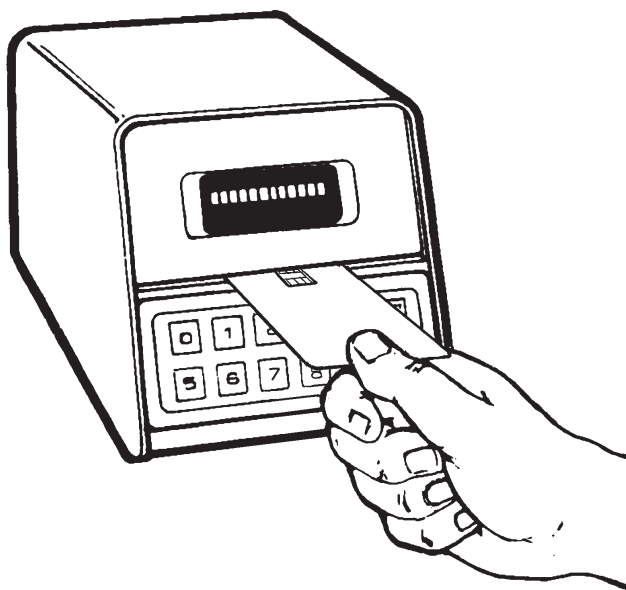




Schlumberger

Auxiliary Card Reader User's Guide

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FCC NOTICE

The equipment described in this guide generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions contained in this guide, may cause interference to radio communications. This equipment has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his or her own expense, will be required to take whatever measures may be required to correct the interference.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe A prescrites dans le Règlement sur le Brouillage Radioélectrique édicté par le Ministère des Communications du Canada.

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About This Guide

This guide describes how to install, set up, and operate Schlumberger Auxiliary Card Readers. Installation and service technicians, as well as the vending system administrator, should closely follow these instructions. The operation of your system will depend on the the device(s) controlled and the software/firmware used with the Auxiliary Card Reader. See additional instructions provided with the the application.

How This Guide Is Organized

This guide contains five chapters, two appendices, a glossary, and an index. Because your Auxiliary Card Reader may not have all of the features and options described in this guide, some sections may not apply to you.

- Chapter 1 describes the features and capabilities of Auxiliary Card Readers.
- Chapter 2 describes the components.
- Chapter 3 describes hardware installation and setup.
- Chapter 4 describes software initialization and setup.
- Chapter 5 describes administrative and maintenance procedures.
- Appendix A provides a full list of the error messages that may appear in the Display Window as well as a separate list of the messages that may appear during administrative use of the unit.
- Appendix B provides a quick reference to Management Mode prompts.

Documentation Conventions

Display Window Prompts and Messages. Messages and prompts that appear in the Display Window are printed in Courier (typewriter) typeface; for example:

READY

References to Major Loops. All references to major loops that appear in headings and numbered procedures are shown in bold, Courier typeface; for example:

SEE TOT?

Keypad Keys. The keys on the internal keypad are represented by rectangles surrounding the appropriate word or number; for example:

YES or 1

Model Specific Information. Parts of this guide are applicable only to models with certain features and options. These sections and procedures are indicated as follows:



applicable to the D/AUX magnetic stripe card units



applicable to the P/AUX Payflex Smart Card units



applicable to the TS/AUX Transactional Payflex Smart Cards Units

Hints and Suggestions. The following symbol appears to the left of text containing helpful operating hints and recommendations.



The Importance of Keeping a Manual Log

Keeping a written record of unit activity is an important part of administering your system. To aid you with this task, the unit records and stores usage information.

When you first set up your system, you should also set up a manual log. Then, decide upon a procedure for periodically retrieving the information stored by your units and recording that information in the log (for instance, at the end of each month). Over time, you will have a written history of the system activity.

Your log should contain the following entries:

- a record of the transactions totals
- a record of the cash totals
- a record of how you've programmed features and set dip switches
- a record of any problems encountered and the solutions
- a record of all service and maintenance calls

Note

Schlumberger's RECAP Software automates record-keeping by allowing you to control and monitor Schlumberger equipment from a PC. All configuration, data collection, and system activity reporting can be handled from this PC. Contact your Schlumberger sales representative or authorized Schlumberger dealer for more information on this product.

1

Introduction

What Is an Auxiliary Card Reader?

The Schlumberger Auxiliary Card Reader (AUX) is a card reader that is adaptable to your needs. It connects via RS232 serial communications to a programmed CPU, either stand-alone or embedded (referred to in this manual as the master device), and acts as its card reader. A typical application is to allow cash transactions to be deducted from the embedded chips or the magnetic vending stripes of cards. The master device additionally may store the individual transactions and settle the daily operations with a host system.

The AUX unit only accepts cards with group codes which have been pre-loaded into it via SET GROUP CODE cards or RECAP.

Transaction counts and dollar value totals are available either manually using a View Totals or Management card or electronically via RECAP. The cumulative, nonresettable counters cover the overall usage of the device, while the periodic resettable counters cover the same items plus individual group code totals.

Notes

Each time a card is inserted and cash deducted, a *transaction* is said to have occurred.

Auxiliary Interface Specification (p/n 1101672101) is available for creating applications for connecting to the Auxiliary Card Reader.

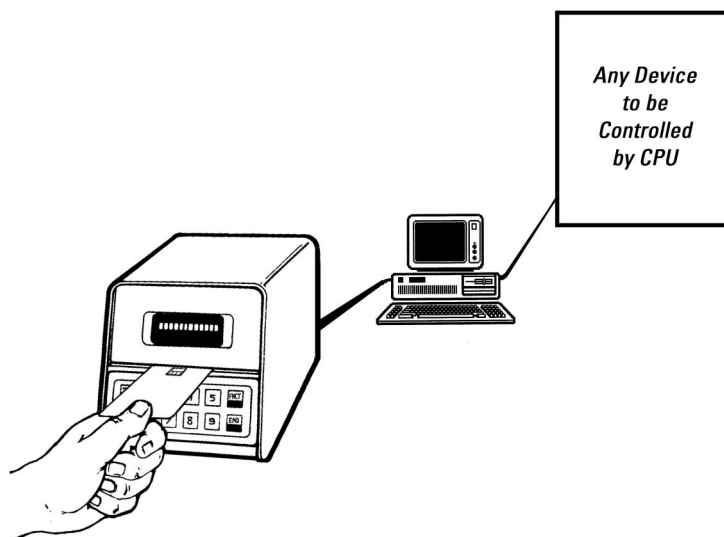


Figure 1-1

Typical AUX Configuration

(Note: the CPU may be a separate unit or embedded in the controlled device.)

About the Models and Upgrade Kits Available

Three Auxiliary Card Reader models are available: TS/AUX, P/AUX, and D/AUX. The TS/AUX and P/AUX accept embedded chip Smart Cards. The D/AUX is designed to use magnetic stripe cards in a Single Card™ System; this model accepts the Debit, Debit-Credit, and Debit-Limit Cards used in such Systems.

You can easily identify your model by checking the label on the side or bottom of the Auxiliary Card Reader.

Figure 1-2 explains the Product Code (or model number).

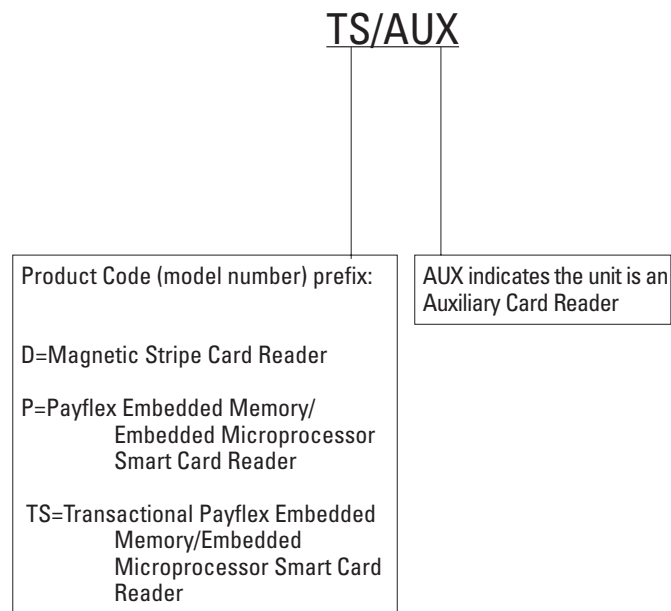


Figure 1-2:
Auxiliary Card Reader Models

About the Cards You'll Be Using with the Auxiliary Card Reader

Regardless of whether you're using magnetic stripe or smart cards, the cards can be broken down into two categories, based on card function:

- *user cards*, used to pay fines, admission fees, and so on.
- *management cards*, used by authorized staff members to access Auxiliary Card Reader setup and maintenance functions

User Cards

Depending on whether you have a "P" , "TS" or "D" model unit, one or more of the following type cards can be used at Auxiliary Card Reader.

The P/AUX  and TS/AUX  will use:

Memory Card. Encoded on the embedded memory chip of this card is a monetary value. As the card is used in the vending system, value is deducted from this chip.

Microprocessor Card. Encoded on the embedded microprocessor chip of this card is a monetary value. As the card is used in the vending system, value is deducted from this chip.

The D/AUX  will use:

Debit Card. Encoded on the magnetic vending stripe of this card is a monetary value. As the card is used in the vending system, value is deducted from this stripe.

Debit-Limit Card. Encoded on the vending stripe of this card is both a *debit field* (or monetary value) and a *limit field* (or preset number, or quantity, of points). For Auxiliary Card Reader purposes, we need only be concerned with the debit field. As with Debit Cards, vending units deduct from the monetary value as the card is used.

Debit-Credit Card. Encoded on the vending stripe of this card is both a *debit field* (or monetary value) and a *credit field* (or account number). Again, For Auxiliary Card Reader purposes, we need only be concerned with the debit field. As with Debit Cards, vending units deduct from the monetary value as the card is used.

Management Cards

When you placed your Auxiliary Card Reader order, you should also have ordered at least one management card set. If you have more than one Group Code¹ (G/C) assigned to your site, you will have one card set per G/C. (G/Cs are discussed later in this chapter.) Depending on your system configuration, you may have up to seven types of management cards. However, only three of these are used with the Auxiliary Card Reader.

+ *It is a good idea to keep a backup of each management card set. This way, if a card is ever lost or damaged, you'll have a replacement card to begin using immediately.*

- Set G/C Card. Set G/C Cards program the Auxiliary Card Reader with your Group Code(s) (G/Cs), used to prevent cards intended for use at other sites from being used at your site. If you have more than one G/C, you can program the Auxiliary Card Reader with each of them by using the Set G/C Card from each of your management card sets.

Set G/C
- Management Card. The Management Card permits you to program features of the Auxiliary Card Reader and view administrative information stored by the unit.

Management
- View Totals Card. The View Totals Card permits you to view information stored about system activity. Though you can access this same set of information with the Management Card, the View Totals Card allows you to quickly and conveniently view and maintain this information—while bypassing inapplicable administrative functions. If you are using RECAP software, the View Totals Card is also used to switch the Auxiliary Card Reader between the operating mode and the collection mode.

View Totals

1 Depending on the specific model and version of firmware in the Auxiliary Card Reader, Group Codes may be displayed as Site Codes (S/C). In some older units, you may even see FAC (Facility Access Code). All references to Group Codes and Site Codes are interchangeable unless indicated otherwise.

Features, Options, and Accessories

Your unit will have some or all of the features described in this section. (Table 1-2 provides a quick reference to the features of each model.)

	 D/AUX	 P/AUX	 TS/AUX
Features			
AUTO-RESTORE SM	4	4	4
RECOVER SM	4		
Read After Write	4	4	4
Group Codes	4	4	4
Transactional Data Recording			4
Expiration Date	4	4	4
Accessories (ordered separately - not included with base unit)			
Management Cards	4	4	4
RECAP Software	4	4	4
Card Reader Cleaning Kit	4	4	4
Collection Cable (unit to laptop PC)	4	4	4

Table 1-1
Features and Accessories

AUTO-RESTORESM

On occasion, a sudden power loss can invalidate a card during add value operations. AUTO-RESTORE automatically re-encodes that magnetic stripe card with its proper balance when power returns.

RECOVERSM

Though all Auxiliary Card Reader units are designed to provide efficient and reliable service, on occasion, an Auxiliary Card Reader may fail to encode a card with valid data, or a sudden power loss may invalidate a user card. The RECOVER feature allows you to view, or *recover*, the information that should have been encoded on the card.

Read After Write

Read After Write checks that the data written to cards during add value operations is valid. If invalid data is detected, you can program the unit to issue a warning message before returning the user's card or to hold the card until an administrator comes to retrieve it.

Group Codes/Site Codes (S/Cs)

Group Codes [sometimes referred to as S/Cs (Site Codes)] are unique, four-digit codes (five digit if you are configuring with RECAP 3.0 or higher), assigned to your vending site by Schlumberger. Depending on the specific requirements of your site, you may be assigned as many as 32 of these codes. Each card (magnetically encoded or smart card) used at your site must be encoded with one of these preassigned Group Codes. All card-accepting Schlumberger equipment must also be programmed with one—or more—of these codes. Before a card can be used at the equipment, the Group Code on the card is compared to the list of Group Codes stored in memory. If the code on the card does not match one of the codes in memory, equipment access is not permitted.

Group Codes serve two purposes:

- **Access Control.** They prevent cards from other vending sites from being used in equipment at your site. They also allow you to control which groups of users within your own site have access to which pieces of equipment at your site. For instance, if you want only law students to have access to a certain Card Service Center, simply set aside one of your Group Codes as the code that identifies law students, then encode all law student user cards with that code. You can then set up the Card Service Center so that the only Group Code stored by the unit is the law student code. Consequently, anyone inserting a card with a Group Code other than the stored code will be turned away.
- **Variable Vend Pricing** (used with Schlumberger Laundry Controllers, Towers, and Card-access Terminals). Group Codes can be used as a basis for charging different equipment usage fees to different groups of users. (Refer to your Laundry Controller, Tower, or Card-access Terminal user's guide for more information on this function.)

Transaction Logging

All access to the Transaction Log is through Schlumberger's optional RECAP software. The TS/Auxiliary Card Reader is able to store information of approximately 1000 individual transactions. The transaction log includes:

- Date
- Time
- Group Code
- Discount (percent of transaction cost not charged to user)
- Type (codes explained in the RECAP User's Guide)
- Number of Transactions Reported for Each Card Used
- Cumulative Count of Auxiliary Card Reader Transactions
- Dollar Amount of Transaction
- Balance Remaining on the user's card (after transaction)
- User's Card Number
- SAM Serial Number
- Power ON
- Settlements

The Transaction Log may be configured as either "fixed" or "continuous".

MODES

- Fixed:
 - No transaction data lost
 - When the log is full, the unit is out of service until data is collected
- Continuous:
 - Some transaction data may be lost
 - When the log is full, the terminal continues to operate

In the fixed mode, the terminal stores information about the last 1000 transactions. When the log is 90% filled, and the unit is idle, the TS/Auxiliary Card Reader will display an asterisk (*) beside the word READY. When the Transaction Log is full, the unit displays LOG FULL. At that time, no more transactions are allowed until data is collected using RECAP.

In the continuous mode, the Transaction Log is a circular buffer. When the log is full, each new transaction replaces the oldest transaction while the terminal continues to operate.

Expiration Date

The Expiration Date feature can be used to limit the use of user cards. If you choose to use expiration dates, you do not have to use them on all cards. If an expiration date is encoded on a card, the date on that card must be the same as—or later than—the expiration date programmed into unit memory.

Management Cards

The Management Card ID number is a factory-assigned, five-digit code encoded onto all management cards to prevent unauthorized use of these cards. Whenever an management card is inserted into a Auxiliary Card Reader, the unit prompts for entry of this number. If the number entered does not match the number encoded on the card, access to administrative functions is denied.

RECAP Software

Schlumberger's RECAP Software allows you to control and monitor your vending equipment from a portable laptop. All configuration, data collection, and system activity reporting can be handled from this PC.

Card Reader Cleaning Kit

Optional cleaning kits are available for either the smart card or the magnetic stripe card readers. Be sure to order the cleaning that is appropriate for your installed card readers.

Other Schlumberger Products

The Auxiliary Card Reader can be used alone or in conjunction with some or all of the Schlumberger vending products described below.

Towers

The Tower connects to a copier to control and monitor photocopy vending. It accepts coins and, depending on the model and options purchased, can accept bills and cards for vending transactions. Towers can also be equipped with the RECHARGE feature, which allows users to insert cash (right at the copier) to increase the monetary value encoded on Debit and Debit-Limit Cards.

Card Dispensers

Card Dispensers vend the magnetically encoded cards used at Auxiliary Card Reader units, Terminals, and Towers. Like Towers, Dispensers can be equipped with the RECHARGE feature.

Card Value Centers

The Schlumberger Card Value Center (CVC) also vends the cards used at Terminals, Towers, Vending Controllers, Laundry Controllers, and SoloVend units. CVCs can also be equipped with the RECHARGE feature to allow users to use cash, credit or debit cards, or an online account to increase the dollar value encoded on their stored value cards.

Card-access Terminals

Like Towers, Card-access Terminals attach to photocopiers (or other devices) to control and monitor activity; however, Terminals offer access via cards only. In addition, models equipped with the Encoder Capability can be used to encode new user cards and to re-encode existing cards (for instance, when the card balance drops below the balance required for a single copy).

Laundry Controllers

Laundry Controllers (LCUs) are used to centrally control and monitor laundry operations. (Each LCU unit can control up to 20 machines.) Like Card-access Terminals, Laundry Controllers offer card-only access to machines.

Laundry Single Unit Plus (LSU Plus)/SoloVend (LSU)

These single unit Laundry Controllers are wired to a single washer or dryer to control and monitor its operation. (Each unit controls one machine.) Like the other laundry controllers, these controllers offer card-only access to machines.

Vending Control Units

Vending Control Units (VCUs) bring stored value card access to cash-based vending machines. Designed for both single-price and multi-priced machines VCUs mount

right on the door of the vending machine. The units offer a convenient alternative to cash transactions, and can be set up to allow users to utilize the vending equipment to add value to their stored value cards.

For more information on these products, refer to the documentation included with each unit or contact your sales representative or authorized Schlumberger/SingleCard dealer.

- "D" or Magnetic Stripe Card reader
- "S" or Smart Card reader
- "P" or Payflex reader
- "TS" OPUS/Payflex reader

Depending on which reader is installed, your Laundry Controller will have features listed in the following table.

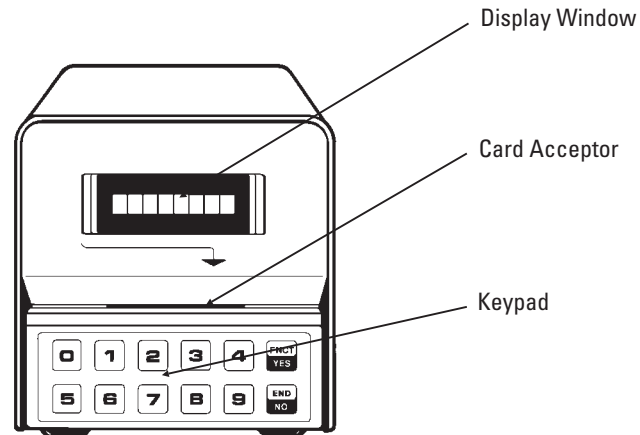
Type of Reader	Features
D-Card	Uses Magnetic cards
Smart Card	Uses Embedded Memory Smart Cards Enhanced security features
Payflex	Uses Embedded Memory or Embedded Microprocessor Smart Cards Advanced security features: Security Access Module (SAM), Personal Identification Number (PIN).
OPUS/Payflex	Uses Embedded Memory or Embedded Microprocessor Smart Cards Transaction Logging Advanced security features: Security Access Module (SAM), Personal Identification Number (PIN).

OPUS is Schlumberger's Open Architecture PUrse System. The installation and setup of the required Security Application Module (or SAM) is described in Chapter 3. OPUS uses both the Payflex embedded microprocessor smart cards and the older embedded memory chip smart cards.

Access to transaction data is provided by a PC running RECAP software. Complete operating instructions are found in the *RECAP Software User's Guide*.

2 Components

This chapter illustrates and describes Auxiliary Card Reader components.



Display Window. This eight-character window displays system status messages and prompts.

Card Acceptor. Users insert cards into this slot. You can also insert management cards into this slot to access setup and maintenance functions. (All cards must be inserted face up, magnetic stripe down and to the right or chip up and toward the unit.)

Keypad. The keypad is used to enter responses to Auxiliary Card Reader prompts and by administrators during programming and maintenance procedures.

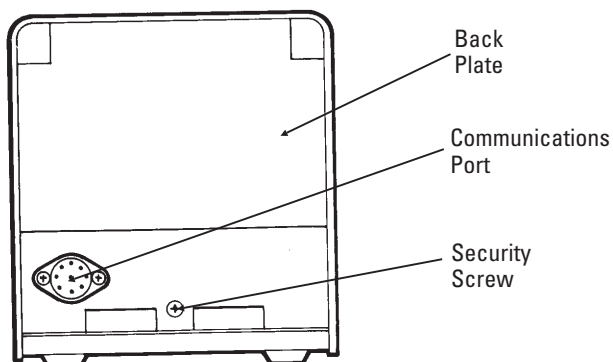
Communications Cable. This 6-foot cable allows for communications between the Auxiliary Card Reader and the controlled unit. (Available as an optional accessory.)

Communications Port. The Communications Cable connects to this port to interface with the master device or RECAP software.

Back Plate. The lower portion of this plate must be removed to access the Auxiliary Card Reader's power connector.

Security Screw. This screw allows you to remove the lower portion of the unit's Back Plate. (Use the Allen Wrench supplied with your unit to loosen and tighten this screw.)

Power Connector. The Auxiliary Card Reader's Power Connector is behind the Back Plate.



3 Hardware Setup

This chapter describes the procedures required to set up the physical components of the Auxiliary Card Reader. You must complete these procedures and those described in Chapter 4, "Software Setup," before the Auxiliary Card Reader can be used. The list below outlines the procedures contained in this chapter.

Hardware Setup Procedures

- Unpacking the Auxiliary Card Reader
- Setting the Auxiliary Card Reader's Read After Write Feature (DIP switch selectable)
- Mounting the Auxiliary Card Reader
- Connecting the Communications and Power Cables

Unpacking the Auxiliary Card Reader

Before you attempt to install and set up the Auxiliary Card Reader, inspect the shipping materials for any evidence of damage or tampering. If you suspect the units are not intact, do not unpack the carton until you have contacted the carrier and requested an inspection report, then, if necessary, complete the forms to file a damage insurance claim and notify your dealer or sales representative of the damaged shipment.

When you are satisfied that the Auxiliary Card Reader arrived intact, carefully begin unpacking. the Auxiliary Card Reader should have arrived in two separate packages: a carton and a padded envelope. Inside these packages, you should find the following:

- Carton
 - Auxiliary Card Reader
 - Allen Wrench
 - Auxiliary Card Reader Power Supply
- Envelope
 - 6' Communications Cable (if ordered)
 - *Auxiliary Card Reader User's Guide*

Setting Read After Write

In this step, you must decide whether you want the Read After Write feature activated. Read the feature description below, then follow the instructions on the next page if you want to change the factory setting.

About Read After Write

Auxiliary Card Readers write data to (encode) cards at the end of every transaction. When Read After Write is activated, the unit checks that the encoded data is valid. Typically, it is valid, and the unit simply returns the card. However, if invalid data is found, the card is re-encoded and the Read procedure repeated. If invalid data is still detected, a *failed write* is said to have occurred, and the unit responds in one of these ways:

The messages INVALID DATA and PUSH END alternately flash in the Display Window. Users simply press **END** to have the unit return the invalid card.

- The message CALL FOR SERVICE scrolls across the Display Window. You or an authorized staff member must retrieve the invalid card.

(How the unit responds depends on how you program features and options, as described in Chapter 4.)



The Auxiliary Card Reader is factory-set to use its Read After Write feature. We recommend that it remain activated.

- If you've decided to keep this feature at its factory (activated) setting, skip the remainder of this section and proceed to the next setup step.
- To turn this feature off, follow the steps on the next page.

Changing the Read After Write Setting

Follow these steps to change the Read After Write setting.

Tools Required:

- Allen Wrench (supplied with Auxiliary Card Reader)

CAUTION

Be sure that the unit is disconnected from the power source before proceeding.

Instructions:

- 1 Use the Allen Wrench to loosen the two screws on each side of the Auxiliary Card Reader (Figure 3-1).
- 2 Lift up on and remove the Cover Plate (Figure 3-1).

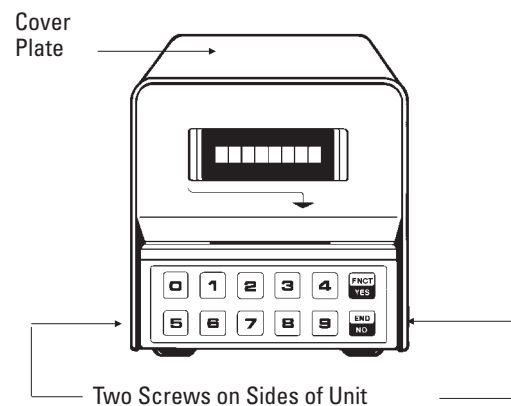


Figure 3-1:

Loosen the screws on the side of the unit to remove the Cover Plate.

- 3 Locate the DIP switches (Figure 3-2), located on the right edge of the Control Board.
- 4 Using a small screwdriver, set Switch 2 to OFF (Figures 3-2 and 3-3). (If you later decide to turn this feature back ON, simply return Switch 2 to its ON setting.)

Note

Switches 1, 3, and 4 should always be OFF (regardless of whether you want Read After Write ON or OFF).

- 5 Place the Cover Plate back onto the Auxiliary Card Reader and secure it in place with the Allen Wrench.



Figure 3-2:
DIP Switch Block with Read
After Write Disabled (Switch
#2 OFF)

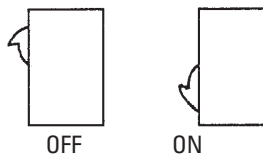


Figure 3-3:
Side View of Switch

Mounting the Auxiliary Card Reader

Because you are the authority on what best suits your site, you should choose your own method of mounting the Auxiliary Card Reader. When determining a mounting method, be sure to consider these constraints:

- The two units must be positioned so that the 6 foot Communications Cable can be connected between them.
- The units' power cables must be able to reach the power source.

Connecting the Power and Communications Cables

Follow these steps to connect the power and communications cables.

Tools Required:

- Allen Wrench (supplied with Auxiliary Card Reader)
- #1 Phillips Screwdriver

Instructions:

- 1 Unscrew the Security Screw and remove the lower portion of the Auxiliary Card Reader's Back Plate by pulling it out and then down (Figure 3-5).
- 2 Holding the small end of the Auxiliary Card Reader power supply so that the raised tabs face up, plug the cable into the Power Connector (Figure 3-6).
- 3 Use the small Phillips screw on the base of the Auxiliary Card Reader to secure the grounding wire (Figure 3-6).
- 4 Using the supplied tie-wrap, secure the power cable to the security screw standoff.
- 5 Replace the Back Plate by fitting the top tabs of the plate into the top slots then sliding the bottom tabs into the lower slots. *Make sure the power cable fits through the cutout in the bottom of the plate.*
- 6 Tighten the Security Screw. (*Be sure to store your Allen Wrench in a secure place when finished.*)
- 7 Connect the communications cable to the Auxiliary Card Reader and the master device.

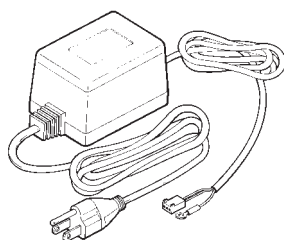


Figure 3-4:

Auxiliary Card Reader
Power Supply

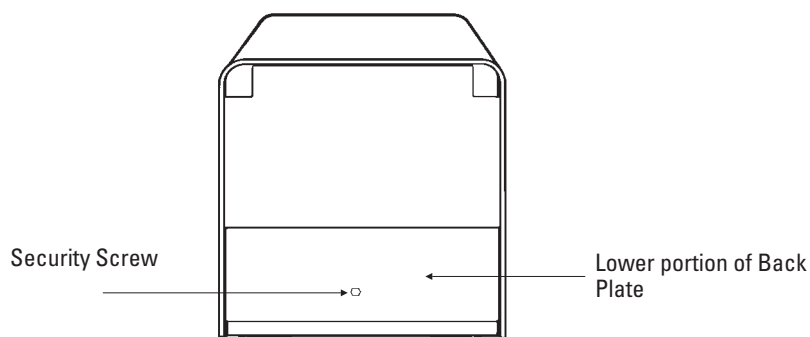


Figure 3-5:
Rear View

- 8 Plug the power cable into a grounded electrical outlet or power strip.

The Auxiliary Card Reader will display its software number, followed by the prompt, READY.

You are finished with hardware setup. Be sure that you have completed each of the procedures listed, then proceed to Chapter 4 to begin software setup.

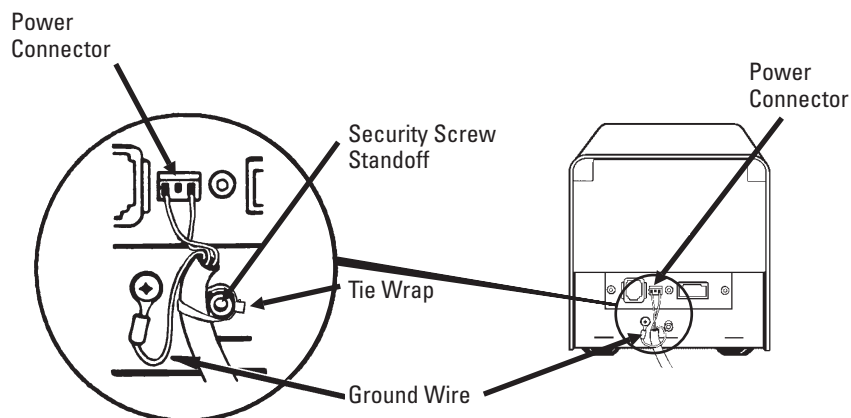


Figure 3-6:
Rear View of Auxiliary Card Reader with Back Plate Removed

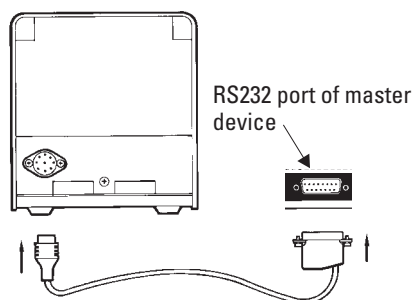


Figure 3-7:
Connecting the Communications Cable

4

Software Initialization and Setup

In this chapter, you will be preparing Auxiliary Card Reader software for use. (Before beginning these procedures, you must have completed the hardware setup procedures in Chapter 3.) The list below outlines the procedures contained in this chapter.

Initialization and Software Setup Procedures

- Setting the Group Code (G/C)
- Initializing the Auxiliary Card Reader
- Programming Auxiliary Card Reader Features

Before You Begin

During initialization and programming, you will be asked to respond to a series of prompts (or *major loops*) and sub-prompts (or *minor loops*) that appear in the Display Windows. You respond to these prompts by pressing keys on the keypad:

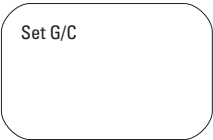
☐ YES to view and/or change the setting for a displayed feature or option *OR*
to select a displayed setting *OR*
to enter a response keyed in at the keypad

☐ NO to skip a prompt or prompt group *OR*
to bypass displayed settings to reach a desired setting

numbered keys, such as ☐ 1 and ☐ 5 , to key in specific information, such as the machine ID

Setting the Group Code (G/C)

As discussed in Chapter 1, for a card to be used at the Auxiliary Card Reader, it must be encoded with a G/C that matches one of the G/Cs programmed into Auxiliary Card Reader memory. Follow the instructions in this section to program your Auxiliary Card Reader with your G/C(s). (Depending on your site configuration, you may have as many as 32 G/Cs.) Before beginning this procedure, check that you have each of these items:



- Set G/C Card(s). (You should have a separate Set G/C card for each G/C assigned to your site.)
- your Management Card ID number. (This number is provided along with your management card set.)



If your site has multiple G/Cs, you can use G/Cs to control intra-campus access to Schlumberger Auxiliary Card Readers—simply vary the G/Cs you program into each Auxiliary Card Reader.

Note

Adding G/Cs After Initial Setup

If you have already programmed one or more G/Cs into the Auxiliary Card Reader and are only adding another G/C, the Set G/C Card you insert in Step 1 must correspond to a G/C already stored by the unit; after this first card is ejected, you may begin inserting the cards required to store additional G/Cs.

System Status		User Action
1	Display reads: READY	Insert your Set G/C Card, magnetic stripe down and to the right, into the Auxiliary Card Reader.
2	Display reads: SET G/C?	Press YES .
3	Display reads: CARD ID?	Key in your Management Card ID number and press YES .
4	Display reads: G/C nnnn (for about three seconds), where “nnnn” represents the G/C assigned to your site; the Set G/C Card is then ejected, and the display reads: REMOVE or READY.	Remove the Set G/C Card and store it in a secure place. If you have other G/Cs to add to this unit, insert the next Set G/C Card. (You will not be prompted to enter your Management Card ID number this time.) Continue inserting Set G/C Cards until the unit has been programmed with all desired G/Cs.

Initializing the Auxiliary Card Reader

Initializing the Auxiliary Card Reader erases any information that may have been recorded during factory testing and ensures that all software features and options are at default settings.

Caution!!!

After the Auxiliary Card Reader has been in use, *BE VERY CAREFUL* when using the Initialization function. You may inadvertently delete all the information stored in unit memory. *ONCE THIS INFORMATION IS DELETED, IT CAN NOT BE RETRIEVED!* When you need to erase information after the Auxiliary Card Reader has been in use, refer to the appropriate procedure in Chapter 5, "Administrative and Maintenance Procedures."

Initializing the Auxiliary Card Reader

To initialize the Auxiliary Card Reader, you will need a Management Card (which you can find among your management card set) and your Management Card ID number.

System Status	User Action
1 Display reads: READY	Insert a Management Card, magnetic stripe down and to the right, into the Auxiliary Card Reader.
2 Display reads: MANAGMT?	Press YES .
3 Display reads: CARD ID	Key in your Management Card ID and press YES .
4 Display reads: SEE TOT?	Press NO until INIT? appears.
5 Display reads: INIT?	Press YES .
6 Display reads: CLEAR?	Press NO .
7 Display reads: ERASE?	Press YES .
8 Display reads: SURE?	Press YES .
9 Display reads: PRESS 3	Press 3 .
10 Display briefly reads: ERASED, then: RECOVER?	Press NO until DONE? appears, then press YES .

Setting the Type



The "D" and "P" Auxiliary Card Readers have one generic mode of operation for RS232 communications with the master device and two dedicated modes for connection to cash registers. The **TYPE** major loop allows you to select the desired mode. Unless you have one of the specific cash registers, you should leave the type set to Debicash.

Note:

The TS/AUX is not preprogrammed with the two dedicated cash register modes. Therefore, it does not include this major loop.

Setting the Type

To initialize the Auxiliary Card Reader, you will need a Management Card (which you can find among your management card set) and your Management Card ID number.

System Status	User Action
1 Display reads: READY	Insert a Management Card, magnetic stripe down and to the right, into the Auxiliary Card Reader.
2 Display reads: MANAGMT?	Press YES .
3 Display reads: TYPE	Press YES .
4 Display reads: DEB ICASH	Press YES . (If DEB ICASH does not appear, press NO until DEB ICASH appears, then press YES . If you have one of the specific cash registers, select the appropriate type, then press YES .)
5 Display reads: SETUP?	Press NO until DONE? appears, then press YES .

Programming Auxiliary Card Reader Features

Some operating characteristics of your Auxiliary Card Reader can be customized to meet the needs of your site. Customizing your unit is easy—the unit displays prompts asking how you want certain features and options set; you respond by pressing keys on the unit's keypad.

Before You Begin: **SETUP?**

The eight minor loops that aid you in customizing the Auxiliary Card Reader are discussed on this and the following pages. Step-by-step instructions are provided later in this section.

MACH ID (Machine ID). This minor loop allows you to set an eight-digit Machine ID. This number is for your own identification purposes and has no connection with the factory-assigned G/C or Management Card ID number.

CARD MAX (Card Maximum). This minor loop allows you to set the maximum dollar value permitted on a Debit or Debit-Limit Card at this unit. Cards encoded with values greater than this *Card Maximum* are not accepted. Allowable values are \$5, \$10, \$20, \$50, \$99, \$300, \$500, \$750, and \$999.

EX DATE (Expiration Date). This minor loop allows you to enable or disable the Expiration Date feature. When enabled, the unit checks user and management cards for an expiration date. If the date on the card is prior to the date stored in unit memory, the card can not be used at this unit. For instance, if the unit is programmed with an expiration date of 04/91 and a card encoded with 03/91 is inserted, that card will be rejected.

SET DATE (Set Expiration Date). This minor loop allows you to program the unit with an expiration date. User and management cards encoded with dates prior to this date can not be used at this unit.

TONE (Keypad Tone). This minor loop allows you to choose whether a tone will sound whenever a key on the Auxiliary Card Reader's keypad is pressed.

RW MODE (Read After Write Mode). If you kept the DIP switch-selectable Read After Write feature at its factory (activated) setting (as described in Chapter 3), you can use this loop to determine how the Auxiliary Card Reader reacts when it detects invalid data (i.e. when a *failed write* occurs):

If set to **WARNING**, the messages **INVALID DATA** and **PUSH END** alternately flash in the Display Window. Users simply press **END** to retrieve invalid cards.

- If set to **RETAIN**, the message **CALL FOR SERVICE** scrolls across the Display Window. You or an authorized staff member must retrieve invalid cards. (For instructions on retrieving cards, refer to the **CALL FOR SERVICE** error message in Appendix A.)



*Because the Auxiliary Card Reader overwrites data stored from a previous failed write when the next failed write occurs, the **RETAIN** setting ensures that the data stored in memory corresponds to the card held in the unit. This prevents disputes over the card value.*

Step-by-Step Programming Instructions

To program features and options, insert a Management Card, magnetic stripe down and to the right, into the Auxiliary Card Reader, press **YES** to the MANAGMT? prompt, then key in your Management Card ID number, followed by **YES**.

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As you follow these steps, use a copy of the Quick Reference Guide in Appendix B to circle your chosen feature settings. Be sure to retain two copies of these settings—one for the administrator; one, for the service technician. Both the administrator and technician should date and initial the record. Later, if you have questions about how you've programmed the unit, you can refer back to the Quick Reference Guide—as opposed to stepping through prompts to review settings. If you later decide to change any settings, be sure to record the change in the Quick Reference Guide. Again, both the administrator and service technician should date and initial the change.

System Status	User Action
1 Display reads: SEE TOT?	Press NO .
2 Display reads: SET UP?	Press YES .
3 Display reads: MACH ID?	Press YES .
4 Display reads: 00000000	Key in the Machine ID and press YES .
5 Display reads: CARD MAX	Press YES .
6 Display reads: \$99.00	If this setting is correct, press YES . Otherwise, press NO until the desired setting appears, then press YES .
7 Display reads: EX DATE?	Press YES .
8 Display reads: ON or OFF	Press NO until the desired setting appears, then press YES .
9 Display reads: SET DATE	If you disabled the Expiration Date feature, press NO and skip to Step 11. Otherwise, press YES .
10 Display reads: ED 99/99	 (D/AUX and P/AUX) Key in the Expiration Date in MMY format (for example, "0192" for January 1992) then press YES
	 (TS/AUX) Key in the current date in MMDDYY format (for example, "011592" for January 15, 1992) then press YES
11  (TS/AUX) Display reads: SET TIME?	 (TS/AUX) Key in the current time in 24 hour, HHMMSS format (for example, "142300" for 2:23PM) then press YES

- | | | |
|----|----------------------------------|--|
| 12 | Display reads: TONE? | Press <input type="button" value="YES"/> . |
| 13 | Display reads: ON or OFF | Press <input type="button" value="NO"/> until the desired setting appears, then press <input type="button" value="YES"/> . |
| 14 | Display reads: RW MODE? | Press <input type="button" value="YES"/> . |
| 15 | Display reads: WARNING or RETAIN | Press <input type="button" value="NO"/> until the desired setting appears, then press <input type="button" value="YES"/> . |
| 16 | Display reads: COM SET? | Press <input type="button" value="NO"/> . |
| 17 | Display reads: DONE? | Press <input type="button" value="YES"/> . |

Preparing the Aux Card Reader for Communications

The **ENTER COMM SETUP?** prompt, displayed at the end of "Programming Auxiliary Card Reader Features," allows you to prepare the Auxiliary Card Reader for communications with the PC on which RECAP Software is installed.

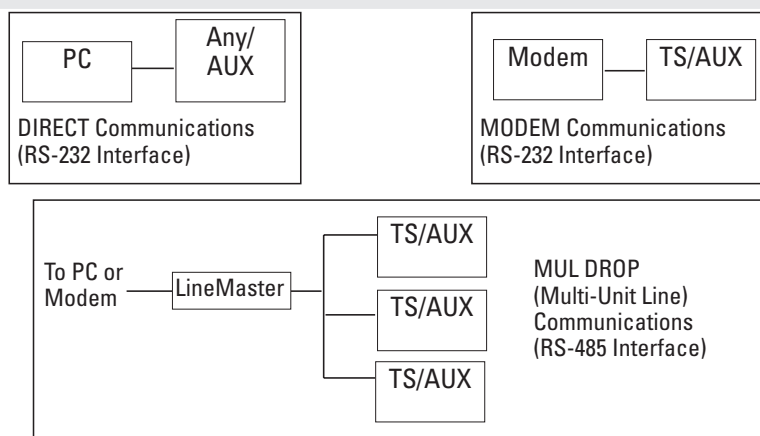
Before You Begin: **ENTER COMM SETUP?**

The minor loops are described below:

- **SET PROTOCOL** —This minor loop allows you to select RECAP 2 or RECAP 3 communications protocol. If you have RECAP 3 Software, you should select RECAP 3 protocol to take advantage of product enhancements. *While RECAP 3 Software will communicate with earlier versions of the Auxiliary Card Reader, RECAP 2 Software will not communicate with any equipment that is configured for RECAP 3 protocol.*
- **SET TERM ID (Set Terminal Address)**—This minor loop allows you to set a 3-digit identification number if the protocol is RECAP 2 or a 5-digit number if the protocol is RECAP 3 (from 001 to 999 or 00001 to 65534) for each unit. This number is used by the PC software to link each individual unit with the alphabetic description of that unit set at the PC.
- **SET SECURITY ID**—This minor loop allows you to program the unit with an 8-digit security identification code, used to prevent communications between the unit and an unauthorized device. Refer to the manual provided with your RECAP Software for more information.
- **SET BAUD RATE**—The "Baud Rate" minor loop allows you to set the baud rate for a speed of 300, 1200, 2400, or 9600. The setting here must match the speed set for the collection PC).
- **SET COMM PARITY** —This minor loop can be set at EVEN, ZERO, ODD, or ONE. As with the baud rate, this setting must match the setting at the external device.  TS units parity is always EVEN.
- **CONNECT TYPE** —This minor loop allows you to specify how the unit communicates with the PC. Three settings are available (use the diagram below to determine how to set this loop):
 - DIRECT Communications
 - MODEM Communications
 - MUL DROP Communications

Note:

Connection Type applies to the TS unit only



- **ANSWER RINGS** (Modem Connect Type Only)—The ANSWER RINGS? minor loop allows you to select the number of rings (1-99), that must occur before the modem will answer an incoming call.
- **SET MONITOR**—The SET MONITOR minor loop is a diagnostic tool for monitoring communications activity. While having it enabled will not adversely affect the unit operation, it is recommended that you leave the setting at "disabled."
- **COMM LOOP TST** (Communications Test)—The "Communications Test" minor loop is used only for test purposes. Refer to the manual provided with your RECAP Software for more information.

Step-by-Step Instructions

To prepare the Auxiliary Card Reader for communications, insert your Management Key into the Management Keylock and turn the key full left to Management Mode.

System Status	User Action
1 Display reads: SEE TOT?	Press NO to each prompt displayed until ENTER COMM SETUP? appears.
2 Display reads: COM SET?	Press YES .

Note:

 Steps 3 through 5 apply only to the TS/AUX units.

3 Display reads: PROTOCOL?	Press YES .
4 Display reads: RECAP2?	Press YES to accept or press NO if RECAP3 is desired, then press YES .
5 Display reads: SURE?	Press YES .

6 Display reads: TERM ID?	Press YES .
7 Display reads: 000 (if RECAP2) or 00000 (if RECAP3)	Key in the three or five-digit Terminal ID, then press YES . (Note: the Terminal ID can not be zero.)
8 Display reads: SEC ID?	Press YES .
9 Display reads: 00000000	Key in the Security ID and press YES .
10 Display reads: BD RATE?	Press YES .
11 Display reads: SPD 300	Press YES if the displayed value matches the baud rate you want set at this Auxiliary Card Reader. Otherwise, press NO until the desired setting appears, then press YES .
12 Display reads: PARITY?	Press YES .

- 13 Display reads: PAR EVEN Press if the displayed setting matches the parity you want set at this Auxiliary Card Reader. Otherwise, press until the desired setting appears, then press .

Note:



Steps 14 through 16 apply only to the TS/AUX units.

- 14 Display reads: CONNECT? Press .
- 15 Display reads: DIRECT Press if the displayed setting matches the communications type used by this Auxiliary Card Reader. Otherwise, press until the desired setting appears, then press .
- 16 *If MODEM is selected for connect type*, Display reads: RINGS 02? Press if the displayed number of rings matches the setting for which you want the modem to respond. Otherwise, press , key in the desired setting using the numeric keypad, then press .

- 17 Display reads: SET MONITOR? Press .
- 18 Display reads: ON or OFF Press until the desired setting appears, then press .
- 19 Display reads: COM TST? Press . (If a comm test is required, contact customer support.)
- 20 Display reads: DONE? Press .

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Administrative and Maintenance Procedures

This chapter contains six sections that provide instructions and recommendations for managing and maintaining the Auxiliary Card Reader:

- Using Management Mode
- Viewing Auxiliary Card Reader Totals
- Clearing Auxiliary Card Reader Totals
- Restoring Invalidated Cards
- Examining Failed Write and Power Down Data
- Viewing and Maintaining G/Cs

Using Management Mode

Auxiliary Card Reader administrative functions are performed by accessing and responding to groups of prompts that appear in the Display Windows. When these prompts are accessed, the unit is said to be in *Management Mode*. Management Mode prompts are organized into logical, continuous groups. When you access this mode, you are prompted to respond to the first prompt group. After you finish responding to one group, you are prompted to respond to the next. Because of this continuous nature, the groups are referred to as *loops*. Loops simplify Auxiliary Card Reader setup and maintenance; if you want to change the response made to a prompt, just “cycle” through the loops (by repeatedly answering “no” when prompted to enter a loop) until the desired prompt reappears.

Accessing Management Mode and Responding to Prompts

Accessing the Auxiliary Card Reader's Management Mode. The Auxiliary Card Reader's Management Mode is accessed via a Management Card. A View Totals Card can be used as a shortcut to accessing some Management Mode functions. When you insert one of these cards, you are prompted to enter your Management Card ID number; once this number has been correctly entered, access to management prompts is permitted.

Responding to Prompts. You respond to Management Mode prompts by pressing keys on the keypad:

to access the prompts of a loop *OR*
to continue on to the next prompt after a
function has been completed *OR*
to enter a response keyed in at the keypad

to bypass a prompt or loop

Management Mode Loops

An overview of the major and minor loops that appear during Management Mode is provided on the following pages. Step-by-step instructions for using these loops are provided in the remaining sections of this chapter. (Appendix B provides a quick, complete reference to Management Mode prompts.)

Viewing Auxiliary Card Reader Totals

The Auxiliary Card Reader's "See Totals" major loop, accessed with either the Management or View Totals Card, allows you to view information about system activity.

Before You Begin: **SEE TOT?**

When you enter the "See Totals" major loop, three minor loops allow you to view and clear system usage information.

TRAN TL (Total Transactions). This minor loop displays the total number and value of transactions that have occurred at this unit since the last time that the totals were cleared.

G/C TL (Totals by Group Code). This minor loop displays the total number and value of transactions that have occurred at this unit by Group Code since the last time that the totals were cleared.

NRT TL (Nonresettable Totals) This minor loop displays the total number and value of transactions that have occurred over the life of the unit. These totals can not be cleared.

If the accumulated totals exceeds \$9999.99, the counters are reset to zero and counting begins anew.

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You should record each of these totals—along with the date on which they were recorded—in your Manual Vend Log. You can then clear them as described in the next section, "Clearing Auxiliary Card Reader Totals."

Instructions

To view these totals, insert your Management or View Totals Card into the Auxiliary Card Reader, answer **YES** to the MANAGMT? or TOTALS? prompt, then key in your Management Card ID number, followed by **YES**.

System Status	User Action
1 Display reads: SEE TOT?	Press YES .
2 Display reads: TRAN TL?	Press YES to view period transaction totals.
3 Display reads: PUR TRAN (for about three seconds), then the total number of transactions is displayed: T nnnnnn	If you want to redisplay the alphabetic description that preceded this numeric total, press 1 . Press YES to view the next total.
4 Display reads: PURCH \$ (for about three seconds), then the sum of money deducted from users' cards is displayed: nnn . nn	If you want to redisplay the alphabetic description that preceded this cash total, press 1 . Press YES to continue.
5 Display reads: ADD TRAN (for about three seconds), then the total number of transactions is displayed: T nnnnnn	If you want to redisplay the alphabetic description that preceded this numeric total, press 1 . Press YES to view the next total.
6 Display reads: ADD \$ (for about three seconds), then the sum of money added to users' cards is displayed: nnn . nn	If you want to redisplay the alphabetic description that preceded this cash total, press 1 . Press YES to continue.
7 Display reads: CLR TRN?	Press YES to clear all period transaction totals or press NO to skip and goto step 10.
8 Display reads: SURE?	Press YES .
9 Display reads: PRESS 3	Press 3 to clear period transaction total.
10 Display reads: G/C TL? or SITE TL?	Press YES to view period transaction totals by group code.
11 Display reads: G/C nnnn	Press YES to view period transaction totals for this group code.

- | | |
|--|---|
| <p>12 Display reads: PUR TRAN
(for about three seconds),
then the total number of
transactions is displayed:
nnnnnnnn</p> | <p>If you want to redisplay the alphabetic
description that preceded this numeric
total, press <input type="button" value="1"/>. Press <input type="button" value="YES"/> to view the
next total.</p> |
| <p>13 Display reads: PURCH \$
(for about three seconds),
then the sum of money
deducted from users' cards
is displayed: nnn . nn</p> | <p>If you want to redisplay the alphabetic
description that preceded this cash total,
press <input type="button" value="1"/>. Press <input type="button" value="YES"/> to continue.</p> |
| <p>14 Display reads: ADD TRAN
(for about three seconds),
then the total number of
transactions is displayed:
T nnnnnn</p> | <p>If you want to redisplay the alphabetic
description that preceded this numeric
total, press <input type="button" value="1"/>. Press <input type="button" value="YES"/> to view the
next total.</p> |
| <p>15 Display reads: ADD \$
(for about three seconds),
then the sum of money
added to users' cards is
displayed: nnn . nn</p> | <p>If you want to redisplay the alphabetic
description that preceded this cash total,
press <input type="button" value="1"/>. Press <input type="button" value="YES"/> to continue.</p> |
| <p>16 Display reads: NRT TL?</p> | <p>Press <input type="button" value="YES"/> to view nonresettable
transaction totals.</p> |
| <p>17 Display reads: PUR TRAN
(for about three seconds),
then the total number of
transactions is displayed:
T nnnnnn</p> | <p>If you want to redisplay the alphabetic
description that preceded this numeric
total, press <input type="button" value="1"/>. Press <input type="button" value="YES"/> to view the
next total.</p> |
| <p>18 Display reads: PURCH \$
(for about three seconds),
then the sum of money
deducted from users' cards
is displayed: nnn . nn</p> | <p>If you want to redisplay the alphabetic
description that preceded this cash total,
press <input type="button" value="1"/>. Press <input type="button" value="YES"/> to continue.</p> |
| <p>19 Display reads: ADD TRAN
(for about three seconds),
then the total number of
transactions is displayed:
T nnnnnn</p> | <p>If you want to redisplay the alphabetic
description that preceded this numeric
total, press <input type="button" value="1"/>. Press <input type="button" value="YES"/> to view the
next total.</p> |
| <p>20 Display reads: ADD \$
(for about three seconds),
then the sum of money
deducted from users' cards
is displayed: nnn . nn</p> | <p>If you want to redisplay the alphabetic
description that preceded this cash total,
press <input type="button" value="1"/>. Press <input type="button" value="YES"/> to continue.</p> |
| <p>21 Display reads: TYPE? (if
you inserted a Management
Card). If you inserted a View
Totals Card, your card is
ejected and the display
reads: READY</p> | <p>If your management card has not yet been
ejected and you are ready to exit
Management Mode, press
<input type="button" value="NO"/> until DONE? appears then press <input type="button" value="YES"/></p> |

Clearing Auxiliary Card Reader Totals

The "Initialization" major loop is used to clear stored totals.

CAUTION!!!

Be very careful when using this loop so that you do not inadvertently delete valuable Auxiliary Card Reader management information. Because this information can not be retrieved once deleted, be sure you have recorded all stored totals in your Manual Vend Log before activating any of the functions within this loop.

Before You Begin: **INIT?**

The minor loops within the "Initialization" major loop are described below.

CLEAR (Clear Totals). This minor loop deletes all information displayed in the Auxiliary Card Reader's "See Totals" and "RECOVER" major loops:

- the transaction and cash totals
- all information stored during failed writes and power failures

ERASE (Erase Memory). This minor loop, which should be used for initial setup only, deletes the same information as the "Clear Totals" minor loop, plus all programmed feature settings (these are reset to default values). **YOU SHOULD HAVE NO REASON TO USE THIS MINOR LOOP AFTER INITIAL SETUP.**

Instructions

To clear Auxiliary Card Reader totals, insert your Management Card into the Auxiliary Card Reader, answer to the MANAGMT? prompt, then key in your Management Card ID number, followed by .

System Status	User Action
1 Display reads: SEE TOT?	Press NO to each prompt until INIT? appears.
2 Display reads: INIT?	Press YES .
3 Display reads: CLEAR?	Press YES . (CAUTION: Be sure you've recorded the information from the "See Totals" and "RECOVER" major loops in your Manual Vend Log before clearing.)
4 Display reads: SURE?	Press YES . (Pressing any other key returns you to the <i>previous</i> prompt.)
5 Display reads: PRESS 3	Press 3 . (Pressing any other key returns you to the <i>previous</i> prompt.)
6 Display reads: CLEARED (for about three seconds) then: ERASE?	Press NO .
7 Display reads: RECOVER?	If you are finished with administrative tasks, press NO until DONE? appears then press YES .

Examining Failed Write and Power Down Data



Though all Auxiliary Card Reader units are designed to provide efficient and reliable service, on occasion, an Auxiliary Card Reader may fail to encode a card with valid data, or a sudden power loss may invalidate a card. The “RECOVER” major loop allows you to view, or recover, the information that should have been encoded on the card.

Before You Begin: **RECOVER?**

Five minor loops within the "RECOVER" major loop allow you to view and maintain the stored information.

R/W CNT (Read After Write Count) . This minor loop, which appears only if Read After Write is activated, displays the number of times a failed write has occurred.

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This count can only be cleared through the "Initialization" major loop.

SEE R/W (See Read After Write). This minor loop, which also appears only if Read After Write is activated, allows you to view the data stored for the last card not properly encoded by the unit. If you choose to view this data, the following information is displayed:

- Card Serial Number
- Card Type (i.e. Debit or Debit-Limit)
- Cash Value (and Point Limit for Debit-Limit Cards)

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If your Read After Write feature is activated and your Auxiliary Card Reader is programmed to retain cards during failed writes, you can recover the value that should have been encoded on the card when you remove the card from the Auxiliary Card Reader, as described under the CALL FOR SERVICE error message of Appendix A.

CLR R/W (Clear Read After Write). From this minor loop, you can erase the information displayed in the “See Read/Write” minor loop.

SEE PDN (See Power Down). When AUTO-RESTORE is unable to revalidate a card after a power failure, you can use this loop to view the information stored for that card. Keep in mind, however, that the information stored is for the last card AUTO-RESTORE was unable to revalidate. The following information is displayed:

- Card Type (i.e. Debit or Debit-Limit)
- Access Level
- Cash Value (and Point Limit for Debit-Limit Cards)

CLR PDN (Clear Power Down). From this minor loop, you can erase the information displayed in the “See Power Down” minor loop.

Instructions

To view the information stored in the "RECOVER" major loop, go to the Auxiliary Card

Reader at which the card was invalidated, insert your Management Card, answer **YES** to the MANAGMT? prompt, then key in your Management Card ID number, followed by **YES**.

System Status	User Action
1 Display reads: SEE TOT?	Press NO to each prompt displayed until RECOVER? appears, then press YES .
2 Display reads: R/W CNT?	Press YES .
3 Display reads: *R/W CT* (for about three seconds), then the total number of failed writes is displayed.	If you want to redisplay the message that preceded this numeric count, press 1 . When you are finished viewing this count and have recorded it, along with today's date, in your Manual Vend Log, press YES .
4 Display reads: SEE R/W?	Press YES . (The following steps assume the data stored is for a Debit Card.)
5 Display reads: DEBIT (for about three seconds), then the access level and card value are displayed (also for about three seconds); the SEE R/W? prompt reappears.	If you want to view this data again, press YES . When you are finished viewing and recording data, press NO .
6 Display reads: CLR R/W?	If you want to clear the data viewed in Step 5, press YES . (CAUTION: Be sure you have recorded this information before clearing.) Otherwise, press NO and skip to Step 9.
7 Display reads: SURE?	Press YES . (Pressing NO returns you to the <i>previous</i> prompt.)
8 Display reads: PRESS 3	Press 3 . (Pressing any other key returns you to the <i>previous</i> prompt.)
9 Display reads: CLEARED (for about three seconds) then: SEE PDN?	Press YES . (These instructions assume the data stored is for a Debit Card.)

- 10 Display reads: DEBIT
(for about three seconds),
then the access level and
cash value of the card are
displayed; the SEE PDN?
prompt reappears.
- 11 Display reads: CLR PDN?
- 12 Display reads: SURE?
- 13 Display reads: PRESS 3
- 14 Display reads: SEE TOT?
- If you want to view this data again, press . When you are finished viewing and recording the data, press .
- If you want to clear the data viewed in Step 10, press . (**CAUTION:** *Be sure you have recorded this information before clearing.*) Otherwise, press and skip to Step 14.
- Press . (Pressing returns you to the *previous* prompt.)
- Press . (Pressing any other key returns you to the *previous* prompt.)
- If you are finished with administrative tasks and want to exit Management Mode, press until **DONE?** appears, then press .

A Display Window Messages

Overview

This appendix provides explanations of and instructions for responding to the various error messages that may appear in Auxiliary Card Reader Display Windows. The first section lists alphabetically all of the error messages that may appear in the display. The second section is a post-up list of the error messages that may appear during administrative use of the units.



Post these messages near each Auxiliary Card Reader to help operators solve problems without consulting you or your staff.

Many error messages take care of themselves if you just attempt the same action again. If an error message persists, try to determine whether the message is created by a problem with the user's card or the unit. Replace faulty cards or call your service representative or authorized Schlumberger dealer to correct problems with the unit.

Full List of Error Messages

BAD CARD	<i>Explanation:</i>	The card inserted has been damaged, altered, or inserted incorrectly.
	<i>Action:</i>	Retry inserting the card—more firmly this time. If the problem persists, you may need to replace the card.
BAD DATA	<i>Explanation:</i>	The Read After Write feature has detected an improperly encoded card.
	<i>Action:</i>	Press END to retrieve the card. (You may need to re-encode or replace this card.)
BAD DATE	<i>Explanation:</i>	The expiration date entered is invalid.
	<i>Action:</i>	Retry entering the date. (The correct format for entering dates is MMY. For example, 0191, for January 1991.)
BAD G/C	<i>Explanation:</i>	The G/C encoded on the card does not match a G/C stored by the Auxiliary Card Reader. Either this card is not intended for use at this unit, or this unit has not yet been programmed with the G/C(s).
	<i>Action:</i>	Only cards encoded with G/Cs that match a G/C stored by this unit can be used here. If the unit has not yet been programmed with the G/C, follow the instructions in Chapter 4 to do so now.
BAD ID	<i>Explanation:</i>	The Management Card ID number entered does not match the number encoded on your management card.
	<i>Action:</i>	Retry entering this number. (You probably keyed it in incorrectly the first time.)
BUSY	<i>Explanation:</i>	Your Auxiliary Card Reader unit is communicating with the master device.
	<i>Action:</i>	No action required.
CALL FOR SERVICE	<i>Explanation:</i>	The Read After Write feature detected an invalidly encoded card. An authorized staff member must retrieve the card.
	<i>Action:</i>	To retrieve the card, press 9 , key in one of the four-digit G/Cs stored by the unit, then press YES . The unit ejects the card and displays the cash balance for 60 seconds or until you press YES to return to the READY prompt. If the card held was a Debit-Limit Card, the limit value of the card will be displayed when you press YES to clear the cash balance. Simply press YES again to clear the limit balance. NOTE: If you need to re-view either of these balances after you've cleared them, use Management Mode's "RECOVER" major loop.
CARD MAX	<i>Explanation:</i>	The card inserted is encoded with a cash value higher than the allowable Card Maximum programmed for this unit.
	<i>Action:</i>	Retry the transaction at a unit programmed with a higher Card Maximum. (Card Maximums should be posted near each unit.)
COLLECT ?	<i>Explanation:</i>	A View Totals Card has been inserted into your Auxiliary Card Reader unit.
	<i>Action:</i>	Press YES to start RECAP collection or press NO to enter the View Totals loop.

COMM ERR	<i>Explanation:</i>	Communications Error. There is a communications failure between the Auxiliary Card Reader and the master device.
	<i>Action:</i>	Check that the communications cable is properly connected and that communications parameters for both units are at the same values.
CORRUPT	<i>Explanation:</i>	The data encoded on this card is in an invalid format.
	<i>Action:</i>	Review the card and, if necessary, issue a new one.
DENIED	<i>Explanation:</i>	The card inserted is used for a function not activated at this unit.
	<i>Action:</i>	Perform the procedure at the appropriate unit.
EXPIRED	<i>Explanation:</i>	The card has reached its expiration date.
	<i>Action:</i>	If User Card, issue a new card if appropriate. If a Management Card, reorder management cards from your sales representative or authorized Schlumberger dealer.
INVALID	<i>Explanation:</i>	This card has become invalidated.
	<i>Action:</i>	Use the RECOVER feature, described in Chapter 5, to view the data which should have been encoded on the card.
JAM CR	<i>Explanation:</i>	Jammed Card Reader. Something is jammed in the Card Reader.
	<i>Action:</i>	Push the END key to try to clear the reader and/or call your dealer or service representative for assistance. DO NOT USE THIS UNIT.
JAMMED	<i>Explanation:</i>	You have not pushed the card far enough into the Card Reader.
	<i>Action:</i>	Apply more pressure as you insert the card.
LOW BATT	<i>Explanation:</i>	Low Battery. The Lithium battery on the control board needs to be replaced (although the unit will continue to operate normally for as long as AC power is supplied).
	<i>Action:</i>	Call your dealer or service representative immediately for assistance. If a power failure occurs or if you remove AC power, all data stored in the unit will be lost! Because replacing the battery requires that you remove power, be sure to record all data before replacing the battery.
MEM BAD	<i>Explanation:</i>	The battery-backed memory failed.
	<i>Action:</i>	Reprogram features and options and call service.
NO DATA	<i>Explanation:</i>	No data is stored for a failed write or power failure.
	<i>Action:</i>	No action required.
OFFLINE	<i>Explanation:</i>	The Auxiliary Card Reader is not attached to, or communicating with, the master device .
	<i>Action:</i>	Check that the communications cable is properly connected and that the master device is turned on.
PUSH END	<i>Explanation:</i>	The card is jammed in the Card Reader, or the card was not encoded with valid data.
	<i>Action:</i>	Push END to have the unit eject the card. Use the RECOVER feature, described in Chapter 5, to view the data which should have been encoded on the card.

REMOVED	<i>Explanation:</i>	You removed the card before the action was complete.
	<i>Action:</i>	Re-insert the card to check for invalid data.

Administrative Error Messages

BAD CARD	<i>Explanation:</i>	The card inserted has been damaged, altered, or inserted incorrectly.
	<i>Action:</i>	Retry inserting the card—more firmly this time. If the problem persists, you may need to replace the card.
BAD DATE	<i>Explanation:</i>	The expiration date entered is invalid.
	<i>Action:</i>	Retry entering the date. (The correct format for entering dates is MMY. For example, 0191, for January 1991.)
BAD G/C	<i>Explanation:</i>	The G/C encoded on the card does not match a G/C stored by this unit. Either the card is not intended for use at this unit, or this unit has not yet been programmed with the G/C(s).
	<i>Action:</i>	Only cards encoded with G/Cs that match a G/C stored by this unit can be used here. If the unit has not yet been programmed with the G/C, follow the instructions in Chapter 4 to do so now.
BAD ID	<i>Explanation:</i>	The Management Card ID number entered does not match the number encoded on your card.
	<i>Action:</i>	Retry entering the number. (You probably keyed it in incorrectly the first time.)
BAD S/C	<i>Explanation:</i>	SEE BAD G/C.
BUSY	<i>Explanation:</i>	The Auxiliary Card Reader unit is communicating.
	<i>Action:</i>	No action required.
COMM ERR	<i>Explanation:</i>	Communications Error. There is a communications failure between the Auxiliary Card Reader and the master device.
	<i>Action:</i>	Check that the communications cable is properly connected and that communications parameters for both units are at the same values.
CORRUPT	<i>Explanation:</i>	The data encoded on this card is in an invalid format.
	<i>Action:</i>	Retry the procedure; if necessary, contact your sales representative or authorized Schlumberger dealer to order a new card.
DENIED	<i>Explanation:</i>	The card inserted is used for a function not activated at this unit.
	<i>Action:</i>	Perform the procedure at the appropriate unit.
EXPIRED	<i>Explanation:</i>	The card has reached its expiration date.
	<i>Action:</i>	If a User Card, issue a new card if appropriate. If a Management Card, reorder management cards from your sales representative or authorized Schlumberger dealer.
JAM CR	<i>Explanation:</i>	Jammed Card Reader. Something is jammed in the Card Reader.
	<i>Action:</i>	Push the END key to try to clear the reader and/or call your dealer or service representative for assistance. DO NOT USE THIS UNIT.

JAMMED	<i>Explanation:</i>	You have not pushed the card far enough into the Card Reader.
	<i>Action:</i>	Apply more pressure as you insert the card.
LOW BATT	<i>Explanation:</i>	Low Battery. The Lithium battery on the control board needs to be replaced (although the unit will continue to operate normally for as long as AC power is supplied).
	<i>Action:</i>	Call your dealer or service representative immediately for assistance. If a power failure occurs or if you remove AC power, all data stored in the unit will be lost! Because replacing the battery requires that you remove power, be sure to record all data before replacing the battery.
MEM BAD	<i>Explanation:</i>	The battery-backed memory has failed.
	<i>Action:</i>	Reprogram features and options and call service.
NO DATA	<i>Explanation:</i>	No data is stored for a failed write or power failure.
	<i>Action:</i>	No action required.
PUSH END	<i>Explanation:</i>	The card is jammed in the Card Reader.
	<i>Action:</i>	Push END to retrieve the card.

B

A Quick Reference to Management Mode Prompts

This appendix provides a quick reference to the prompts displayed in Management Mode. Detailed descriptions of these prompts and step-by-step instructions for responding to prompts are provided in the appropriate chapters of this guide.

Read these notes before attempting to use this appendix:

- Because Auxiliary Card Reader prompts are limited to eight characters, many of the prompts shown in your Display Windows will be an abbreviated form of the prompts shown here, which are spelled out in full.
- The default settings for features and options in the "Setup" and "Communications Setup" major loops are shown in bold type.
- An asterisk (*) appears next to prompts that require more than just a "yes/no" response (i.e. next to prompts that require you to key in information, such as an expiration date).
- All major loops have a circled number next to them. These numbers indicate the order in which these loops should be accessed during initial setup.

Major Loops	Minor Loops	Sub Loops
SEE TOT? (See Totals) allows you to view the information stored about system activity.	TRN TL? Transaction Totals	PUR TRAN (number of purchases) T nnnnnn
This chart shows the order in which loops should be accessed during initial setup: < INIT (Initialize Memory) > SETUP (Program Features) fi General Maintenance Tasks <i>Note: You can use your View Totals Card to access loops that appear shaded.</i>		PURCH \$ (total value of purchases) n.nn
		ADD TRAN (number of times money added to cards) Tnnnnnn
		ADD \$ (total value of ADD TRAN) n.nn
		CLR TRN? (clear transactions) SURE? PRESS 3
	S/C TL? (G/C TL? Totals By Site/Group Code?)	S/C nnnn
	NOTE: The TS/AUX will display G/C, not S/C	PUR TRAN nnnnnnnn
		PURCH \$ n.nn
		ADD TRAN nnnnnnnn
		ADD \$ n.nn
	(if more site/group codes are loaded, this will loop back to display S/Cnnnn)	
	NO MORE	
	NRT TL? See Nonresettable Totals?	PUR TRAN nnnnnnnn
		PURCH \$ n.nn
		ADD TRAN nnnnnnnn
		ADD \$ n.nn

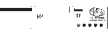
Note: You can use your View Totals Card to access loops that appear shaded.

TYPE ? (Unit Type) — Allows settings as a DEBICASH Terminal or Cash Register (Special cable required).	DEBICASH	
	SHARP	
	MICROS	
SETUP (<i>Set Parameters</i>) allows you to program Auxiliary Card Reader features.	MACH ID? Machine Id?	00000000*
	CARD MAX Card Maximum?	\$ 5.00 MAXIMUM
		\$ 10.00 MAXIMUM
		\$ 20.00 MAXIMUM
		\$ 50.00 MAXIMUM
		\$ 99.00 MAXIMUM
		\$ 300.00 MAXIMUM
		\$ 500.00 MAXIMUM
		\$ 750.00 MAXIMUM
		\$ 999.00 MAXIMUM
	EX DATE? Expiration Date?	OFF
		ON
	SET DATE Set Expiration Date	ED 99/99*
	TONE? Keypad Tone?	ON
		OFF
	RW MODE? Read/Write Mode?	WARNING MESSAGE
		RETAIN CARD

COM SET? (<i>Communications Setup</i>) allows you to set communications parameters for RECAP collection software.	(PROTOCOL ?)	RECAP 2
		RECAP 3
	TERM ID? — " " (ADDRESS? ?)	ID - 000* (if RECAP 2) 00000* (if RECAP 3)
	SEC ID ? Security Id?	00000000*
	BD RATE? Baud Rate?	2400
		9600
		300
		1200
	PARITY?	PARITY EVEN
		PARITY ZERO
		PARITY ODD
		PARITY ONE
	(CONNECT? ?)	DIRECT
		MODEM
		MUL (Multi Unit Line Drop)
	MONITOR?	OFF
		ON
	COMMUNICATION TST?	Requires a loopback plug - this loop is normally used for factory testing only

DONE? allows you to exit Management Mode. Answer "yes" to this prompt when you complete maintenance tasks and are ready to make the unit available to users. *

* This major loop can be used to exit Management Mode at any time during setup and maintenance procedures.

INIT? (Initialize Terminal) allows you to delete all totals displayed in the "See Totals" and "RECOVER" major loops OR to delete all totals and reset feature and communications options to default settings.	<	CLEAR? Clear Totals?	SURE?
			PRESS 3
		ERASE? Erase Memory?	SURE?
			PRESS 3
RECOVER? (Recover Lost Data)  allows you to view the information stored by the Auxiliary Card Reader in the event of a power failure and a failed write.		R/W CNT?  Read/Write Count?	R/W CNT T000000
		SEE R/W?	Card Serial Number (nnnnnnnnnn)
			Card Type (i.e. DEBIT)
			Site Code (nnnn)
			Balance (i.e. \$ 5.225)
		CLR R/W? Clear Read/Write?	SURE?
			PRESS 3
		SEE PDN? See Power Down Data?	Card Serial Number (nnnnnnnnnn)
			Card Type (i.e. DEBIT)
			Site Code (nnnn)
			Balance (i.e. \$ 5.225)
		CLR PDN? Clear Power Down Data?	SURE?
			PRESS 3

G

Glossary

ALLCARD System

A magnetic stripe card system that has been replaced by the Schlumberger SingleCard System.

AUTO-RESTORE

A feature that automatically re-encodes a card with its proper value if the card becomes invalidated by a power failure.

Card Dispenser

A Schlumberger vending product used to sell pre-encoded Debit Cards. These units can also be equipped with the RECHARGE feature, which allows users to increase the dollar value encoded on Debit and Debit-Limit Cards.

Debit Card

A magnetically encoded card used for vending transactions. Encoded on the magnetic stripe of this card is a monetary value. During vending transactions, the monetary value encoded on the card decreases to reflect the cost of the transaction. Users can increase the value encoded on these cards by using the RECHARGE feature, available for Card Dispensers and Towers.

Debit-Limit Card

A magnetically encoded card used for vending transactions. Encoded on the magnetic stripe of this card is both a monetary value, or *debit field*, and a preset number of points, or *limit field*. During vending transactions, the monetary value or number of points decreases to reflect the cost of the transaction. (Auxiliary Card Reader units always deduct from the debit field.) As with Debit Cards, users can add monetary value to the card with the RECHARGE feature.

Encoder Terminal

A Schlumberger vending product used solely to encode new user cards and to re-encode or add value to existing cards.

G/C (Group Code)

Also referred to as Site Codes (S/C). Unique, factory-assigned codes that prevent cards intended for use at other vending sites from being used in equipment at your site. All cards and card-accepting equipment at your site are programmed with your G/C(s). Depending on your site configuration, you may have up to five G/Cs. If the G/C encoded on a user card does not match a G/C stored by the unit, the card can not be used at that unit.

Management Card

A management card used to access the setup and maintenance prompts of the Auxiliary Card Reader's Management Mode.

Management Cards

A group of magnetically encoded cards used to access the setup, administrative, and maintenance routines of Auxiliary Card Readers. The management cards used with the Auxiliary Card Reader include *Set G/C*, *Management*, and *View Totals* Cards.

Management Card ID Number

A factory-assigned number that is encoded onto all management cards to prevent unauthorized use of these cards. When an management card is inserted into a Auxiliary Card Reader, the unit prompts for this number. If the number entered does not match the number encoded on the card, access to administrative functions is denied.

Management Mode

The operating mode that permits access to setup and maintenance functions.

Normal Mode

The operating mode that permits access to vending capabilities.

Read After Write Feature

A feature used by Schlumberger products to check that the data written to a card is valid.

RECHARGE

A feature that allows users to insert cash into a Tower or Card Dispenser to increase the cash value encoded on Debit and Debit-Limit Cards.

Set G/C Card

An management card used to program card-accepting Schlumberger vending units with a Group Code.

SingleCard System

A card system—designed for the college and university environment—that allows one card to be used for multiple campus functions. For instance, this one card may be used for participation in meal plans, bookstore purchases, food and beverage vending, photocopy vending, laundry equipment use, library lending, dorm access, and others.

S/C (Site Code)

See G/C.

Tower

A vending unit that connects to a photocopier to control and monitor photocopy vending. Depending on the model purchased, this unit can accept coins, bills, and magnetically encoded cards for vending transactions.

User Cards

A group of magnetically encoded cards used for vending transactions. Included in this card group are *Debit*, *Limit*, *Debit-Limit*, and *Credit* Cards.

Vending Terminal

A card-only Schlumberger vending unit that connects to a photocopier to control and monitor photocopy vending.

View Totals Card

An management card that permits you to view and maintain the information stored by the Auxiliary Card Reader about system activity. Though you can access this same information with the Management Card, the View Totals Card allows you to more quickly and conveniently access this information—while bypassing prompts inapplicable to viewing and maintaining totals.

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