBM System/34 Program Product Installation and Modification Reference Manual*, SC21-7689
- *IBM System/34 Operator's Guide*, SC21-5158
- *IBM System/34 Displayed Messages Guide*, SC21-5159
- *IBM System/34 Keyboard Template*, GX21-7660
- *IBM System/34 Master Index*, SC21-7739

The *System/34 Introduction* contains a *Publications Summary* that briefly describes each of the System/34 publications.

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Contents

List of Illustrations

Chapter 1. Introduction to the Source Entry Utility

The source entry utility (SEU) is an interactive utility program that helps the user create, change, delete and locate statements in System/34 source and procedure members. SEU simplifies the creation and changing of source and procedure members by:

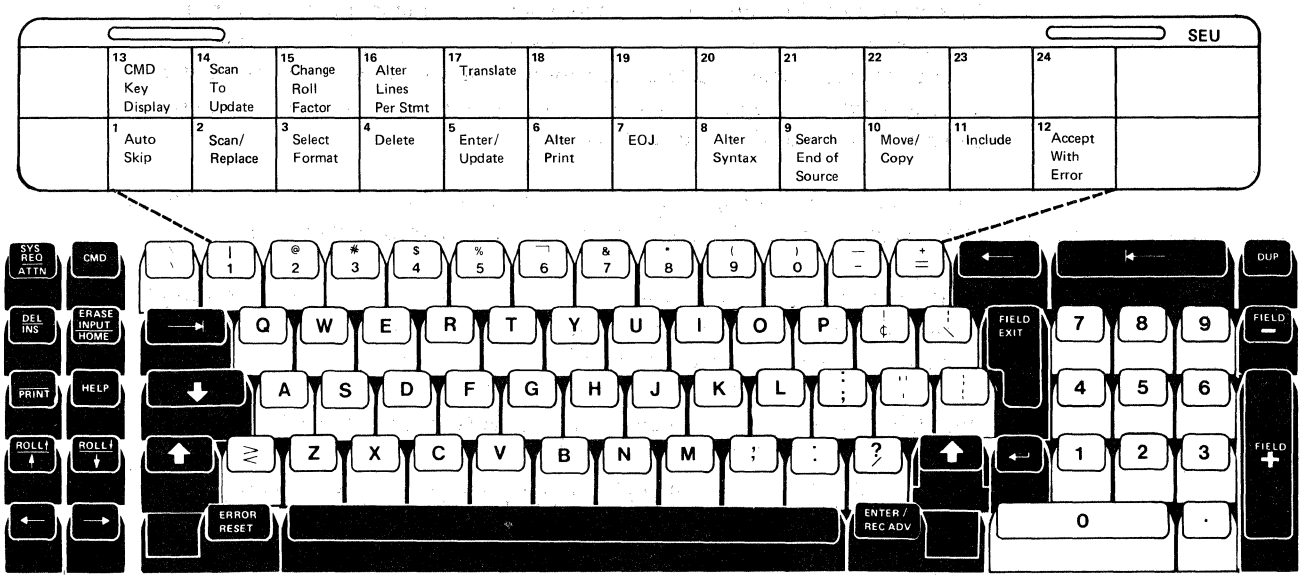
- Prompting users for job information
- Displaying a display screen format for each statement entered or changed
- Assigning command function keys to SEU operations

Prompts: SEU prompts the operator for all the control information and data necessary to complete an SEU job. The operator responds to each prompt by pressing an SEU command function key, pressing a function control key, or entering data. A valid response causes SEU to perform the requested operation. An invalid response causes SEU to display an error message on the display screen. SEU messages regarding invalid responses are described in the *Displayed Messages Guide*.

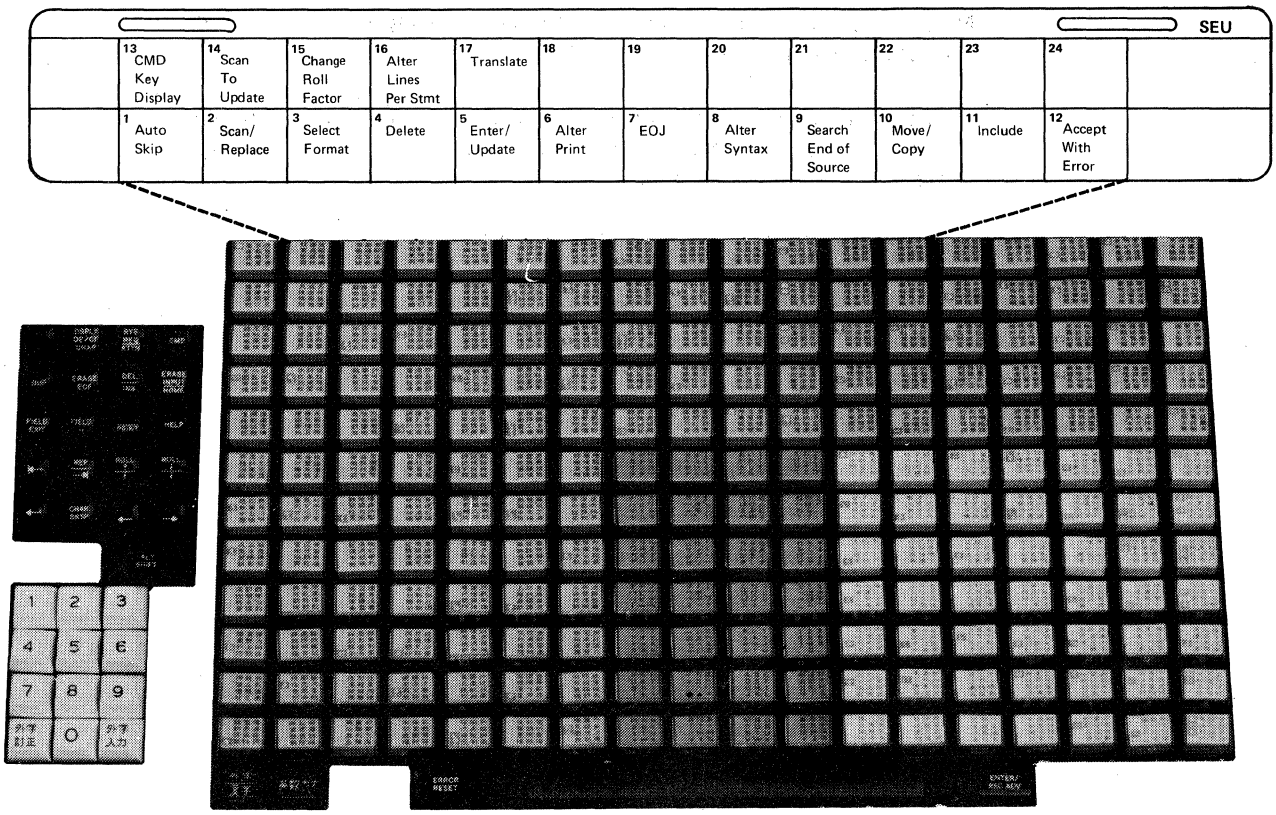
Display Screen Formats: SEU displays a display screen format whenever a new statement is being entered or an existing statement is being changed. The display screen format is a model for the operator to follow when entering or changing a statement. For example, the SEU display screen formats identify each field in a statement, indicate the length of each field, and distinguish numeric fields from alphameric fields. The 5251 Display Station signals the operator of any deviations from the selected format. For example, the display station issues a message if the operator tries to key alphabetic data for a field defined in the display screen format as numeric.

Command Function Keys: SEU assigns 17 command function keys for use by the operator, including one command function key that displays the number and purpose of all the SEU command function keys. A keyboard template (GX21-7660) is also supplied to identify the name and position of each SEU command function key.

Template for Alphameric Keyboard



Template for Ideographic Keyboard



SEU FUNCTIONS

SEU performs six kinds of functions by operating in six different modes: enter/update, delete, move/copy, include, scan, and translate.

Enter/Update

The enter/update mode creates a new source or procedure member in a library, adds statements to an existing member, or changes statements in an existing member. The display screen formats provided with SEU or created by the user define the format of each statement entered or changed. Display screen formats provided with SEU are:

- Free form, for entering and changing statements for which rigid formats do not exist, such as OCL statements and utility control statements.
- RPG II and auto report, for entering and changing RPG II and auto report specifications. SEU optionally performs limited syntax checking of RPG II and auto report specifications as they are entered.
- Sort, for entering and changing sort sequence specifications.
- Work station utility, for entering and changing work station utility specifications.
- Assembler, for entering and changing basic assembler instruction statements, machine instruction statements, and macroinstruction statements.
- Magnetic character reader, for entering and changing specifications for the IBM 1255 Magnetic Character Reader.
- Display screen format, for entering and changing display screen format specifications used by the display screen format generator utility program ($SFGR).
- FORTRAN IV, for entering and changing FORTRAN IV statements.
- COBOL, for entering and changing COBOL statements.

Delete

The delete mode deletes selected statements from an existing source or procedure member.

Move/Copy

The move/copy mode moves or copies one or more statements from one location in a member to another location in the same member.

The move mode moves statements in a member to a new location, deleting the statements from the original location. The copy mode copies statements in a member and moves the copies to the new location, but does not delete the statements at the original location. If the print option is on, the new statements are printed.

Include

The include mode copies one or more statements from one source or procedure member and moves the copies to a different source or procedure member. The two members can exist in different or the same libraries. Include can also copy statements from one location in a member and send them to a different location in the same member. However, the statements must exist in the library. You cannot include statements you are currently updating or adding because they do not yet exist in the library.

The main difference between copying with the move/copy mode and copying with the include mode is that with the move/copy mode a statement can be entered and then copied without replacing the member in the library.

Scan

The scan mode searches a source or procedure member for a statement that contains a given sequence of characters. Scan can be used to locate statements if unique character strings in those statements are known. Optionally, scan characters can be updated or replaced with a string of replace characters.

Translate

The translate mode allows you to translate message source statements into other languages. The source member contains both the untranslated statement and the translated statement.

SEU OPERATION

Because SEU is called by a procedure command, and because SEU is an interactive utility, someone with no programming training can use SEU efficiently. To provide an operator with complete instructions, the programmer should be aware of the kind of information an operator must have in order to run SEU. Figure 1-1 outlines the information an operator needs in order to initiate and complete an SEU job.

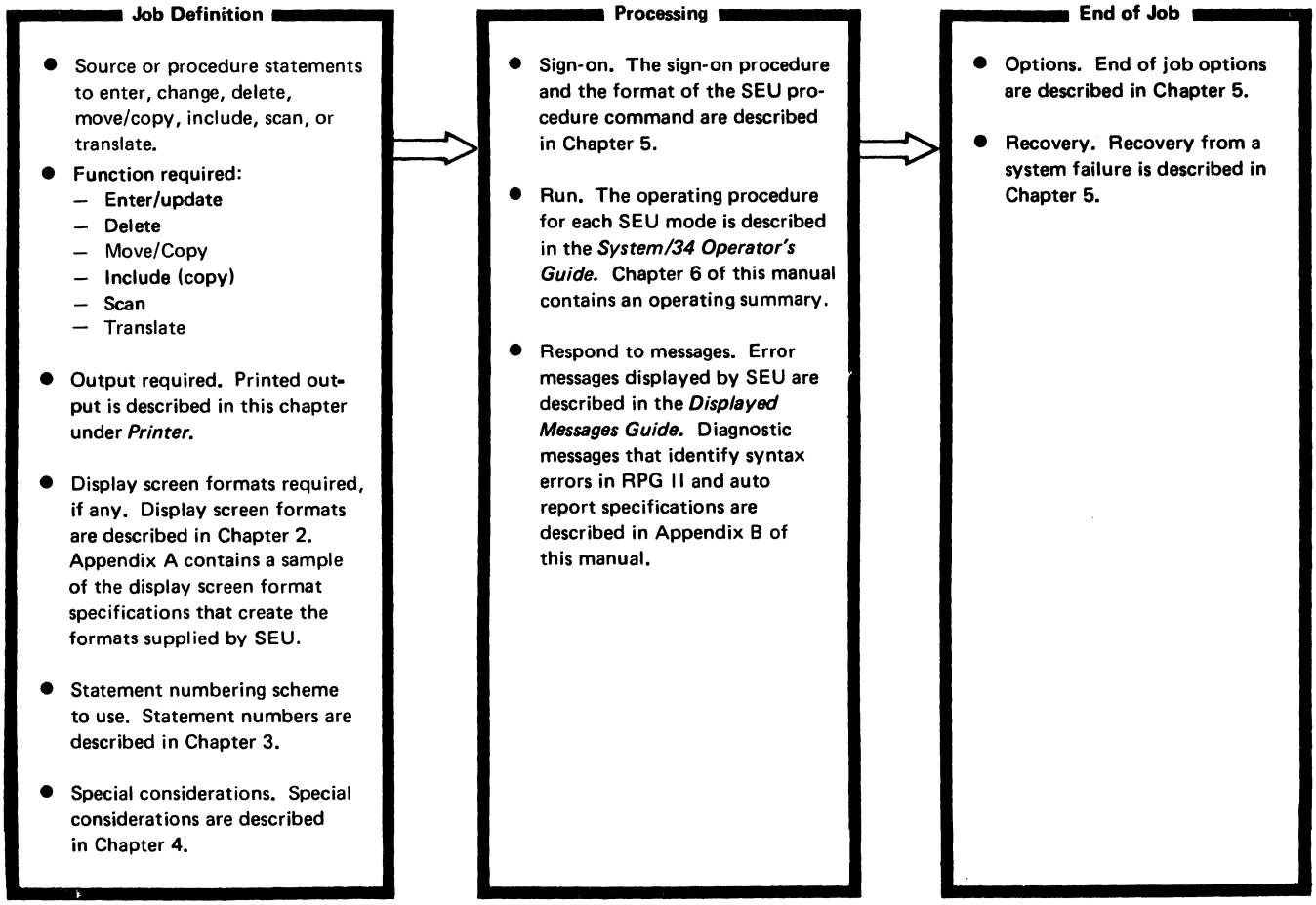


Figure 1-1. Overview of Operating SEU

SEU OPERATING REQUIREMENTS

Any operator at a command display station can run SEU. Besides a display station consisting of a display screen and a keyboard, each SEU job requires:

- Disk work space
- Library space
- Region size of 14K bytes
  (SEU will not use more than 14K bytes)

SEU may also require a printer.

Display Screen

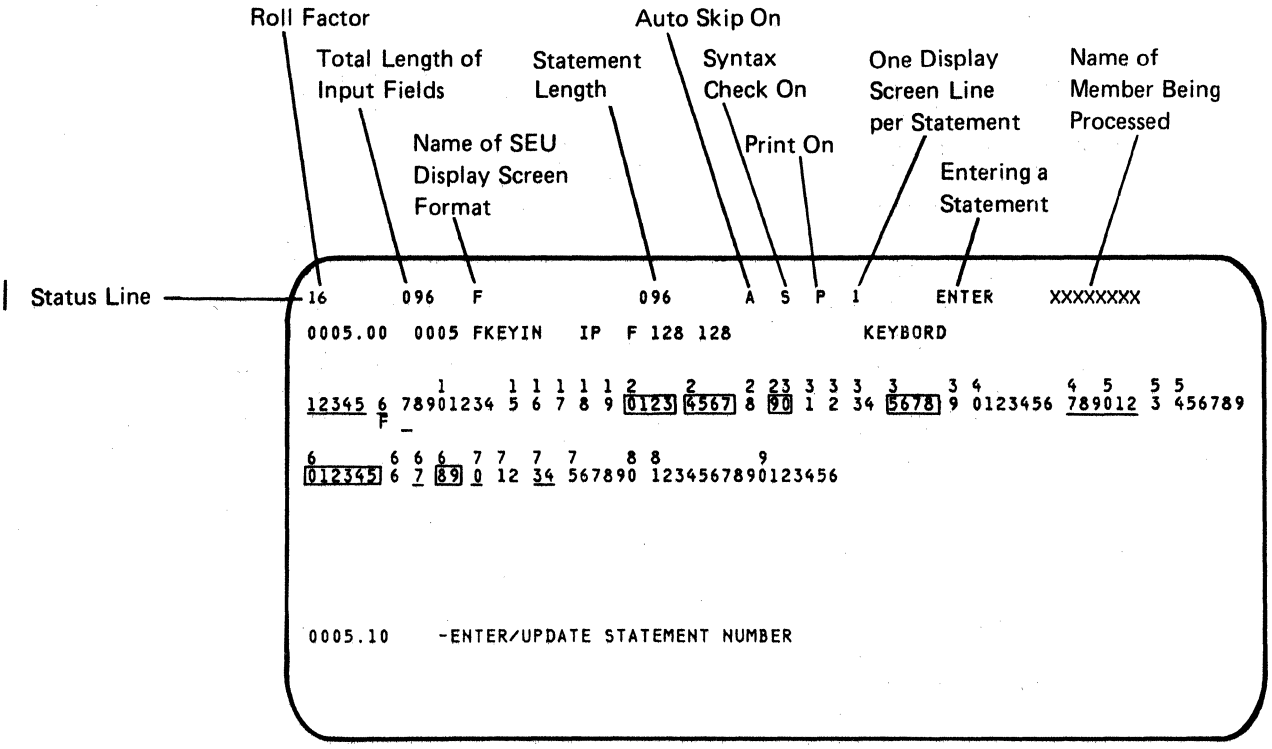
The 1920-character display screen contains space for 24 lines of information. The 960-character display screen contains space for 12 lines of information. Each contains 80 characters per line. SEU uses the display screen to display status information, statements in a member, and display screen formats, as well as prompts, responses, messages, and data keyed by the operator.

SEU always highlights the following information:

- Status line
- The statement number and text of each statement being entered or changed
- Data keyed in response to the SEU prompts
- Messages

Status Line

In each SEU mode, line 1 of the display screen is the status line. SEU highlights the status line. A sample of the status line follows.



Positions 2 and 3 contain the roll factor. The roll factor is always 16 immediately after SEU sign-on. The operator can change the factor to any value from 1 through 99 by pressing the Change Roll Factor command function key and entering a different value. The roll factor determines the next sequence of statements displayed if the Roll↑ (Roll Up) or Roll↓ (Roll Down) function control key is pressed. Where *n* is the roll factor, the first statement displayed if the Roll↑ key is pressed is the one that is *n* statements beyond the first one currently on the display screen. The first statement displayed if the Roll↓ key is pressed is the one that is *n* statements before the first one currently on the display screen.

For example, assume that a member contains statements 1 through 50, the roll factor is 8, and SEU is displaying statements 9 through 16. If the operator presses the Roll↑ key, SEU displays statements 17 through 24 (statement 9 plus roll factor 8 equals statement 17). If the operator had pressed the Roll↓ key, SEU would have displayed statements 1 through 8 (statement 9 less roll factor 8 equals statement 1).

Positions 10 through 12 identify the total length of the input fields described by the selected display screen format.

Positions 16 through 23 contain the name of the display screen format selected for the enter/update mode.

Positions 30 through 32 identify the length of the statements in the selected source or procedure member.

Position 39 shows the status of the auto skip option: A if the option is on, blank if the option is off. If the option is on when an operator enters or changes a statement, SEU automatically skips fields that are defined as auto skip fields by the display screen format for the statement. Chapter 2 identifies the auto skip fields defined by the formats provided with SEU, and describes how to define an auto skip field in user-written display screen formats. The auto skip option is always off at the beginning of an SEU job. The option is changed each time the operator presses the Auto Skip command function key.

Position 42 shows the status of the syntax checking option: S if the option is on, blank if the option is off. If the option is on when an operator enters or changes an RPG II or auto report specification under control of a provided RPG II or auto report display screen format, SEU checks for errors in the syntax of the specification.

If the member type specified in the SEU command is A (auto report) or R (RPG II), the syntax checking option is on at the beginning of the SEU job and is changed each time the operator presses the Alter Syntax command function key. If the member type specified in the SEU command is S (source) or P (procedure), the option is off at the beginning of the SEU job and cannot be turned on during the job. (Member type and all other parameters for the SEU command are described in Chapter 5.)

Position 45 shows the status of the print option: P if the option is on, blank if the option is off. If the print option is on when the operator enters, updates, deletes, or includes a statement, SEU prints the statement. The print option is always off at the beginning of an SEU job. The option is changed each time the operator presses the Alter Print command function key. SEU printing is described in more detail under *Printer* in this chapter.

Position 48 shows the number of display screen lines reserved for the display of each statement: 1 or 2. When the operator views a source or procedure member to add, change, delete, move, include, or scan statements, SEU displays each statement on either one or two lines of the display screen. If one line is reserved for each statement, SEU displays only the first 70 characters of the statement, and displays a maximum of 16 statements at a time. If two lines are reserved for each statement, SEU displays the statement in its entirety, and displays a maximum of eight statements at a time.

At SEU sign-on, one display line is reserved for each statement. You can change the number of display lines per statement from 1 to 2, or from 2 to 1, by pressing the Alter Lines Per Stmt command function key. If the roll factor–shown in positions 2 and 3 of the status line–is 16 when you change the number of lines per statement from 1 to 2, SEU changes the roll factor to 8. If the roll factor is 8 when you change the number of lines per statement from 2 to 1, SEU changes the roll factor to 16.

Positions 55 through 62 contain ENTER when the operator is entering a new statement, and UPDATE when the operator is changing a statement.

Positions 65 through 72 contain the name of the member that was signed on.

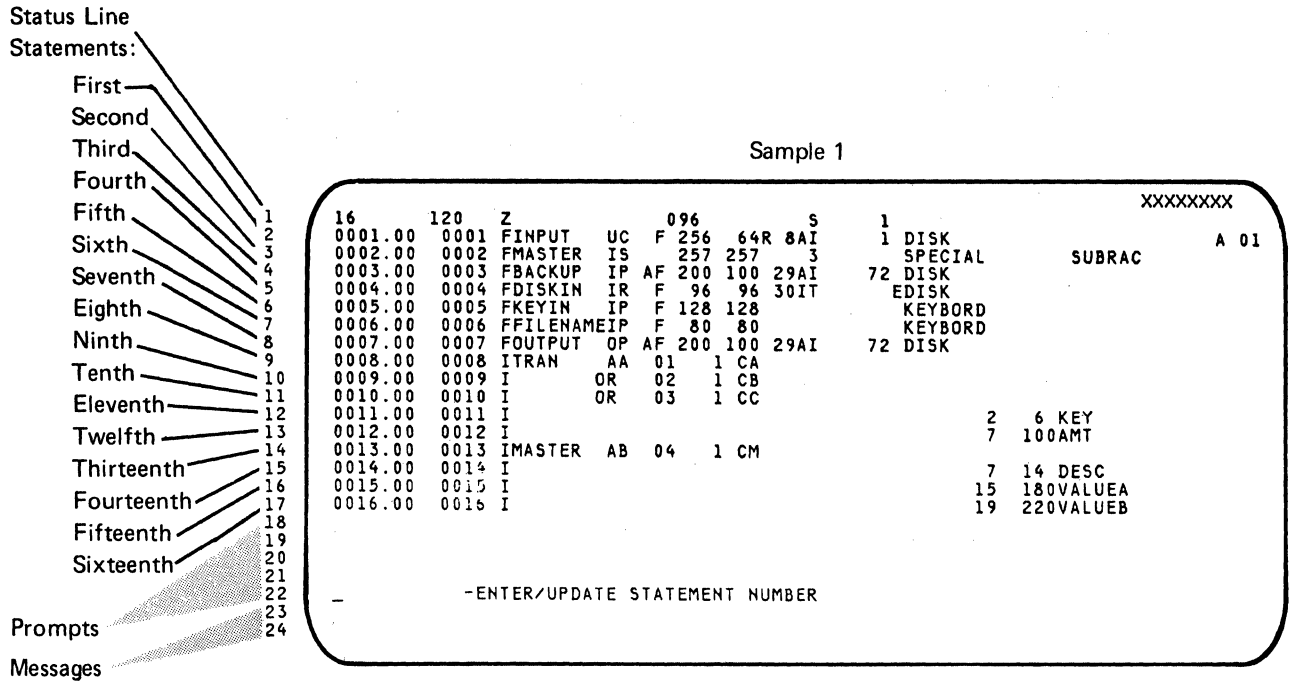
Positions 76 through 79 show the number of consecutive statements being deleted, moved, or included at one time when the operator is using the delete, move, or include mode.

Statement Displays

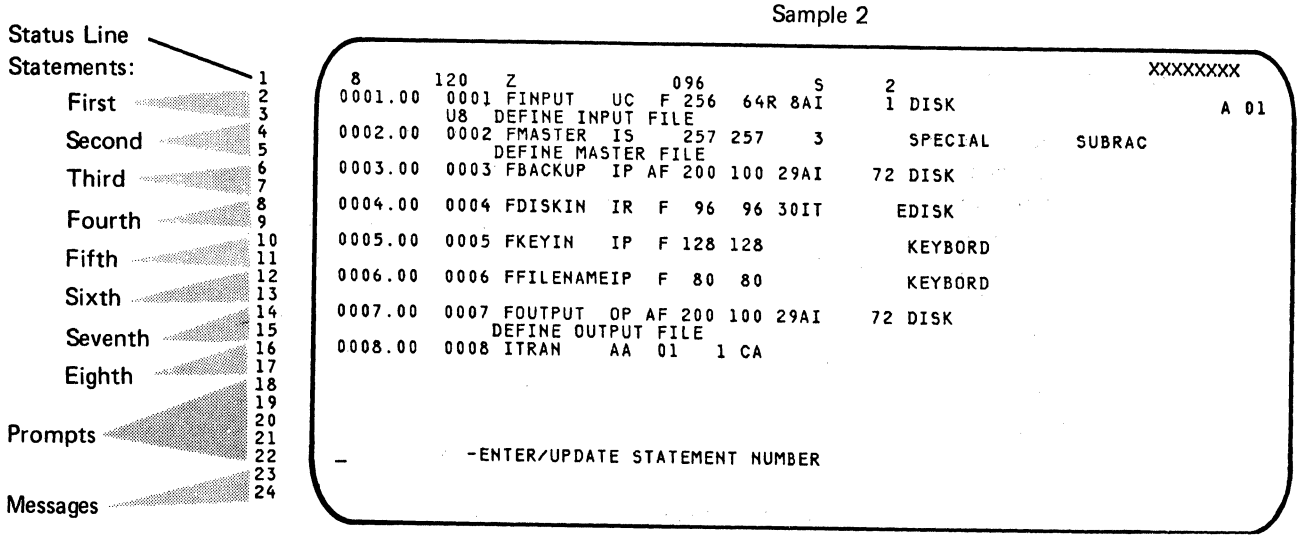
SEU reserves 16 lines on the 1920-character display or four lines on the 960-character display for displaying statements from source and procedure members. For the 1920-character display, SEU displays statements in two formats: one format contains eight statements, and the other format contains 16 statements. For the 960-character display, SEU also displays statements in two formats: one format contains two statements, and the other format contains four statements. Sample 1 and Sample 2 show statements displayed in the eight-statement and 16-statement formats, respectively. With the 16 statement format (Sample 2), only one display line is available for each statement. Sample 3 and Sample 4 show statements displayed in the two-statement and four-statement formats, respectively. With the four-statement format (Sample 4), only one display line is available for each statement. Because only the first 70 characters of a statement can be shown on one line, statements 1.00, 2.00, and 7.00 of Sample 2 and statements 1.00 and 2.00 of Sample 4 are not shown in their entirety.

1920 Character Display

Sixteen-Statement Display (1 line per statement)



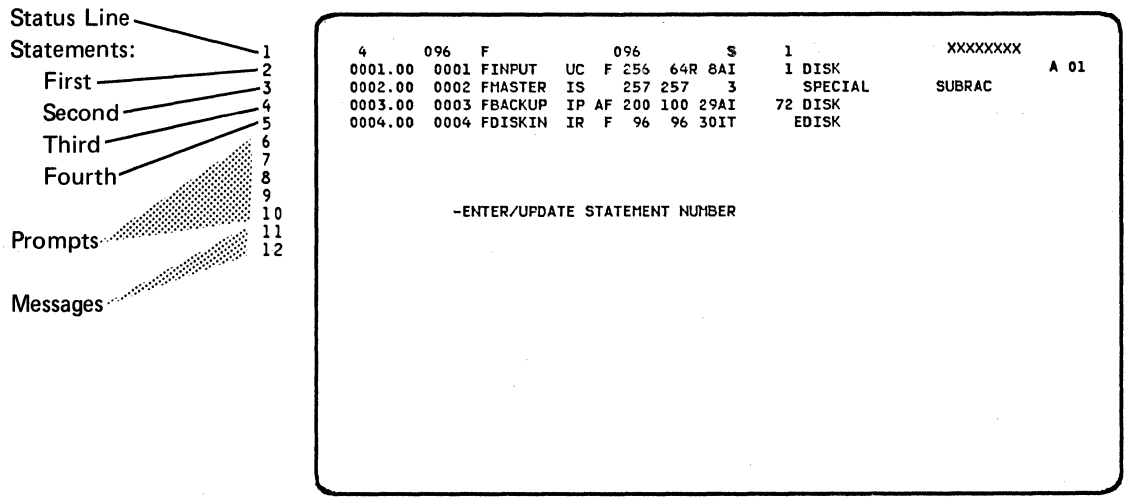
Eight-Statement Display (2 lines per statement)



960 Character Display

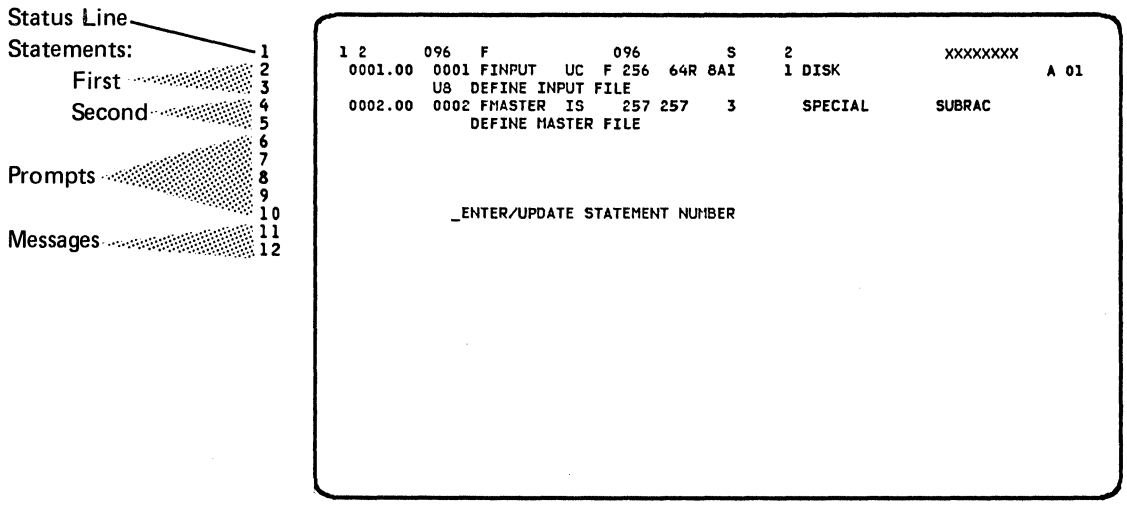
Four-Statement Display (1 line per statement)

Sample 3



Two-Statement Display (2 lines per statement)

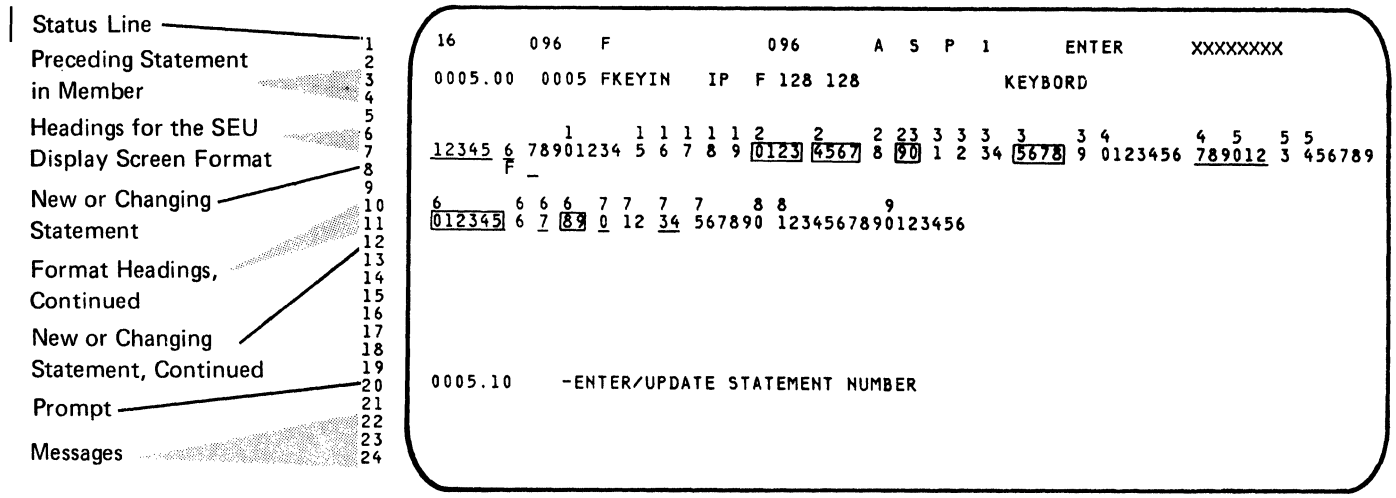
Sample 4



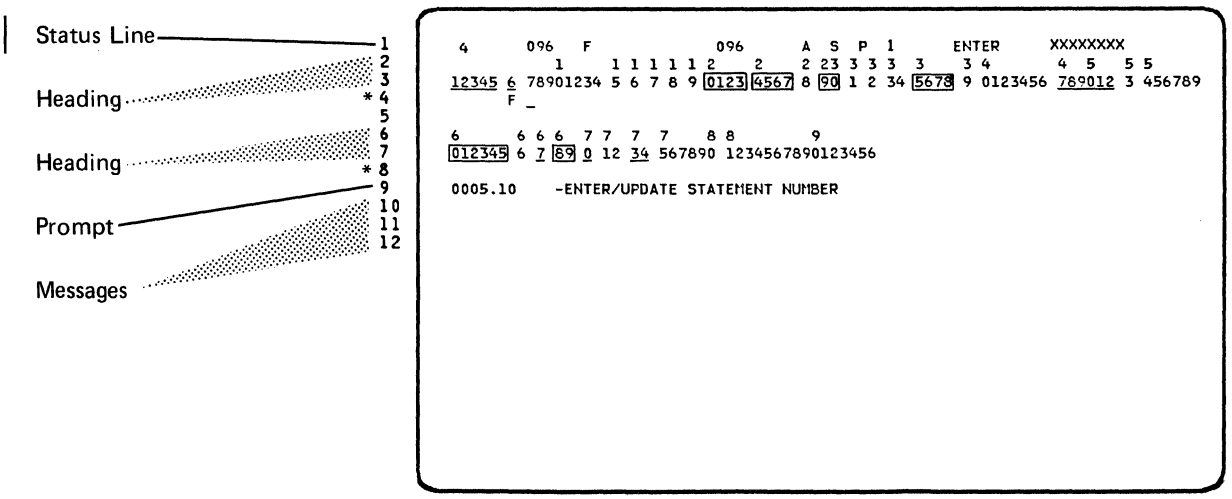
SEU Display Screen Format Displays

SEU displays the selected display screen format whenever the operator enters or updates a statement. The sample display that follows shows the information displayed by SEU when an operator enters or updates a statement. Boxes in the display indicate numeric fields or alphameric right-adjust fields. In an actual display, the boxed numbers would be shown in reverse image–dark numerals against a light background. The underscored numbers indicate protect fields or auto skip fields. Protect fields are always skipped by the cursor; auto skip fields are skipped if the auto skip option is on.

Twenty-four-Line Display



Twelve-Line Display



(The preceding statement in member is not displayed.)

*Lines 4 and 8 are new or changing statements.

Keyboard

The SEU operator requires keyboard data keys, function control keys, and command function keys. The operator uses data keys to answer prompts and to key new data. The operator uses function control keys to request system functions and manipulate information displayed by SEU. Function control keys that have special applications in SEU jobs are described in Chapter 4. All keyboard data and function control keys are described in the *IBM 5251 Display Station Operator's Guide*.

SEU assigns 17 command function keys to perform operations not performed by the system function control keys. By pressing the Cmd function control key and then pressing the appropriate command function key, the operator selects one of the 17 operations provided. The following list summarizes the purpose of each SEU command function key. Chapter 6 identifies the purpose of each command function key in each SEU mode.

Lowercase

Auto Skip: Reverses the current status of the auto skip option.

Scan/Replace: Initiates the scan mode.

Select Format: Allows the operator to select a new display screen format by entering a new format number.

Delete: Initiates the delete mode.

Enter/Update: Initiates the enter/update mode.

Alter Print: Reverses the current status of the print option.

EOJ (end of job): Displays SEU end-of-job options.

Alter Syntax: Reverses the current status of the syntax checking option.

Search End Of Source: Displays the last statement in the member being viewed. The member can be an include member.

Move/Copy: Initiates the move/copy mode.

Include: Initiates the include mode.

Accept With Error: Accepts an RPG II or auto report specification being entered or updated, even though it may contain a syntax error.

Uppercase

Cmd Key Display: Displays a list of all SEU command function keys with a brief description of each key.

Scan To Update: Searches a member for a statement containing specified scan characters, then displays the statement in the enter/update mode so the operator can change the statement.

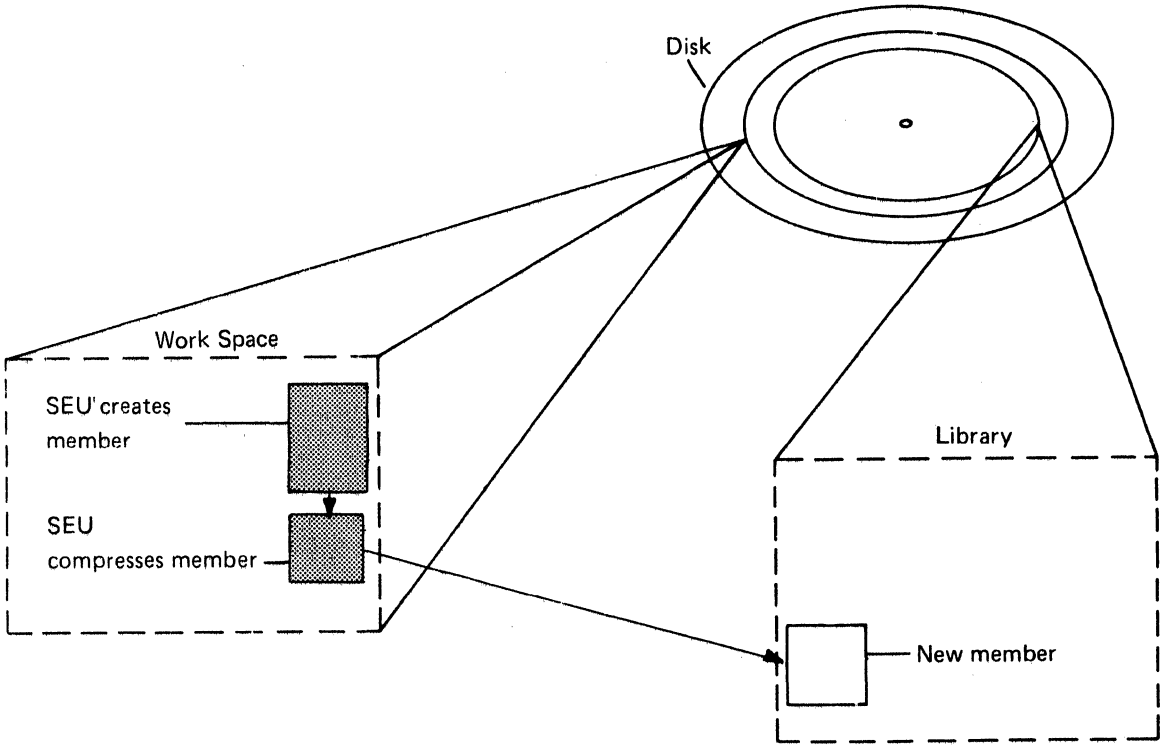
Change Roll Factor: Allows the operator to enter a new roll factor. Valid roll factors are 1 through 99.

Alter Lines Per Stmt: Changes the number of lines on the display screen used for the display of each statement. Either one or two lines are reserved for each statement.

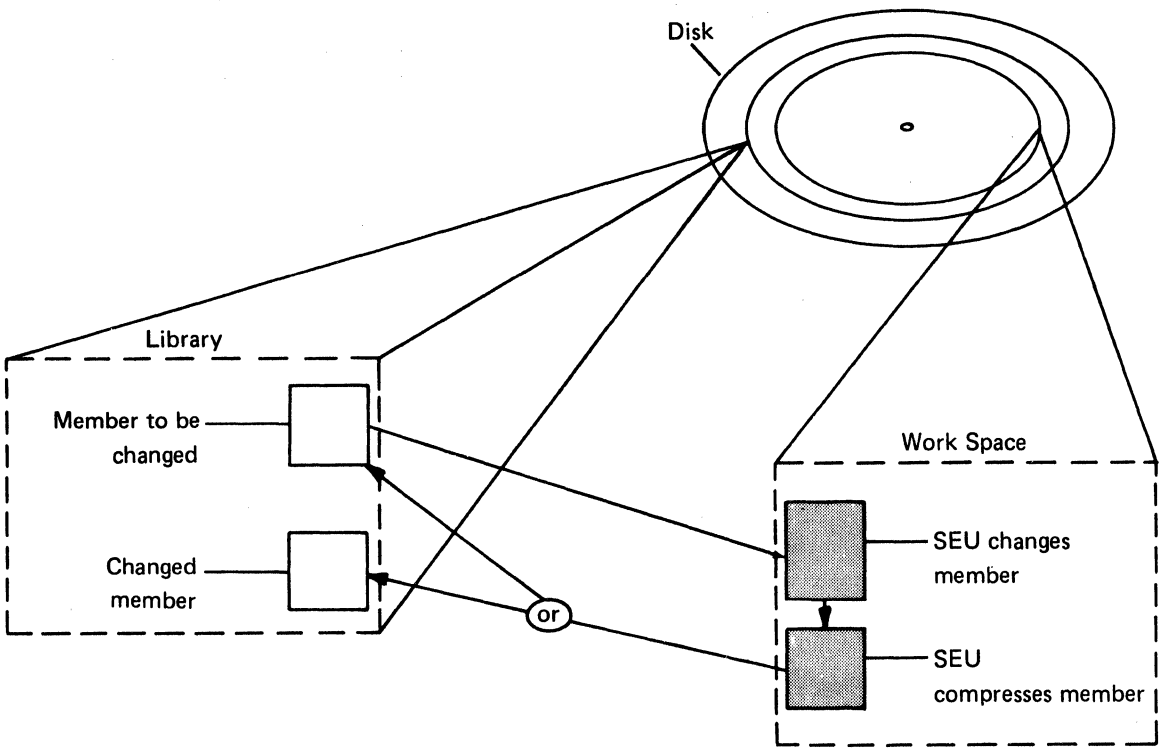
Translate: Allows the operator to enter the translation of a new or existing message.

Disk Work Space

Each SEU job requires work space on the disk. SEU creates a new library member by building it in a work space on the disk. The work space that contains the member is called the SEU work file. At SEU end of job, SEU compresses the new member before copying it to the library. The compressed version is created in a second work space on the disk.



SEU changes an existing member by updating a copy of it placed in the SEU work file by the system. Disk work space must be available for the work file. At SEU end of job, SEU compresses the modified member before copying it to the library. As with a new member, the modified member is compressed in a second disk work space.



Each SEU job requires enough disk work space to contain the member to be created or a copy of the member to be changed, and enough disk work space to contain the compressed version of the member. If SEU cannot complete a job because of insufficient work space, SEU displays a message to the display station operator.

Space for Creating or Changing a Member

After the operator signs on, SEU requests both a minimum and a maximum amount of disk work space. The limits are determined as follows:

	Minimum	**Maximum**
For a New Member	3 blocks	Space for 2,000 statements
For an Existing Member	Space for existing number of statements	Space for 2,000 statements or 1,000 additional statements, whichever is greater, but not for more than 9,999 statements

SEU then calculates the number of consecutive disk blocks to request by using the following formulas:

$$\text{Total number of sectors} = 8 + \frac{\text{number of statements x statement length}}{256} + \frac{\text{number of statements}}{37} \quad \text{(fractions are dropped)}$$

$$\text{Total number of blocks} = 3 + \frac{\text{total number of sectors}}{10} \quad \text{(fractions are dropped)}$$

The system allocates the maximum if the space is available. If the maximum is not available, the system allocates as much space as possible, provided that the space is at least the minimum amount requested by SEU.

Space for Compressing a Member

SEU compresses each member before copying it to a library. At SEU end of job, SEU requests disk space for the compressed version of the member processed during the SEU job. The number of bytes of work space required for a compressed source or procedure member created or changed by SEU is: statement length times the number of statements in the member at the end of the SEU job.

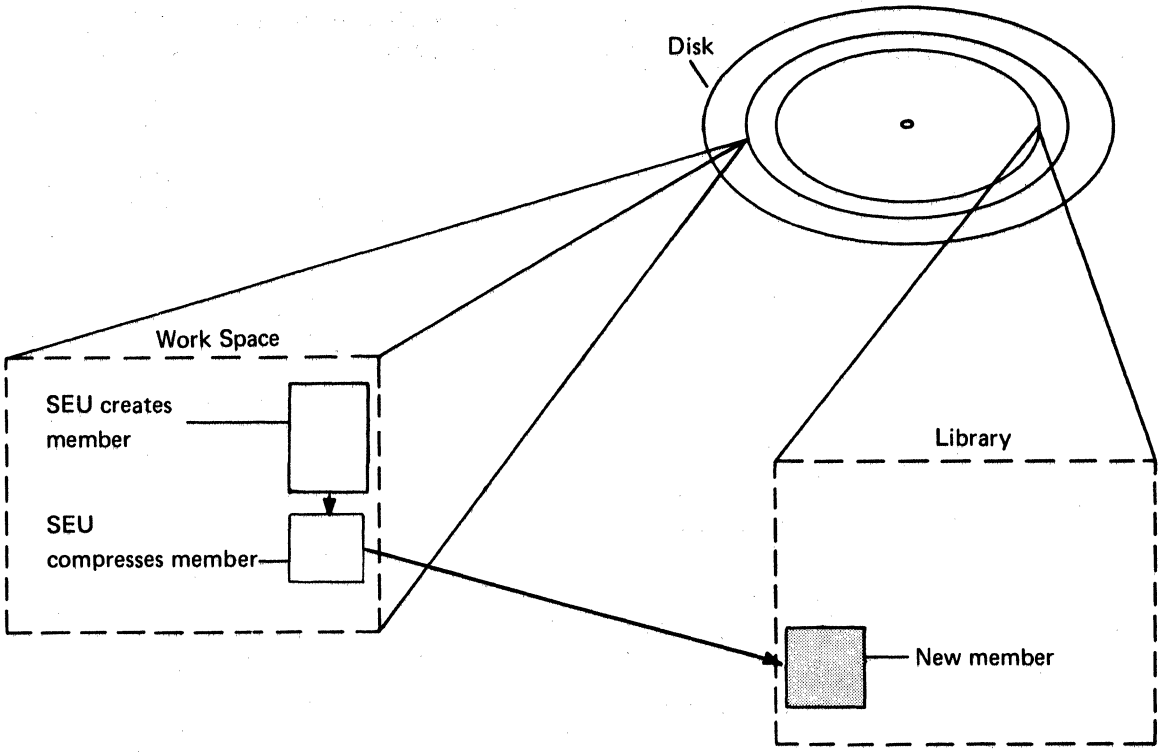
Messages Regarding Work Space

If the existing disk work space is not enough for SEU sign-on, SEU displays an error message stating that there is not enough space available for the SEU work file. If SEU fills the work file before end of job, SEU displays a message stating that the work file is filled. If at the end of the job SEU cannot find enough work space for the compressed member, SEU displays a message stating that the space required for the work file is not available.

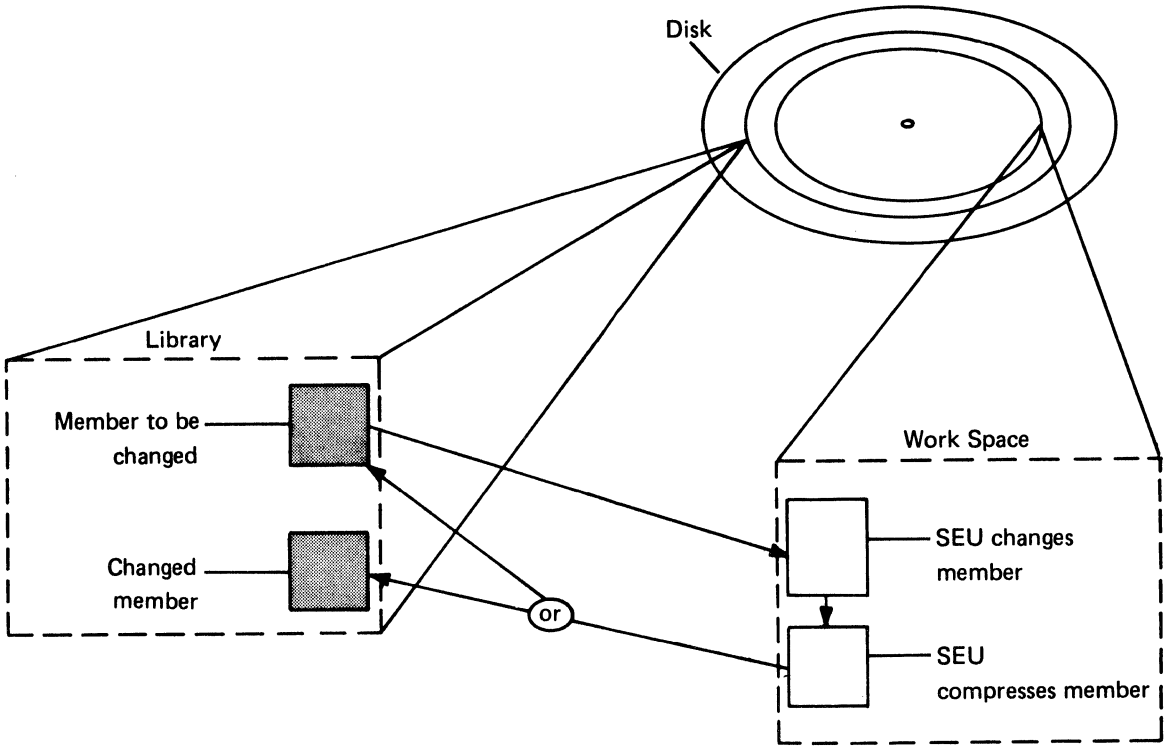
The *Displayed Messages Guide* describes how the operator can respond to the three preceding messages.

Library Space

After SEU creates a source or procedure member, the new member requires space in the library specified by the SEU sign-on procedure.



After SEU changes an existing member, the member may require additional space in the library from which it was copied. The member may require additional library space either because the size of the member increased, or because another program was referring to the library at the time the SEU job ended. If another program is referring to the library, the system places the changed member in a new location in the library. By placing the modified member in a new location, the system prevents SEU from interfering with any program that refers to the original member at the time the SEU job ends. System pointers to the original member are deleted after the modified member is copied to the library.



If enough space for a member created or changed by SEU does not exist in the library, SEU displays a message stating that there is not enough room in the library to replace the member. The possible responses to the message are described in the *Displayed Messages Guide*.

Printer

SEU does not require a printer for sign-on. SEU tries to acquire a printer if:

- The print option is on when the operator enters, updates, deletes, or includes a statement
- The operator requests a listing at SEU end of job

If a printer is available to the display station or if print spooling is active for the system printer, the system allocates a printer to SEU the first time printing is requested by SEU. Once a printer has been allocated, it is not released until the end of the SEU job. If a printer is not available and print spooling is not active for the system printer when SEU requests printing, SEU displays an error message. For a description of print spooling, see the *System Support Reference Manual.*

On all output printed by SEU, the first printed line of the first page contains the program date for the SEU job and the time of day when the operator entered the SEU procedure command. The listing requested at end of job prints the member name and library name on the first printed line also. Because SEU begins printing on the sixth line of the paper, the designated page size must be greater than 6 lines.

Note: Printed output from SEU is directed to the printer assigned to that work station. A SET command can be issued to change the printer assignment. If you want to direct printed output from a particular SEU job to a specific printer, you must specify #SEUPRNT as the name of the printer file. The name of the printer file is specified in a PRINTER OCL statement, which is described in the *System Support Reference Manual.* The PRINTER statement must be entered between the LOAD and RUN OCL statements in the series of OCL statements you use to call SEU for the particular job. Unless you modify the SEU procedure to include a PRINTER statement, you cannot use the SEU command to call SEU for a job for which printed output is to be directed to a particular printer. The OCL in the procedure provided with SEU is described in Chapter 5 under *SEU OCL.*

Print Option

The print option is initially off after SEU sign-on. The operator can turn the print option on by pressing the Alter Print command function key. Position 45 in the SEU status line reflects the current status of the print option: P if it is on, blank if it is off. Whenever the option is on, SEU prints:

- Each statement the operator enters, updates, deletes, or includes.
- Three hyphens (---) after each statement the operator deletes or replaces.
- Three asterisks (***) after each statement the operator accepts even though the statement contains a known syntax error (the operator enters or changes–under control of an RPG II or auto report display screen format provided with SEU–an RPG II or auto report specification with the syntax checking option on, then presses the Accept With Error command function key if SEU discovers a syntax error in the specification). SEU also prints an asterisk beneath a field that is related to the error, and prints the SEU identifier and an MIC (message identification code) so the programmer or operator can find a description of the error in Appendix B of this manual after signing off.

End-of-Job Options

If the operator selects either of the following options at SEU end of job, SEU requests a printer whether the print option is on or is off:

2 END OF JOB WITH LISTING
4 END OF JOB WITH LISTING AND SERIALIZATION

If a printer is not available and print spooling is not active for the system printer at the time of the request, SEU displays an error message.

Chapter 2. Display Screen Formats for SEU

SEU requires a display screen format for each statement the operator enters or changes while SEU is in the enter/update mode. The display screen format determines what kind of data and how much data SEU accepts for each field in the statement. SEU can select some formats automatically. The operator can always select the format that a job requires. The formats supplied by SEU and those created by you are used for the 12-line display screen also.

The *System Support Reference Manual* describes how to create and use display screen formats on System/34: see the description of $SFGR (display screen format generator utility program) in the *System Support Reference Manual*. This chapter describes field definitions used in the display screen formats provided with SEU, shows in detail each format provided with SEU, and lists considerations for creating or changing display screen formats intended for SEU.

FIELD DEFINITIONS IN SEU DISPLAY SCREEN FORMATS

SEU display screen formats contain a field definition for each field in an entire source or procedure statement. SEU displays headings that number each position in a field definition. The field definitions identify the position and length of each field in a statement, and specify the kind of data that is valid in each field. Display screen formats provided with SEU specify two kinds of data: alphameric and numeric.

Alphameric Fields: Any data character on the keyboard is a valid entry for an alphameric field. An alphameric field can be any length up to the length of the statement.

Right-Adjust, Alphameric: A few alphameric fields are defined in SEU display screen formats as *right-adjust fields*. After entering the data for the field, if the operator presses the Field Exit or Field + function key, the contents of the field are right-adjusted. If the Field Adv function key is pressed, the contents of the field are not right-adjusted. Headings for alphameric right-adjust fields are displayed in reverse image in SEU display screen formats.

Note: Numeric fields that are only one character long will automatically exit a field if an entry is keyed by the operator.

Numeric Fields: Valid entries for a numeric field are the digits 0 through 9 and + (plus sign), - (minus sign), . (decimal point), blank, and , (comma). A numeric field can be any length up to the length of the statement.

Headings for all numeric fields are shown in SEU display screen formats in reverse image.

Conditioned Fields

The formats provided with SEU condition certain fields as protect, auto skip, or constant.

Protect Fields: Protect fields are always skipped. The operator cannot enter data into a protect field.

Auto Skip Fields: Auto skip fields are skipped whenever the SEU auto skip option is on. Position 39 of the SEU status line reflects the status of the auto skip option: A if it is on, blank if it is off. The Auto Skip command function key reverses the status of the auto skip option.

Constant Fields: Constant fields contain predefined constants. Position 6 in RPG II specifications is an example of a field that SEU conditions as constant. The display screen format for RPG II file description specifications defines position 6 as a constant F; the format for RPG II input specifications defines position 6 as I; and so on. If a constant field is not also conditioned to be an auto skip field, or if the auto skip option is off, the operator can change the content of the field. Constants defined for constant fields are displayed for new statements being entered. When the operator updates a statement, the value displayed in a constant field is the value that exists in the original statement.

Field Exit

When the operator keys enough data to fill an alphameric field, the cursor advances to the next field in the statement if any fields remain. If the operator does not fill an alphameric field, the operator must press one of the function control keys to advance the cursor to the next field. Numeric fields and alphameric right-adjust fields, in contrast to alphameric fields, always require that the operator press a function control key to advance the cursor to the next field.

	Alphameric Field That Is Not Right-Adjust	**Alphameric Right-Adjust Field or Numeric Field**
Filled	Cursor automatically advances to next field	Press: → (Cursor Right), →| (Field Advance), Field Exit, or Field+
Partially Filled	Press: → (Cursor Right), →| (Field Advance), Field Exit[1], or Field+[1]	To right adjust, press: Field Exit or Field+ No right adjust[2], press: → (Cursor Right) or →| (Field Advance)

[1] The Field Exit and Field+ keys are destructive exit keys for alphameric fields that are not right- adjust fields. That is, the field positions skipped by the cursor when the Field Exit or Field+ key is pressed are set to blanks if the field is not defined as a right-adjust field. See the *System Support Reference Manual* for a description of how to define a right-adjust field.

[2] A partially filled numeric field is not right-adjusted and padded to the left with blanks. The unchanged positions of the field retain the values they had before the operator keyed new data into part of the field.

DISPLAY SCREEN FORMATS PROVIDED WITH SEU

This section contains a figure for each display screen format provided with SEU. The figures show how the formats reflect related coding forms. The figures also show what the format headings look like on the display screen.

Pressing the Select Format command function key causes SEU to list the names of all the display screen formats contained in #SE@FORM, and the names of all formats contained in the format member specified at sign-on if a format member was specified. Figure 2-1 is an example that shows the names of formats contained in #SE@FORM and #SE@XTRA.

In the following example, formats in #SE@XTRA are named because the SEU command for sign-on contained #SE@XTRA as the third parameter. (The SEU command is described in Chapter 5.)

```
SELECT DISPLAY SCREEN FORMAT MENU

 1 Z           17 WSU-J       33 FORTRAN     49
 2 Z-LOWER     18 WSU-T       34 COBOL       50
 3 H           19 WSU-M       35 SDAS        51
 4 U           20 WSU-S       36 SDAD1UC     52
 5 F           21 WSU-D       37 SDAD1LC     53
 6 G           22 WSU-C       38 SDAD2UC     54
 7 E           23 SFGR-S      39 SDAD2LC     55
 8 L           24 SFGR-D      40 DEFFN       56
 9 T           25 D-CONT      41             57
10 I           26 SORTH       42             58
11 J           27 SORTRC      43             59
12 C           28 SORTRF      44             60
13 O           29 SORTF       45             61
14 P           30 ASSEM       46             62
15 K           31 MICRSYS     47             63
16 A           32 MICRSTCK    48             64


          -ENTER NUMBER OF DISPLAY SCREEN FORMAT DESIRED
```

Figure 2-1. Sample Contents of #SE@FORM and #SE@XTRA

The following sections describe each of the available display screen formats.

Headings for field definitions are separated by a blank. For example,

```
    1    1
89012 3456
```

shows two fields, one in positions 8 through 12 and one in positions 13 through 16.

Boxed headings in the following figures indicate numeric fields or alphameric right-adjust fields. In an actual display, headings for numeric fields and alphameric right-adjust fields are shown in reverse image–dark numerals against a light background. Headings for protect fields are underscored, both in the following figures and on the display screen. Headings for auto skip fields are underscored if the auto skip option is on. If you turn the auto skip option off, the underscore is removed from headings for auto skip fields, and you can move the cursor to positions within the auto skip fields.

Each figure shows the cursor. The cursor is at the first location where the operator is expected to enter data.

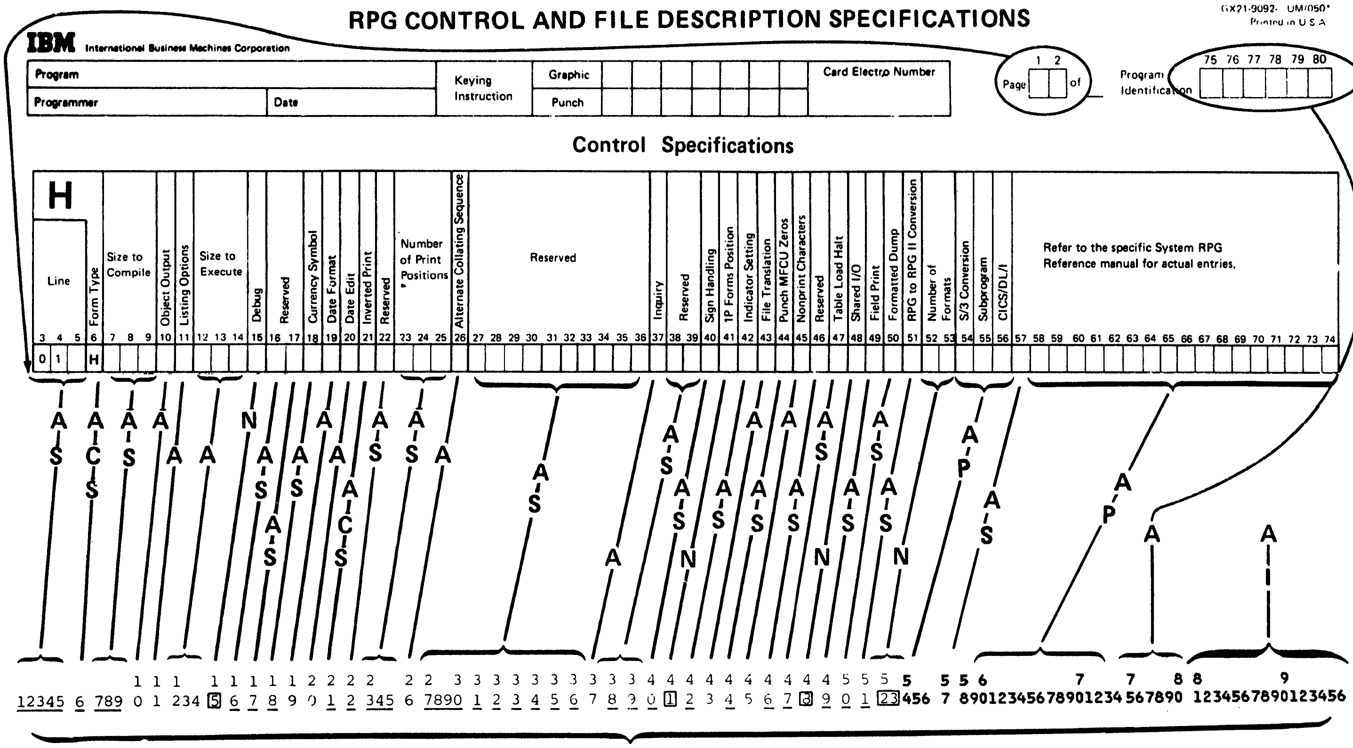
RPG II and Auto Report

The following RPG II and auto report display screen formats are provided for entering and updating RPG II and auto report specifications. If the original names of the formats are not changed, SEU can optionally check the syntax of each RPG II and auto report specification entered or changed under control of the formats.

Format Name	Specification
H	RPG II control specification
U	Option format used by RPG II auto report
F	File description specification
G	File description continuation
E	File extension specification
L	Line counter specification
T	Telecommunications specification
I	Input specification (record identification)
J	Input specification for columns 43 through 96 (field description)
C	Calculation specification
O	Output specification (file identification and control)
P	Output specifications for columns 23 through 96 (field description)
K	Copy specification used by RPG II auto report
A	Any statement with an * in position 7

Each format for RPG II and auto report is 96 positions long. The formats are shown in Figures 2-2 through 2-15.

Note: If your system has the ideographic feature, ideographic data can be entered in columns 81-96.



Sample Display of H

- **A** = Alphameric
- **C** = Constant
- **N** = Numeric
- **P** = Protect
- **S** = Auto skip
- **I** = Ideographic and/or alphameric (with ideographic support only)

```
16      096   H            096              1      ENTER      XXXXXXXX


                 1 1 1   1 1 1 1 1 2 2 2 2    2 2  3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4
12345  6  789  0 1  234 [5] 6  7  8  9  0  1  2  345  6  7890  1  2  3  4  5  6  7  8  9  0 [1] 2  3  4  5  6
       H    _

4 4 4 5 5 5   5    5 5 6          7      7    8 8         9
7 8 9 0 1 [23] 456  7  89012345678901234  567890  1234567890123456




0001.00     -ENTER/UPDATE STATEMENT NUMBER
```

SEU fills positions 75 through 80 with the first 6 characters, including trailing blanks, of the name of the source member containing the specification. SEU uses the source member name so that the object program compiled from the source member has the same name as the source member does. Positions 75 through 80 can be changed.

Figure 2-2. RPG II and Auto Report Format: H, Control Specification

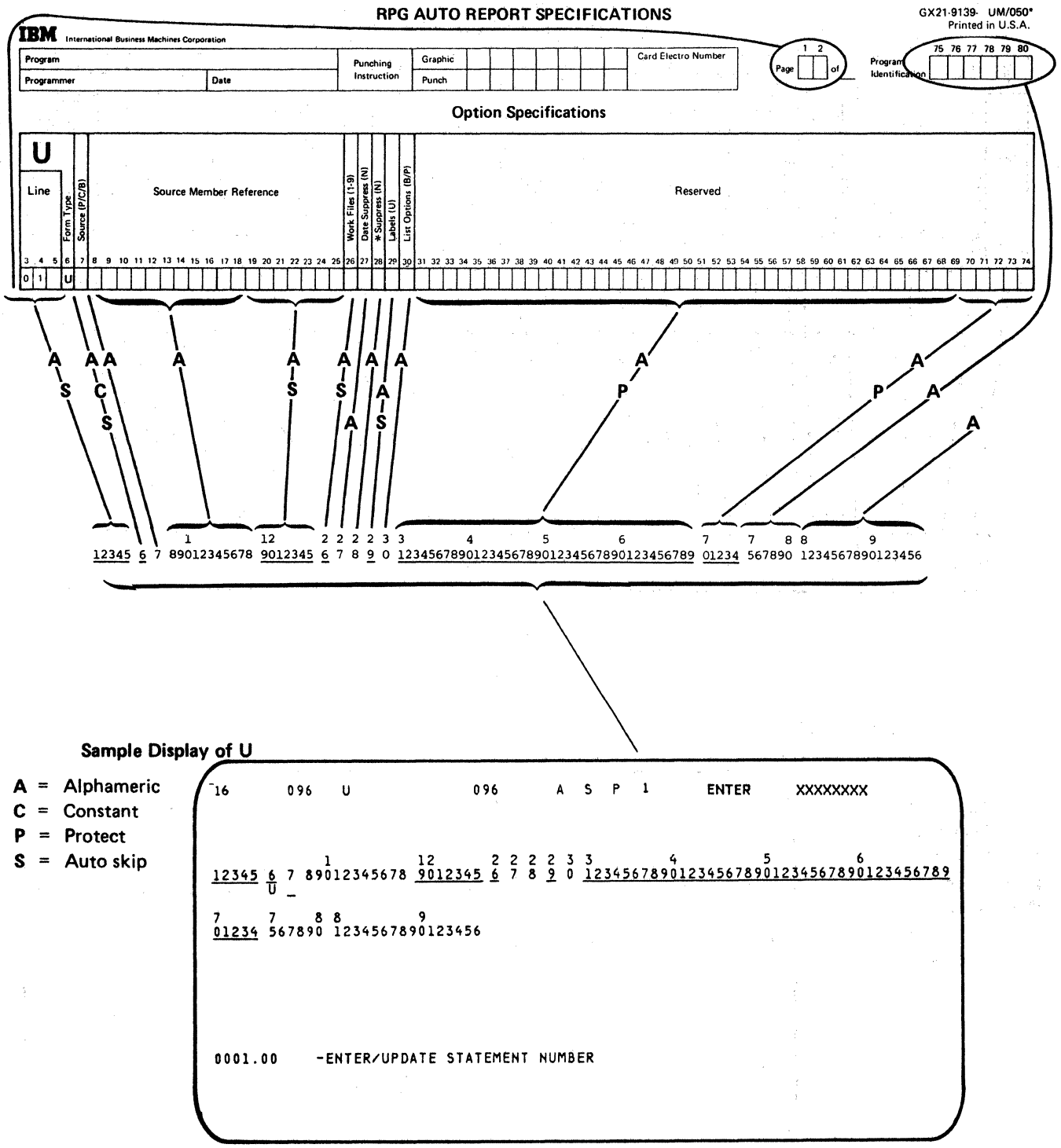


Figure 2-3. RPG II and Auto Report Format: U, Auto Report Option Specification

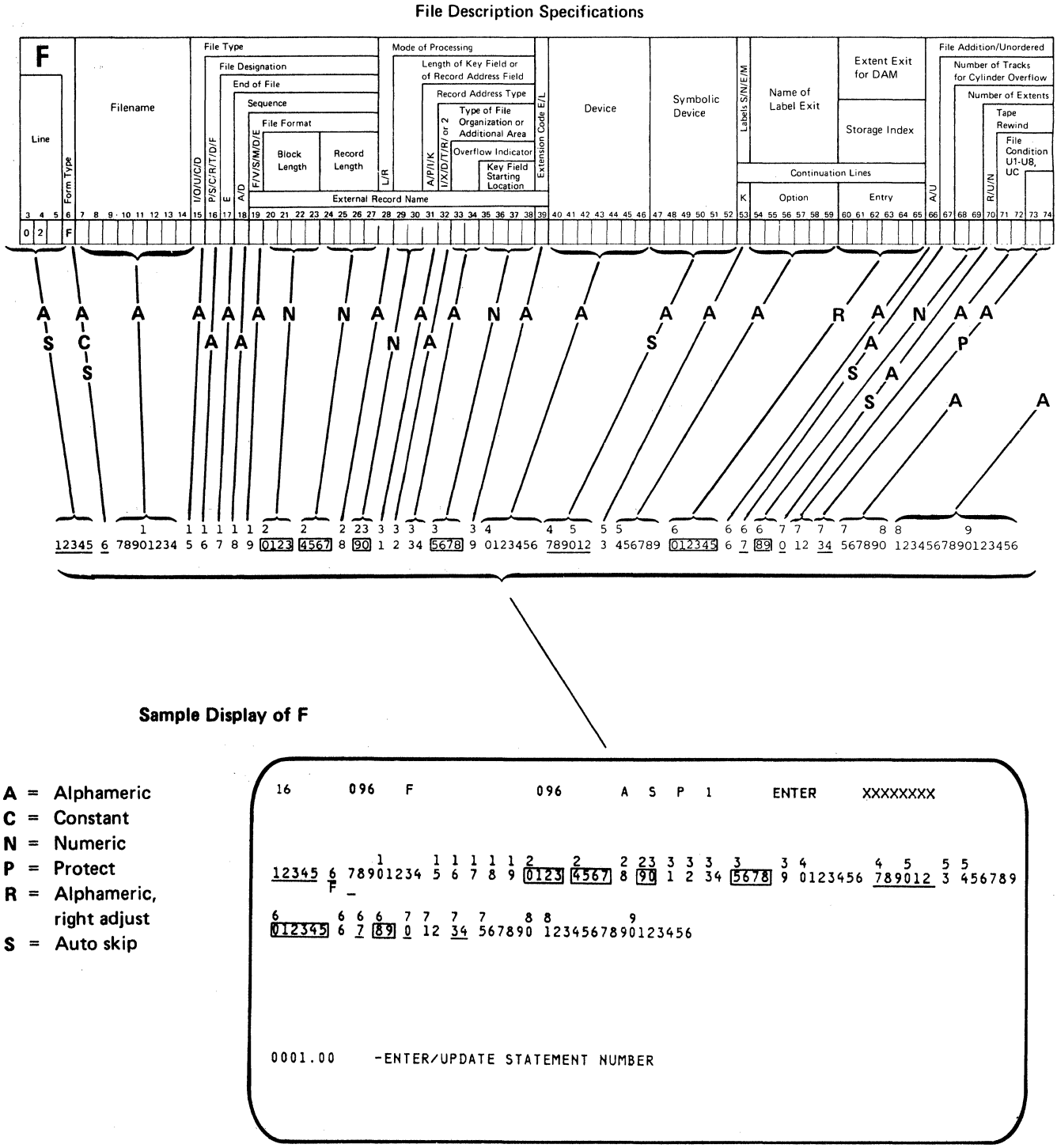


Figure 2-4. RPG II and Auto Report Format: F, File Description Specification

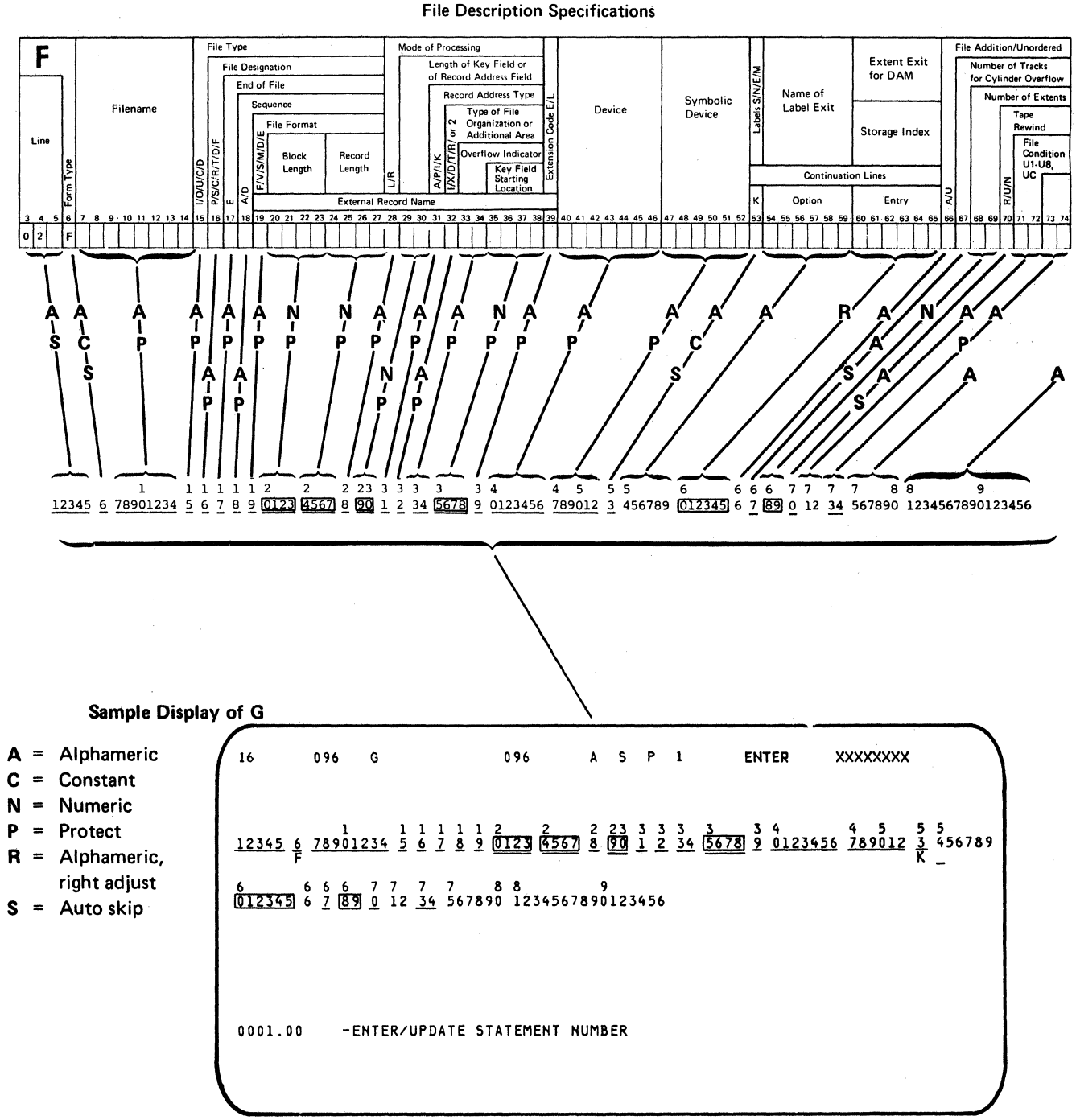


Figure 2-5. RPG II and Auto Report Format: G, File Description Continuation

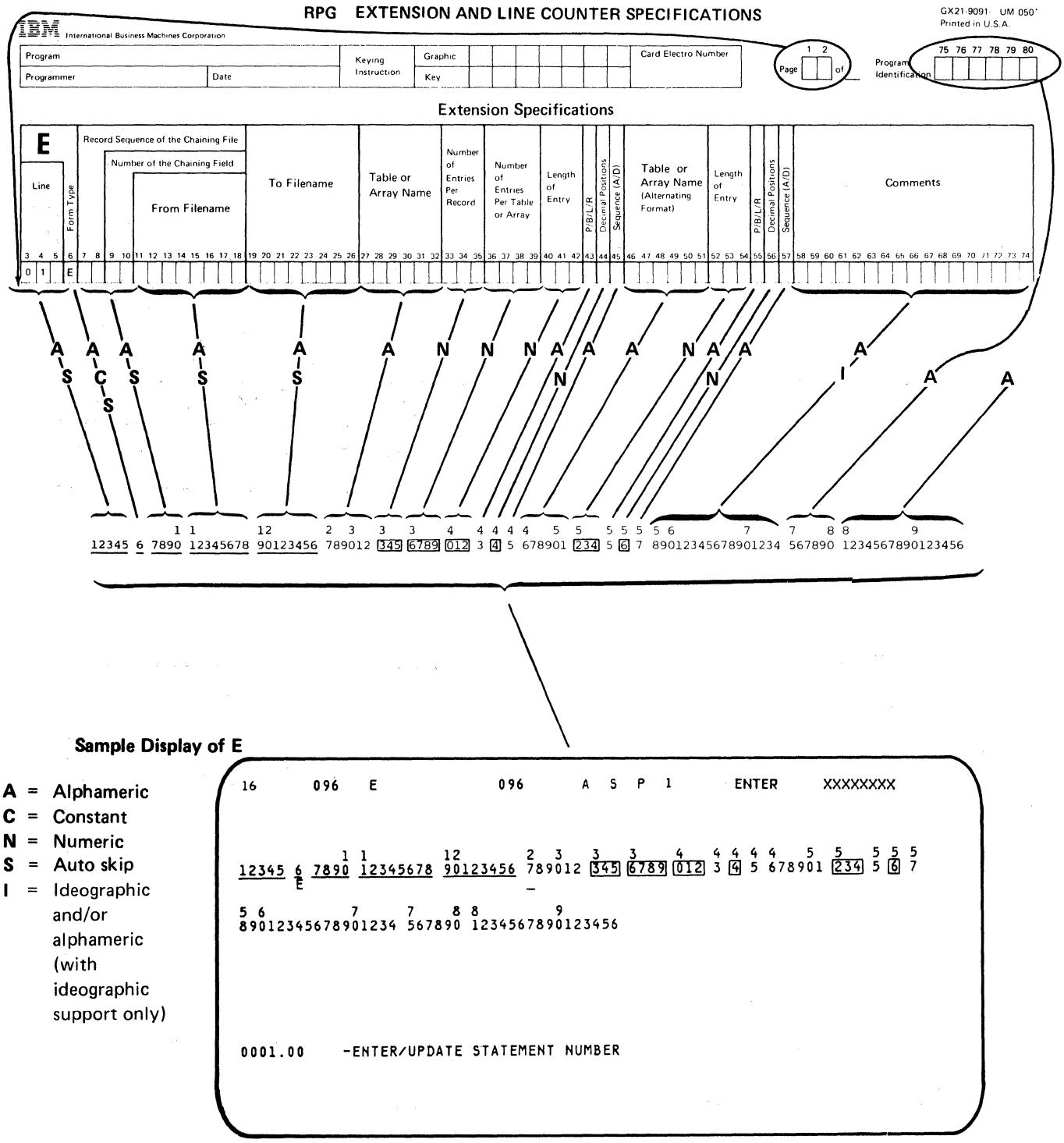


Figure 2-6. RPG II and Auto Report Format: E, File Extension Specification

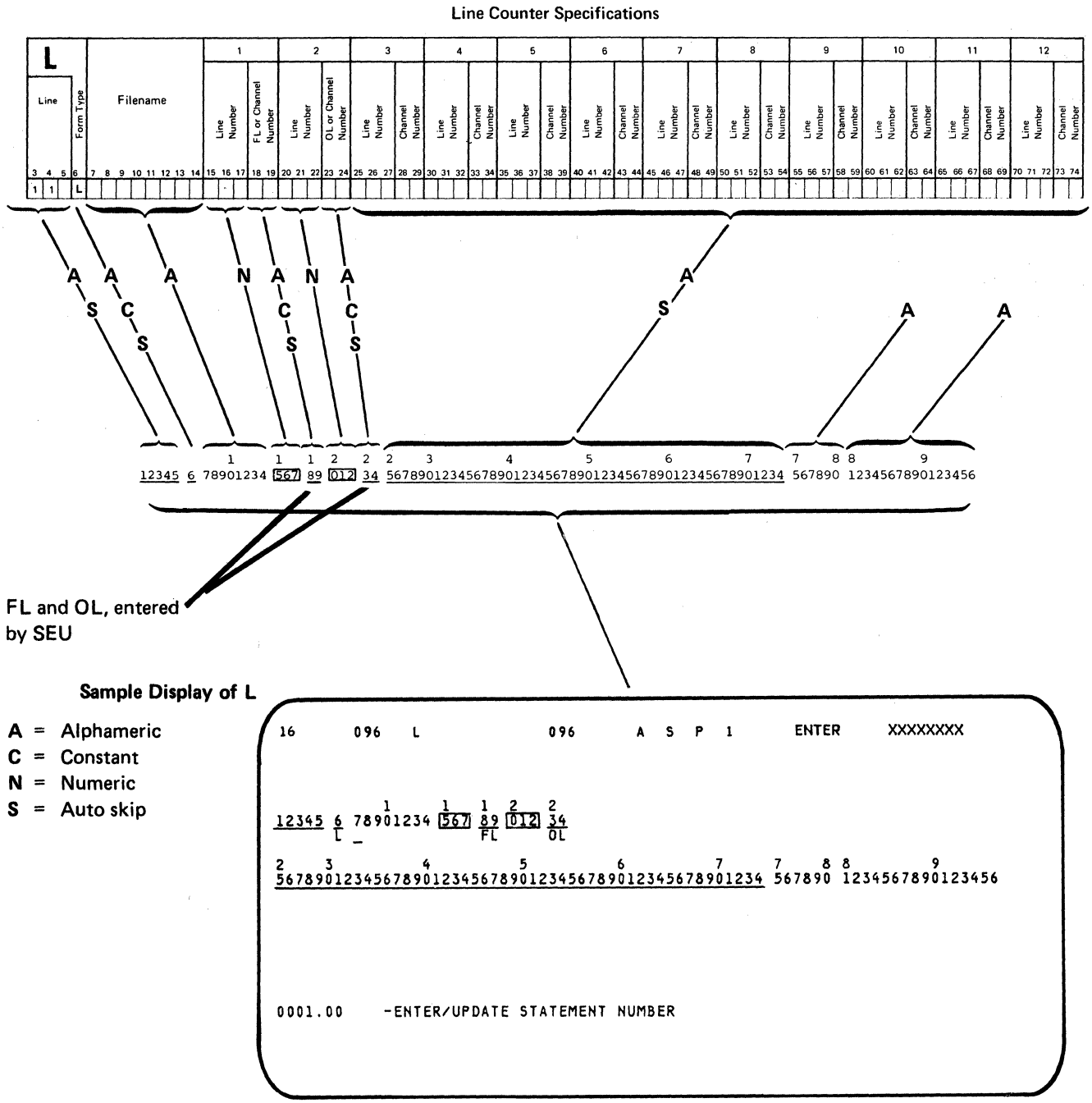


Figure 2-7. RPG II and Auto Report Format: L, Line Counter Specification

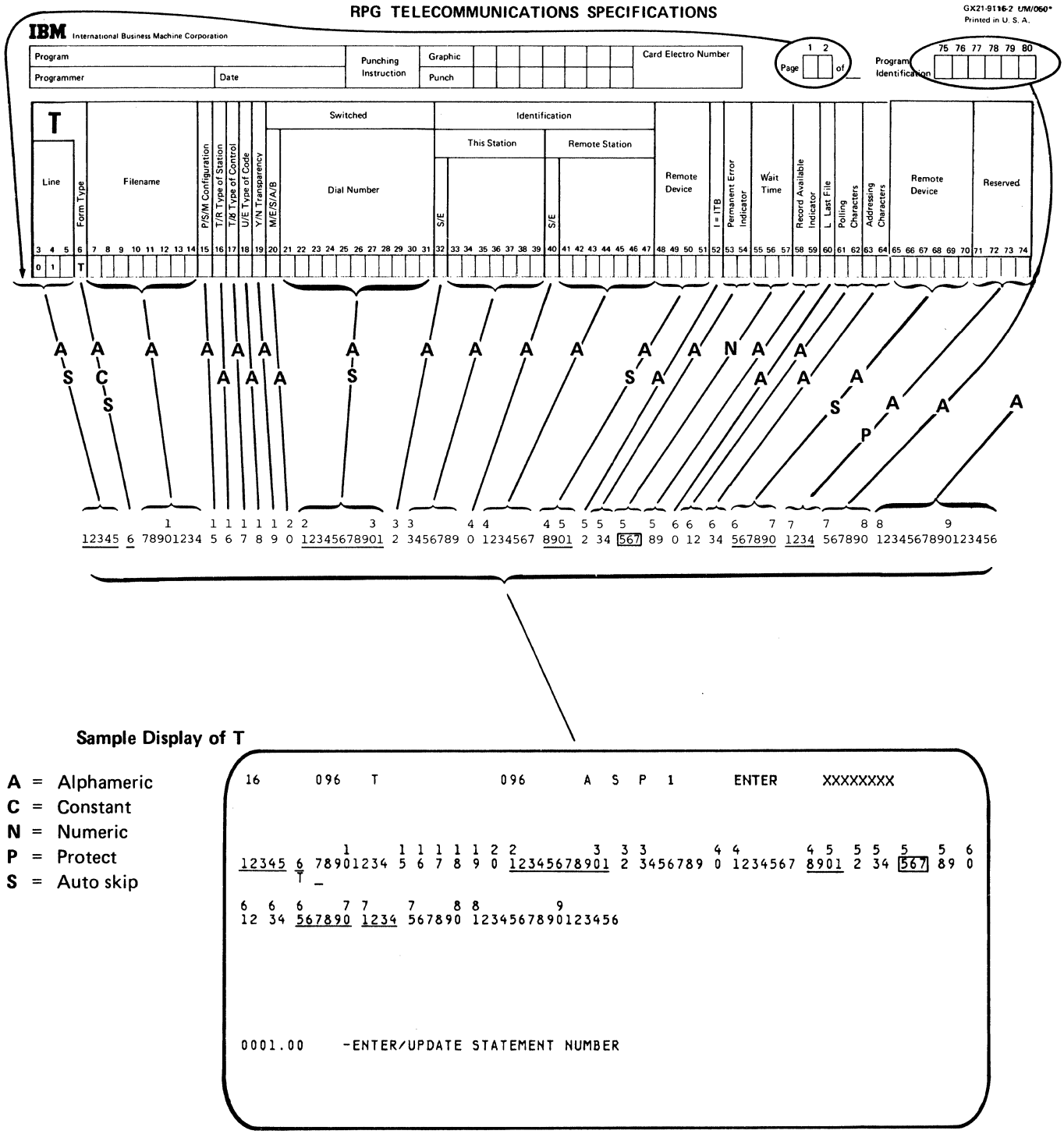


Figure 2-8. RPG II and Auto Report Format: T, Telecommunications Specification

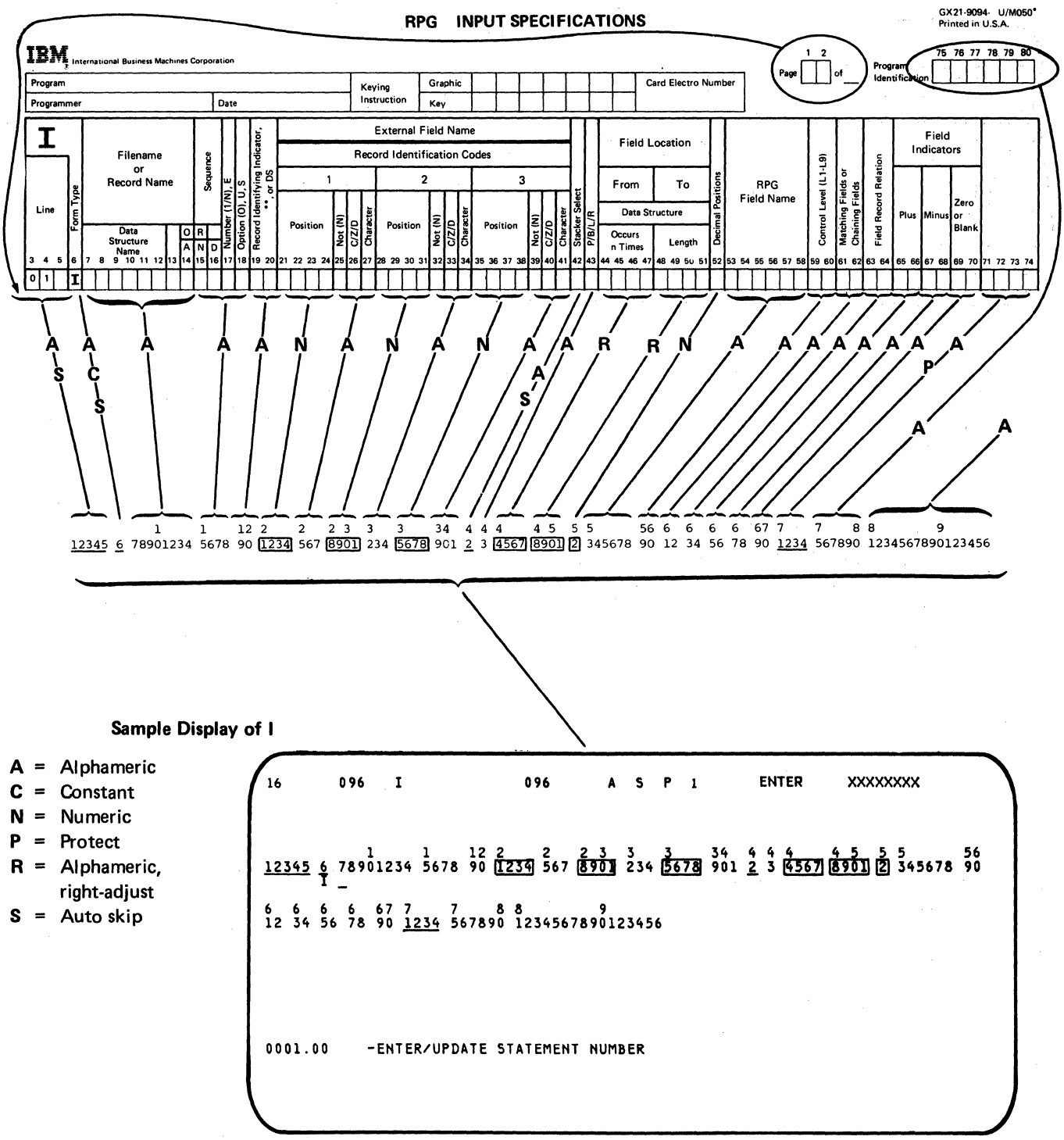


Figure 2-9. RPG II and Auto Report Format: I, Input Specification, Record Identification

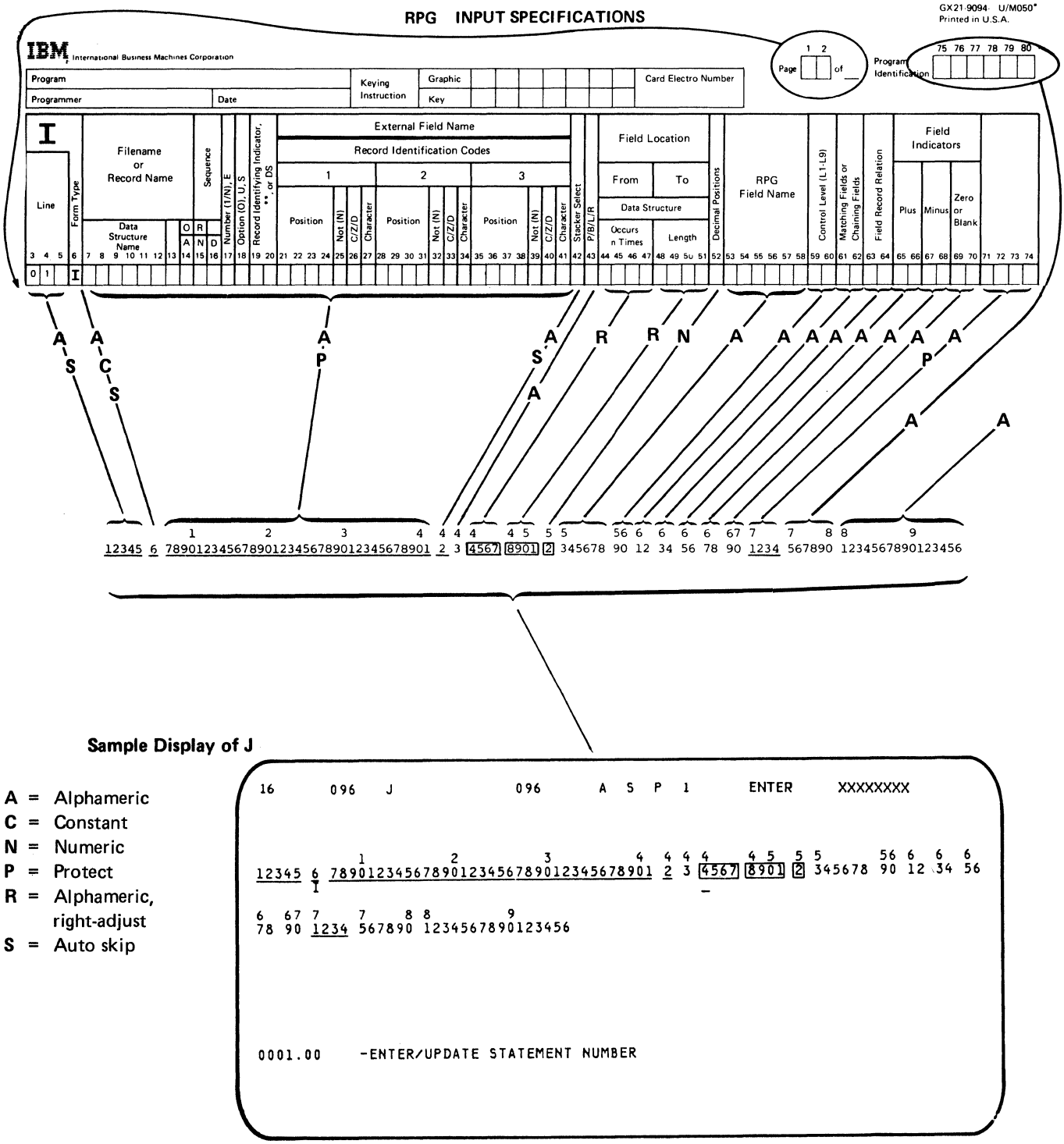
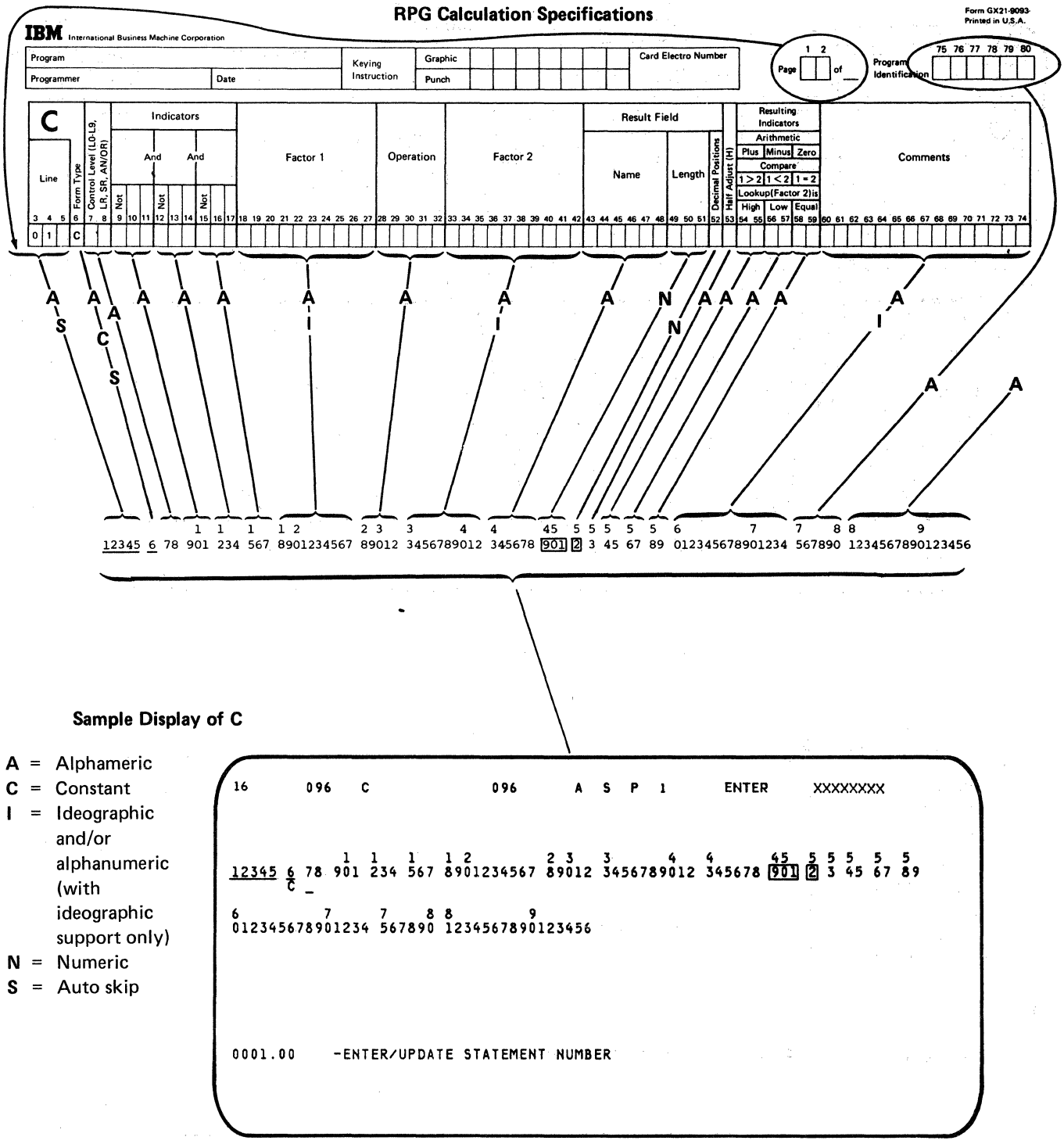


Figure 2-10. RPG II and Auto Report Format: J, Input Specification, Field Description



Sample Display of C

A = Alphameric
C = Constant
I = Ideographic and/or alphanumeric (with ideographic support only)
N = Numeric
S = Auto skip

```
16       096   C                 096       A  S  P  1        ENTER       XXXXXXXX


                  1  1   1   1 2          2 3   3        4   4        45  5 5 5  5  5
12345 6 78 901 234 567 8901234567 89012 3456789012 345678 901 2 3 45 67 89
       C _

6           7     7    8 8          9
012345678901234 567890 1234567890123456




0001.00     -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-11. RPG II and Auto Report Format: C, Calculation Specification

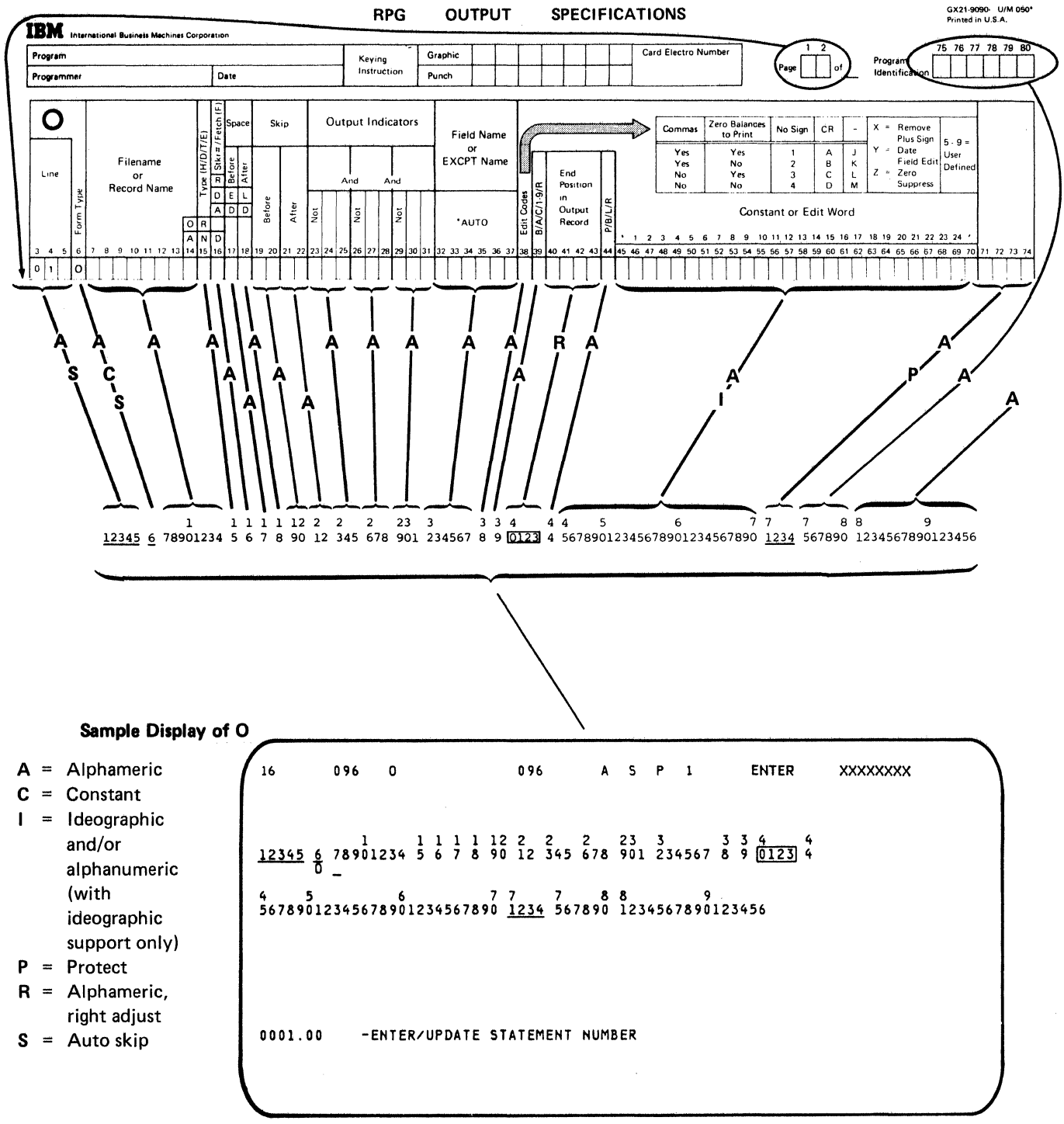
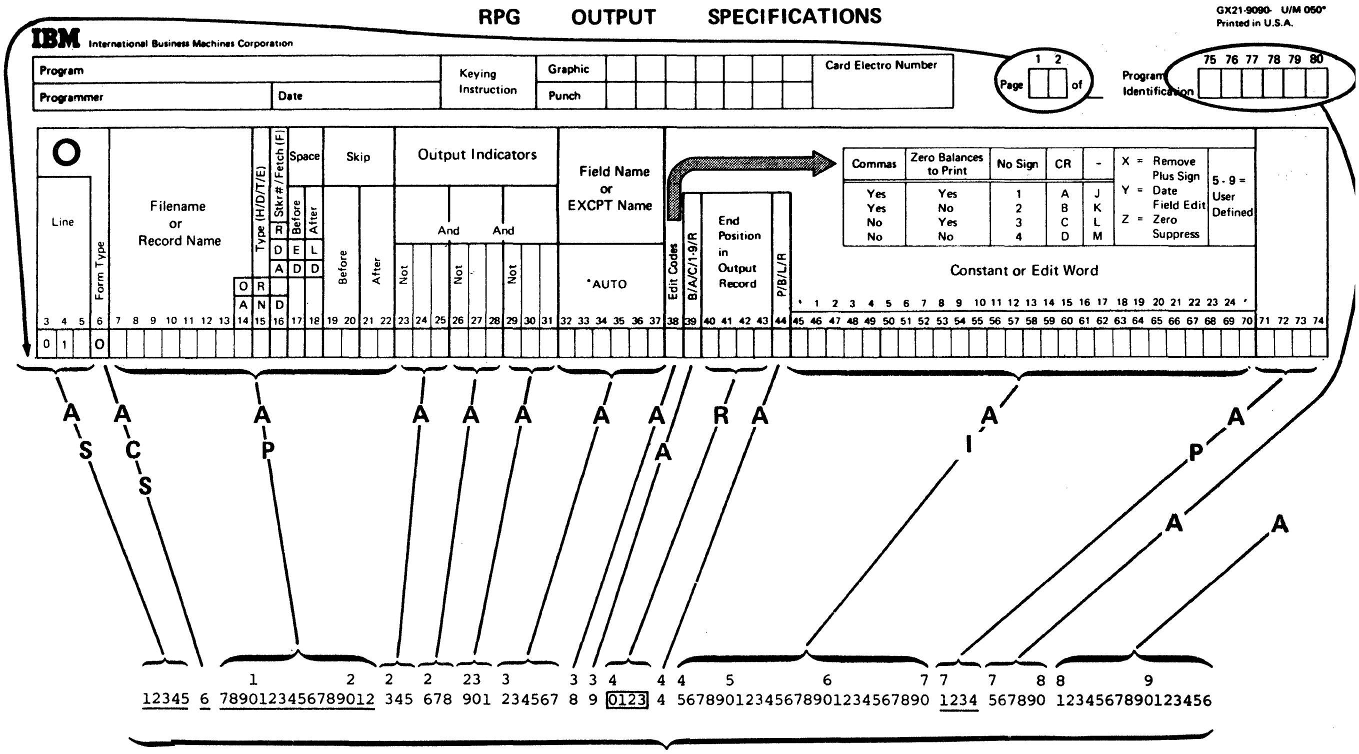


Figure 2-12. RPG II and Auto Report Format: O, Output Specification, File Identification and Control



Sample Display of P

A = Alphameric
C = Constant
I = Ideographic and/or alphanumeric (with ideographic support only)
P = Protect
R = Alphameric, right adjust
S = Auto skip

```
16        096   P               096       A  S  P  1      ENTER      XXXXXXXX

               1           2   2   2   23  3          3 3 4     4
12345 6 7890123456789012 345 678 901 234567 8 9 [0123] 4
      0                                  -

4    5              6            7 7     7      8 8         9
56789012345678901234567890 1234 567890 1234567890123456



0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-13. RPG II and Auto Report Format: P, Output Specification, Field Description

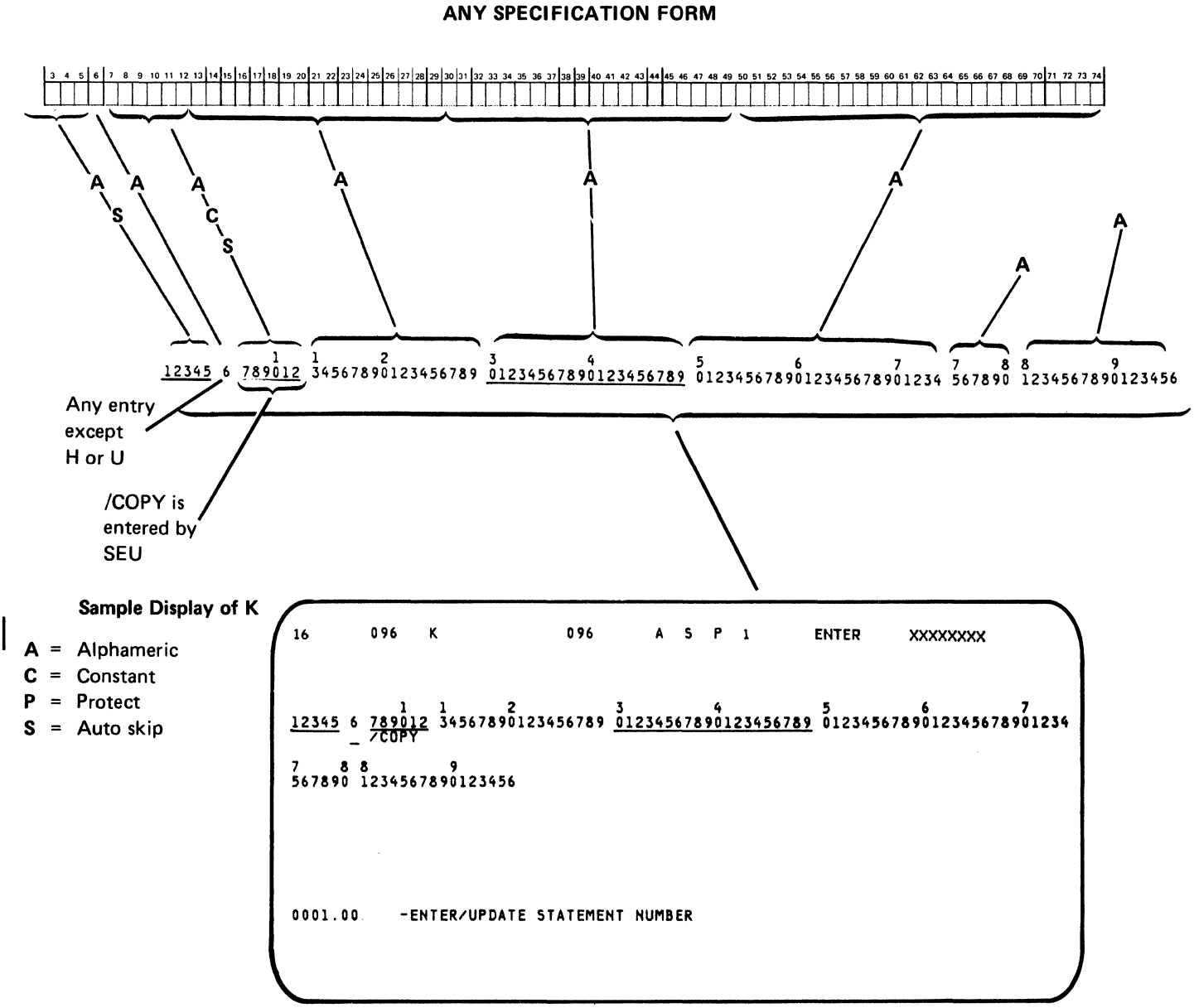
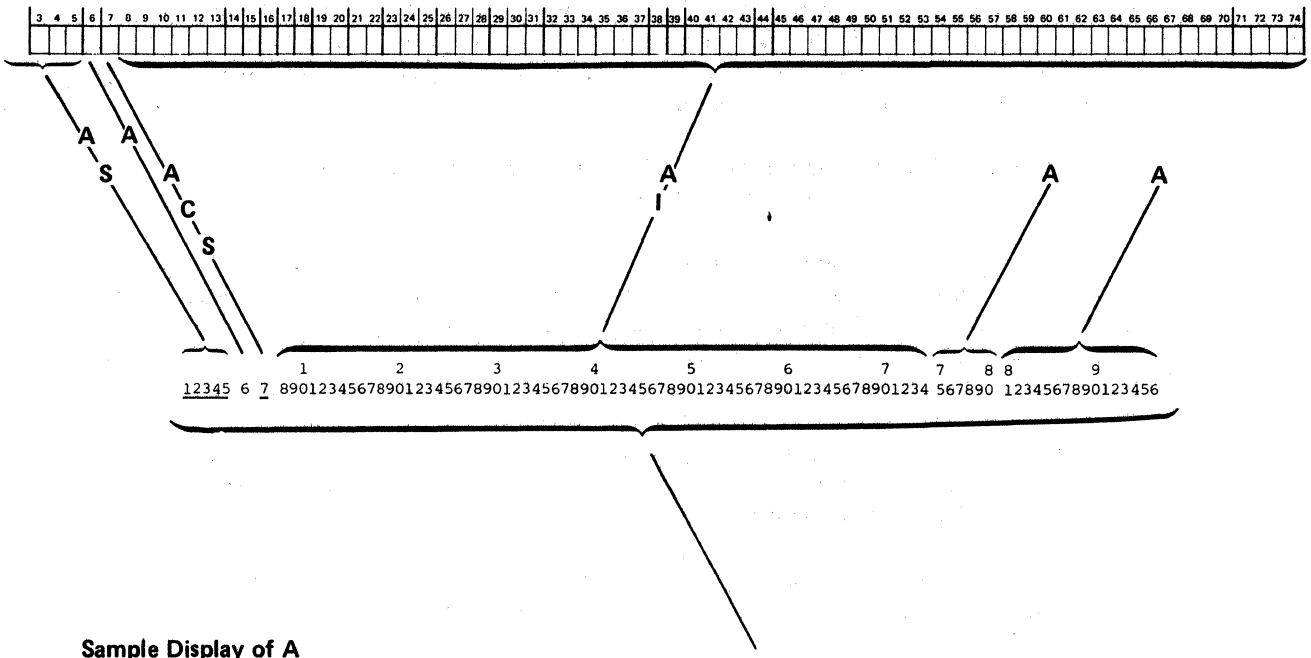


Figure 2-14. RPG II and Auto Report Format: K, Auto Report Copy Specification

ANY SPECIFICATION FORM



Sample Display of A

A = Alphameric
C = Constant
I = Ideographic and/or alphameric (with ideographic support only)
S = Auto skip

```
16      096   A             096      A  S  P  1      ENTER     XXXXXXXX


                    1         2         3         4         5         6         7
12345 6 7 8901234567890123456789012345678901234567890123456789012345678901234
        - *
7    8 8        9
567890 1234567890123456




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

This format can be used for any statement that contains * in position 7.

Figure 2-15. RPG II and Auto Report Format: A, Comment

Work Station Utility (WSU)

SEU provides display screen formats for entering and changing work station utility J, T, M, S, D, and C specifications. Comments for the work station utility can be entered or changed under control of the RPG II and auto report comment format, A, which is shown in Figure 2-15.

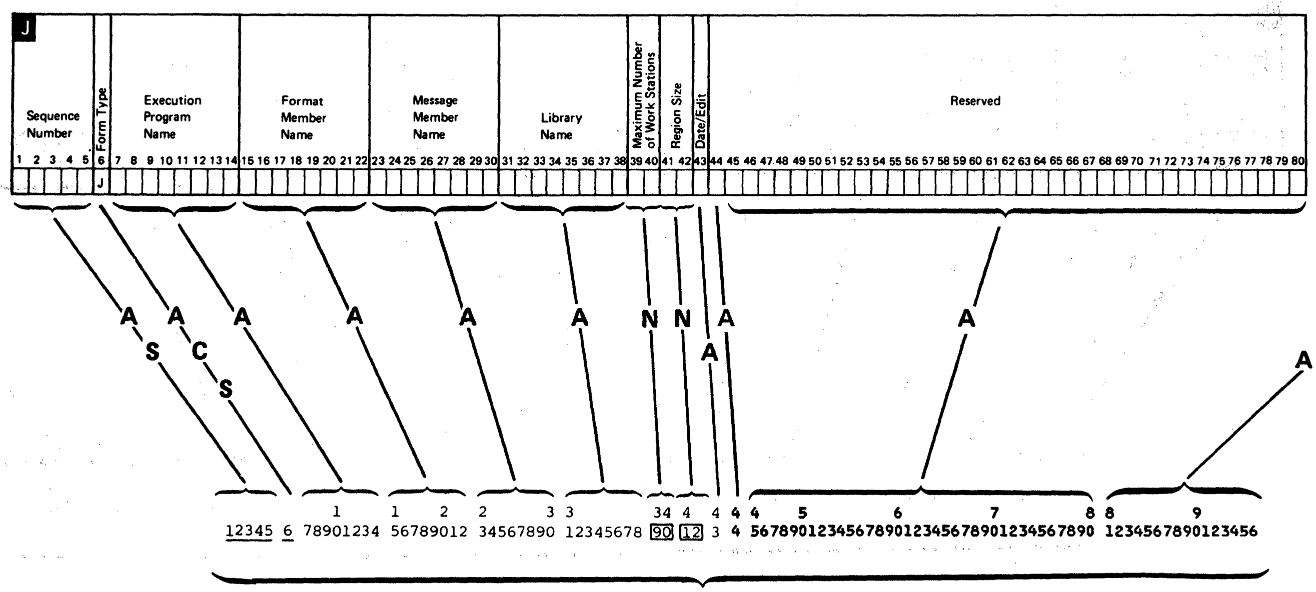
Each work station utility format is 96 positions long. The display screen formats are shown in Figures 2-16 through 2-21.

Note: The formats supplied for entering and changing WSU specifications permit entry of uppercase characters only. If you want to use the format WSU D (shown in Figure 2-20) to specify lowercase constants in positions 57 through 79 of D specifications for WSU, you must first modify WSU D: change position 21 in the display control specification for WSU D from N to Y. For a description of how to use SEU to change an existing display screen format, see *Creating and Changing SEU Display Screen Formats* in this chapter. For a description of the entries in display screen format specifications, see the *System Support Reference Manual.*

Note: If your system has the ideographic feature, ideographic data can be entered in columns 81-96.

WSU J, T, and M Specifications

GX21-9252
Printed in U.S.A.

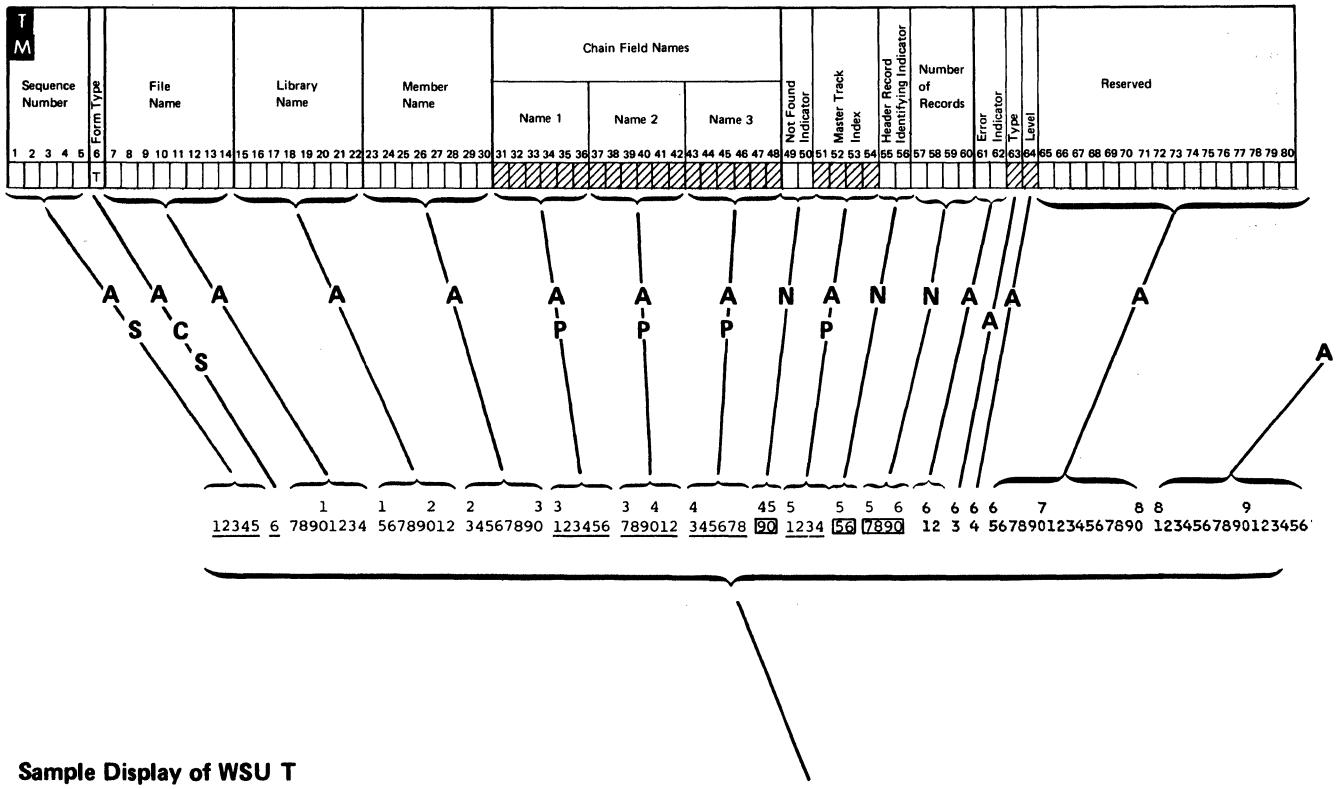


Sample Display of WSU J

A = Alphameric
C = Constant
N = Numeric
S = Auto skip

```
16      096   WSU-J         096      A     P 1       ENTER       XXXXXXXX


                1      1     2      2       3 3           34 4  4
12345 6  78901234  56789012  34567890  12345678 [90][12] 3
      J _

4 4    5          6          7          8 8          9
4 5678901234567890123456789012345678901234567890 1234567890123456




0001.00      -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-16. Work Station Utility Format: WSU J

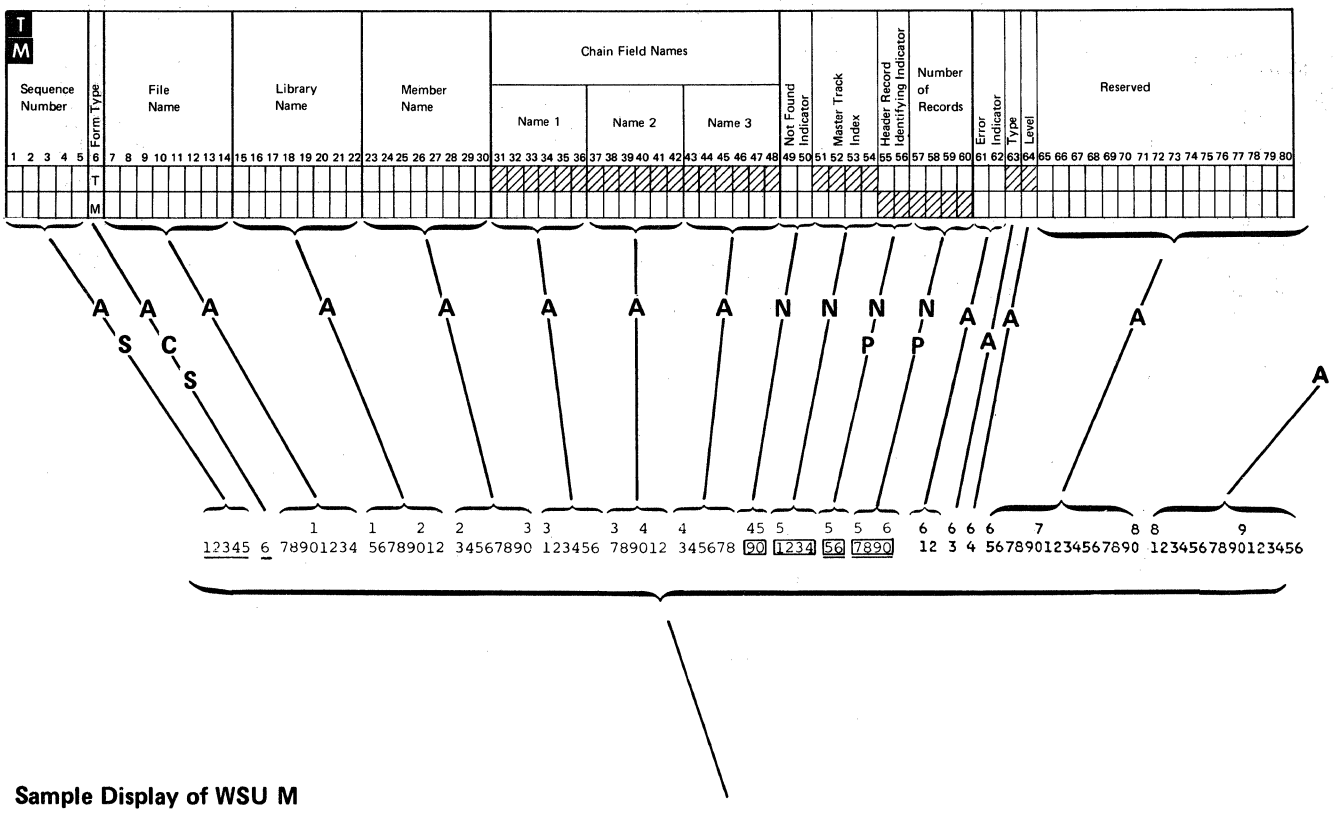


Sample Display of WSU T

A = Alphameric
C = Constant
N = Numeric
P = Protect
S = Auto skip

```
16      096   WSU-T         096      A  S  P  1      ENTER      XXXXXXXX


          1    1    2    2    3 3    3  4   4     45 5    5  5  6
12345 6 78901234 56789012 34567890 123456 789012 345678 90 1234 56 7890
      T -
6  6 6 6    7         8 8        9
12 3 4 5678901234567890 1234567890123456




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-17. Work Station Utility Format: WSU T



Sample Display of WSU M

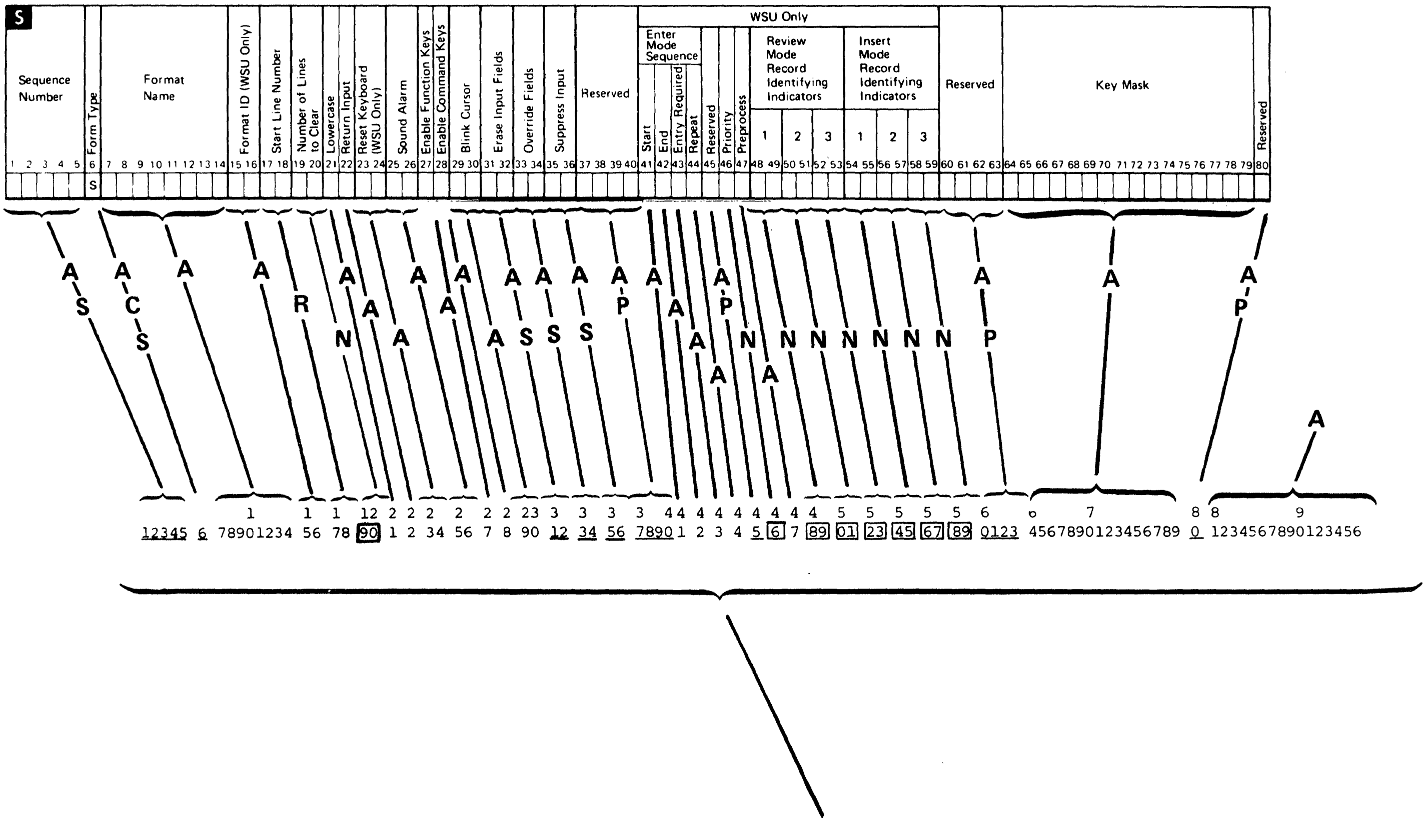
A = Alphameric
C = Constant
N = Numeric
P = Protect
S = Auto skip

```
16      096   WSU-M         096      A  S  P  1      ENTER       XXXXXXXX



          1    1    2    2      3 3      3  4   4      45 5    5   5  6
12345 6 78901234 56789012 34567890 123456 789012 345678 90 1234 56 7890
      M _

6  6 6 6    7         8 8        9
12 3 4 5678901234567890 1234567890123456




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-18. Work Station Utility Format: WSU M

GX21-9253 U/M 050*
Printed in U.S.A.

System/34 Display Screen Format Specifications

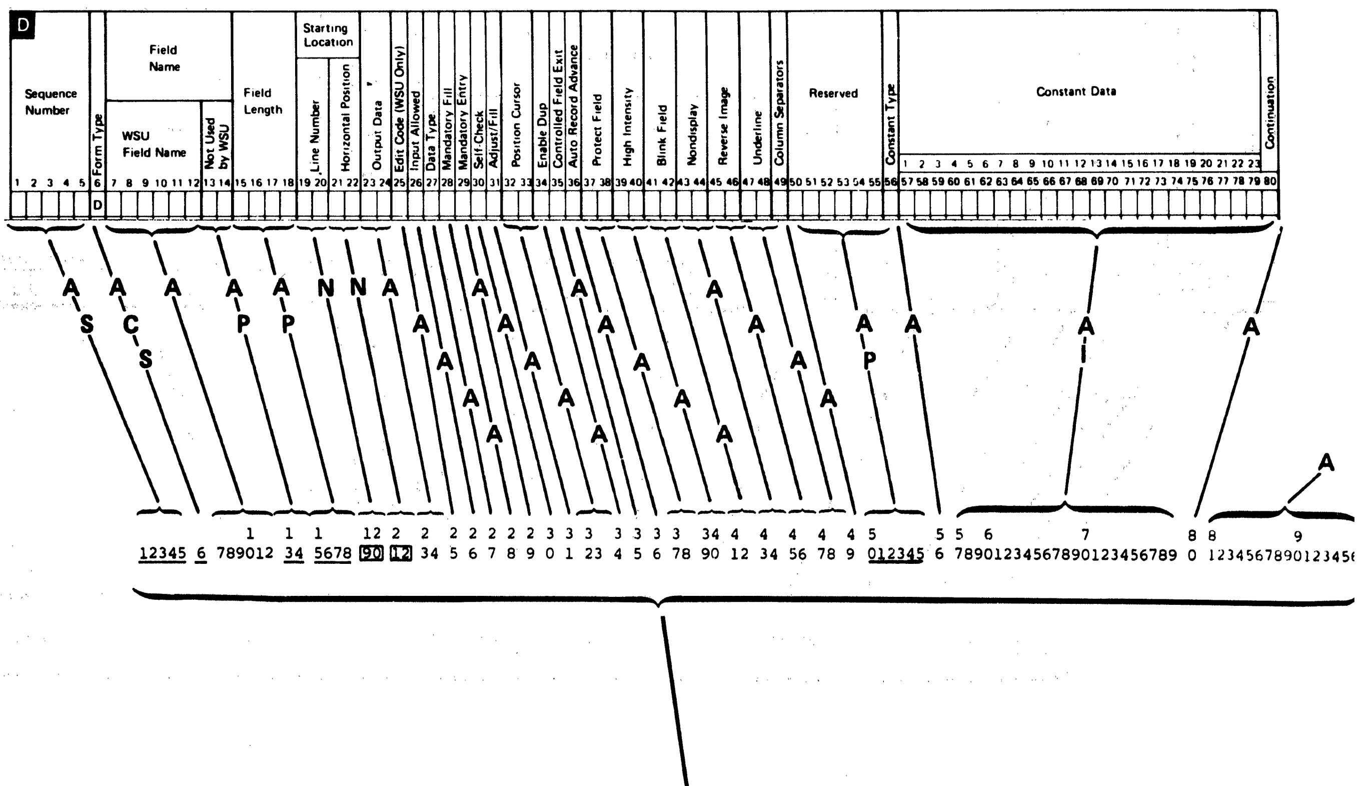


Sample Display of WSU S

A = Alphameric
C = Constant
N = Numeric
P = Protect
R = Alphameric, right adjust
S = Auto skip

```
16        096    WSU-S           096        A   S   P   1        ENTER       XXXXXXXX


                  1        1   1   12 2 2 2   2   2 2 23 3   3   3   3   4 4 4 4 4 4 4 4 4   5   5
12345 6  78901234  56  78  90  1  2 34  56  7  8  90  12  34  56  7890  1  2  3  4  5  6  7  89  01  23
      S

5   5   5   6     6      7             8 8        9
45  67  89  0123  4567890123456789  0  1234567890123456



0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-19. Work Station Utility Format: WSU S



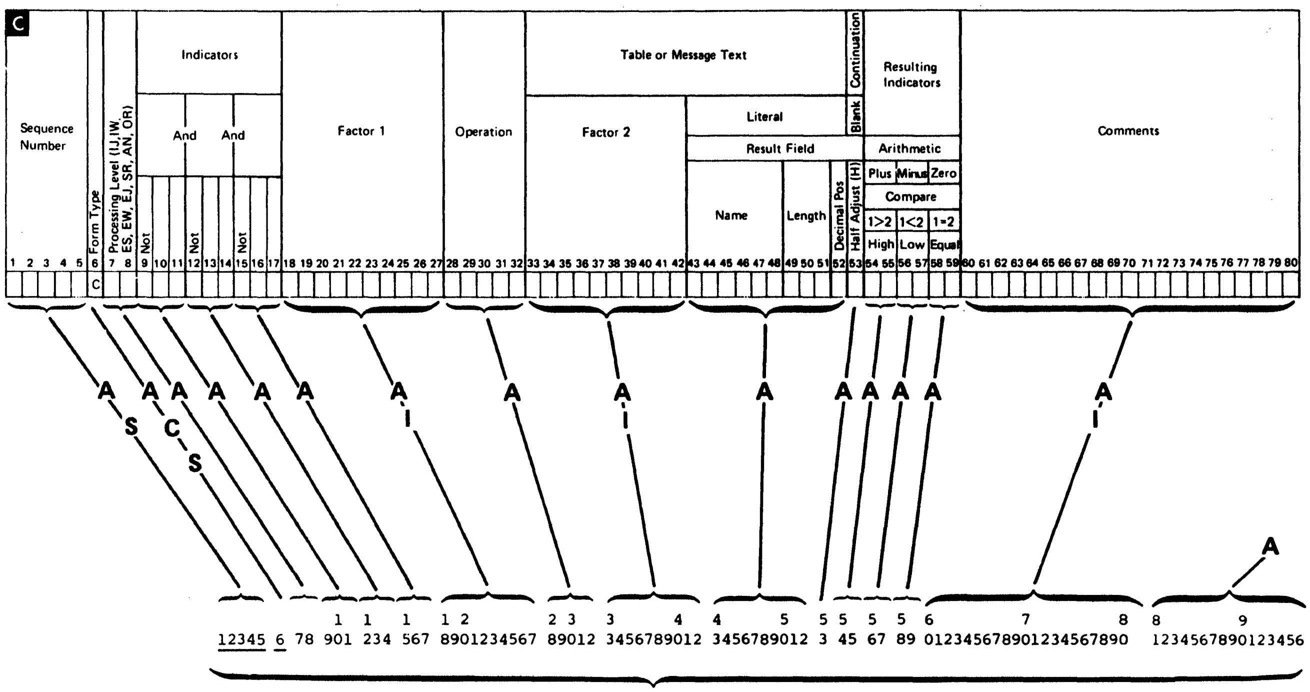
Sample Display of WSU D

- **A** = Alphameric
- **C** = Constant
- **I** = Ideographic and/or alphanumeric (with ideographic support only)
- **N** = Numeric
- **P** = Protect
- **S** = Auto skip

```
16        096    WSU-D            096        A  S  P  1        ENTER     XXXXXXXX

                1    1   1     12 2   2   2 2 2 2 2 3 3 3  3 3 3 3  34 4  4  4  4  4
12345 6 789012 34  5678 [90][12] 34  5 6 7 8 9 0 1 23 4 5 6 78 90 12 34 56 78 9
      D _

5        5 5  6            7          8 8        9
012345 6 78901234567890123456789 0 1234567890123456

0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-20. Work Station Utility Format: WSU D

Note: To enter or change continuation statements for WSU D specifications, use the D-CONT format, or free-form format Z or Z-LOWER. The D-CONT format is shown in Figure 2-23. The free-form formats are shown in Figures 2-40 and 2-41.



Sample Display of WSU C

- **A** = Alphameric
- **C** = Constant
- **I** = Ideographic and/or alphanumeric (with ideographic support only)
- **S** = Auto skip

```
16        096    WSU-C           096       A  S  P  1        ENTER      XXXXXXXX


                1   1    1   1 2            2 3   3          4    4          5   5 5   5  5
12345 6 78 901 234 567 8901234567 89012 3456789012 3456789012 3 45 67 89
      C -

6         7         8 8         9
012345678901234567890 1234567890123456



0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-21. Work Station Utility Format: WSU C

Note: For ease of keying, use display screen format C (the RPG II and auto report format for calculation specifications, shown in Figure 2-24) to enter or change WSU C specifications that contain result field name, length, and decimal positions (entries for positions 43 through 52).

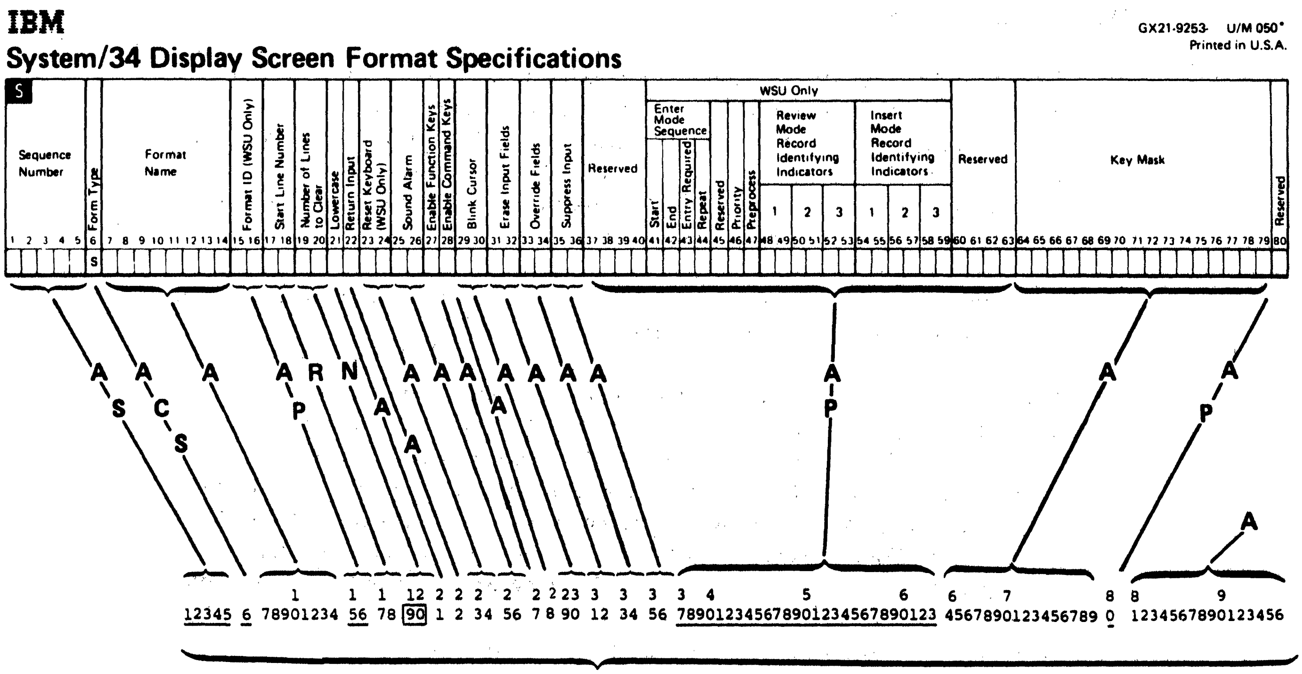
Display Screen Format

SEU provides three display screen formats for entering and changing display screen format specifications. The formats describe display control specifications and field definition specifications for the $SFGR utility program. Comments for display screen format specifications can be entered and changed while they are under control of the RPG II and auto report comment format, A, which is shown in Figure 2-15.

The formats for display screen format specifications are 96 positions long. The formats are shown in Figures 2-22 through 2-24.

Note: The formats supplied for entering and changing display screen format specifications permit entry of uppercase characters only. If you want to use the format SFGR D (shown in Figure 2-23) to specify lowercase constants in positions 57 through 79 of field definition specifications, you must first modify SFGR D: change position 21 in the display control specification for SFGR D from N to Y. For a description of how to use SEU to change an existing display screen format, see *Creating and Changing SEU Display Screen Formats* in this chapter. For a description of the entries in display screen format specifications, see the *System Support Reference Manual.*

Note: If your system has the ideographic feature, ideographic data can be entered in columns 81-96.



Sample Display of SFGR S

A = Alphameric
C = Constant
N = Numeric
P = Protect
R = Alphameric, right adjust
S = Auto skip

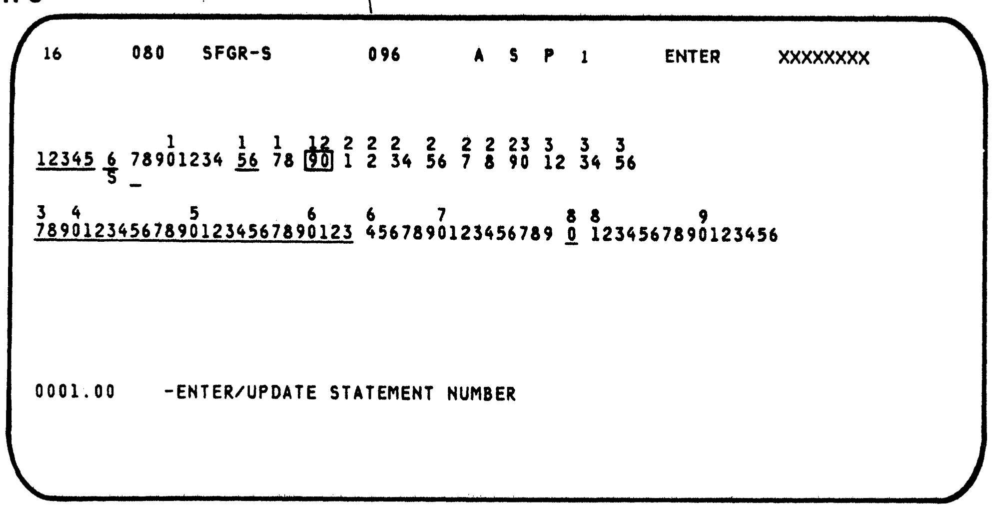


Figure 2-22. Display Screen Format Specification Format: SFGR S, Display Control Specification

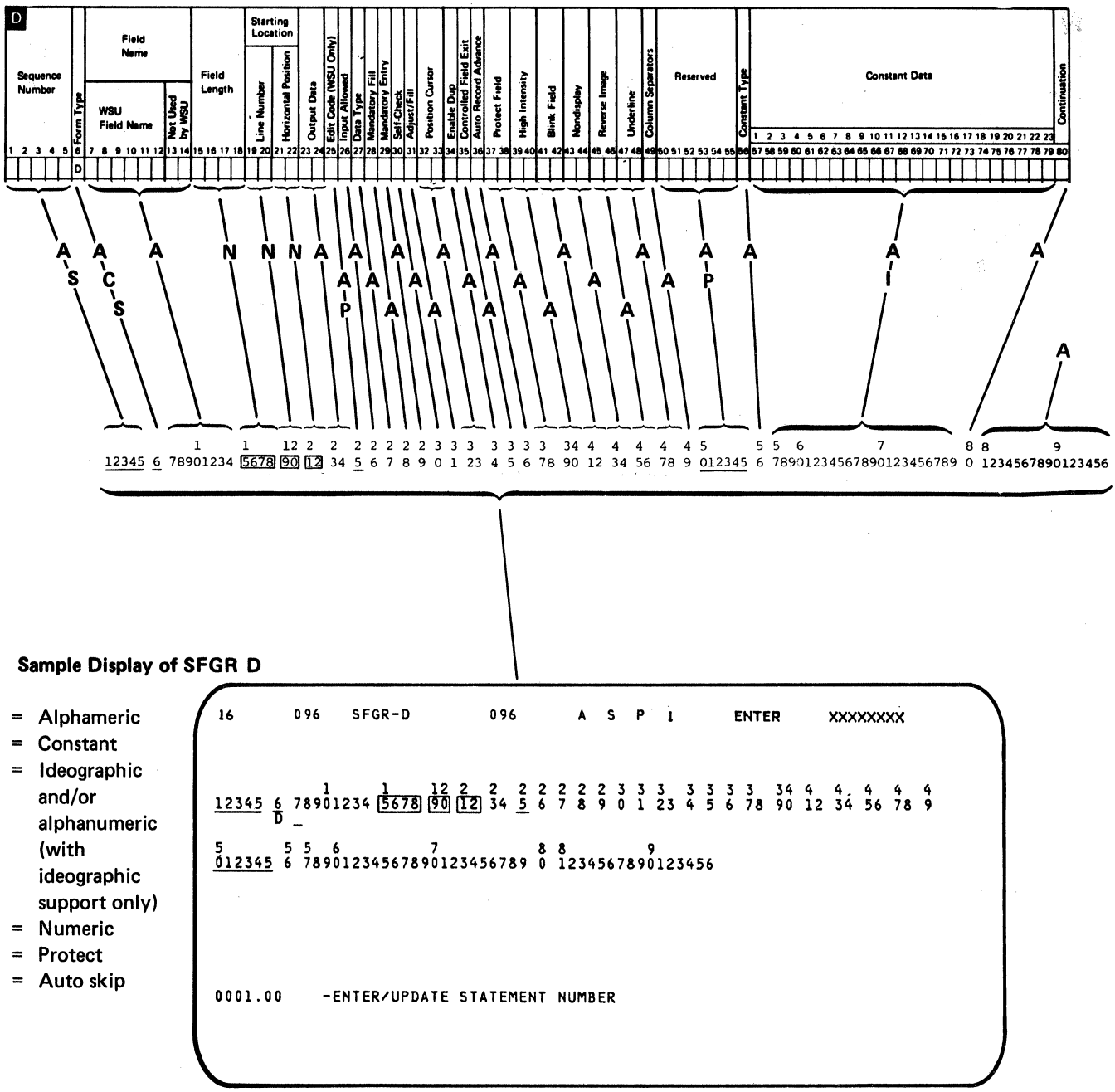


Figure 2-23. Display Screen Format Specification Format: SFGR D, Field Definition Specification

Note: To enter or change continuation statements for field definition specifications, use the RPG II and auto report comment format, A, or free-form format Z or Z-LOWER. If you use A, turn the auto skip option off (Auto Skip command function key), and key over the asterisk (*) in position 7. Format A is shown in Figure 2-24. The free-form formats are shown in Figures 2-40 and 2-41.

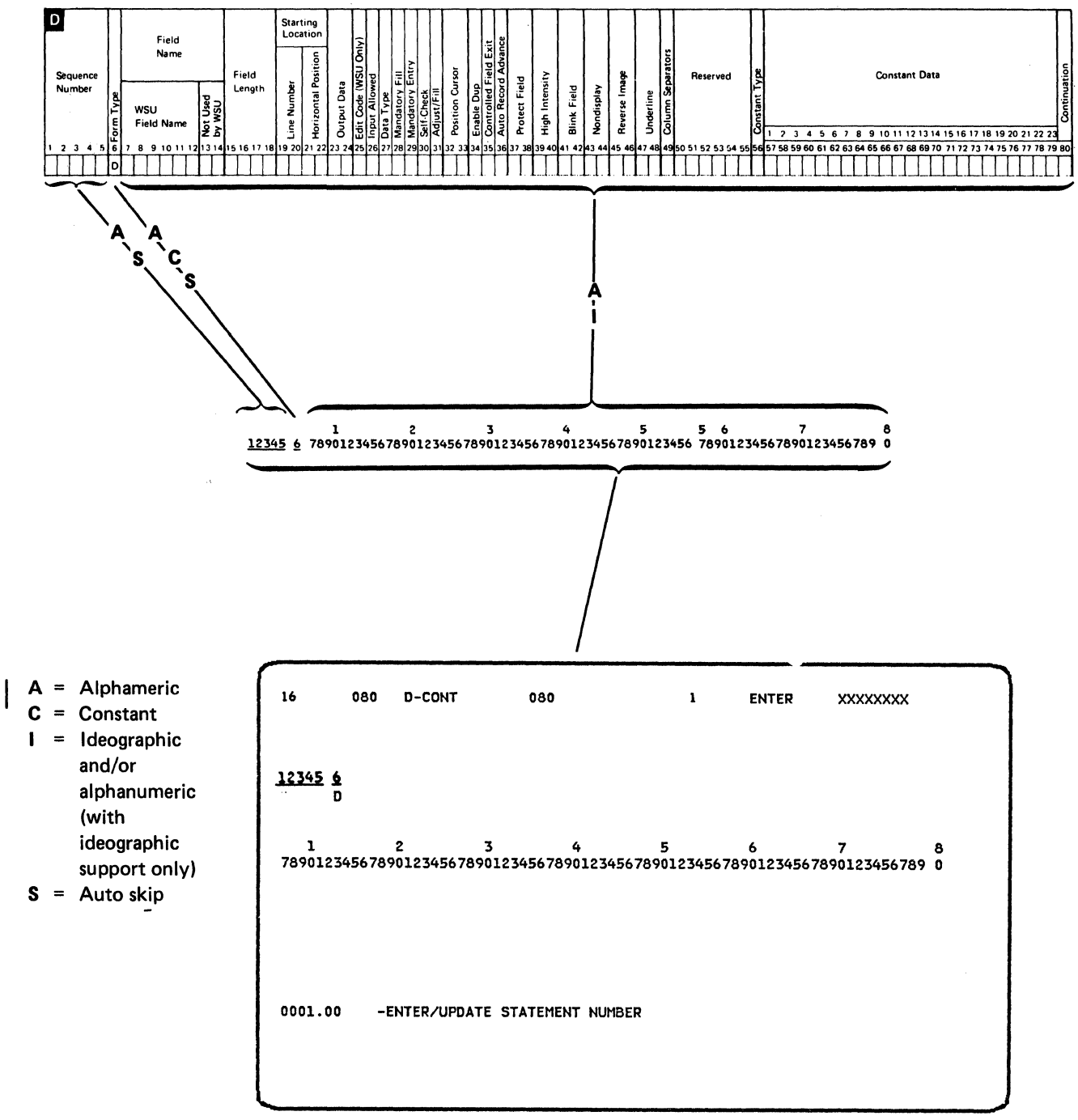


Figure 2-24. Display Screen Format Specification Format: D-CONT, Field Definition Continuation Format

Sort

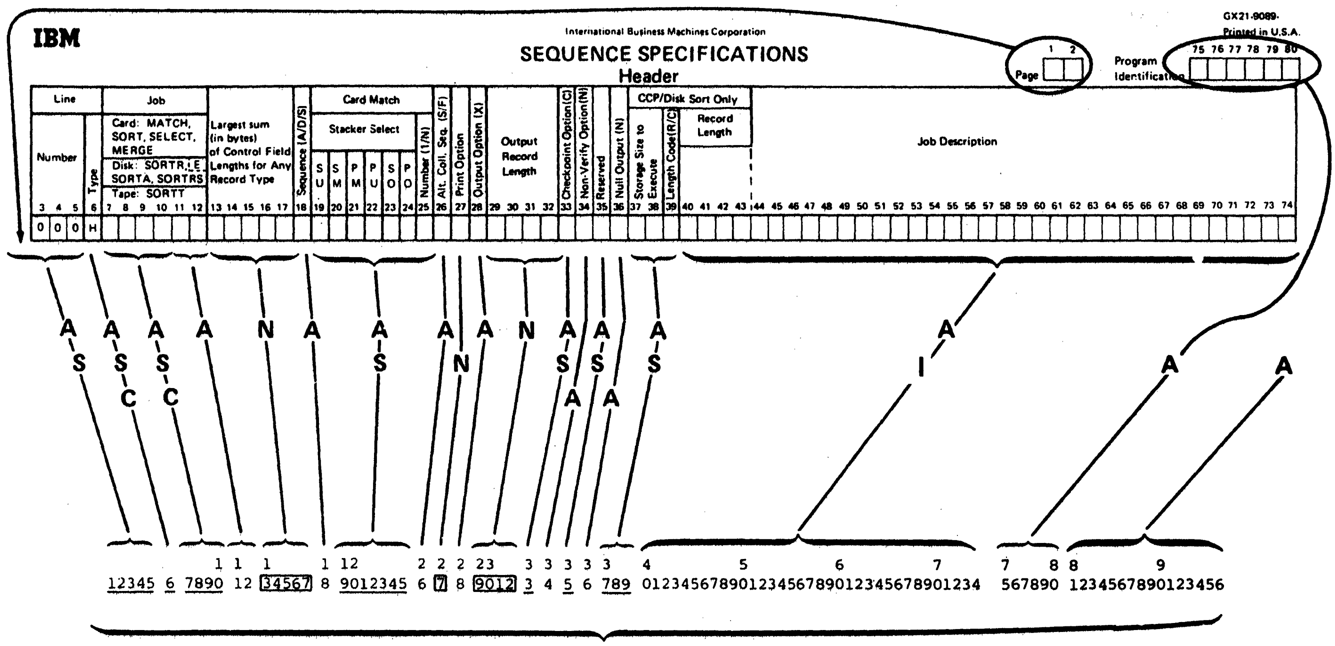
The following sort display screen formats are provided with SEU. They can be used to enter and update sort sequence specifications.

Format Description Name	Specification
SORTH	Header
SORTRC	Record type constant specification
SORTRF	Record type field specification
SORTF	Field specification

Comments for sort can be entered and changed under control of the RPG II and auto report comment format, A, which is shown in Figure 2-15.

Each sort display screen format is 96 positions long. The formats are shown in Figures 2-25 through 2-28.

Note: If your system has the ideographic feature, ideographic data can be entered in columns 81-96.

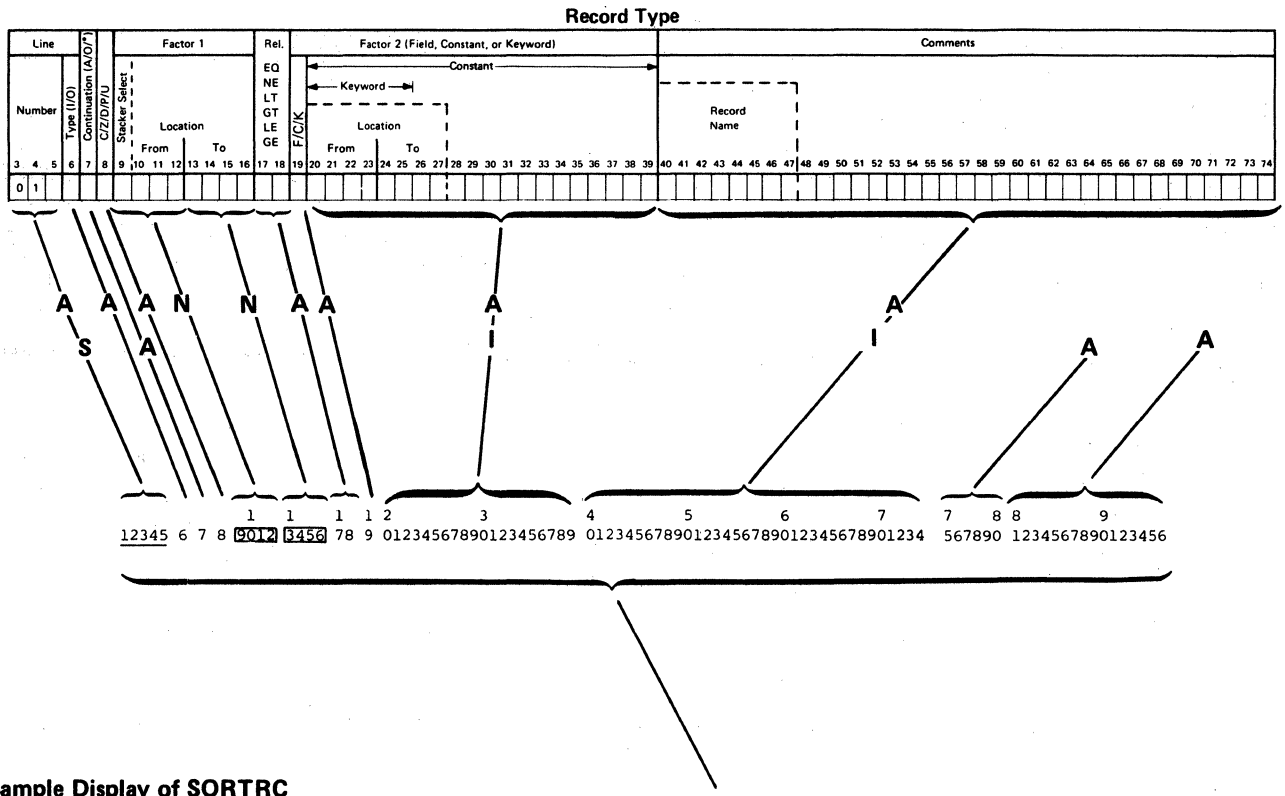


Sample Display of SORTH

A = Alphameric
C = Constant
I = Ideographic and/or alphameric (with ideographic support only)
N = Numeric
S = Auto skip

```
16      096    SORTH        096     A  S  P  1     ENTER    XXXXXXXX


               1 1  1      1 12       2 2 2 23    3 3 3 3 3
12345 6 7890 12 34567 8 9012345 6 7 8 9012 3 4 5 6 789
      H SORT _

4          5            6           7    7    8 8         9
01234567890123456789012345678901234 567890 1234567890123456




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-25. Sort Format: SORTH, Header

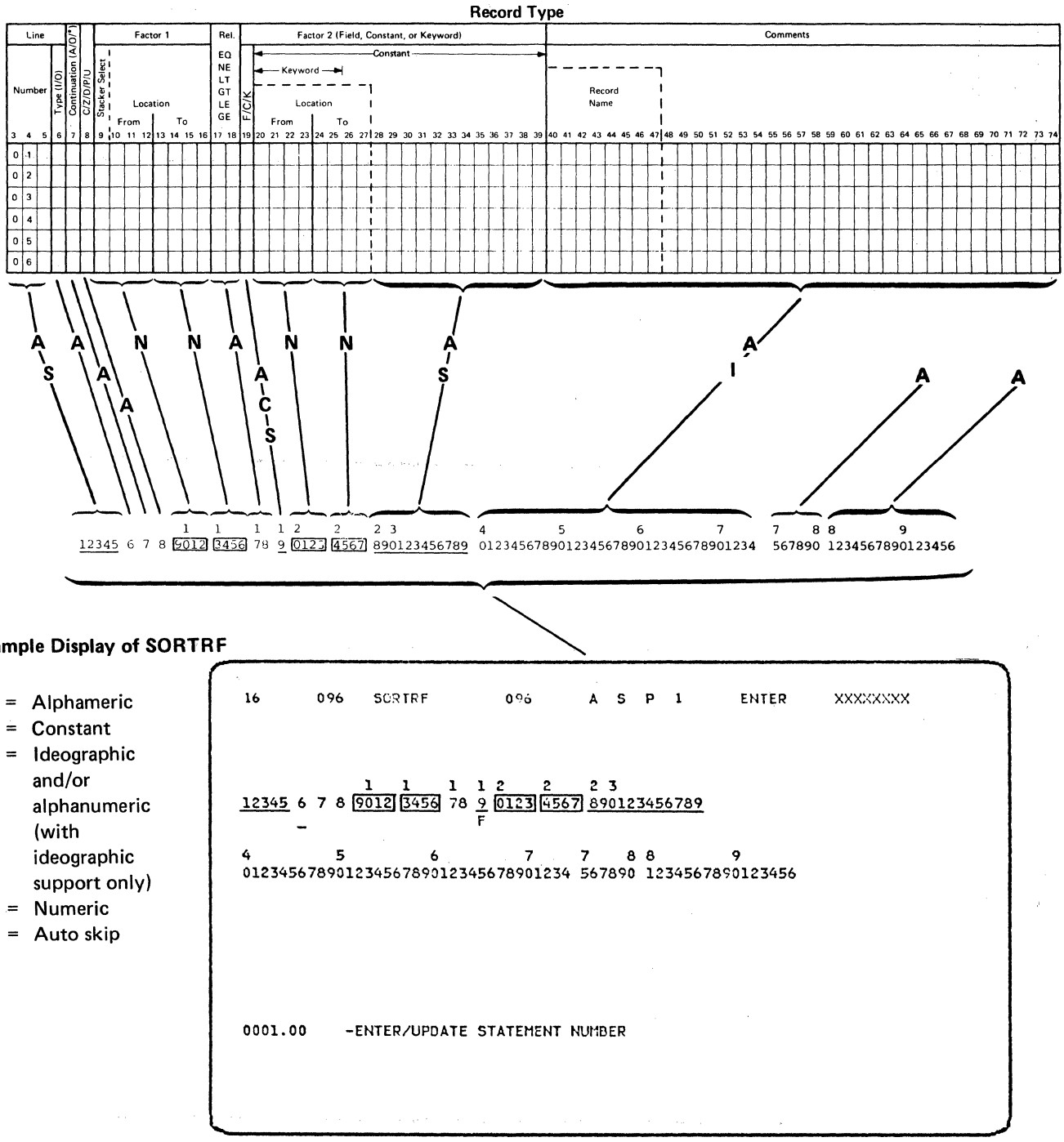


Sample Display of SORTRC

A = Alphameric
I = Ideographic and/or alphanumeric (with ideographic support only)
N = Numeric
S = Auto skip

```
16      096   SORTRC        096      A  S  P  1      ENTER     XXXXXXXX


                  1   1    1  1 2         3
12345 6 7 8 9012 3456 78 9 01234567890123456789
      -

4         5         6         7     7    8 8        9
01234567890123456789012345678901234 567890 1234567890123456




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-26. Sort Format: SORTRC, Record Type Constant Specification

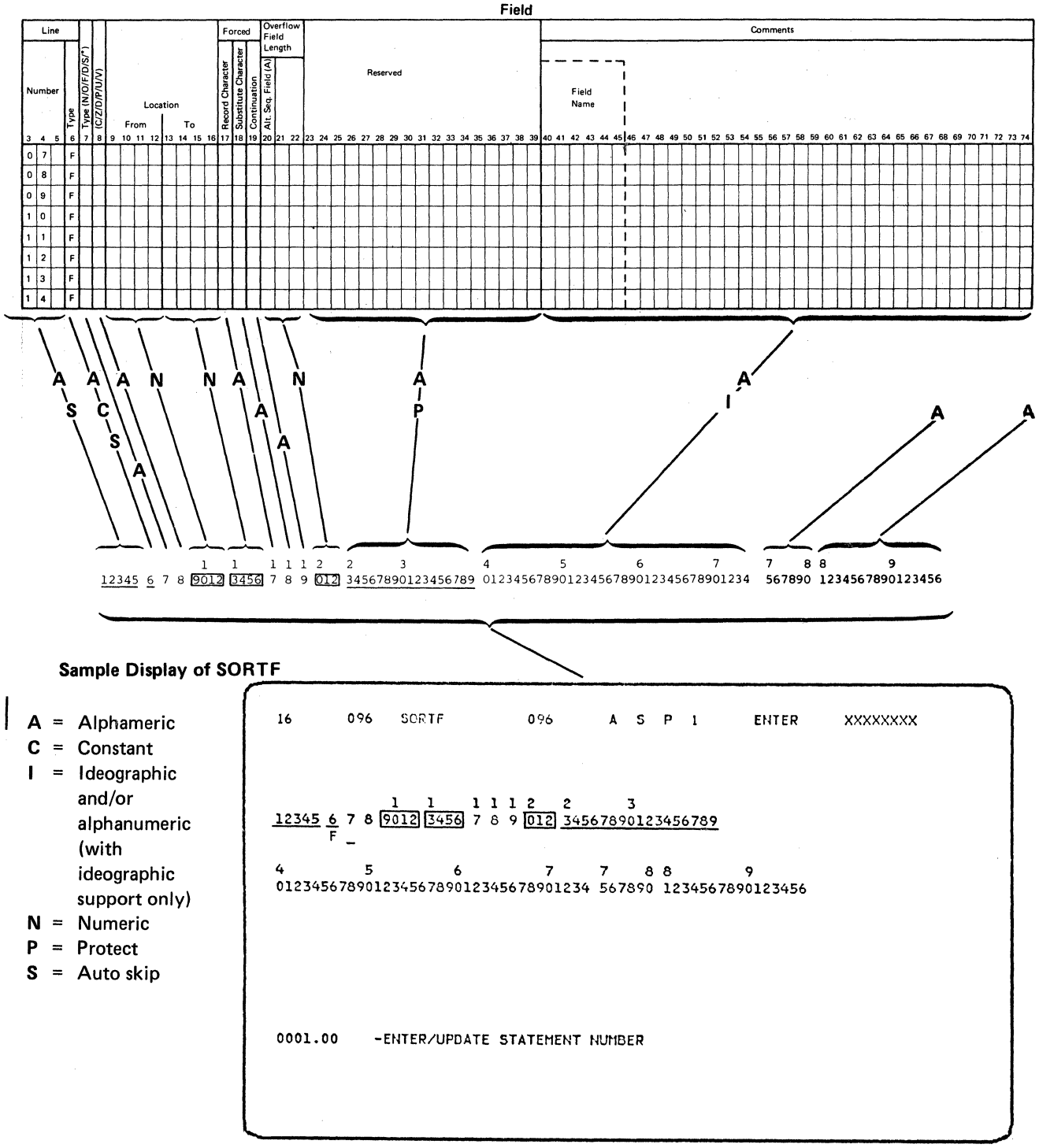


Sample Display of SORTRF

A = Alphameric
C = Constant
I = Ideographic and/or alphanumeric (with ideographic support only)
N = Numeric
S = Auto skip

```
16      096   SORTRF        096      A  S  P  1      ENTER     XXXXXXXX


                  1  1    1  1 2    2    2 3
12345 6 7 8 9012 3456 78 9 0123 4567 890123456789
      -            F
4         5         6         7    7    8 8         9
01234567890123456789012345678901234 567890 1234567890123456



0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-27. Sort Format: SORTRF, Record Type Field Specification



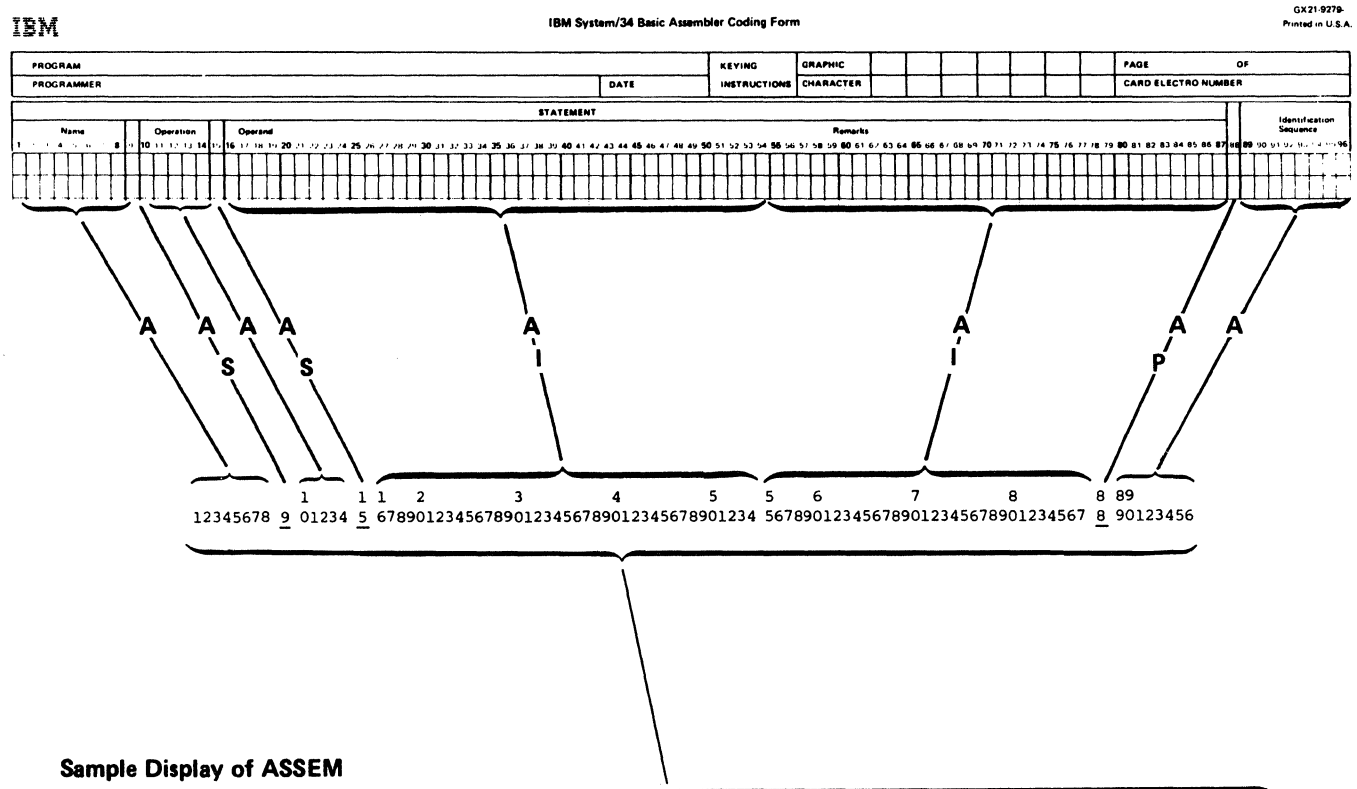
A = Alphameric
C = Constant
I = Ideographic and/or alphanumeric (with ideographic support only)
N = Numeric
P = Protect
S = Auto skip

Figure 2-28. Sort Format: SORTF, Field Specification

Assembler

SEU provides a display screen format for entering and changing basic assembler language statements. Comments for assembler programs can be entered and changed under control of the assembler format if the auto skip option is off (press the Auto Skip command function key).

The assembler format is 96 positions long. It is shown in Figure 2-29.



Sample Display of ASSEM

A = Alphameric
I = Ideographic and/or alphanumeric (with ideographic support only)
P = Protect
S = Auto skip

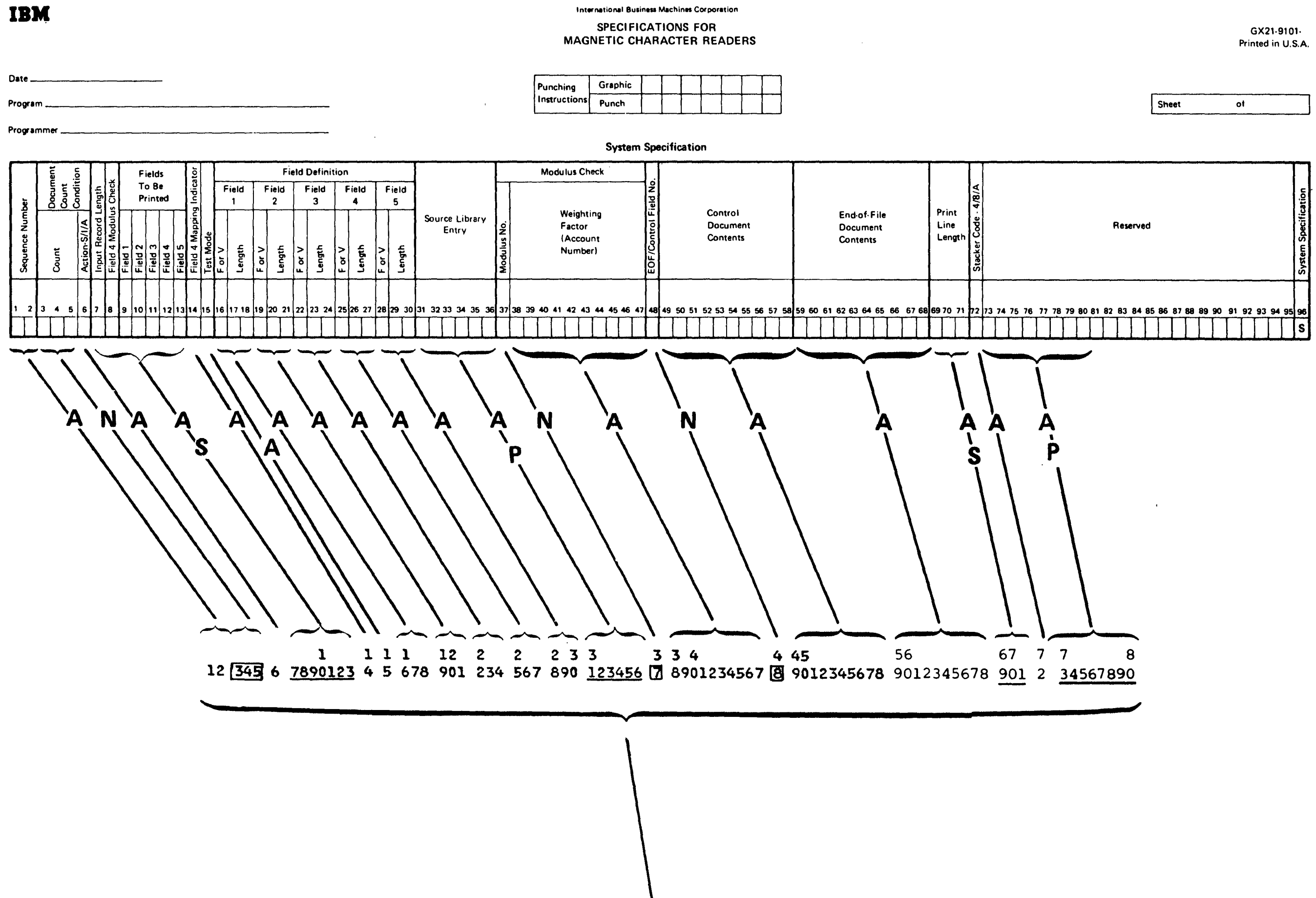
```
16      096   ASSEM          096      A  S  P  1       ENTER     XXXXXXXX


              1     1 1   2          3          4          5
12345678 9 01234 5 67890123456789012345678901234567890123456789012345678901234
-
5    6          7          8          8 89
5678901234567890123456789012345678 8 90123456




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-29. Assembler Format: ASSEM

Magnetic Character Reader

Two display screen formats are provided with SEU for entering and changing specifications for the IBM 1255 Magnetic Character Reader. The display screen formats describe system specifications and stacker specifications for the reader.

Both formats are 80 positions long. The formats are shown in Figures 2-30 and 2-31.

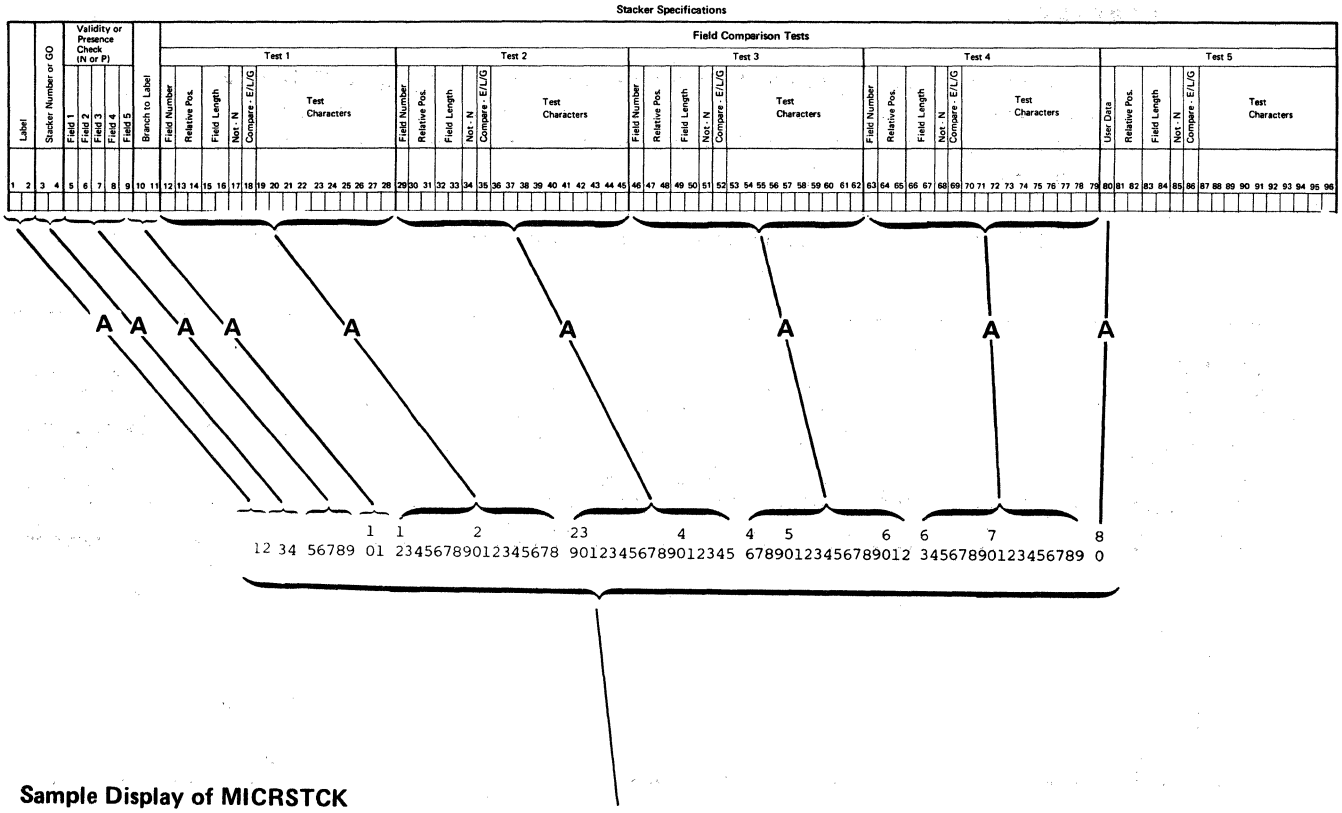


Sample Display of MICRSYS

A = Alphameric
C = Constant
N = Numeric
P = Protect
S = Auto skip

```
16      080   MICRSYS       096      A  S  P  1      ENTER      XXXXXXXX

                 1    1 1 1   12  2   2   2 3 3     3 3 4        4 45
12 [345] 6 7890123 4 5 678 901 234 567 890 123456 [7] 8901234567 [8] 9012345678
-
56          67  7 7     8
9012345678 901 2 34567890




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-30. Magnetic Character Reader Format: MICRSYS, System Specification



Sample Display of MICRSTCK

A = Alphameric

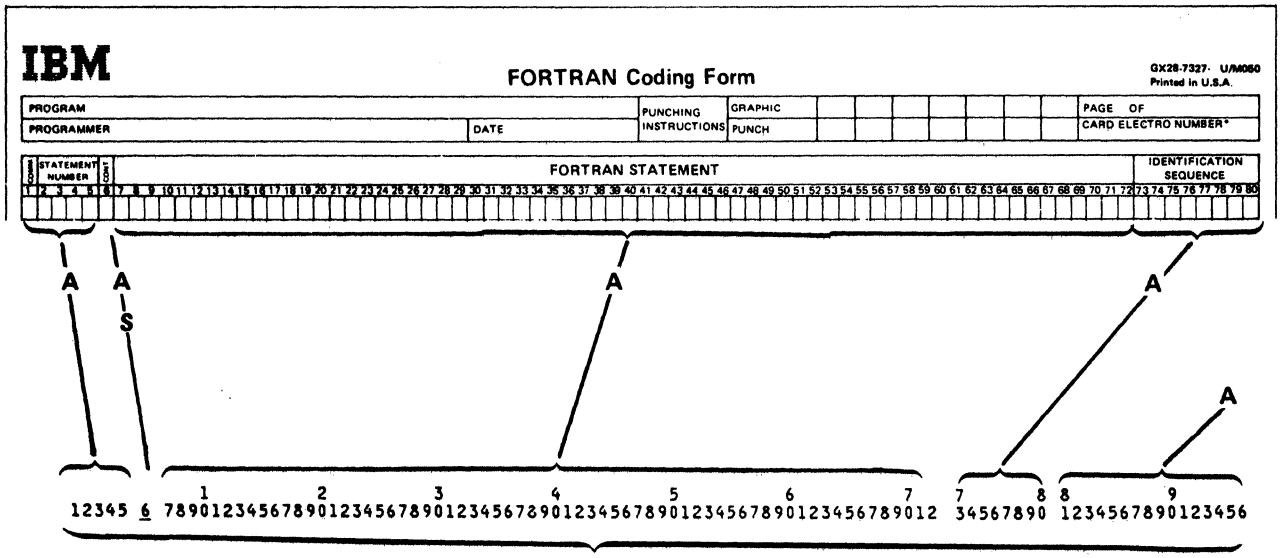
```
16      080   MICRSTCK      096      A  S  P  1      ENTER     XXXXXXXX


            1  1       2         23         4      4   5         6
12 34 56789 01 23456789012345678 90123456789012345 67890123456789012
-

6      7         8
34567890123456789 0




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-31. Magnetic Character Reader Format: MICRSTCK, Stacker Specification

FORTRAN IV

SEU provides a display screen format for entering and changing FORTRAN IV statements. Comment statements for FORTRAN IV programs can be entered and changed under control of the FORTRAN IV format if the auto skip option is off (press the Auto Skip command function key).

The FORTRAN IV format is 96 positions long. It is shown in Figure 2-32.



Sample Display of FORTRAN

A = Alphameric

S = Auto skip

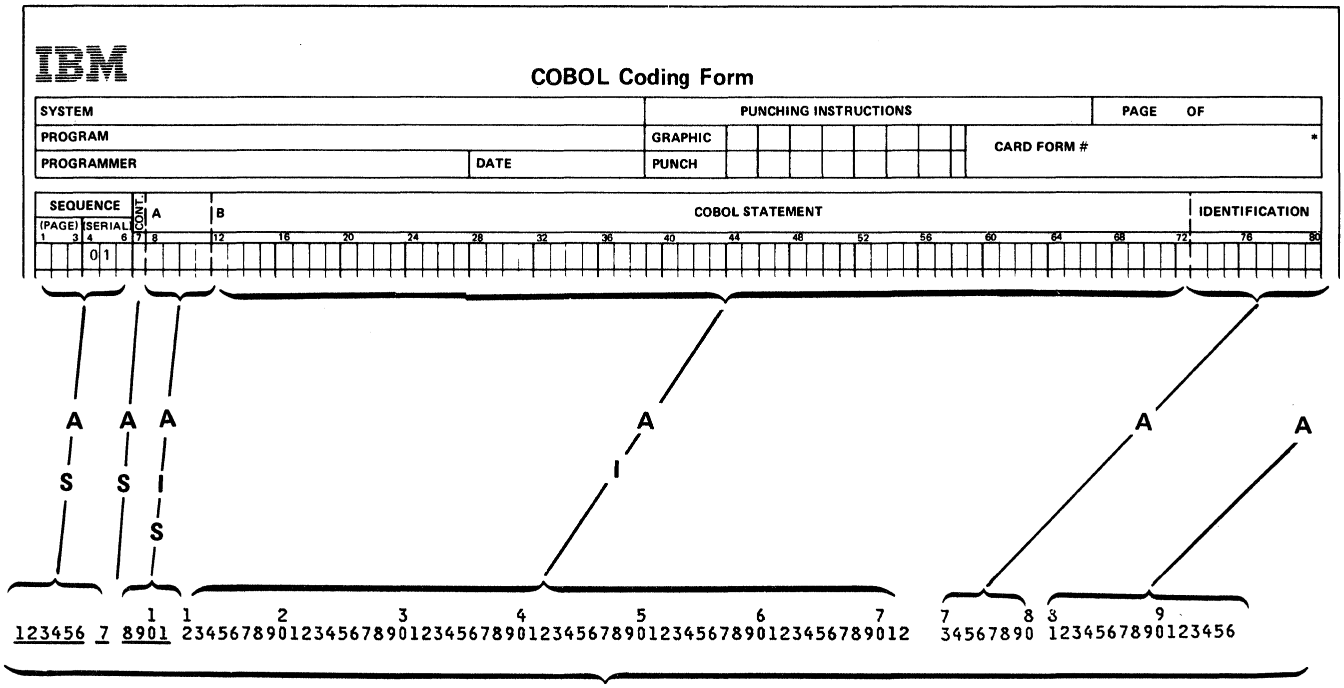
```
16      096   FORTRAN       096      A  S  P  1       ENTER      XXXXXXXX


          1         2         3         4         5         6         7
12345 6 78901234567890123456789012345678901234567890123456789012345678901234567890123456789012
-
7       8 8         9
34567890 1234567890123456




0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-32. FORTRAN IV Format: FORTRAN

COBOL

SEU provides a display screen format for entering and changing COBOL statements. Continuation statements and comment statements for COBOL programs can be entered and changed under control of the COBOL format if the auto skip option is off (press the Auto Skip command function key).

The COBOL format is 96 positions long. It is shown in Figure 2-33.



Sample Display of COBOL

A = Alphameric
I = Ideographic and/or alphanumeric (with ideographic support only)
S = Auto skip

```
16      096   COBOL        096     A     P  1     ENTER     XXXXXXXX


               1 1       2         3         4         5         6         7
123456 7 8901 23456789012345678901234567890123456789012345678901234567890123456789012
                          -
7       8 8       9
34567890 1234567890123456




0001.00   -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-33. COBOL Format: COBOL

SFGR and WSU Format Prompting

SEU provides prompting display screen formats for entering or updating SFGR/WSU S specifications, D specifications and D-continuation specifications. The following display screen formats (Figures 2-34 through 2-36) have descriptive prompting rather than column definitions:

SDAS: Used for SFGR/WSU S specifications.

SDAD1UC: Used for SFGR/WSU D specifications with an uppercase entry in the constant field.

SDAD1LC: Used for SFGR/WSU D specifications with a lowercase entry in the constant field.

SDAD2UC: Used for SFGR/WSU D continuation specifications with an uppercase entry.

SDAD2LC: Used for SFGR/WSU D continuation specifications with a lowercase entry.

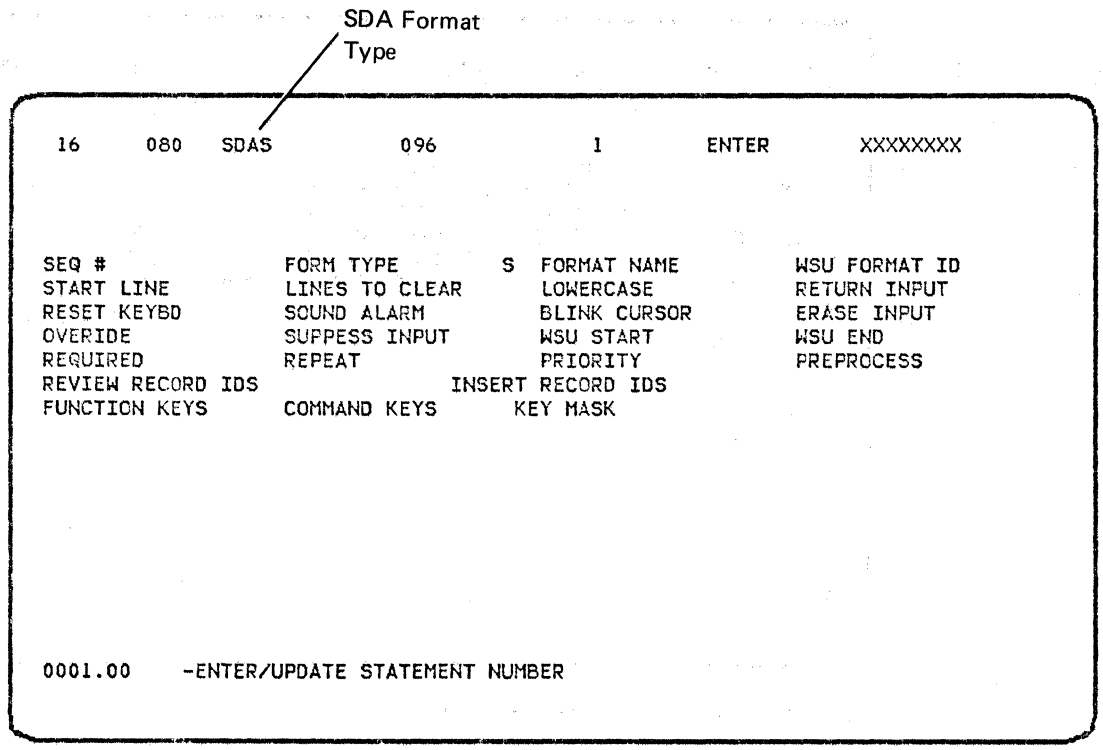


Figure 2-34. SFGR/WSU S Format: SDAS

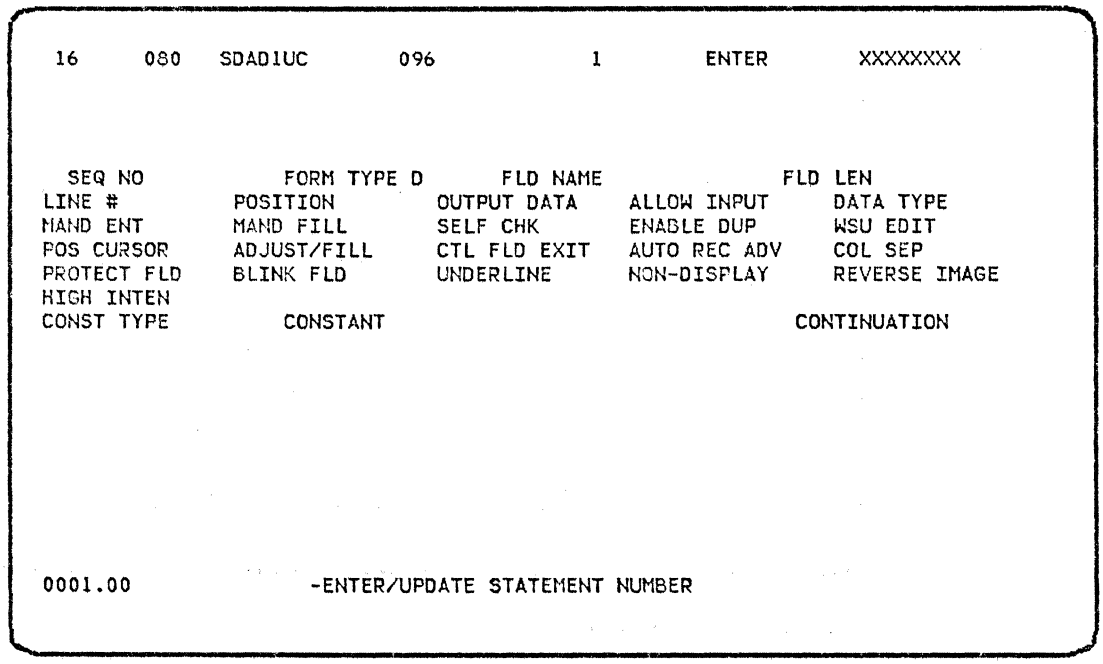


Figure 2-35. SFGR/WSU D Format: SDAD1UC

```
 16      080   SDAD1LC        096             1         ENTER        XXXXXXXX



  SEQ NO           FORM TYPE D      FLD NAME              FLD LEN
LINE #          POSITION         OUTPUT DATA    ALLOW INPUT      DATA TYPE
MAND ENT        MAND FILL        SELF CHK       ENABLE DUP       WSU EDIT
POS CURSOR      ADJUST/FILL      CTL FLD EXIT   AUTO REC ADV     COL SEP
PROTECT FLD     BLINK FLD        UNDERLINE      NON-DISPLAY      REVERSE IMAGE
HIGH INTEN
CONST TYPE          CONSTANT                                   CONTINUATION









0001.00               -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-36. SFGR/WSU D Format: SDAD1LC

```
 16      080   SDAD2UC        096             1         ENTER        XXXXXXXX



SEQUENCE NUMBER              FORM TYPE    D

7-10--------20--------30--------40--------50--------60--------70--------79
|--|---------|---------|---------|---------|---------|---------|---------|

CONTINUATION









0001.00               -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-37. SFGR/WSU D Format: SDAD2UC

```
16      080   SDAD2LC        096           1        ENTER       XXXXXXXX



SEQUENCE NUMBER              FORM TYPE   D

7-10--------20--------30--------40--------50--------60--------70--------79
|--|---------|---------|---------|---------|---------|---------|---------|
aaabbb

CONTINUATION




0001.00              -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-38. SFGR/WSU D Format: SDAD2LC

DEFPN Format

The DEFPN format allows you to use the DEFINEPN procedure. This procedure provides a way to create, update, or delete one or more phone lists, each containing up to 120 phone numbers.

```
16      084   DEFPN        096              1       ENTER      XXXXXXXX


              PHONE NUMBER. . . . . . . . . . .....
              ERROR RETRY COUNT . . . . . . . 1-255
              WAIT TIME TO CONNECT. . . . . . 3-126






0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

Figure 2-39. DEFPN Format

Free Form

SEU provides two free-form display screen formats, Z and Z-LOWER. Format Z permits entry of only uppercase characters; Z-LOWER permits entry of lowercase and uppercase characters. Z-LOWER requires use of the ↑ (Shift) key for entry of uppercase characters.

Both free-form formats define statements that consist of two alphameric fields: the first field is 79 positions long, the second is 41 positions long. The formats can be used to enter and change statements for which unique display screen formats do not exist, such as OCL statements, continuation lines for WSU D or display screen format field specifications, and text for message members. Statements entered and changed under control of the free-form formats can be any length up through 120 characters.

Figure 2-40 shows a sample display of Z. Figure 2-41 shows a sample display of Z-LOWER.

Note: Because Z is always selected by SEU when sign-on is complete, the name of Z must not be changed.

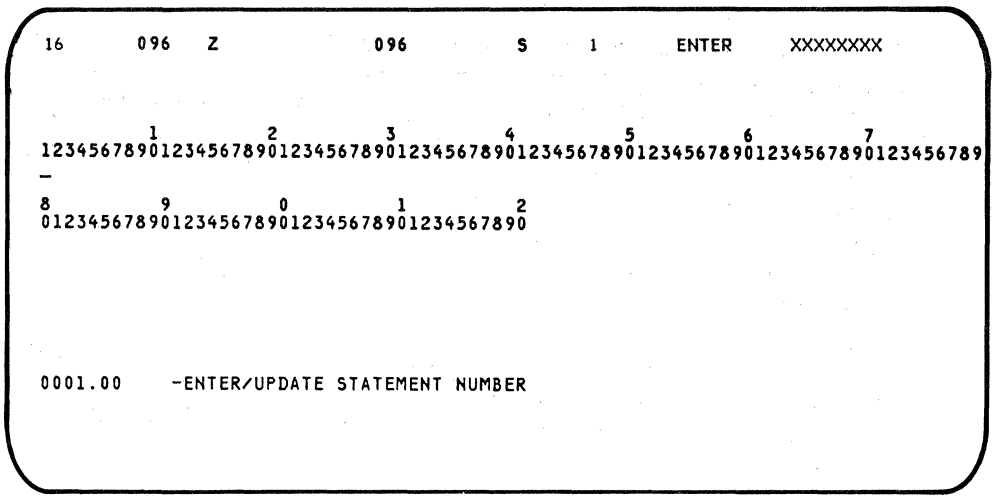


Figure 2-40. Free-Form Format: Z

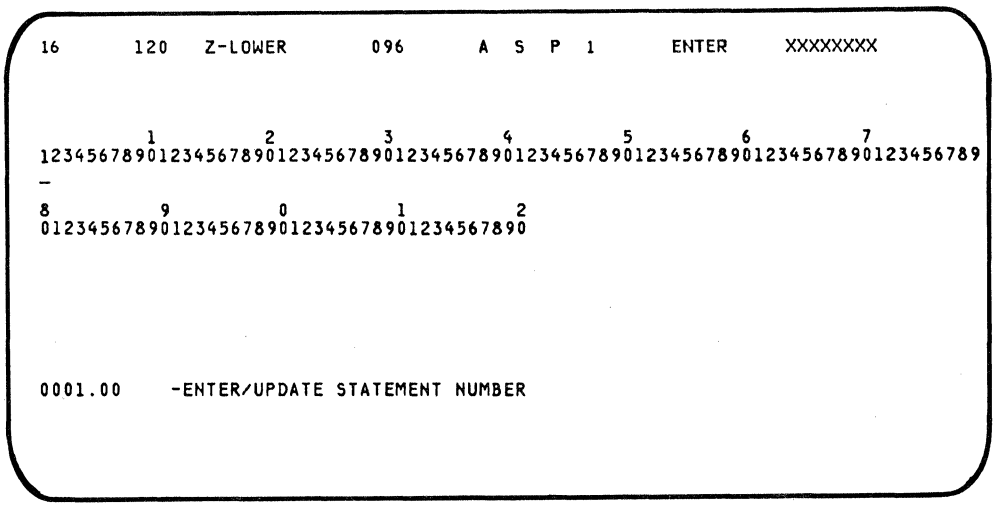


Figure 2-41. Free-Form Format: Z-LOWER

The COMMAND display screen format (Figure 2-42), which is available only if you have ideographic support, creates one ideographic field from data keyed into two fields. The two 60-column fields accept both alphanumeric and ideographic data. Then SEU concatenates the two fields into one statement. If a shift-in (S/I) control character (hex 0F) is in column 59 or 60 and a shift-out (S/O) control character (hex 0E) is in column 61, SEU shifts the data that begins in column 62 to the left so that it overlays the S/I control character. This shift creates one ideographic field from the two fields. The right end of the concatenated field is padded with blanks.

SEU performs this concatenation only when the COMMAND format is used to enter data. When the data is displayed again in the COMMAND format (for updating), SEU again inserts the S/I control character and the S/O control character to maintain the requirement of the display.

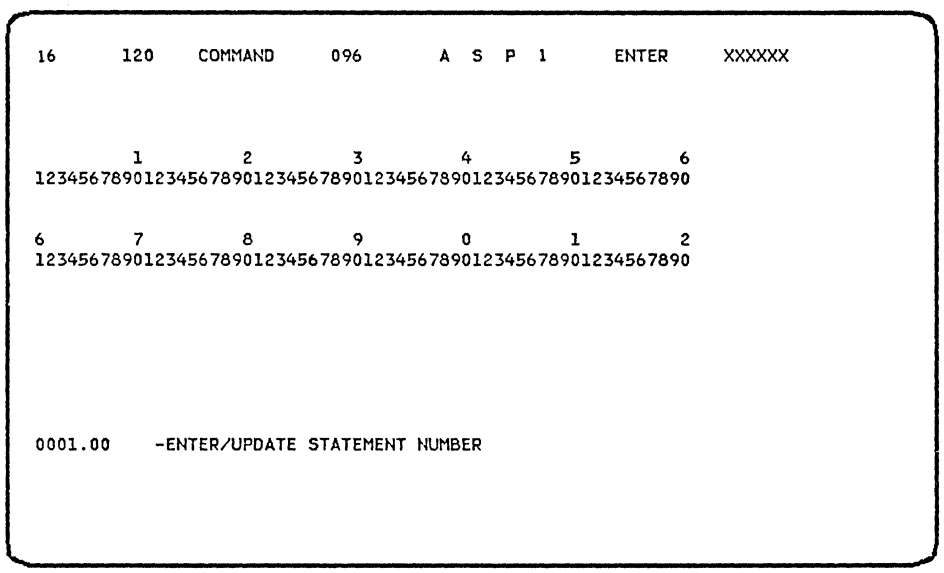
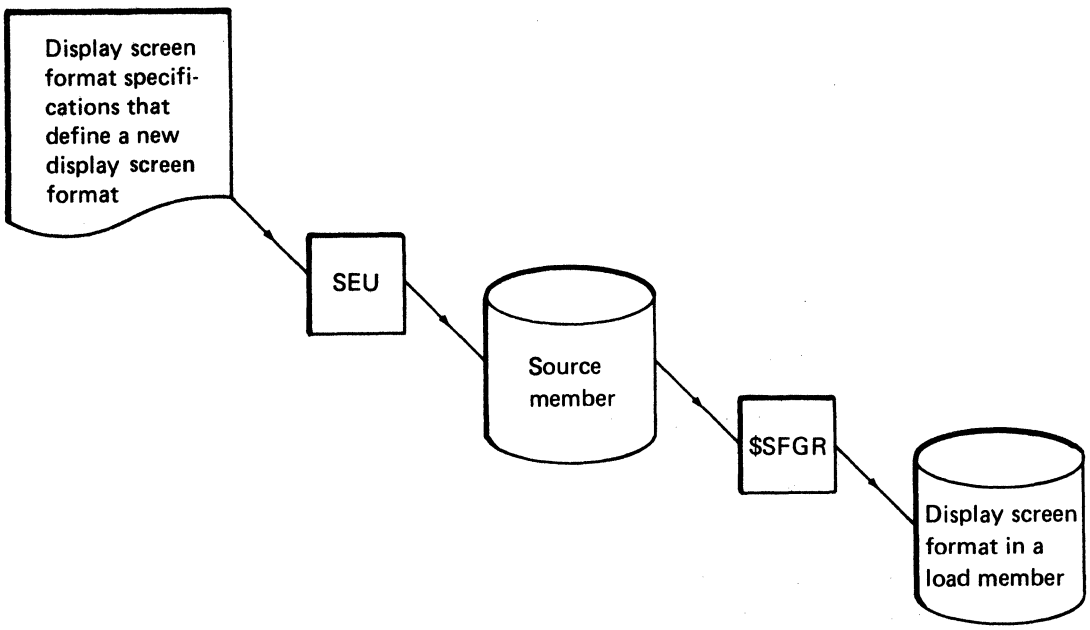


Figure 2-42. Free-Form Format: COMMAND (Available Only with Ideographic Support)

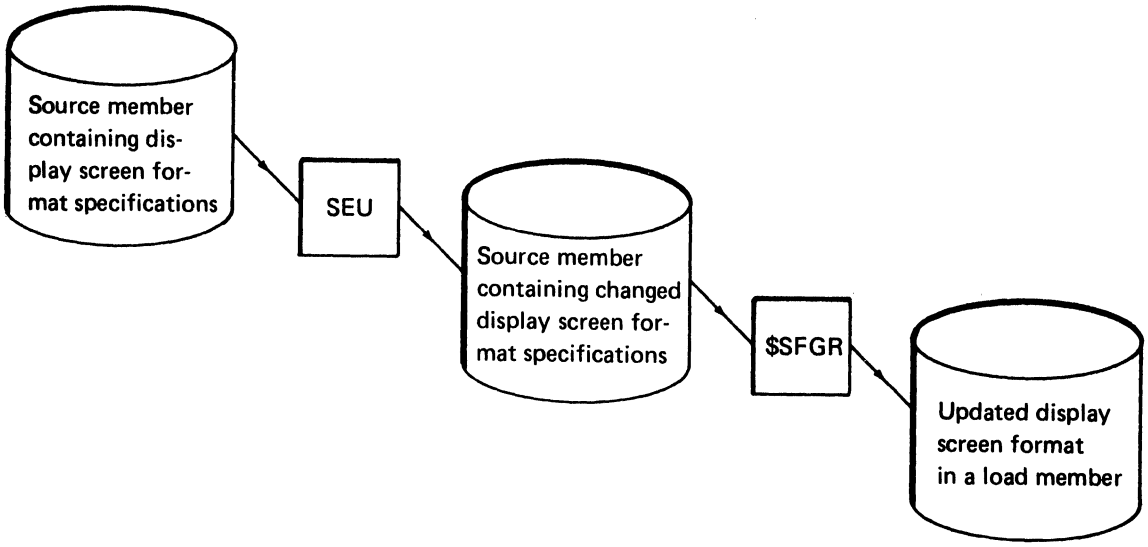
CREATING AND CHANGING SEU DISPLAY SCREEN FORMATS

This section describes how to use SEU to create and change display screen formats. Because SDA (screen design aid) is also available for creating and changing formats, you may want to compare SEU to SDA after reading this section. SDA is described in the *IBM System/34 Screen Design Aid Programmer's Guide and Reference Manual,* SC21-7716.

All display screen formats exist originally as a sequence of display screen format specifications. Display screen format specifications become display screen formats only after they are entered into a source member, then converted into a load member by the display screen format generator utility program ($SFGR). SEU can create the original source member.



SEU can also change display screen format specifications that already exist in a source member. Changing the display screen format specifications that define a display screen format is the first step in changing the format itself.



A complete description of how to design display screen formats, code display screen format specifications, and run $SFGR is given in the *System Support Reference Manual.* An example of how to change a display screen format provided with SEU is given in this chapter under *An Example of How to Change a Display Screen Format.*

Before you create or change an SEU display screen format, however, you should be familiar with the conventions SEU follows in recognizing auto skip, protect, and constant fields. You must also know the restrictions imposed by SEU on the contents of a format intended for SEU.

A discussion of these conventions and restrictions follows.

Auto Skip, Protect, and Constant Fields Conventions

Display screen formats reflect the entries specified in display screen format specifications. Use the *System Support Reference Manual* and the information in the following paragraphs to define auto skip, protect, and constant fields for SEU formats.

Auto Skip

An auto skip field is skipped by the display screen cursor whenever the SEU auto skip option is on. An example of an auto skip field in SEU display screen formats is positions 1 through 5, page and line number, in all RPG II specifications.

To define an auto skip field in a format, enter 01 in columns 37 and 38 of the field definition specification.

Protect

A protect field is always skipped by the cursor. An example of a protect field in an SEU display screen format is positions 23 through 39 in the sort field specification.

To define a protect field, enter Y in column 37 of the field definition specification.

Constant

Constants for a statement can be provided in the display screen format for the statement. An example of a constant field in an SEU format is the F in position 6 of the RPG II file description specifications.

To define a constant field, enter 02 in columns 23 and 24 of the field definition specification. You must also enter the content of the field in columns 57 through 79.

Constants are displayed in the assigned positions when the operator enters a new statement. If 02 is coded in positions 23 and 24 of the field definition specification for the display screen format selected for updating a statement, constants are not displayed when the operator updates the statement. Instead, the contents of the field are displayed.

Restrictions

Review the following restrictions before you enter display screen format specifications that create or change an SEU display screen format:

- A display screen format you define for SEU must describe only lines 1 through 7 of the display screen. SEU places the seven lines properly on the display screen. SEU requires the other lines for displaying status information, prompts, and messages. Although each of lines 1 through 7 need not be defined, defining a line other than 1 through 7 causes an error condition.

- The start line number, columns 17 and 18 of the display screen control specification, must be variable. Enter V in column 17. This allows the format to be used on both the 24-line and the 12-line displays. SEU positions the format to fit the screen size. In addition, enter 00 in columns 19 and 20, number of lines to clear.

- If command key or function key masking is specified in columns 27, 28, and 64 through 79 of the display screen control specification, the masking will be ignored by SEU.

- The display screen cursor can be positioned by a display screen format only once. If more than one cursor position is defined in an SEU display screen format, the last position defined is used. Cursor positions are specified in columns 32 and 33 of field definition specifications.

- An MIC cannot be used to define the heading information displayed in lines 6, 7, 10, and 11. A user message member cannot be called by SEU.

- Fields to contain heading information must be defined as output fields. Enter Y in column 23 and enter C in column 56 of the field definition specification.

- Fields to contain data must be defined as output/input fields. Enter Y in columns 23 and 26 of the field definition specification. By defining data fields both as output and as input, you permit SEU to display data in the fields after the operator enters data into the fields.

- Format members that you create should not be stored in #SE@FORM or #SE@XTRA since this action would destroy the format members provided by SEU. If you store a format member on top of format-Z in #SE@FORM, format-Z will be lost and you will not be able to use SEU.

Size of Display Screen Format

- A display screen format can define a maximum of 80 input or output/input fields.

- The total length of the output/input fields defined in a display screen format used by SEU must be at least one but not more than 120 positions.

Names

- The name of the free-form display screen format Z must not be changed, and Z must not be deleted. Z is the format selected by SEU after sign-on. If SEU cannot locate Z, SEU displays an error message.

- The names of the RPG II and auto report display screen formats must not be changed, and the formats must not be deleted, if you want SEU to:
  - Select formats automatically
  - Check for syntax errors in RPG II and auto report statements

  The way in which SEU selects display screen formats is described in this chapter under *Selection by SEU.* The way in which SEU checks for syntax errors is described in this chapter under *Syntax Checking of RPG II and Auto Report Statements.*

- The load member name #SE@FORM must not be changed, and the load member #SE@FORM must not be deleted. #SE@FORM contains some of the display screen formats provided with SEU. *Members that Contain Supplied Display Screen Formats* in this chapter identifies the formats stored in #SE@FORM.

- The format name you create must not be the same as any name in #SE@FORM or #SE@XTRA. *Members that Contain Supplied Display Screen Formats* in this chapter lists the formats stored in #SE@FORM and #SE@XTRA.

Members

- The maximum number of display screen formats that can be stored in one source or load member is 32.

- The load member #SE@FORM and any other load member that contains formats required by an SEU job, including #SE@XTRA, must reside in the active user library or in #LIBRARY (system library). The SEU program load members must also reside in the active user library or in #LIBRARY.

  Load members required for execution that have names beginning with #SE must all reside in either the active user library or in #LIBRARY. Load members that contain formats (#SE@FORM, #SE@XTRA, or a user format member) required by an SEU job can reside either in the active user library or in the system library or in both. If format members reside in both, then SEU will use the member residing in the active user library. In order to use the member in #LIBRARY, a user library should not be specified when signing on to the display station.

  The names of SEU program members begin with the characters #SE. You can use the LISTLIBR procedure to determine whether or not all required load members are stored in the same library. If you create a load member that contains display screen formats, specify the correct library in the LIBRARY OCL statement before running $SFGR. LISTLIBR and LIBRARY are described in the *System Support Reference Manual.*

- Do not use the name of a member that already exists in a library as the name of a display screen format member you add to the library.

How to Create a Display Screen Format

The procedure for creating a display screen format is outlined in Figure 2-43.

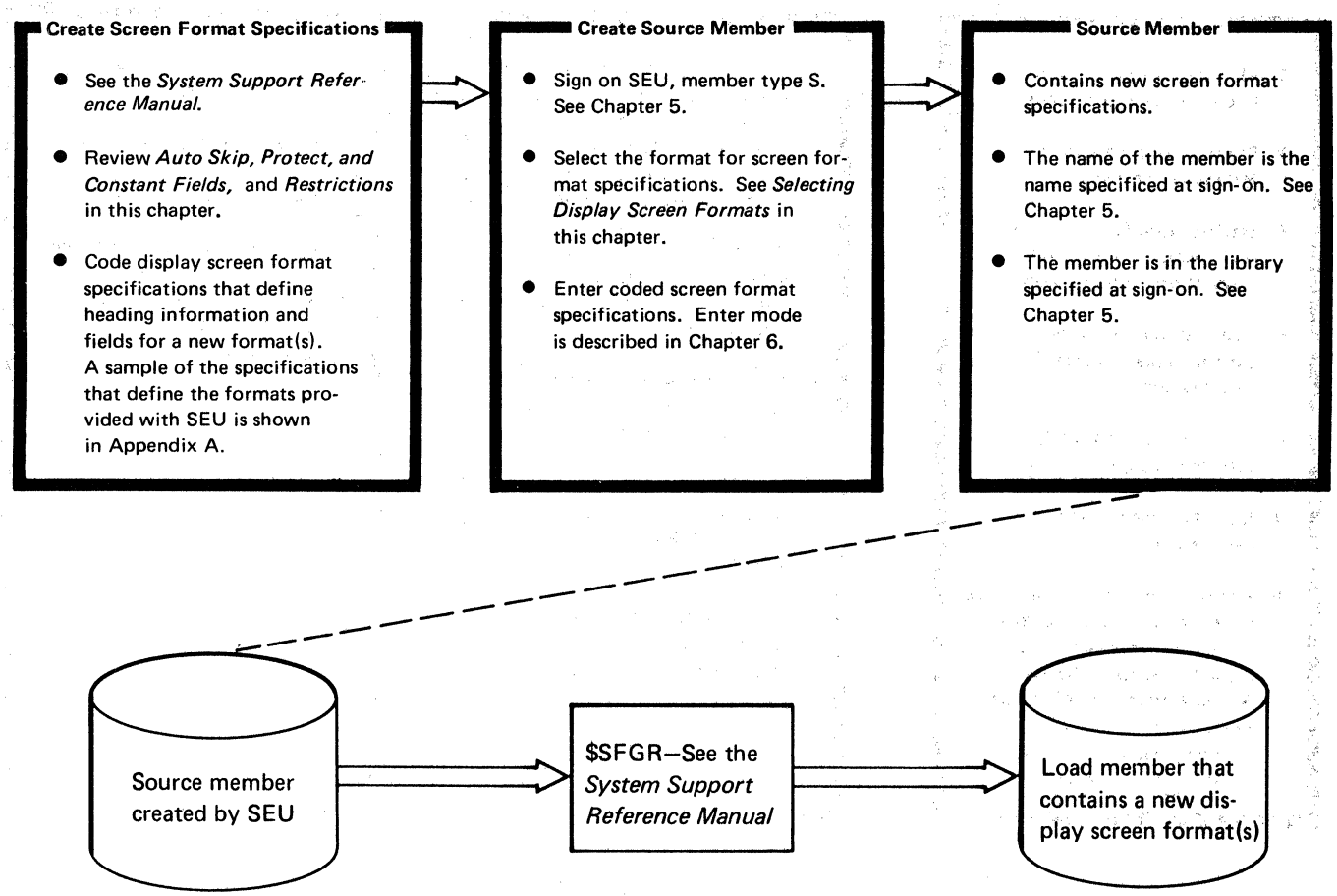


Figure 2-43. Procedure for Creating a Display Screen Format

How to Change a Display Screen Format

The procedure for changing a display screen format is outlined in Figure 2-44.

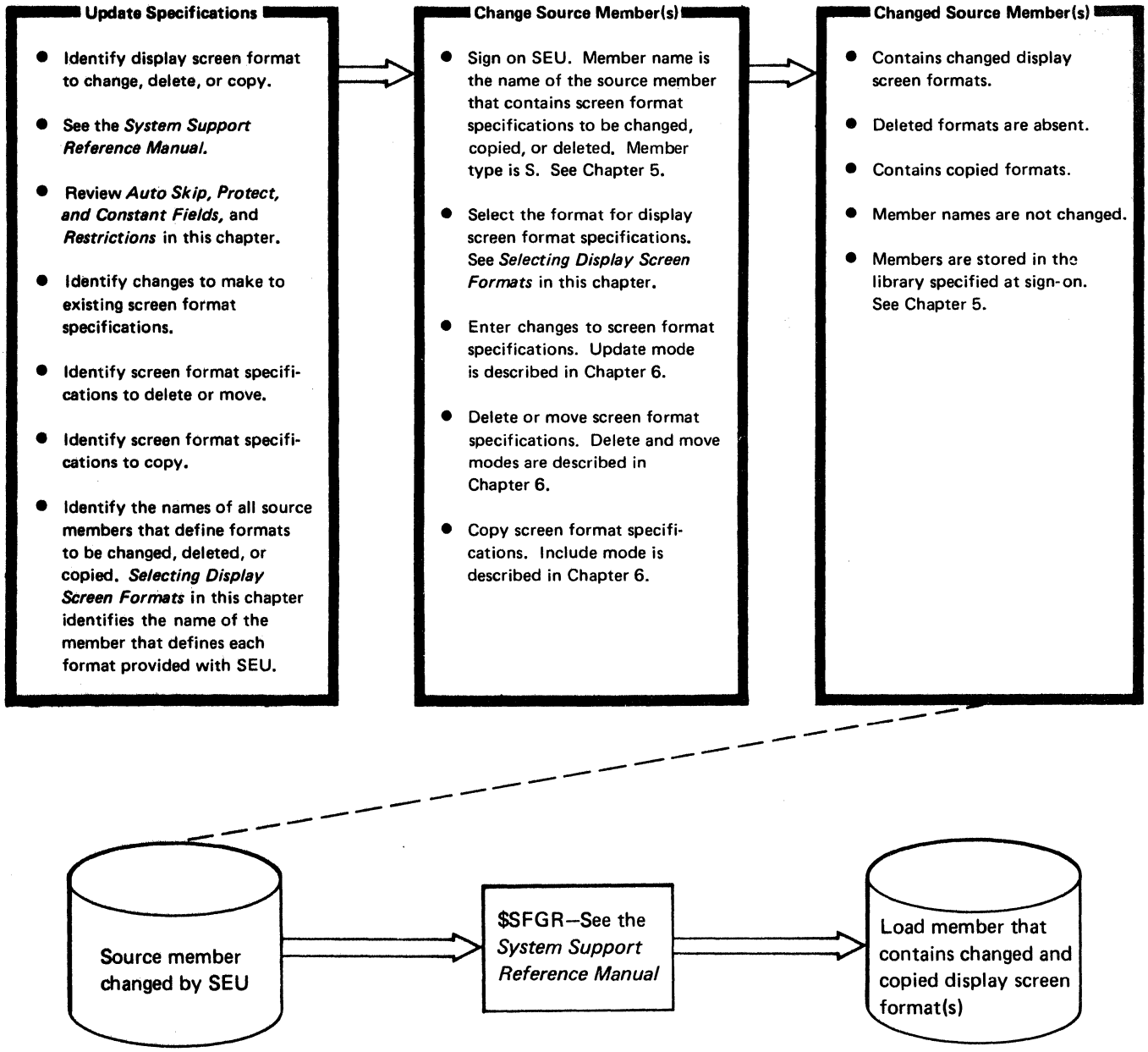


Figure 2-44. Procedure for Changing a Display Screen Format

An Example of How to Change a Display Screen Format

Figure 2-45 shows a sample display of the display screen format provided for entering and changing RPG II control specifications.

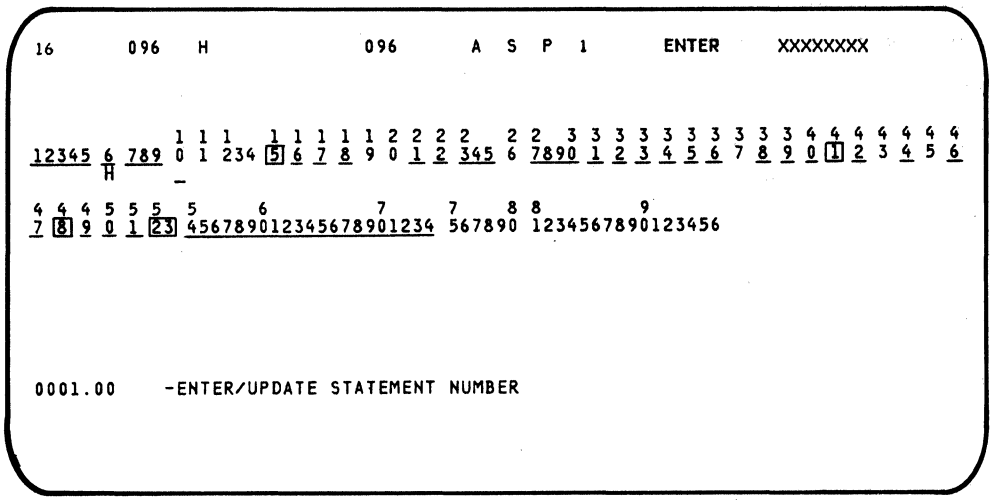


Figure 2-45. Sample Display of RPG II and Auto Report Format: H, Control Specifications

Note that the headings for the first three fields defined by the format are underscored: the first three fields are defined by the format as auto skip fields, and the auto skip option is on. Also note that the cursor is positioned by the format in position 10.

Suppose you want to change format H so that you can enter data in positions 1 through 9 whether the auto skip option is on or off. Call SEU to change the format H display screen format specifications as they exist in the source member #SE@FORM. The format of the SEU command you would enter is shown in Chapter 5 under *Sample SEU Commands*. Select display screen format SFGR D to enter changes to the display screen format specifications. Then run $SFGR to create a new format from the changed specifications.

Figure 2-46 shows a partial listing of the screen format specifications that define H. The listing is marked to indicate the changes required to position the cursor in position 1.

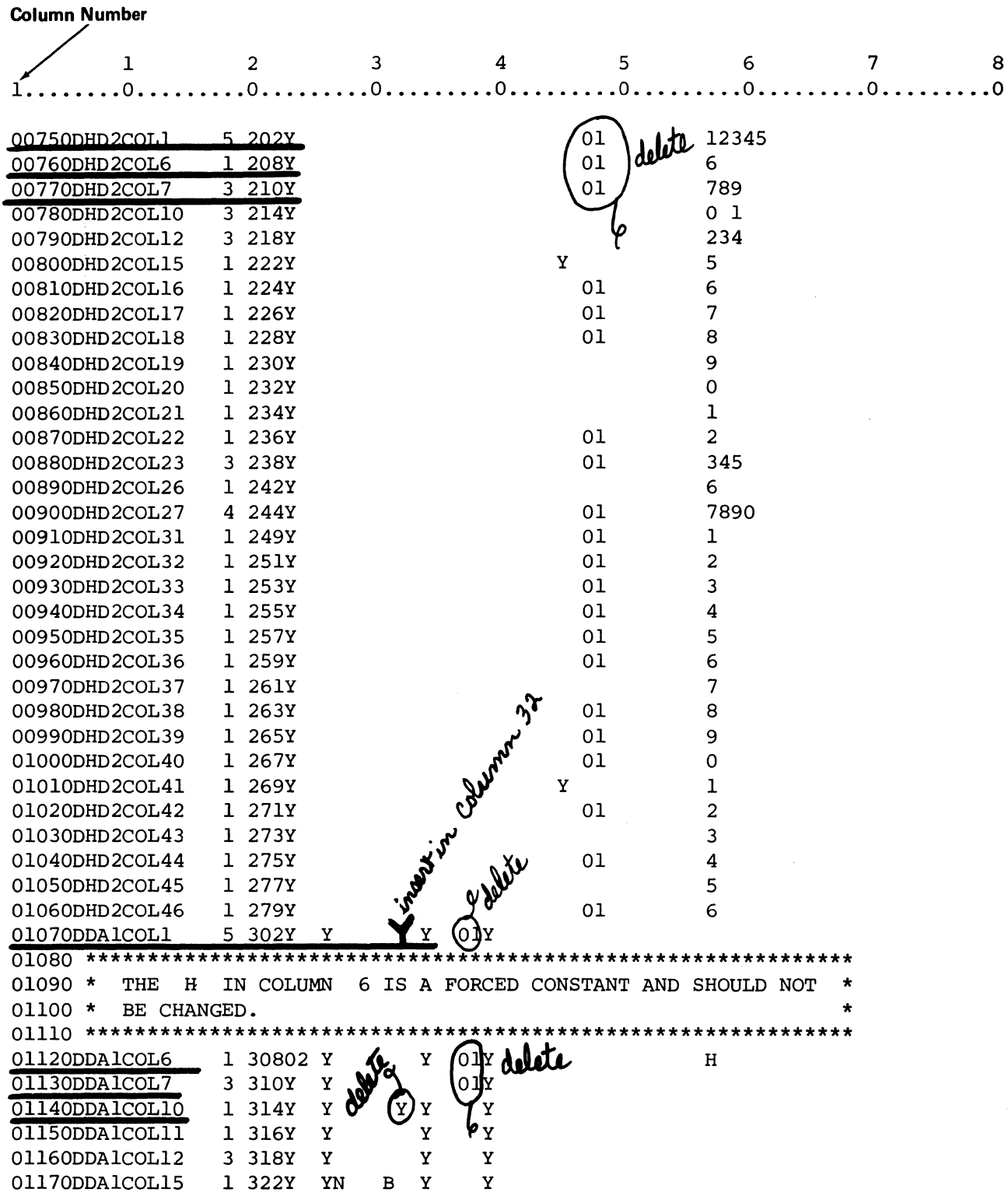


Figure 2-46. Sample Changes for the Display Screen Format Specifications that Define Format H

The required changes, coded on the coding sheets for display screen format specifications so that an operator can enter them, are shown in Figure 2-47.

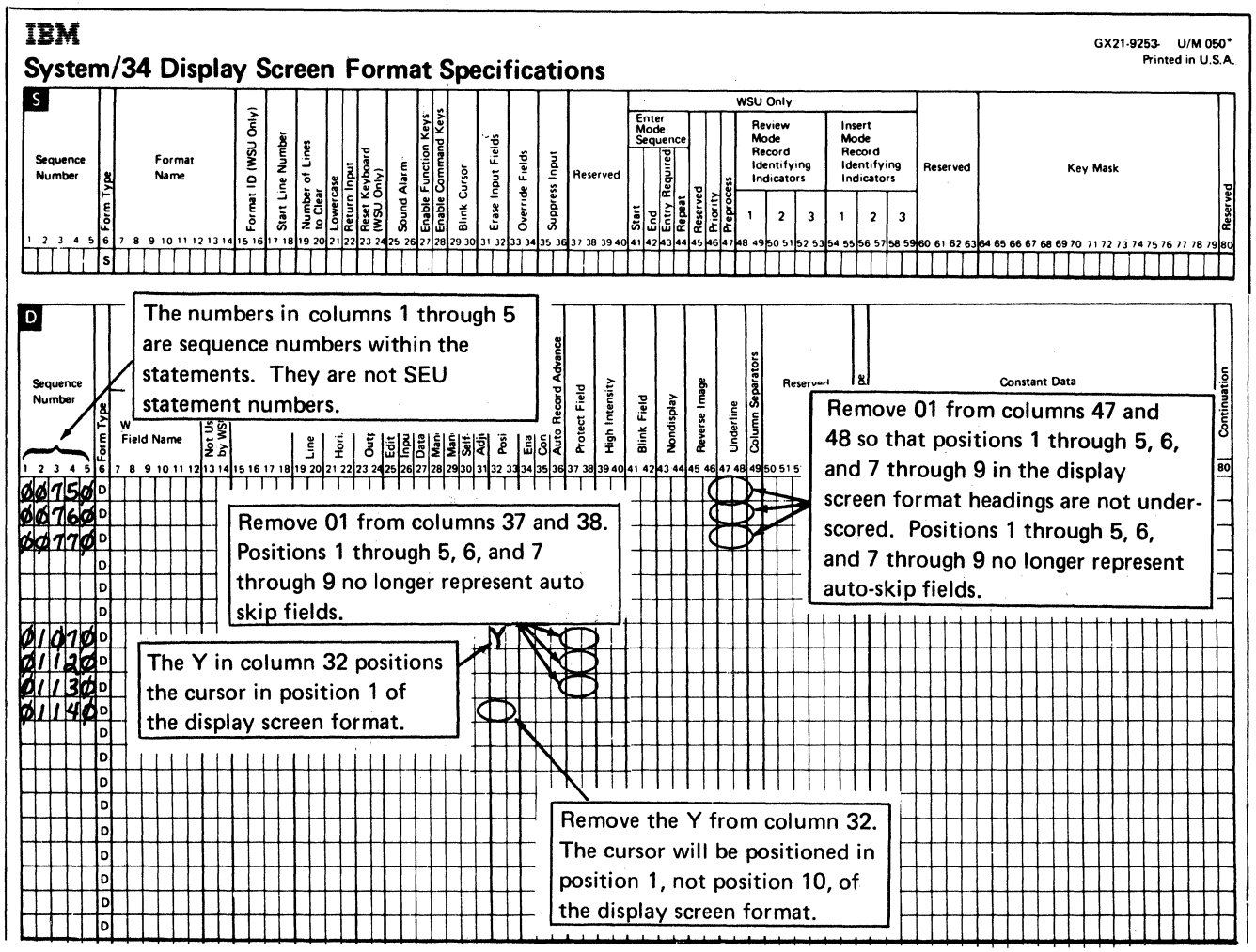


Figure 2-47. Sample Changes Coded for Format H Display Screen Format Specifications

After the changes are entered, run $SFGR to create an updated format H from the changed display screen format specifications. You can use the FORMAT procedure to run $SFGR. The FORMAT procedure is described in the *System Support Reference Manual.*

SELECTING DISPLAY SCREEN FORMATS

Display screen formats are selected from load members. SEU selects the free-form format Z for the first display shown after sign-on. The operator can select a different format, can continue to change formats during a job, and can let SEU select formats automatically. A selected display screen format controls the entering and changing of statements even if the length of the statements is different from the length of the display screen format.

Members that Contain Supplied Display Screen Formats

Display screen formats provided with SEU reside in two load members: #SE@FORM and #SE@XTRA.

#SE@FORM	#SE@XTRA
Free-form formats (Z and Z-LOWER)	Sort formats (SORTH, SORTC, SORTRF, and SORTF)
RPG II and auto report formats (H, U, F, G, E, L, T, I, J, C, O, P, K, and A)	Assembler format (ASSEM)
Work station utility formats (WSU J, WSU T, WSU M, WSU S, WSU D, and WSU C)	Magnetic character reader formats (MICRSYS and MICRSTCK)
Display screen format specification formats (SFGR S, SFGR D, and D-CONT)	FORTRAN IV format (FORTRAN)
	COBOL format (COBOL)
	Prompting display screen formats
	Specification formats (SDAS, SDAD1UC, SDAD1LC, SDAD2UC SDAD2LC)
	DEFPN (ideographic support only)

The display screen formats stored in #SE@FORM are available for every SEU job. The formats stored in #SE@XTRA are available if a user format member is not specified as the format member in the SEU command. The default for the member parameter on the SEU command is #SE@XTRA. The SEU command is described in Chapter 5.

Screen format specifications that define the supplied display screen formats can be copied to different source members and deleted from the original source members. Formats you create are stored in the member you specify when you create them. See *How to Create a Display Screen Format* and *How to Change a Display Screen Format* in this chapter for an outline of how to create, delete, move, and copy formats.

Selection by the Operator

Immediately after SEU sign-on, SEU displays the free-form format Z. The operator can select a different format by:

1. Pressing the Select Format command function key, reviewing the format names listed on the display screen

2. Keying the number of a format name

3. Pressing the Enter/Rec Adv key

Pressing the Select Format command function key causes SEU to list the names of all the display screen formats contained in #SE@FORM, and the names of all formats contained in the format member specified at sign-on if a format member was specified. Figure 2-48 is an example that shows the names of formats contained in #SE@FORM and #SE@XTRA.

In the following example, formats in #SE@XTRA are named because the SEU command for sign-on contained #SE@XTRA as the third parameter. (The SEU command is described in Chapter 5.)

```
SELECT DISPLAY SCREEN FORMAT MENU

 1 Z           17 WSU-J       33 FORTRAN     49
 2 Z-LOWER     18 WSU-T       34 COBOL       50
 3 H           19 WSU-M       35 SDAS        51
 4 U           20 WSU-S       36 SDAD1UC     52
 5 F           21 WSU-D       37 SDAD1LC     53
 6 G           22 WSU-C       38 SDAD2UC     54
 7 E           23 SFGR-S      39 SDAD2LC     55
 8 L           24 SFGR-D      40 DEFPN       56
 9 T           25 D-CONT      41             57
10 I           26 SORTH       42             58
11 J           27 SORTRC      43             59
12 C           28 SORTRF      44             60
13 O           29 SORTF       45             61
14 P           30 ASSEM       46             62
15 K           31 MICRSYS     47             63
16 A           32 MICRSTCK    48             64


_          -ENTER NUMBER OF DISPLAY SCREEN FORMAT DESIRED
```

Figure 2-48. Sample Contents of #SE@FORM and #SE@XTRA

After the operator selects a display screen format, the length of the format is shown in positions 10 through 12 of the status line, and the name of the format is shown in positions 16 through 23.

When the operator selects a display screen format to update a statement, SEU displays the preceding statement in the member, if the statement exists, below the status line. SEU displays the statement to be changed below the format headings. When the operator selects a format to enter a new statement, SEU displays the preceding statement in the member, if the statement exists, below the status line. Constants defined for the new statement, if any, are displayed below the format headings.

Whenever the operator selects a display screen format, the cursor is positioned at the first location where the operator is expected to enter data. If the operator selects free-form format Z or a format other than an RPG II or auto report format supplied with SEU, that format controls all statements entered or updated until the operator selects a different display screen format. If the operator selects an RPG II or auto report format supplied with SEU and the member type specified in the SEU command is A (auto report) or R (RPG II), SEU begins to select formats automatically. If the member type specified is F (SFGR), SEU selects the SFGR formats automatically. If the member type specified is W (WSU), SEU selects the WSU formats automatically. If the member type is S (source) or P (procedure), the operator must select all the formats.

Selection by SEU

SEU automatically selects an RPG II or auto report display screen format if the following conditions exist at the time a statement is chosen for entry or update:

- The operator is processing RPG II or auto report statements, and the member type specified in the SEU command was R or A (see *SEU Command* in Chapter 5).
- The preceding display screen format was an RPG II or auto report format, or the preceding format was Z and Z was selected by SEU.

SEU selects a display screen format after the operator enters a statement number in response to a prompt. If the operator is entering a statement, the preceding statement in the member determines which format SEU selects. If the operator is updating a statement, the content of that statement determines which format SEU selects.

Enter: If a new statement is being entered, SEU determines the format of the statement that precedes the statement being entered, then selects the same format. If SEU cannot determine that the preceding statement is an RPG II or auto report specification, or if the statement being entered is the first statement in a member, SEU selects the free-form format Z. Figure 2-49 shows the entries in a statement that determine the format selected for the next statement entered.

After SEU selects a display screen format, the length of the format is shown in positions 10 through 12 of the status line, the name of the format is shown in positions 16 through 23, and the cursor is moved to the first location where the operator is expected to enter data. The preceding statement in the member, if the statement exists, is displayed below the status line. Constants defined for the new statement, if any, are displayed below the format headings.

RPG II and Auto Report Entries that Determine Display Screen Format Name	Display Screen Format Name	
H in position 6.	H	RPG II control specification
U in position 6.	U	Option format used by RPG II auto report
F in position 6.	F	File description specification
F in position 6 and K in position 53.	G	File description continuation
E in position 6.	E	File extension specification
L in position 6.	L	Line counter specification
T in position 6.	T	Telecommunications specification
I in position 6 and nonblank character in position 15.	I	Input specification (record identification)
I in position 6 and blank in position 15.	J	Input specification for columns 43 through 96 (field description)
C in position 6.	C	Calculation specification
O in position 6 and nonblank character in position 15.	O	Output specification (file identification and control)
O in position 6 and blank in position 15.	P	Output specifications for columns 23 through 96 (field description)
/COPY in positions 7 through 11.[1]	K	Copy specification used by RPG II auto report
During update, an asterisk in position 7 indicates a comment statement in RPG II or auto report. The entry in position 6 is ignored. When a new statement is entered, an asterisk in position 7 of the previous statement causes SEU to select a format based on the entry in position 6.	A	RPG II comment
Free form is chosen when none of the above entries are present.	Z	Free form

[1]If positions 7 through 11 contain /COPY, the K format is selected regardless of the entry in position 6.

Figure 2-49. Entries that Determine Display Screen Formats Selected by SEU

Update: If a statement is being updated, SEU determines the display screen format of the statement, and, if the statement is an RPG II or auto report specification, selects the same format. If SEU cannot determine that the statement being updated is an RPG II or auto report specification, SEU selects the free-form format Z. Figure 2-49 shows the positions and values in an original statement that determine the format selected for the updated statement.

After SEU selects a display screen format, the length of the format is shown in positions 10 through 12 of the status line, the name of the format is shown in positions 16 through 23, and the cursor is moved to the first location where the operator is expected to enter data. The preceding statement in the member, if the statement exists, is displayed below the status line. The statement to be updated is displayed below the format headings.

SEU automatically selects an SFGR display screen format if the member type in the SEU sign-on command is F.

Enter: If a new statement is being entered, the SFGR S format must be selected by the user. If the previous statement entered has an S in column 6, then the SFGR D format is selected. If the previous statement has a D in column 6 and column 80 is blank, the SFGR D format is selected. However, if column 80 is not blank, then the D-CONT format is selected. The first format presented for a new member is the Z format.

Update: If a statement is being updated, SEU matches the format to the statement, using the value in column 6 (S or D). If column 6 contains a D and column 80 of the previous statement is not blank, the D-CONT format is selected when you enter or update information.

SEU automatically selects an WSU display screen format if the member type in the SEU sign-on command is W.

Enter: If a new statement is being entered, SEU selects formats in the following manner. The WSU J format must be selected by the user. After the user has entered a J statement, SEU selects the WSU T format and then the WSU M format. The WSU M format is active until the user selects another format (WSU J or WSU S). The WSU S format must be selected by the user. SEU then selects the WSU D format or the D-CONT format until the user selects another display screen format. The D-CONT format is selected when column 6 of the statement just entered contains a D and column 80 is not blank. If column 80 is blank, the WSU D format is selected.

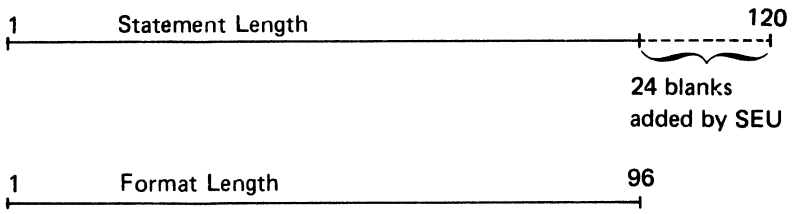
Update: If a statement is being updated, SEU matches the display screen format to the statement selected, using the value in column 6. For example, if column 6 contains a T, SEU selects the WSU T format. If column 6 of the statement contains a D and column 80 of the previous statement is not blank, SEU selects the D-CONT format. If column 6 of the statement contains a C, SEU selects the C display screen format.

Note: For both F and W member types if column 7 contains an asterisk, SEU selects the A format regardless of the entry in column 6. If SEU cannot identify the statement type, the format previously used will be selected.

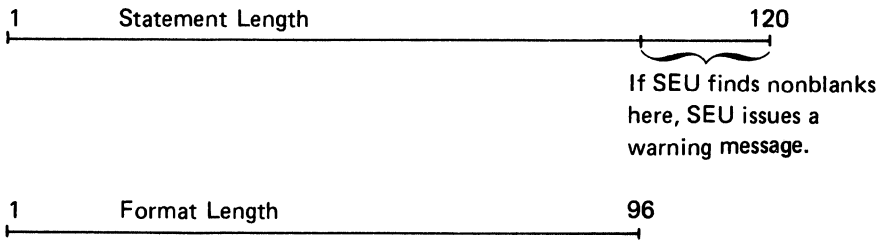
Format Length

The operator can enter and update statements that do not have the same length as that of the selected display screen format.

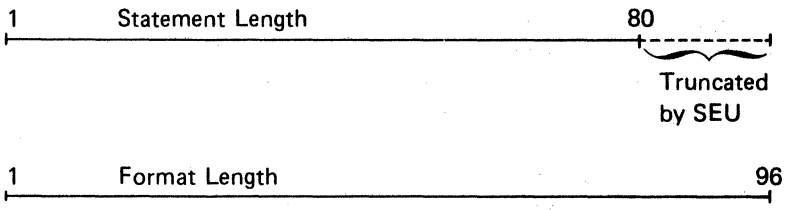
If the statement length of a new statement being entered is greater than the length of the selected format, SEU permits the operator to enter data in the positions defined by the format, then adds enough blanks to the statement to extend it to the specified statement length. For example, if the statement length is 120 and the format length is 96, SEU accepts 96 characters of data and adds 24 blanks.



If the length of a statement selected for update is greater than the length of the selected format, and if SEU discovers nonblank characters in positions in the statement that are beyond the positions defined by the format, SEU displays a warning message. The operator can then select a longer format to avoid losing data, or can press the Enter/Rec Adv key to enter blanks over the characters.



If the statement length of a statement being entered or updated is less than the length of the selected format, SEU permits the operator to enter data only within the limits of the statement length. If the operator tries to enter data beyond the specified statement length, SEU truncates the statement at the statement length, displays an error message, and displays the truncated statement. The operator can press the Enter/Rec Adv key to enter the statement as it is displayed.



CHECKING SYNTAX OF RPG II AND AUTO REPORT STATEMENTS

If you do not change the original names of the RPG II and auto report display screen formats provided with SEU, SEU can check the syntax of RPG II and auto report statements that are entered into members specified as member type A or R. Member type is specified in the SEU command. The command is described in Chapter 5.

SEU offers the option of limited syntax checking to help eliminate compile time errors. SEU can diagnose many coding or keying errors that would result in a terminal compilation error, but SEU cannot diagnose all errors detected by the RPG II compiler. For example, SEU does not detect errors that result from a conflict between entries in two or more statements. The syntax checking that is done is based on the display screen format used to input or update the statement. For example, when the F format is used, file description syntax checking is done.

Position 42 of the SEU status line reflects the status of the syntax checking option: S if it is on, blank if it is off. The syntax checking option is on after SEU sign-on. If it is later turned off, the operator can turn it on again by pressing the Alter Syntax command function key.

Error Detection

If the syntax checking option is on and the format displayed on the display screen is an RPG II or auto report format, SEU checks the syntax of each statement keyed. SEU checks the syntax when the operator presses the Enter/Rec Adv key to enter the statement. SEU can diagnose only one error each time it checks the syntax of a statement, even though a statement may contain several errors.

If SEU finds a syntax error in a statement, SEU displays a diagnostic message. So that the operator can correct the error, SEU displays the statement again. When the operator presses the Enter/Rec Adv key after correcting the error, SEU again checks the syntax of the statement.

If the operator presses the Accept With Error command function key after a syntax error is found, SEU checks the syntax of the displayed statement again and writes the statement to the work file whether or not an error still exists in the statement. If the print option is on and a syntax error is present, SEU prints the statement, followed by ***. SEU also prints an asterisk (*) beneath a field that is related to the error, and prints the MIC of the appropriate SEU diagnostic message after the asterisk so that the message can be found in Appendix B of this manual.

If the print option is on but the operator corrected all syntax errors in a statement before pressing the Accept With Error command function key, SEU prints only the statement.

Auto Report Restrictions

The SEU syntax checker allows auto report entries on all statements using F, I, J, O, and P display screen formats. Auto report functions are allowed on all output specifications. However, because the RPG II and auto report formats provided with SEU require numeric entries in certain fields, restrictions apply to the use of ampersands (&) in file description specifications and in input specifications.

- A blank entry is allowed for every field other than filename (positions 7 through 14) in file descriptions. In the F format provided with SEU, an & is valid wherever a blank is valid, except in:
  - Block length (positions 20 through 23)
  - Record length (positions 24 through 27)
  - Length of key field (positions 29 and 30)
  - Key field start location (positions 35 through 38)
  - Number of extents (positions 68 and 69)

- A blank entry is allowed for every field other than field name (positions 53 through 58) in input specification field description. In the J format provided with SEU, an & is valid wherever a blank is valid except in:
  - From (positions 44 through 47)
  - To (positions 48 through 51)

A blank entry in a statement in an auto report member is not necessarily a blank entry after RPG II compilation: it may be modified by a statement being copied. Therefore, the level of syntax checking performed on auto report specifications is limited to the level of syntax checking performed on RPG II specifications.

The /COPY statement of auto report restricts copying to a maximum of 96-byte records. If the statement is greater than 96 bytes, auto report issues a message indicating that the requested library member was not found.

Chapter 3. Statement Numbering

Whenever SEU processes a library member, SEU assigns each statement in the member a unique statement number. SEU also requests a number for each new statement entered. By assigning a number to each statement, SEU provides an efficient way to identify statements to enter, change, delete, move, or include. The operator can identify each statement in a member by entering the associated statement number.

Statement numbers assigned by SEU are temporary: they last only for the duration of the job. Statement numbers do not become part of the statement or part of the member. Do not confuse the statement numbers assigned by SEU with sequence numbers that may be part of the records in a source member; they are not the same thing.

Description

The form of the statement number is xxxx.xx. If the operator enters the decimal positions, the operator must also enter the decimal point. If the decimal positions are not entered, SEU assumes zeros for the positions. Leading zeros are not required. For example, the following numbers are all equated to statement number 5: 5, 5.0, 5.00, and 0005.00.

When SEU processes an existing member, the first statement in the member is assigned number 1.00, the second 2.00, the third 3.00, and so on, to as high as 9999.00. The maximum number of statements SEU allows in a member is 9999. If the operator tries to enter another statement, SEU displays an error message. If the SEU print option is on, SEU prints the statement keyed, but does not store the statement.

By entering, moving, or including statements, the operator can place statements after the last statement present in a member. By entering, moving, or including statements, the operator can also insert statements between other statements in a member. Added or inserted statements are assigned the numbers entered by the operator.

If the operator enters a statement number higher than the highest existing statement number in the member, the statement number cannot be greater than the next highest whole number plus 0.99. For example, if the highest statement number is 0004.00, a higher statement number can be any number from 0004.01 through 0005.99; if the highest statement number is 0006.98, a higher number can be any number from 0006.99 through 0007.99.

The operator can insert up to 99 statements between any two existing statements. For example, the operator can insert 1.01 through 1.99 between statements 1.00 and 2.00.

Whether statements are added, deleted, or moved by a job, the next time SEU processes the member all statements are assigned numbers 1.00, 2.00, 3.00, and so on. Statements that were added the last time SEU processed the member are numbered as though all statements were entered in sequence.

Example

Assume that the following statements exist in a member, and that when SEU is run to change the member, the statements are assigned the following statement numbers:

```
0001.00  CHICAGO
0002.00  LISBON
0003.00  NEW YORK
0004.00  ROME
0005.00  SAN FRANCISCO
0006.00  TOKYO
```

The operator adds the following statements to the member:

```
0001.10  COPENHAGEN
0002.10  LONDON
0002.20  LOS ANGELES
0003.10  PARIS
0007.00  WASHINGTON
```

The next time SEU is called to process the member, SEU assigns statement numbers as follows:

```
0001.00  CHICAGO
0002.00  COPENHAGEN
0003.00  LISBON
0004.00  LONDON
0005.00  LOS ANGELES
0006.00  NEW YORK
0007.00  PARIS
0008.00  ROME
0009.00  SAN FRANCISCO
0010.00  TOKYO
0011.00  WASHINGTON
```

How to Insert More than 99 Statements

The following example shows you how to insert more than 99 statements between two existing statements in a member. The following statement numbers already exist:

```
0213.00
0214.00
0215.00
0216.00
```

Assume that the operator wants to insert (by entering, moving, or including) 150 statements after statement number 214.00. The operator can select move mode and move 214.00 to 213.01 by responding to move mode prompts as follows:

```
MOVING TO STATEMENT NUMBER:  213.01
MOVING FROM STATEMENT NUMBER: 214
```

After the operator presses the Enter/Rec Adv key to move the statements, the statement numbers are:

```
0213.00
0213.01
0215.00
0216.00
```

A total of 198 statements can now be inserted after statement number 0213.01 (from 0213.02 through 0214.99).

Chapter 4. Considerations for the User

Whether you define SEU jobs for someone else or run the jobs yourself, the following considerations can help you use SEU efficiently.

PROGRAMMING CONSIDERATIONS

SEU on a Multiprogramming System

In multiple program mode, System/34 permits several programs to run at once. The system provides a copy of SEU for each display station that calls SEU. As with any other program, the performance of SEU may be noticeably affected if an SEU job and several other jobs are running at the same time. See the *System Support Reference Manual* for additional multiprogramming considerations.

Library Space

You can create space in your libraries by reducing the size of the source and load members #SE@FORM and #SE@XTRA. The source members named #SE@FORM and #SE@XTRA contain the display screen format specifications that define the display screen formats provided with SEU. The load members named #SE@FORM and #SE@XTRA contain the provided display screen formats.

Reduce the size of the source members #SE@FORM and #SE@XTRA by deleting specifications for formats that you do not need. Then reduce the size of the load members #SE@FORM and #SE@XTRA by using $SFGR to create new load members from the modified source members. For the procedure to follow, see *How to Change a Display Screen Format* in Chapter 2.

If you do not intend to change the display screen formats contained in the load members #SE@FORM and #SE@XTRA, you can create space in your libraries by deleting the source members #SE@FORM and #SE@XTRA entirely. You can also delete unnecessary formats from #SE@FORM and #SE@XTRA load members. You must not, however, delete the load members #SE@FORM and #SE@XTRA from the library. For information on including from members and deleting members, see *How to Include from a Member* and *How to Delete a Member* in this chapter.

Note: To preserve modifications you make to #SE@FORM and #SE@XTRA in a system where SEU is removed after SEU jobs are run, use the SEUSAVE procedure to copy the modified members and the other SEU members to a diskette, then use the TOLIBR procedure to load SEU from that diskette whenever you put SEU back on the system. If you install a new version of SEU on your system, incorporate the modifications by modifying the new version of #SE@FORM and #SE@XTRA. For a description of SEUSAVE and of how to install new versions of your system, see the *Program Product Installation and Modification Reference Manual.* For a description of TOLIBR, see the *System Support Reference Manual.*

Size of Library Member

The amount of time required to perform certain SEU operations depends on the number of statements in the member being processed. The SEU operations affected by the size of a library member are:

- Sign-on
- Sign-off
- Multiple statement delete, move, or include
- Search End Of Source (command function key 9) of an include member (a member from which statements are being copied by the include mode)
- Search of an include member for the statement numbers entered in response to INCLUDING FROM STATEMENT NUMBER and ENDING STATEMENT NUMBER
- Scan of a member for statements containing a given sequence of characters

How to Include from a Member

You can use SEU include mode to copy statements from one member to another. You can also use include to copy statements from one location in a member to another location in the same member, but not during the job in which the original statements are entered. If you include statements from a member currently being changed at a different display station, the statements you copy do not reflect changes made at the other display station: include copies statements as they exist in a library. Statements copied by the include mode are not deleted.

How to Delete a Member

If you delete all statements from a member and take one of SEU end-of-job options 1 through 4, which are described in Chapter 5, the member is removed from the library. However, calling the REMOVE procedure is faster than signing on SEU to delete a member. REMOVE is described in the *System Support Reference Manual.*

How to Enter Data in Auto Skip Fields

If the auto skip option is off, you can enter data in auto skip fields. Use the Auto Skip command function key to turn the option off or on anytime during an SEU job. Position 39 of the SEU status line shows the status of the auto skip option: A if it is on, blank if it is off.

Canceling an SEU Job

If you end an SEU job in any way other than by pressing the EOJ command function key and selecting an SEU end-of-job option, the additions and changes you made during the job are not stored in a library.

The SEU work file, which contains the additions and changes you make until your SEU job ends, is treated by the system as a temporary file. If you choose option 2 in response to a system inquiry request or in response to any error message, the file is saved. If you choose option 3 in response to a system inquiry request or in response to any error message other than an SEU error message, the work file is deleted and the data it contains is lost. System inquiry requests are described in Chapter 2 of the *System/34 Operator's Guide.*

Note: If the work file is not deleted at the end of a job, or if you choose option 2 in response to a system inquiry request, the SEU recovery prompts appear the next time an operator signs on SEU at the display station.

OPERATING CONSIDERATIONS

Function Control Keys

All the System/34 function control keys are described in the *IBM 5251 Display Station Operator's Guide.* However, some of the field exit keys and the Enter/Rec Adv, Home, Dup, Roll↑ (Roll Up), and Roll↓ (Roll Down) keys have special applications in SEU jobs.

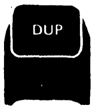
Field exit is described in Chapter 2. The field exit function control keys are summarized for the enter/update mode in Chapter 6. The Enter/Rec Adv, Home, Dup, Roll↑, and Roll↓ keys are described in the following paragraphs and also summarized in Chapter 6 for each SEU mode.

The Enter/Rec Adv key signals SEU of one the following conditions:

- You have keyed one or more responses and want them entered
- You have keyed data for a statement and want the statement entered
- You want SEU to perform the next operation in the current mode

If the cursor is in the first cursor position defined by a display screen format and you are entering or updating statements, the Home key acts as a record backspace key. That is, if you press the Home key after you select a statement to enter or update, SEU displays the preceding statement in the member, provided the statement exists. The statement is displayed for you to update, and the cursor is moved to the first cursor position defined by the display screen format.

Using the DUP Key While Entering Data



The DUP key duplicates all or part of a field from the preceding statement in the statement you are entering. For example, assume you are entering several statements that all have the same date. When you enter the first statement, you enter the date. When you reach the date field of the second statement, you press the DUP key, and the date you entered in the first record is duplicated. The display station displays * in the positions that will contain data from the previous statement and moves the cursor to the next field in the statement. The duplicated data is actually entered when you press the Enter/Rec Adv key to enter the entire second statement. You can continue using the DUP key at each date field as long as you want the date to remain the same. See the following example:

Record 1

```
16       096    E             096                 1        UPDATE     XXX


               1 1           12         2  3    3    3     4   4 4 4 4    5    5    5 5 5
12345  6  7890 12345678 90123456 789012 345 6789 012 3 4 5 678901 234 5 6 7
                 PHILIPS  8-1-80    14.93

5 6           7       7    8 8          9
8901234567890l234 567890 1234567890123456




0001.00      -ENTER/UPDATE STATEMENT NUMBER
```

Record 2

```
16       096    E                 096                 1        ENTER      XXX
0001.00                  PHILIPS 8-1-80  14.93

               1 1           12         2  3    3    3     4   4 4 4 4    5    5    5 5 5
12345  6  7890 12345678 90123456 789012 345 6789 012 3 4 5 678901 234 5 6 7
                 LYNNDALE ******    81.57

5 6           7       7    8 8          9
89012345678901234 567890 1234567890123456




0002.00      -ENTER/UPDATE STATEMENT NUMBER
```

Press the DUP key at the beginning of the second record's date field.

Actual duplication occurs when you press the Enter/Rec Adv key:

Record 1

```
16     096   E              096                  1       UPDATE      XXX


              1 1        12          2   3    3    3     4    4 4 4 4    5   5    5 5 5
12345 6 7890 12345678 90123456 789012 345 6789 012 3 4 5 678901 234 5 6 7
             PHILIPS  8-1-80   14.93

5 6         7      7    8 8        9
8901234567890123 4 567890 1234567890123456




0001.00     -ENTER/UPDATE STATEMENT NUMBER
```

Record 2

```
16     096   E              096                  1       UPDATE      XXX
0001.00              PHILIPS 8-1-80   14.93

              1 1        12          2   3    3    3     4    4 4 4 4    5   5    5 5 5
12345 6 7890 12345678 90123456 789012 345 6789 012 3 4 5 678901 234 5 6 7
             LYNNDALE 8-1-80   81.57

5 6         7      7    8 8        9
8901234567890123 4 567890 1234567890123456




0002.00     -ENTER/UPDATE STATEMENT NUMBER
```

If you press the DUP key when the cursor is at the beginning of a field, SEU fills the field with data from that corresponding field in the previous statement. If you press the DUP key when the cursor is not at the beginning of a field, SEU fills the cursor position and the rest of the field with data from corresponding positions in the previous statement. If you press the DUP key when you are entering the first statement in a member, SEU fills the field with blanks because there is no preceding data.

Note: The DUP key cannot be used for ideographic fields.

Using the DUP Key While Updating Data

If you are updating a field within a statement and press the DUP key, it does not duplicate data from the preceding statement. Instead, the DUP key ignores your update to that field and restores the field to its original state. If you press the DUP key when the cursor is at the beginning of the updated field, the original data is restored. However, if you press the DUP key when the cursor is not at the beginning of a field, only the data in the cursor position and the rest of the field to the right is restored.

The Roll↑ key causes the display statements to roll up and disappear at the top of the display. If you press the Roll↑ key when no statements exist in the member, SEU issues an error message.

Positions 2 and 3 of the SEU status line show the current roll factor. Except when in enter/update mode, you can change the roll factor by pressing the Change Roll Factor command function key and entering a new factor. The default roll factor for SEU is 16, but can be set to any value from 1 through 99.

The roll factor determines which statements are displayed after you press the Roll↑ key. For example, assume that the roll factor is 8 and lines per statement is 2. If statements 9.00 through 16.00 are being displayed when you press the Roll↑ key, SEU displays statements 17.00 through 24.00. Assume that the roll factor is 16. If statements 9.00 through 16.00 are being displayed when you press the Roll↑ key, SEU displays statements 25.00 through 32.00.

Wraparound occurs after SEU displays the last statement in the member. That is, if the last statement is being displayed when you press the Roll↑ key, SEU displays statements from the beginning of the member. However, the last statement must be displayed before SEU can display from the beginning of the member in response to the Roll↑ key, even if the roll factor specifies that the last statement be excluded from a display. After displaying the last statement in the member, SEU displays the first and following statements in the member the next time you press the Roll↑ key.

For example, assume that all the current statement numbers for a member are integers, the member contains 43 statements, two lines are reserved for the display of each statement, and the roll factor is 16. If statements 33.00 through 40.00 are being displayed when you press the Roll↑ key, SEU displays statement 43.00. If you press the Roll↑ key again, SEU displays statements 1.00 through 8.00.

Except for the restriction of wraparound, the roll factor always determines which sequence of statements is displayed after you press the Roll↑ key. However, the status of the lines per statement option determines how many statements are displayed: a maximum of 8 if the lines per statement is 2; a maximum of 16 if the lines per statement is 1. Position 48 of the SEU status line shows the status of the lines per statement option. You can change the option by pressing the Alter Lines Per Stmt command function key.

Enter/Update: In the enter/update mode, the Roll↑ key is valid when:

- The prompt ENTER/UPDATE STATEMENT NUMBER is being displayed. If you press the Roll↑ key, SEU displays:
  - The statements determined by the roll factor
  - The prompt ENTER/UPDATE STATEMENT NUMBER

- A statement is being entered or updated. If you press the Roll↑ key, SEU:
  - Ignores any data you keyed for the statement being entered or updated
  - Displays the statements determined by the roll factor
  - Displays the prompt ENTER/UPDATE STATEMENT NUMBER

Delete, Move/Copy, and Include: In the delete, move/copy, and include modes, the Roll↑ key is valid when:

- One or more prompts are being displayed without responses. If you press the Roll↑ key, SEU displays:
  - The statements determined by the roll factor
  - The prompts being displayed when you pressed the Roll↑ key
  - The responses you keyed

- All prompts are being displayed with a response. If you press the Roll↑ key, SEU:
  - Displays the statements determined by the roll factor
  - Displays the prompts being displayed when you pressed the Roll↑ key
  - Displays the responses being displayed when you pressed the Roll↑ key
  - Blanks the response to ENDING STATEMENT NUMBER if you entered one (you pressed the Enter/Rec Adv key)

Scan: If you press the Roll↑ key in the scan mode, SEU displays:

- The statements determined by the roll factor
- The prompts being displayed when you pressed the Roll↑ key
- The responses you entered (you pressed the Enter/Rec Adv key after keying the responses)

The Roll↓ key causes the display statements to roll down and disappear at the bottom of the display. If you press the Roll↓ key when no statements exist in the member, SEU issues an error message.

Positions 2 and 3 of the SEU status line show the current roll factor. Except when in enter/update mode, you can change the roll factor by pressing the Change Roll Factor command function key and entering a new factor. The default roll factor for SEU is 16, but can be set to any value from 1 through 99.

The roll factor determines which statements are displayed after you press the Roll↓ key. For example, assume that the roll factor is 8 and lines per statement is 2. If statements 25.00 through 32.00 are being displayed when you press the Roll↓ key, SEU displays statements 17.00 through 24.00. Assume that the roll factor is 16. If statements 25.00 through 32.00 are being displayed when you press the Roll↓ key, SEU displays statements 9.00 through 16.00.

Wraparound occurs after SEU displays the first statement in the member. That is, if the first statement is being displayed when you press the Roll↓ key, SEU displays statements from the end of the member. However, the first statement must be displayed before SEU can display from the end of the member in response to the Roll↓ key, even if the roll factor specifies that the first statement be excluded from a display. After displaying the first statement in the member, SEU displays the last and preceding statements in the member the next time you press the Roll↓ key.

For example, assume that all the current statement numbers for a member are integers, the member contains 43 statements, two lines are reserved for the display of each statement, and the roll factor is 16. If statements 4.00 through 11.00 are being displayed when you press the Roll↓ key, SEU displays statements 1.00 through 8.00. If you press the Roll↓ key again, SEU displays statements 36.00 through 43.00.

Except for the restriction of wraparound, the roll factor always determines which sequence of statements is displayed after you press the Roll↓ key. However, the status of the lines per statement option determines how many statements are displayed: a maximum of 8 if the lines per statement is 2; a maximum of 16 if the lines per statement is 1. Position 48 of the SEU status line shows the status of the lines per statement option. You can change the option by pressing the Alter Lines Per Stmt command function key.

Enter/Update: In the enter/update mode, the Roll↓ key is valid when:

- The prompt ENTER/UPDATE STATEMENT NUMBER is being displayed. If you press the Roll↓ key, SEU displays:
  - The statements determined by the roll factor
  - The prompt ENTER/UPDATE STATEMENT NUMBER

- A statement is being entered or updated. If you press the Roll↓ key, SEU:
  - Ignores any data you keyed for the statement being entered or updated
  - Displays the statements determined by the roll factor
  - Displays the prompt ENTER/UPDATE STATEMENT NUMBER

Delete, Move/Copy, and Include: The Roll↓ key is valid in the delete, move/copy, and include modes when:

- Statements are not being displayed from an include member

- One or more prompts are being displayed without responses. If you press the Roll↓ key, SEU displays:
  - The statements determined by the roll factor
  - The prompts being displayed when you pressed the Roll↓ key
  - The responses you keyed

- All prompts are being displayed with a response. If you press the Roll↓ key, SEU:
  - Displays the statements determined by the roll factor
  - Displays the prompts being displayed when you pressed the Roll↓ key
  - Displays the responses being displayed when you pressed the Roll↓ key
  - Blanks the response to ENDING STATEMENT NUMBER if you entered one (you pressed the Enter/Rec Adv key)

Scan: If you press the Roll↓ key in the scan mode, SEU displays:
- The statements determined by the roll factor
- The prompts being displayed when you pressed the Roll↓ key
- The responses you entered (you pressed the Enter/Rec Adv key after keying the responses)

How to Find a Statement

If you know the statement number of a statement you want displayed, enter the number in response to the appropriate prompt. If you do not know the statement number, use one of the following two methods to find the statement.

- Enter a statement number you think is close to the one you want, then use the Roll↑ or Roll↓ key to locate the statement. After you find the statement, enter the number in response to the appropriate prompt.

- If you know that the statement contains unique characters, such as a filename in an RPG II file description specification, select the scan mode (press the Scan command function key). Enter the unique characters in response to the prompt SCAN CHARACTERS. After scan locates the statement, select the mode you want and enter the statement number in response to the appropriate prompt. (If the first statement located by scan is not the statement you are looking for, repeat the scan by pressing the Enter/Rec Adv function control key or the Scan To Update command function key.)

How to Change a Response after It Is Entered

When you key a response and press the Enter/Rec Adv key, SEU accepts the response. When you key a response to ENDING STATEMENT NUMBER and press the Enter/Rec Adv key, SEU accepts that response and all responses that precede it on the display screen. However, in every mode except the scan mode, you can change each response after it is entered.

Scan Mode: If you are in the scan mode, SEU begins to scan for the specified scan characters as soon as you press the Enter/Rec Adv key or the Scan To Update command function key. If you have not pressed the Enter/Rec Adv key or the Scan To Update command function key, you can change a response keyed for a scan prompt by:

- Moving the cursor to the response you want to change

- Keying a different response

- Pressing the Enter/Rec Adv key or the Scan To Update command function key

Response to ENDING STATEMENT NUMBER Not Entered: If you have not entered a response to ENDING STATEMENT NUMBER, you can change the response to every prompt except INCLUDE LIBRARY NAME and INCLUDE MEMBER NAME by:

- Moving the cursor to the response you want to change
- Keying a different response
- Pressing the Enter/Rec Adv key

To change a response to INCLUDE LIBRARY NAME or INCLUDE MEMBER NAME, press the Include command function key twice: SEU displays the include prompts, but removes all former responses. You can then enter new responses.

In every mode but include and scan, you can remove all responses by pressing the command function key for the mode once. For example, to display the move prompts without the responses you entered, press the Move command function key.

Response to ENDING STATEMENT NUMBER Is Entered: If you have entered a response to ENDING STATEMENT NUMBER, remove the response by pressing the Roll↑ or Roll↓ key, or by pressing the command function key Search End of Source. You can remove all the responses to statement number prompts by pressing one of the following command function keys: Enter/Update, Delete, Move, Include, or Scan.

To remove responses to INCLUDE LIBRARY NAME or INCLUDE MEMBER NAME, press the Include command function key twice.

After responses are removed, enter new responses.

How to Record Syntax Errors

SEU prints RPG II and auto report statements that contain diagnosed syntax errors only if the SEU print option is on when you press the Accept With Error command function key. To create a printed record of each statement accepted with an error, with the MIC of the appropriate SEU diagnostic message printed beneath the statement, turn the print option on (Alter Print command function key) before you press the Accept With Error command function key.

After you end an SEU job during which syntax errors were accepted, you can use the printed list of statements and MICs to refer to the diagnostic messages in Appendix B. The messages will help you correct any syntax errors you didn't correct during the job.

Chapter 5. Sign-On, Recovery, and End of Job

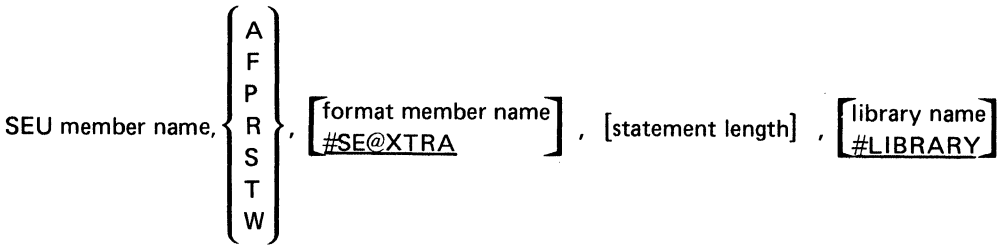
SIGN-ON

The operator can sign on SEU by entering the SEU command. The OCL statements required for SEU sign-on are in the procedure called by the SEU command. Conventions for coding procedure commands and OCL statements are described in the *System Support Reference Manual* under *Conventions Used for Describing Statement Formats.* The following paragraphs describe the SEU command and SEU OCL.

SEU Command

The SEU command can be entered by keying SEU and the required parameters or by entering only SEU and then keying responses to the parameters or by entering only SEU and then keying responses to the parameter prompts that will be displayed. See *Displays During Sign-On* in this chapter for further explanation.

The format of the SEU command is:



Member Name: Specifies the name of the member to be created or changed. This parameter is required. If it is not entered, the system prompts the operator for a member name. The name can be 1 to 8 characters long (see the *System Support Reference Manual* for characters that are valid in library member names). If the name identifies an existing member in the specified library (library name parameter), SEU assumes that the member is to be changed. If the name does not identify an existing member, SEU assumes that the member is to be created. A member name cannot be ALL, DIR, NEW, or SYSTEM.

A
F
P
R: Specifies the member type of the member to be created or changed.
S
T
W

Type	Contents of Member
A	Auto report specifications (syntax checking available)
F	SFGR source statements (SEU selects the display screen formats automatically.)
P	Procedure
R	RPG II specifications (syntax checking available)
S	Source statements, such as RPG II or auto report specifications, sort sequence specifications, work station utility specifications, display screen format specifications, or statements for a message source member (syntax checking not available)
T	Message translation member
W	WSU source statements (SEU selects the WSU display screen formats automatically.)

Member type is required. If it is not entered, the system displays the prompt ENTER MEMBER TYPE.

Format Member Name: Specifies the name of a load member containing display screen formats that this job uses in addition to the formats in #SE@FORM. This parameter is not required. If it is not entered, SEU assumes that the formats in #SE@FORM and #SE@XTRA are used for this job. (#SE@FORM and #SE@FMT must not be entered as format member names.)

The name can be 1 to 8 characters long. If it is entered, the system searches the active user library for the member if an active user library exists. If the member is not found in the active user library, or if an active user library does not exist, the system searches the system library (#LIBRARY). If the member is not found in the active user library or in the system library, SEU displays an error message. (For a description of how to specify an active user library, see the *System Support Reference Manual.*)

Statement Length: Specifies the length of the statements to be entered or changed. Statement length is not required. If the member currently exists, SEU defaults to the current statement length of the member. If the member is new, SEU defaults as described in the following chart.

Member Type	Valid Statement Length	Default Length
A	80-96	96
F	40-120	96
P	40-120	120
R	80-96	96
S	40-120	96
T	40-120	80
W	40-120	96

Note: If the actual statement length of a member is 80, but a statement length of 96 is specified in the SEU command, SEU automatically changes the physical statement length of the member from 80 to 96. If the actual statement length of a member is neither 80 nor 96, but 96 is specified in the SEU command (with an option to pad the record), SEU displays an error message.

If the statement length entered on a command is less than the actual member's record length, SEU displays a message with an option to truncate the record length and continue the job.

For a description of the relationship between statement length and display screen format length, see *Format Length* in Chapter 2.

Library Name: Specifies the name of the library that contains the member to be changed or that will contain the member to be created. If the library is not found, SEU displays an error message. A library name is not required. If one is not entered, SEU assumes that the name is to be #LIBRARY, the name of the system library. If file and library security is active, the user must be authorized to update the specified library. Library name can be 1 to 8 characters long (see the *System Support Reference Manual* for characters that are valid in library names).

SEU OCL

The SEU command generates the following OCL statements:

```
// MEMBER USER1–#SE#M1
// MEMBER USER2–#SE#M2
// MEMBER PROGRAM1–#SE#M1
// MEMBER PROGRAM2–#SE#M2
// LOAD #SEU
// WORKSTN RESTORE–YES,UNIT–display station ID
// RUN
// SEU NAME–member name,TYPE–member type,
        FORMAT–format member name,LENGTH–statement length,
        LIBRARY–library name
// END
```

Note: If your system has ideographic support, you can specify that the extended character file not be used. To do so, add the parameter EXTN-OFF to the work station OCL statement in the SEU procedure. The statement would be:

```
// WORKSTN RESTORE-YES,UNIT-?WS?,EXTN-OFF
```

For more information, see *Work Station Statement* in Chapter 2 of the *System Support Reference Manual.*

Sample SEU Commands

Assume that (1) an SEU job is to create a source member named RPGRUN, (2) the member will contain RPG II specifications, (3) the job will use the display screen formats in the format load member #SE@FORM and #SE@XTRA, (4) the statement length for the member is 96, the default length, and (5) the member will reside in #LIBRARY, the default library name. The sign-on command for the job is:

```
SEU RPGRUN,R
```

Assume that (1) an SEU job is to change the source member named SORTA, (2) the member contains sort sequence specifications, (3) the sort formats are in the format load member #SE@XTRA, (4) the statement length for the member is 96, the default length, and (5) the member resides in the library named USERLIB1. The sign-on command for the job is:

```
SEU SORTA,S,,,USERLIB1
```

Assume that (1) an SEU job is to create a procedure member named PROCM, (2) the display screen formats created especially for this kind of job reside in the format load member named MRTFORM, (3) the statement length for the procedure member is 96, and (4) the new procedure member will reside in the library named USERLIB2. The sign-on command for the job is:

```
SEU PROCM,P,MRTFORM,96,USERLIB2
```

The SEU command you would enter to sign on SEU for the sample job described in Chapter 2 under *An Example of How to Change a Display Screen Format* is:

```
SEU #SE@FORM,S,,80
```

- The member being changed is the source member #SE@FORM, which contains the display screen format specifications that define the RPG II and auto report control specification display screen format (H).

- Format member name is not required because the display screen format SFGR-D, which you would use to enter changes for #SE@FORM, is in the format load member #SE@FORM.

- The length of the statements in the source member #SE@FORM is 80.

- Library name is not required because the source member being changed, #SE@FORM, is in #LIBRARY, the system library.

Sample Sign-On Displays

Displays During Sign-On

Figure 5-1 shows the kind of display that appears after the operator enters the SEU command if member name or member type (parameters 1 and 2) is not entered. Any parameters that are entered on the initial command appear to the right of the corresponding prompts on this screen. The default value of #LIBRARY appears if nothing is entered for the library parameter.

The operator should key parameters that should be added, key over any displayed parameters that should be changed, and then press the Enter/Rec Adv key to enter these parameters. If the member name or member type still are not entered, the system will prompt for them again.

```
                                                          XXXXXXXX
                          SEU PROCEDURE                      OPTIONAL-(0)
      AN INTERACTIVE UTILITY PROGRAM THAT HELPS THE USER CREATE, CHANGE,
      DELETE AND LOCATE STATEMENTS IN SOURCE AND PROCEDURE MEMBERS.

MEMBER NAME.....................................................
MEMBER TYPE (A/R/S/F/W/P/T).....................................
FORMAT MEMBER NAME.............................................. #SE@XTRA       (0)
STATEMENT LENGTH................................................              (0)
NAME OF LIBRARY CONTAINING THE MEMBER.......................... #LIBRARY
```

This display appears if the operator enterd the SEU command but did not enter both member name and member type.

Figure 5-1. Sample Sign-On Prompt Display

Displays After Sign-On Is Complete

Figure 5-2 shows the kind of display that appears after the operator signs on SEU to create a member. Figure 5-3 shows the kind of display that appears after the operator signs on SEU to change an existing member. Note that in both figures the free-form format Z is shown. Z is always the first display screen format shown after SEU sign-on.

```
 16     120   Z              096          S     1      ENTER      XXXXXXXX



         1         2         3         4         5         6         7
12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789
_
8         9         0         1         2
01234567890123456789012345678901234567890


0001.00    -ENTER/UPDATE STATEMENT NUMBER
```

The operator signed on to create a source member containing RPG II specifications.

Figure 5-2. Sample Sign-On Display: Create

```
16       120   Z              096          S     1                  XXXXXXXX
0001.00   0001 FINPUT   UC  F 256  64R 8AI     1 DISK                        A 01
          U8  DEFINE INPUT FILE
0002.00   0002 FMASTER  IS    257 257    3       SPECIAL       SUBRAC
              DEFINE MASTER FILE
0003.00   0003 FBACKUP  IP AF 200 200 29AI    72 DISK

0004.00   0004 FDISKIN  IR  F  96  96 30IT      EDISK

0005.00   0005 FKEYIN   IP  F 128 128           KEYBORD

0006.00   0006 FFILENAMEIP  F  80  80           KEYBORD

0007.00   0007 FOUTPUT  OP AF 200 100 29AI    72 DISK
              DEFINE OUTPUT FILE
0008.00   0008 ITRAN    AA  01   1 CA


             -ENTER/UPDATE STATEMENT NUMBER
```

The operator signed on to change a source member containing RPG II specifications.

Figure 5-3. Sample Sign-On Display: Change

RECOVERY

SEU provides a way to recover from error conditions and system failures. If an error conditions exists, such as the required disk space for the work file is not available, or if a system failure such as power failure occurs, the operator can later recover data from the SEU work file by:

- Signing on at the display station being used at the time the error condition or failure occurred
- Entering the same SEU command that was entered for the original job

After the SEU command is entered, SEU determines whether or not data can be recovered from the work file and displays the appropriate messages. The operator can continue the job if recovery is possible, although some of the entries made just prior to the failure may have to be repeated.

If the SEU command entered for recovery is not the same as the command that was entered for the original job, SEU displays an error message. One of the options available as a response to the message causes SEU to display the parameters in the original SEU command.

A second command display station can request an SEU work file at the time a display station is running SEU. Each display station running SEU has a work file assigned to it. Although no job other than the SEU job using the work file should refer to the work file, some system utility programs are able to refer to SEU work files. If a different program is using the SEU work file at the time SEU goes to end of job, SEU does not delete the work file at SEU end of job. Consequently, when SEU is signed on again at the display station, the prompts and displays that appear are the same as those displayed during SEU recovery.

Note: SEU cannot recover from permanent disk errors.

END OF JOB

SEU begins to perform end-of-job operations after the operator presses the EOJ command function key. After the operator presses EOJ, SEU displays the list of options shown in Figure 5-4.

```
 END OF JOB OPTION MENU

0 RETURN TO PROCESSING
1 END OF JOB WITH NO ADDITIONAL OPTIONS
2 END OF JOB WITH A LISTING
3 END OF JOB WITH SERIALIZATION
4 END OF JOB WITH SERIALIZATION AND LISTING
5 END OF JOB--NO REPLACE









          -END OF JOB OPTION
```

Figure 5-4. SEU End-of-Job Options

The operator must respond to the prompt END OF JOB OPTION by entering one of the displayed option numbers.

End-of-Job Options

0 RETURN TO PROCESSING returns control to the operation being performed when the operator pressed the EOJ command function key. If the operator selects option 0, the job continues as though EOJ had not been pressed, except that the cursor is returned to the first cursor position defined by the display screen format selected last. Option 0 is not valid if the SEU work file is full or if a terminal error exists for the display station.

1 END OF JOB WITH NO ADDITIONAL OPTIONS causes SEU to copy the source or procedure member from the work file to a library.

2 END OF JOB WITH A LISTING causes SEU to copy the source or procedure member from the work file to a library, and then to list the member on the printer currently assigned to the display station.

3 END OF JOB WITH SERIALIZATION can cause SEU to display two additional prompts.

PROGRAM NAME DUPLICATION DESIRED. This prompt is displayed if the member type specified in the SEU command is A, R, or S, and the statement length specified in the command is 80 or greater. Valid responses are Y for yes and N for no.

If the operator enters Y, SEU locates the value contained in positions 75 through 80 of the first statement in the member, and copies the value into positions 75 through 80 in each of the remaining statements in the member. SEU will copy the value over serial numbers if they exist in positions 75 through 80. If a source member contains compile time data and program name duplication is requested, a serial start position of 1 should be specified to prevent overlaying of compile time data. If serialization is being done in positions 1 through 4 and **blank is found in positions 1 through 3, which indicates the presence of compile time data, program name duplication and serialization are discontinued. (If serialization is chosen at end of job, the operator is always prompted for SERIAL START POSITION.)

If the operator enters N, SEU does not copy the value contained in positions 75 through 80 of the first statement in the member. N is displayed as the response when the prompt PROGRAM NAME DUPLICATION DESIRED is displayed. The operator must press the Enter/Rec Adv key to actually enter N as the response.

If the operator enters any value other than Y or N in response to PROGRAM NAME DUPLICATION DESIRED, SEU displays a message and displays the prompt again.

SERIAL START POSITION. This prompt is always displayed if the operator selects end-of-job option 3. A valid response is any number greater than 0 that is equal to or less than statement length minus 3. The number specifies the position where the serial number will begin in each statement that will contain a serial number.

If the member type is A or R, SEU supplies a default value of 1 in response to SERIAL START POSITION. The operator can enter a different valid response instead of 1. If the member type is P or S, the operator must respond to SERIAL START POSITION. If the operator enters an invalid response for any member type, SEU displays an error message.

If RPG II or auto report statements are being processed and the member contains compile time tables, the operator should specify a serial start position of 1 to prevent the serial numbers from overlaying compile time data. If the operator specifies a serial start position of 1, serialization stops if SEU finds **blank in positions 1 through 3.

After the operator enters a valid response to SERIAL START POSITION, SEU serializes statements in the member. Statements are serialized with four-digit numbers beginning with 0001.

4 END OF JOB WITH SERIALIZATION AND LISTING is a combination of options 2 and 3. The member is serialized, copied from the work file to a library, and listed on a printer.

5 END OF JOB–NO REPLACE causes SEU to end the job by deleting the SEU work file. All data entered during the job is lost. If it exists, the source or procedure member named in the SEU command remains in the library unchanged.

Procedure Members at SEU End of Job

If an SEU job creates or updates a procedure member, SEU displays additional end-of-job prompts if the operator selects end-of-job option 1, 2, 3, or 4.

```
END OF JOB OPTION MENU 2                                XXXXXXXX









_         -SERIAL START POSITION
Y         -LOG THE PROCEDURE STATEMENTS
N         -MULTIPLE REQUESTOR TERMINAL PROCEDURE
N         -PROGRAM DATA IN INCLUDE STATEMENTS
```

SERIAL START POSITION: If the operator selected end-of-job option 3 or 4, SEU prompts for a serial start position. A valid response is any number greater than 0 that is equal to or less than statement length minus 3.

LOG THE PROCEDURE STATEMENTS: If you want the system to log the procedure statements to the system history file each time the procedure is called, the response must be Y for yes. If you do not want the procedure statements logged, the response must be N for no. The default value for a new member is Y.

MULTIPLE REQUESTOR TERMINAL PROCEDURE: If the procedure is a multiple requestor terminal procedure, the response must be Y for yes. If the procedure is not a multiple requestor terminal procedure, the response must be N for no. The default value for a new member is N. For a description of multiple requestor terminal procedures, see the *System Support Reference Manual.*

PROGRAM DATA IN INCLUDE STATEMENTS: INCLUDE OCL statements for procedures that call single requestor terminal programs may contain program data instead of parameters. (INCLUDE OCL statements in multiple requestor terminal procedures always contain data instead of parameters.) If INCLUDE statements in the procedure created or changed during the job contain program data instead of parameters, the response must be Y for yes. (Y for this prompt is the same as PDATA-YES for the $MAINT Library Maintenance Utility Program.) If INCLUDE statements do not contain program data, the response must be N for no. The default value for a new member is N. INCLUDE statements and $MAINT are described in the *System Support Reference Manual.*

If the SEU job that is ending did not create the procedure, but updated it, SEU displays in the response positions the current status of the options. The operator can change the options.

Although SEU can change statements in an existing procedure, SEU cannot change SSP procedures to user procedures, or user procedures to SSP procedures.

End-of-Job Considerations

Options 2 and 4: If the operator selects end-of-job option 2 or 4, SEU copies the source or procedure member from the SEU work file to a library before it lists the member on a printer. If a system failure occurs during the listing of a member, no SEU recovery action is required: the member is already in a library.

Serialization: The operator should not specify a serial start position that could cause SEU to overlay data. If RPG II or auto report specifications are to be serialized, the operator should select end-of-job option 3 with the default of 1 as the serial start position. SEU will then serialize the statements in positions 1 through 4, but will end serialization if **blank is found in positions 1 through 3. Ending serialization at **blank prevents SEU from overlaying data in compile-time tables.

Serialization of procedures is not recommended. Because serial numbers in a procedure may appear to be parameters, serialization of a procedure may cause errors when the procedure is called.

Duplicate Member Names at EOJ: After an operator signs on SEU to create a member, a different operator at a different display station may create a member of the same name for the same library. Consequently, SEU checks for duplicate member names at the end of each SEU job that creates a new member. If SEU determines that the name of a new member already exists in the specified library, SEU displays the message NAME OF NEW MEMBER FOUND IN LIBRARY AT EOJ–RENAME. SEU also displays the prompt NEW NAME FOR MEMBER. To place the new member in the specified library, the operator must enter a valid member name in response to the prompt. The name entered must not already exist in the specified library.

Chapter 6. SEU Operating Summary

This chapter presents SEU operating information. It tells you when to use each SEU mode, and briefly describes the prompts, command function keys, and function control keys for each mode. A sample SEU job sheet is shown at the end of the chapter.

ENTER/UPDATE MODE

Use the enter/update mode to create a new source or procedure member, add statements to an existing member, or change statements in an existing member. SEU selects the enter/update mode after sign-on. If you want to select enter/update after using a different mode, press the Enter/Update command function key.

Enter/Update Prompt

The enter/update prompt is:

```
-ENTER/UPDATE STATEMENT NUMBER
```

To enter a new statement, enter a new statement number in response to the prompt and press the Enter/Rec Adv key. Statement numbers are described in Chapter 3. To update an existing statement, enter an existing statement number in response to the prompt.

Figures 6-1 and 6-2 show sample responses to the enter/update prompt.

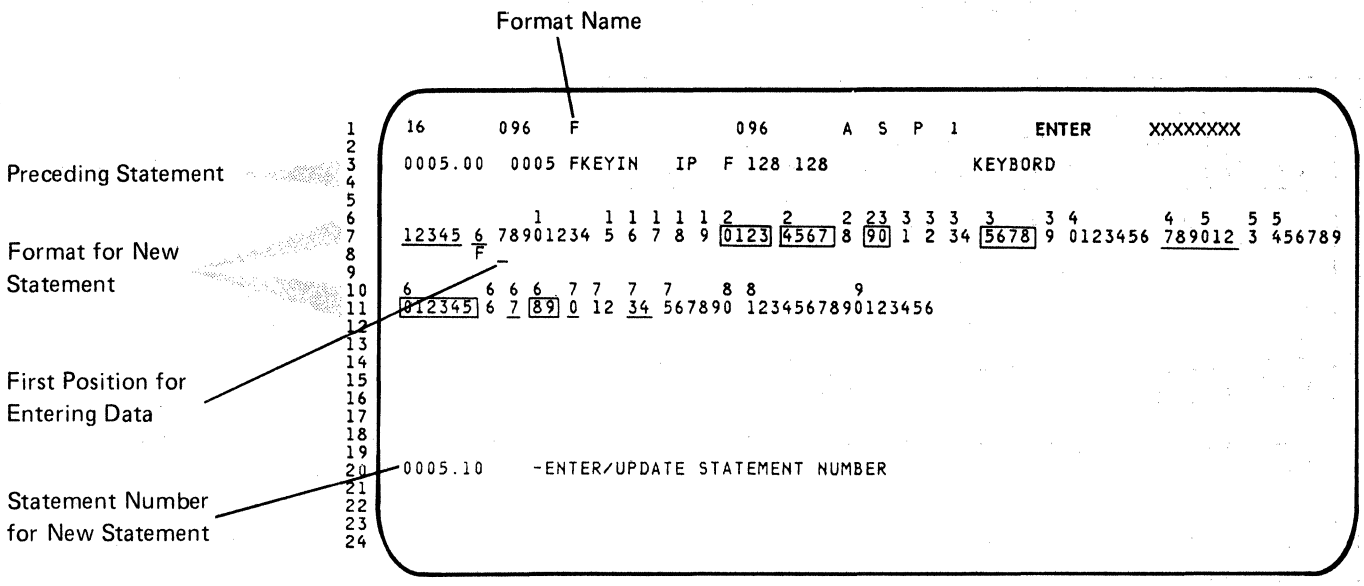


Figure 6-1. Sample Display for Entering a New Statement

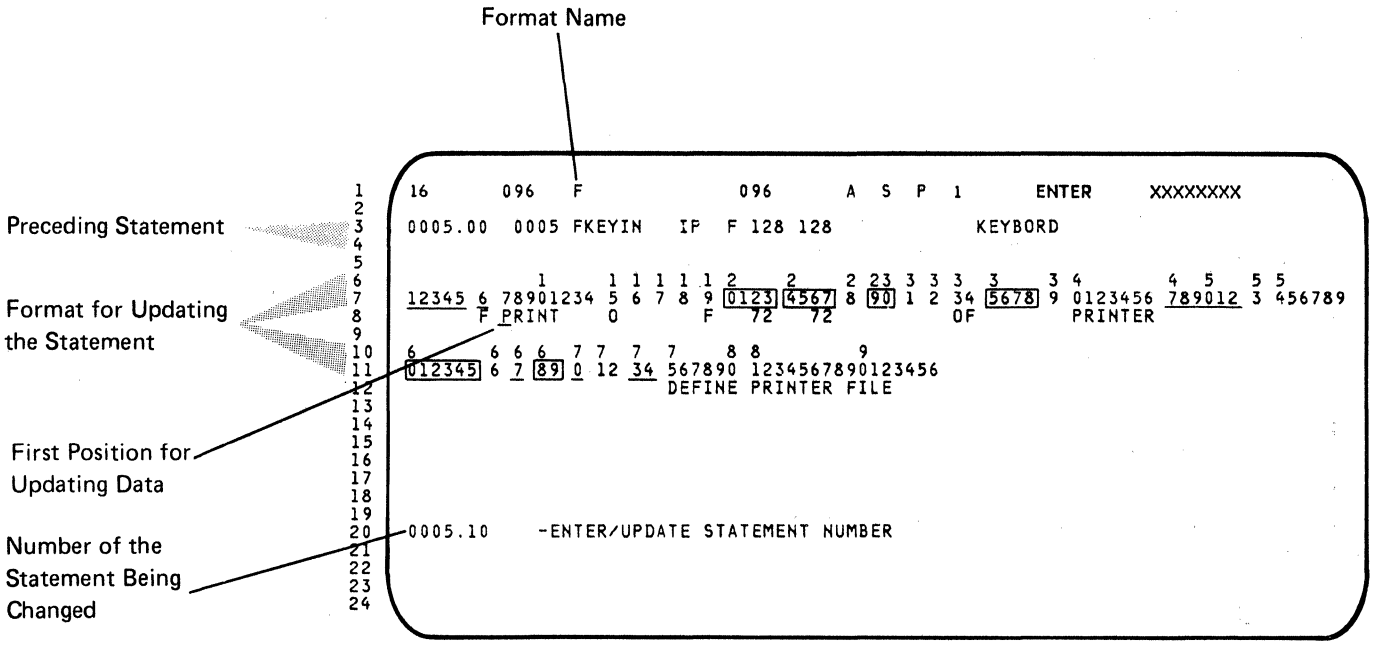


Figure 6-2. Sample Display for Updating a Statement

Enter/Update Command Function Keys

Figure 6-3 is a summary of SEU command function keys in the enter/update mode.

Key	Command Function Key	When Prompted with ENTER/UPDATE STATEMENT NUMBER	When Statement is Being Entered or Updated
1	Auto Skip	Reverses status of auto skip option and auto skip indicator.	
2	Scan/ Replace	Changes mode to scan mode.	Ignores data keyed for displayed statement and changes mode to scan mode. The Scan key is invalid if no statements exist in the member.
3	Select Format	Allows you to select a different display screen format.	
4	Delete	Changes mode to delete mode.	Ignores data keyed for displayed statement and changes mode to delete mode. The Delete key is invalid if no statements exist in the member.
5	Enter/ Update	Repeats prompt ENTER/UPDATE STATEMENT NUMBER.	Ignores data keyed for displayed statement and repeats prompt ENTER/UPDATE STATEMENT NUMBER.
6	Alter Print	Reverses status of print option and print indicator.	
7	EOJ	Displays end-of-job options.	
8	Alter Syntax	Reverses status of syntax checking option and syntax checking indicator.	
9	Search End Of Source	Displays last statement in member.	Ignores data keyed for displayed statement and displays last statement in member. The Search End Of Source key is invalid if no statements exist in the member.
0	Move/Copy	Changes mode to move/copy mode.	Ignores data keyed for displayed statement and changes mode to move/copy mode. The Move/Copy key is invalid if no statements exist in the member.
-	Include	Changes mode to include mode.	Ignores data keyed for displayed statement and changes mode to include mode.
=	Accept With Error	Not allowed.	Allowed only if syntax checking option is on and error exists in an RPG II or auto report statement. Places statement with error into member.
'	Cmd Key Display	Displays keyboard keys used as SEU command function keys and displays a brief description of each key.	
@	Scan To Update	Scans for a statement and displays it in enter/update mode. Changes mode to scan mode if statement not found or error occurs.	The Scan To Update key is invalid if no statements exist in the member.
*	Change Roll Factor	Allows you to change the roll factor.	Not allowed.
$	Alter Lines Per Stmt	Changes the number of lines reserved for the display of each statement.	Not allowed.
%	Translate	Changes mode to translate mode when member type is T. Allows you to enter the translation of a new or existing message.	Ignores data keyed and changes to translate mode if member type is T. The translate key is invalid if no statements exist in the member.

Figure 6-3. Command Function Key Summary for Enter/Update Mode

Enter/Update Function Control Keys

Figure 6-4 is a summary of function control keys in the enter/update mode.

Function Control Key	When Prompted with ENTER/UPDATE STATEMENT NUMBER	When Statement is Being Entered or Updated
Enter/Rec Adv	Indicates that you have finished keying a response. Causes SEU to display the selected statement.	Causes the displayed statement to be placed in the member.
Home	Cursor is moved to the first cursor position as defined by the current display screen format.	When cursor is in first position for a statement, displays preceding statement. Cursor is positioned at first position where operator can enter data.
Dup	Not allowed.	Fills a field or part of a field with data copied from corresponding positions in another statement. If a new statement is being entered, the data is copied from the preceding statement; if an existing statement is being updated, data is copied from the original statement.
Roll↑	Displays next statements as determined by the roll factor. Redisplays the enter/update prompt.	Ignores data keyed for the displayed statement, displays next statements as determined by the roll factor, and redisplays the enter/update prompt. The Roll↑ key is invalid if no statements exist in the member.
Roll↓	Displays preceding statements as determined by the roll factor. Redisplays the enter/update prompt.	Ignores data keyed for the displayed statement, displays preceding statements as determined by the roll factor, and redisplays the enter/update prompt. The Roll↓ key is invalid if no statements exist in the member.

Figure 6-4 (Part 1 of 2). Function Control Key Summary for Enter/Update Mode

Field Exit Function Control Keys

	Alphameric Field That Is Not Right-Adjust	Alphameric Right-Adjust Field or Numeric Field
Filled	Cursor automatically advances to next field	Press: → (Cursor Right), →| (Field Advance), Field Exit, or Field+
Partially Filled	Press: → (Cursor Right), →| (Field Advance), Field Exit[1], or Field+[1]	To right adjust, press: Field Exit or Field+ No right adjust[2], press: → (Cursor Right) or →| (Field Advance)

[1] The Field Exit and Field+ keys are destructive exit keys for alphameric fields that are not right- adjust fields. That is, the field positions skipped by the cursor when the Field Exit or Field+ key is pressed are set to blanks if the field is not defined as a right-adjust field. See the *System Support Reference Manual* for a description of how to define a right-adjust field.

[2] A partially filled numeric field is not right-adjusted and padded to the left with blanks. The unchanged positions of the field retain the values they had before the operator keyed new data into part of the field.

Figure 6-4 (Part 2 of 2). Function Control Key Summary for Enter/Update Mode

DELETE MODE

Use the delete mode to delete statements from a source or procedure member. You can delete one statement at a time or several consecutive statements at once. Select the delete mode by pressing the Delete command function key.

Delete Prompts

The delete prompts are:

```
-DELETING STATEMENT NUMBER
-ENDING STATEMENT NUMBER
```

To delete a single statement, respond only to the first prompt. To delete a series of consecutive statements, respond to both prompts. Responses are:

- -DELETING STATEMENT NUMBER: Enter the statement number of the single statement you want to delete, or enter the statement number of the first statement in the series you want to delete.

- -ENDING STATEMENT NUMBER: Enter the statement number of the last statement in the series you want to delete.

After you enter the necessary response(s), press the Enter/Rec Adv key again to cause SEU to delete the statement(s).

Figures 6-5 and 6-6 show sample responses to the delete prompts.

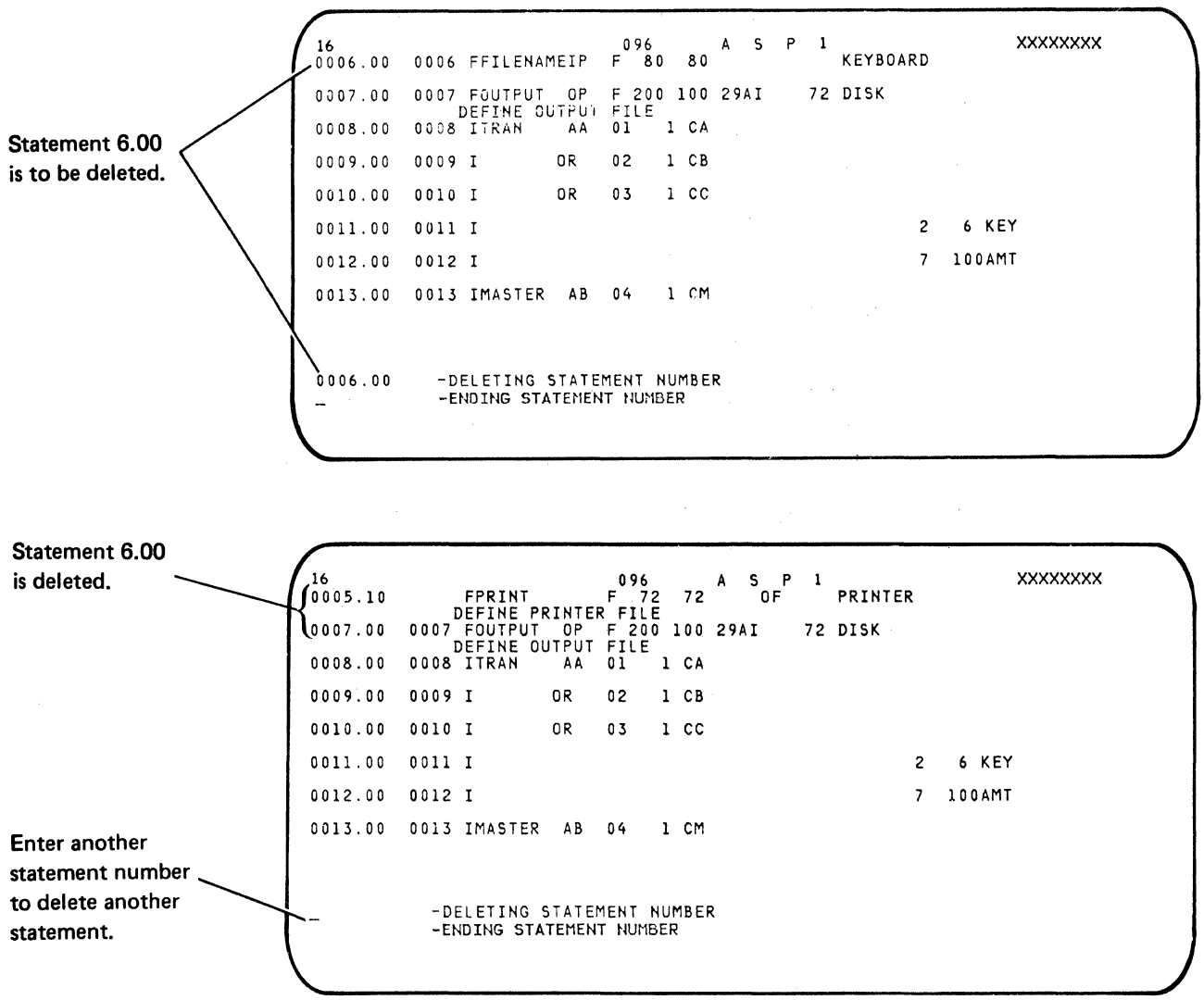


Figure 6-5. Sample Displays for Deleting a Single Statement

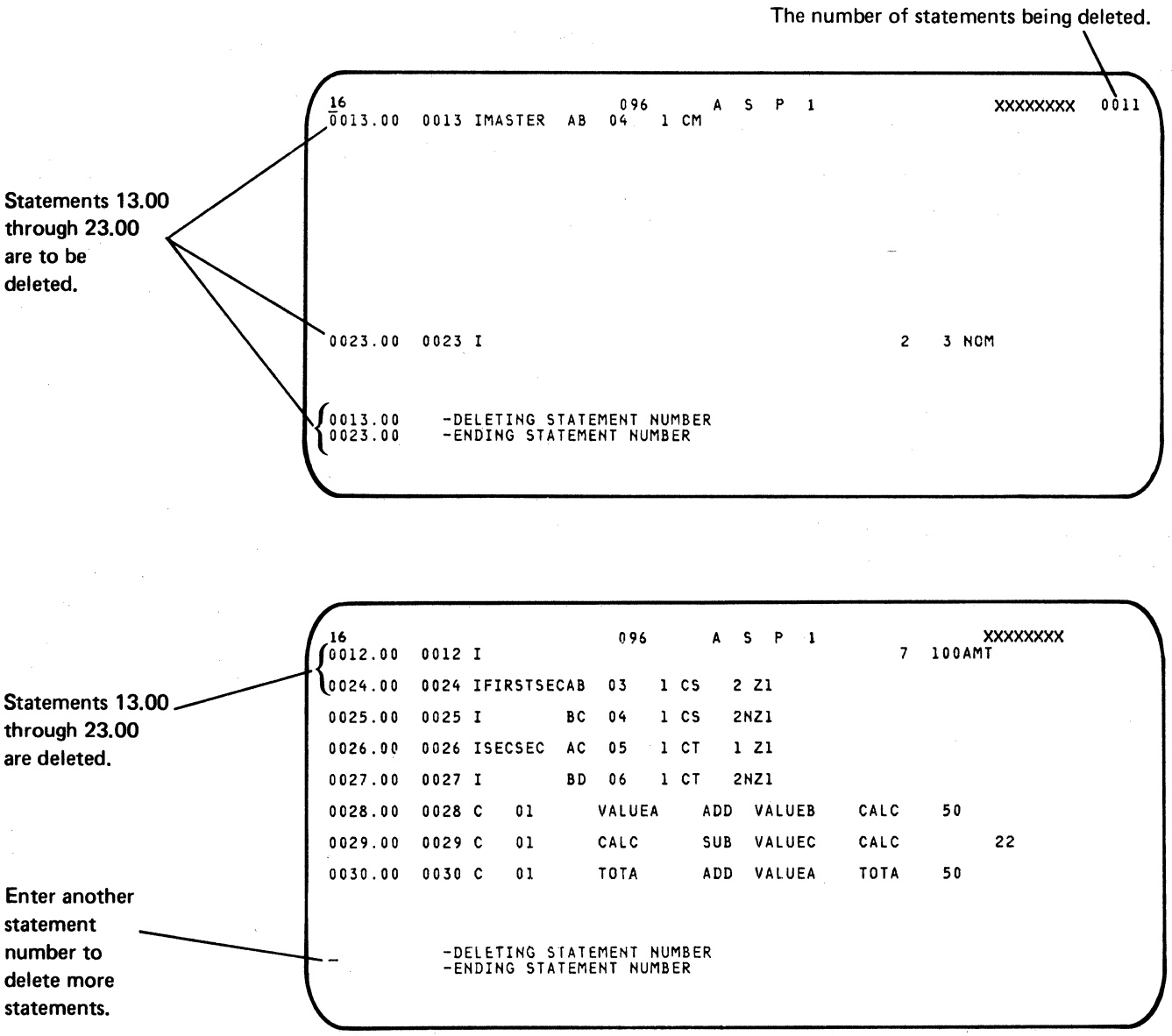


Figure 6-6. Sample Displays for Deleting Several Consecutive Statements

Delete Command Function Keys

Figure 6-7 is a summary of SEU command function keys in the delete mode.

Keys	Command Function Key	When Prompted with DELETING STATEMENT NUMBER and ENDING STATEMENT NUMBER	When Statement(s) Are Ready to Be Deleted
1	Auto Skip	Not allowed.	
2	Scan/ Replace	Changes mode to scan mode. No statements are deleted.	
3	Select Format	Not allowed.	
4	Delete	Repeats prompts DELETING STATEMENT NUMBER and ENDING STATEMENT NUMBER. No statements are deleted.	
5	Enter/ Update	Changes mode to enter/update mode. No statements are deleted.	
6	Alter Print	Reverses status of print option and print indicator.	
7	EOJ	Displays end-of-job options.	
8	Alter Syntax	Not allowed.	
9	Search End Of Source	Displays last statement in member.	Displays last statement in member and repeats prompt ENDING STATEMENT NUMBER. No statements are deleted.
0	Move/Copy	Changes mode to move/copy mode. No statements are deleted.	
-	Include	Changes mode to include mode. No statements are deleted.	
=	Accept With Error	Not allowed.	
'	Cmd Key Display	Displays keyboard keys used as SEU command function keys and displays a brief description of each key.	
@	Scan To Update	Not allowed.	
*	Change Roll Factor	Allows you to change the roll factor.	
$	Alter Lines Per Stmt	Changes the number of lines reserved for the display of each statement.	
%	Translate	Changes mode to translate mode if member type is T. No statements are deleted.	

Figure 6-7. Command Function Key Summary for Delete Mode

Delete Function Control Keys

Figure 6-8 is a summary of function control keys in the delete mode.

Function Control Key	When Prompted with DELETING STATEMENT NUMBER and ENDING STATEMENT NUMBER	When Statement(s) Are Ready to Be Deleted
Enter/Rec Adv	Indicates that you have finished keying one or both of the responses.	Causes the selected statement(s) to be deleted.
Home	Not allowed.	
Dup	Not allowed.	
Roll↑	Displays next statements as determined by the roll factor. Redisplays the delete prompts and the responses keyed.	Displays next statements as determined by the roll factor, redisplays the delete prompts, displays the first response if it was entered, but blanks the response to ENDING STATEMENT NUMBER if it was entered.
Roll↓	Displays preceding statements as determined by the roll factor. Redisplays the delete prompts and the responses keyed.	Displays the preceding statements as determined by the roll factor, redisplays the delete prompts, displays the first response if it was entered, but blanks the response to ENDING STATEMENT NUMBER if it was entered.

Figure 6-8. Function Control Key Summary for Delete Mode

MOVE/COPY MODE

Use the move/copy mode to move or copy statements from one location in a source or procedure member to another location in the same member. You can move or copy one statement at a time or several consecutive statements at once. Select the move/copy mode by pressing the Move/Copy command function key. To make a copy of a statement or statements in another location in the same member respond Y (YES) to THE STATEMENTS ARE TO BE COPIED (Y/N) prompt.

The move mode moves statements in a member to a new location, deleting the statements from the original location. The copy mode copies statements in a member and moves the copies to the new location, but does not delete the statements at the original location. If the print option is on, the statements at the new location are printed.

Move/Copy Prompts

The move/copy prompts are:

-THE STATEMENTS ARE TO BE COPIED
-MOVE/COPY TO STATEMENT NUMBER
-MOVE/COPY FROM STATEMENT NUMBER
-ENDING STATEMENT NUMBER

To move a single statement, respond only to the first two statement number prompts. To move a series of consecutive statements, respond to all three statement number prompts.

To copy statements, field backspace to the first prompt and change the N to Y. The statement number responses are the same for COPY as for MOVE. The responses are:

- THE STATEMENTS ARE TO BE COPIED (Y/N): The default value for this prompt is N (NO). If the response is not changed the statements specified are MOVED. To COPY the statements specified to the MOVE/COPY to statement number location, change the N response to a Y.

- MOVE/COPY TO STATEMENT NUMBER: Enter the statement number that identifies the new location for the single statement you want to move/copy, or that identifies the new location for the first statement in the series of statements you want to move or copy. The statement number you enter must not already exist in the member.

- MOVE/COPY FROM STATEMENT NUMBER: Enter the statement number that identifies the statement you want to move or copy, or that identifies the first statement in the series of statements you want to move or copy.

- ENDING STATEMENT NUMBER: Enter the statement number that identifies the last statement in the series of statements you want to move or copy.

After you enter the necessary responses, press the Enter/Rec Adv key again to cause SEU to move the statement(s).

Figures 6-9 and 6-10 show sample responses to the move prompts.

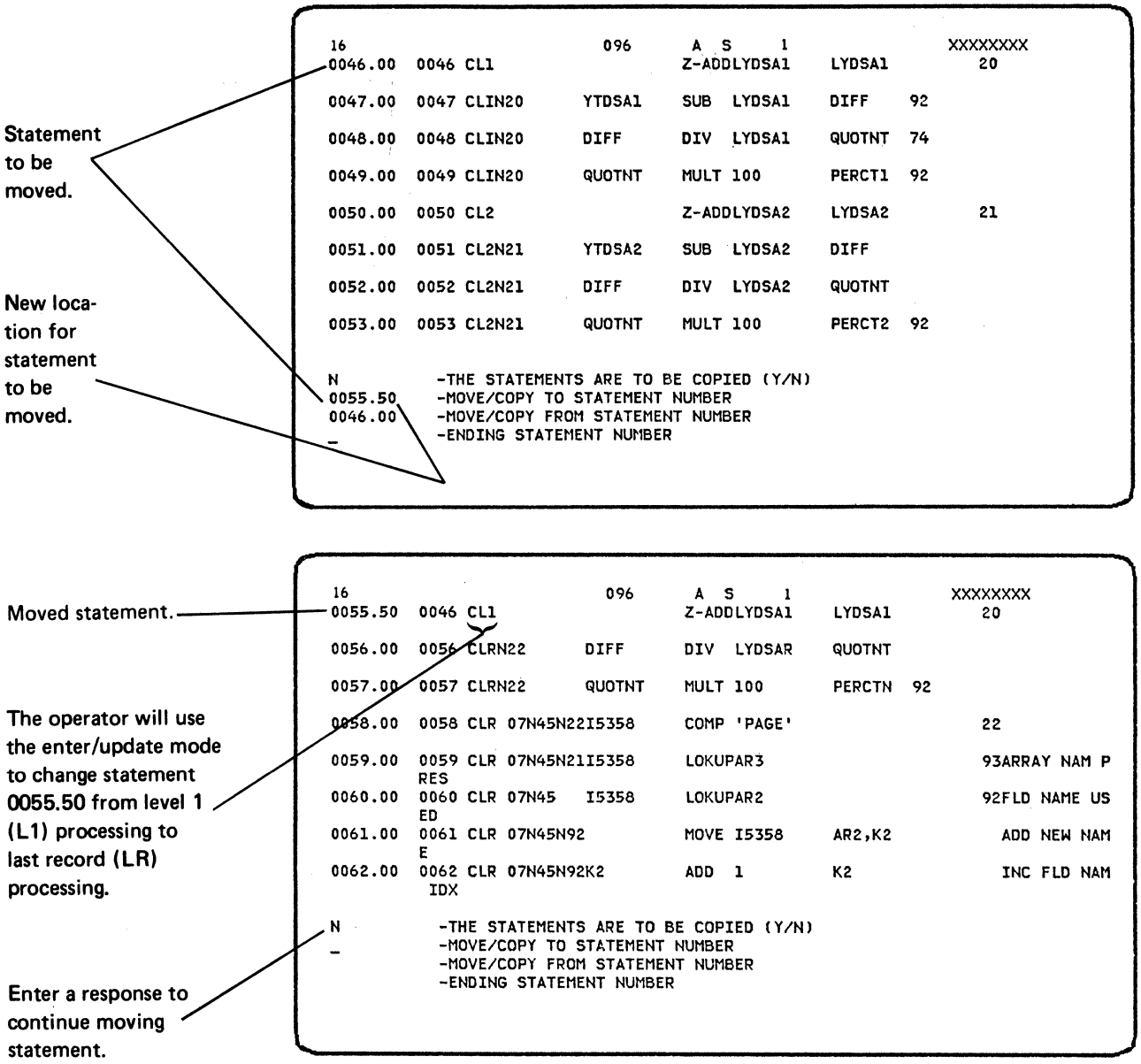


Figure 6-9. Sample Displays for Moving a Single Statement

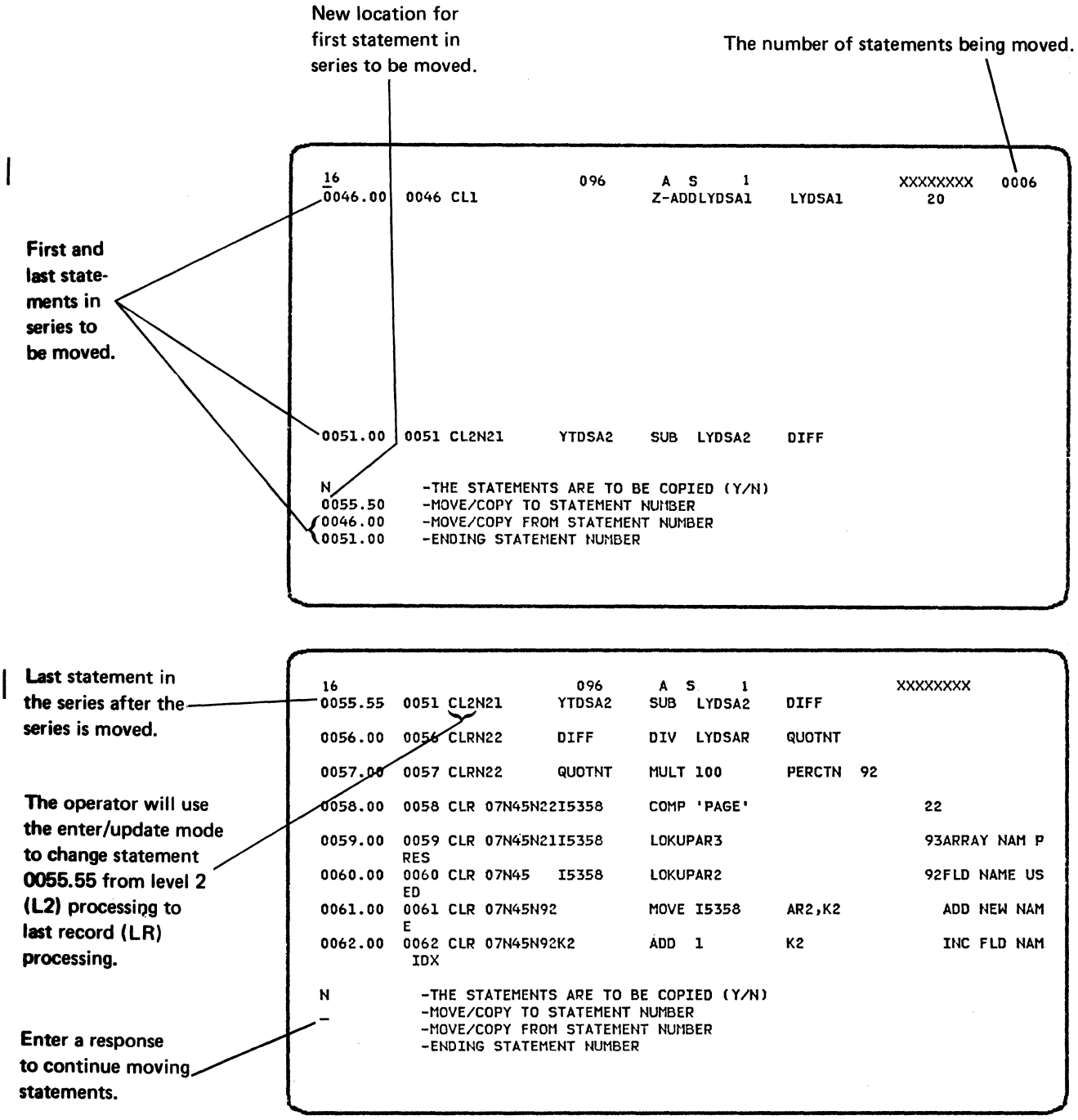


Figure 6-10. Sample Displays for Moving a Series of Statements

Move/Copy Command Function Keys

Figure 6-11 is a summary of SEU command function keys in the move/copy mode.

Key	Command Function Key	When Prompted with The Statements To Be Copied (Y/N), MOVE/COPY TO STATEMENT NUMBER, MOVE/COPY FROM STATEMENT NUMBER, and ENDING STATEMENT NUMBER	When Statement(s) Are Ready to Be Moved/Copied
1	Auto Skip	Not allowed.	
2	Scan/ Replace	Changes mode to scan mode. No statements are moved/copied.	
3	Select Format	Not allowed.	
4	Delete	Changes mode to delete mode. No statements are moved/copied.	
5	Enter/ Update	Changes mode to enter/update mode. No statements are moved/copied.	
6	Alter Print	Reverses status of print option and print indicator.	
7	EOJ	Displays end-of-job options.	
8	Alter Syntax	Not allowed.	
9	Search End Of Source	Displays last statement in member.	Displays last statement in member and repeats last prompt. No statements are moved/copied.
0	Move/Copy	Repeats prompt MOVE/COPY TO STATEMENT NUMBER. No statements are moved/copied.	
-	Include	Changes mode to include mode. No statements are moved/copied.	
=	Accept With Error	Not allowed.	
'	Cmd Key Display	Displays keyboard keys used as SEU command function keys and displays a brief description of each key.	
@	Scan To Update	Not allowed.	
*	Change Roll Factor	Allows you to change the roll factor.	
$	Alter Lines Per Stmt	Changes the number of lines reserved for the display of each statement.	
%	Translate	Changes mode to translate mode if member type is T. No statements are moved/copied.	

Figure 6-11. Command Function Key Summary for Move/Copy Mode

Move/Copy Function Control Keys

Figure 6-12 is a summary of function control keys in the move/copy mode.

Function Control Key	When Prompted with The Statement Are To Be Copied (Y/N), MOVE/COPY TO STATEMENT NUMBER, MOVE/COPY FROM STATEMENT NUMBER, and ENDING STATEMENT NUMBER	When Statement(s) Are Ready to Be Moved or Copied
Enter/Rec Adv	Indicates that you have finished keying one or more of the responses.	Causes the selected statement(s) to be moved or copied and the original statement number(s) to be deleted.
Home	Not allowed.	
Dup	Not allowed.	
Roll↑	Displays next statements as determined by the roll factor. Redisplays the move/copy prompts and the responses keyed.	Displays next statements as determined by the roll factor, redisplays the move/copy prompts, displays any responses that were entered, but blanks the response to ENDING STATEMENT NUMBER if it was entered.
Roll↓	Displays preceding statements as determined by the roll factor. Redisplays the move/copy prompts and the responses keyed.	Displays preceding statements as determined by the roll factor, redisplays the move prompts, displays any responses that were entered, but blanks the response to ENDING STATEMENT NUMBER if it was entered.

Figure 6-12. Function Control Key Summary for Move/Copy Mode

INCLUDE MODE

Use the include mode to copy statements from one source or procedure member to another. You can copy one statement at a time or copy several consecutive statements at once. Select the include mode by pressing the Include command function key.

You can also use the include mode to copy statements from one location in a member and move them to another location in the same member. But you cannot copy statements you are currently updating in a job. If you include statements from your current job, the statements will not reflect those changes because they do not yet exist in the library. Statements copied by the include mode are not deleted from their original location.

Include Prompts

The include prompts are:

```
-INCLUDE LIBRARY NAME
-INCLUDE MEMBER NAME
-INCLUDING AT STATEMENT NUMBER
-INCLUDING FROM STATEMENT NUMBER
-ENDING STATEMENT NUMBER
```

To include a single statement, respond to the first four prompts. To include a series of consecutive statements, respond to all five prompts. Responses are:

- INCLUDE LIBRARY NAME: Enter the name of the library that contains the member from which you want to include one or more statements. Default values are: the library specified in the last parameter of the SEU command, which is described in Chapter 5; or, if you did not name a library in the SEU command, #LIBRARY, the system library. If file and library security is active, the user must be authorized to READ the specified library.

- INCLUDE MEMBER NAME: Enter the name of the member that contains one or more statements you want to include. If the include member is a procedure member, enter *name,P*, where *name* is the member name. P identifies the member as a procedure member. You can also key, S, following the member name to indicate a source member. If neither P or S is keyed; S is assumed.

- INCLUDING AT STATEMENT NUMBER: Enter the statement number that identifies the location for the copy of the statement you want to include, or that identifies the location for the copy of the first statement in the series of statements you want to include.

- INCLUDING FROM STATEMENT NUMBER: Enter the statement number that identifies the statement you want to include, or that identifies the first statement in the series of statements you want to include.

- ENDING STATEMENT NUMBER: Enter the statement number of the last statement in the series of statements you want to include.

After you enter the necessary responses, press the Enter/Rec Adv key again to cause SEU to include the statement(s).

Figures 6-13 and 6-14 show sample responses to the include prompts.

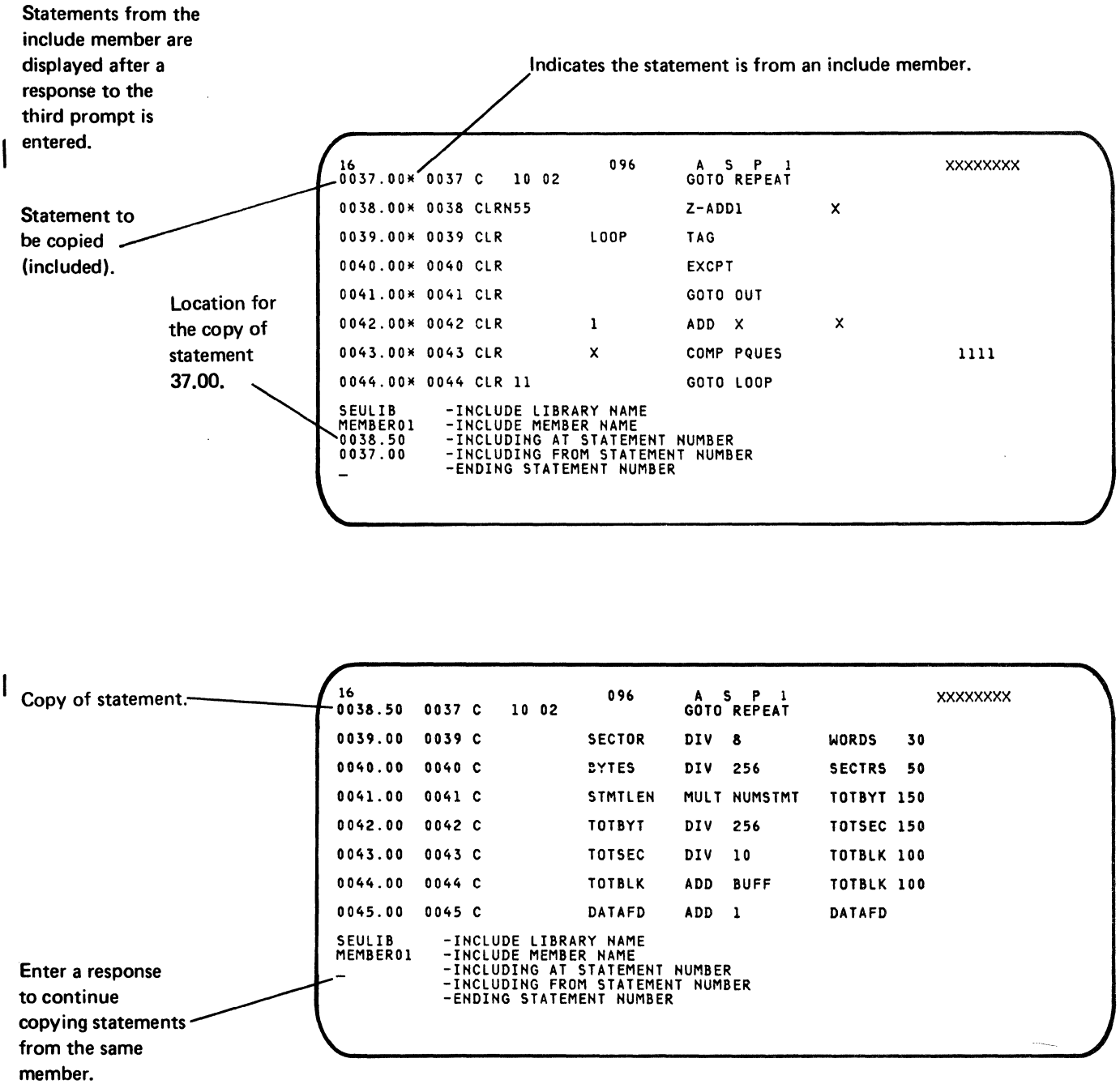


Figure 6-13. Sample Displays for Including a Single Statement

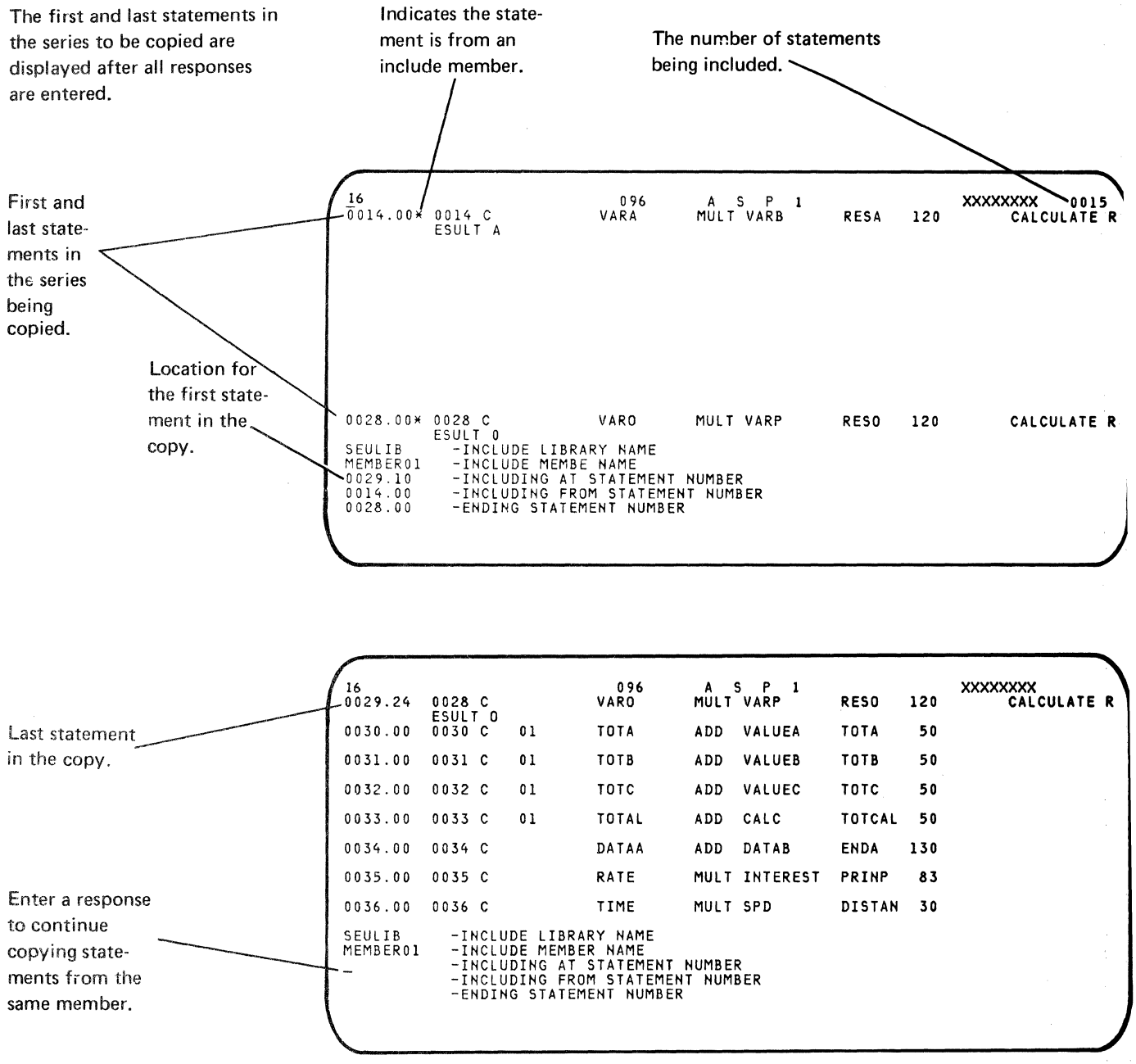


Figure 6-14. Sample Displays for Including a Series of Statements

Include Command Function Keys

Figure 6-15 is a summary of SEU command keys in the include mode.

Key	Command Function Key	When Prompted with INCLUDE LIBRARY NAME, INCLUDE MEMBER NAME, or INCLUDING AT STATEMENT NUMBER	When Prompted with INCLUDING FROM STATEMENT NUMBER and ENDING STATEMENT NUMBER	When Statement(s) Are Ready to Be Included
1	Auto Skip	Not allowed.		
2	Scan/ Replace	Changes mode to scan mode. No statements are included. The Scan key is invalid if no statements exist in the member.		
3	Select Format	Not allowed.		
4	Delete	Changes mode to delete mode. No statements are included. The Delete key is invalid if no statements exist in the member.		
5	Enter/ Update	Changes mode to enter/update mode. No statements are included.		
6	Alter Print	Reverses status of print option and print indicator.		
7	EOJ	Displays end-of-job options.		
8	Alter Syntax	Not allowed.		
9	Search End Of Source	Displays last statement in signed-on member. The Search End Of Source key is invalid if no statements exist in the member.	Displays last statement in include member.	Displays last statement in include member and repeats last prompt. No statements are included.
0	Move/Copy	Changes mode to move/copy mode. No statements are included. The Move/Copy key is invalid if no statements exist in the member.		
-	Include	Repeats prompt INCLUDE LIBRARY NAME.	Repeats prompt INCLUDING AT STATEMENT NUMBER. No statements are included.	
=	Accept With Error	Not allowed.		
'	Cmd Key Display	Displays keyboard keys used as SEU command function keys and displays a brief description of each key.		
.	Scan To Update	Not allowed.		
*	Change Roll Factor	Allows you to change the roll factor.		
$	Alter Lines Per Stmt	Changes the number of lines reserved for the display of each statement.		
%	Translate	Changes mode to translate mode if member type is T. No statements are included.		

Figure 6-15. Command Function Key Summary for Include Mode

Include Function Control Keys

Figure 6-16 is a summary of function control keys in the include mode.

Function Control Key	When Prompted with INCLUDE LIBRARY NAME, INCLUDE MEMBER NAME, INCLUDING AT STATEMENT NUMBER, INCLUDING FROM STATEMENT NUMBER, and ENDING STATEMENT NUMBER	When Statement(s) Are Ready to Be Included
Enter/Rec Adv	Indicates that you have finished keying one or more responses.	Causes the selected statement(s) to be included in the signed-on member.
Home	Not allowed.	
Dup	Not allowed.	
Roll↑	Displays next statements as determined by the roll factor. Redisplays the include prompts and the responses keyed. The Roll↑ key is invalid if no statements exist in the member.	Displays the next statements as determined by the roll factor, redisplays the include prompts, displays any responses that were entered, and blanks the response to ENDING STATEMENT NUMBER if it was entered.
Roll↓	If statements from the include member are not being displayed, displays preceding statements as determined by the roll factor, and redisplays the include prompts and the responses entered. If the include member is being displayed, the Roll↓ key is ignored. The Roll↓ key is invalid if no statements exist in the member.	Not allowed.

Figure 6-16. Function Control Key Summary for Include Mode

SCAN MODE (with Scan to Update and Scan and Replace)

Using the scan mode, you can search through a member to locate a particular string of characters.

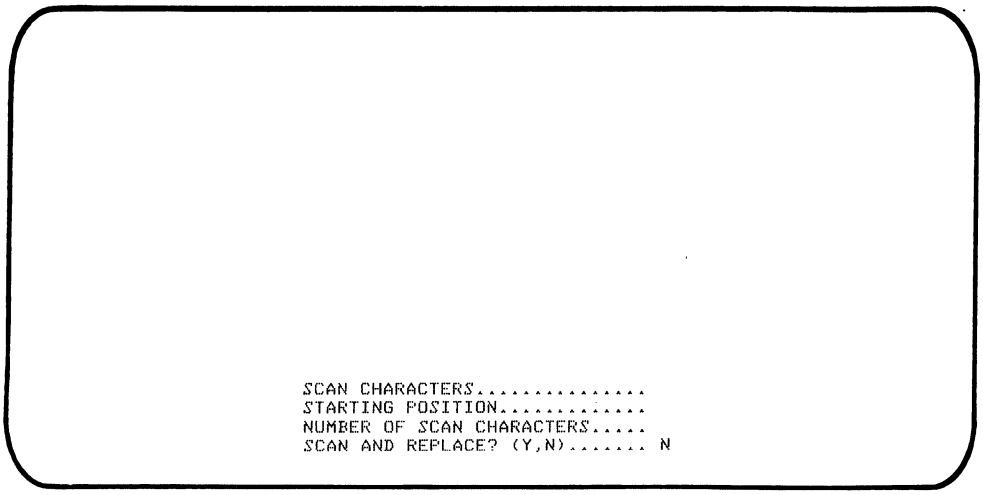
When the scan mode locates the first occurrence of the character string, pressing the Scan to Update command function key displays the statement in the enter/update mode.

The scan and replace option on the scan display screen allows you to substitute a string of replace characters for a string (or strings) of scan characters within a statement.

The following three sections discuss the scan mode and the scan to update and scan and replace functions.

Scan

When you press the Scan/Replace command function key, the following prompts are displayed:



The following is an explanation of the possible responses and restrictions for each prompt. You must at least enter scan characters or the number of scan characters. If you only enter a value for the NUMBER OF SCAN CHARACTERS prompt, SEU scans for a string of blanks. The scan prompts, and the possible responses and restrictions for each, are:

- SCAN CHARACTERS: This is the string of characters you want to locate. (SEU cannot scan for lowercase alphabetic characters.) Blanks are valid in any position of the string. If blanks are included at the end of the string, remember to include them in your count and enter a value for NUMBER OF SCAN CHARACTERS.

  This prompt is optional, and you can leave it blank if you enter a value for NUMBER OF SCAN CHARACTERS. If you do not enter any scan characters, SEU assumes the scan characters are blanks and searches for a string of blanks with the length you specified for the NUMBER OF SCAN CHARACTERS prompt.

  Note: SEU searches for the scan characters in any form. For example, when scanning for the word ADD, SEU will display ADDITION, ADDRESS, or similar occurrences of the letters ADD. To isolate the word ADD, include a blank at the beginning and the end of the string. See SCAN AND REPLACE later in this chapter for similar considerations when performing a scan and replace function.

- STARTING POSITION: This is the starting position of the scan character string within the statement you are searching. It limits the scan to a particular area of the statements. The scan skips over any data in the statement up to the starting position and scans only the number of characters specified. For example, assume you want to scan the result field (columns 43-48) of an RPG source program for a specific name. You specify column 43 as the starting position. If there are six scan characters in the string, SEU scans positions 43 through 48.

  This prompt is optional and can remain blank. If you leave the prompt blank, SEU searches the entire statement for the first occurrence of the specified scan characters. When the scan characters are found, and the statement is displayed, the scan continues with the next statement when you press the Enter/Rec Adv key.

- NUMBER OF SCAN CHARACTERS: This is the number of characters, including blanks, contained in the scan character string. Any number from 1 through 25 may be entered. If the number you specify is less than the number of scan characters you entered, SEU shortens the right end of the scan character string to this length. If the number you specify is greater than the number of scan characters you entered, SEU assumes blanks to the right of the scan character string.

  This prompt is optional only if you entered a value for SCAN CHARACTERS earlier. If you do not respond to NUMBER OF SCAN CHARACTERS, SEU assumes that the scan character string contains no blanks at the end and counts only the number of characters in the string.

- SCAN AND REPLACE (Y,N): A response of Y selects the scan and replace function which will replace the scan character string with a string of replace characters. If you enter a Y, the replace display screens are displayed. Enter an N if you do not want to replace the scan characters. The scan then continues normally and you will not see any of the replace display screens. N is the default value for this field.

Figure 6-17 shows an example of how to use the scan mode.

Enter the scan character string.

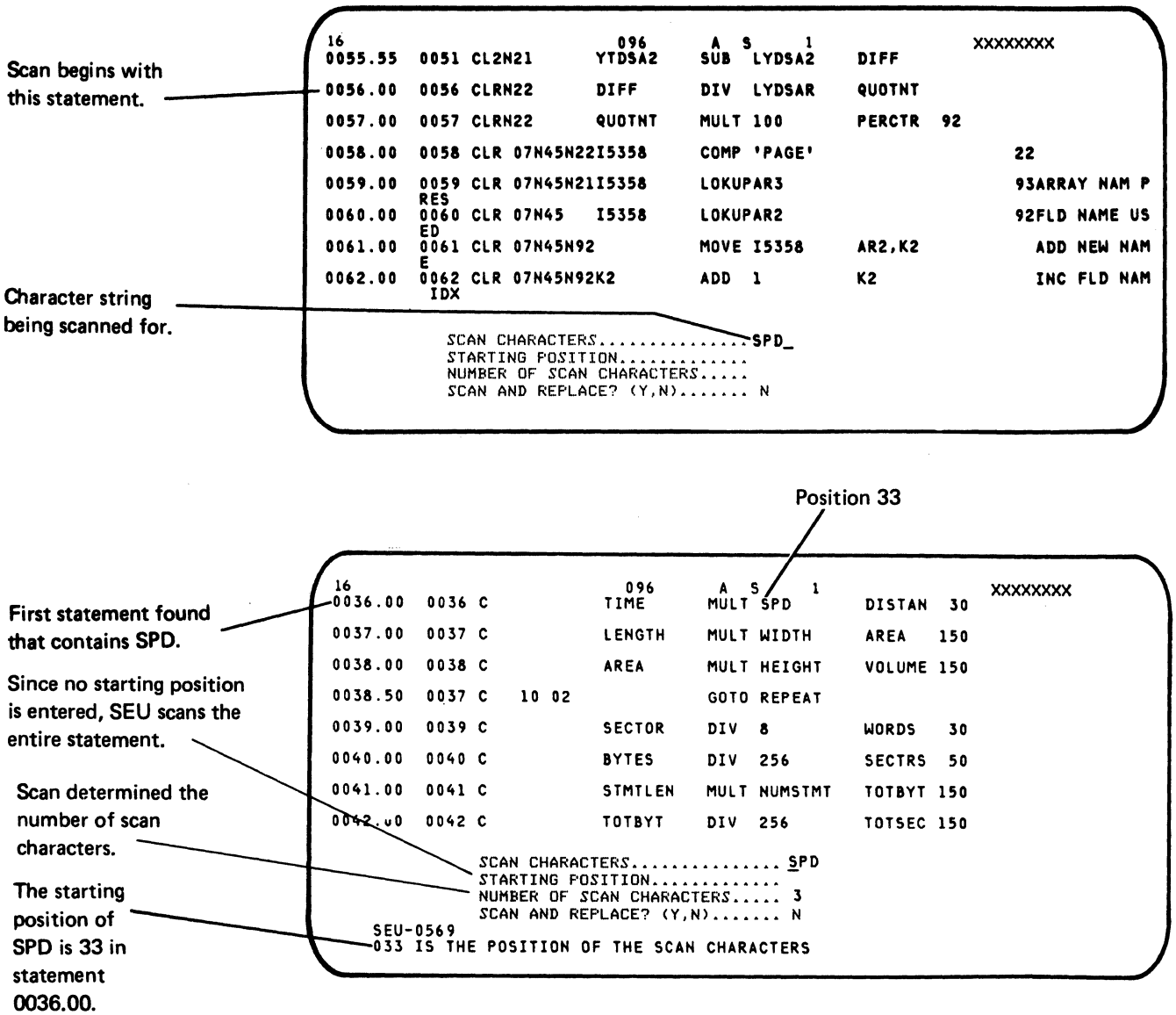


Figure 6-17. Example of Scan Mode

Note: If the first statement located by the scan is not the statement you want, press the Enter/Rec Adv key to continue the scan. If you want to update the statement at this point, press the Scan to Update command function key.

Scan to Update

Once you are in the scan mode or enter/update mode, you can use the Scan to Update command function key to display the statement in the enter/update mode.

When you are in either the scan or enter/update mode, you can make changes or additions to the statement by doing the following:

1. Press the Scan to Update key. The first statement found containing the scan characters is displayed in the enter/update mode.

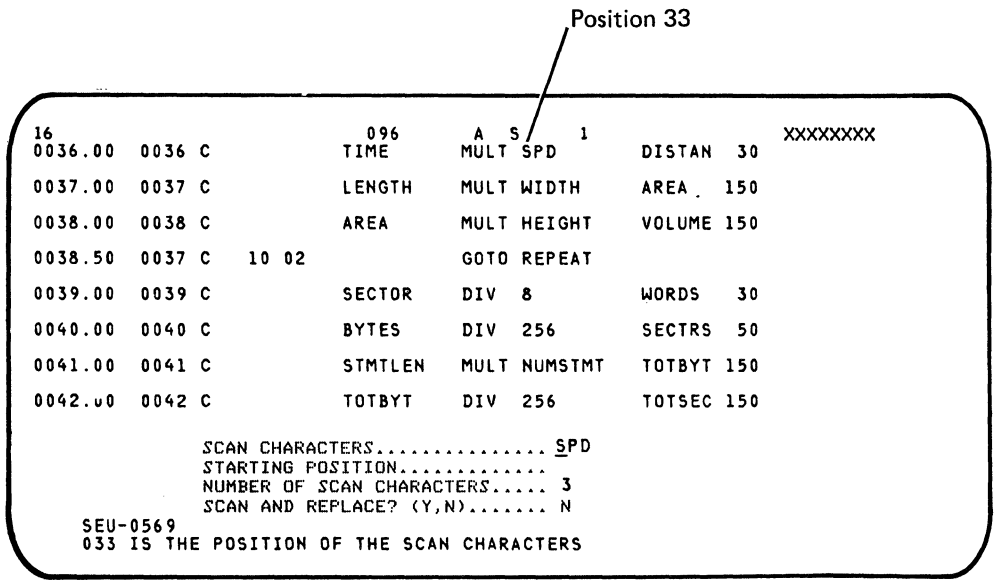
2. Enter any changes and press the Enter/Record Adv key to record the change. The next statement in the member is displayed in the enter/update mode whether or not it contains the scan characters.

3. Press the Scan to Update key to continue the scan and to display the next statement that contains the scan characters. For example, if statement number 0036.00 contains the scan characters and is displayed in the enter/update mode, you can enter the changes and press the Enter/Record Adv key. The changes are recorded, and the next statement, number 0037.00, is displayed in the enter/update mode. If you press the Scan to Update key, the scan begins again with statement number 0037.00.

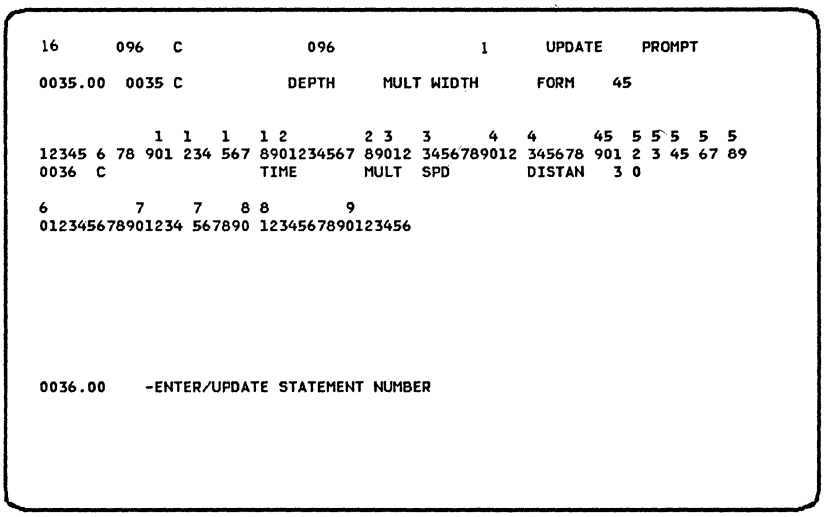
4. The scan ends when you press another valid SEU command function key, when the scan characters are found, or when the entire member has been scanned and the scan characters are not found.

   An example of Scan to Update follows.

   The first occurrence of the scan character string was found in statement 0036.00 at position 33.



Press the Scan to Update command function key. The statement is displayed in the enter/update mode.



Once you have made the changes, press the Enter/Record Adv key to continue the scan.

Scan Command Function Keys

Figure 6-18 is a summary of SEU command function keys in the scan mode.

Key	Command Function Key	When in Scan Mode
1	Auto Skip	Not allowed.
2	Scan/ Replace	Repeats scan prompts. No scan is performed.
3	Select Format	Not allowed.
4	Delete	Changes mode to delete mode. No scan is performed.
5	Enter/ Update	Changes mode to enter/update mode. No scan is performed.
6	Alter Print	Reverses the status of print option and print indicator.
7	EOJ	Displays end-of-job options.
8	Alter Syntax	Not allowed.
9	Search End Of Source	Displays last statement in member and redisplays the scan prompts and responses.
0	Move/Copy	Changes mode to move/copy mode. No scan is performed.
-	Include	Changes mode to include mode. No scan is performed.
=	Accept With Error	Not allowed.
'	Cmd Key Display	Displays keyboard keys used as SEU command function keys and displays a brief description of the function of each key.
@	Scan To Update	Alternative to the Enter/Rec Adv key. Changes to enter/update mode so that you can update the statement located by scan.
#	Change Roll Factor	Allows you to change the roll factor.
$	Alter Lines Per Stmt	Changes the number of lines reserved for the display of each statement.
%	Translate	Changes mode to translate mode if member type is T. No scan is performed.

Figure 6-18. Command Function Key Summary for Scan Mode

Scan Function Control Keys

Figure 6-19 is a summary of function control keys in the scan mode.

Function Control Key	When in Scan Mode
Enter/ Rec Adv	Indicates you have keyed at least a response to SCAN CHARACTERS or NUMBER OF SCAN CHARACTERS and you want the scan to begin.
Home	Not allowed.
Dup	Not allowed.
Roll↑	Displays the next statements as determined by the roll factor, redisplays the scan prompts, and displays any responses that were entered.
Roll↓	Displays the preceding statements as determined by the roll factor, redisplays the scan prompts, and displays any responses that were entered.

Figure 6-19. Function Control Key Summary for Scan Mode

Scan and Replace

If you responded Y to the SCAN AND REPLACE option on the scan characters display screen, the following prompts are displayed:

```
REPLACE CHARACTERS.............
NUMBER OF REPLACE CHARACTERS.....
REPLACE ONCE PER STATEMENT.......N
END OF REPLACE AREA.............XXX
LAST STATEMENT TO SCAN/REPLACE...XXXX.XX
```

You must enter the replace characters or the number of replace characters. If you enter only the number of replace characters, SEU assumes the replace characters are blanks and substitutes blanks for the scan characters.

The following is an explanation of possible responses and restrictions for each prompt:

- REPLACE CHARACTERS: These are the characters SEU uses to replace the scan characters you specified. From 0 to 25 alphameric characters can be entered.

  This prompt is optional and can remain blank if you enter a value for NUMBER OF REPLACE CHARACTERS. If you do not enter any replace characters, SEU assumes the replace characters is a string of blanks with the length you specify for NUMBER OF REPLACE CHARACTERS.

  Note: The replace characters will replace the scan characters wherever the scan characters are found. For example, assume you enter ADD for SCAN CHARACTERS and SUB for REPLACE CHARACTERS. ADDITION becomes SUBITION, ADDRESS becomes SUBRESS and so on. You can isolate the scan characters by including a blank at the beginning and end of the scan characters string.

- NUMBER OF REPLACE CHARACTERS: This is the length of the replace character string. This prompt is optional and can be left blank if you entered a replace character string. When this prompt is left blank, SEU counts the number of replace characters you entered (including blanks imbedded within the string) and displays that number. SEU does not count blanks at the end of the string. You should consider the following when responding to this field:
  - Enter any number 0 through 25.
  - Enter 0 to delete the scan characters.
  - If blanks are to be included at the end of the string, be sure to include them in the number.

  If you enter a value that is less than the number of replace characters entered, SEU shortens the right end of the string of replace characters to this length. If you did not specify any replace characters, SEU assumes a string of blanks the length of the value you entered.

  See *Scan Characters and Replace Characters* later in this chapter for considerations when the number of scan characters differs from the number of replace characters.

- REPLACE ONCE PER STATEMENT: A response of Y to this prompt limits the replace to only one occurrence of the scan characters within a statement. A response of N means the scan characters are replaced everywhere they occur within the statement.

  If you leave the field blank, and did not enter a starting position on the scan prompt display earlier, the default is N. However, if you entered a starting position on the scan prompt display earlier, the default is changed to Y.

- END OF REPLACE AREA: This is the ending position within the statement of the data that will be scanned and replaced. No data beyond this position in the statement will be altered to accommodate a string of replace characters. For example, in an 80-column statement, if the end of the replace area is 60, columns 61 through 80 will not be scanned or shifted. When you make no entry, SEU assumes that the end of replace area is the end of the statement. If the number of replace characters is greater than the number of scan characters, data is shifted right to accommodate the replace string. For example, assume 2 scan characters in positions 59 and 60 are to be replaced by 3 replace characters. Starting in position 61, all data is shifted right to accommodate the extra replace character.

- LAST STATEMENT TO SCAN/REPLACE: This is the number of the last statement to be scanned and replaced within the member. If a last statement number is not entered, SEU continues to scan and replace through the entire member. If a last statement number is entered, you can limit the number of statements that are scanned.

  Note: The scan and replace function always begins with the statement that was on the second line of the SEU display screen when the scan responses were entered. You can use the Roll key to set the start of the scan elsewhere within the member by positioning a particular statement on the second line of the screen. See Chapter 4, *Operating Considerations*, for more information on positioning statements on the display screen.

Following is an example of how to use the scan and replace function:

Enter the scan characters and the number of scan characters. Because AREA appears in more than one column, you do not specify an End of Replace Area. Instead, specify an equal number of scan and replace characters. Since there will be 6 replace characters, specify 2 blanks following AREA so that the number of scan characters also equals 6. Select the scan and replace function by entering Y.

```
16                         096              1                   EXAMPLE
0036.00  0036 C            TIME     MULT SPD     DISTAN 30
0037.00  0037 C            LENGTH   MULT WIDTH   AREA   150
0038.00  0038 C            AREA     MULT HEIGHT  VOLUME150
0039.00  0037 C   10 02             GOTO REPEAT
0040.00  0039 C            SECTOR   DIV  8       WORDS  30
0041.00  0040 C            BYTES    DIV  256     SECTRS 50
0042.00  0041 C            STMTLEN  MULT NUMSTMT TOTBYT150
0043.00  0042 C            TOTBYT   DIV  256     TOTSEC150

         SCAN CHARACTERS............... AREA
         STARTING POSITION.............
         NUMBER OF SCAN CHARACTERS..... 6
         SCAN AND REPLACE? (Y,N)....... Y
```

Because you responded yes (Y) to the scan and replace prompt, the following prompts are displayed. Enter at least the replace characters or the number of replace characters.

```
16                      096         1              EXAMPLE
0036.00  0036 C         TIME     MULT SPD     DISTAN 30

0037.00  0037 C         LENGTH   MULT WIDTH   AREA  150

0038.00  0038 C         AREA     MULT HEIGHT  VOLUME150

0039.00  0037 C   10 02          GOTO REPEAT

0040.00  0039 C         SECTOR   DIV  8       WORDS  30

0041.00  0040 C         BYTES    DIV  256     SECTRS 50

0042.00  0041 C         STMTLEN  MULT NUMSTMT TOTBYT150

0043.00  0042 C         TOTBYT   DIV  256     TOTSEC150

          REPLACE CHARACTERS............... AREA02
          NUMBER OF REPLACE CHARACTERS..... 6
          REPLACE ONCE PER STATEMENT....... N
          END OF REPLACE AREA.............. 096
          LAST STATEMENT TO SCAN/REPLACE... 0036.00
```

If there are no errors and the replace function has completed, a message is displayed with the number of statements altered by the replace.

```
16                      096         1              EXAMPLE
0036.00  0036 C         TIME     MULT SPD     DISTAN 30

0037.00  0037 C         LENGTH   MULT WIDTH   AREA02150

0038.00  0038 C         AREA02   MULT HEIGHT  VOLUME150

0039.00  0037 C   10 02          GOTO REPEAT

0040.00  0039 C         SECTOR   DIV  8       WORDS  30

0041.00  0040 C         BYTES    DIV  256     SECTRS 50

0042.00  0041 C         STMTLEN  MULT NUMSTMT TOTBYT150

0043.00  0042 C         TOTBYT   DIV  256     TOTSEC150

          SCAN CHARACTERS............... AREA
          STARTING POSITION.............
          NUMBER OF SCAN CHARACTERS..... 06
          SCAN AND REPLACE? (Y,N)....... Y
    SEU-0597
    0002 STATEMENTS HAVE BEEN CHANGED
```

Replace Command Function Keys

Figure 6-20 is a summary of SEU command function keys in the replace mode.

Key	Command Function Key	When Using the Replace Function
1	Auto Skip	Not allowed.
2	Scan/ Replace	Repeats scan prompts. No replace is performed.
3	Select Format	Not allowed.
4	Delete	Changes mode to delete mode. No replace is performed.
5	Enter/ Update	Changes mode to enter/update mode. No replace is performed.
6	Alter Print	Reverses the status of print option and print indicator.
7	EOJ	Displays end-of-job options.
8	Alter Syntax	Not allowed.
9	Search End Of Source	Displays last statement in member and redisplays the replace prompts and responses.
0	Move/Copy	Changes mode to move/copy mode. No replace is performed.
-	Include	Changes mode to include mode. No replace is performed.
=	Accept With Error	Not allowed.
'	Cmd Key Display	Displays keyboard keys used as SEU command function keys and displays a brief description of each key function.
@	Scan To Update	Not allowed.
*	Change Roll Factor	Allows you to change the roll factor.
$	Alter Lines Per Stmt	Changes the number of lines reserved for the display of each statement.
%	Translate	Changes mode to translate mode if member type is T. No replace is performed.

Figure 6-20. Command Function Key Summary for Replace Mode

Replace Function Control Keys

Figure 6-21 is a summary of function control keys in the replace function.

Function Control Key	When Using the Replace Function
Enter/ Rec Adv	Indicates you have keyed at least a response to REPLACE CHARACTERS or NUMBER OF REPLACE CHARACTERS and you want the scan and replace to begin.
Home	Not allowed.
Dup	Not allowed.
Roll↑	Displays the next statements as determined by the roll factor, redisplays the replace prompts, and displays any responses that were entered.
Roll↓	Displays the preceding statements as determined by the roll factor, redisplays the replace prompts, and displays any responses that were entered.

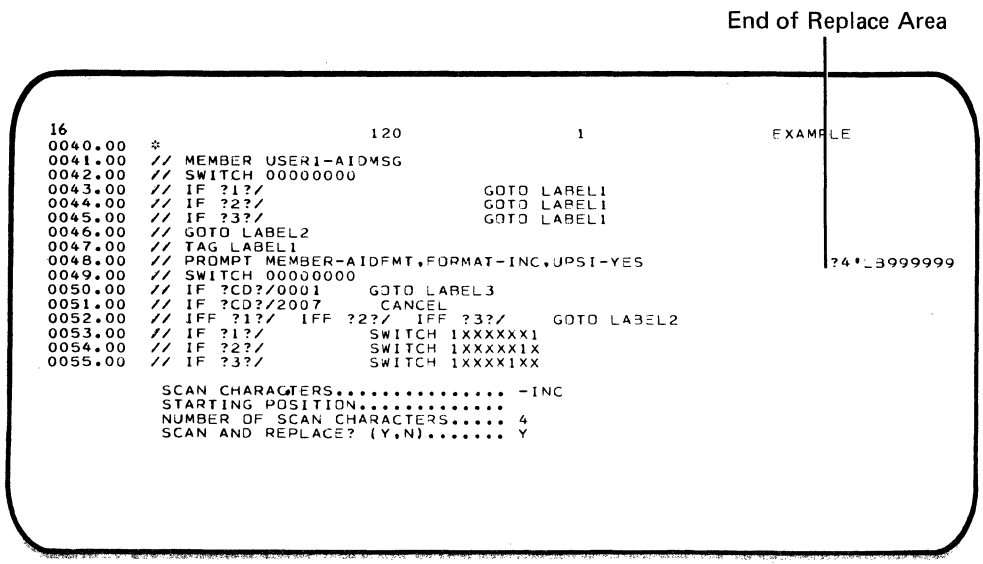
Figure 6-21. Function Control Key Summary for Replace Function

Scan Characters and Replace Characters

When the number of scan characters differs from the number of replace characters, one of the following will happen:

1. If there are more replace characters than scan characters, data is shifted to the right to allow the replace characters to be inserted. Shifting will not occur beyond the position you specify for the END OF REPLACE AREA prompt. If you do not specify an End of Replace Area, all data to the right of the replace characters is shifted to accommodate the replace characters.

   For example, replacing -INC with -AIDINC requires a shift of data to the right.



Enter the replace characters and the number of replace characters.

End of Replace Area

```
16                          120              1                EXAMPLE
0040.00  *
0041.00  // MEMBER USER1-AIDMSG
0042.00  // SWITCH 00000000
0043.00  // IF ?1?/                    GOTO LABEL1
0044.00  // IF ?2?/                    GOTO LABEL1
0045.00  // IF ?3?/                    GOTO LABEL1
0046.00  // GOTO LABEL2
0047.00  // TAG LABEL1
0048.00  // PROMPT MEMBER-AIDFMT,FORMAT-INC,UPSI-YES                ?4'LB999999
0049.00  // SWITCH 00000000
0050.00  // IF ?CD?/0001    GOTO LABEL3
0051.00  // IF ?CD?/2007     CANCEL
0052.00  // IFF ?CD?/  IFF ?2?/  IFF ?3?/    GOTO LABEL2
0053.00  // IF ?1?/          SWITCH 1XXXXXX1
0054.00  // IF ?2?/          SWITCH 1XXXXX1X
0055.00  // IF ?3?/          SWITCH 1XXXX1XX

          REPLACE CHARACTERS.............. -AIDINC
          NUMBER OF REPLACE CHARACTERS..... 7
          REPLACE ONCE PER STATEMENT....... N
          END OF REPLACE AREA.............. 59
          LAST STATEMENT TO SCAN/REPLACE... 0040.00
```

When you press the Enter/Rec Adv key, the scan prompts are redisplayed, and the number of statements changed is noted at the bottom of the screen.

End of Replace Area

```
16                          120              1                EXAMPLE
0040.00  *
0041.00  // MEMBER USER1-AIDMSG
0042.00  // SWITCH 00000000
0043.00  // IF ?1?/                    GOTO LABEL1
0044.00  // IF ?2?/                    GOTO LABEL1
0045.00  // IF ?3?/                    GOTO LABEL1
0046.00  // GOTO LABEL2
0047.00  // TAG LABEL1
0048.00  // PROMPT MEMBER-AIDFMT,FORMAT-AIDINC,UPSI-YES             ?4'LB999999
0049.00  // SWITCH 00000000
0050.00  // IF ?CD?/0001    GOTO LABEL3
0051.00  // IF ?CD?/2007     CANCEL
0052.00  // IFF ?CD?/  IFF ?2?/  IFF ?3?/    GOTO LABEL2
0053.00  // IF ?1?/          SWITCH 1XXXXXX1
0054.00  // IF ?2?/          SWITCH 1XXXXX1X
0055.00  // IF ?3?/          SWITCH 1XXXX1XX
          SCAN CHARACTERS................. -INC
          STARTING POSITION..............
          NUMBER OF SCAN CHARACTERS...... 04
          SCAN AND REPLACE? (Y, N)....... Y
    SEU-0597
    0001 STATEMENTS HAVE BEEN CHANGED
```

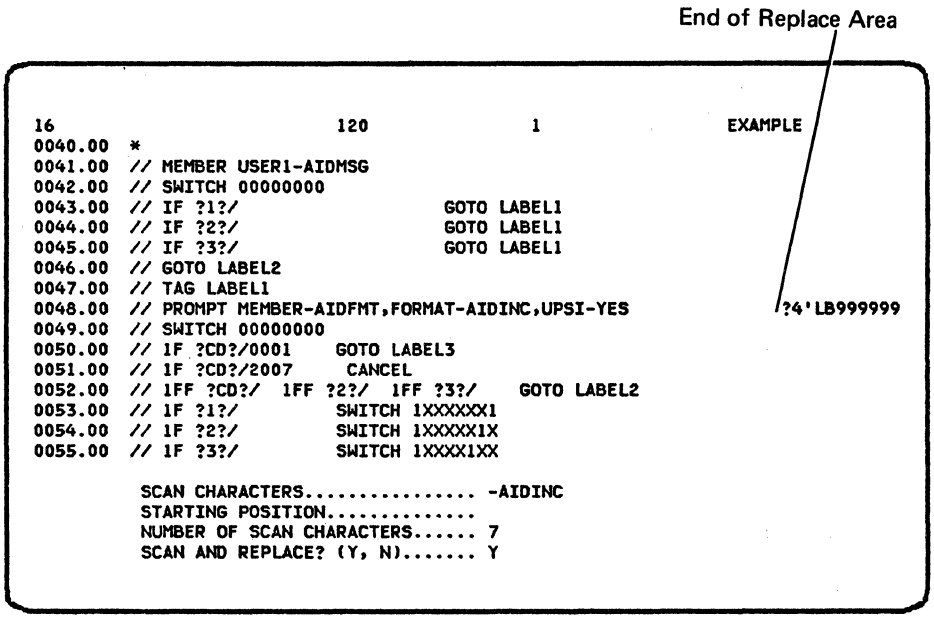
If there is not enough blank space available in the statement for the replacement, an error occurs. SEU redisplays the scan and replace prompt with the affected statement on the first line of the screen display. You cannot change the responses to the scan and replace prompt at this time. You should note the error and statement number for correction later and press the Enter/Record Adv key to continue.

Note: If an error occurs and you do not continue the replace function, all replacements that have occurred prior to the error will remain.

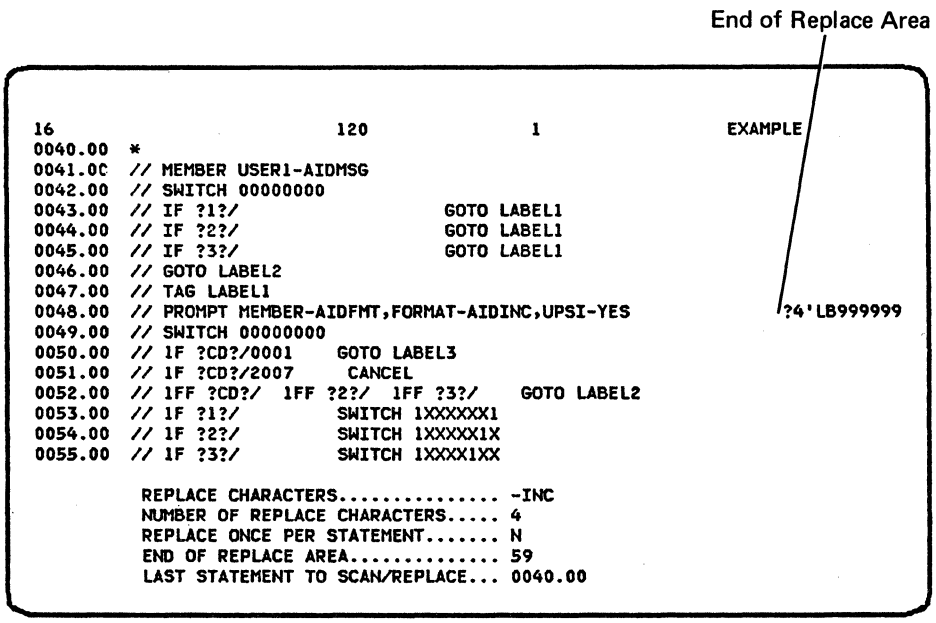
2. If there are fewer replace characters than scan characters, the data between the replace characters and the end of replace area is shifted to the left to close the gap created by the replacement. Blanks are inserted between this data and the end of the replace area.

   For example, replacing -AIDINC with -INC requires a shift of data to the left.

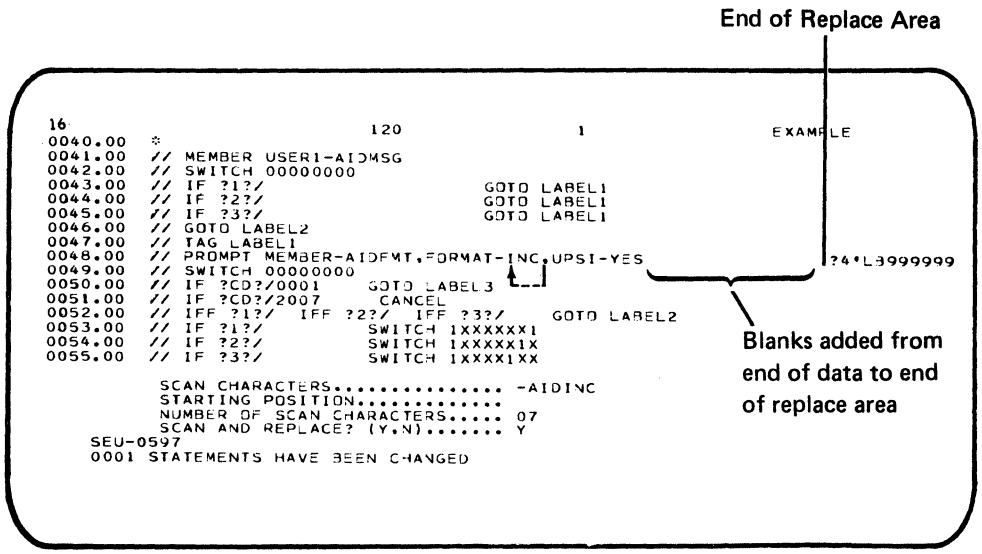
   Note: By not observing programming conventions when you shift data, you could cause some programs (such as RPG II programs) not to compile.



Enter the replace characters and the number of replace characters.



When you press the Enter/Record Adv key, the scan prompts are redisplayed, and the number of statements changed is noted at the bottom of the screen.



Print Option

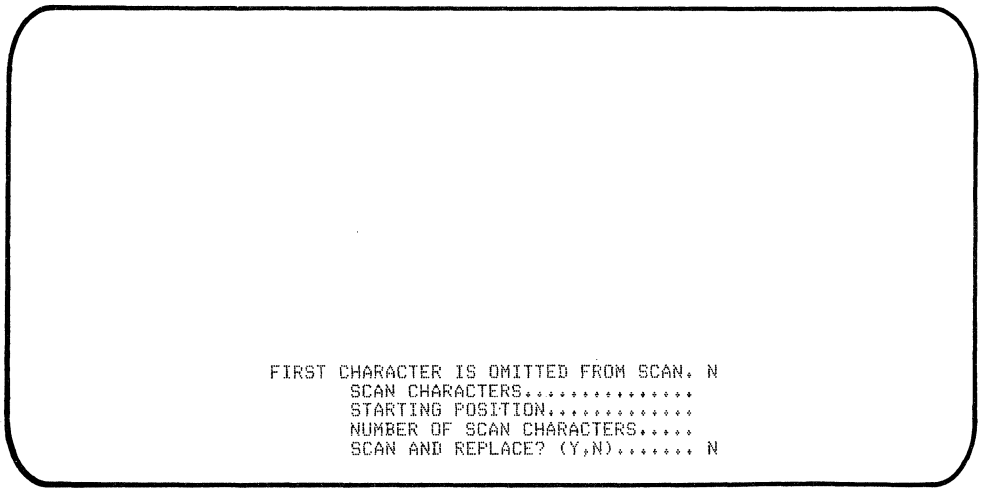
When the print option is on, SEU prints the before and the after version of each statement in which a replacement was made. The before-replacement version of the statement is identified with three hyphens (---). The after-replacement version of the statement is printed as it now exists.

Ideographic System Scanning

You can only scan for ideographic characters if your system has the ideographic feature. The following sections contain material you must use in addition to the earlier information on the scan mode and the scan to update and scan and replace functions. Only those areas unique to a system with the ideographic feature are covered here.

Considerations for Scan

When you press the Scan/Replace command function key, the following prompts are displayed:



When you enter the ideographic characters as a response to SCAN CHARACTERS on this display screen, the shift-out (S/O) control character $^{O}_{E}$ and shift-in (S/I) control character $^{O}_{F}$ are automatically entered before and after the character string. Because of this, there are some special considerations when scanning for ideographic characters.

- FIRST CHARACTER IS OMITTED FROM SCAN: If you enter Y, SEU ignores the S/O control character that begins the entered ideographic character string. (Only the beginning S/O character may be omitted with this option.) The option omits the beginning S/O character so that SEU can search for imbedded ideographic scan strings. If you enter N, SEU includes the beginning S/O character in the scan string.

- SCAN CHARACTERS: Enter the string of characters to be scanned for. The data can be alphameric, ideographic, or both.

- NUMBER OF SCAN CHARACTERS: Count 1 for the S/O control character if it is included in the scan. (Your response to FIRST CHARACTER IS OMITTED FROM SCAN was N.) Count 1 for the S/I control character if it is included in the scan. Also count 1 for each alphameric scan character, and 2 for each ideographic scan character (because each ideographic character takes 2 bytes of storage).

  The following example shows a scan for an ideographic character that failed because of incorrect prompt responses:

```
 4                           080                  1                      #SE#MT
0027.00  0307 NOT ENOUGH DISK SPACE OR DISK VTOC IS FULL...
0028.00  A000
0029.00  0101 メンバー名 を 入れよ。
0030.00  0102 メンバータイプ を 入れよ。
   FIRST CHARACTER IS OMITTED FROM SCAN. N
               SCAN CHARACTERS........... ブ
               STARTING POSITION.........
               NUMBER OF SCAN CHARACTERS.  4
               SCAN AND REPLACE? (Y,N)     N
    SEU-0568
    SCAN CHARACTERS WERE NOT FOUND IN MEMBER
```

The character ブ was not found during the scan, although it does exist in columns 19 and 20 of statement 30 (because ideographic characters require 2 bytes of storage, the character occupies two positions). The responses instructed SEU to scan not only for the ideographic character itself but also for a S/O control character immediately preceding it and for a S/I control character immediately following it.

The scan can successfully locate the ideographic character in the following example. The response to the prompt FIRST CHARACTER IS OMITTED FROM SCAN is changed from N to Y so that SEU omits the S/O control character from the scan. The NUMBER OF SCAN CHARACTERS response is changed from 4 to 2 so that SEU omits the S/I control character from the scan. Only the second and third character positions (the two positions for the ideographic character) of the SCAN CHARACTERS response are included in the scan. With these changes SEU displays a screen like the following:

```
 4                            080                  1                      #SE#MT
0030.00  0102 °EメンバータイプをＡ入れよ。°F
0031.00  0103 °ESEULOAD プロシジャー 実行中。°F
0032.00  0104 °ESEU プロシジャー 実行中。°F

   FIRST CHARACTER IS OMITTED FROM SCAN. Y
              SCAN CHARACTERS........... °Eプ°F
              STARTING POSITION.........
              NUMBER OF SCAN CHARACTERS.  2
              SCAN AND REPLACE? (Y,N)     N
    SEU-0569
    019 IS THE POSITION OF THE SCAN CHARACTERS
```

The responses of Y and 2 caused SEU to scan for プ only. (Responses of N and 3 would cause SEU to scan for °Eプ. Responses of Y and 3 would cause SEU to scan for プ°F.

Considerations for Scan and Update

When you make changes or additions to the data and press the Enter/Record Adv key, SEU determines whether or not the update would cause invalid data to be created.

Considerations for Scan and Replace

If you entered a Y response to SCAN AND REPLACE on the scan characters display screen, the scan and replace prompt is displayed. (See *Scan and Replace* in a previous section of this chapter.)

The following items should be considered when using the replace function with ideographic data:

- If the scan characters include either an S/O or S/I control character, the replace characters must also include the corresponding S/O or S/I control character.
- If the scan characters include both S/O and S/I control characters, the replace characters must either include both shift characters or be non-ideographic data.
- If end of replace area is specified, but occurs between the S/O and S/I control characters, an error message is displayed, and the scan characters are not replaced. This restriction is necessary to prevent the possibility of an uneven number of blank characters within an ideographic field. Since each ideographic character requires 2 bytes of storage, the restriction ensures against replacement of only half an ideographic character.

MESSAGE TRANSLATION MODE

You can translate your messages into other languages by using the SEU message translation mode. The message translation mode is available when the member specified in the SEU command is type T.

Each translated statement is added to the existing message member, and is assigned the same four-digit message identification code (MIC) number as the untranslated statement. Therefore, for each MIC number, the resulting source message member contains both the untranslated statement and the translated statement.

If your system has ideographic support, you can process the two-language source message member by using the SSP CREATE procedure to generate a two-language message load member. The SSP CREATE procedure requires a delimiter statement with A000 in positions 1-4 to separate the untranslated message text from the translated message text. SEU adds this delimiter statement to the message member at sign-on if the delimiter statement is not already there. All statements following the delimiter statement are considered to be translated message text. (See *$MGBLD* in Chapter 4 of the *SSP Reference Manual* for the requirements of a message source member.) When your program displays a screen with an MIC number in the constant data area (positions 57-79) of a field definition statement for the screen format generator, the untranslated message text is displayed if you are signed on in alphanumeric session, and the translated message text is displayed if you are signed on in ideographic session.

Even if your system does not have ideographic support, you can still use the message translation mode to translate message source statements into other languages. Use the SEU INCLUDE mode to include the translated message source statement in a new source member. You can select the untranslated message member or the translated message member, depending on the OCL procedure parameters you use with the IF/ELSE selection process.

Figure 6-22 shows sample statements in a source message member before the translated statements are added. Contrast Figure 6-22 with Figure 6-23 in which some of the statements have been translated.

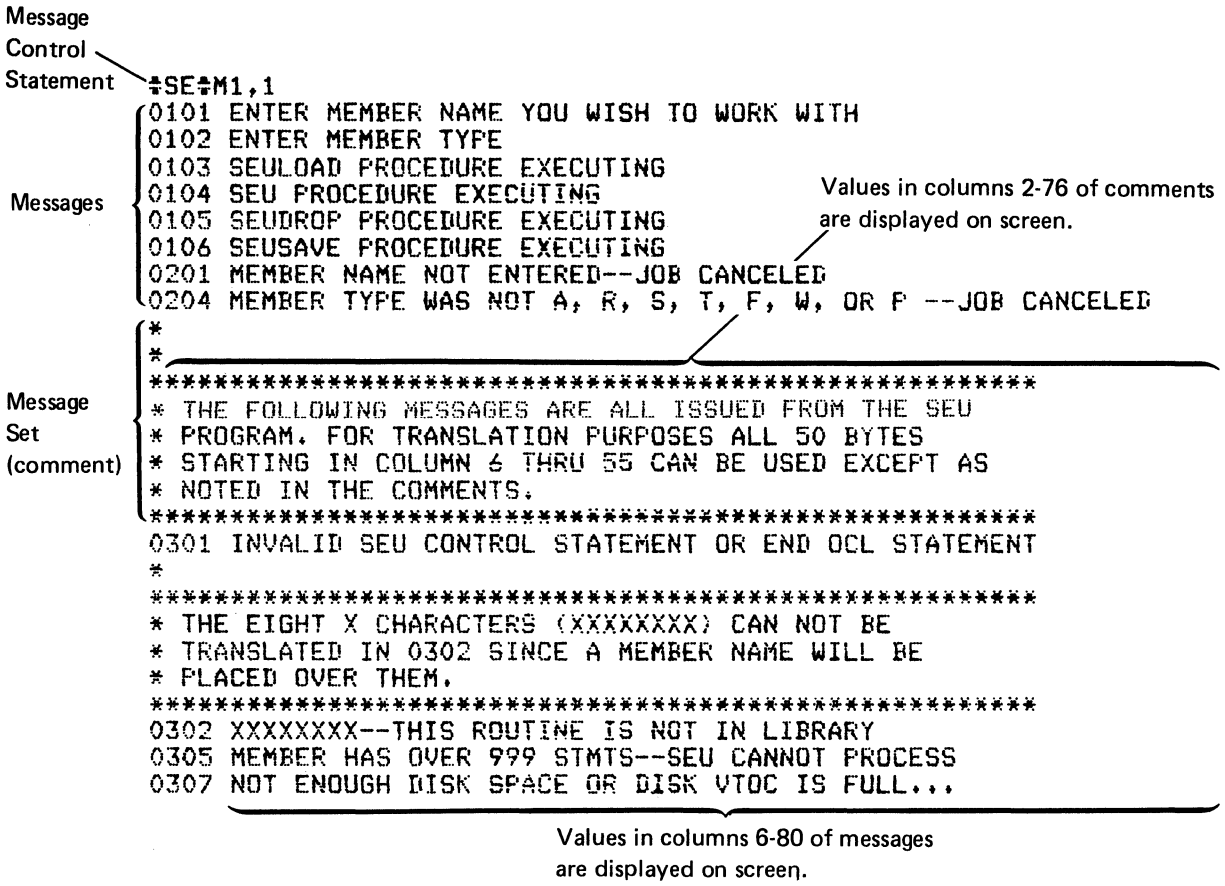


Figure 6-22. Sample Statements in a Source Message Member Before the Translated Statements are Added

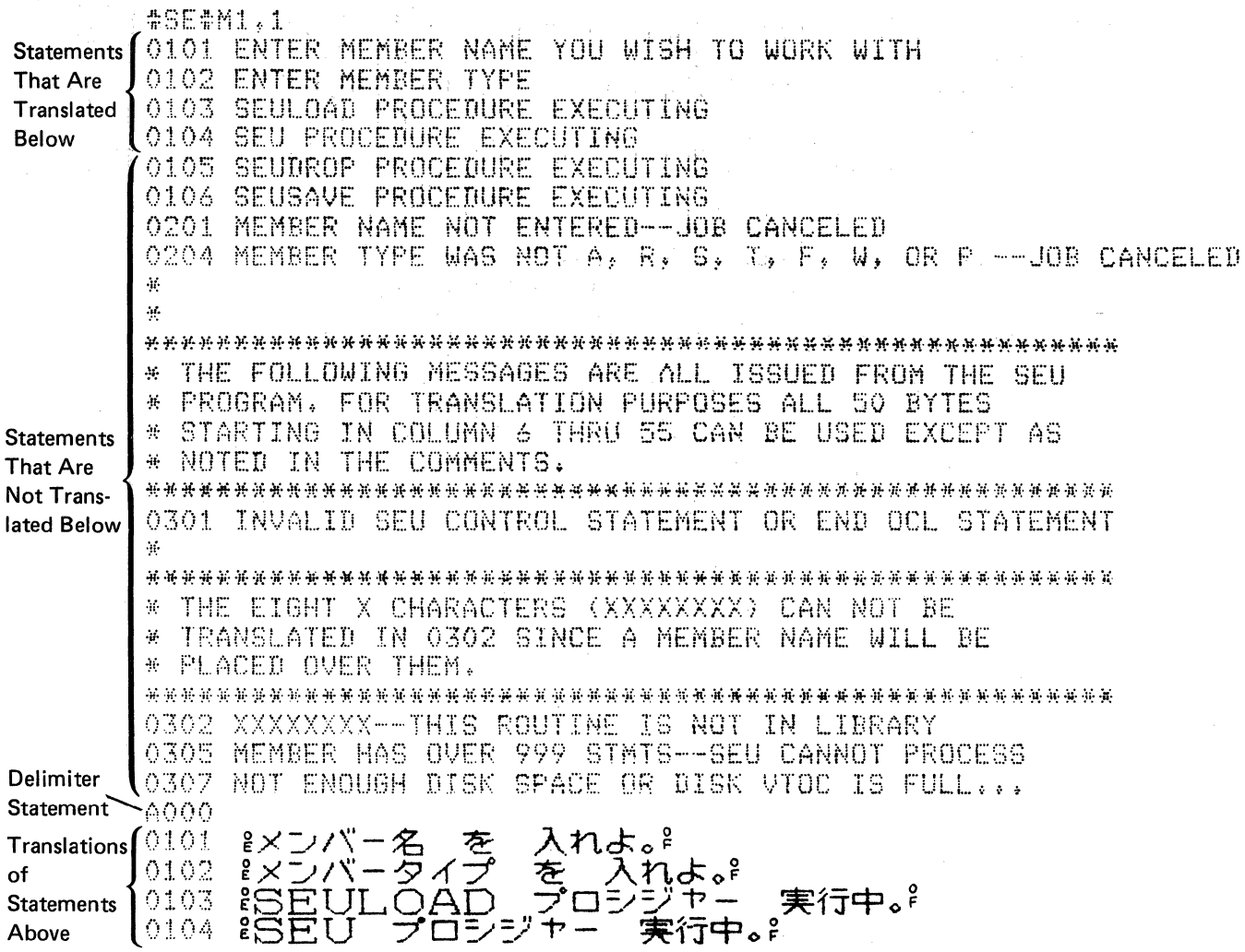
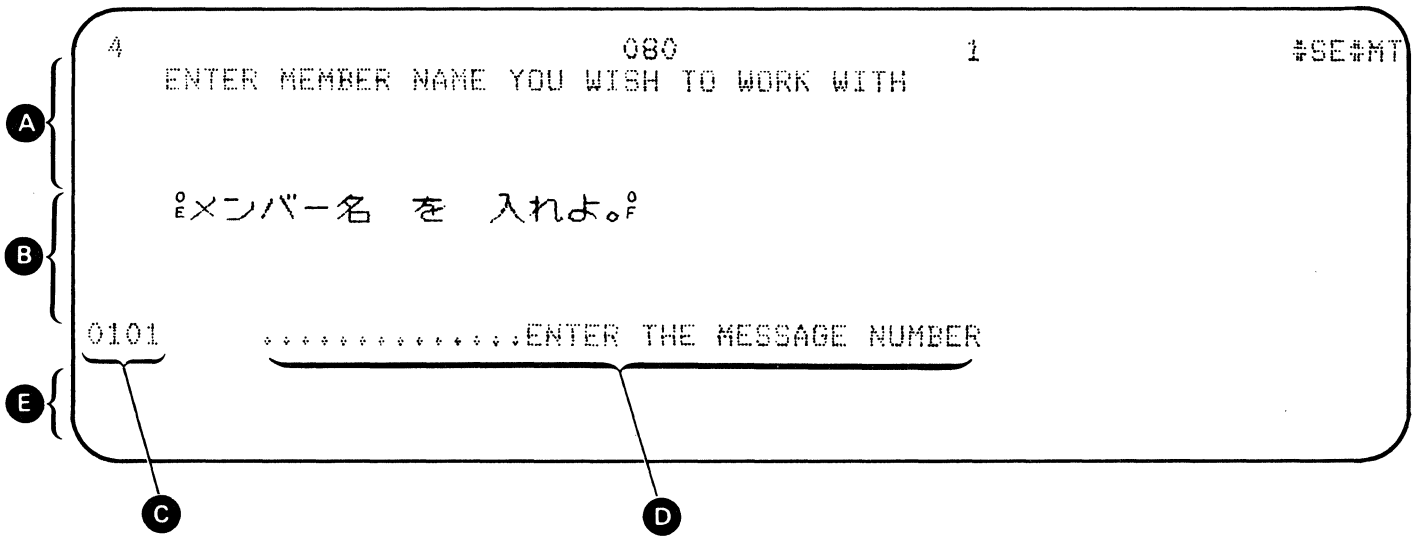


Figure 6-23. Sample of a Message Member after Some Statements Have Been Translated

At sign-on, SEU determines if the message member exists and if the member contains the delimiter statement with A000 in positions 1-4. The determination results in one of the following displays:

- If the member specified in the sign-on command does not exist in the specified library, the screen for enter/update mode is displayed (see Figure 5-2).
- If the member exists but does not yet contain a delimiter statement, the untranslated message statements (which may include comments) are displayed on the first four display lines. When you translate these message statements, you are in the add mode of the message translate function (see Figure 6-24).
- If the member exists and contains a delimiter statement, the first eight statements following the message member control statement are displayed on the screen in the prompting mode of the message translate function. You are prompted for the MIC number of the message you want to add, insert, or update (see Figure 6-25).



A Untranslated message statements are displayed on lines 2-5 for reference while you key in the translations.

B Key in the translated statements on lines 6-9. The values keyed in here are placed in columns 5-80 of the translated source statements.

C Message identification code (MIC) (on line 10). Enter the MIC number here when you update or insert translated messages.

D Prompt (on line 10)

E SEU operator message lines (lines 11 and 12)

Figure 6-24. Translate Function in Add Mode

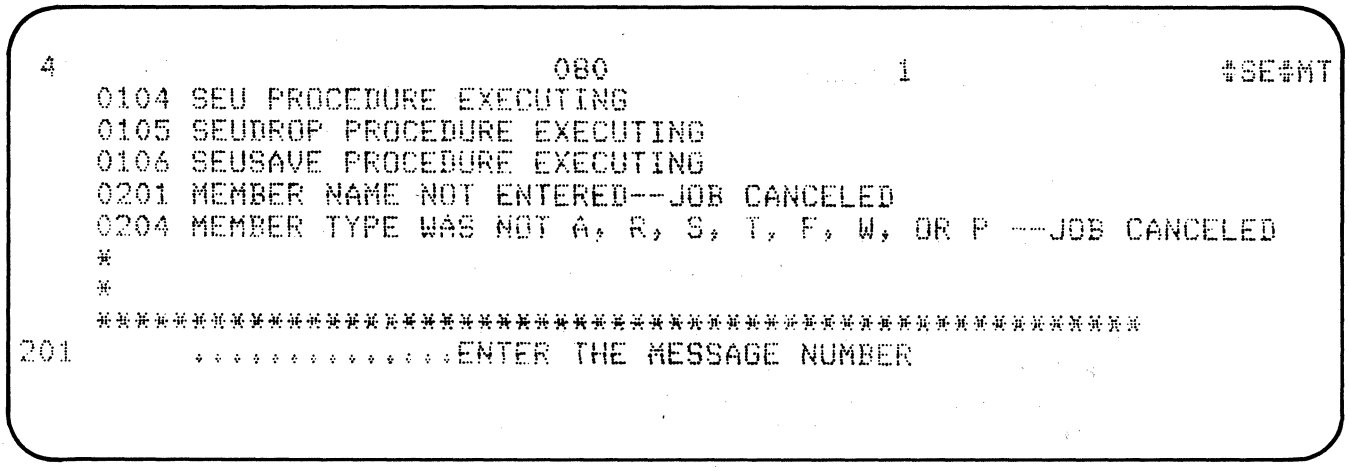


Figure 6-25. Prompting Display for Message Translation

Select the prompting display by pressing the Roll↑ key. Then enter the MIC number of the message you want to insert or update. Only an MIC number that exists in the untranslated message statements is valid. 201 was keyed on this display so that message number 0201 could be translated.

When you are in the prompting mode, up to eight statements are displayed. The first 70 characters of the statement are displayed for reference.

Add Mode

The add mode is assumed:

- At sign-on when the message member exists but there are no translated statements.
- When the MIC number entered in the response field is a higher value than the highest MIC number for any translated statement.

In the add mode, the untranslated message statements are processed serially, and the statements keyed in the translation area of the screen (lines 6-9) are added to the end of the message member. SEU assigns to each added statement an SEU statement number 1.00 higher than the previously highest SEU statement number for any translated statement.

After a translation has been keyed and the Enter/Rec Adv key has been pressed, the next screen displays (on lines 2-5) one to four untranslated statements of the next message set. A message set consists of consecutive statements that contain an asterisk (*) in column 1 or consecutive statements that contain the same MIC number in columns 1-4. Comment statements (identified by an asterisk in column 1) are displayed for possible translation in the add mode.

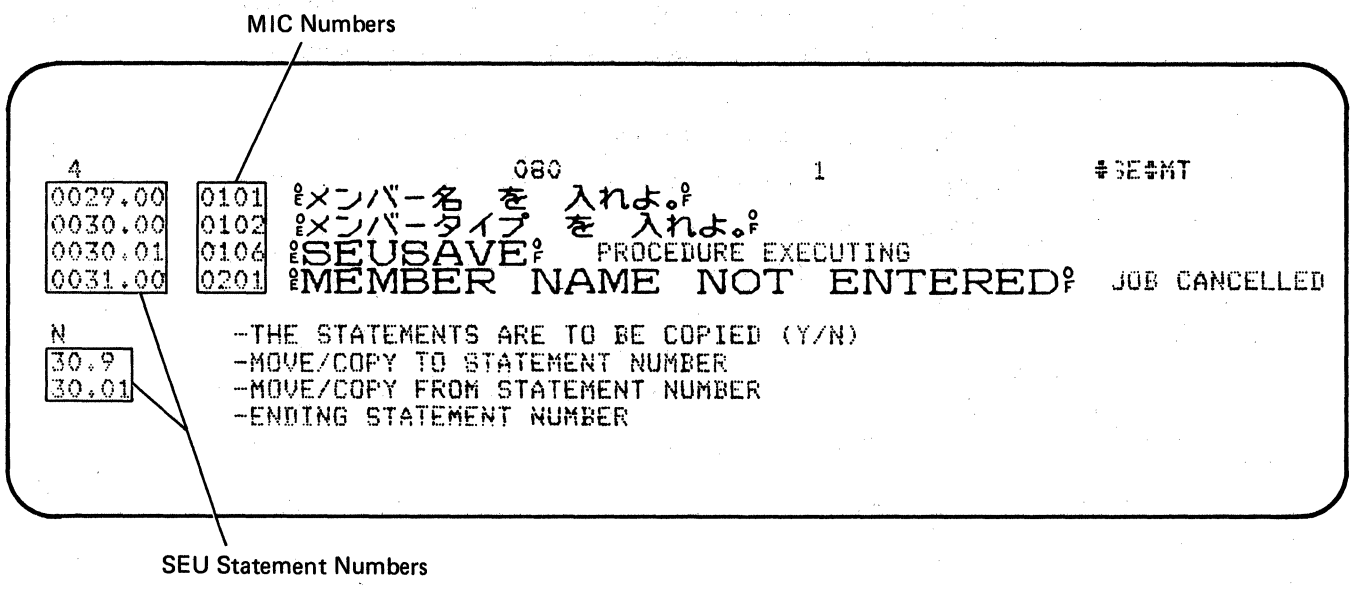
A translated message statement is added to the message member for each line of the translation area of the display screen (lines 6-9) that contains at least one nonblank character. If all the lines of the translation area are blank, no translated message statements are added to the message member. You can use more lines for a translated message than were used for the untranslated message.

Update Mode

You can update translated message statements while viewing the untranslated message statements. First, enter the MIC number in response to the prompt .....ENTER THE MESSAGE NUMBER. Next, update the translation. Then press the Enter/Rec Adv key. SEU writes the same number of updated translated message statements to the message member as it read from the message member.

Insert Mode

If you have inserted an untranslated message statement into the message member by using the enter/update function, you can then use the translate function to insert the translation of the message statement into the message member. Enter the MIC number in response to the prompt .....ENTER THE MESSAGE NUMBER. The untranslated message is displayed, and you can enter the translated message. SEU inserts the translated statement in numerical sequence. For example, statements for MIC number 0105 are inserted following the last statement for the next lower MIC number (0000-0104). When inserting statements, SEU determines the SEU statement number to be assigned by adding 0.01 to the SEU statement number of the previous statement. Therefore, if you insert a sequence of messages, you should insert them in ascending MIC number order so that a statement number will be available at the logical position required. See the following example:



In this example, messages 0101, 0102, and 0201 were translated in add mode and were assigned SEU statement numbers 29, 30, and 31, respectively. If you wanted to insert translations for messages 0103, 0104, and 0106, and if you translated message 0106 first, you would get an SEU message that the statement number already exists when you attempt to insert a translation for message 0103 or 0104. You can use the move function to move statement number 30.01 to statement number 30.9, as shown above, to make statement numbers available if necessary.

Once you have begun entering translated messages, you can display any previously entered translated message by pressing the Roll↑ function control key.

Translate Command Function Keys

Figure 6-26 is a summary of SEU command function keys in the translate mode.

Key	Command Function Key	When Prompted with .....ENTER THE MESSAGE NUMBER or When the Screen Displays a Message to Be Translated
1	Auto Skip	Not allowed.
2	Scan/ Replace	Changes mode to scan mode. Ignores data keyed.
3	Select Format	Not allowed.
4	Delete	Changes mode to delete mode. Ignores data keyed.
5	Enter/ Update	Changes mode to enter/update mode. Ignores data keyed.
6	Alter Print	Reverses the status of print option and print indicator.
7	EOJ	Displays end-of-job options.
8	Alter Syntax	Not allowed.
9	Search End Of Source	Displays last statement in member and redisplays translation prompt.
0	Move/Copy	Changes mode to move/copy mode. Ignores data keyed.
-	Include	Changes mode to include mode. Ignores data keyed.
=	Accept With Error	Not allowed.
'	Cmd key Display	Displays keyboard keys used as SEU command function keys and displays a brief description of each key.
@	Scan To Update	Not allowed.
#	Change Roll Factor	Not allowed.
$	Alter Lines Per Stmt	Not allowed.
%	Translate	Displays translate prompt screen and displays the first eight statements in the member.

Figure 6-26. Command Function Key Summary for Translate Mode

Translate Function Control Keys

Figure 6-27 is a summary of function control keys in the translate mode.

Function Control Key	When Prompted with .....ENTER THE MESSAGE NUMBER or When the Screen Displays a Message to Be Translated
Enter/Rec Adv	Indicates you have keyed a response to ENTER THE MESSAGE NUMBER when in prompting mode, or you have keyed all the translation for the message.
Home	Not allowed.
Dup	Not allowed.
Roll↑	Displays the next eight statements and redisplays the translate prompt.
Roll↓	Not allowed.

Figure 6-27. Function Control Key Summary for Translate Mode

SEU JOB SHEET

You may want to design an SEU job sheet to simplify SEU instructions for the operator. An example of such a sheet is shown in Figure 6-28. The example contains sample entries from the programmer.

SEU Job Sheet

Date submitted 1-31-78
Programmer LFB
Job number J1516

SEU Command:

SEU RPGRUN, R, _____, _____, _____
member name, member type, format member name, statement length, library name

Mode: ENTER/UPDATE
Select format: C, O, P
SEU options required: AUTO SKIP, SYNTAX CHECK, PRINT, EOJ 4

Coding forms attached: YES (NO)
Listing attached: (YES) NO
Comments:
- UPDATE calc and output specs as marked.
- USE FROMLIBR to copy changes to a diskette.

Figure 6-28. Sample SEU Job Sheet

Appendix A. Display Screen Format Specifications for the Display Screen Formats Provided with SEU

To get a listing of the display screen format specifications that define the display screen formats supplied with SEU, use the LISTLIBR procedure to list the contents of the source members #SE@FORM and #SE@XTRA. The LISTLIBR procedure is describe in the *System Support Reference Manual.*

So that you can relate a listing of display screen format specifications to the specification coding form, this appendix contains a listing of the display screen format specifications for the free-form format Z, and contains the specifications (excluding comments) as they would be coded on a display screen format specifications coding form.

A Listing of Free-Form Format Z Specifications

Column Number

```
        1         2         3         4         5         6         7         8
1.....0.........0.........0.........0.........0.........0.........0.........0
00090SZ          V 00
00100 ************************************************************
00110 * FREE FORM FORMAT    'Z        '                            *
00120 ************************************************************
00130DHD1COL10    1 111Y                                  1
00140DHD1COL20    1 121Y                                  2
00150DHD1COL30    1 131Y                                  3
00160DHD1COL40    1 141Y                                  4
00170DHD1COL50    1 151Y                                  5
00180DHD1COL60    1 161Y                                  6
00190DHD1COL70    1 171Y                                  7
00200DHD1LINE2   79 202Y                                  12345678901234567890123X
00210D4567890123456789012345678901234567890123456789012345678901234567890123456789
00220DDATALIN1   79 302Y  Y     Y Y    Y
00230DHD2COL80    1 502Y                                  8
00240DHD2COL90    1 512Y                                  9
00250DHD2CL100    1 522Y                                  0
00260DHD2CL110    1 532Y                                  1
00270DHD2CL120    1 542Y                                  2
00280DHD2LINE2   41 602Y                                  01234567890123456789012X
00290D345678901234567890
00300DDATALIN2   41 702Y  Y       Y    Y
```

IBM

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System/34 Display Screen Format Specifications

S

Sequence Number	Form Type	Format Name	Format ID (WSU Only)	Start Line Number	Number of Lines to Clear	Lowercase	Return Input	Reset Keyboard (WSU Only)	Sound Alarm	Enable Function Keys	Enable Command Keys	Blink Cursor	Erase Input Fields	Override Fields	Suppress Input	Reserved	WSU Only: Enter Mode Sequence: Start	End	Entry Required	Repeat	Reserved	Priority	Preprocess	Review Mode Record Identifying Indicators: 1	2	3	Insert Mode Record Identifying Indicators: 1	2	3	Reserved	Key Mask	Reserved
1 2 3 4 5	6	7 8 9 10 11 12 13 14	15 16	17 18	19 20	21	22	23 24	25 26	27	28	29 30	31 32	33 34	35 36	37 38 39 40	41	42	43	44	45	46	47	48 49	50 51	52 53	54 55	56 57	58 59	60 61 62 63	64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79	80
00090	S	W		V	00																											

D

Sequence Number	Form Type	Field Name: WSU Field Name	Field Name: Not Used by WSU	Field Length	Starting Location: Line Number	Starting Location: Horizontal Position	Output Data	Edit Code (WSU Only)	Input Allowed	Data Type	Mandatory Fill	Mandatory Entry	Self-Check	Adjust/Fill	Position Cursor	Enable Dup	Controlled Field Exit	Auto Record Advance	Protect Field	High Intensity	Blink Field	Nondisplay	Reverse Image	Underline	Column Separators	Reserved	Constant Type	Constant Data	Continuation
1 2 3 4 5	6	7 8 9 10 11 12	13 14	15 16 17 18	19 20	21 22	23 24	25	26	27	28	29 30	31	32 33	34	35	36	37 38	39 40	41 42	43 44	45	46 47	48	49 50 51 52 53 54 55	56	57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79	80
00130	D	HD1COL1	0	1	1	1	Y																				1		
00140	D	HD1COL2	0	1	1	2	Y																				2		
00150	D	HD1COL3	0	1	1	3	Y																				3		
00160	D	HD1COL4	0	1	1	4	Y																				4		
00170	D	HD1COL5	0	1	1	5	Y																				5		
00180	D	HD1COL6	0	1	1	6	Y																				6		
00190	D	HD1COL7	0	1	1	7	Y																				7		
00200	D	HD1LINE2		79	2	0	2Y																				1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 X	
00210	D	4 5 6 7 8 9 0 1	2 3	4 5 6 7 8 9	0	1	2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9																						
00220	D	DATALIN1		79	3	0	2Y		Y						Y	Y			Y										
00230	D	HD2COL8	0	1	5	0	2Y																				8		
00240	D	HD2COL9	0	1	5	1	2Y																				9		
00250	D	HD2CL10	0	1	5	2	2Y																				0		
00260	D	HD2CL11	0	1	5	3	2Y																				1		
00270	D	HD2CL12	0	1	5	4	2Y																				2		
00280	D	HD2LINE2		41	6	0	2Y																				0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 X	
00290	D	3 4 5 6 7 8 9 0	1 2	3 4 5 6 7 8 9 0																									
00300	D	DATALIN2		41	7	0	2Y		Y							Y				Y									
	D																												
	D																												

Appendix B. Diagnostic Messages

If SEU detects an error in an RPG II or auto report specification, SEU displays a diagnostic message that describes the error. This appendix contains a list of all diagnostic messages issued by SEU. If an error requires more explanation than the related message gives, an explanation is included in the list with the message.

An eight-character identifier precedes each message in the list. The identifier is in the form SEU-xxxx, where xxxx is the four-digit MIC associated with the message.

When SEU displays a diagnostic message, the statement being entered or changed is redisplayed so that the operator can correct the error.

If the operator presses the Accept With Error command function key after a syntax error is found, SEU checks the syntax of the displayed statement again and writes the statement to the work file whether or not an error still exists in the statement. If the print option is on and a syntax error is present, SEU prints the statement, followed by ***. SEU also prints an asterisk (*) beneath a field that is related to the error, and prints the MIC of the appropriate SEU diagnostic message after the asterisk so that you can find the message in this appendix.

If the print option is on but the operator corrected all syntax errors in a statement before pressing the Accept With Error command function key, SEU prints only the statement.

For detailed information about coding RPG II and auto report specifications, see the *IBM System/34 RPG II Reference Manual*, SC21-7667.

Note: Although the messages listed here are displayed, they are not the same as the SEU messages described in the *Displayed Messages Guide*. The messages in the *Displayed Messages Guide* are intended for operators. The messages in this appendix are intended for programmers who may have to correct errors in coded RPG II and auto report specifications.

SEU-1001 FORM TYPE (POS 6) IS INVALID OR DOES NOT AGREE WITH THE FORMAT DESCRIPTION. POSITION 6 MUST CONTAIN H, U, F, E, L, I, C, O, OR T.

SEU-1002 FILENAME (POS 7-14) IS INVALID OR SPECIFIED IMPROPERLY.

SEU–1009 K DISPLAY SCREEN FORMAT USED BUT POSITION 7-12 DOES NOT CONTAIN /COPY, /SPACE, OR /EJECT; OR POSITION 7 IS A SLASH (/) AND POSITION 8-12 IS NOT SPACE, EJECT OR TITLE.

SEU–1081 THE LIBRARY NAME OR THE MEMBER NAME (POS 13-29) IS NOT SPECIFIED CORRECTLY.

SEU–1101 FILE TYPE (POS 15) DOES NOT CONTAIN I, O, U, OR C OR IS NOT VALID FOR THE DEVICE SPECIFIED IN POSITIONS 40-46.

SEU–1102 BLOCK LENGTH (POS 20-23) IS NOT BLANK, OR DOES NOT CONTAIN A NUMBER FROM 1 TO 9999, OR IS NOT A MULTIPLE OF THE DISK FILE RECORD LENGTH.

SEU–1103 RECORD LENGTH (POS 24-27) DOES NOT CONTAIN A NUMBER FROM 1-4096 FOR A DISK FILE.

SEU–1104 FILE DESIGNATION (POS 16) FOR THE FILE ASSIGNED TO THE KEYBOARD OR WORKSTN MUST BE P OR D.

SEU–1105 FILE DESIGNATION (POS 16) MUST BE R FOR ADDROUT FILES.

SEU–1106 MODE OF PROCESSING (POS 28) MUST BE L, R, OR BLANK.

SEU–1107 MODE OF PROCESSING (POS 28) MUST BE BLANK FOR FILES THAT ARE NOT PRIMARY, SECONDARY, DEMAND, OR CHAINED DISK FILES.

SEU–1108 LENGTH OF KEY FIELD (POS 29-30) INVALID OR INCORRECTLY SPECIFIED. THE ENTRY MUST BE 29 OR LESS (UNPACKED KEYS) OR 8 OR LESS (PACKED KEYS).

SEU–1109 RECORD ADDRESS TYPE (POS 31) MUST BE A, P, I, OR BLANK.

SEU–1110 RECORD ADDRESS TYPE (POS 31) MUST BE A BLANK WHEN DEVICE (POS 40-46) IS NOT DISK OR CONSOLE.

SEU–1111 TYPE OF FILE ORGANIZATION (POS 32) MUST BE I FOR INDEXED FILES.

SEU–1112 OVERFLOW INDICATOR (POS 33-34) MUST BE OA-OG, OV, OR BLANK.

SEU–1113 KEY FIELD START LOCATION (POS 35-38) IS INVALID FOR THIS FILE TYPE OR IS BLANK; OR LENGTH OF FIELD (POS 29-30) PLUS START LOCATION EXCEEDS RECORD LENGTH.

SEU–1114 DEVICE NAME (POS 40-46) IS INVALID. VALID NAMES ARE: DISK, PRINTER, CONSOLE, KEYBORD, CRT, WORKSTN, SPECIAL, AND BSCA. (AMPERSAND (&) IS VALID FOR AUTO REPORT.)

SEU–1115 NAME OF LABEL EXIT (POS 54-59) IS NOT SUBRXX OR SRXXXX, OR DEVICE NAME IS NOT SPECIAL, OR TABLE OR ARRAY NAME NOT SPECIFIED ON CONTINUATION SPECIFICATION.

SEU–1116 FILE ADDITION/UNORDERED (POS 66) IS INVALID.

One of the following errors was detected:

- Position 66 is not A, U, or blank (ampersand (&) is also valid when auto report specifications are being processed).
- U is specified in position 66, but the file is not an output file.
- A nonblank entry is specified in position 66, but the file is not a disk file.

SEU–1117 NUMBER OF EXTENTS (POS 68-69) IS NOT 01 OR BLANK, OR AN ENTRY IS SPECIFIED FOR A NON-DISK DEVICE.

SEU–1118 FILE CONDITION (POS 71-72) MUST BE U1-U8 OR BLANK.

SEU–1120 FILE DESIGNATION (POS 16) MUST BE P (PRIMARY), D (DEMAND), OR BLANK FOR FILES ASSIGNED TO THE KEYBOARD.

SEU–1121 FILE DESIGNATION (POS 16) MUST BE R OR BLANK FOR ADDROUT FILES.

SEU–1122 MODE OF PROCESSING (POS 28) IS NOT L, R, BLANK, OR AMPERSAND (&).

SEU–1123 MODE OF PROCESSING (POS 28) IS NOT BLANK OR AMPERSAND (&) FOR A FILE THAT IS NOT A PRIMARY, SECONDARY, OR CHAINED DISK FILE.

SEU–1124 RECORD ADDRESS TYPE (POS 31) IS NOT A, P, I, K, BLANK, OR AMPERSAND (&).

SEU–1125 RECORD ADDRESS TYPE (POS 31) IS NOT BLANK OR AMPERSAND (&) FOR A FILE THAT IS NOT A DISK FILE.

SEU–1126 TYPE OF FILE ORGANIZATION (POS 32) IS NOT I OR BLANK FOR AN INDEXED FILE.

SEU–1127 OVERFLOW INDICATOR (POS 33-34) IS NOT OA-OG, OV, BLANK, OR AMPERSAND (&).

SEU–1128 FILE CONDITION (POS 71-72) IS NOT U1-U8, BLANK, OR AMPERSAND (&).

SEU–1129 POSITIONS 28-39 ARE NOT BLANK WHEN DEVICE (POS 40-46) IS WORKSTN.

SEU–1130 POSITIONS 47-70 ARE NOT BLANK WHEN DEVICE (POS 40-46) IS WORKSTN.

SEU–1132 STORAGE INDEX (POS 60-65) IS NOT 1-99 PRECEDED BY BLANKS AND/OR LEADING ZEROS WHEN LABEL EXIT (POS 54-59) IS NUM OR IND.

SEU–1133 STORAGE INDEX (POS 60-65) IS NOT A VALID RPG NAME WHEN LABEL EXIT (POS 54-59) IS ID, INFDS, INFSR, SAVDS, SLN, OR REC NO.

SEU–1134 POSITIONS 54-59 CONTAIN FMTS, BUT POSITIONS 60-65 ARE NOT *NONE OR DOES NOT CONTAIN A VALID NAME.

SEU–1201 FROM FILENAME (POS 11-18) IS NOT SPECIFIED PROPERLY.

SEU–1202 TO FILENAME (POS 19-26) IS SPECIFIED IMPROPERLY, OR IS SPECIFIED WITH AN EXECUTION TIME ARRAY.

SEU–1203 TABLE OR ARRAY NAME (POS 27-32 OR 46-51) IS INVALID, SPECIFIED IMPROPERLY, OR IS BLANK AND POSITIONS 33-45 OR 52-57 DESCRIBE A TABLE/ARRAY.

SEU–1204 NUMBER OF ENTRIES PER RECORD (POS 33-35) IS SPECIFIED IMPROPERLY, IS BLANK IN A STATEMENT WITH A FROM FILENAME, OR EXCEEDS THE NUMBER OF ENTRIES PER TABLE/ARRAY.

SEU–1205 LENGTH OF ENTRY (POS 40-42 OR 52-54) IS INVALID OR BLANK.

The length of the entry is either incorrect or blank. The entry must not exceed 15 for numeric entries or 256 for execution time alphameric table or array entries. For compile time alphameric table or array entries, this entry must not exceed 96. For binary table or array entries, this entry must be either 4 or 9.

SEU–1206 DECIMAL POSITIONS (POS 44 OR 56) IS NOT BLANK OR 0-9, OR THE NUMBER ENTERED IS GREATER THAN THE VALUE FOR LENGTH OF ENTRY.

SEU–1207 SEQUENCE ENTRY (POS 45 OR 57) MUST BE A, D, OR BLANK.

SEU–1208 POSITIONS 27-32 AND 46-51 MUST BOTH CONTAIN TABLE NAMES OR MUST BOTH CONTAIN ARRAY NAMES.

SEU–1209 PACKED/BINARY (POS 43 OR 55) MUST BE BLANK FOR ALPHABETIC TABLES OR ARRAYS.

SEU–1210 NUMBER OF ENTRIES PER TABLE/ARRAY (POS 36-39) IS BLANK OR NOT SPECIFIED CORRECTLY.

SEU–1251 FORM LENGTH (POS 15-17) IS NOT SPECIFIED CORRECTLY OR IS GREATER THAN 112, THE MAXIMUM ALLOWED.

SEU–1252 OVERFLOW LINE (POS 20-22) IS NOT SPECIFIED CORRECTLY OR THE NUMBER SPECIFIED IS GREATER THAN THE FORM LENGTH ENTRY.

SEU–1301 CONFIGURATION (POS 15) MUST BE P, M, S, OR BLANK.

SEU–1302 TRANSMIT/RECEIVE (POS 16) MUST BE T OR R.

SEU–1303 AUTOANSWER (POS 20) MUST BE M, A, B, OR BLANK.

SEU–1305 IDENTIFICATION FOR THIS STATION (POS 33-39) IS INVALID. IF POS 32 CONTAINS AN E, POS 33-39 MUST BE AN IDENTIFICATION SEQUENCE. IF POS 32 IS S, POS 33-39 MUST BE A SYMBOLIC NAME.

SEU–1306 IDENTIFICATION FOR REMOTE STATION (POS 41-47) IS INVALID WITH THE STATION IDENTIFICATION TYPE IN POS 40.

SEU–1307 REMOTE TERMINAL (POS 48-51) MUST BE BLANK.

SEU–1308 PERMANENT ERROR INDICATOR (POS 53-54) MUST BE 01-99, L1-L9, LR, H1-H9, OR BLANK.

SEU–1309 RECORD AVAILABLE INDICATOR (POS 58-59) MUST BE 01-99, L1-L9, LR, H1-H9, OR BLANK.

SEU–1310 LAST FILE PROCESSED (POS 60) MUST BE L OR BLANK.

SEU–1311 POLLING CHARACTERS (POS 61-62) ARE INVALID FOR THE CODE TYPE IN POS 18 OR ARE MISSING.

SEU–1312 ADDRESSING CHARACTERS (POS 63-64) ARE INVALID FOR THE CODE TYPE IN POS 18 OR ARE MISSING.

SEU–1313 REMOTE DEVICE (POS 65-70) MUST BE BLANK.

SEU–1314 TRANSPARENCY (POS 19) IS INVALID FOR AN ADAPTER USING ASCII DATA LINK CHARACTERS (POS 18).

SEU–1315 AUTOANSWER (POS 20) MUST BE BLANK FOR A NONSWITCHED NETWORK.

SEU–1316 POSITION 32 AND/OR POSITION 40 IS NOT BLANK FOR A NONSWITCHED NETWORK.

SEU–1317 AUTOANSWER (POS 20) MUST NOT BE BLANK FOR A SWITCHED NETWORK.

SEU–1401 POSITION OF RECORD IDENTIFICATION CODES (POS 21-24, 28-31, or 35-38) DOES NOT CONTAIN A NUMBER FROM 1 TO 4096.

SEU–1402 FROM FIELD LOCATION (POS 44-47) IS GREATER THAN TO FIELD LOCATION (POS 48-51) OR ONE OF THE ENTRIES DOES NOT CONTAIN A NUMBER FROM 1 TO 9999.

SEU–1403 FIELD NAME (POS 53-58) BEGINS WITH TAB, IS SPECIFIED INCORRECTLY, OR IS MISSING.

SEU–1404 CONTROL LEVEL INDICATOR (POS 59-60) IS NEITHER L1-L9 NOR BLANK. (AMPERSAND (&) IS VALID FOR AUTO REPORT.)

SEU–1405 MATCHING FIELDS (POS 61-62) IS NEITHER M1-M9 NOR BLANK. (AMPERSAND (&) IS VALID FOR AUTO REPORT.)

SEU–1406 RECORD TYPE (POS 7-42) AND FIELD TYPE (POS 43-70) ENTRIES ARE BOTH SPECIFIED IN ONE STATEMENT.

SEU–1407 NUMBER (POS 17) AND/OR OPTION (POS 18) IS NOT VALID WITH ALPHAMERIC SEQUENCE (POS 15-16).

SEU–1408 DECIMAL POSITIONS (POS 52) IS NOT 0-9 OR BLANK. (AMPERSAND (&) IS VALID FOR AUTO REPORT.)

SEU–1410 POSITIONS 14-16 MUST NOT CONTAIN 'AND' OR 'OR' FOR A LOOK-AHEAD RECORD (** IN POS 19-20).

SEU–1411 POSITIONS 21-42 MUST BE BLANK FOR A LOOK-AHEAD SPECIFICATION (** IN POS 19-20).

SEU–1412 PLUS AND MINUS FIELD INDICATORS (POS 65-68) MUST NOT BE SPECIFIED FOR AN ALPHAMERIC FIELD.

SEU–1413 CONTROL AND MATCH FIELDS (POS 59-62) MUST NOT BE SPECIFIED FOR BINARY FIELDS.

SEU–1414 SEQUENCE (POS 15-16) MUST NOT BE NUMERIC FOR A LOOK-AHEAD RECORD TYPE (** IN POS 19-20).

SEU–1415 DECIMAL POSITIONS (POS 52) IS NOT 0-9 OR BLANK, IS GREATER THAN THE LENGTH OF THE FIELD, OR IS PRESENT FOR A RESULT FIELD FOR WHICH NO FIELD LENGTH IS SPECIFIED.

SEU–1416 RECORD IDENTIFYING INDICATOR (POS 19-20) IS NOT 01-99, H1-H9, L1-L9, LR, OR **.

SEU–1417 POSITIONS 71-74 MUST BE BLANK.

SEU–1418 FIELD RECORD RELATION INDICATOR (POS 63-64) IS NOT 01-99, L1-L9, MR, U1-U8, OR H1-H9; OR FIELD INDICATORS (POS 65-70) ARE NOT 01-99 OR H1-H9. (AMPERSAND (&) IS VALID FOR AUTO REPORT.)

SEU–1419 OPTION (POS 18) IS NOT U OR BLANK WHEN RECORD IDENTIFYING INDICATOR (POS 19-20) IS DS.

SEU–1420 POSITIONS 21-74 ARE NOT BLANK WHEN RECORD IDENTIFYING INDICATOR (POS 19-20) IS DS.

SEU–1421 POSITIONS 15-17 ARE NOT BLANK WHEN RECORD IDENTIFYING INDICATOR (POS 19-20) IS DS.

SEU–1422 POSITIONS 7-43 OR POSITIONS 59-74 ARE NOT BLANK WHEN POSITIONS 44-51 CONTAIN A KEYWORD (*OPCODE, *RECORD, *STATUS, *SIZE, *MODE, *IND, or *OUT).

SEU–1501 CONTROL LEVEL (POS 7-8) IS INVALID.

Positions 7 and 8 must contain AN, OR, L0-L9, LR, SR, or be blank. If RLABL is specified, positions 7 and 8 must not contain either AN or OR. If BEGSR or ENDSR is specified, positions 7 and 8 must contain SR or be blank. If FORCE is specified, positions 7 and 8 must not contain L0-L9 or LR.

SEU–1502 CONDITIONING INDICATOR (POS 9-17) IS INVALID OR IS SPECIFIED WITH TAG, BEGSR, ENDSR, OR RLABL.

SEU–1503 FACTOR 1 (POS 18-27) IS INVALID.

One of the following errors exists:
- The entry is not a valid symbolic name, array name, or literal.
- An entry was made, but factor 1 is not allowed.
- The entry is an alphameric literal, but a numeric field or literal is required.
- The entry is a numeric literal, but an alphameric field or literal is required.

SEU–1504 OPERATION CODE (POS 28-32) IS NOT SPECIFIED CORRECTLY, OR THE OPERATION CODE AND CONDITIONING INDICATORS ARE BOTH BLANK.

SEU–1505 FACTOR 2 (POS 33-42) IS INVALID.

One of the following errors exists:
- The entry is not a valid symbolic name, array name, or literal.
- An entry was made, but factor 2 is not allowed.
- The entry is an alphameric literal, but a numeric field or literal is required.
- The entry is a numeric literal, but an alphameric field or literal is required.
- The entry is not a valid symbolic name for the FORCE, CHAIN, READ, or DEBUG operation.
- The entry is a zero constant and is specified with the DIV operation code.
- The entry is specified with the EXIT operation code, but it does not begin with SUBR.
- The entry is a negative constant and is specified with the SQRT operation code.
- The entry is not 0-7 for mask bits for a BIT operation.

SEU–1506 RESULT FIELD (POS 43-48) IS INVALID.

One of the following errors exists:
- The entry is not a valid symbolic name.
- An entry was made, but result field is not allowed.
- The entry is the reserved word CONTD.
- The entry is an invalid field type as determined by the field length or decimal positions assigned to it.

SEU–1507 FIELD LENGTH (POS 49-51) IS INVALID.

One of the following errors exists:
- The entry is not specified correctly.
- The entry is greater than 15 and applies to a numeric field.
- The entry is greater than 40 and applies to a field specified with the KEY operation.
- The entry is not blank or 1 and applies to a TESTB, BITON, or BITOF operation.
- The entry is greater than 256 for an alphameric field.

SEU–1508 RESULTING INDICATOR (POS 54-59) IS INVALID.

One of the following errors exists:
- The entry is not a valid indicator.
- A resulting indicator is not allowed for the operation.
- Both high and low indicators are specified for a LOKUP operation.
- The entry is not a command key and applies to the SET operation.

SEU–1509 MESSAGE IDENTIFICATION CODE (POS 31-32) IS SPECIFIED INCORRECTLY OR IS MISSING AND FACTOR ONE IS BLANK, OR NO FUNCTION IS SPECIFIED FOR THE SET OR KEY OPERATION.

SEU–1510 DECIMAL POSITIONS (POS 52) IS NOT ZERO WHEN OPERATION (POS 28-32) IS TIME.

SEU–1511 HALF ADJUST (POS 53) IS NOT BLANK WHEN OPERATION (POS 28-32) IS TIME.

SEU–1512 THE ALPHAMERIC LITERAL IN FACTOR 1 (POS 18-27) IS NOT A VALID 2-CHARACTER LITERAL WHEN OPERATION (POS 28-32) IS ACQ, REL, OR NEXT.

SEU–1513 RESULT FIELD (POS 43-48), FIELD LENGTH (POS 49-51), DECIMAL POSITIONS (POS 52), AND HALF ADJUST (POS 53) ARE NOT BLANK WHEN OPERATION (POS 28-32) IS REL OR NEXT.

SEU–1514 RESULT FIELD (POS 43-48), FIELD LENGTH (POS 49-51), DECIMAL POSITIONS (POS 52), AND HALF ADJUST (POS 53), ARE NOT BLANK WHEN OPERATION (POS 28-32) IS ACQ.

SEU–1515 FACTOR 1 (POS 18-27), FACTOR 2 (POS 33-42), FIELD LENGTH (POS 49-51), DECIMAL POSITIONS (POS 52), HALF ADJUST (POS 53), AND RESULTING INDICATORS (POS 56-59) ARE NOT BLANK WHEN OPERATION (POS 28-32) IS SHTDN.

SEU–1601 LINE TYPE (POS 15) DOES NOT CONTAIN H, D, T, OR E; OR POS 14-15 DO NOT CONTAIN 'AN' OR 'OR'.

SEU–1602 FIELD NAME (POS 32-37) IS MISSING, NOT SPECIFIED CORRECTLY, OR IS BLANK AND POSITION 38 CONTAINS AN EDIT CODE.

SEU–1603 EDIT CODE (POS 38) IS NOT 1-4, A-D, J-M, X, Y, Z, OR BLANK; IS SPECIFIED WITH A CONSTANT; IS X, Y, OR Z USED WITH $ OR *; OR POS 45-47 ARE NOT $ OR *.

SEU–1604 BLANK AFTER (POS 39) IS NOT B OR BLANK, OR IF AUTO REPORT SPECIFICATIONS ARE BEING USED, POS 39 IS NOT A, B, C, R, 1-9, OR BLANK.

SEU–1605 END POSITION IN OUTPUT RECORD (POS 40-43) IS SPECIFIED INCORRECTLY, IS MORE THAN 256 WITH *PLACE, OR IS TOO SMALL WITH CONSTANT OR EDIT WORD USED.

SEU–1606 CONSTANT OR EDIT WORD (POS 45-70) IS NOT SPECIFIED CORRECTLY OR THE LITERAL IS MISSING WHEN POS 39 OF AN AUTO REPORT SPECIFICATION IS C OR POS 40-43 IS K1-K9.

SEU–1607 RECORD TYPE ENTRIES AND FIELD TYPE ENTRIES ARE BOTH PRESENT OR BOTH MISSING ON AN OUTPUT SPECIFICATION.

An output specification must contain either record description entries or field or constant entries, but not both. If auto report statements are being processed, *AUTO may be entered as the field name entry of a record description statement.

SEU–1608 OUTPUT INDICATOR (POS 23-31) IS INVALID, OVERFLOW INDICATOR IS SPECIFIED ON EXCEPTION OUTPUT LINE, OR AN INDICATOR OTHER THAN U1-U8 IS USED ALONG WITH 1P.

SEU–1609 POSITIONS 38, 39, AND 44-70 MUST BE BLANK FOR *PLACE.

SEU–1610 ADD OR DEL IS NOT ALLOWED IN POSITION 16-18 FOR AND/OR LINES.

SEU–1611 TOTALING (A IN POS 39) IS NOT VALID WITH A TABLE, INDEXED ARRAY, PAGE FIELD, OR A BLANK FIELD NAME ENTRY.

SEU–1612 INDICATORS (POS 23-31) OR FIELD NAME (POS 32-37) IS NOT BLANK WHEN OUTPUT END POSITION (POS 40-43) IS K1-K8.

Glossary

This glossary defines terms as they apply to the use of System/34 SEU.

$SFGR (display screen format generator utility program): The SSP utility program that creates display screen formats from display screen format specifications.

#LIBRARY (system library): The library that contains the members that are part of the System Support program product.

#SE@FORM: The label of one of the two source members that contain display screen format specifications for the display screen formats provided with SEU, and the label of one of the two load members that contain the display screen formats provided with SEU. See also *#SE@XTRA.*

#SE@XTRA: The label of one of the two source members that contain display screen format specifications for the display screen formats provided with SEU, and the label of one of the two load members that contain the display screen formats provided with SEU. See also *#SE@FORM.*

#SEUPRNT: The label of the SEU printer file.

alphameric field: A field that contains, or can contain, one or more alphameric characters. Any character that can be entered from the keyboard is valid in an alphameric field.

assembler instruction statement: A statement that controls the functions of the basic assembler. Assembler instruction statements are source statements for the Basic Assembler and Macro Processor program product.

auto report specification: A specification for the auto report function of the RPG II program product. Auto report specifications are source statements for the RPG II program product.

auto skip field: A field in statements displayed by SEU that the cursor skips if the auto skip option is on. An auto skip field is defined as a conditional protect field in SEU display screen formats.

auto skip option: The SEU option that, if on, causes the cursor to skip all auto skip fields in statements displayed by SEU.

Cmd key: The function control key that, when pressed, causes System/34 to recognize the 14 keys in the top row of the keyboard as command function keys.

COBOL statement: A source statement for COBOL.

compile-time table: A table that is compiled with an RPG II source program. The table becomes a permanent part of the object program.

compress: To reduce the size of a source or procedure member before copying it from the SEU work file to a library. SEU compresses members by calling the $MAINT SSP utility program to remove strings of duplicate characters and blanks.

constant field: A field that is defined by a display screen format to contain a specific value. The value is specified in the display screen format, and is displayed when the format is used to enter a new statement.

data key: Any key on the keyboard that is used to enter a character, blank, or digit.

default value: A value automatically chosen by SEU or the system when a value is not specified by the user.

delete mode: The SEU mode that is used to delete statements from a source or procedure member.

diagnostic message: An SEU message that identifies a syntax error in an RPG II or auto report specification.

display screen format: A table that defines a display presented on the display screen. The display screen format generator utility program ($SFGR) generates display screen formats from display screen format specifications, and places the display screen formats in a library load member. Display screen formats for SEU control the kind of data and the format of data entered or changed by SEU jobs.

display screen format generator utility program ($SFGR): The SSP utility program that creates display screen formats from display screen format specifications.

display screen format specifications: Specifications from which the display screen format generator utility program ($SFGR) creates display screen formats.

enter: To press the Enter/Rec Adv key to cause SEU to place displayed statements into the SEU work file, or to cause SEU to act on the operator response to a prompt. See also *key*.

enter/update mode: The SEU mode that is used to enter new statements into a source or procedure member, or to change statements that already exist in a source or procedure member.

extent: A continuous space on disk or diskette that is occupied by or reserved for a particular file.

field definition: Entries in display screen format specifications that identify the characteristics of each field in a statement entered or updated by SEU. Characteristics identified by field definitions include position, length, and type of data. Field definitions also identify protect, auto skip (conditional protect), and constant fields.

format headings: The position numbers that appear in each display screen format used in the SEU enter/update mode.

format length: The number of statement input positions defined by an SEU display screen format.

format member: A load member that contains display screen formats.

FORTRAN IV statement: A source statement for the FORTRAN IV program product.

free form: The SEU display screen formats designed for entering and updating statements, such as OCL statements and utility control statements, that do not have a constant and rigid format.

headings: See *format headings.*

ideographic: Consisting of both graphics and pictograms and often other types of symbols. Contrast with *alphanumeric (A/N).*

include library: The library that contains the member from which the SEU include mode is to include statements.

include member: The source or procedure member from which the SEU include mode is to include statements.

include mode: The SEU mode that is used to include in one member statements from another member, or to include in one member statements from the same member if the statements already exist in a library.

interactive: Refers to a method of processing in which each operator action causes a response from a system or program.

key: To press keyboard data keys to display information on the display screen. Displayed data or responses are entered when the Enter/Rec Adv key is pressed. See also *enter.*

machine instruction statement: A statement that represents a machine language instruction on a one-for-one basis. Machine instruction statements are source statements for the Basic Assembler and Macro Processor program product.

macroinstruction statement: A statement that represents a sequence of machine and/or assembler instruction statements. Macroinstruction statements are source statements for the Basic Assembler and Macro Processor program product.

magnetic character reader specification: A source statement for the IBM 1255 Magnetic Character Reader subroutine (SUBR08).

move/copy mode: The SEU mode that is used to move/copy statements from one location in a member to another location in the same member.

multiple program mode: A method of operation that permits more than one job to be run concurrently.

multiple requestor terminal procedure: A procedure that calls a multiple requestor terminal program.

multiple requestor terminal program: A program that can process requests from more than one requesting display station concurrently.

multiprogramming system: A system that can operate in a multiple program mode.

numeric field: A field that contains, or can contain, one or more numeric characters. Valid numeric characters are the digits 0 through 9 and + (plus sign), - (minus sign), . (decimal point), blank, and , (comma).

pad: To fill unused positions in a field with dummy data, usually zeros or blanks.

POS: Position(s). POS appears in SEU diagnostic messages.

prompt: A message issued by a program that requests either information or an operator action to continue processing.

protect field: A field in statements displayed by SEU that the cursor always skips. A field is defined as a protect field by a display screen format.

right adjust: To shift the contents of a field so that the last character keyed is in the rightmost position of the field.

roll factor: The value that determines which statements are displayed if the Roll↑ (Roll Up) or Roll↓ (Roll Down) key is pressed during an SEU job. The roll factor is displayed in positions 2 and 3 of the SEU status line.

RPG II specification: A source statement for the RPG II program product.

scan mode: The SEU mode that is used to locate a statement that has a specified string of characters within the statement.

sequence number: A number within a statement that identifies the relative position of the statement within a series of statements.

serial number: Same as *sequence number*.

serialize: To assign sequence numbers to a series of source statements.

SEU command: The procedure command that runs the SEU procedure. The SEU procedure calls SEU.

SEU work file: A disk work area in which new statements and changes are stored during an SEU job. The statements in the work file are copied to a library at SEU end of job, unless the operator decides to cancel the job or chooses the end-of-job option that deletes the work file (end-of-job option 5).

sign on: For SEU, to enter the SEU command so that the operator can begin an SEU job.

single requestor terminal procedure: A procedure that calls a single requestor terminal program.

single requestor terminal program: A program that can have only one requesting display station at a time.

sort sequence specification: A specification that defines the kind of sort to be performed by the sort program. Sort sequence specifications are source statements for the sort program. The sort program is part of the Utilities program product.

SSP: System Support program product.

statement number: A number assigned by SEU to each statement in a source or procedure member being created or changed by an SEU job. The operator selects statements in a member by entering the statement number assigned by SEU. Statement numbers assigned by SEU are temporary. They do not become part of the statement, but last only for the duration of the SEU job.

syntax checking option: The SEU option that, if on, causes SEU to check for syntax errors in each RPG II and auto report specification entered or updated under control of the RPG II display screen formats provided with SEU.

system library (#LIBRARY): The library that contains the members that are part of the SSP.

translate mode: The SEU mode that allows you to define an alternative message text in a second language.

truncate: To shorten a statement by reducing it to a predetermined length.

work station utility specification: Source statement for the work station utility generator program. The work station utility is part of the utilities program product.

wraparound: To press the Roll↑ (Roll Up) key to display the first statement in a source or procedure member after SEU displays the last statement in the member, or to press the Roll↓ (Roll Down) key to display the last statement in a source or procedure member after SEU displays the first statement in the member.

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