

Check Processing Control System



Online Adjustments Guide

Release 11

Check Processing Control System



Online Adjustments Guide

Release 11

Note!

Before using this information and the product it supports, be sure to read the general information under "Notices" on page vii.

Fourth Edition (November 2000)

This edition is a revision of GC31-2723-02. This publication is current as of PTF numbers UQ44297 and UQ44298. It applies to Release 11 Modification 0 of the IBM Check Processing Control System licensed program (Program No. 5734-F11). Each change is indicated by a vertical line (revision bar) in the left margin.

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Year 2000 Compliance

IBM announces that the Check Processing Control System, Version 1 Release 11, at PTF numbers UN99696 and UN99801, supports Year 2000. This IBM product, when used in accordance with its associated documentation, is designed to be capable of correctly processing, providing, and receiving date data within and between the twentieth and twenty-first centuries. This has been done by allowing the user to set the date format as a default throughout the system.

In the complex global computing environment that we have today, this IBM product's support for Year 2000 is, of course, dependent on the capabilities of all the other products that are working together (for example, hardware, software, and firmware) to properly exchange accurate date data.

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About This Book

This book provides the program descriptions and terminal operation instructions for the IBM Check Processing Control System (CPCS) Online Adjustments program. It includes information about the following:

- Customization
- Installation
- Module descriptions
- System and user requirements
- User adjustment-code data set
- Adjustment-record formats
- Sample reports

Who Should Read This Book?

The *CPCS Online Adjustments Guide* is for supervisors, programmers, and terminal operators who perform the balancing activities for their financial institutions.

How Is This Book Organized?

This book contains the following sections:

- Chapter 1, "Introduction," describes the CPCS system considerations and gives an overview of the processing capabilities of the Online Adjustments program.
- Chapter 2, "Installing the Online Adjustments Program," describes the steps you must take to install the Online Adjustments program.
- Chapter 3, "Customizing Online Adjustments," describes the customization allowed for this program in order to suit your installation.
- Chapter 4, "Module Descriptions," describes the three major modules of the Online Adjustments program and provides sample reports for modules DKNALST and DKNTBAL.
- Chapter 5, "Terminal Operations," describes operator start commands and includes some program message screens for each part of the Online Adjustments program modules.
- Chapter 6, "User Adjustment-Code Data Set," provides a record format and default values for the data set (if the data set does not exist).
- Appendix A, "Adjustment Record Formats," provides the record format for Records 1, 2, and 3, and the Detail Image Record.
- Appendix B, "Messages for Online Adjustments," gives all the messages for the Online Adjustment program in alphabetical order.
- Appendix C, "Data Areas for Online Adjustments," provides the names of the two data areas for the Online Adjustments program.

This book also contains a glossary, a bibliography, and an index.

Related Publications

The following publications contain information that relates to the IBM Check Processing Control System (CPCS). See “Bibliography” on page X-7 for a list of books that contain information on other IBM products used during the installation of CPCS.

- *CPCS General Information*, GH20-1008

This manual gives a general introduction to the Check Processing Control System (CPCS). It describes various features and advantages of CPCS and the hardware and software requirements for operating CPCS. It also discusses CPCS support of the IBM 3890 Document Processor and the 3890/XP Series document processors, along with some of the features of these processors.

- *CPCS Online Adjustments Guide*, GC31-2723

This guide provides the program descriptions and terminal operation instructions for online adjustments. It includes information about customization, system and user requirements, the user adjustment-code data set, the adjustment-record formats, and sample reports.

- *CPCS Customization Guide*, SC31-2853

This guide provides customization information for CPCS programmers, including system-programming information, generation procedures, and installation procedures.

- *CPCS Programming and Diagnostic Guide*, SC31-2854

This guide contains guidelines for CPCS programmers, including descriptive information about application-program processing, problem analysis and documentation procedures, and CPCS module descriptions.

- *CPCS Terminal Operations Guide*, SH20-1229

This guide describes the CPCS tasks and task initiation formats, and explains how to perform these tasks for the CPCS operators. It also explains application-task commands and supervisor commands. CPCS messages, which used to appear in this book, are now in *CPCS Messages and Codes*.

- *CPCS Messages and Codes*, SC31-4004

This manual contains terminal and supervisor messages, their responses, and return code information for CPCS application tasks.

- *CPCS Master Index*, SC31-2857

This reference combines the index entries for all the publications in the CPCS library.

- *CPCS Enhanced System Manager User's Guide*, SC31-4002

This manual contains the guidelines for the CPCS personnel who use the Enhanced System Manager subsystem. It explains the Enhanced System Manager's interface functions, online functions, and processing. This publication is shipped with the Enhanced System Manager (ESM) product.

Summary of Changes for GC31-2723-02

The main changes for this revision are:

- **PTF Number:** This publication is current as of PTF numbers **UQ44297** and **UQ44298**.
- **Tracer Data Set:** Removed the sorter restart information from the tracer data set and placed it in its own VSAM file to make all RSCB and user restart information easily available.
- **Electronic Transaction Support:**
 - Enabled the ETOT profile to determine the name and size of the transmission file that will be created.
 - Electronic Transaction support user exits now use the User Exit Facility.
 - Enabled the ETIN read and write user exits to insert items.
 - HSRR strings are now supported for ETUT.
- **DKNICRE Support:** Added extended string support to DKNICRE.
- **MICR Support:** MICR support for an SPDEF HH record for HSRR hardware definitions has been added.
- **Auto-startable Tasks:** DKNCLSM is now automatically started through ESM.
- **User Exits:**
 - DKNATASK user exit that allows supervisor terminal messages to be modified.
 - DKNATASK user exit that provides an ENQ/DEQ facility for vendor/user requirements.
- **M-string Support:** Added subsequent pass M-string support to DKNSLST.

Summary of Changes for GC31-2723-01

The main changes for this revision are:

Year 2000 Changes:

- **Date Customization:** CPCS now provides the ability to specify a date format at the system level (as a default). This format is propagated throughout CPCS in reports, screens, and in data sets.
- For more information regarding CPCS code compliance with Year 2000, see “Year 2000 Compliance” on page vii. For a summary of Year 2000 changes, refer to the special appendix on this subject in the *CPCS Programming and Diagnostic Guide*.

Enhanced Prime: CPCS supports the capture of multiple entries on a single prime pass without the use of subsets.

Task Groups: This enhancement allows multiple BLDL tasks to be grouped for performance tuning.

System and Application Profile Data Sets: These data sets are used to pass information to programs now and in the future. These profiles contain configuration and run-time option information for the CPCS system and application programs.

MICR JAM Enhancement: You can configure the MICR task to have a refreshed enhanced jam screen displayed at the end of a runout on the 3890/XP.

Sequence Number Assignment: When the **P** record in the sort pattern specifies an **XF** sort, the item sequence number is returned to CPCS from the 3890/XP for each item processed.

PTF Numbers: This publication is current as of PTF Numbers UN99696 and UN99801.

New Web Site: Visit us at our new web site:

www.ibm.com/Products/CPCS

Enhanced System Manager Support: CPCS supports the IBM Enhanced System Manager feature, which provides workflow management functions including task starting (based on workflow, time of day, after CPCS End Cycle, after Cold Start, after Warm Start, etc.), task tracking (auto-started and manual, Task Suppression (deadline management), Unit of Work (UOW) functions, and automatic generation of workflows.

Chapter 1. Introduction

The IBM Check Processing Control System (CPCS) Online Adjustments program provides a balanced, accurate, all-items file for user analysis and account posting. The program adjusts the CPCS merge string (M-string) that is created when:

- The online reject reentry (OLRR) function repairs the rejects
- The MRGE function merges the reject strings (R-strings) and the input strings (I-strings).

The result is a balanced M-string used for account posting. This chapter summarizes the system requirements and functions for the Online Adjustments program.

System Considerations

The Online Adjustments program, written in System/370* Assembler Language and COBOL/370* was developed using the following program offerings:

- Multiple Virtual Storage (MVS) Release 3 or higher (now MVS/ESA)
- COBOL/370

No known dependencies preclude using the Online Adjustments program under other operating systems that support CPCS.

Function Overview

You can operate multiple IBM 3277 Display Stations (Model 1, Model 2, or both) under CPCS control to speed data entry. Multiple operators can work on each M-string, one per tracer group or subset. You can customize the system by defining, through use of an adjustment-code data set, unique installation data types.

The Online Adjustment program lets you easily do the following tasks:

- Move from adjustment entry to tracer or subset balancing (adjustment display, reentry, and if necessary, rebalancing)
- Perform entry trial balancing
- Perform adjustment printing

You can directly access the adjustments from the CPCS mass data set by opening the appropriate adjustment M-strings. Corrected all-item M-strings are then available for user analysis.

If you have an out-of-balance condition, the Online Adjustments Entry module (DKNADJ) provides several facilities to help you locate an error. The program's scroll, delete, and reentry capabilities, together with the summary batch and block balancing information, allow the correct balancing of all batches of a tracer group or subset. Two "force balance" options provide you with help when you have deadline pressures. Both of these options allow you to accept the adjustments that have

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Additional String Characteristics

already been entered, without requiring that the tracer group or subset be in balance.

Input: The input to Online Adjustments is the M-string that was created from the prime-pass I-string, HSSR I-string, if applicable, and the R-string. Adjustments from Online Adjustments are combined with the M-string.

Output: The output from Online Adjustments is the adjustments M-string. It is denoted by the string name *eeee-1-00-00-*nn*-00-M-000*, where *nn* is the position of the tracer group within the original 00-M string, or the last two digits of the subset number of the subset M-string.

The original M-strings, created by DKNMRGE from prime pass CPCS I-strings, high-speed I-strings, and OLRR strings, are never changed by the Online Adjustments program. The program writes all the adjustments (whether they are inserts, changes, or deletions) to an adjustment M-string associated with the original M-strings by the above special pass-pocket-history (PPH) notation.

The Online Adjustments trial balance module (DKNTBAL) treats all data, original and adjusted, as “logically” merged. The physical merging occurs only when the entire string is in balance or is “force balanced.”

For final control, the Online Adjustments program delivers, when requested, an output report showing each adjustment. Only after printing and creating the updated M-string does the program delete the individual adjustment strings.

Online Adjustments acts on prime-pass (pass 1) M-strings only. No provision is made for balancing any subsequent pass M-strings you may choose to create.

The Adjustment List module, DKNALST, lists all adjustment M-strings on the mass data set for a specific cycle or entry. DKNALST deletes adjustment M-strings that have been merged into a new M-string. The ALST report shows the totals at entry and tracer levels for the strings reported, as well as the total number of adjustments.

The chapters that follow describe the Online Adjustments program in detail and provide you with installation and operations information.

Additional String Characteristics

The following section summarizes the history of CPCS strings from their creation through their deletion.

<u>String Name</u>	<u>Summary</u>
eeee-1-00-00-00-00-M-sss	DKNMRGE creates one of these strings for each prime-pass entry or subset. DKNTBAL also sets a transfer flag when you use the Bank Control File (BCF) M-string delete option. This enables DKNECYC or DKNICRE to delete this string, if DKNTBAL does not delete the string. If the balance flag is off, DKNADJ sets it on to prevent image balancing from taking it.

	<p>DKNADJ sets on the kill listed flag and DKNWTR sets on the listed flag after PLST prints.</p>
eeee-1-00-00-xx-00-M-000	<p>DKNADJ creates one of these strings for each prime-pass entry or subset.</p> <p>If the balance flag is off, DKNADJ sets it on to prevent image balancing from taking it.</p> <p>DKNADJ sets on the kill-listed flag, and DKNWTR sets on the listed flag after PLST prints.</p> <p>DKNTBAL deletes this string if directed to do so by the 99-M string processing flag in the Bank Control File. Otherwise, it sets the string's transferred flag to prevent DKNICRE from taking it.</p> <p>DKNECYC deletes the string if its transferred flag is on.</p>
eeee-1-99-00-00-00-M-sss	<p>DKNTBAL creates one of these strings for each prime-pass entry or subset. It also sets the balance flag for this updated 99-M string.</p> <p>DKNTBAL sets the listed flag off when you select the force balance option P. This lets DKNPLST set the flag on and lets DKNICRE extract it. Otherwise, DKNTBAL sets the listed flag on.</p> <p>DKNPLST lists the string when you select the U option.</p> <p>DKNICRE transfers the string and sets the string's transferred flag on to prevent future DKNICREs from taking it.</p> <p>DKNECYC deletes the string if its transferred flag is on.</p>

Additional String Characteristics

Chapter 2. Installing the Online Adjustments Program

The installation procedures described in this chapter tell you how to allocate the required Online Adjustments data sets and assemble (or compile) and link-edit the program modules. When you complete these steps, Online Adjustments is active.

The steps for installing Online Adjustments are:

1. Allocate the Online Adjustments code table.
2. Compile and link-edit the Online Adjustments source code.
3. Assemble and link-edit DKNBLDL.
4. Modify CPCSPROC.

Step 1: Allocate the Online Adjustments Code Table

In this step, you allocate the Online Adjustments code table. The JCL is in the member GENADJCD of CPCS.V1R11.SDKNSAM1. This job allocates the code table, using the following default assumptions:

- The code table is placed on Volume nnnnnn. Use a volume label defined for your installation.
- The code table is assigned a high-level qualifier of CPCS.V1R11.
- The code table does not already exist.

Important!

You can install the Online Adjustments code table with the default qualifier of CPCS.V1R11, or you can change the qualifier to meet the requirements of your installation. If you change the qualifier, you must review all the JCL members referenced to ensure you are using the correct qualifier before you run the jobs.

Step 2: Compile and Link-Edit the Online Adjustments Source Code

In this step, you compile and link-edit all the Online Adjustments modules. The JCL is in the member DKNJASM2 of CPCS.V1R11.SDKNSAM1. The load modules are in CPCS.V1R11.LLIB. DKNJASM2 is a part of the standard CPCS installation JCL and compiles more modules than the Online Adjustments modules.

If you want to customize your site's Online Adjustments code, see Chapter 3, "Customizing Online Adjustments" on page 3-1.

Step 3: Assemble and Link-Edit DKNBLDL

In this step, you compile and link-edit the module, DKNBLDL. Run the job that assembles and link-edits your DKNBLDL. You can find sample JCL in CPCS.V1R11.SDKNSAM1.

Step 4: Modify CPCSPROC

In this step, you modify your CPCSPROC by uncommenting the ADJ data sets. Modify the data set names as needed to meet your installation's requirements.

Chapter 3. Customizing Online Adjustments

This chapter describes several ways that you can adapt the Online Adjustments program to your installation. If you customize any part of this program after having installed it, remember that it must be recompiled for the changes to take effect.

Switches and Checks

To change the procedure to check for balancing, perform the following tasks:

1. Update the DKNADJ constants defined in copy module DKNADJC.

The balancing switches for DKNADJ Option 2 are BALS_W1 through BALS_W9. These switches turn on or off the various edit checks DKNADJ performs when it is asked to do tracer balancing. For more information, see “Option 2 - Tracer Balancing” on page 4-5.

Balancing Switch	Description
BALS_W1	\sum^1 debits = batch total
BALS_W2	\sum credits = batch total
BALS_W3	\sum debits = block total
BALS_W4	\sum credits = block total
BALS_W5	\sum debits = \sum batches
BALS_W6	\sum credits = \sum batches
BALS_W7	\sum batches = block total
BALS_W8	\sum batches = \sum blocks
BALS_W9	Batches = blocks.

Notes:

- a. There is no need to check the out-of-balance batches.
 - b. &NUMADJ defines the maximum number of adjustments per tracer. The default value equals 400; the maximum value is 32767. By changing the SETA statement &NUMADJ in copy module DKNADJC, you can change the size of the table to hold the maximum value of adjustments.
 - c. &NUMBAT defines the maximum number of out-of-balance batches that are stored for display on an out-of-balance condition. The default value equals 100.
 - d. HILISW is the switch used to highlight fields that are in error on the data entry screen. This switch is set in copybook DKNADJC before assembly (bit X'01' indicates that field highlighting is set on).
2. Update DKNTBAL constants defined in copy module DKNTBALC. The balancing switches for DKNTBAL are BALS_W1 through BALS_W8. These switches turn on or off the various edit checks DKNTBAL performs as it attempts to balance tracer groups and subsets. For more information, see “Option 1 - Adjustment Entering” on page 4-3.

¹ The symbol \sum represents the sum of.

Customizing Online Adjustments

<u>Balancing Switch</u>	<u>Description</u>
BALANCE-SWITCH-1	\sum^1 debits = batch total
BALANCE-SWITCH-2	\sum credits = batch total
BALANCE-SWITCH-3	\sum debits = block total
BALANCE-SWITCH-4	\sum credits = block total
BALANCE-SWITCH-5	\sum debits = \sum batches
BALANCE-SWITCH-6	\sum credits = \sum batches
BALANCE-SWITCH-7	\sum batches = block total
BALANCE-SWITCH-8	\sum batches = \sum blocks.

Nonzero Balancing

Normal operations of the Online Adjustments program assume that you choose to adjust all out-of-balance tracer groups and to run DKNTBAL against all M-strings. Your deadline pressures and installation decisions might prove this assumption false. The following option gives you flexibility in adapting the Online Adjustments program to your working environment.

For nonzero balancing, DKNTBAL determines if a string is in balance by checking all selected differences as controlled by the balancing switches in DKNTBALC against a constant of zero. You can change the constant ACCEPTABLE - DIFFERENCE from \$0.00 to \$9999.00 by changing the MOVE instruction in the initialization section of DKNTBAL. The MOVE instruction is delivered with a value of 000. If you change it to 400, all batches and blocks in a string are considered in balance if their debits and credits differ by less than \$400.00.

Other Customization Options

The Online Adjustments program gives you the following additional customization options.

<u>Option</u>	<u>Description</u>
Program key use	The 3270 PA1 and PA2 keys access the adjustment entry and balancing functions of DKNADJ. If you do not have these keys on your 3277 keyboard, or if these keys are not conveniently located, you can change them by recoding the equate statements in the program source for DKNADJ.

The program code designates the equate statements as:

```
PA1 EQU X'6C'  
PA2 EQU X'6E'
```

To recode the equate statements, change the program code to:

```
PA1 EQU X'F1'  
PA2 EQU X'F2'
```

This change gives the **PF1** key and the **PF2** key access to adjustment entry and balancing. Other equate statement changes are available at your discretion.

User programs

You may need to change the current installation programs that read MDS M-strings to include access to the updated M-strings that DKNTBAL creates. All inserts and changes are flagged as noncontrol documents (bit X'80' is set off in DIFLAG2) and should process without change. All other adjustment records are flagged as control images. A potential area of change is the string naming convention; the updated strings have the following format:

```
EEEE-1-99-00-00-00-M-000
```

Adjustments User Exit

The adjustments user exit lets you validate special non-numeric keys that are entered on the adjustment entry screen. The module can then take appropriate action on the fields, based on the keys entered.

You can specify the adjustments user exit in the Bank Control File. See the section on “Bank Control File Record Definitions” in the *CPCS Customization Guide* for additional information on enabling the online adjustments user exits.

Adjustment Code Data Set (DCADJTBL)

The adjustment code data set (DCADJTBL) defines the adjustment code values that may be used in DKNADJ. The user may modify the codes, if desired. If DCADJTBL is modified, recompile all online adjustment modules.

Customizing Online Adjustments

Chapter 4. Module Descriptions

The Online Adjustments program consists of three major modules:

- Adjustment entry (DKNADJ)
- Trial balance (DKNTBAL)
- Adjustment list (DKNALST)

This chapter describes these modules and their functions.

Adjustment Entry (DKNADJ)

DKNADJ is the input module for the Online Adjustments program. The Online Adjustments program is a reentrant assembler-language program. It analyzes keyed data, develops balancing totals, and creates mass data set (MDS) adjustment M-strings for subsequent processing.

Starting DKNADJ

When DKNADJ starts, the program runs standard housekeeping routines; it saves linkage registers and initializes its own registers, work areas, tables, and terminal (IBM 3277 Display Station Models 1 and 2) information blocks. The program also generates separate graphics input and output areas.

The program then analyzes the start parameters. The CPCS Application Task module (DKNATASK) passes a buffer to DKNADJ that contains ADJ xxxxxxxx. DKNADJ validates the values represented by xxxxxxxx. The start parameters must begin with a 4-digit ENTRY number. This ENTRY number is followed by either a 4-digit TRACER number or a 3-digit SUBSET number, separated by a comma or dash. The program then displays any error messages to help you restart the task.

The M-string that requires adjusting (as indicated by the first group of 4 digits) is read from the MDS. If needed, the error messages appear again. If you entered the tracer-group ID or subset number as part of the initial start parameters, no immediate message appears.

DKNADJ proceeds to load the user adjustment-code data set (see Chapter 6, "User Adjustment-Code Data Set"). If the data set does not exist, an I/O error occurs and a default message appears.

A successful load causes DKNADJ to condense the utility-created data set into a 900-byte internal table. The program accesses this table during the processing of an adjustment to determine whether the keyed adjustment code is valid and whether it should be handled as one of the following:

- Insert
- Change
- Delete
- Insert negative
- Change to negative
- Batch group delete
- Block group delete

Adjustment Entry (DKNADJ)

If you attempt to use an adjustment M-string that is open on the MDS, a message appears indicating that the tracer group is being balanced. Before opening the M-string, the system checks whether the balance and kill-listed flags are in one of the following conditions:

<u>Condition</u>	<u>Description</u>
Both flags on	Online Adjustments processed the string and it can be adjusted again.
Balance flag on / Kill-listed flag off	High Performance Transaction System balancing processed the string and a message appears indicating that adjustments cannot process the string.
Balance flag off / Kill-listed flag on	Image balancing cannot process the M-string.

Before opening all M-strings, the system checks the transferred flag. If the merged flag is on, a message appears indicating that this entry has already been adjusted and DKNADJ automatically ends.

At this point, the first adjustment M-string opens. DKNADJ creates a unique adjustment M-string for every tracer group or subset it handles. The third pocket in the adjustment M-string's pass-pocket history identifies to what the string corresponds:

<u>Final M-strings</u>	<u>Adjustment M-String Name</u>
0521-001 (1st tracer group)	0521-1-00-00-01-00-M-000
0673-001 (2nd tracer group)	0521-1-00-00-02-00-M-000
0198-001 (3rd tracer group)	0521-1-00-00-03-00-M-000
<u>Subset M-Strings</u>	<u>Adjustment M-String Name</u>
Entry 0521 Subset 001	0521-1-00-00-01-00-M-000
Entry 0521 Subset 002	0521-1-00-00-02-00-M-000
Entry 0521 Subset 003	0521-1-00-00-03-00-M-000

The third pocket also controls the order in which DKNALST fetches the adjustment M-strings for the printing of their adjustments.

An option menu appears after a successful adjustment M-string open. The menu offers the following program options:

<u>Option</u>	<u>Description</u>
1	Adjustment entering
2	Tracer balancing
3	Adjustment scrolling
8	Force balance with PLST listing
9	Force balance.

To select one of the first three options, type 1, 2, or 3 and press the **ENTER** key; or press the **PA1**, **PA2**, or **ENTER** keys, respectively. To select Option 8 or Option 9, type 8 or 9, respectively, and press the **ENTER** key. If the **PA1** or **PA2** keys are not available on your keyboard or are not conveniently located, see “Other Customization Options” on page 3-2 to change them.

The remainder of this chapter explains these adjustment options.

Option 1 - Adjustment Entering

To select the first option, type 1 and press the **ENTER** key, or press the **PA1** key. DKNADJ then displays a formatted screen that prompts you to enter a single adjustment item. Enter the adjustment code (a 2-digit number defined by the user adjustment-code data set), and then enter the 12-digit sequence number under the correct headings (CD and SEQ#).

Notes:

1. If necessary, enter the correct information in the remaining seven fields:
 - Amount
 - Process control
 - Account number
 - Routing number
 - Serial number
 - Associated credit-account number
 - Comments.
2. The parameters specified for the MDX macro determine the field sizes and the headings that appear on the display screen. For information about expanding the MDS, see the *CPCS Customization Guide*.

The DKNADJ syntax checks all fields before processing and, if errors exist, flags them in two ways. The program can note the errors on the message, and it can highlight the data on the 3277 display screen. A typical error message line appears as follows:

```
ERRORS:  CODE AMT PC SER
```

DKNADJ then generates another display screen, showing all the keyed data as originally entered. This screen allows you to edit errors. You must change the incorrect data and enter it again or else bypass it for another program function. If the appropriate switch is set by the CPCS programmer in DKNADJC, the fields in error are highlighted on the ADJ screen.

When all entered fields pass validation and the M-string item has been located, a confirmation screen appears. This screen shows the MICR fields from the M-string item and the adjustment item (including fields from the M-string that were merged into the adjustment item if the field was a change or a deletion). The screen gives you the following options:

Option	Definition
A	Accept the adjustment and enter it into the table.
R	Reject the item and display the adjustments-entry screen again.
S	Scroll to the next M-string item with the same sequence number.

Adjustment Entry (DKNADJ)

You should use Option S only for autoselected items created on a document processor (an IBM 3890 or an IBM 3890/XP Series¹ document processor) that either does not have the Stacker Control Instructions (SCI) Control of Autoselects RPQ feature (S00391) or that has this feature disabled. This option gives you the capability to adjust the autoselected items.

DKNADJ enters a further level of editing if the adjustment code indicates one of the following:

- Insert
- Change
- Insert negative
- Change to negative

The entered item is sent to the edit routine through the edit interface DKNMOLRI. Bit X'08' in DIFLAG2 is set on to identify the item as an adjustment. For the insert negative and change-to-negative codes, bit X'20' in DICPU2 is set on.

DKNADJ loads all tables and work areas required for processing.

After an adjustment passes all stages of editing, it is stored in an internal adjustment table. The default table has room for 100 adjustments per tracer group. For information on changing this default size, see Chapter 3, "Customizing Online Adjustments" on page 3-1.

Each entry into the adjustments table causes a rebuilding of the table index. This index is reshuffled to maintain a correct sort pointer into the adjustments table. All adjustments write to the adjusting M-string in the sequence that they apply to the original M-string. They can be typed in any order (although processing is faster if the order is sequential) but they always write in the original M-string sequence. The index provides the key to this ordering. (The scroll function of DKNADJ also uses the table index to govern its display screen.)

You can make multiple inserts (up to a maximum of 99 per item) for a single M-string item. Multiple changes or deletions to a single item do not take effect. The last change or deletion supersedes all previous changes.

If the number of adjustments exceeds the size of the internal adjustments table, a forced-balance condition occurs. All previously typed-in adjustments write to the adjustment M-string, and the first two total records (see Appendix A, "Adjustment Record Formats" on page A-1) include the block, batch, debit, and credit totals and item counts (as changed by the entered adjustments). A forced balance record appears on the adjustment M-string and DKNALST highlights this record in its audit report.

Note: Sequence numbers of the adjusted items have the same number as the associated M-string item typed in and verified during adjustments entry.

¹ The IBM 3890/XP Series document processors include the 3890/XP Document Processor, the 3891/XP Document Processor, and the 3892/XP Document Processor.

When the adjustment M-string is created, the following occurs:

- All change adjustments have a '1' in the high-order position of the sequence number.
- All inserts have a new unique sequence number assigned by the CPCS module, DKNIGEN. A '1' is in the high-order position of the sequence number.

Option 2 - Tracer Balancing

To select the second DKNADJ option (the tracer balancing function), type 2 and press the **ENTER** key, or press the **PA2** key. The adjustments in the main storage table apply to the items in the tracer group on the original M-string, using the following adjustments:

Change Logically merges the changed fields with the fields in the M-string item.

Insert Processes after its corresponding M-string item processes. Up to 99 inserts are permitted after each M-string item. The inserts, for any given M-string item, process in the sequence in which they were entered. There is no facility for reshuffling the order of the inserts; however, you can delete them by selecting Option 3 (see page 4-6) and entering the inserts again in the correct order.

Delete Deletes the associated M-string item from the balancing process.

Change-to-negative Logically merges the changed fields with the fields in the M-string item.

Insert negative Processes after its corresponding M-string item processes.

Batch group delete Deletes the associated M-string item and all following items until encountering the next batch, block, or tracer. Any adjustments contained within the group delete range are also deleted from the balancing process.

Block group delete Deletes the associated M-string item and all following items until encountering the next block or tracer. Any adjustments contained within the group delete range are also deleted from the balancing process.

When the complete tracer group has been processed, the system checks to determine whether it is in balance. The following balancing checks are performed:

Check 1 For each batch, the debit total must equal the batch-slip amount. This does not apply to credit-only runs.

Check 2 For each batch, the credit total must equal the batch-slip amount. This does not apply to debit-only runs.

Check 3 For each block, the debit total must equal the block-slip amount. This does not apply to credit-only runs.

Check 4 For each block, the credit total must equal the block-slip amount. This does not apply to debit-only runs.

Adjustment Entry (DKNADJ)

- Check 5** For the entire tracer, the debit total must equal the total of batch slips. This does not apply to credit-only runs.
- Check 6** For the entire tracer, the credit total must equal the total of batch slips. This does not apply to debit-only runs.
- Check 7** For each block, the total of the batch slips must equal the block-slip amount.
- Check 8** For the entire tracer, the total of the batch slips must equal the total of block slips.
- Check 9** For each block, the batch debit totals (or credit totals) do not have to equal the batch-slip amount if the block item total is equal to the block-slip amount. (When it is delivered, the switch for this check is turned off.)

A facility is provided with the program to let you omit any or all of these criteria. Copybook DKNADJC contains definitions of balancing switches. You can reset any of these switches before assembling DKNADJ.

If the tracer balance or force balance is in effect, an adjustment M-string writes to the MDS, and DKNADJ ends normally. Otherwise, a balance summary appears (for a sample balance summary, see the message section in Chapter 5, "Terminal Operations"). At that point, you can request a screen display that summarizes information for all out-of-balance blocks and batches. These screen displays pinpoint the blocks and batches that are not in balance and shows their differences. You can then proceed with normal program functions (insert, delete, or change) to correct the problem.

Option 3 - Adjustment Scrolling

To select the scroll option (the next menu offering of DKNADJ), type 3 and press the **ENTER** key or simply press the **ENTER** key. The adjustments are shown in M-string sequence on a full screen for both 3277 Display Station Models 1 and 2.

You can delete any item shown by typing in a dash in the code field of the correct adjustment. DKNADJ sets the corresponding table index entry to X'FF' and the main storage table position value to F'0' for the deleted item. Scrolling continues through the remaining adjustments as you press the **ENTER** key. An adjustment count appears on the last screen. You can repeat this function, or any of the menu functions, until the M-string tracer group is in balance.

Option 8 - Force Balance with PLST Listing

To select the force balance with PLST option, type 8 and press the **ENTER** key. This option offers you a variation of the force balance option (see Option 9 - Force Balance). To build the adjustment totals, the adjustments process uses the balancing logic from Option 2. The adjustment M-string writes to the MDS. A flag is set in a user record of the adjustment string. This flag indicates to DKNTBAL for PLST to automatically start for the string. After processing the adjustments, DKNADJ ends normally.

Option 9 - Force Balance

To select the force balance option, type 9 and press the **ENTER** key. This option completes the menu offerings of DKNADJ. To build the adjustment totals, the adjustments process uses the balancing logic from Option 2. The adjustment M-string writes to the MDS and DKNADJ ends normally.

Additional DKNADJ Considerations

This section describes associated credit, negative adjustments, and group delete.

Associated Credit

To assist in customer advice mailings, DKNADJ automatically locates the account number and dollar amount fields of the nearest credit. This credit is first or last, depending on MICR generation and SPDEF options. DKNADJ then applies the account number and dollar amount fields to every debit adjustment. The associated credit account number appears on the scroll screen.

To override the DKNADJ-assigned account number, enter it with the adjustment information under the field name 'CREDIT A/N'. If this field is incomplete, a zero amount is applied to the associated dollar-amount field. No provision is made for entering an associated credit amount. If the 'CREDIT A/N' field is manually entered for a credit adjustment, the field is applied to the document throughout the processing cycle and is recorded on the updated M-string.

Negative Adjustments

A subtract option is included in DKNADJ and DKNALST to give you the flexibility to use your adjustments for balancing. This option can be explained by the following example:

```

$6,010.22 (Debit Total)
$5,960.22 (Batch Total)
-----
$  50.00 (Difference)
    
```

An extra item caused the out-of-balance condition. This can be corrected by changing the batch ticket amount or deleting the extra \$50.00 debit item. However, you might desire to enter a \$50.00 adjustment that processes later as a credit to the General Ledger. You cannot directly enter a credit (bit X'04' of DIFLAG2) because DKNADJ balances debits and credits separately against the batch and block totals. Therefore, you should subtract the \$50.00 debit to solve the out-of-balance condition.

Enter a \$50.00 insert with a negative adjustment code. The user-adjustment data set describes this code in normal fashion (C'A'). However, the user-edit routine must check for an adjustment item (bit X'08' in DIFLAG2) and recognize the negative adjustment code (passed to DICPU in a packed numeric format). After the user-edit routine recognizes this code, the X'20' bit of DICPU+1 should be set on. DKNADJ balancing logic then subtracts the \$50.00 from the total counter and considers the batch in balance. DKNALST totaling logic subtracts rather than adds to the correct adjustment total counter (debit or credit).

Additional DKNADJ Considerations

You can define several minus transaction codes in the user-adjustment data set and check them in the user-edit routine. The transaction codes act as either debits (minus credits) or credits (minus debits), depending on the setting of the X'04' bit in DIFLAG2. For you to process adjustment M-string items, a debit is designated as follows:

```
DIFLAG2 = B'.....0..'
DICPU+1 = B'..0.....'    +DEBIT
```

or

```
DIFLAG2 = B'.....1..'
DICPU+1 = B'..1.....'    -CREDIT
```

A credit is designated as follows:

```
DIFLAG2 = B'.....1..'
DICPU+1 = B'..1.....'    +CREDIT
```

or

```
DIFLAG2 = B'.....0..'
DICPU+1 = B'..1.....'    -DEBIT
```

Group Delete - Batch

The batch delete function of DKNADJ applies only to complete batches. The balancing logic eliminates the deleted batch during its calculation cycle. Depending on whether batch slips precede or follow the work they control at your installation, the batch delete function is used as follows:

Batch-slip-first You must enter a batch sequence number and dollar amount along with the batch delete code. DKNADJ checks to ensure that the dollar amount matches the M-string document amount and that the sequence number matches the batch ticket number. The item and all the following M-string items, until finding the next batch or tracer document, are deleted from balancing consideration.

Batch-slip-last You must enter the sequence number and dollar amount for the first document of the batch. The system checks to ensure that the dollar amount matches the M-string document. The item and all items that follow on the M-string up to and including the next batch ticket are deleted from balancing consideration.

Group Delete - Block

The block delete function of DKNADJ applies to complete blocks. The balancing logic eliminates the deleted block during its calculation cycle. Depending on whether block slips precede or follow the work they control at your installation, the block delete function is used as follows:

Block-slip-first	You must enter a block sequence number and dollar amount along with the block delete code. DKNADJ checks to ensure that the amount matches the M-string document amount and that the sequence number matches the block ticket number. The item and all the following M-string items, until finding the next block or tracer document, are deleted from balancing consideration.
Block-slip-last	You must enter the sequence number and dollar amount for the first document of the block. The system checks to ensure that the dollar amount matches the M-string document. The item and all items that follow on the M-string up to and including the next block ticket are deleted from balancing consideration.

Trial Balance (DKNTBAL)

DKNTBAL generates a trial balance for a prime-pass entry or a prime-pass subset. For a prime-pass entry, the result is an M-string entry total (including adjustments) and a list of out-of-balance tracer groups. The totals are accumulated from individual tracer groups within a prime M-string entry or an adjustment M-string associated with the tracer group. For a prime-pass subset, the result is an M-string subset total, including adjustments. The totals accumulate from the adjustment M-string associated with the subset.

DKNTBAL can run against any M-string (adjusted, partially adjusted, or merged only). Occasionally, you can use DKNTBAL as a tool for collecting summary string information. DKNTBAL produces string totals on printed reports for blocks, batches, debits, and credits.

Tracer Group Adjustments

When you make adjustments to a tracer group, an adjustment M-string is created containing the tracer totals in the first two records. If an adjustment M-string exists for a specific tracer group, DKNTBAL increases its entry totals with the totals in the first two records.

The third record of an adjustment M-string contains the tracer name of the next tracer in the prime M-string and other information relating to that tracer group. If no adjustment M-string exists for the next tracer group, DKNTBAL stores this information and uses it to identify the tracer on the MDS. After DKNTBAL stores the information, the adjustment M-string closes.

Subset Adjustments

When you make adjustments to a subset, an adjustment M-string is created that contains the subset totals in the first two records. DKNTBAL uses these totals as the total of the subset for balancing. Processing is the same as for entry balancing with a single tracer group.

When DKNTBAL begins, it opens the prime M-string to read the first record and determine the flow of the documents. The switches are set to indicate the flow. DKNTBAL saves a pointer to the prime M-string for future readings of the string.

Force Balance

If you selected the force balance option (from the options menu described on page 4-2), DKNTBAL tests the BALANCE flag to determine whether it is set on or off after opening the regular M-string. If the BALANCE flag is set on, a message appears on the display screen stating that the force balance string is already balanced. After processing, DKNTBAL ends normally.

Force Balance with PLST

You may select the force balance with PLST option from the options menu described on page 4-2. If no adjustment M-string exists on the MDS, a message appears on the display screen stating that PLST did not start because no adjustment M-string was found. After processing, DKNTBAL ends normally.

Entry Balancing

For entry balancing, when no adjustment M-string exists for a tracer group, the prime M-string is read to increase TBAL's entry totals and to determine whether the tracer group is in balance.

When DKNTBAL finds a new tracer while reading a prime M-string for entry balancing, it saves the tracer name and information relating to the tracer group for future use if no adjustment M-string exists for that tracer.

At the end of processing, DKNTBAL determines whether an entry is in or out of balance. If the entry is out of balance, DKNTBAL displays the out-of-balance tracer group numbers. Up to 64 such tracer groups can appear on DKNTBAL's screen. A report prints out that shows entry dollar and item totals for blocks, batches, debits, and credits. This report also shows a listing of the out-of-balance tracer numbers. After processing, DKNTBAL ends normally.

Subset Balancing

For subset balancing, DKNTBAL processes the substring (subset) in the same way that it performs entry balancing for a single tracer group that has a corresponding adjustment M-string. (DKNTBAL obtains the string total from the first two records of the adjustment M-string.)

If the subset is out of balance, DKNTBAL displays its tracer group number in the TBAL report. A report prints out that shows the output of the out-of-balance tracer name. After processing, DKNTBAL ends normally.

Tracer and Subset Balancing

A tracer group or subset is considered in balance when an adjustment M-string exists for it or, if an M-string does not exist, when a tracer group or subset satisfies the following balancing checks:

- Check 1** For each batch, the debit total must equal the batch-slip amount. This does not apply to credit-only runs.
- Check 2** For each batch, the credit total must equal the batch-slip amount. This does not apply to debit-only runs.
- Check 3** For each block, the debit total must equal the block-slip amount. This does not apply to credit-only runs.

- Check 4** For each block, the credit total must equal the block-slip amount. This does not apply to debit-only runs.
- Check 5** For the entire tracer, the debit total must equal the total batch slips. This does not apply to credit-only runs.
- Check 6** For the entire tracer, the credit total must equal the total of batch slips. This does not apply to debit-only runs.
- Check 7** For each block, the total of the batch slips must equal the block-slip amount.
- Check 8** For the entire tracer, the total of the batch slips must equal the total of block slips.

The program provides a facility to let you omit any or all of these criteria. Copybook DKNTBALC contains definitions of balancing switches, any of which you can reset before you compile DKNTBAL. These switches, while similar to those in DKNADJ, can have different settings from those in DKNADJ.

If a tracer is out-of-balance, it is stored in a tracer-name table. The table can store a maximum of 64 tracer names. Therefore, only the first 64 out-of-balance tracers appear on the terminal and the listing.

If a subset is found to be out-of-balance, it is stored in a tracer-name table. Because a subset is similar to a single tracer entry, the table only stores one entry and subsequently displays one entry only on the screen.

If all the tracers in the entry are in balance, DKNTBAL runs the logic to create an updated M-string. The original M-string merges with each of the adjustment M-strings (one per tracer, if present) and creates a whole new M-string. It has the same name as the original M-string except that the "pocket 1" portion of the string name contains **99**. Insert adjustments appear on the string as normal noncontrol records. Change adjustments appear on the string as two records. The first is the original M-string item and is flagged as a control image (all control images referenced in this paragraph contain X'80' in DIFLAG2 and X'85' in DITYPEI).

The second record is the changed item. This provides a record of all the changes on the new M-string. Single delete adjustments appear on the string as a control image.

All items contained within either batch delete groups or block delete groups appear on the string as control images. Associated credit and comment records are additional records and are also flagged as control images. Each of these control images contains a unique flag in processing unit byte 2 (DICPU2) to identify its type.

After DKNTBAL creates the corresponding 99 M-strings, the module turns on:

- The MDS index directory MERGE flag for all adjustment M-strings in the entry
- The KILL-LISTED and BALANCE flags for the updated M-string.

DKNTBAL checks the Bank Control File (BCF) to determine if it should delete the original 00-M string. If it should not, it turns on the 00-M string's transferred flag so that DKNICRE or DKNECYC will eventually delete it.

Adjustment List (DKNALST)

DKNTBAL also protects you from attempting to balance a final M-string that has already had a subset trial balanced. If you attempt to trial-balance an entry and a subset of that entry has already been processed, a message appears stating that the 99 M-string cannot be created because subset 99 M-strings already exist. In this case, you must individually balance each subset of the entry. DKNTBAL can be run against any M-string (adjusted, partially adjusted, or merged only).

DKNTBAL Sample Report

Figure 4-1 is an example of a DKNTBAL report.

```
STRING 4380-1-00-00-00-00-M-000 (01.01.92/22:56) TRIAL BALANCE ID1 CYCLE NN 01/01/92 PAGE XX

ENTRY DOLLAR TOTAL ITEM COUNT
BLOCK NNNNNNNNNNNNNN.NN NNNNNNNN
BATCH NNNNNNNNNNNNNN.NN NNNNNNNN
DEBIT NNNNNNNNNNNNNN.NN NNNNNNNN
CREDIT NNNNNNNNNNNNNN.NN NNNNNNNN
ENTRY IS IN BALANCE
4380-1-00-00-00-99-M-000 BEING CREATED.
***** END OF LIST *****
```

Figure 4-1. DKNTBAL Report

Adjustment List (DKNALST)

DKNALST lists all adjustment M-strings on the MDS for a specific cycle or entry.

DKNALST searches the MDS index directory for M-string names that match the cycle or entry specified in the start parameter. DKNALST stores all the adjustment M-string names found in a string-name table. Prime M-string names are overlooked and not saved. If no adjustment M-string exists, a message appears and the terminal is released.

If there is more than one string name, the strings are sorted according to entry number and position within that entry. As a result, the string names (in sorted sequence) are placed on a sequential string name file, ALSTSORT. At this point, the terminal is released for use by other tasks.

DKNALST then opens and reads the sorted string-name file. When DKNALST finds a string on the MDS that corresponds to the name read from the string-name file, it opens, reads, and prints that string. The same process is repeated until DKNALST reads all of the entries on the sorted string-name file and lists the corresponding strings on the MDS. If only one adjustment M-string exists, DKNALST opens, reads, and prints that string.

DKNALST uses DKNMDXR to let you select which MICR fields you want to print on the report and how many digits you want to print for each field. To get this flexibility, set the desired display lengths for each of the MICR fields in the MDX macro process (for information about expanding the MDS, see the *CPCS Customization Guide*). The field does not print on the report if the display length is zero.

With DKNALST you can also print a user comment record on the report. This lets you enter a comment on the adjustment screen when you make an adjustment.

The comment prints on the right side of the ALST report. This field can be a maximum of 20 characters.

When DKNALST encounters an end-of-string condition, the string being processed is closed and net adjustment totals print for that tracer. When the last adjustment M-string for a prime M-entry prints, the net adjustment totals for the entry prints.

Once a string prints, DKNALST checks to see whether it has been merged to a balanced M-string. If it has been merged, DKNALST deletes the string; otherwise, the string is not deleted after it prints.

When printing its report, DKNALST checks whether an adjustment-code file (DKNADJCD) exists. If the file exists, DKNALST uses it to print comments associated with the type of adjustment that you entered. You can set up this code file by placing a valid comment in the file for each specific type of adjustment code. This comment can have a maximum of 27 characters. If no adjustment-code file exists or the file contains no valid comments (for example, the comment field is all spaces), an internal table provides the correct comment for that specific type of adjustment. For more information, see Chapter 6, "User Adjustment-Code Data Set."

The DKNALST report shows totals at entry and tracer levels. Totals are reported for adjustments to individual items and control document items. If you adjust an individual item, the amount is totaled under the Debit Amount column for debits and the Credit Amount column for credits. If you adjust a batch control item or block control item, the adjustment is totaled under the Batch Amount and the Block Amount columns, respectively. The total number of adjustments is reported under the Item Count column. For information about the layout of this report, see "DKNALST Sample Report."

DKNALST Sample Report

Figure 4-2 on page 4-14 is an example of a DKNALST report.

Sample Report

STRING 1111-1-11-12-02-00-M-000 (01.01.92/16:46)				ADJUSTMENT LIST			SRL	CYCLE 8	01/01/92	PAGE 01
SEQ	SER	R/T	A/N	PC	AMT	PKT				
0120030089		12320002	0000165824		1000	12	PRIME			
1120030089		12320002	0000165824		100	12	CHANGE			
			123456		367511					ASSOCIATED CREDIT USER COMMENT
0120030097		12220038	61261414		3824	12	DELETION			
			123456		367511					ASSOCIATED CREDIT
0120030097		12220038	61261414		3824		PRIME			
1103009701		12200141	25502300		1968	12	INSERT			
			123456		367511					ASSOCIATED CREDIT
0120040077		12220038	8234204		800		PRIME			
1104007701		12200141	61261414		3824	12	INSERT			
			123456		762005					ASSOCIATED CREDIT

	BLOCK AMOUNT	BATCH AMOUNT	DEBT AMOUNT		CREDIT AMOUNT	ITEM COUNT				
	00	00	1068		00	4				TRACER ADJUSTMENT TOTALS
	00	00	1068		00	4				ENTRY ADJUSTMENT TOTALS
***** END OF LIST *****										

Figure 4-2. DKNALST Report

Chapter 5. Terminal Operations

The Online Adjustments program terminal operations are interactive, allowing you to enter start commands and respond to program screens and prompts for data. This chapter describes these commands; the messages are found in Appendix B, "Messages for Online Adjustments" on page B-1.

Program Start Commands

The start commands for Online Adjustments are: ALST, ADJ, and TBAL. They are presented in that order in the following sections.

For the messages themselves, explanations, and responses, see Appendix B, "Messages for Online Adjustments" on page B-1.

DKNALST

DKNALST is started with one of the following commands:

- ALST *x*
- ALST *eeee*

Where:

x A 1-digit number that designates the cycle where the adjustment M-string is listed.

eeee A 4-digit number that designates the entry where the adjustment M-string is listed.

DKNADJ

DKNADJ is started with one of the following commands:

- ADJ *eeee,ttt*
- ADJ *eeee-ttt*
- ADJ *eeee,sss*
- ADJ *eeee-sss*
- ADJ *eeee*

Where:

eeee The 4-digit M-string entry name that contains the tracer group to be adjusted.

ttt The 4-digit adjustment tracer.

sss The 3-digit subset number.

If you do not enter the tracer number or subset number, ADJ displays error message 06 and prompts you to enter the missing data.

Adjustments Program Option

The adjustments program option menu identifies the following main program functions:

- Adjustment entry
- Tracer balancing
- Scrolling
- Force balance with PLST
- Force balance

```
EEEE-TTTT ADJUSTMENTS

1 - ENTER ADJUSTMENTS

2 - BALANCE TRACER GROUP

3 - DISPLAY ADJUSTMENTS

8 - FORCE BALANCE WITH PLST LISTING

9 - FORCE BALANCE

ENTER 1, 2, 3, 8, or 9 FOR DESIRED OPTION
```

Figure 5-1. Adjustments Program Option Menu

This option menu appears after you have successfully edited the start parameters. It also appears as a default screen when data editing cannot recognize valid 3270 input.

Response: Type **1, 2, 3, 8, or 9** for the desired function, then press **ENTER**.

Optional input:

<u>Key</u>	<u>Definition</u>
PA1	Enter the adjustments.
PA2	Balance the tracer group.
ENTER	Display the adjustments.

To cancel DKNADJ, type **CANCEL**.

Adjustments Entry Option

The following screen is the result of an adjustment entry request.

```

          EEEE-TTTT  ADJUSTMENTS
CD      SEQ NUMBER      AMOUNT
..      .....          .....

P/C          ACCOUNT          R/T
.....          .....          .....

EXTEND P/C    SERIAL          CREDIT A/N
..            .....          .....

COMMENTS .....
      M E S S A G E   L I N E

```

Figure 5-2. Adjustments Entry Option Menu

The codeline field lengths and headings are taken from the MDX macro. Field 7 on the screen (field 6 on the MDS) is included only if its display length in the MDX macro is not zero. For the purposes of this document, use the standard MDX field lengths and headings (defaults). The 10 fields on the adjustments entry option menu are defined as follows:

Field	Definition
CD	The 1- or 2-digit user-adjustment code. For more information, see Chapter 6, "User Adjustment-Code Data Set" on page 6-1.
SEQ NUMBER	The 12-digit item sequence number.
AMOUNT	The 10-digit dollar amount of the adjustment, left-aligned.
P/C	Process control. The 6-digit adjustment transaction code, left-aligned.
ACCOUNT	The 14-digit adjustment account number, left-aligned.
Routing Number or Sort Code	The 8-digit routing number field (separated by a dash) or the 9-digit routing number field with a check digit.
EXTEND P/C	The 2-digit extended process control code.
SERIAL	The 10-digit adjustment serial number, left-aligned.
CREDIT A/N	The 14-digit account number of the credit document associated with this adjustment, left-aligned.
COMMENTS	The 20-character optional user comments, unique to this adjustment.

The message line contains information to guide you in correcting an incorrect adjustment or proceeding to the next item. Refer to Appendix B, "Messages for Online Adjustments" on page B-1 for a description of the messages that can appear here.

Response: Type in the fields to be adjusted, the adjustment code, and the item-sequence number. The code and sequence fields must be present for all adjustments.

Program Start Commands

You can obtain the item-sequence number from the PLST-generated, exception-entry master list report. The sequence number is in the following format:

xyysss

Where:

xx	Source of the item; the values are as follows:
00	Prime pass item
01	Piggyback (OLRR)
02	HSRR
03	OLRR (after HSRR)
08	Autoselect (OLRR)
yy	Sorter number
sss	Sequence number

An insert references the sequence number of the preceding document in the M-string that you want to adjust. If you use an insert with the code and sequence fields only, and the previous adjustment entered was a delete, then you need to use all the fields from the deleted item for the insert. This technique lets you move an item from one location on the string to another.

A single or group delete must have the amount field typed in, and it must equal the amount of the M-string item.

For changes, enter only the fields that need to be changed. You can erase any field from the original item (except the amount field) by typing a space in the first position of the field. Fields that are not changed merge to the M-string item. Enter the sequence number and routing number fields completely. All other fields must be complete or they must be left-aligned.

Fields with data entry errors are listed on the message line when you press the **ENTER** key. Your CPCS programmer can also arrange to have any incorrect fields highlighted on the screen. Only the incorrect digits must be entered again. The **ENTER** key triggers data editing. The standard option menu keys (**PA1**, **PA2**, and **ENTER**) are operable for this screen.

To return to the Options Menu, press the **CLEAR** key.

Successful Field Edit

The following screen appears after you enter an adjustment that passes the basic field editing and you find the M-string item with the sequence number
NNNNNNNNNNNN.

```

EEEE-TTTT  ADJUSTMENTS
SEQ: NNNNNNNNNN  CODE: NN XXXXXXXX

M-STRING ITEM          ADJUSTED ITEM

..... AMT          .....
..... P/C          .....
..... A/N          .....
....-.... R/T       ....-....
.. RET              ..
..... SER          .....

.. PKT              ..

ASSOCIATED CREDIT: .....

A=(ACCEPT) R=(REJECT) S=(SCROLL M-STG) =>

```

Figure 5-3. Successful Field Edit Menu

The codeline field lengths are taken from the MDX macro. Field 6 (RET) is included only if its display length in the MDX macro is not zero. The standard MDX field lengths are used in Figure 5-3. The code field contains the 2-digit code entered on the data entry screen and an 8-character code description.

Response: Type in one of the following responses:

<u>Key</u>	<u>Definition</u>
A	Accept the adjustment and enter it into the adjustment table.
R	Reject this item. The adjustments entry screen appears next.
S	Scroll the M-string for another item with a matching sequence number. This is the method for adjusting 3890 autoselects that have the same sequence number as the preceding M-string item.

Tracer Group Out-of-Balance

The following screen appears when you request balancing and the tracer group is out of balance.

Program Start Commands

```
EEEE-TTTT ADJUSTMENTS

      BALANCING SUMMARY
      RUNTYPE

      COUNT          DIFF

DEBITS  XX,XXX   XXX,XXX,XXX,XXX,XXX.XXS
CREDITS XX,XXX   XXX,XXX,XXX,XXX,XXX.XXS
BLOCKS          XXX,XXX,XXX,XXX,XXX.XXS
      ENTER 'B' TO SCROLL BATCHES =>
```

Figure 5-4. Tracer Group Out-of-Balance Menu

The RUNTYPE field appears as one of the following:

- DEBITS ONLY
- CREDITS ONLY
- POD.

The COUNT field represents the number of out-of-balance batches. Calculate the difference by subtracting the accumulated totals from the batch control total.

Response: Type in one of the following responses:

Key	Definition
B	Display out-of-balance blocks and batches.
PA1	Return to the adjustment entry screen.
PA2	Balance the entry again.
ENTER	Scroll the adjustments.
CLEAR	Return to the Options Menu (or any attention key other than PA1 , PA2 , or ENTER).

Summary Request

The following screen is the result of a batch summary request.

```
EEEE-TTTT ADJUSTMENTS

ZZZZ SEQ SSSSSSSSSSS XXXXXXXXXXXXXXXX
BT  XXX,XXX,XXX,XXX,XXX.XX  DF  XXX,XXX,XXX,XXX,XXX.XXS
DR  XXX,XXX,XXX,XXX,XXX.XX  DF  XXX,XXX,XXX,XXX,XXX.XXS
CR  XXX,XXX,XXX,XXX,XXX.XX  DF  XXX,XXX,XXX,XXX,XXX.XXS

      ENTER ATTN TO SCROLL
```

Figure 5-5. Batch Summary Request Menu

The fields and their designated numbers are shown below; the same number is in the definition list that follows:

```

ZZZZ SEQ SSSSSSSSSSSS XXXXXXXXXXXXXXXX (1)
(2) BT XXX,XXX,XXX,XXX,XXX.XX DF XXX,XXX,XXX,XXX,XXX.XXS (3)
(4) DR XXX,XXX,XXX,XXX,XXX.XX DF XXX,XXX,XXX,XXX,XXX.XXS (5)
(6) CR XXX,XXX,XXX,XXX,XXX.XX DF XXX,XXX,XXX,XXX,XXX.XXS (7)
    
```

Figure 5-6. Field Numbers for Batch Summary and Last-Batch Requests

The fields on the batch summary request menu are defined as follows:

<u>Field</u>	<u>Definition</u>
ZZZZ	'BLOCK' or 'BATCH'.
SSSSSSSSSSSS	12-digit sequence number of block or batch slip.
Field 1	Edited block or batch-slip total.
Field 2	Edited batch-slip total in block.
Field 3	Edited batch-slip difference in block (obtained by subtracting the block-slip amount from the batch-slip total). Fields 2 and 3 do not appear if the difference is zero.
Field 4	Edited debit total in block or batch.
Field 5	Edited debit difference in block or batch (obtained by subtracting the control total amount from the debit total). Fields 4 and 5 do not appear if the debit difference is zero.
Field 6	Edited credit total in block or batch.
Field 7	Edited credit difference in block or batch (obtained by subtracting the control total amount from the credit total). Fields 6 and 7 do not appear if the credit difference is zero.

Response: Type in one of the following responses:

<u>Key</u>	<u>Definition</u>
PA1	Return to the adjustment entry screen.
PA2	Balance the entry again.
ENTER	Continue scrolling out-of-balance blocks and batches.
CLEAR	Return to the Options Menu.

Last Batch

When processing a summary request, the following screen appears when the last batch is reached (see the field definitions above for an explanation of Fields 1 through 7). To figure out field numbers for the last-batch request, see Figure 5-6 on page 5-7.

```

                EEEE-TTTT ADJUSTMENTS

ZZZZ SEQ SSSSSSSSSSS XXXXXXXXXXXXXXXX
BT XXX,XXX,XXX,XXX,XXX.XX  DF XXX,XXX,XXX,XXX,XXX.XXS
DR XXX,XXX,XXX,XXX,XXX.XX  DF XXX,XXX,XXX,XXX,XXX.XXS
CR XXX,XXX,XXX,XXX,XXX.XX  DF XXX,XXX,XXX,XXX,XXX.XXS

                END OF BATCH DISPLAY
    
```

Figure 5-7. End of Batch Menu

Response: Type in one of the following responses:

<u>Key</u>	<u>Definition</u>
PA1	Return to the adjustment entry screen.
PA2	Balance the entry again.
ENTER	Continue with another display of the blocks and batches.
CLEAR	Return to the Options Menu.

Adjustment Scroll

The following screen is the result of an adjustment scroll.

```

                EEEE-TTTT ADJUSTMENTS

AC SSSSSSSSSSS XXXXXXXXXX XXXXXX XXXXXXXXXXXXXXXX XXXXXXXX
XXXXXXXXXX XX XXXXXXXXXXXXXXXX CCCCCCCCCCCCCCCCCC

                ENTER ATTN TO SCROLL
    
```

Figure 5-8. Adjustment Scroll Menu

To figure out the field numbers for the adjustment scroll and the last adjustment item, refer to the following pattern; the field definitions follow:

```

                EEEE-TTTT ADJUSTMENTS
                (1)      (2)      (3)      (4)
AC SSSSSSSSSSS (1) XXXXXXXXXX (2) XXXXXX (3) XXXXXXXXXXXXXXXX (4) XXXXXXXX
                (5) XXXXXXXXXXXXX (6) CCCCCCCCCCCCCCCCCC
                (5)      (6)      (7)      (8)
    
```

Figure 5-9. Field Numbers for Adjustment Scroll and Last Adjustment Item

The fields on the adjustment scroll menu are defined as follows:

<u>Field</u>	<u>Definition</u>
AC	User code - 2 bytes decimal.
SSSSSSSSSSSS	The 12-digit item-sequence number.
Field 1	The 10-digit amount field, zero suppressed to cents field, or periods if the dollar amount is blank.
Field 2	The 6-digit process control field, or periods if the field is blank.
Field 3	The 14-digit account number, or periods if the field is blank.
Field 4	The 8-digit routing number field or sort code field, or periods if the field is blank.
Field 5	The 10-digit serial number field, or periods if the field is blank.
Field 6	Extend P/C. The 2-digit extended process control field, or periods if the field is blank (this field appears only if its display length in the MDX macro is not zero).
Field 7	The 14-digit associated credit account number, or ampersands (&) if the field is blank or if the adjustment does not have an associated credit account number.
Field 8	The 20-position user comments input, or periods if there are no comments.

Notes:

1. For a change adjustment, Fields 1 through 5 show ampersands (&) if the field was not changed.
2. The codeline field lengths are taken from the MDX macro. Field 6 (extend process control) is included only if its display length in the MDX macro is not zero. The default MDX field lengths are used in Figure 5-8 on page 5-8.
3. A maximum of 10 adjustments is shown on a 3277 Model 2 and a maximum of 2 is shown on a 3277 Model 1.

Response: Type in one of the following responses:

<u>Key</u>	<u>Definition</u>
PA1	Return to the adjustment entry screen.
PA2	Balance the entry.
ENTER	Continue scrolling adjustments. Type a hyphen (-) in the first or second digit of the code field and press the ENTER key to remove the adjustment from the adjustment table.
PF3 or CLEAR	Return to the Options Menu.

Last Adjustment

The following screen appears on a 3277 Display Station after the last adjustment item is successfully completed. For an explanation of field number designations, refer to Figure 5-9 on page 5-8.

```
EEEE-TTTT ADJUSTMENTS
AC SSSSSSSSSSSS XXXXXXXXXXX XXXXXX XXXXXXXXXXXXXXXX XXXXXXXX
  XXXXXXXXXXXX XX XXXXXXXXXXXXXXXX CCCCCCCCCCCCCCCCCC
END OF ADJUSTMENTS   XXX
```

Figure 5-10. End of Adjustments Menu

XXX identifies the total number of adjustments.

Note: See “Adjustment Scroll” on page 5-8 for an explanation of Fields 1 through 8 and for response instructions.

DKNTBAL

DKNTBAL is started with one of the following commands:

- TBAL *eeee*
- TBAL *eeee,F*
- TBAL *eeee,P*
- TBAL *eeee,tttt*
- TBAL *eeee,sss*
- TBAL *eeee,F,sss*
- TBAL *eeee,P,sss*

Where:

- eeee* The entry number of the prime M-string to be trial balanced.
- F* The option to select when you want to force balance the string.
Note: If you select this option, the string is considered to be in balance and DKNTBAL creates a balanced M-string.
- P* The option to select when the string is to be force balanced. This option automatically starts PLST on the 99 M-string.
Note: If you select this option, the string is considered to be in balance and DKNTBAL creates a balanced M-string.
- sss* The 3-digit subset number of entry *eeee*.
Note: If a subset is entered, the number must be a valid subset number other than *000*.

Trial Balance Result (Out-of-Balance)

This screen reflects the result of a trial balance on an out-of-balance prime M-string.

```

XXXX-X-XX-XX-XX-XX-M-XXX TRIAL BALANCE

ENTRY IS OUT OF BALANCE
FOLLOWING TRACER(S) OUT OF BALANCE:
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ
ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ ZZZZ

```

Figure 5-11. Trial Balance Result (Out-of-Balance) Message

Where:

XXXX-X-XX-XX-XX-XX-M-XXX

Is the prime M-string name

ZZZZ Is the tracer group names for the out-of-balance tracers. A maximum of 64 tracer group names can appear.

No response is necessary.

Trial Balance Result (In-Balance)

This screen reflects the result of a trial balance on an in-balance prime M-string. The balanced M-string is being created.

```

XXXX-X-XX-XX-XX-XX-M-XXX TRIAL BALANCE

ENTRY IS ZZZZZ BALANCE

YYYY-Y-YY-YY-YY-YY-M-YYY BEING CREATED

```

Figure 5-12. Trial Balance Result (In-Balance) Message

Where:

XXXX-X-XX-XX-XX-XX-M-XXX

Is the prime M-string name

ZZZZZ

Is either IN or FORCE

YYYY-Y-YY-YY-YY-YY-M-YYY

Is the balanced M-string name

No response is necessary.

Chapter 6. User Adjustment-Code Data Set

The user adjustment-code data set is a disk data set that is used to correlate the user adjustment codes to the task adjustment codes. These codes are the ones entered with the adjustments. If the data set does not exist, you can use the default values by answering **Y** to message 12 in the adjustment task. The default values are:

<u>Default</u>	<u>Description</u>
01	Insert
02	Change
03	Delete
04	Insert negative
05	Change to negative
06	Batch group delete
07	Block group delete.

The records for the data set are 30 bytes in length. They can be blocked or unblocked. The record format is:

<u>Byte</u>	<u>Description</u>														
0-1	The user adjustment-code values are C'00' through C'99'.														
2	The adjustment-type values are: <table> <tbody> <tr> <td>A</td> <td>Insert</td> </tr> <tr> <td>C</td> <td>Change</td> </tr> <tr> <td>D</td> <td>Delete</td> </tr> <tr> <td>F</td> <td>Change to negative</td> </tr> <tr> <td>G</td> <td>Batch group delete</td> </tr> <tr> <td>H</td> <td>Block group delete</td> </tr> <tr> <td>N</td> <td>Insert negative.</td> </tr> </tbody> </table>	A	Insert	C	Change	D	Delete	F	Change to negative	G	Batch group delete	H	Block group delete	N	Insert negative.
A	Insert														
C	Change														
D	Delete														
F	Change to negative														
G	Batch group delete														
H	Block group delete														
N	Insert negative.														
3-29	Comments for the adjustment code.														

User Adjustment-Code Data Set

Appendix A. Adjustment Record Formats

Record 1

Table A-1 describes the adjustment record format for Record 1.

Table A-1. Adjustment Record Format for Record 1.

DEC	HEX	LEN	MODE	DESCRIPTION
00	00	9	PD	Adjusted block-slip total
09	09	1	C	Reserved
10	0A	2	B	Adjusted block-slip count
12	0C	4	C	Reserved
16	10	9	PD	Adjusted batch-slip total
25	19	1	C	Reserved
26	1A	2	B	Adjusted batch-slip count
28	1C	\$	C	Reserved
28+\$	1C+\$	1	C	Record type = C'T'
29+\$	1D+\$	1	C	Total record type = C'1'
30+\$	1E+\$	1	B	DIFLAG2 = X'80'
31+\$	1F+\$	1	B	DITYPEI = X'85'
32+\$	20+\$	#	C	Reserved

Record 1 Notes:

\$ = DICPU - DI + 1 - (28)

Where:

\$ is the number of bytes between the end of the adjusted batch-slip count and the second byte of DICPU. This length is 8 for a nonexpanded mass data set and more than 8 for an expanded mass data set.

= DILENGTH - (DITYPEU - DI)

Record 2

Table A-2 describes the adjustment record format for Record 2.

Table A-2. Adjustment Record Format for Record 2

DEC	HEX	LEN	MODE	DESCRIPTION
00	00	9	PD	Adjusted debit total
09	09	1	C	Reserved
10	0A	2	B	Adjusted debit count
12	0C	4	C	Reserved
16	10	9	PD	Adjusted credit total
25	19	1	C	Reserved
26	1A	2	B	Adjusted credit count
28	1C	\$	C	Reserved
28+\$	1C+\$	1	C	Record type = C'T'
29+\$	1D+\$	1	C	Total record type = C'2'
30+\$	1E+\$	1	B	DIFLAG2 = X'80'
31+\$	1F+\$	1	B	DITYPEI = X'85'
32+\$	20+\$	#	C	Reserved

Record 2 Notes:

\$ = DICPU - DI + 1 - (28)

Where:

\$ = is the number of bytes between the end of the adjusted batch-slip count and the second byte of DICPU. This length is 8 for a nonexpanded mass data set and more than 8 for an expanded mass data set.

= DILENGTH - (DITYPEU - DI)

Record 3

Table A-3 describes the adjustment record format for Record 3.

Table A-3. Adjustment Record Format for Record 3

DEC	HEX	LEN	MODE	DESCRIPTION
00	00	8	B	Tracer note for next tracer group in M-string
08	08	2	B	Next tracer number in M-string
10	0A	4	C	Operator ID
14	0E	1	C	Cycle
15	0F	3	PN	Cycle date in MMDDYY format
18	12	3	PD	System date in YYDDDS format
21	15	2	PN	Adjustment start time in HHMM format
23	17	2	PN	Adjustment end time in HHMM format
25	19	1	C	Flag byte C '1' if no DKNADJCD data set
26	1A	4	PD	Cycle date with century indicator in CMMDDYYS format (C=0 => 20th century; C=1 => 21st century)
30	1E	4	PD	Cycle date with century indicator in CMMDDYYS format (C=0 => 20th century; C=1 => 21st century)
34	22	a	C	Reserved
b	b	1	C	Record type = C 'T'
c	c	1	C	Total record type = C '3'
d	d	1	B	DIFLAG2 = X '80' (control)
e	e	1	B	DITYPEI = X '85' (adjustment control)
f	f	g	C	Reserved

Record 3 Notes:

Where:

- a** - (DICPU + 1) - 34
- b** - (DICPU + 1) - DI
- c** - DIFLAG1 - DI
- d** - DIFLAG2 - DI
- e** - DITYPEI - DI
- f** - DITYPEI + 1 - DI
- g** - DILENGTH - DITYPEI + 1

Detail Image Record

Table A-4, Table A-5, and Table A-6 describe the adjustment record format for the Detail Image Record.

Table A-4. Adjustment Record Format for the Detail Image Record

DEC	HEX	LEN	MODE	DESCRIPTION
00	00	4	B	Old sequence number
04	04	6	PN	12-digit item number
10	0A	20	C	Comment if record type 'C'

Table A-5. Adjustment Record Format for the Detail Image Record

DEC	HEX	LEN	MODE	DESCRIPTION
00	00	36		Group delete totals if record type 'G'
00	00	9	PD	Group delete block total
09	09	9	PD	Group delete batch total
18	12	9	PD	Group delete debit total
27	16	9	PD	Group delete credit total

Table A-6. Adjustment Record Format for the Detail Image Record

DEC	HEX	LEN	MODE	DESCRIPTION
00	00	*		Associated credit account number record
00	00	4	B	Old sequence number
04	04	6	PN	12-digit item number
10	0A	@	PN	Reserved
10+@	0A+@	#	PN	Account number
10+\$	0A+\$	&	PN	Reserved
10+¢	0A+¢	%	PN	Amount
10+¬	0A+¬	15	B	Reserved

Detail Image Record Notes:

- * = DILENGTH
- @ = AUXL + RETL + ABAL
- # = ONUSL
- & = PCTLL
- % = AMTL
- \$ = @ + #
- ¢ = \$ + &
- ¬ = ¢ + %

Table A-7 also describes the adjustment record format for the Detail Image Record.

Table A-7. Adjustment Record Format for the Detail Image Record

DEC	HEX	LEN	MODE	DESCRIPTION
00	00	*	PN	Detail image
*	*	1	C	Adjustment type and code: Bit Meaning 0 Positive adjustment 1 Negative adjustment 2-7 User adjustment code.
*+1	*+1	1	C	Record type Flag byte Meaning C'1' M-string image associated with insert adjustment C'2' Block group delete C'3' Batch group delete C'4' M-string image associated with change adjustment C'5' Delete adjustment C'6' Insert adjustment C'7' Change adjustment C'8' Associated credit A/N record C'9' Force balance transaction C'P' Force balance transaction with PLST of the 99 M-string C'C' Comment record C'G' Group delete totals record.
*+2	*+2	1	B	DIFLAG1
*+3	*+3	1	B	DIFLAG2
*+4	*+4	1	B	DITYPEI
*+5	*+5	1	B	DITYPEU
*+6	*+6	1	B	DIPKT
*+7	*+7	8	B	DIFLG3

Detail Image Record Notes:

1. * = DILENGTH - 15
2. For record types 1, 4, and 5, the S/N, R/T, A/N, P/C, and the amount fields are the same as those on the M-string record.
3. For record type 6, all entered fields contain data. Any blank field contains X'AA'.
4. For the record type 7, all entered fields contain data. The other fields contain X'BB's on the adjustment M-string and are replaced with correct fields from the original M-string image when written on the updated M-string.
5. For record type 8, the account number and amount fields contain data.

Adjustment Record Formats

- For record types 6 and 7, the X'08' bit in DIFLAG2 is set on.
- The sequence of records on the adjustment M-strings (records 1, 2, and 3) is in the following order:

Insert

Record type C'1'	Original M-string image
Record type C'6' *	Insert adjustment
Record type C'8' (optional)	Associated credit
Record type C'C' (optional)	Comment

* Multiple groups of C'6'/'8'/'C' are possible.

Change

Record type C'4'	Original M-string image
Record type C'7'	Change adjustment
Record type C'8' (optional)	Associated credit
Record type C'C' (optional)	Comment

Delete

Record type C'5'	Delete adjustment
Record type C'8' (optional)	Associated credit
Record type C'C' (optional)	Comment

Batch Group Delete

Record type C'3'	Batch delete adjustment
Record type C'G'	Group delete totals

Block Group Delete

Record type C'2'	Block delete adjustment
Record type C'G'	Group delete totals.

- For record types 2, 3, 4, 5, 8, 9, C, and G: When writing to an updated M-string, bit X'80' in DIFLAG2 is set on.
- All items in batch or block delete groups are flagged as record types 2 or 3, respectively, when written to the updated M-string. All group delete records have the bit X'80' set on in DIFLAG2.
- When writing to an updated M-string, all records that have bit X'80' set on in DIFLAG2 have DITYPEI = X'85'.

Appendix B. Messages for Online Adjustments

The following is a complete list of all Online Adjustment program error messages. It includes both application task messages and supervisor terminal messages. When one of these messages appears, consult the specific explanation and responses to these messages.

The messages for the Online Adjustments program are given in alphabetical and numerical order for the ALST, ADJ, and TBAL modules:

(ADJ) ERRORS: xxxx xxxx xxxx xxxx

Explanation: One or more fields on the Adjustments Entry Option screen are in error. The fields are listed in the message. They may also be highlighted on the screen, depending on how your programmer has configured DKNADJ.

Operator Response: Type correct data into the indicated fields and press ENTER.

(ADJ) USER EDIT ERRORS: xxxx xxxx xxxx xxxx

Explanation: Although the listed fields are basically in correct format, your host edit program considers their contents to be in error.

Operator Response: Type correct data into the indicated fields and press ENTER.

(ADJ) ERROR: DOCUMENT NOT A BATCH SLIP

Explanation: You entered a Batch Delete adjustment code against an item that is not a batch slip.

Operator Response: Check your PLST for the correct Batch sequence number. Re-enter the adjustment using the sequence and amount from a true batch slip.

(ADJ) ERROR: DOCUMENT NOT A BLOCK SLIP

Explanation: You entered a Block Delete adjustment code against an item that is not a block slip.

Operator Response: Check your PLST for the correct block slip sequence number. Re-enter the adjustment using the sequence and amount from a true block slip.

(ADJ) INSERT AMT ERROR: LAST ITEM NOT A DELETE

Explanation: You attempted to insert an item with a blank amount. This is permitted only immediately after a delete, when you are moving the deleted item to a new location.

Operator Response: If this is a new item you are inserting, then re-enter the adjustment and supply an amount. If you are moving an item from another location, first delete it at its old sequence number; then, perform an insert and supply the new sequence number.

(ADJ) ERROR: SEQ # NOT ON M-STRING

Explanation: The sequence number you entered cannot be found.

Operator Response: Check your PLST for the correct sequence number. Re-enter the adjustment using the sequence from the PLST.

(ADJ) ERROR: TRACERS CANNOT BE ADJUSTED

Explanation: You attempted to adjust a tracer slip, or to insert after a tracer other than the last slip in the tracer group.

Operator Response: Check your PLST to make sure you are not using an erroneous sequence number. Re-enter the adjustment using the correct sequence number.

(ADJ) ENTER NEXT ADJUSTMENT

Explanation: You have successfully entered an adjustment on the Adjustments Entry Option screen and have accepted it on the Successful Field Edit screen.

Operator Response: Informational message, no response necessary. Proceed with entering the next adjustment.

(ADJ) ITEM REJECTED - ENTER NEXT ADJ

Explanation: You entered an adjustment on the Adjustments Entry Option screen, but chose to reject it on the Successful Field Edit screen.

Operator Response: Informational message, no response necessary. Proceed with entering the next adjustment.

**(ADJ) 01 START COMMAND WAS 'ADJ yyyyyyyyyy
---ENTER AS 'ADJ xxxx,xxxx' or 'ADJ
xxxx.NNN'**

Explanation: Incorrect parameters were entered to start the adjustments program. yyyyyyyyyy represents the incorrect data. ADJ ends and the terminal is released.

Operator Response: Retype the start information following the format shown in the ENTER AS portion of the message.

(ADJ) 02 xxxx-1-00-00-00-00-M-NNN NOT FOUND

Explanation: The designated adjustment M-string (represented by xxxx) was not found on the MDS. ADJ ends, and the terminal is released.

Operator Response: Retype the start command using the correct M-string name.

(ADJ) 03 NO OUT OF BALANCE BATCHES

Explanation: The batch summary display function was selected. However, no blocks or batches are out of balance.

Operator Response: Type in one of the following responses:

Key	Definition
PA1	Return to the adjustment entry screen.
PA2	Balance the entry.
ENTER	Continue to the next Adjustments Option Menu.

(ADJ) 04 I/O ERROR ON ADJUST CODE TABLE

Explanation: An I/O error occurred during reading of the user adjustment-code data set. ADJ ends, and the terminal is released.

Operator Response: Notify your CPCS supervisor.

(ADJ) 05 ENTER TRACER ID OR SUBSET #

Explanation: The Online Adjustment program was started using the entry number of the M-string name. The tracer and subset prompt message is displayed to request the tracer or subset under adjustment.

Operator Response: Type in the 4-digit tracer ID of the subset number in the group to be adjusted. Use the PA2 key to cancel the task.

(ADJ) 06 ERROR IN TRACER SPECIFICATION
ENTER TRACER GROUP ID

Explanation: The tracer group ID that you entered was not 4 digits long.

Operator Response: Retype the 4-digit tracer ID. Use the PA2 key to cancel the task.

(ADJ) 07 READ IN PROCESS

Explanation: The system is searching the M-string for the tracer group to be adjusted.

Operator Response: No response is necessary.

(ADJ) 08 TRACER GROUP NOT FOUND
ENTER TRACER GROUP ID

Explanation: The tracer group that you entered was not found in the M-string.

Operator Response: Retype the 4-digit tracer ID. Use the PA2 key to cancel the task.

(ADJ) 09 NO ADJ TABLE. ENTER y FOR
DEFAULTS.

Explanation: A user-adjustment data set does not exist.

Operator Response: Type in one of the following responses:

Key	Definition.
ENTER	Ends the program and releases the terminal.
Y	Displays the adjustment program defaults as follows: <ul style="list-style-type: none">• Code 01=insert• Code 02=change• Code 03=delete• Code 04=insert negative• Code 05=change to negative• Code 06=batch group delete• Code 07=block group delete.

Any other response results in message 09 appearing again.

(ADJ) 10 TG CURRENTLY BEING ADJUSTED

Explanation: The tracer group that you specified is currently being adjusted by another operator. ADJ ends, and the terminal is released.

Operator Response: No response is necessary.

(ADJ) 11 ADJ M-STRING ALREADY EXISTS

Explanation: The tracer group that you specified has already been adjusted. ADJ ends and the terminal is released.

Operator Response: No response is necessary.

(ADJ) 12 NO ADJUSTMENTS ENTERED

Explanation: You have selected the adjustment scroll function. However, no adjustments have been entered.

Operator Response: Type in one of the following responses:

Key	Definition
PA1	Return to the adjustment entry screen.
PA2	Balance the entry.
PF3	Continue to the next Adjustments Option Menu.

**(ADJ) 13 MDS I/O ERROR
EEEE-1-00-00-NN-00-M-0NN**

Explanation: An MDS I/O error occurred while the adjustment program was attempting to read the adjustment M-string. ADJ ends, and the terminal is released.

Operator Response: Notify the CPCS supervisor.

**(ADJ) 14 MDS I/O ERROR
EEEE-1-00-00-00-00-M-000**

Explanation: An MDS I/O error occurred while the adjustment program was attempting to read M-string EEEE. ADJ ends, and the terminal is released.

Operator Response: Notify the CPCS supervisor.

(ADJ) 15 ADJ BALANCING IN PROGRESS

Explanation: You selected Option 2 (or pressed the PA2 key) from the Adjustments Program Option Menu while balancing was already in progress (for a description of the Option Menu, see "Adjustments Program Option" on page 5-2).

Operator Response: No response is necessary.

**(ADJ) 16 END OF TASK - ADJ M-STRING
CREATED**

Explanation: ADJ has successfully ended. The balance routine determines if the M-string and associated adjustments are in balance. An adjustment M-string is created on the MDS. The terminal is released.

Operator Response: No response is necessary.

(ADJ) 17 ADJ *eeee,ttt aaa nnn* RC => *x*

Explanation: The adjustments program has ended abnormally. The *eeee,ttt* data represents the original start parameters, *aaa* is the adjustment terminal address, and *nnn* is the operator ID. The terminal is released.

x can be one of the following return codes:

Code	Definition
C	Operator cancel
H	Terminal hardware error
1	Too many strings opened concurrently. This one did not open.
3	An open was issued on a string that does not exist or is not complete.
4	A read or write was issued on a string that was not open.
6	No user work area space available.

7 An open was issued on a string that was already open.

8 An I/O error was encountered on the MDS.

X There is not enough inner memory for the user edit routine.

Y A load failure for primary stacker select routine or edit tables occurred.

N User exit required, but load failure occurred.

Operator Response: No response is necessary.

(ADJ) 18 THIS ENTRY IS IMAGE BALANCED

Explanation: You have started DKNADJ with the entry number of a string that has already been taken for image balancing. ADJ ends, and the terminal is released.

Operator Response: No response is necessary.

(ADJ) 19 THIS ENTRY IS ALREADY ADJUSTED

Explanation: The entry or subset has already been adjusted. ADJ ends, and the terminal is released.

Operator Response: No response is necessary.

(ALST) 30 CYCLE *x* NOT IN RANGE 0-9, A-L

Explanation: The cycle number you requested is not valid. The cycle number must be in the range of either 0 through 9 or A through L. ALST ends, and the terminal is released.

Operator Response: Restart the task with a correct cycle number.

(ALST) 31 NO M-STRINGS IN THE DIRECTORY

Explanation: A search of the MDS directory index shows that no adjustment M-strings exist for the cycle or entry specified in the start parameter. ALST ends, and the terminal is released.

Operator Response: Ensure the correct cycle or entry number was entered in the start parameter and restart the task.

(ALST) 32 SEARCH DIRECTORY ERROR

Explanation: An I/O error has occurred on the MDS index directory. ALST ends, and the terminal is released.

Operator Response: Notify your CPCS supervisor.

(ALST) 33 SORTING ERROR

Explanation: An error occurred during an attempt to sort the string names. ALST ends, and the terminal is released.

Operator Response: Notify programming personnel.

Programmer Response: Check the JCL for the ALSTSORT DD statement.

- 3 The string does not exist or is not complete.
- 4 A read or write was issued on a string that was not open.
- 7 The string is already opened by this task.
- 8 An I/O error was encountered on the MDS.

Operator Response: Notify programming personnel.

(ALST) 34 TOO MANY STRINGS - TABLE OVERFLOW

Explanation: The number of adjusted M-strings found on the MDS exceeds the number specified in the string-name table (OCCURS) clause of the program. ALST ends, and the terminal is released.

Operator Response: Notify programming personnel. If you selected DKNALST on a cycle basis, try to run it again on an entry basis. If you autostarted ALST using Enhanced System Manager, you might want to consider adjusting the unit-of-work grouping and grouping level for this version of DKNALST so that fewer units of work are processed at a time.

(TBAL) 20 ERROR IN START COMMAND
ENTERED AS . . TBAL *yyyyyyyyyy*
REENTER AS . . TBAL *xxxx*
OR TBAL *xxxx,f*
OR TBAL *xxxx,p*
OR TBAL *xxxx,nnn*
OR TBAL *xxxx,f,nnn*
OR TBAL *xxxx,p,nnn*

Explanation: An error was found in the start command. The entry parameter must be numeric. The message shows the start command as it was entered and the correct format to use for correcting the error. TBAL ends, and the terminal is released.

Operator Response: Locate the error in the start command and restart DKNTBAL.

(ALST) 35 ENTRY *yyyy* NOT NUMERIC OR INVALID

Explanation: The entry number requested is not numeric. The entry number must be numeric. ALST ends, and the terminal is released.

Operator Response: Restart the task with a numeric 4-digit entry number.

(TBAL) ERROR - M-STG XF FLAG ON. 99 M-STG SHOULD EXIST

Explanation: The 99 M-string for the entry number specified in the start command has already been created and removed. TBAL ends, and the terminal is released.

Operator Response: Ensure that the correct entry number was specified and, if necessary, restart DKNTBAL.

(ALST) 36 BAD SYSTEM MANAGER START PARMS

Explanation: This message indicates that System Manager passed a null unit-of-work pointer to DKNALST.

Operator Response: Notify programming personnel.

(TBAL) 21 STRING NOT FOUND

Explanation: The prime M-string for the entry number specified in the start command cannot be found on the MDS. TBAL ends, and the terminal is released.

Operator Response: Ensure that the correct entry number was specified and, if necessary, start DKNTBAL.

ALST *xxxxxxxxxxxxMddd*ERR *y*

Explanation: An error occurred on the mass data set.

String Explanation

xxxxxxxxxxxxM

The string name

ddd The attempted function: OPEN, READ, or WRITE.

y The return code from the MDS. This can be one of the following:

Value Definition Definition

- 1 Too many strings opened concurrently. This one did not open.
- 2 The string being opened already exists.

(TBAL) 22 *xxxx-x-xx-xx-xx-xx-M-xxx* **STRING OPEN ERROR RETURN CODE** *y*

Explanation: An error occurred during an attempt to open string *xxxx-x-xx-xx-xx-xx-M-xxx*. *y* is the return code from DKNMASS. *y* can be one of the following values:

Value Definition

- | | |
|---|---|
| 1 | Too many strings opened concurrently (this one did not open). |
| 2 | The string being opened already exists. |
| 3 | The string does not exist or is not complete. |
| 7 | The string is already opened by this task. |
| 8 | An I/O error was encountered on the MDS. |

TBAL ends and the terminal is released.

Operator Response: No response is necessary.

(TBAL) 23 *xxxx-x-xx-xx-xx-xx-M-xxx* **STRING READ ERROR RETURN CODE** *y*

Explanation: An error occurred during an attempt to read string *xxxx-x-xx-xx-xx-xx-M-xxx*. *y* is the return code from DKNMASS. *y* can be one of the following values:

Value Definition

- | | |
|---|--|
| 4 | A read was issued on a string that was not open. |
| 8 | An I/O error was encountered on the MDS. |

TBAL ends, and the terminal is released.

Operator Response: No response is necessary.

(TBAL) 24 *xxxx-x-xx-xx-xx-xx-M-xxx* **STRING WRITE ERROR RETURN CODE** *y*

Explanation: An error occurred during an attempt to write to string *xxxx-x-xx-xx-xx-xx-M-xxx*. *y* is the return code from DKNMASS. *y* can be one of the following values:

Value Definition

- | | |
|---|---|
| 4 | A write was issued on a string that was not open. |
| 8 | An I/O error was encountered on the MDS. |

TBAL ends, and the terminal is released.

Operator Response: No response is necessary.

(TBAL) 25 **FORCE BAL STR ALREADY BALANCED**

Explanation: The string requested for force balancing has a corresponding regular M-string with a set balance flag. TBAL ends, and the terminal is released.

Operator Response: No response is necessary. The string has already been balanced.

(TBAL) 26 **PLST NOT STARTED, NO ADJ M-STR**

Explanation: DKNTBAL was started with the force balance Option P. However, no adjustment M-string exists for this entry. An adjustment M-string must be created before you can use Option P. TBAL ends, and the terminal is released.

Operator Response: No response is necessary.

(TBAL) 27 **CANNOT CREATE 99 M-STR, SUBSETS**

Explanation: You attempted to trial balance an entry of which a subset of the entry has already been processed. TBAL ends, and the terminal is released.

Operator Response: The operator must individually trial balance each subset of the entry.

(TBAL) 28 **BAD SYSTEM MANAGER START PARMS**

Explanation: This message should never occur. It means System Manager tried to pass TBAL a null unit-of-work pointer.

Operator Response: Notify programming personnel.

(TBAL) 29 **ENHANCED SM PRESENT, PLST NOT AUTOSTARTED**

Explanation: This message appears when System Manager passes TBAL the 'P' (Force Balance with PLST) parameter. TBAL force-balances the unit of work and creates an updated M-string, but does not autostart PLST.

Operator Response: Edit the task profile for the version of DKNTBAL invoked in this particular workflow. Change the 'P' in the user data area to an 'F'. Create a workflow for the updated M-string that TBAL generates, and make the first task in that workflow DKNPLST.

TBAL *xxxxxxxxxxxxMdddERR y*

Explanation: An error occurred on the mass data set.

String Explanation

xxxxxxxxxxxxM

The string name

ddd

The attempted function, OPEN, READ, or WRITE.

y

The return code from the MDS. This can be one of the following:

Value Definition

- | | |
|---|--|
| 1 | Too many strings opened concurrently. This one did not open. |
| 2 | The string being opened already exists. |
| 3 | The string does not exist or is not complete. |

- 4 A read or write was issued on a string that was not open.
- 7 The string is already opened by this task.
- 8 An I/O error was encountered on the MDS.
- U This message indicates that a mass data set user exit denied a request for mass data set services.

Operator Response: Notify programming personnel.

Appendix C. Data Areas for Online Adjustments

The data areas for the Online Adjustments program are:

Name	Description
DKNADJC	Assembler DSECT used to tailor DKNADJ
DKNTBALC	COBOL DSECT used to tailor DKNTBAL.

Glossary

This glossary defines important terms and abbreviations used in this manual. If you do not find the term you are looking for, see the *IBM Dictionary of Computing*, SC20-1699.

A

account number (A/N) field. An encoded field, on a check or deposit slip, that represents the account number of the item.

adjustment. A change, or a description of a change, that has been made to show a detected error in work that has been processed.

advice. (1) A written form or verbal order from which an electronic entry can be posted to an account (that is, a credit or debit advice). (2) A written acknowledgment or notice of a particular transaction.

amount field. An encoded field on an item that represents the amount of that item.

automatic restart. The process of restarting an interrupted entry without having to find and rebatch any items.

auxiliary on-us field. See *serial number field*.

B

balancing. The act of bringing two sets of related figures into agreement, for example, accumulated detail totals equal input control totals.

batch. The lowest required group of documents that has dollar control established by a control document. A batch normally consists of 500 or fewer documents.

batch number. The number that uniquely identifies a specific batch of documents.

block. (1) A prime-pass control level consisting of one or more batches. CPCS uses this control level to total multiple batches. (2) Work from a specific source.

C

capture. To read the code line that is inscribed on a document.

cash letter summary. A listing that summarizes kill lists by giving dollar and item controls for each kill list.

check. A draft drawn on a financial institution and payable on demand any time on or after the date indicated.

Check Image Management System (CIMS). An IBM licensed program that stores, retrieves, and manages document images.

CIMS. Check Image Management System.

codeline data matching. A method by which a computer system controls items on a detail level by comparing internal data records read from a prior pass with data read from the item on the current pass. Codeline data matching occurs on subsequent operations.

concurrent kill. Producing kill lists for kill pockets in an entry before the entire entry is processed. The concurrent kill feature is available only with subset processing.

concurrent processing. (1) A method of processing in which two or more jobs seem to be processed at the same time. Actually, the instructions of all the jobs are processed one at a time, alternating to make the most efficient use of the system. (2) Also called *multitasking*.

control block. A storage area that a computer program uses to hold control information.

control document. An encoded document that contains control information, such as the monetary amount of the checks that the document controls, the source of the checks, and a code that describes the level of control.

control slip. An encoded document that contains control information (the amount of the items that the document controls and the source of the items) and a code describing the level of the control.

control total. The total dollar value or item count for a group of documents.

cutoff. The financial institution's designated point for balancing or releasing work before processing continues. Also, the designated time after which the financial institution cannot accept work for processing.

cycle. (1) A group of work, or an identification of a group of work, processed as a single entity. (2) A convenient grouping of work. A cycle normally contains a variable number of entries.

D

data record. Items of information organized on the basis of their use in an application, as determined by the user.

data set. A single collection of data that can be stored on cards, a tape, or one or more disks. Examples of data sets are the kill bundle data set and the master data set.

deposit slip. A document that details a deposit. The total of the deposit is encoded on the deposit slip.

direct access storage device (DASD). A device in which access time is independent of the location of the data.

distributed string (D-string). The distribution task reads I-strings that the MICR task creates and produces D-strings. Each D-string contains the records that correspond to all documents in a single pocket of the document processor.

divider slip. A control document that is used to separate kill bundles during machine sorting of the checks. It can also be used to support the resynchronization of code-line data matching during subsequent-pass processing.

document processor. A device that can read encoded digits and control characters from documents and sort the documents into multiple pockets.

D-string. Distributed string.

E

encode. The process of inscribing a code in magnetic ink on a document to represent individual characters or groups of characters. The CPCS database contains the information that is encoded.

encoder. A machine that encodes.

endpoint. The destination of a check.

entry. A variable number of tracer groups that are processed as a single group of work.

entry number. The number of the first tracer group within the entry.

EPC. Extended process control field.

error description. A detailed error description that is created, detected, and corrected by the processing financial institution.

extended process control field (EPC). An optional encoded field, on an item, that indicates special handling (such as return or truncation).

F

full page format. A method of page formatting in which items are listed in columns (for example, the first 50 items in column 1, the second 50 in column 2, and so on), printing as many columns as will fit on a page.

funds availability. The portion of the financial institution's total deposits or of a depositor's account that represents items (checks, coupons, and so on) that have been collected and are now available. This includes cash deposited and checks drawn on the depositor's financial institution.

G

generated total. The total dollar value or the total count of items processed by the computer.

H

high-speed reject reentry (HSRR). The reentering into the document processor of reconditioned items that previously sorted to the system reject pocket (1-1).

holdover. Items that are held for the next processing cycle.

HSRR. High-speed reject reentry.

I

image. The captured facsimile (picture) of an item represented in digital form that is suitable for computer processing and storage.

input string (I-string). This is a string of documents that the MICR task creates. On each document processor run, an I-string is created that includes every document read by the document processor, including control documents and rejected documents. Each record contains related information, such as the pocket selected. The string also includes internally generated control records.

I-string. Input string.

item. A check, deposit slip, or other machine-readable document.

item-sequence number. A number that defines the sequence of an item within the input stream. This unique number is associated with the item throughout the entire cycle of computer processing.

J

JCL. Job control language.

JES. Job entry subsystem.

job control language (JCL). A control language used to identify a job to an operating system and to describe the job's requirements.

job entry subsystem (JES). A system facility for spooling, job queuing, and managing input and output.

joggler. A device that straightens and aligns items before high-speed sorting, principally to line up the lower edges and the right sides of a group of documents. This device is an integral component of some document processors.

K

kill. To process items to a point where no further distribution is required.

kill bundle. A group of killed items indicated by divider slips.

kill list. A document that accompanies a kill bundle, listing detail and controls for the items.

kill pass. A pass on which items are distributed to their endpoint pockets.

kill pocket. A document processor pocket assigned to killed items.

L

link-edit. To use a linkage editor to create a loadable computer program.

listed and not enclosed. A condition that exists when an item is listed on an incoming kill list or inscriber tape but is not enclosed in the kill bundle.

logical unit (LU). A port through which a user accesses SNA-network functions to communicate with another user on the network.

low-speed transit. The manual sorting and processing of checks.

LU. Logical unit.

LU 6.2. Logical unit 6.2 protocol.

LU 6.2 protocol. An SNA service that receives requests from users and from the system services control point. This service provides session

management and other services for sessions between two logical units.

M

magnetic ink character recognition (MICR). Character recognition of characters that are printed in ink that contains particles of magnetic material.

maker. The person on whose account a check is drawn.

mass data set (MDS). A file that contains images of all active document strings. This file consists of two direct access storage data sets: a directory index and an image data set.

master list. A list of all items that are read during a computer pass.

MDS. Mass data set.

merged string (M-string). DKNMRGE produces the M-string that represents the merging of images from the prime-pass I-string with corrected reject data. Reports that result from the M-string let you reconcile and balance input to ensure that all items are captured.

MICR. Magnetic ink character recognition.

M-string. Merged string.

multitasking. See *concurrent processing*.

O

OCR. Optical character recognition.

OLRR. Online reject reentry.

online fine sort. A computer-controlled sorting (for on-us checks) of account-number sequence, serial-number sequence, or both, used for filing. This process can use image-processing techniques.

online reject reentry (OLRR). Manual entry or correction of data through a display terminal.

on-us checks. Checks drawn on the financial institution that is processing them.

optical character recognition (OCR). A character recognition system or device that uses optical means to identify graphic characters.

optional field 1. An optional field used by some financial institutions for check truncation. It can also be used for other internal purposes.

optional field 2. See *extended process control field*.

outgoing sequence number. A unique sequence number assigned to each item or image, identifying the bill bundle in which the item left the financial institution.

P

pass. A single reading and sorting of a group of items and control documents on a document processor.

pass-to-pass control. A process that maintains dollar and item control of a group of documents on later passes, after control has been established on the prior pass.

piggyback. An item missing from its assigned pocket in a sorter and sorted "free" to an unidentified pocket, as when one document attaches itself to or overlaps another during processing.

pocket 1-1. See *system reject pocket*.

prime pass. The first pass of an entry.

printing after the fact. See *deferred printing*.

process control field. (1) An encoded field on a document, usually representing the type of document. (2) Transaction code.

proof of deposit (POD). The act of totaling items at the deposit level and ensuring that the total of the credits equals the total of the debits.

R

reconcile. To find and correct the cause of a difference between two sets of totals.

rehandle pocket. A document processor pocket that receives items for multiple endpoints. Items directed to rehandle pockets are processed again on a later pass.

reject. An encoded document that the document processor cannot read in its entirety or that fails certain editing checks. The document processor directs the document to a special pocket called a reject pocket.

reject string (R-string). An R-string represents checks that are reentered through a terminal. The online reject reentry task creates R-strings. R-strings are input to the DKNMRGE task.

rerun. A group of items that are sorted into a pocket on one pass and later brought into a document processor for further sorting.

return item. A check, not honored by the maker's financial institution, returned to the depositor's financial institution.

routing number field. An encoded check field that represents the financial institution on which the check is drawn.

R-string. Reject string.

S

sequence number. An assigned number that uniquely identifies the document's position in a group of incoming or outgoing work.

serial number field. (1) An encoded check field that represents the serial number of that check. (2) Synonymous with *auxiliary on-us field*.

settlement. The act of bringing sets of related figures from two financial institutions into agreement. Adjustments are made to offset the differences.

sort pattern. A table used by the sort routine to determine the pocket to which a check should go.

sort routine. A time-dependent routine that does all processing required to direct a document to a specific document processor pocket.

string. (1) The data records that represent a group of items entered through a physical or simulated document processor, or through OLRR. (2) A group of data records associated with a specific document processor pocket. (3) See also *distributed string, input string, merged string, reject string*.

subset processing. Processing a portion of an entry beyond the document entry step before the whole entry is run through the document processor.

subsequent pass. A pass on which previously sorted items are resorted for further distribution.

subset string. A predefined group of data records that represents a portion of the physical items in an entry. A tracer group defines a subset string. A subset string can contain multiple tracer groups.

system reject pocket. The first physical pocket on the document processor. CPCS uses it to hold machine and user-selected rejects.

T

total system. A system that uses the computer for all phases of an operation.

tracer. A document used to provide pass-to-pass control.

tracer group. An arbitrary grouping of items for control purposes.

transit. The sorting of checks to external destinations.

V

virtual storage access method (VSAM). An access method for indexed or sequential processing of fixed or variable-length records on direct access storage devices.

VSAM. Virtual storage access method.

Z

zero balancing. The procedure that ensures that generated totals for a group of items plus any documented errors minus the control total equals zero.

Numerics

3890/XP Document Processor. A document processor in the 3890/XP Series of document processors that can read and sort documents at a rate of up to 2400 documents per minute.

3890/XP Series document processors. A series of high-speed document processors that can read and sort up to 1000, 1700, or 2400 documents per minute. These document processors include the IBM 3890/XP Document Processor, the IBM 3891/XP Document Processor, and the IBM 3892/XP Document Processor.

3891/XP Document Processor. A document processor in the 3890/XP Series of document processors that can read and sort documents at a rate of up to 1700 documents per minute.

3892/XP Document Processor. A document processor in the 3890/XP Series of document processors that can read and sort documents at a rate of up to 1000 documents per minute.

3892/XP Power Encoder Feature. An optional device that can be attached to the 3892/XP Document Processor to encode the MICR code-line field on a document.

Bibliography

The publications in this bibliography contain information related to CPCS.

ACF/VTAM Publications

The following publications are related to the ACF/VTAM product:

IBM ACF/VTAM Version 3 Programming, SC23-0115

IBM ACF/VTAM Planning and Installation Reference, SC27-0584

IBM ACF/VTAM, 5735-RC2, 5746-RC3, Program Operator's Guide, SC38-0257.

Document Processor Support Publications

The following publications are related to document processor support:

IBM 3890/XP Series Document Processor General Information, GA34-2012

IBM 3890/XP Series Programming Guide, GC31-2662

IBM 3890/XP Series SPXServ Reference, GC31-2704

IBM 3890/XP MVS Support and IBM 3890/XP VSE Support Program Reference, SC31-2654 (TNL SN31-8160)

IBM 3890/XP Series Stacker Control Instructions Reference, SC31-2703.

OS/390 Publications (Version 2, Release 8)

The following publications are related to OS/390:

IBM OS/390 MVS Initialization and Tuning Reference, GC28-1752

IBM OS/390 MVS JCL User's Guide, GC28-1758

IBM OS/390 MVS System Codes, GC28-1780

IBM OS/390 MVS Installation Exits, SC28-1753

IBM OS/390 MVS System Messages Volume 1, GC28-1784

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IBM OS/390 MVS System Messages Volume 5, GC28-1788

IBM OS/390 MVS Programming: Assembler Services Guide, GC28-1762

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MVS Publications

The following publications are related to MVS:

IBM OS/VS2 MVS System Programming Library Job Management, GC28-1303

IBM MVS/ESA Initialization and Tuning Reference, GC28-1635

MVS/ESA JCL User's Guide, GC28-1653

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IBM MVS/ESA Data Administration: Utilities, Version 3.1, SC26-4516.

RACF Publications

The following publications are related to RACF:

IBM Resource Access Control Facility Command Language Reference, SC28-0733

IBM Resource Access Control Facility Master Index, GC28-1035

IBM Resource Access Control Facility Security Administrator's Guide, SC28-1340

IBM System Programming Library: Resource Access Control Facility, SC28-1343

IBM Resource Access Control Facility Macros and Interfaces, SN28-1539.

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The following publications are related to Version 3 Release 2 of the VTAM product:

IBM SNA Transaction Programmer's Reference Manual for Logical Unit Type 6.2, GC30-3084

IBM VTAM Programming for LU 6.2, SC30-3400.
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Note: Several of these manuals also contain information about VTAM Version 3 Release 1.2 for VM

and VSE, Version 3 Release 1.1 for MVS and VM, and Version 3 Release 1 for VSE.

Other IBM Publications

The following publications provide information about topics related to CPCS:

IBM 3270 Information Display System 3274 Control Unit Description and Programmer's Guide, GA23-0061

IBM 3270 Information Display System Customizing Guide Supplement for 3274 Control Unit, GC11-6045

IBM System/370, 30xx, 4300, and 9370 Processors: Bibliography of Industry Systems and Application Programs, GC20-0370

IBM Data Facilities/Data Set Services User's Guide and Reference, SC26-4125.

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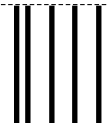


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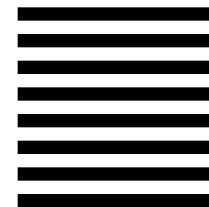
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