

## A Look at This Appendix

This appendix emphasizes accounting information systems. We describe fundamental system principles, the system's components, use of special journals and subsidiary ledgers, and technology-based systems.

## Appendix

# E Reporting and Preparing Special Journals

## Learning Objectives

### CAP

#### CONCEPTUAL

- C1** Identify the principles and components of accounting information systems. (p. E-2)
- C2** Explain the goals and uses of special journals. (p. E-5)
- C3** Describe the use of controlling accounts and subsidiary ledgers. (p. E-6)

#### ANALYTICAL

- A1** Compute segment return on assets and use it to evaluate segment performance. (p. E-18)



LP-E

#### PROCEDURAL

- P1** Journalize and post transactions using special journals. (p. E-8)
- P2** Prepare and prove the accuracy of subsidiary ledgers. (p. E-9)
- P3** *Appendix E-A*—Journalize and post transactions using special journals in a periodic inventory system. (p. E-22)

With increases in the number and complexity of business activities, the demands placed on accounting information systems increase. Accounting information systems must meet this challenge in an efficient and effective manner. In this appendix, we learn about fundamental principles guiding information systems, and we study components making up these systems. We also

explain procedures that use special journals and subsidiary ledgers to make accounting information systems more efficient. An understanding of the details of accounting reports makes us better decision makers when using financial information, and it improves our ability to analyze and interpret financial statements.



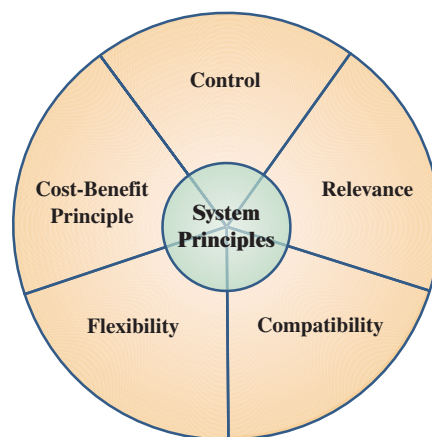
## FUNDAMENTAL SYSTEM PRINCIPLES

**C1** Identify the principles and components of accounting information systems.

**Accounting information systems** collect and process data from transactions and events, organize them in useful reports, and communicate results to decision makers. With the increasing complexity of business and the growing need for information, accounting information systems are more important than ever. All decision makers need to have a basic knowledge of how accounting information systems work. This knowledge gives decision makers a competitive edge as they gain a better understanding of information constraints, measurement limitations, and potential applications. It allows them to make more informed decisions and to better balance the risks and returns of different strategies. This section explains five basic principles of accounting information systems, shown in Exhibit E.1.

### EXHIBIT E.1

System Principles



### Control Principle

Managers need to control and monitor business activities. The **control principle** prescribes that an accounting information system have internal controls. **Internal controls** are methods and procedures allowing managers to control and monitor business activities. They include policies to direct operations toward

common goals, procedures to ensure reliable financial reports, safeguards to protect company assets, and methods to achieve compliance with laws and regulations.

### Relevance Principle

Decision makers need relevant information to make informed decisions. The **relevance principle** prescribes that an accounting information system report useful, understandable, timely, and pertinent information for effective decision making. The system must be designed to capture data that make a difference in decisions. To ensure this, we must consider all decision makers when identifying relevant information for disclosure.

**Point:** A hacker stole 300,000 credit card numbers from online music retailer CDUniverse due to internal control failure.



## Compatibility Principle

Accounting information systems must be consistent with the aims of a company. The **compatibility principle** prescribes that an accounting information system conform with a company's activities, personnel, and structure. It also must adapt to a company's unique characteristics. The system must not be intrusive but must work in harmony with and be driven by company goals. Most start-up entrepreneurs require only a simple information system. **Harley-Davidson**, on the other hand, demands both a merchandising and a manufacturing information system able to assemble data from its global operations.

## Flexibility Principle

Accounting information systems must be able to adjust to changes. The **flexibility principle** prescribes that an accounting information system be able to adapt to changes in the company, business environment, and needs of decisions makers. Technological advances, competitive pressures, consumer tastes, regulations, and company activities constantly evolve. A system must be designed to adapt to these changes.

## Cost-Benefit Principle

The **cost-benefit principle** prescribes that the benefits from an activity in an accounting information system outweigh the costs of that activity. The costs and benefits of an activity such as producing a specific report will impact the decisions of both external and internal users. Decisions regarding other systems principles (control, relevance, compatibility, and flexibility) are also affected by the cost-benefit principle.

**Point:** Law requires that all employers destroy credit-check and other employee records before tossing them. A cross-cut shredder is the tool of choice.

### Decision Insight

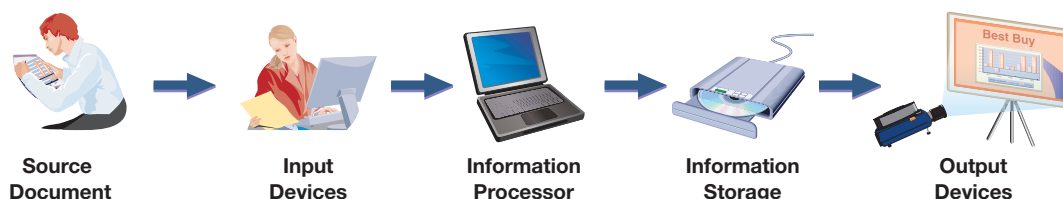


**Digital Is Forever** E-communications have helped bring down many employees, including the former CEO of **Boeing**. To comply with Sarbanes-Oxley, more and more companies now archive and monitor e-mails, instant messages, blog postings, and Net-based phone calls. Using natural-language software, companies sift through digital communications in milliseconds, checking for trade secrets, bad language, porn, and pirated files. ■

## COMPONENTS OF ACCOUNTING SYSTEMS

Accounting information systems consist of people, records, methods, and equipment. The systems are designed to capture information about a company's transactions and to provide output including financial, managerial, and tax reports. All accounting information systems have these same goals, and thus share some basic components. These components apply whether or not a system is heavily computerized, yet the components of computerized systems usually provide more accuracy, speed, efficiency, and convenience than those of manual systems.

The five basic **components of accounting systems** are source documents, input devices, information processors, information storage, and output devices. Exhibit E.2 shows these components as a series of steps, yet we know that much two-way communication occurs between many of these components. We briefly describe each of these key components in this section.



### EXHIBIT E.2

Accounting System Components



## Source Documents

We introduced source documents in Chapters 1 and 2 and explained their importance for both business transactions and information collection. Source documents provide the basic information processed by an accounting system. Examples of source documents include bank statements and checks, invoices from suppliers, billings to customers, cash register files, and employee earnings records. Source documents can be paper, although they increasingly are taking the form of electronic files and Web communications. A growing number of companies are sending documents directly from their systems to their customers' and suppliers' systems. The Web is playing a major role in this transformation from paper-based to *paperless* systems.

Accurate source documents are crucial to accounting information systems. Input of faulty or incomplete information seriously impairs the reliability and relevance of the information system. We commonly refer to this as "garbage in, garbage out." Information systems are set up with attention on control procedures to limit the possibility of entering faulty data in the system.

## Input Devices

**Input devices** capture information from source documents and enable its transfer to the system's information processing component. These devices often involve converting data on source documents from written or electronic form to a form usable for the system. Journal entries, both electronic and paper based, are a type of input device. Keyboards, scanners, and modems are some of the most common input devices in practice today. For example, bar code readers capture code numbers and transfer them to the organization's computer for processing. Moreover, a scanner can capture writing samples and other input directly from source documents.

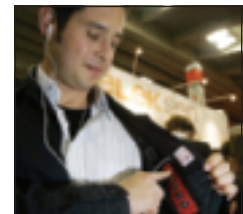
Controls are used to ensure that only authorized individuals input data to the system. Controls increase the system's reliability and allow information to be traced back to its source.

**Point:** Understanding a manual accounting system is useful in understanding an electronic system.

### Decision Insight



**Geek Chic** Cyberfashion pioneers are creating geek chic, a kind of wearable computer. Cyberfashion draws on digital cellular phones, lithium batteries, and miniature monitors. Special thread is woven into clothing to carry low-voltage signals from one part of the system to another, and fabric keyboards are sewn into clothes. These creations give new meaning to the term *software*. ■



## Information Processors

**Information processors** are systems that interpret, transform, and summarize information for use in analysis and reporting. An important part of an information processor in accounting systems is professional judgment. Accounting principles are never so structured that they limit the need for professional judgment. Other parts of an information processor include journals, ledgers, working papers, and posting procedures. Each assists in transforming raw data to useful information.

Increasingly, computer technology (both computing hardware and software) is assisting manual information processors. This assistance is freeing accounting professionals to take on increased analysis, interpretive, and managerial roles. Web-based application service providers (ASPs) offer another type of information processor.

**Point:** BusinessWeek reported that 75% of all e-mail traffic is spam.

## Information Storage

**Information storage** is the accounting system component that keeps data in a form accessible to information processors. After being input and processed, data are stored for use in future analyses and reports. The database must be accessible to preparers of periodic financial reports. Auditors rely on this database when they audit both financial statements and a company's controls. Companies also maintain files of source documents.

Older systems consisted almost exclusively of paper documents, but most modern systems depend on electronic storage devices. Advances in information storage enable accounting systems

**Point:** A financial accounting database can be designed to support a wide range of internal reports for management.

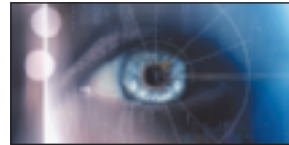


to increasingly store more detailed data. This means managers have more data to access and work with in planning and controlling business activities. Information storage can be online, meaning that data can be accessed whenever, and from wherever, it is needed. Off-line storage means access often requires assistance and authorization. Information storage is increasingly augmented by Web sources such as SEC databases, benchmarking services, and financial and product markets.

### Decision Insight



**Direct Output** A screenless computer display, called *virtual retinal display* (VRD), scans rows of pixels directly onto the user's retina by means of a laser. VRDs can simulate three-dimensional virtual worlds, including 3D financial graphics. ■



## Output Devices

**Output devices** are the means to take information out of an accounting system and make it available to users. Common output devices are printers, monitors, projectors, and Web communications. Output devices provide users a variety of items including graphics, analysis reports, bills to customers, checks to suppliers, employee paychecks, financial statements, and internal reports. When requests for output occur, an information processor takes the needed data from a database and prepares the necessary report, which is then sent to an output device. A special type of output is an electronic funds transfer (EFT). One example is the transfer of payroll from the company's bank account to its employees' bank accounts. This requires an interface to allow a company's accounting system to send payroll data directly to the bank's accounting system. This interface can involve a company recording its payroll data in an encrypted zip file and forwarding it to the bank. The bank then uses this output to transfer wages earned to employees' accounts.

### Decision Ethics

Answer — p. E-26



**Accountant** Your client requests advice in purchasing software for its accounting system. You have been offered a 10% commission by a software company for each purchase of its system by one of your clients. Does this commission arrangement affect your evaluation of software? Do you tell your client about the commission arrangement? ■

### Quick Check

Answers — p. E-27



1. Identify the five primary components of an accounting information system.
2. What is the aim of information processors in an accounting system?
3. How are data in the information storage component of an accounting system used?

## SPECIAL JOURNALS IN ACCOUNTING

This section describes the underlying records of accounting information systems. Designed correctly, these records support efficiency in processing transactions and events. They are part of all systems in various forms and are increasingly electronic. Even in technologically advanced systems, a basic understanding of the records we describe in this section aids in using, interpreting, and applying accounting information. It also improves our knowledge of computer-based systems. Remember that all accounting systems have common purposes and internal workings whether or not they depend on technology.

This section focuses on special journals and subsidiary ledgers that are an important part of accounting systems. We describe how special journals are used to capture transactions, and we explain how subsidiary ledgers are set up to capture details of accounts. This section uses a *perpetual*

**C2** Explain the goals and uses of special journals.



inventory system, and the special journals are set up using this system. Appendix E-A describes the change in special journals required for a *periodic* system. We also include a note at the bottom of each of the special journals explaining the change required if a company uses a periodic system.

## Basics of Special Journals

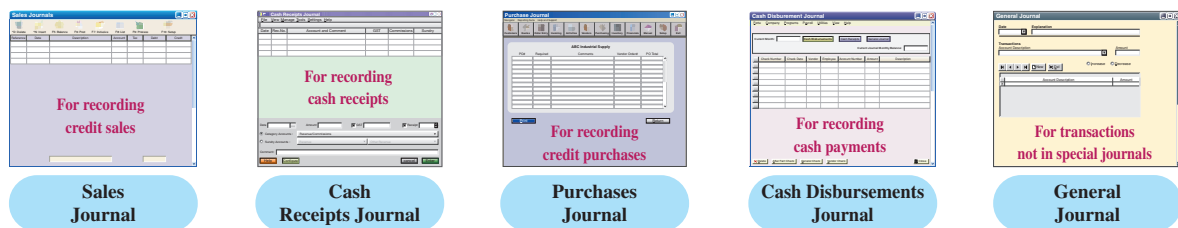
A **general journal** is an all-purpose journal in which we can record any transaction. Use of a general journal for all transactions is usually more costly for a business *and* is a less effective control procedure. Moreover, for less technologically advanced systems, use of a general journal requires that each debit and each credit entered be individually posted to its respective ledger account. To enhance internal control and reduce costs, transactions are organized into common groups. A **special journal** is used to record and post transactions of similar type. Most transactions of a merchandiser, for instance, can be categorized into the journals shown in Exhibit E.3. This section assumes the use of these four special journals along with the general journal. The general journal continues to be used for transactions not covered by special journals and for adjusting, closing, and correcting entries. We show in the following discussion that special journals are *efficient tools in helping journalize and post transactions*. This is done, for instance, by accumulating debits and credits of similar transactions, which allows posting of amounts as column *totals* rather than as individual amounts. The advantage of this system increases as the number of transactions increases. Special journals allow an *efficient division of labor*, which is also an effective control procedure.

**Point:** Companies can use as many special journals as necessary given their unique business activities.

**Point:** A specific transaction is recorded in only *one* journal.

### EXHIBIT E.3

Using Special Journals with a General Journal



It is important to note that special journals and subsidiary ledgers *are designed in a manner that is best suited for each business*. The most likely candidates for special journal status are recurring transactions—for many businesses those are sales, cash receipts, purchases, and cash disbursements. However, good systems design for a business could involve collapsing sales and cash receipts in one journal, or purchases and cash disbursements in another. It could also involve adding more special journals or additional subsidiary ledgers for other recurring transactions. This design decision extends to journal and ledger format. That is, the selection on number of columns, column headings, and so forth is based on what is best suited for each business. Thus, read the following sections as one example of a common systems design, but not the only design.

## Subsidiary Ledgers

C3

Describe the use of controlling accounts and subsidiary ledgers.

To understand special journals, it is necessary to understand the workings of a **subsidiary ledger**, which is a list of individual accounts with a common characteristic. A subsidiary ledger contains detailed information on specific accounts in the general ledger. Information systems often include several subsidiary ledgers. Two of the most important are:

- *Accounts receivable ledger*—stores transaction data of individual customers.
- *Accounts payable ledger*—stores transaction data of individual suppliers.

Individual accounts in subsidiary ledgers are often arranged alphabetically, which is the approach taken here. We describe accounts receivable and accounts payable ledgers in this section. Our discussion of special journals uses these ledgers.

**Accounts Receivable Ledger** When we recorded credit sales in prior chapters, we debited (increased) Accounts Receivable. When a company has more than one credit customer, the accounts receivable records must show how much *each* customer purchased, paid, and has yet to

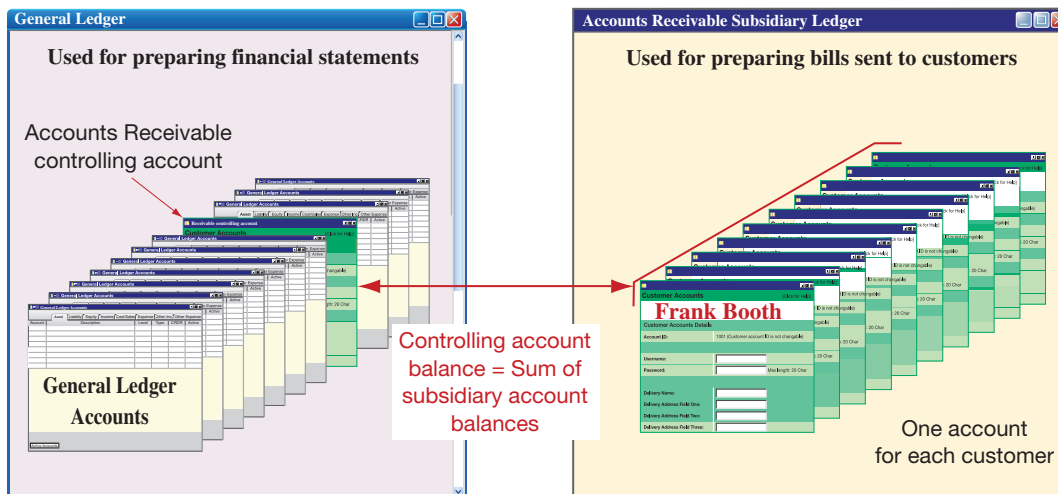




pay. This information is collected by keeping a separate account receivable for each credit customer. A separate account for each customer *could* be kept in the general ledger with the other financial statement accounts, but this is uncommon. Instead, the general ledger usually has a single Accounts Receivable account, and a *subsidiary ledger* is set up to keep a separate account for each customer. This subsidiary ledger is called the **accounts receivable ledger** (also called *accounts receivable subsidiary ledger* or *customers ledger*), and it can exist in electronic or paper form.

Exhibit E.4 shows the relation between the Accounts Receivable account and its individual accounts in the subsidiary ledger. After all items are posted, the balance in the Accounts Receivable account must equal the sum of all balances of its customers' accounts. The Accounts Receivable account is said to control the accounts receivable ledger and is called a **controlling account**. Since the accounts receivable ledger is a supplementary record controlled by an account in the general ledger, it is called a *subsidiary ledger*.

**Point:** When a general ledger account has a subsidiary ledger, any transaction that impacts one of them also impacts the other—some refer to this as *general and subsidiary ledgers kept in tandem*.



### EXHIBIT E.4

Accounts Receivable Controlling Account and Its Subsidiary Ledger

**Point:** A control account refers to any general ledger account that summarizes subsidiary ledger data.

**Accounts Payable Ledger** There are other controlling accounts and subsidiary ledgers. We know, for example, that many companies buy on credit from several suppliers. This means that companies must keep a separate account for each supplier by keeping an Accounts Payable controlling account in the general ledger and a separate account for each supplier (creditor) in an **accounts payable ledger** (also called *accounts payable subsidiary ledger* or *creditors ledger*).

**Other Subsidiary Ledgers** Subsidiary ledgers are common for several other accounts. A company with many classes of equipment, for example, might keep only one Equipment account in its general ledger, but its Equipment account would control a subsidiary ledger in which each class of equipment is recorded in a separate account. Similar treatment is common for investments, inventory, and any accounts needing separate detailed records. **Genmar Holdings**, which manufactures boats by Champion, Glastron, Four Winns, and Larson, reports sales information by product line in its report. Yet its accounting system keeps much more detailed sales records. Genmar Holdings, for instance, sells hundreds of different products and must be able to analyze the sales performance of each. This detail can be captured by many different general ledger sales accounts but is instead captured by using supplementary records that function like subsidiary ledgers. Overall, subsidiary ledgers are applied in many different ways to ensure that the accounting system captures sufficient details to support analyses that decision makers need. At least four benefits derive from subsidiary ledgers:



1. Removal of excessive details, and detailed accounts, from the general ledger.
2. Up-to-date information readily available on specific customers and suppliers.
3. Aid in error identification for specific accounts.
4. Potential efficiencies in recordkeeping through division of labor in posting.



## Sales Journal

**P1** Journalize and post transactions using special journals.

A typical **sales journal** is used to record sales of inventory *on credit*. Sales of inventory for cash are not recorded in a sales journal but in a cash receipts journal. Sales of noninventory assets on credit are recorded in the general journal.

**Journalizing** Credit sale transactions are recorded with information about each sale entered separately in a sales journal. This information is often taken from a copy of the sales ticket or invoice prepared at the time of sale. The top portion of Exhibit E.5 shows a typical sales journal from a merchandiser. It has columns for recording the date, customer's name, invoice number, posting reference, and the retail and cost amounts of each credit sale. The sales journal in this exhibit is called a **columnar journal**, which is any journal with more than one column.

Each transaction recorded in the sales journal yields an entry in the "Accounts Receivable Dr., Sales Cr." column. We usually need only one column for these two accounts. (An exception is when managers need more information about taxes, returns, and other sales details.) Each transaction in the sales journal also yields an entry in the "Cost of Goods Sold Dr., Inventory Cr." column. This entry reflects the perpetual inventory system of tracking costs with each sale. To illustrate, on February 2, this company sold merchandise on account to Jason Henry for \$450. The invoice number is 307, and the cost of this merchandise is \$315. This information is

**Point:** Each transaction in the sales journal includes a debit to accounts receivable and a credit to sales.

### EXHIBIT E.5

Sales Journal with Posting\*

| Date   | Account Debited | Invoice Number | PR | Accounts Receivable Dr.<br>Sales Cr. | Cost of Goods Sold Dr.<br>Inventory Cr. |
|--------|-----------------|----------------|----|--------------------------------------|---|
| Feb. 2 | Jason Henry     | 307            | ✓  | 450                                  | 315                                     |
| 7      | Albert Co.      | 308            | ✓  | 500                                  | 355                                     |
| 13     | Kam Moore       | 309            | ✓  | 350                                  | 260                                     |
| 15     | Paul Roth       | 310            | ✓  | 200                                  | 150                                     |
| 22     | Jason Henry     | 311            | ✓  | 225                                  | 155                                     |
| 25     | Frank Booth     | 312            | ✓  | 175                                  | 95                                      |
| 28     | Albert Co.      | 313            | ✓  | 250                                  | 170                                     |
| 28     | Totals          |                |    | 2,150                                | 1,500                                   |
|        |                 |                |    | (106/413)                            | (502/119)                               |

| Date                       | PR | Debit | Credit | Balance |
|----------------------------|----|-------|--------|---------|
| Customer Name: Albert Co.  |    |       |        |         |
| Feb. 7                     | S3 | 500   |        | 500     |
| 28                         | S3 | 250   |        | 750     |
| Customer Name: Frank Booth |    |       |        |         |
| Feb. 25                    | S3 | 175   |        | 175     |
| Customer Name: Jason Henry |    |       |        |         |
| Feb. 2                     | S3 | 450   |        | 450     |
| 22                         | S3 | 225   |        | 675     |
| Customer Name: Kam Moore   |    |       |        |         |
| Feb. 13                    | S3 | 350   |        | 350     |
| Customer Name: Paul Roth   |    |       |        |         |
| Feb. 15                    | S3 | 200   |        | 200     |

| Date                        | PR   | Debit | Credit | Balance |
|-----------------------------|------|-------|--------|---------|
| Accounts Receivable No. 106 |      |       |        |         |
| Feb. 28                     | S3   | 2,150 |        | 2,150   |
| Inventory No. 119           |      |       |        |         |
| Feb. 1                      | bal. |       |        | 15,700  |
| 28                          | S3   |       | 1,500  | 14,200  |
| Sales No. 413               |      |       |        |         |
| Feb. 28                     | S3   |       | 2,150  | 2,150   |
| Cost of Goods Sold No. 502  |      |       |        |         |
| Feb. 28                     | S3   | 1,500 |        | 1,500   |

Totals are posted at the end of the period to General Ledger accounts.

Individual line item amounts in the Accounts Receivable Dr. and Sales Cr. column are posted immediately to the subsidiary ledger.

Customer accounts are in a subsidiary ledger and the financial statement accounts are in the General Ledger.

\*The Sales Journal in a *periodic* system would exclude the column on the far right titled "Cost of Goods Sold Dr., Inventory Cr." (see Exhibit E-A.1).





captured on one line in the sales journal. No further explanations or entries are necessary, saving time and effort. Moreover, this sales journal is consistent with most inventory systems that use bar codes to record both sales and costs with each sale transaction. Note that the Posting Reference (PR) column is not used when entering transactions but instead is used when posting.

**Posting** A sales journal is posted as reflected in the arrow lines of Exhibit E.5. Two types of posting can be identified: (1) posting to the subsidiary ledger(s) and (2) posting to the general ledger.

**Posting to subsidiary ledger.** Individual transactions in the sales journal are posted regularly (typically concurrently) to customer accounts in the accounts receivable ledger. These postings keep customer accounts up-to-date, which is important for the person granting credit to customers. When sales recorded in the sales journal are individually posted to customer accounts in the accounts receivable ledger, check marks are entered in the sales journal's PR column. Check marks are used rather than account numbers because customer accounts usually are arranged alphabetically in the accounts receivable ledger. Note that posting debits to Accounts Receivable twice—once to Accounts Receivable and once to the customer's subsidiary account—does not violate the accounting equation of debits equal credits. The equality of debits and credits is always maintained in the general ledger.

**Posting to general ledger.** The sales journal's account columns are totaled at the end of each period (the month of February in this case). For the "sales" column, the \$2,150 total is debited to Accounts Receivable and credited to Sales in the general ledger (see Exhibit E.5). For the "cost" column, the \$1,500 total is debited to Cost of Goods Sold and credited to Inventory in the general ledger. When totals are posted to accounts in the general ledger, the account numbers are entered below the column total in the sales journal for tracking. For example, we enter (106/413) below the total in the sales column after this amount is posted to account number 106 (Accounts Receivable) and account number 413 (Sales).

A company identifies in the PR column of its subsidiary ledgers the journal and page number from which an amount is taken. We identify a journal by using an initial. Items posted from the sales journal carry the initial *S* before their journal page numbers in a PR column. Likewise, items from the cash receipts journal carry the initial *R*; items from the cash disbursements journal carry the initial *D*; items from the purchases journal carry the initial *P*; and items from the general journal carry the initial *G*.

**Proving the Ledgers** Account balances in the general ledger and subsidiary ledgers are periodically proved (or reviewed) for accuracy after posting. To do this we first prepare a trial balance of the general ledger to confirm that debits equal credits. Second, we test a subsidiary ledger by preparing a *schedule* of individual accounts and amounts. A **schedule of accounts receivable** lists each customer and the balance owed. If this total equals the balance of the Accounts Receivable controlling account, the accounts in the accounts receivable ledger are assumed correct. Exhibit E.6 shows a schedule of accounts receivable drawn from the accounts receivable ledger of Exhibit E.5.

**Point:** Continuously updated customer accounts provide timely information for customer inquiries on those accounts and on current amounts owed.

**Point:** PR column is only checked after the amount(s) is posted.

**Point:** Postings are automatic in a computerized system.

**P2** Prepare and prove the accuracy of subsidiary ledgers.

| Schedule of Accounts Receivable<br>February 28 |                |
|--|----------------|
| Albert Co. . . . .                             | \$ 750         |
| Frank Booth . . . . .                          | 175            |
| Jason Henry . . . . .                          | 675            |
| Kam Moore . . . . .                            | 350            |
| Paul Roth . . . . .                            | 200            |
| Total accounts receivable . . . . .            | <u>\$2,150</u> |

## EXHIBIT E.6

Schedule of Accounts Receivable

**Additional Issues** We consider three additional issues with the sales journal: (1) recording sales taxes, (2) recording sales returns and allowances, and (3) using actual sales invoices as a journal.

**Point:** In accounting, the word *schedule* generally means a list.





## Cash Receipts Journal

A **cash receipts journal** is typically used to record all receipts of cash. Exhibit E.7 shows one common form of the cash receipts journal.

**Journalizing and Posting** Cash receipts can be separated into one of three types: (1) cash from credit customers in payment of their accounts, (2) cash from cash sales, and (3) cash from other sources. The cash receipts journal in Exhibit E.7 has a separate credit

### EXHIBIT E.7

Cash Receipts Journal with Posting\*

| Date   | Account Credited | Explanation   | PR  | Cash Dr. | Sales Discount Dr. | Accounts Receivable Cr. | Sales Cr. | Other Accounts Cr. | Cost of Goods Sold Dr. Inventory Cr. |
|--------|------------------|---------------|-----|----------|--------------------|-------------------------|-----------|--------------------|--------------------------------------|
| Feb. 7 | Sales            | Cash sales    | X   | 4,450    |                    |                         | 4,450     |                    | 3,150                                |
| 12     | Jason Henry      | Invoice, 2/2  | ✓   | 441      | 9                  | 450                     |           |                    |                                      |
| 14     | Sales            | Cash sales    | X   | 3,925    |                    |                         | 3,925     |                    | 2,950                                |
| 17     | Albert Co.       | Invoice, 2/7  | ✓   | 490      | 10                 | 500                     |           |                    |                                      |
| 20     | Notes Payable    | Note to bank  | 245 | 750      |                    |                         |           | 750                |                                      |
| 21     | Sales            | Cash sales    | X   | 4,700    |                    |                         | 4,700     |                    | 3,400                                |
| 22     | Interest revenue | Bank account  | 409 | 250      |                    |                         |           | 250                |                                      |
| 23     | Kam Moore        | Invoice, 2/13 | ✓   | 343      | 7                  | 350                     |           |                    |                                      |
| 25     | Paul Roth        | Invoice, 2/15 | ✓   | 196      | 4                  | 200                     |           |                    |                                      |
| 28     | Sales            | Cash sales    | X   | 4,225    |                    |                         | 4,225     |                    | 3,050                                |
| 28     | Totals           |               |     | 19,770   | 30                 | 1,500                   | 17,300    | 1,000              | 12,550                               |
|        |                  |               |     | (101)    | (415)              | (106)                   | (413)     | (X)                | (502/119)                            |

| Date                       | PR | Debit | Credit | Balance |
|----------------------------|----|-------|--------|---------|
| Customer Name: Albert Co.  |    |       |        |         |
| Feb. 7                     | S3 | 500   |        | 500     |
| 17                         | R2 |       | 500    | 0       |
| 28                         | S3 | 250   |        | 250     |
| Customer Name: Frank Booth |    |       |        |         |
| Feb. 25                    | S3 | 175   |        | 175     |
| Customer Name: Jason Henry |    |       |        |         |
| Feb. 2                     | S3 | 450   |        | 450     |
| 12                         | R2 |       | 450    | 0       |
| 22                         | S3 | 225   |        | 225     |
| Customer Name: Kam Moore   |    |       |        |         |
| Feb. 13                    | S3 | 350   |        | 350     |
| 23                         | R2 |       | 350    | 0       |
| Customer Name: Paul Roth   |    |       |        |         |
| Feb. 15                    | S3 | 200   |        | 200     |
| 25                         | R2 |       | 200    | 0       |

| Date                        | PR   | Debit  | Credit | Balance |
|-----------------------------|------|--------|--------|---------|
| Cash No. 101                |      |        |        |         |
| Feb. 28                     | R2   | 19,770 |        | 19,770  |
| Accounts Receivable No. 106 |      |        |        |         |
| Feb. 28                     | S3   | 2,150  |        | 2,150   |
| 28                          | R2   |        | 1,500  | 650     |
| Inventory No. 119           |      |        |        |         |
| Feb. 1                      | bal. |        |        | 15,700  |
| 28                          | S3   |        | 1,500  | 14,200  |
| 28                          | R2   |        | 12,550 | 1,650   |
| Notes Payable No. 245       |      |        |        |         |
| Feb. 20                     | R2   |        | 750    | 750     |
| Interest Revenue No. 409    |      |        |        |         |
| Feb. 22                     | R2   |        | 250    | 250     |
| Sales No. 413               |      |        |        |         |
| Feb. 28                     | S3   |        | 2,150  | 2,150   |
| 28                          | R2   |        | 17,300 | 19,450  |
| Sales Discounts No. 415     |      |        |        |         |
| Feb. 28                     | R2   | 30     |        | 30      |
| Cost of Goods Sold No. 502  |      |        |        |         |
| Feb. 28                     | S3   | 1,500  |        | 1,500   |
| 28                          | R2   |        | 12,550 | 14,050  |

Individual line item amounts in the Other Accounts Cr. column and the Accounts Receivable Cr. column are posted immediately.

Column totals are posted at the end of the period.

\*The Cash Receipts Journal in a *periodic* system would exclude the column on the far right titled "Cost of Goods Sold Dr., Inventory Cr." (see Exhibit E-A.2).

**Point:** Each transaction in the cash receipts journal involves a debit to Cash. Credit accounts will vary.

column for each of these three sources. We describe how to journalize transactions from each of these three sources. (An Explanation column is included in the cash receipts journal to identify the source.)

**Cash from credit customers.** *Journalizing.* To record cash received in payment of a customer’s account, the customer’s name is first entered in the Account Credited column—see transactions dated February 12, 17, 23, and 25. Then the amounts debited to both Cash and the Sales Discount (if any) are entered in their respective columns, and the amount credited to the customer’s account is entered in the Accounts Receivable Cr. column.

*Posting.* Individual amounts in the Accounts Receivable Cr. column are posted immediately to customer accounts in the subsidiary accounts receivable ledger. The \$1,500 column total is posted at the end of the period (month in this case) as a credit to the Accounts Receivable controlling account in the general ledger.

**Cash sales.** *Journalizing.* The amount for each cash sale is entered in the Cash Dr. column and the Sales Cr. column. The February 7, 14, 21, and 28 transactions are examples. (Cash sales are usually journalized daily or at point of sale, but are journalized weekly in Exhibit E.7 for brevity.) Each cash sale also yields an entry to Cost of Goods Sold Dr. and Inventory Cr. for the cost of merchandise—see the far right column.

*Posting.* For cash sales, we place an *x* in the PR column to indicate that its amount is not individually posted. We do post the \$17,300 Sales Cr. total and the \$12,550 total from the “cost” column.

**Cash from other sources.** *Journalizing.* Examples of cash from other sources are money borrowed from a bank, cash interest received on account, and cash sale of noninventory assets. The transactions of February 20 and 22 are illustrative. The Other Accounts Cr. column is used for these transactions.

*Posting.* Amounts from these transactions are immediately posted to their general ledger accounts and the PR column identifies those accounts.

**Footing, Crossfooting, and Posting** To be sure that total debits and credits in a columnar journal are equal, we often crossfoot column totals before posting them. To *foot* a column of numbers is to add it. To *crossfoot* in this case is to add the Debit column totals, then add the Credit column totals, and compare the two sums for equality. Footing and crossfooting of the numbers in Exhibit E.7 result in the report in Exhibit E.8.

**Point:** Some software packages put cash sales in the sales journal.

**Example:** Record in the cash receipts journal a \$700 cash sale of land when the land carries a \$700 original cost. Answer: Debit the Cash column for \$700, and credit the Other Accounts column for \$700 (the account credited is Land).

**Point:** Subsidiary ledgers and their controlling accounts are *in balance* only after all posting is complete.

**EXHIBIT E.8**

Footing and Crossfooting Journal Totals

| Debit Columns               |                 | Credit Columns               |                 |
|-----------------------------|-----------------|------------------------------|-----------------|
| Cash Dr. ....               | \$19,770        | Accounts Receivable Cr. .... | \$ 1,500        |
| Sales Discounts Dr. ....    | 30              | Sales Cr. ....               | 17,300          |
| Cost of Goods Sold Dr. .... | 12,550          | Other Accounts Cr. ....      | 1,000           |
|                             |                 | Inventory Cr. ....           | 12,550          |
| Total .....                 | <u>\$32,350</u> | Total .....                  | <u>\$32,350</u> |

At the end of the period, after crossfooting the journal to confirm that debits equal credits, the total amounts from the columns of the cash receipts journal are posted to their general ledger accounts. The Other Accounts Cr. column total is not posted because the individual amounts are directly posted to their general ledger accounts. We place an *x* below the Other Accounts Cr. column to indicate that this column total is not posted. The account numbers for the column totals that are posted are entered in parentheses below each column. (Note: Posting items immediately from the Other Accounts Cr. column with a delayed posting of their offsetting items in the Cash column total causes the general ledger to be out of balance during the period. Posting the Cash Dr. column total at the end of the period corrects this imbalance in the general ledger before the trial balance and financial statements are prepared.)

 **Decision Maker**

Answer — p. E-27



**Entrepreneur** You want to know how promptly customers are paying their bills. This information can help you decide whether to extend credit and to plan your cash payments. Where do you find this information? ■



## Purchases Journal

A **purchases journal** is typically used to record all credit purchases, including those for inventory. Purchases for cash are recorded in the Cash Disbursements Journal.

**Journalizing** Entries in the purchases journal in Exhibit E.9 reflect purchase invoices or other source documents. We use the invoice date and terms to compute the date when payment for each purchase is due. The Accounts Payable Cr. column is used to record the amounts owed to each creditor. Inventory purchases are recorded in the Inventory Dr. column.

To illustrate, inventory costing \$200 is purchased from Ace Manufacturing on February 5. The creditor's name (Ace) is entered in the Account column, the invoice date is entered in the Date of Invoice column, the purchase terms are entered in the Terms column, and the \$200 amount is entered in the Accounts Payable Cr. and the Inventory Dr. columns. When a purchase involves an amount recorded in the Other Accounts Dr. column, we use the Account column to identify the general ledger account debited. For example, the February 28 transaction involves purchases of inventory, office supplies, and store supplies from ITT. The journal has no column for store supplies, so the Other Accounts Dr. column is used. In this case, Store Supplies is entered in the Account column along with the creditor's name (ITT). This purchases journal also includes a separate column for credit purchases of office supplies. A separate column such as this is useful when several transactions involve debits to the same account. Each company uses its own judgment in deciding on the number of separate columns necessary.

**Posting** The amounts in the Accounts Payable Cr. column are immediately posted to individual creditor accounts in the accounts payable subsidiary ledger. Individual amounts in the Other Accounts Dr. column are immediately posted to their general ledger accounts.

**Point:** The number of special journals and the design of each are based on a company's specific needs.

**Point:** Each transaction in the purchases journal has a credit to Accounts Payable. Debit accounts will vary.

**Point:** The Other Accounts Dr. column allows the purchases journal to be used for any purchase on credit.

The screenshot displays a software window titled "Purchases Journal" with a menu bar (File, Edit, Maintain, Tasks, Analysis, Options, Reports, Window, Help) and a status bar (Page 1). The journal table is as follows:

| Date   | Account                | Date of Invoice | Terms      | PR    | Accounts Payable Cr. | Inventory Dr.  | Office Supplies Dr. | Other Accounts Dr. |
|--------|------------------------|-----------------|------------|-------|----------------------|----------------|---------------------|--------------------|
| Feb. 3 | Horning Supply Co.     | 2/2             | n/30       | ✓     | 350                  | 275            | 75                  |                    |
| 5      | Ace Mfg. Co.           | 2/5             | 2/10, n/30 | ✓     | 200                  | 200            |                     |                    |
| 13     | Wynet & Co.            | 2/10            | 2/10, n/30 | ✓     | 150                  | 150            |                     |                    |
| 20     | Smite Co.              | 2/18            | 2/10, n/30 | ✓     | 300                  | 300            |                     |                    |
| 25     | Ace Mfg. Co.           | 2/24            | 2/10, n/30 | ✓     | 100                  | 100            |                     |                    |
| 28     | Store Supplies/ITT Co. | 2/28            | n/30       | 125/✓ | 225                  | 125            | 25                  | 75                 |
| 28     | Totals                 |                 |            |       | 1,325<br>(201)       | 1,150<br>(119) | 100<br>(124)        | 75<br>(X)          |

Below the journal, three subsidiary ledgers are shown with arrows indicating the flow of data:

- Accounts Payable Ledger:** Shows entries for Ace Mfg. Company (Feb. 5: 200; Feb. 25: 100), Horning Supply Company (Feb. 3: 350), ITT Company (Feb. 28: 225), Smite Company (Feb. 20: 300), and Wynet and Company (Feb. 13: 150).
- General Ledger:** Shows updates to Inventory (Feb. 1: bal. 15,700; Feb. 28: S3 1,500; Feb. 28: R2 12,550; Feb. 28: P1 1,150), Office Supplies (Feb. 28: P1 100), Store Supplies (Feb. 28: P1 75), and Accounts Payable (Feb. 28: P1 1,325).

### EXHIBIT E.9

Purchases Journal with Posting\*

Individual amounts in the Other Accounts Dr. column and the Accounts Payable Cr. column are posted immediately.

Column totals, except for Other Accounts Dr. column, are posted at the end of the period.

\*The Purchases Journal in a *periodic* system replaces "Inventory Dr." with "Purchases Dr." (see Exhibit E-A.3).





of the period, all column totals except the Other Accounts Dr. column are posted to their general ledger accounts.

**Proving the Ledger** Accounts payable balances in the subsidiary ledger can be periodically proved after posting. We prove the subsidiary ledger by preparing a **schedule of accounts payable**, which is a list of accounts from the accounts payable ledger with their balances and the total. If this total of the individual balances equals the balance of the Accounts Payable controlling account, the accounts in the accounts payable ledger are assumed correct. Exhibit E.10 shows a schedule of accounts payable drawn from the accounts payable ledger of Exhibit E.9. (This schedule can be done after any posting; for example, we could prepare another schedule of accounts payable after the postings in Exhibit E.11.)

**Point:** The balance in the Accounts Payable controlling account must equal the sum of the individual account balances in the accounts payable subsidiary ledger after posting.

### EXHIBIT E.10

Schedule of Accounts Payable

| Schedule of Accounts Payable<br>February 28 |                |
|---|----------------|
| Ace Mfg. Company . . . . .                  | \$ 300         |
| Horning Supply Company . . . . .            | 350            |
| ITT Company . . . . .                       | 225            |
| Smite Company . . . . .                     | 300            |
| Wynet & Company . . . . .                   | 150            |
| Total accounts payable . . . . .            | <u>\$1,325</u> |

## Cash Disbursements Journal

A **cash disbursements journal**, also called a *cash payments journal*, is typically used to record all cash payments.

**Journalizing** The cash disbursements journal shown in Exhibit E.11 illustrates repetitive entries to the Cash Cr. column of this journal (reflecting cash payments). Also note the frequent credits to Inventory (which reflect purchase discounts) and the debits to Accounts Payable. For example, on February 15, the company pays Ace on account (credit terms of 2/10, n/30—see February 5 transaction in Exhibit E.9). Since payment occurs in the discount period, the company pays \$196 (\$200 invoice less \$4 discount). The \$4 discount is credited to Inventory. Note that when this company purchases inventory for cash, it is recorded using the Other Accounts Dr. column and the Cash Cr. column as illustrated in the February 3 and 12 transactions. Generally, the Other Accounts column is used to record cash payments on items for which no column exists. For example, on February 15, the company pays salaries expense of \$250. The title of the account debited (Salaries Expense) is entered in the Account Debited column.

The cash disbursements journal has a column titled Ck. No. (check number). For control over cash disbursements, all payments except for those of small amounts are made by check. Checks should be prenumbered and each check's number entered in the journal in numerical order in the column headed Ck. No. This makes it possible to scan the numbers in the column for omitted checks. When a cash disbursements journal has a column for check numbers, it is sometimes called a **check register**.

**Posting** Individual amounts in the Other Accounts Dr. column of a cash disbursements journal are immediately posted to their general ledger accounts. Individual amounts in the Accounts Payable Dr. column are also immediately posted to creditors' accounts in the subsidiary Accounts Payable ledger. At the end of the period, we crossfoot column totals and post the Accounts Payable Dr. column total to the Accounts Payable controlling account. Also, the Inventory Cr. column total is posted to the Inventory account, and the Cash Cr. column total is posted to the Cash account.

**Point:** Each transaction in the cash disbursements journal involves a credit to Cash. The debit accounts will vary.

### Decision Maker

Answer — p. E-27



**Controller** You wish to analyze your company's cash payments to suppliers and its purchases discounts. Where do you find this information? ■



| Cash Disbursements Journal |         |                  |                  |     |          |               |                    | Page 2               |
|----------------------------|---------|------------------|------------------|-----|----------|---------------|--------------------|----------------------|
| Date                       | Ck. No. | Payee            | Account Debited  | PR  | Cash Cr. | Inventory Cr. | Other Accounts Dr. | Accounts Payable Dr. |
| Feb. 3                     | 105     | L. & N. Railroad | Inventory        | 119 | 15       |               | 15                 |                      |
| 12                         | 106     | East Sales Co.   | Inventory        | 119 | 25       |               | 25                 |                      |
| 15                         | 107     | Ace Mfg. Co.     | Ace Mfg. Co.     | ✓   | 196      | 4             |                    | 200                  |
| 15                         | 108     | Jerry Hale       | Salaries Expense | 622 | 250      |               | 250                |                      |
| 20                         | 109     | Wynet & Co.      | Wynet & Co.      | ✓   | 147      | 3             |                    | 150                  |
| 28                         | 110     | Smite Co.        | Smite Co.        | ✓   | 294      | 6             |                    | 300                  |
| 28                         |         | Totals           |                  |     | 927      | 13            | 290                | 650                  |
|                            |         |                  |                  |     | (101)    | (119)         | (X)                | (201)                |

| General Ledger |    |        |        |         |
|----------------|----|--------|--------|---------|
| Cash No. 101   |    |        |        |         |
| Date           | PR | Debit  | Credit | Balance |
| Feb. 28        | R2 | 19,770 |        | 19,770  |
| 28             | D2 |        | 927    | 18,843  |

| Inventory No. 119 |      |       |        |         |
|-------------------|------|-------|--------|---------|
| Date              | PR   | Debit | Credit | Balance |
| Feb. 1            | bal. |       |        | 15,700  |
| 3                 | D2   | 15    |        | 15,715  |
| 12                | D2   | 25    |        | 15,740  |
| 28                | S3   |       | 1,500  | 14,240  |
| 28                | R2   |       | 12,550 | 1,690   |
| 28                | P1   | 1,150 |        | 2,840   |
| 28                | D2   |       | 13     | 2,827   |

| Accounts Payable No. 201 |    |       |        |         |
|--------------------------|----|-------|--------|---------|
| Date                     | PR | Debit | Credit | Balance |
| Feb. 28                  | P1 |       | 1,325  | 1,325   |
| 28                       | D2 | 650   |        | 675     |

| Salaries Expense No. 622 |    |       |        |         |
|--------------------------|----|-------|--------|---------|
| Date                     | PR | Debit | Credit | Balance |
| Feb. 15                  | D2 | 250   |        | 250     |

| Accounts Payable Ledger        |    |       |        |         |
|--------------------------------|----|-------|--------|---------|
| Company Name: Ace Mfg. Company |    |       |        |         |
| Date                           | PR | Debit | Credit | Balance |
| Feb. 5                         | P1 |       | 200    | 200     |
| 15                             | D2 | 200   |        | 0       |
| 25                             | P1 |       | 100    | 100     |

| Company Name: Horning Supply Company |    |       |        |         |
|--------------------------------------|----|-------|--------|---------|
| Date                                 | PR | Debit | Credit | Balance |
| Feb. 3                               | P1 |       | 350    | 350     |

| Company Name: ITT Company |    |       |        |         |
|---------------------------|----|-------|--------|---------|
| Date                      | PR | Debit | Credit | Balance |
| Feb. 28                   | P1 |       | 225    | 225     |

| Company Name: Smite Company |    |       |        |         |
|-----------------------------|----|-------|--------|---------|
| Date                        | PR | Debit | Credit | Balance |
| Feb. 20                     | P1 |       | 300    | 300     |
| 28                          | D2 | 300   |        | 0       |

| Company Name: Wynet & Company |    |       |        |         |
|-------------------------------|----|-------|--------|---------|
| Date                          | PR | Debit | Credit | Balance |
| Feb. 13                       | P1 |       | 150    | 150     |
| 20                            | D2 | 150   |        | 0       |

**EXHIBIT E.11**

Cash Disbursements Journal with Posting\*

Individual amounts in the Other Accounts Dr. column and the Accounts Payable Dr. column are posted immediately.

Column totals, except for Other Accounts column, are posted at the end of the period.

\*The Cash Disbursements Journal in a *periodic* system replaces "Inventory Cr." with "Purchases Discounts Cr." (see Exhibit E-A.4).

## General Journal Transactions

When special journals are used, we still need a general journal for adjusting, closing, and any other transactions for which no special journal has been set up. Examples of these other transactions might include purchases returns and allowances, purchases of plant assets by issuing a note payable, sales returns if a sales returns and allowances journal is not used, and receipt of a note receivable from a customer. We described the recording of transactions in a general journal in Chapters 2 and 3.

### Quick Check

Answers — p. E-27



- What are the normal recording and posting procedures when using special journals and controlling accounts with subsidiary ledgers?
- What is the process for posting to a subsidiary ledger and its controlling account?
- How do we prove the accuracy of account balances in the general ledger and subsidiary ledgers after posting?
- Why does a company need a general journal when using special journals for sales, purchases, cash receipts, and cash disbursements?



## TECHNOLOGY-BASED ACCOUNTING SYSTEMS

Accounting information systems are supported with technology, which can range from simple calculators to advanced computerized systems. Since technology is increasingly important in accounting information systems, we discuss the impact of computer technology, how data processing works with accounting data, and the role of computer networks.

### Computer Technology in Accounting

Computer technology provides accuracy, speed, efficiency, and convenience in performing accounting tasks. A program can be written, for instance, to process customers' merchandise orders. Multipurpose off-the-shelf software applications exist for a variety of business operations. These include familiar accounting programs such as Peachtree and QuickBooks. Off-the-shelf programs are designed to be user friendly and menu driven, and many operate more efficiently as *integrated* systems. In an integrated system, actions taken in one part of the system automatically affect related parts. When a credit sale is recorded in an integrated system, for instance, several parts of the system are automatically updated, such as posting.

Computer technology can dramatically reduce the time and effort devoted to recordkeeping. Less effort spent on recordkeeping means more time for accounting professionals to concentrate on analysis and managerial decision making. These advances have created a greater demand for accounting professionals who understand financial reports and can draw insights and information from mountains of processed data. Accounting professionals have expertise in determining relevant and reliable information for decision making. They also can assess the effects of transactions and events on a company and its financial statements.

**Point:** Companies that have reported missing or stolen employee data such as Social Security numbers include Time Warner, Polo Ralph Lauren, Lexis/Nexis, ChoicePoint, and DSW Shoes.

#### Decision Insight



*Middleware* is software allowing different computer programs in a company or across companies to work together. It allows transfer of purchase orders, invoices, and other electronic documents between accounting systems. For example, suppliers can monitor inventory levels of their buyers for production and shipping purposes. ■



### Data Processing in Accounting

Accounting systems differ with regard to how input is entered and processed. **Online processing** enters and processes data as soon as source documents are available. This means that databases are immediately updated. **Batch processing** accumulates source documents for a period of time and then processes them all at once such as daily, weekly, or monthly. The advantage of online processing is timeliness. This often requires additional costs related to both software and hardware requirements. Companies such as **Intuit (Intuit.com)** are making online processing of accounting data a reality for many businesses. The advantage of batch processing is that it requires only periodic updating of databases. Records used to send bills to customers, for instance, might require updating only once a month. The disadvantage of batch processing is the lack of updated databases for management to use when making business decisions.

### Computer Networks in Accounting

Networking, or linking computers with each other, can create information advantages (and cost efficiencies). **Computer networks** are links among computers giving different users and different computers access to common databases, programs, and hardware. Many college computer labs, for instance, are networked. A small computer network is called a *local area network (LAN)*; it links machines with *hard-wire* hookups. Large computer networks extending over long distances often rely on *modem* or *wireless* communication.

Demand for information sometimes requires advanced networks such as the systems **Federal Express** and **UPS** use to track packages and bill customers and the system **Walmart** uses to



monitor inventory levels in its stores. These networks include many computers and satellite communications to gather information and to provide ready access to its databases from all locations.

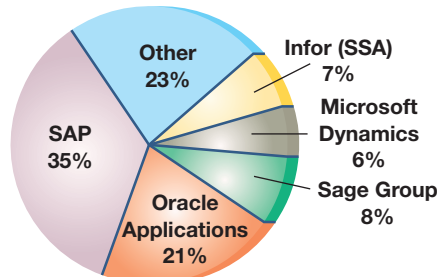
## Enterprise Resource Planning Software

**Enterprise resource planning (ERP) software** includes the programs that manage a company's vital operations. They extend from order taking to manufacturing to accounting. When working properly, these integrated programs can speed decision making, identify costs for reduction, and give managers control over operations with the click of a mouse. For many managers, ERP software allows them to scrutinize business, identify where inventories are piling up, and see what plants are most efficient. The software is designed to link every part of a company's operations. This software allowed **Monsanto** to slash production planning from six weeks to three, trim its inventories, and increase its bargaining power with suppliers. Monsanto estimates that this software saves the company \$200 million per year.

ERP has several suppliers. **SAP** leads the market, with **Oracle**, which gobbled up PeopleSoft and J. D. Edwards, a distant second (*AMR Research*). SAP software is used by more than half of the world's 500 largest companies. It links ordering, inventory, production, purchasing, planning, tracking, and human resources. A transaction or event triggers an immediate chain reaction of events throughout the enterprise. It is making companies more efficient and profitable.

ERP is pushing into cyberspace and customer relationship management (CRM). Now companies can share data with customers and suppliers. Applesauce maker **Mott's** is using SAP so that distributors can check the status of orders and place them over the Net, and the **Coca-Cola Company** uses it to ship soda on time. ERP is also increasingly used by small business. For example, **NetSuite's** accounting services to small and medium businesses are powered by Oracle's system.

Total ERP Market: About \$30 Billion



### Decision Insight



A new generation of accounting support is available. With the touch of a key, users can create real-time inventory reports showing all payments, charges, and credit limits at any point in the accounting cycle. Many services also include "alert signals" notifying the company when, for example, a large order exceeds a customer's credit limit or when purchases need to be made or when a bank balance is running low. These alerts occur via e-mail, fax, PDA, or phone. ■

### Quick Check

Answers — p. E-27



14. Identify an advantage of an integrated computer-based accounting system.
15. What advantages do computer systems offer over manual systems?
16. Identify an advantage of computer networks.
17. Describe ERP software and its potential advantages to businesses.



## GLOBAL VIEW

This section discusses similarities and differences between U.S. GAAP and IFRS regarding system principles and components, and special journals.

**System Principles and Components** Both U.S. GAAP and IFRS aim for high-quality financial reporting. That aim implies that sound information system principles and components are applied worldwide.

However, while system principles and components are fundamentally similar across the globe, culture and other realities often mean different emphases are placed on the mix of system controls. **Nokia** provides the following description of its system controls:



Nokia's disclosure controls and procedures . . . are designed to provide reasonable assurance regarding the quality and integrity of the company's financial statements and related disclosures.

**Special Journals** Accounting systems for recording sales, purchases, cash receipts, and cash disbursements are similar worldwide. Although the exact structure of special journals is unique to each company, the basic structure is identical. Companies desire to apply accounting in an efficient manner. Accordingly, systems that employ special journals are applied worldwide.



**Decision Analysis** ■ ■ ■

Segment Return on Assets

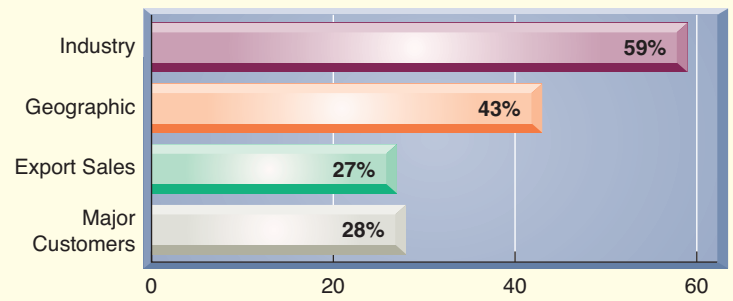
**A1** Compute segment return on assets and use it to evaluate segment performance.

Good accounting information systems collect financial data for a company's various segments. A *segment* refers to a part of a company that is separately identified by its products or services, or by the geographic market it serves. **Callaway Golf Company** reports that it operates in two business segments: (1) golf clubs and (2) golf balls. Users of financial statements are especially interested in segment information to better understand a company's activities because segments often vary on profitability, risk, and growth.

Companies must report segment information, including their sales, operating income, identifiable assets, capital expenditures, and depreciation. However, managers are reluctant to release information that can harm competitive position. Exhibit E.12 shows survey results on the number of companies with different (reported) segments.

**EXHIBIT E.12**

Companies Reporting Operations by Types of Segments\*



\*Total exceeds 100% because companies can report more than one segment.

One measure of success for business segments is the **segment return on assets** ratio defined as follows.

$$\text{Segment return on assets} = \frac{\text{Segment operating income}}{\text{Segment average assets}}$$

**EXHIBIT E.13**

Callaway Golf's Segment Return on Assets

This ratio reflects on the profitability of a segment. Exhibit E.13 shows the segments' operating income, average assets, and return on assets for Callaway Golf Company.

| Golf Segment*<br>(\$ thousands) | 2009      |            | 2008      |           | 2007      |           | 2006      |           |
|---------------------------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                 | Clubs     | Balls      | Clubs     | Balls     | Clubs     | Balls     | Clubs     | Balls     |
| Operating income . . . . .      | \$ 38,934 | \$(13,864) | \$134,018 | \$ 6,903  | \$151,759 | \$ 902    | \$101,837 | \$(6,396) |
| Average assets . . . . .        | \$406,835 | \$129,796  | \$429,170 | \$146,855 | \$413,352 | \$140,730 | \$419,212 | \$152,282 |
| Segment return on assets . . .  | 10%       | n.a.       | 31%       | 5%        | 37%       | 1%        | 24%       | n.a.      |

\* A segment's operating income is usually measured as pretax income, and assets is usually measured as identifiable assets.





The trend in Callaway's segment return on assets is up-and-down for its golf club segment, and similarly mixed for its golf balls segment. Importantly, its golf clubs segment makes up a much greater portion of its operations; for example, 2008 income of \$134,018 from golf clubs make up 95% of its total income of \$140,921 from both segments. Callaway should continue investments in its golf club segment vis-a-vis its golf balls segment given the greater returns and larger total income from that segment. Analysis can also be extended to geographical segments and any other segments that companies report.

### Decision Maker

Answer — p. E-27



**Banker** A bicycle merchandiser requests a loan from you to expand operations. Its net income is \$220,000, reflecting a 10% increase over the prior year. You ask about segment results. The owner reports that \$160,000 of net income is from Cuban operations, reflecting a 60% increase over the prior year. The remaining \$60,000 of net income is from U.S. operations, reflecting a 40% decrease. Does this segment information impact your loan decision? ■

## DEMONSTRATION PROBLEM—PERPETUAL SYSTEM

Pepper Company completed the following selected transactions and events during March of this year. (Terms of all credit sales for the company are 2/10, n/30.)

- Mar. 4 Sold merchandise on credit to Jennifer Nelson, Invoice No. 954, for \$16,800 (cost is \$12,200).
- 6 Purchased \$1,220 of office supplies on credit from Mack Company. Invoice dated March 3, terms n/30.
- 6 Sold merchandise on credit to Dennie Hoskins, Invoice No. 955, for \$10,200 (cost is \$8,100).
- 11 Purchased \$52,600 of merchandise, invoice dated March 6, terms 2/10, n/30, from Defore Industries.
- 12 Borrowed \$26,000 cash by giving Commerce Bank a long-term promissory note payable.
- 14 Received cash payment from Jennifer Nelson for the March 4 sale less the discount (Invoice No. 954).
- 16 Received a \$200 credit memorandum from Defore Industries for unsatisfactory merchandise Pepper purchased on March 11 and later returned.
- 16 Received cash payment from Dennie Hoskins for the March 6 sale less the discount (Invoice No. 955).
- 18 Purchased \$22,850 of store equipment on credit from Schmidt Supply, invoice dated March 15, terms n/30.
- 20 Sold merchandise on credit to Marjorie Allen, Invoice No. 956, for \$5,600 (cost is \$3,800).
- 21 Sent Defore Industries Check No. 516 in payment of its March 6 dated invoice less the return and the discount.
- 22 Purchased \$41,625 of merchandise, invoice dated March 18, terms 2/10, n/30, from Welch Company.
- 26 Issued a \$600 credit memorandum to Marjorie Allen for defective merchandise Pepper sold on March 20 and Allen later returned.
- 31 Issued Check No. 517, payable to Payroll, in payment of \$15,900 sales salaries for the month. Cashed the check and paid the employees.
- 31 Cash sales for the month are \$134,680 (cost is \$67,340). (Cash sales are recorded daily but are recorded only once here to reduce repetitive entries.)

### Required

1. Open the following selected general ledger accounts: Cash (101), Accounts Receivable (106) Inventory (119), Office Supplies (124), Store Equipment (165), Accounts Payable (201), Long-Term Notes Payable (251), Sales (413), Sales Returns and Allowances (414), Sales Discounts (415), Cost of Goods Sold (502), and Sales Salaries Expense (621). Open the following accounts receivable ledger accounts: Marjorie Allen, Dennie Hoskins, and Jennifer Nelson. Open the following accounts payable ledger accounts: Defore Industries, Mack Company, Schmidt Supply, and Welch Company.
2. Enter the transactions using a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal similar to the ones illustrated in the appendix. Regularly post to the individual customer and creditor accounts. Also, post any amounts that should be posted as individual amounts to general ledger accounts. Foot and crossfoot the journals and make the month-end postings. *Pepper Co. uses the perpetual inventory system.*



- Prepare a trial balance for the selected general ledger accounts in part 1 and prove the accuracy of subsidiary ledgers by preparing schedules of accounts receivable and accounts payable.

### PLANNING THE SOLUTION

- Set up the required general ledger, the subsidiary ledger accounts, and the five required journals as illustrated in the appendix.
- Read and analyze each transaction and decide in which special journal (or general journal) the transaction is recorded.
- Record each transaction in the proper journal (and post the appropriate individual amounts).
- Once you have recorded all transactions, total the journal columns. Post from each journal to the appropriate ledger accounts.
- Prepare a trial balance to prove the equality of the debit and credit balances in your general ledger.
- Prepare schedules of accounts receivable and accounts payable. Compare the totals of these schedules to the Accounts Receivable and Accounts Payable controlling account balances, making sure that they agree.

### SOLUTION TO DEMONSTRATION PROBLEM—PERPETUAL SYSTEM

| Date   | Account Debited | Invoice Number | PR | Accounts Receivable Dr.<br>Sales Cr. | Cost of Goods Sold Dr.<br>Inventory Cr. |
|--------|-----------------|----------------|----|--------------------------------------|---|
| Mar. 4 | Jennifer Nelson | 954            | ✓  | 16,800                               | 12,200                                  |
| 6      | Dennie Hoskins  | 955            | ✓  | 10,200                               | 8,100                                   |
| 20     | Marjorie Allen  | 956            | ✓  | 5,600                                | 3,800                                   |
| 31     | Totals          |                |    | 32,600                               | 24,100                                  |
|        |                 |                |    | (106/413)                            | (502/119)                               |

| Date    | Account Credited   | Explanation      | PR  | Cash Dr. | Sales Discount Dr. | Accounts Receivable Cr. | Sales Cr. | Other Accounts Cr. | Cost of Goods Sold Dr.<br>Inventory Cr. |
|---------|--------------------|------------------|-----|----------|--------------------|-------------------------|-----------|--------------------|---|
| Mar. 12 | L.T. Notes Payable | Note to bank     | 251 | 26,000   |                    |                         |           | 26,000             |   |
| 14      | Jennifer Nelson    | Invoice 954, 3/4 | ✓   | 16,464   | 336                | 16,800                  |           |                    |   |
| 16      | Dennie Hoskins     | Invoice 955, 3/6 | ✓   | 9,996    | 204                | 10,200                  |           |                    |   |
| 31      | Sales              | Cash sales       | x   | 134,680  |                    |                         | 134,680   |                    | 67,340                                  |
| 31      | Totals             |                  |     | 187,140  | 540                | 27,000                  | 134,680   | 26,000             | 67,340                                  |
|         |                    |                  |     | (101)    | (415)              | (106)                   | (413)     | (x)                | (502/119)                               |

| Date   | Account                      | Date of Invoice | Terms      | PR    | Accounts Payable Cr. | Inventory Dr. | Office Supplies Dr. | Other Accounts Dr. |
|--------|------------------------------|-----------------|------------|-------|----------------------|---------------|---------------------|--------------------|
| Mar. 6 | Office Supplies/Mack Co      | 3/3             | n/30       | ✓     | 1,220                |               | 1,220               |                    |
| 11     | Defore Industries            | 3/6             | 2/10, n/30 | ✓     | 52,600               | 52,600        |                     |                    |
| 18     | Store Equipment/Schmidt Supp | 3/15            | n/30       | 165/✓ | 22,850               |               |                     | 22,850             |
| 22     | Welch Company                | 3/18            | 2/10, n/30 | ✓     | 41,625               | 41,625        |                     |                    |
| 31     | Totals                       |                 |            |       | 118,295              | 94,225        | 1,220               | 22,850             |
|        |                              |                 |            |       | (201)                | (119)         | (124)               | (x)                |

| Date    | Ck. No. | Payee             | Account Debited        | PR  | Cash Cr. | Inventory Cr. | Other Accounts Dr. | Accounts Payable Dr. |
|---------|---------|-------------------|------------------------|-----|----------|---------------|--------------------|----------------------|
| Mar. 21 | 516     | Defore Industries | Defore Industries      | ✓   | 51,352   | 1,048         |                    | 52,400               |
| 31      | 517     | Payroll           | Sales Salaries Expense | 621 | 15,900   |               | 15,900             |                      |
| 31      | Totals  |                   |                        |     | 67,252   | 1,048         | 15,900             | 52,400               |
|         |         |                   |                        |     | (101)    | (119)         | (x)                | (201)                |

|         |  |       |     |     |
|---------|--|-------|-----|-----|
| Mar. 16 | Accounts Payable—Defore Industries           | 201/✓ | 200 |     |
|         | Inventory                                    | 119   |     | 200 |
|         | <i>To record credit memorandum received.</i> |       |     |     |
| 26      | Sales Returns and Allowances                 | 414   | 600 |     |
|         | Accounts Receivable—Marjorie Allen           | 106/✓ |     | 600 |
|         | <i>To record credit memorandum issued.</i>   |       |     |     |



## Accounts Receivable Ledger

## Marjorie Allen

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 20 | S2 | 5,600 |        | 5,600   |
| 26      | G2 |       | 600    | 5,000   |

## Dennie Hoskins

| Date   | PR | Debit  | Credit | Balance |
|--------|----|--------|--------|---------|
| Mar. 6 | S2 | 10,200 |        | 10,200  |
| 16     | R3 |        | 10,200 | 0       |

## Jennifer Nelson

| Date   | PR | Debit  | Credit | Balance |
|--------|----|--------|--------|---------|
| Mar. 4 | S2 | 16,800 |        | 16,800  |
| 14     | R3 |        | 16,800 | 0       |

## Accounts Payable Ledger

## Defore Industries

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 11 | P3 |        | 52,600 | 52,600  |
| 16      | G2 | 200    |        | 52,400  |
| 21      | D3 | 52,400 |        | 0       |

## Mack Company

| Date   | PR | Debit | Credit | Balance |
|--------|----|-------|--------|---------|
| Mar. 6 | P3 |       | 1,220  | 1,220   |

## Schmidt Supply

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 18 | P3 |       | 22,850 | 22,850  |

## Welch Company

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 22 | P3 |       | 41,625 | 41,625  |

## General Ledger (Partial Listing)

## Cash Acct. No. 101

| Date    | PR | Debit   | Credit | Balance |
|---------|----|---------|--------|---------|
| Mar. 31 | R3 | 187,140 |        | 187,140 |
| 31      | D3 |         | 67,252 | 119,888 |

## Accounts Receivable Acct. No. 106

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 26 | G2 |        | 600    | (600)   |
| 31      | S2 | 32,600 |        | 32,000  |
| 31      | R3 |        | 27,000 | 5,000   |

## Inventory Acct. No. 119

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 16 | G2 |        | 200    | (200)   |
| 21      | D3 |        | 1,048  | (1,248) |
| 31      | P3 | 94,225 |        | 92,977  |
| 31      | S2 |        | 24,100 | 68,877  |
| 31      | R3 |        | 67,340 | 1,537   |

## Office Supplies Acct. No. 124

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 31 | P3 | 1,220 |        | 1,220   |

## Store Equipment Acct. No. 165

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 18 | P3 | 22,850 |        | 22,850  |

## Accounts Payable Acct. No. 201

| Date    | PR | Debit  | Credit  | Balance |
|---------|----|--------|---------|---------|
| Mar. 16 | G2 | 200    |         | (200)   |
| 31      | P3 |        | 118,295 | 118,095 |
| 31      | D3 | 52,400 |         | 65,695  |

## Long-Term Notes Payable Acct. No. 251

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 12 | R3 |       | 26,000 | 26,000  |

## Sales Acct. No. 413

| Date    | PR | Debit | Credit  | Balance |
|---------|----|-------|---------|---------|
| Mar. 31 | S2 |       | 32,600  | 32,600  |
| 31      | R3 |       | 134,680 | 167,280 |

## Sales Returns and Allowances Acct. No. 414

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 26 | G2 | 600   |        | 600     |

## Sales Discounts Acct. No. 415

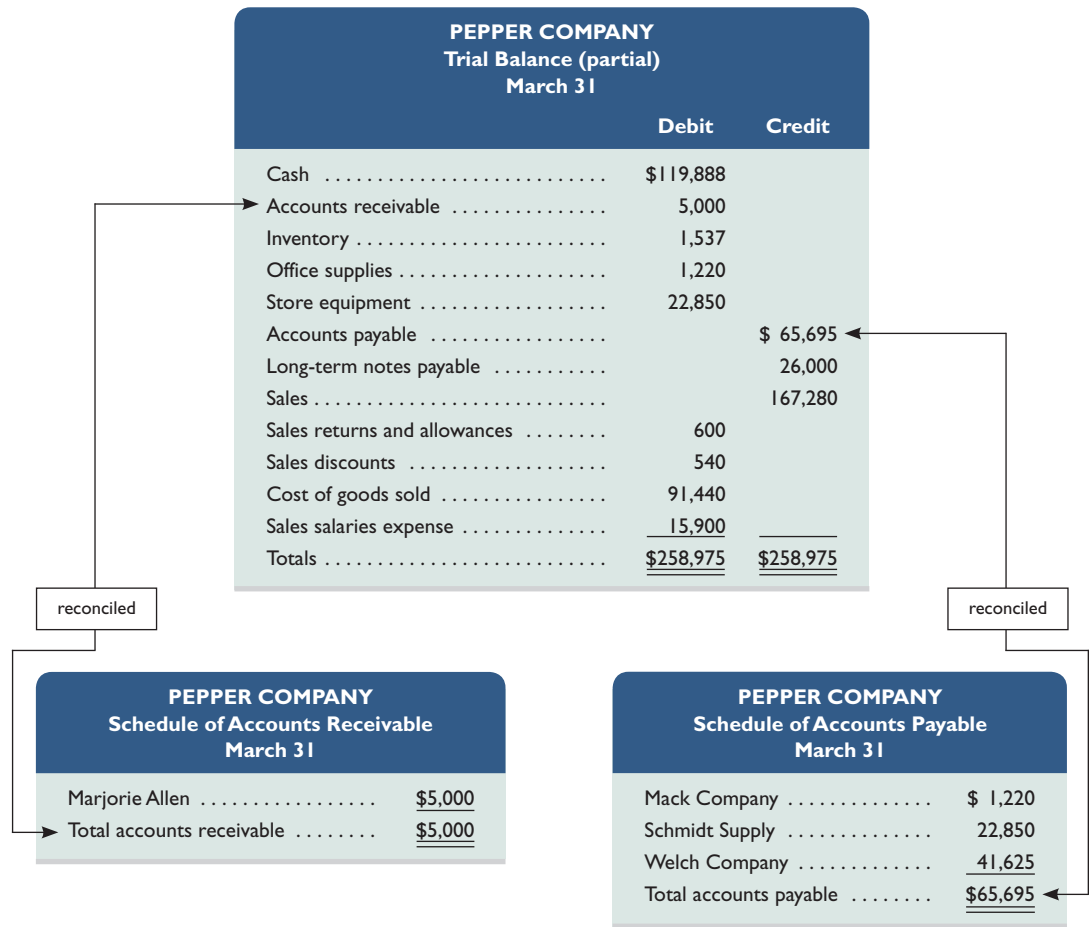
| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 31 | R3 | 540   |        | 540     |

## Cost of Goods Sold Acct. No. 502

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 31 | R3 | 67,340 |        | 67,340  |
| 31      | S2 | 24,100 |        | 91,440  |

## Sales Salaries Expense Acct. No. 621

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 31 | D3 | 15,900 |        | 15,900  |



**APPENDIX**

**E-A**

# Special Journals under a Periodic System

**P3** Journalize and post transactions using special journals in a periodic inventory system.

This appendix describes special journals under a periodic inventory system. Each journal is slightly impacted. The sales journal and the cash receipts journal both require one less column (namely that of Cost of Goods Sold Dr., Inventory Cr.). The Purchases Journal replaces the Inventory Dr. column with a Purchases Dr. column in a periodic system. The cash disbursements journal replaces the Inventory Cr. column with a Purchases Discounts Cr. column in a periodic system. These changes are illustrated.

**Sales Journal** The sales journal using the periodic inventory system is shown in Exhibit E-A.1. The difference in the sales journal between the perpetual and periodic system is the exclusion of the column to record cost of goods sold and inventory amounts for each sale. The periodic system does *not* record the increase in cost of goods sold and the decrease in inventory at the time of each sale.

**EXHIBIT E-A.1**

Sales Journal—Periodic System

| Date   | Account Debited | Invoice Number | PR | Accounts Receivable Dr.<br>Sales Cr. |
|--------|-----------------|----------------|----|--------------------------------------|
| Feb. 2 | Jason Henry     | 307            | ✓  | 450                                  |
| 7      | Albert Co.      | 308            | ✓  | 500                                  |
| 13     | Kam Moore       | 309            | ✓  | 350                                  |
| 15     | Paul Roth       | 310            | ✓  | 200                                  |
| 22     | Jason Henry     | 311            | ✓  | 225                                  |
| 25     | Frank Booth     | 312            | ✓  | 175                                  |
| 28     | Albert Co.      | 313            | ✓  | 250                                  |
| 28     | Total           |                |    | 2,150                                |
|        |                 |                |    | (106/413)                            |



**Cash Receipts Journal** The cash receipts journal using the periodic system is shown in Exhibit E-A.2. Note the absence of the column on the far right side to record debits to Cost of Goods Sold and credits to Inventory for the cost of merchandise sold (seen under the perpetual system). Consistent with the cash receipts journal shown in Exhibit E.7, we show only the weekly (summary) cash sale entries.

**EXHIBIT E-A.2**Cash Receipts Journal—  
Periodic System

| Cash Receipts Journal |                  |                   |     |          |                    |                         |           |                    | Page 2 |
|-----------------------|------------------|-------------------|-----|----------|--------------------|-------------------------|-----------|--------------------|--------|
| Date                  | Account Credited | Explanation       | PR  | Cash Dr. | Sales Discount Dr. | Accounts Receivable Cr. | Sales Cr. | Other Accounts Cr. |        |
| Feb. 7                | Sales            | Cash sales        | x   | 4,450    |                    |                         | 4,450     |                    |        |
| 12                    | Jason Henry      | Invoice 307, 2/2  | ✓   | 441      | 9                  | 450                     |           |                    |        |
| 14                    | Sales            | Cash sales        | x   | 3,925    |                    |                         | 3,925     |                    |        |
| 17                    | Albert Co.       | Invoice 308, 2/7  | ✓   | 490      | 10                 | 500                     |           |                    |        |
| 20                    | Notes Payable    | Note to bank      | 245 | 750      |                    |                         |           | 750                |        |
| 21                    | Sales            | Cash sales        | x   | 4,700    |                    |                         | 4,700     |                    |        |
| 22                    | Interest revenue | Bank account      | 409 | 250      |                    |                         |           | 250                |        |
| 23                    | Kam Moore        | Invoice 309, 2/13 | ✓   | 343      | 7                  | 350                     |           |                    |        |
| 25                    | Paul Roth        | Invoice 310, 2/15 | ✓   | 196      | 4                  | 200                     |           |                    |        |
| 28                    | Sales            | Cash sales        | x   | 4,225    |                    |                         | 4,225     |                    |        |
| 28                    | Totals           |                   |     | 19,770   | 30                 | 1,500                   | 17,300    | 1,000              |        |
|                       |                  |                   |     | (101)    | (415)              | (106)                   | (413)     | (x)                |        |

**Purchases Journal** The purchases journal using the periodic system is shown in Exhibit E-A.3. This journal under a perpetual system included an Inventory column where the periodic system now has a Purchases column.

**EXHIBIT E-A.3**

Purchases Journal—Periodic System

| Purchases Journal |                        |                 |            |       |                      |               |                     |                    | Page 1 |
|-------------------|------------------------|-----------------|------------|-------|----------------------|---------------|---------------------|--------------------|--------|
| Date              | Account                | Date of Invoice | Terms      | PR    | Accounts Payable Cr. | Purchases Dr. | Office Supplies Dr. | Other Accounts Dr. |        |
| Feb. 3            | Horning Supply Co.     | 2/2             | n/30       | ✓     | 350                  | 275           | 75                  |                    |        |
| 5                 | Ace Mfg. Co.           | 2/5             | 2/10, n/30 | ✓     | 200                  | 200           |                     |                    |        |
| 13                | Wynet and Co.          | 2/10            | 2/10, n/30 | ✓     | 150                  | 150           |                     |                    |        |
| 20                | Smite Co.              | 2/18            | 2/10, n/30 | ✓     | 300                  | 300           |                     |                    |        |
| 25                | Ace Mfg. Co.           | 2/24            | 2/10, n/30 | ✓     | 100                  | 100           |                     |                    |        |
| 28                | Store Supplies/ITT Co. | 2/28            | n/30       | 125/✓ | 225                  | 125           | 25                  | 75                 |        |
| 28                | Totals                 |                 |            |       | 1,325                | 1,150         | 100                 | 75                 |        |
|                   |                        |                 |            |       | (201)                | (505)         | (124)               | (x)                |        |

**Cash Disbursements Journal** The cash disbursements journal using a periodic system is shown in Exhibit E-A.4. This journal under the perpetual system included an Inventory column where the periodic system now has the Purchases Discounts column.

**EXHIBIT E-A.4**Cash Disbursements  
Journal—Periodic System

| Cash Disbursements Journal |         |                    |                  |     |          |                         |                    |                      | Page 2 |
|----------------------------|---------|--------------------|------------------|-----|----------|-------------------------|--------------------|----------------------|--------|
| Date                       | Ck. No. | Payee              | Account Debited  | PR  | Cash Cr. | Purchases Discounts Cr. | Other Accounts Dr. | Accounts Payable Dr. |        |
| Feb. 3                     | 105     | L. and N. Railroad | Purchases        | 505 | 15       |                         | 15                 |                      |        |
| 12                         | 106     | East Sales Co.     | Purchases        | 505 | 25       |                         | 25                 |                      |        |
| 15                         | 107     | Ace Mfg. Co.       | Ace Mfg. Co.     | ✓   | 196      | 4                       |                    | 200                  |        |
| 15                         | 108     | Jerry Hale         | Salaries Expense | 622 | 250      |                         | 250                |                      |        |
| 20                         | 109     | Wynet and Co.      | Wynet and Co.    | ✓   | 147      | 3                       |                    | 150                  |        |
| 28                         | 110     | Smite Co.          | Smite Co.        | ✓   | 294      | 6                       |                    | 300                  |        |
| 28                         |         | Totals             |                  |     | 927      | 13                      | 290                | 650                  |        |
|                            |         |                    |                  |     | (101)    | (507)                   | (x)                | (201)                |        |

**DEMONSTRATION PROBLEM—PERIODIC SYSTEM**

Refer to Pepper Company's selected transactions described under the Demonstration Problem—Perpetual System to fulfill the following requirements.

**Required**

- Open the following selected general ledger accounts: Cash (101), Accounts Receivable (106), Office Supplies (124), Store Equipment (165), Accounts Payable (201), Long-Term Notes Payable (251), Sales (413), Sales Returns and Allowances (414), Sales Discounts (415), Purchases (505), Purchases





Returns and Allowances (506), Purchases Discounts (507), and Sales Salaries Expense (621). Open the following accounts receivable ledger accounts: Marjorie Allen, Dennie Hoskins, and Jennifer Nelson. Open the following accounts payable ledger accounts: Defore Industries, Mack Company, Schmidt Supply, and Welch Company.

- Enter the transactions using a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal similar to the ones illustrated in Appendix E-A. Regularly post to the individual customer and creditor accounts. Also, post any amounts that should be posted as individual amounts to general ledger accounts. Foot and crossfoot the journals and make the month-end postings. *Pepper Co. uses the periodic inventory system in this problem.*
- Prepare a trial balance for the selected general ledger accounts in part 1 and prove the accuracy of subsidiary ledgers by preparing schedules of accounts receivable and accounts payable.

### SOLUTION TO DEMONSTRATION PROBLEM—PERIODIC SYSTEM

| Date   | Account Debited | Invoice Number | PR | Accounts Receivable Dr.<br>Sales Cr. |
|--------|-----------------|----------------|----|--------------------------------------|
| Mar. 4 | Jennifer Nelson | 954            | ✓  | 16,800                               |
| 6      | Dennie Hoskins  | 955            | ✓  | 10,200                               |
| 20     | Marjorie Allen  | 956            | ✓  | 5,600                                |
| 31     | Totals          |                |    | <u>32,600</u>                        |
|        |                 |                |    | (106/413)                            |

| Date    | Account Credited   | Explanation      | PR  | Cash Dr.       | Sales Discount Dr. | Accounts Receivable Cr. | Sales Cr.      | Other Accounts Cr. |
|---------|--------------------|------------------|-----|----------------|--------------------|-------------------------|----------------|--------------------|
| Mar. 12 | L.T. Notes Payable | Note to bank     | 251 | 26,000         |                    |                         |                | 26,000             |
| 14      | Jennifer Nelson    | Invoice 954, 3/4 | ✓   | 16,464         | 336                | 16,800                  |                |                    |
| 16      | Dennie Hoskins     | Invoice 955, 3/6 | ✓   | 9,996          | 204                | 10,200                  |                |                    |
| 31      | Sales              | Cash sales       | x   | 134,680        |                    |                         | 134,680        |                    |
| 31      | Totals             |                  |     | <u>187,140</u> | <u>540</u>         | <u>27,000</u>           | <u>134,680</u> | <u>26,000</u>      |
|         |                    |                  |     | (101)          | (415)              | (106)                   | (413)          | (x)                |

| Date   | Account                      | Date of Invoice | Terms      | PR    | Accounts Payable Cr. | Purchases Dr. | Office Supplies Dr. | Other Accounts Dr. |
|--------|------------------------------|-----------------|------------|-------|----------------------|---------------|---------------------|--------------------|
| Mar. 6 | Office Supplies/Mack Co      | 3/3             | n/30       | ✓     | 1,220                |               | 1,220               |                    |
| 11     | Defore Industries            | 3/6             | 2/10, n/30 | ✓     | 52,600               | 52,600        |                     |                    |
| 18     | Store Equipment/Schmidt Supp | 3/15            | n/30       | 165/✓ | 22,850               |               |                     | 22,850             |
| 22     | Welch Company                | 3/18            | 2/10, n/30 | ✓     | 41,625               | 41,625        |                     |                    |
| 31     | Totals                       |                 |            |       | <u>118,295</u>       | <u>94,225</u> | <u>1,220</u>        | <u>22,850</u>      |
|        |                              |                 |            |       | (201)                | (505)         | (124)               | (x)                |

| Date    | Ck. No. | Payee             | Account Debited        | PR  | Cash Cr.      | Purchases Discount Cr. | Other Accounts Dr. | Accounts Payable Dr. |
|---------|---------|-------------------|------------------------|-----|---------------|------------------------|--------------------|----------------------|
| Mar. 21 | 516     | Defore Industries | Defore Industries      | ✓   | 51,352        | 1,048                  |                    | 52,400               |
| 31      | 517     | Payroll           | Sales Salaries Expense | 621 | 15,900        |                        | 15,900             |                      |
| 31      |         | Totals            |                        |     | <u>67,252</u> | <u>1,048</u>           | <u>15,900</u>      | <u>52,400</u>        |
|         |         |                   |                        |     | (101)         | (507)                  | (x)                | (201)                |

|         |  |       |     |     |
|---------|--|-------|-----|-----|
| Mar. 16 | Accounts Payable—Defore Industries . . . . . | 201/✓ | 200 |     |
|         | Purchases Returns and Allowances . . . . .   | 506   |     | 200 |
|         | <i>To record credit memorandum received.</i> |       |     |     |
| 26      | Sales Returns and Allowances . . . . .       | 414   | 600 |     |
|         | Accounts Receivable—Marjorie Allen . . . . . | 106/✓ |     | 600 |
|         | <i>To record credit memorandum issued.</i>   |       |     |     |



## Accounts Receivable Ledger

## Marjorie Allen

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 20 | S2 | 5,600 |        | 5,600   |
| 26      | G2 |       | 600    | 5,000   |

## Dennie Hoskins

| Date   | PR | Debit  | Credit | Balance |
|--------|----|--------|--------|---------|
| Mar. 6 | S2 | 10,200 |        | 10,200  |
| 16     | R3 |        | 10,200 | 0       |

## Jennifer Nelson

| Date   | PR | Debit  | Credit | Balance |
|--------|----|--------|--------|---------|
| Mar. 4 | S2 | 16,800 |        | 16,800  |
| 14     | R3 |        | 16,800 | 0       |

## Accounts Payable Ledger

## Defore Industries

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 11 | P3 |        | 52,600 | 52,600  |
| 16      | G2 | 200    |        | 52,400  |
| 21      | D3 | 52,400 |        | 0       |

## Mack Company

| Date   | PR | Debit | Credit | Balance |
|--------|----|-------|--------|---------|
| Mar. 6 | P3 |       | 1,220  | 1,220   |

## Schmidt Supply

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 18 | P3 |       | 22,850 | 22,850  |

## Welch Company

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 22 | P3 |       | 41,625 | 41,625  |

## General Ledger (Partial Listing)

## Cash Acct. No. 101

| Date    | PR | Debit   | Credit | Balance |
|---------|----|---------|--------|---------|
| Mar. 31 | R3 | 187,140 |        | 187,140 |
| 31      | D3 |         | 67,252 | 119,888 |

## Accounts Receivable Acct. No. 106

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 26 | G2 |        | 600    | (600)   |
| 31      | S2 | 32,600 |        | 32,000  |
| 31      | R3 |        | 27,000 | 5,000   |

## Office Supplies Acct. No. 124

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 31 | P3 | 1,220 |        | 1,220   |

## Store Equipment Acct. No. 165

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 18 | P3 | 22,850 |        | 22,850  |

## Accounts Payable Acct. No. 201

| Date    | PR | Debit  | Credit  | Balance |
|---------|----|--------|---------|---------|
| Mar. 16 | G2 | 200    |         | (200)   |
| 31      | P3 |        | 118,295 | 118,095 |
| 31      | D3 | 52,400 |         | 65,695  |

## Long-Term Notes Payable Acct. No. 251

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 12 | R3 |       | 26,000 | 26,000  |

## Sales Acct. No. 413

| Date    | PR | Debit | Credit  | Balance |
|---------|----|-------|---------|---------|
| Mar. 31 | S2 |       | 32,600  | 32,600  |
| 31      | R3 |       | 134,680 | 167,280 |

## Sales Returns and Allowances Acct. No. 414

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 26 | G2 | 600   |        | 600     |

## Sales Discounts Acct. No. 415

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 31 | R3 | 540   |        | 540     |

## Purchases Acct. No. 505

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 31 | P3 | 94,225 |        | 94,225  |

## Purchases Returns and Allowances Acct. No. 506

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 16 | G2 |       | 200    | 200     |

## Purchases Discounts Acct. No. 507

| Date    | PR | Debit | Credit | Balance |
|---------|----|-------|--------|---------|
| Mar. 31 | D3 |       | 1,048  | 1,048   |

## Sales Salaries Expense Acct. No. 621

| Date    | PR | Debit  | Credit | Balance |
|---------|----|--------|--------|---------|
| Mar. 31 | D3 | 15,900 |        | 15,900  |



| PEPPER COMPANY<br>Trial Balance (partial)<br>March 31 |                  |                  |
|---|------------------|------------------|
|   | Debit            | Credit           |
| Cash .....  | \$119,888        |                  |
| Accounts receivable .....                             | 5,000            |                  |
| Office supplies .....                                 | 1,220            |                  |
| Store equipment .....                                 | 22,850           |                  |
| Accounts payable .....                                |                  | \$ 65,695        |
| Long-term notes payable .....                         |                  | 26,000           |
| Sales .....   |                  | 167,280          |
| Sales returns and allowances .....                    | 600              |                  |
| Sales discounts .....                                 | 540              |                  |
| Purchases .....                                       | 94,225           |                  |
| Purchases returns and allowances .....                |                  | 200              |
| Purchases discounts .....                             |                  | 1,048            |
| Sales salaries expense .....                          | 15,900           |                  |
| Totals .....  | <u>\$260,223</u> | <u>\$260,223</u> |

| PEPPER COMPANY<br>Schedule of Accounts Receivable<br>March 31 |                |
|---|----------------|
| Marjorie Allen .....  | \$5,000        |
| Total accounts receivable .....                               | <u>\$5,000</u> |

| PEPPER COMPANY<br>Schedule of Accounts Payable<br>March 31 |                 |
|--|-----------------|
| Mack Company .....   | \$ 1,220        |
| Schmidt Supply .....                                       | 22,850          |
| Welch Company .....  | 41,625          |
| Total accounts payable .....                               | <u>\$65,695</u> |

## Summary

**C1 Identify the principles and components of accounting information systems.** Accounting information systems are governed by five fundamental principles: control, relevance, compatibility, flexibility, and cost-benefit. The five basic components of an accounting information system are source documents, input devices, information processors, information storage, and output devices.

**C2 Explain the goals and uses of special journals.** Special journals are used for recording transactions of similar type, each meant to cover one kind of transaction. Four of the most common special journals are the sales journal, cash receipts journal, purchases journal, and cash disbursements journal. Special journals are efficient and cost-effective tools in the journalizing and posting processes.

**C3 Describe the use of controlling accounts and subsidiary ledgers.** A general ledger keeps controlling accounts such as Accounts Receivable and Accounts Payable, but details on individual accounts making up the controlling account are kept in subsidiary ledgers (such as an accounts receivable ledger). The balance in a controlling account must equal the sum of its subsidiary account balances after posting is complete.

**A1 Compute segment return on assets and use it to evaluate segment performance.** A business segment is a part of a company that is separately identified by its products or services or by the geographic market it serves. Analysis of a company's segments is aided by the segment return on assets (segment operating income divided by segment average assets).

**P1 Journalize and post transactions using special journals.** Each special journal is devoted to similar kinds of transactions. Transactions are journalized on one line of a special journal, with columns devoted to specific accounts, dates, names, posting references, explanations, and other necessary information. Posting is threefold: (1) individual amounts in the Other Accounts column are posted to their general ledger accounts on a regular (daily) basis, (2) individual amounts in a column whose total is *not* posted to a controlling account at the end of a period (month) are posted regularly (daily) to their general ledger accounts, and (3) total amounts for all columns except the Other Accounts column are posted at the end of a period (month) to their column's account title in the general ledger.

**P2 Prepare and prove the accuracy of subsidiary ledgers.** Account balances in the general ledger and its subsidiary ledgers are tested for accuracy after posting is complete. This procedure is twofold: (1) prepare a trial balance of the general ledger to confirm that debits equal credits and (2) prepare a schedule to confirm that the controlling account's balance equals the subsidiary ledger's balance.

**P3A Journalize and post transactions using special journals in a periodic inventory system.** Transactions are journalized and posted using special journals in a periodic system. The methods are similar to those in a perpetual system; the primary difference is that both cost of goods sold and inventory are not adjusted at the time of each sale. This usually results in the deletion (or renaming) of one or more columns devoted to these accounts in each special journal.

### Guidance Answers to Decision Maker and Decision Ethics



**Accountant** The main issue is whether commissions have an actual or perceived impact on the integrity and objectivity of your advice. You probably should not accept a commission arrangement (the AICPA Code of Ethics prohibits it when you perform the audit

or a review). In any event, you should tell the client of your commission arrangement. Also, you need to seriously examine the merits of agreeing to a commission arrangement when you are in a position to exploit it.



**Entrepreneur** The accounts receivable ledger has much of the information you need. It lists detailed information for each customer's account, including the amounts, dates for transactions, and dates of payments. It can be reorganized into an "aging schedule" to show how long customers wait before paying their bills.

**Controller** Much of the information you need is in the accounts payable ledger. It contains information for each supplier, the amounts due, and when payments are made. This subsidiary ledger along with information on credit terms should enable you to conduct your analyses.

**Banker** This merchandiser's segment information is likely to greatly impact your loan decision. The risks associated with the company's two sources of net income are quite different. While net income is up by 10%, U.S. operations are performing poorly and Cuban operations are subject to many uncertainties. These uncertainties depend on political events, legal issues, business relationships, Cuban economic conditions, and a host of other risks. Overall, net income results suggested a low-risk loan opportunity, but the segment information reveals a high-risk situation.

## Guidance Answers to Quick Checks



- The five components are source documents, input devices, information processors, information storage, and output devices.
- Information processors interpret, transform, and summarize the recorded accounting information so that it can be used in analysis, interpretation, and decision making.
- Data saved in information storage are used to prepare periodic financial reports and special-purpose internal reports as well as source documentation for auditors.
- All cash payments by check are recorded in the cash disbursements journal.
- Columnar journals allow us to accumulate repetitive debits and credits and post them as column totals rather than as individual amounts from each entry.
- The equality of debits and credits is kept within the general ledger. The subsidiary ledger keeps the customer's individual account and is used only for supplementary information.
- An initial and the page number of the journal from which the amount was posted are entered in the PR column next to the amount.
- A separate column for Sales Taxes Payable can be included in both the cash receipts journal and the sales journal.
- This refers to a procedure of using copies of sales invoices as a sales journal. Each invoice amount is posted directly to the customer's account. All invoices are totaled at period-end for posting to the general ledger accounts.
- The normal recording and posting procedures are threefold. First, transactions are entered in a special journal if applicable. Second, individual amounts are posted to any subsidiary ledger accounts. Third, column totals are posted to general ledger accounts if not already individually posted.
- Controlling accounts are debited periodically for an amount or amounts equal to the sum of their respective debits in the subsidiary ledgers (equals journal column totals), and they are credited periodically for an amount or amounts equal to the sum of their respective credits in the subsidiary ledgers (from journal column totals).
- Tests for accuracy of account balances in the general ledger and subsidiary ledgers are twofold. First, we prepare a trial balance of the general ledger to confirm that debits equal credits. Second, we prove the subsidiary ledgers by preparing schedules of accounts receivable and accounts payable.
- The general journal is still needed for adjusting, closing, and correcting entries and for special transactions such as sales returns, purchases returns, and certain asset purchases.
- Integrated systems can save time and minimize errors. This is so because actions taken in one part of the system automatically affect and update related parts.
- Computer systems offer increased accuracy, speed, efficiency, and convenience.
- Computer networks can create advantages by linking computers, and giving different users and different computers access to common databases, programs, and hardware.
- ERP software involves integrated programs, from order taking to manufacturing to accounting. It can speed decision making, help identify costs for reduction, and aid managers in controlling operations.

## Key Terms

**Accounting information systems** (p. E-2)

**Accounts payable ledger** (p. E-7)

**Accounts receivable ledger** (p. E-7)

**Batch processing** (p. E-16)

**Cash disbursements journal** (p. E-14)

**Cash receipts journal** (p. E-11)

**Check register** (p. E-14)

**Columnar journal** (p. E-8)

**Compatibility principle** (p. E-3)

**Components of accounting systems** (p. E-3)

**Computer network** (p. E-16)

**Control principle** (p. E-2)

**Controlling account** (p. E-7)

**Cost-benefit principle** (p. E-3)

**Enterprise resource planning (ERP) software** (p. E-17)

**Flexibility principle** (p. E-3)

**General journal** (p. E-6)

**Information processor** (p. E-4)

**Information storage** (p. E-4)

**Input device** (p. E-4)

**Internal controls** (p. E-2)

**Online processing** (p. E-16)

**Output devices** (p. E-5)

**Purchases journal** (p. E-13)

**Relevance principle** (p. E-2)



Sales journal (p. E-8)

Schedule of accounts receivable (p. E-9)

Special journal (p. E-6)

Schedule of accounts payable (p. E-14)

Segment return on assets (p. E-18)

Subsidiary ledger (p. E-6)

## Multiple Choice Quiz

Answers on p. E-42

[mhhe.com/wildFA6e](http://mhhe.com/wildFA6e)

Additional quiz questions are available at the book's Website.

- The sales journal is used to record
  - Credit sales
  - Cash sales
  - Cash receipts
  - Cash purchases
  - Credit purchases
- The purchases journal is used to record
  - Credit sales
  - Cash sales
  - Cash receipts
  - Cash purchases
  - Credit purchases
- The ledger that contains the financial statement accounts of a company is the
  - General journal
  - Column balance journal
  - Special ledger
  - General ledger
  - Special journal
- A subsidiary ledger that contains a separate account for each supplier (creditor) to the company is the
  - Controlling account
  - Accounts payable ledger
  - Accounts receivable ledger
  - General ledger
  - Special journal
- Enterprise resource planning software
  - Refers to programs that help manage company operations.
  - Is another name for spreadsheet programs.
  - Uses batch processing of business information.
  - Is substantially declining in use.
  - Is another name for database programs.

<sup>A</sup> *Superscript letter A denotes assignments based on Appendix E-A.*

*Icon denotes assignments that involve decision making.*

## Discussion Questions

- What are the five fundamental principles of accounting information systems?
- What are five basic components of an accounting system?
- What are source documents? Give two examples.
- What is the purpose of an input device? Give examples of input devices for computer systems.
- What is the difference between data that are stored off-line and data that are stored online?
- What purpose is served by the output devices of an accounting system?
- When special journals are used, they are usually used to record each of four different types of transactions. What are these four types of transactions?
- What notations are entered into the Posting Reference column of a ledger account?
- When a general journal entry is used to record sales returns, the credit of the entry must be posted twice. Does this cause the trial balance to be out of balance? Explain.
- Describe the procedures involving the use of copies of a company's sales invoices as a sales journal.
- Credits to customer accounts and credits to Other Accounts are individually posted from a cash receipts journal such as the one in Exhibit E.7. Why not put both types of credits in the same column and save journal space?
- Why should sales to and receipts of cash from credit customers be recorded and posted immediately?
- Locate the note that discusses **Research In Motion**'s operations by segments in Appendix A. **RIM** In what segment does it predominantly operate?
- Does the income statement of **Palm** in Appendix A indicate the net income earned by its business segments? If so, list them. **Palm**
- Locate the note that discusses **Apple**'s segments from its 2009 annual report on its Website. What five reportable segments does Apple have? **Apple**
- Does the balance sheet of **Nokia** in Appendix A indicate the identifiable assets owned by its business segments? If so, list them. **NOKIA**





For account titles and numbers, use the *Chart of Accounts* at the end of the book.

Identify the most likely role in an accounting system played by each of the numbered items 1 through 12 by assigning a letter from the list A through E on the left.

- |                                  |       |                                   |
|----------------------------------|-------|-----------------------------------|
| <b>A.</b> Source documents       | _____ | <b>1.</b> Bar code reader         |
| <b>B.</b> Input devices          | _____ | <b>2.</b> Filing cabinet          |
| <b>C.</b> Information processors | _____ | <b>3.</b> Bank statement          |
| <b>D.</b> Information storage    | _____ | <b>4.</b> Computer scanner        |
| <b>E.</b> Output devices         | _____ | <b>5.</b> Computer keyboard       |
|                                  | _____ | <b>6.</b> Flash drive             |
|                                  | _____ | <b>7.</b> Computer monitor        |
|                                  | _____ | <b>8.</b> Invoice from a supplier |
|                                  | _____ | <b>9.</b> Computer software       |
|                                  | _____ | <b>10.</b> Computer printer       |
|                                  | _____ | <b>11.</b> Digital camera         |
|                                  | _____ | <b>12.</b> MP3 player             |

Enter the letter of each system principle in the blank next to its best description.

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| <b>A.</b> Control principle       | <b>D.</b> Flexibility principle  |
| <b>B.</b> Relevance principle     | <b>E.</b> Cost-benefit principle |
| <b>C.</b> Compatibility principle |                                  |
- \_\_\_\_\_ The principle prescribes the accounting information system to change in response to technological advances and competitive pressures.
  - \_\_\_\_\_ The principle prescribes the accounting information system to help monitor activities.
  - \_\_\_\_\_ The principle prescribes the accounting information system to provide timely information for effective decision making.
  - \_\_\_\_\_ The principle prescribes the accounting information system to adapt to the unique characteristics of the company.
  - \_\_\_\_\_ The principle that affects all other accounting information system principles.

Fill in the blanks to complete the following descriptions.

- \_\_\_\_\_ software comprises programs that help manage a company's vital operations, from manufacturing to accounting.
- A computer \_\_\_\_\_ allows different computer users to share access to data and programs.
- A \_\_\_\_\_ is an input device that captures writing and other input directly from source documents.
- With \_\_\_\_\_ processing, source documents are accumulated for a period and then processed all at the same time, such as once a day, week, or month.

General Electronics uses a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal as illustrated in this appendix. General recently completed the following transactions *a* through *h*. Identify the journal in which each transaction should be recorded.

- |  |  |
|--|--|
| <b>a.</b> Paid cash to a creditor.           | <b>e.</b> Borrowed cash from the bank.     |
| <b>b.</b> Sold merchandise on credit.        | <b>f.</b> Sold merchandise for cash.       |
| <b>c.</b> Purchased shop supplies on credit. | <b>g.</b> Purchased merchandise on credit. |
| <b>d.</b> Paid an employee's salary in cash. | <b>h.</b> Purchased inventory for cash.    |

Lue Gifts uses a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal as illustrated in this appendix. Journalize its March transactions that should be recorded in the general journal. For those not recorded in the general journal, identify the special journal where each should be recorded.

- Mar. 2 The company purchased \$2,900 of merchandise on credit from the Elko Co., terms 2/10, n/30.
- 12 The owner, T. Lue, contributed an automobile worth \$15,000 to the company in exchange for common stock.
- 16 The company sold \$1,100 of merchandise (cost is \$700) on credit to K. Gould, terms n/30.
- 19 K. Gould returned \$150 of (worthless) merchandise to the company originally purchased on March 16 (assume the cost of this merchandise is left in cost of goods sold).

## QUICK STUDY

### QS E-1

Accounting information system components

C1

### QS E-2

Accounting information system principles

C1

### QS E-3

Accounting information system

C1

### QS E-4

Identifying the special journal of entry

C2 

### QS E-5

Entries in the general journal

C2

**QS E-6**

Controlling accounts and subsidiary ledgers

C3

Following is information from Thompson Company for its initial month of business. (1) Identify the balances listed in the accounts receivable subsidiary ledger. (2) Identify the accounts receivable balance listed in the general ledger at month's end.

| Credit Sales |                 |         | Cash Collections |                 |         |
|--------------|-----------------|---------|------------------|-----------------|---------|
| Jan. 10      | Boerman Company | \$3,000 | Jan. 20          | Boerman Company | \$2,000 |
| 19           | Lehman Brothers | 1,600   | 28               | Lehman Brothers | 1,600   |
| 23           | Finger Company  | 2,200   | 31               | Finger Company  | 1,300   |

**QS E-7**

Purchases journal—perpetual

P1

Redmon Company uses a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal. The following transactions occur in the month of June.

- June 1 Purchased \$8,100 of merchandise on credit from Krause, Inc., terms n/30.  
 8 Sold merchandise costing \$900 on credit to G. Seles for \$1,500 subject to a \$30 sales discount if paid by the end of the month.  
 14 Purchased \$240 of store supplies from Chang Company on credit, terms n/30.  
 17 Purchased \$260 of office supplies on credit from Monder Company, terms n/30.  
 24 Sold merchandise costing \$400 to D. Lee for \$630 cash.  
 28 Purchased store supplies from Porter's for \$90 cash.  
 29 Paid Krause, Inc., \$8,100 cash for the merchandise purchased on June 1.

Prepare headings for a purchases journal like the one in Exhibit E.9. Journalize the June transactions that should be recorded in the purchases journal.

**QS E-8**

Identifying journal of entry C2

Refer to QS E-7 and for each of the June transactions identify the journal in which it would be recorded. Assume the company uses a sales journal, purchases journal, cash receipts journal, cash disbursements journal, and general journal as illustrated in this appendix.

**QS E-9<sup>A</sup>**

Purchases journal—periodic P3

Prepare headings for a purchases journal like the one in Exhibit E-A.3. Journalize the June transactions from QS E-7 that should be recorded in the purchases journal assuming the periodic inventory system is used.

**QS E-10**

Accounts receivable ledger; posting from sales journal

P2

Winslow Company posts its sales invoices directly and then binds them into a Sales Journal. Winslow had the following credit sales to these customers during June.

|        |                    |                 |
|--------|--------------------|-----------------|
| June 2 | Joe Mack           | \$ 3,600        |
| 8      | Eric Horner        | 6,100           |
| 10     | Tess Wilson        | 13,400          |
| 14     | Hong Jiang         | 20,500          |
| 20     | Tess Wilson        | 11,200          |
| 29     | Joe Mack           | 7,300           |
|        | Total credit sales | <u>\$62,100</u> |

**Required**

1. Open an accounts receivable subsidiary ledger having a T-account for each customer. Post the invoices to the subsidiary ledger.
2. Open an Accounts Receivable controlling T-account and a Sales T-account to reflect general ledger accounts. Post the end-of-month total from the sales journal to these accounts.
3. Prepare a schedule of accounts receivable and prove that its total equals the Accounts Receivable controlling account balance.

**QS E-11**

Analyzing segment reports



Apple

**Apple** reports the following operating income (and average assets in parentheses) for each of its geographic segments—\$ millions: Americas, \$6,637 (\$1,882); Europe, \$4,296 (\$1,352); and Japan, \$961 (\$483). Apple also reports the following sales (only) by product segments: iPhone, \$13,033; iPod, \$8,091; Desktops, \$4,324; Portables, \$9,535; Other, \$7,922. Compute Apple's return on assets for each of its geographic segments, and assess the relative performance of these segments. Compute the percentage of total sales for each of its five product segments.



**Nestlé**, a Switzerland-based company, uses a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal in a manner similar to that explained in this appendix. Journalize the following summary transactions of Nestlé transactions that should be recorded in the general journal. For those not recorded in the general journal, identify only the special journal where each should be recorded. (All amounts in millions of Swiss francs, CHF.)

1. Nestlé purchased CHF 8,000 of merchandise on credit from the suppliers.
2. Nestlé sold CHF 100,000 of merchandise (cost is CHF 44,000) on credit to customers.
3. A key customer returned CHF 900 of (worthless) merchandise to Nestlé (assume the cost of this merchandise is left in cost of goods sold).



*For account titles and numbers, use the Chart of Accounts at the end of the book.*

Hutton Company uses a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal. The following transactions occur in the month of March.

- Mar. 2 Sold merchandise costing \$300 to B. Fager for \$450 cash, invoice no. 5703.  
 5 Purchased \$2,300 of merchandise on credit from Marsh Corp.  
 7 Sold merchandise costing \$800 to J. Dryer for \$1,150, terms 2/10, n/30, invoice no. 5704.  
 8 Borrowed \$8,000 cash by signing a note payable to the bank.  
 12 Sold merchandise costing \$200 to R. Land for \$320, terms n/30, invoice no. 5705.  
 16 Received \$1,127 cash from J. Dryer to pay for the purchase of March 7.  
 19 Sold used store equipment for \$900 cash to Malone, Inc.  
 25 Sold merchandise costing \$350 to T. Burton for \$550, terms n/30, invoice no. 5706.

Prepare headings for a sales journal like the one in Exhibit E.5. Journalize the March transactions that should be recorded in this sales journal.

Refer to Exercise E-1 and for each of the March transactions identify the journal in which it would be recorded. Assume the company uses a sales journal, purchases journal, cash receipts journal, cash disbursements journal, and general journal as illustrated in this appendix.

Prepare headings for a sales journal like the one in Exhibit E-A.1. Journalize the March transactions shown in Exercise E-1 that should be recorded in the sales journal assuming that the periodic inventory system is used.

Moeder Co. uses a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal. The following transactions occur in the month of November.

- Nov. 3 The company purchased \$3,100 of merchandise on credit from Hargrave Co., terms n/20.  
 7 The company sold merchandise costing \$840 on credit to J. York for \$900, subject to an \$18 sales discount if paid by the end of the month.  
 9 The company borrowed \$2,750 cash by signing a note payable to the bank.  
 13 J. Emling, the owner, contributed \$4,000 cash to the company in exchange for common stock.  
 18 The company sold merchandise costing \$130 to B. Box for \$230 cash.  
 22 The company paid Hargrave Co. \$3,100 cash for the merchandise purchased on November 3.  
 27 The company received \$882 cash from J. York in payment of the November 7 purchase.  
 30 The company paid salaries of \$1,600 in cash.

Prepare headings for a cash receipts journal like the one in Exhibit E.7. Journalize the November transactions that should be recorded in the cash receipts journal.

Refer to Exercise E-4 and for each of the November transactions identify the journal in which it would be recorded. Assume the company uses a sales journal, purchases journal, cash receipts journal, cash disbursements journal, and general journal as illustrated in this appendix.

Prepare headings for a cash receipts journal like the one in Exhibit E-A.2. Journalize the November transactions shown in Exercise E-4 that should be recorded in the cash receipts journal assuming that the periodic inventory system is used.

## QS E-12

International accounting and special journals

C2



## EXERCISES

### Exercise E-1

Sales journal—perpetual

P1

### Exercise E-2

Identifying journal of entry C2

### Exercise E-3<sup>A</sup>

Sales journal—periodic P3

### Exercise E-4

Cash receipts journal—perpetual

P1

### Exercise E-5

Identifying journal of entry C2

### Exercise E-6<sup>A</sup>

Cash receipts journal—periodic

P3

**Exercise E-7**

Controlling accounts and subsidiary ledgers

C3

Following is information from Ryan Company for its initial month of business. (1) Identify the balances listed in the accounts payable subsidiary ledger. (2) Identify the accounts payable balance listed in the general ledger at month's end.

| Credit Purchases |                            |         | Cash Paid |                            |         |
|------------------|----------------------------|---------|-----------|----------------------------|---------|
| Jan. 9           | Boeder Company . . . . .   | \$7,000 | Jan. 19   | Boeder Company . . . . .   | \$5,100 |
| 18               | Johnson Brothers . . . . . | 6,600   | 27        | Johnson Brothers . . . . . | 6,600   |
| 22               | Padley Company . . . . .   | 4,200   | 31        | Padley Company . . . . .   | 3,400   |

**Exercise E-8**

Cash disbursements journal—perpetual

P1

Pebblebrook Supply uses a sales journal, a purchases journal, a cash receipts journal, a cash disbursements journal, and a general journal. The following transactions occur in the month of April.

- Apr. 3 Purchased merchandise for \$2,750 on credit from Scott, Inc., terms 2/10, n/30.
- 9 Issued check no. 210 to Kidman Corp. to buy store supplies for \$450.
- 12 Sold merchandise costing \$400 on credit to C. Meyers for \$670, terms n/30.
- 17 Issued check no. 211 for \$1,500 to pay off a note payable to City Bank.
- 20 Purchased merchandise for \$3,500 on credit from LeBron, terms 2/10, n/30.
- 28 Issued check no. 212 to LeBron to pay the amount due for the purchase of April 20, less the discount.
- 29 Paid salary of \$1,700 to B. Decker by issuing check no. 213.
- 30 Issued check no. 214 to Scott, Inc., to pay the amount due for the purchase of April 3.

Prepare headings for a cash disbursements journal like the one in Exhibit E.11. Journalize the April transactions that should be recorded in the cash disbursements journal.

**Exercise E-9**

Identifying journal of entry C2

Refer to Exercise E-8 and for each of the April transactions identify the journal in which it would be recorded. Assume the company uses a sales journal, purchases journal, cash receipts journal, cash disbursements journal, and general journal as illustrated in this appendix.

**Exercise E-10<sup>A</sup>**

Cash disbursements journal—periodic P3

Prepare headings for a cash disbursements journal like the one in Exhibit E-A.4. Journalize the April transactions from Exercise E-8 that should be recorded in the cash disbursements journal assuming that the periodic inventory system is used.

**Exercise E-11**

Special journal transactions and error discovery

P1 

Porter Pharmacy uses the following journals: sales journal, purchases journal, cash receipts journal, cash disbursements journal, and general journal. On June 5, Porter purchased merchandise priced at \$12,000, subject to credit terms of 2/10, n/30. On June 14, the pharmacy paid the net amount due for the merchandise. In journalizing the payment, the pharmacy debited Accounts Payable for \$12,000 but failed to record the cash discount on the purchases. Cash was properly credited for the actual \$11,760 paid. (a) In what journals would the June 5 and the June 14 transactions be recorded? (b) What procedure is likely to discover the error in journalizing the June 14 transaction?

**Exercise E-12**

Posting to subsidiary ledger accounts; preparing a schedule of accounts receivable

P2

At the end of May, the sales journal of Clear View appears as follows.

| Date  | Account Debited | Invoice Number | PR | Accounts Receivable Dr. Sales Cr. | Cost of Goods Sold Dr. Inventory Cr. |
|-------|-----------------|----------------|----|-----------------------------------|--------------------------------------|
| May 6 | Aaron Reckers   | 190            |    | 2,880                             | 2,200                                |
| 10    | Sara Reed       | 191            |    | 1,940                             | 1,600                                |
| 17    | Anna Page       | 192            |    | 850                               | 500                                  |
| 25    | Sara Reed       | 193            |    | 340                               | 200                                  |
| 31    | Totals          |                |    | <u>6,010</u>                      | <u>4,500</u>                         |

Clear View also recorded the return of defective merchandise with the following entry.

|        |   |     |     |
|--------|---|-----|-----|
| May 20 | Sales Returns and Allowances . . . . .            | 250 |     |
|        | Accounts Receivable—Anna Page . . . . .           |     | 250 |
|        | <i>Customer returned (worthless) merchandise.</i> |     |     |

**Required**

1. Open an accounts receivable subsidiary ledger that has a T-account for each customer listed in the sales journal. Post to the customer accounts the entries in the sales journal and any portion of the general journal entry that affects a customer's account.
2. Open a general ledger that has T-accounts for Accounts Receivable, Inventory, Sales, Sales Returns and Allowances, and Cost of Goods Sold. Post the sales journal and any portion of the general journal entry that affects these accounts.
3. Prepare a schedule of accounts receivable and prove that its total equals the balance in the Accounts Receivable controlling account.

**Check** (3) Ending Accounts Receivable, \$5,760

A company that records credit purchases in a purchases journal and records purchases returns in a general journal made the following errors. Indicate when each error should be discovered.

1. Posted a purchases return to the Accounts Payable account and to the creditor's subsidiary account but did not post the purchases return to the Inventory account.
2. Posted a purchases return to the Inventory account and to the Accounts Payable account but did not post to the creditor's subsidiary account.
3. Correctly recorded a \$4,000 purchase in the purchases journal but posted it to the creditor's subsidiary account as a \$400 purchase.
4. Made an addition error in determining the balance of a creditor's subsidiary account.
5. Made an addition error in totaling the Office Supplies column of the purchases journal.

**Exercise E-13**

Purchases journal and error identification



Refer to Exhibit E.13 and complete the segment return on assets table for Wolfe Company. Analyze your findings and identify the segment with the highest, and that with the lowest, segment return on assets.

**Exercise E-14**

Computing and analyzing segment return on assets



| Segment                      | Segment Operating Income (in \$ mil.) |       | Segment Assets (in \$ mil.) |       | Segment Return on Assets |
|------------------------------|---------------------------------------|-------|-----------------------------|-------|--------------------------|
|                              | 2011                                  | 2010  | 2011                        | 2010  | 2011                     |
| <b>Specialty</b>             |                                       |       |                             |       |                          |
| Skiing Group . . . . .       | \$ 62                                 | \$ 58 | \$ 581                      | \$440 |                          |
| Skating Group . . . . .      | 9                                     | 6     | 53                          | 42    |                          |
| Specialty Footwear . . . . . | 22                                    | 19    | 155                         | 136   |                          |
| Other Specialty . . . . .    | 11                                    | 4     | 37                          | 24    |                          |
| Subtotal . . . . .           | 104                                   | 87    | 826                         | 642   |                          |
| <b>General Merchandise</b>   |                                       |       |                             |       |                          |
| South America . . . . .      | 32                                    | 36    | 305                         | 274   |                          |
| United States . . . . .      | 7                                     | 8     | 52                          | 35    |                          |
| Europe . . . . .             | 5                                     | 3     | 14                          | 12    |                          |
| Subtotal . . . . .           | 44                                    | 47    | 371                         | 321   |                          |
| Total . . . . .              | \$148                                 | \$134 | \$1197                      | \$963 |                          |

**Check** Europe segment return, 38.5%



For account titles and numbers, use the *Chart of Accounts at the end of the book.*

Wise Company completes these transactions during April of the current year (the terms of all its credit sales are 2/10, n/30).

- Apr. 2 Purchased \$13,300 of merchandise on credit from Negi Company, invoice dated April 2, terms 2/10, n/60.
- 3 Sold merchandise on credit to Brooke Sledd, Invoice No. 760, for \$3,000 (cost is \$2,000).
- 3 Purchased \$1,380 of office supplies on credit from Madison, Inc. Invoice dated April 2, terms n/10 EOM.
- 4 Issued Check No. 587 to *U.S. View* for advertising expense, \$999.
- 5 Sold merchandise on credit to Paul Kohr, Invoice No. 761, for \$8,000 (cost is \$6,500).
- 6 Received an \$85 credit memorandum from Madison, Inc., for the return of some of the office supplies received on April 3.
- 9 Purchased \$11,125 of store equipment on credit from Ned's Supply, invoice dated April 9, terms n/10 EOM.

**PROBLEM SET A****Problem E-1A**

Special journals, subsidiary ledgers, and schedule of accounts receivable—perpetual





- 11 Sold merchandise on credit to Amy Nilson, Invoice No 762, for \$9,500 (cost is \$7,000).
- 12 Issued Check No. 588 to Negi Company in payment of its April 2 invoice, less the discount.
- 13 Received payment from Brooke Sledd for the April 3 sale, less the discount.
- 13 Sold \$4,100 of merchandise on credit to Brooke Sledd (cost is \$2,600), Invoice No. 763.
- 14 Received payment from Paul Kohr for the April 5 sale, less the discount.
- 16 Issued Check No. 589, payable to Payroll, in payment of sales salaries expense for the first half of the month, \$9,750. Cashed the check and paid employees.
- 16 Cash sales for the first half of the month are \$50,840 (cost is \$33,880). (Cash sales are recorded daily from cash register data but are recorded only twice in this problem to reduce repetitive entries.)
- 17 Purchased \$12,750 of merchandise on credit from Price Company, invoice dated April 17, terms 2/10, n/30.
- 18 Borrowed \$50,000 cash from First State Bank by signing a long-term note payable.
- 20 Received payment from Amy Nilson for the April 11 sale, less the discount.
- 20 Purchased \$730 of store supplies on credit from Ned's Supply, invoice dated April 19, terms n/10 EOM.
- 23 Received a \$400 credit memorandum from Price Company for the return of defective merchandise received on April 17.
- 23 Received payment from Brooke Sledd for the April 13 sale, less the discount.
- 25 Purchased \$10,375 of merchandise on credit from Negi Company, invoice dated April 24, terms 2/10, n/60.
- 26 Issued Check No. 590 to Price Company in payment of its April 17 invoice, less the return and the discount.
- 27 Sold \$3,070 of merchandise on credit to Paul Kohr, Invoice No. 764 (cost is \$2,420).
- 27 Sold \$5,700 of merchandise on credit to Amy Nilson, Invoice No. 765 (cost is \$3,305).
- 30 Issued Check No. 591, payable to Payroll, in payment of the sales salaries expense for the last half of the month, \$9,750.
- 30 Cash sales for the last half of the month are \$70,975 (cost is \$55,900).

### Required

1. Prepare a sales journal like that in Exhibit E.5 and a cash receipts journal like that in Exhibit E.7. Number both journal pages as page 3. Then review the transactions of Wise Company and enter those that should be journalized in the sales journal and those that should be journalized in the cash receipts journal. Ignore any transactions that should be journalized in a purchases journal, a cash disbursements journal, or a general journal.
2. Open the following general ledger accounts: Cash, Accounts Receivable, Inventory, Long-Term Notes Payable, Common Stock, Retained Earnings, Sales, Sales Discounts, and Cost of Goods Sold. Enter the March 31 balances for Cash (\$85,000), Inventory (\$125,000), Long-Term Notes Payable (\$110,000), Common Stock (\$20,000), and Retained Earnings (\$80,000). Also open accounts receivable subsidiary ledger accounts for Paul Kohr, Brooke Sledd, and Amy Nilson.
3. Verify that amounts that should be posted as individual amounts from the journals have been posted. (Such items are immediately posted.) Foot and crossfoot the journals and make the month-end postings.
4. Prepare a trial balance of the general ledger and prove the accuracy of the subsidiary ledger by preparing a schedule of accounts receivable.

**Check** Trial balance totals, \$415,185

### Analysis Component

5. Assume that the total for the schedule of Accounts Receivable does not equal the balance of the controlling account in the general ledger. Describe steps you would take to discover the error(s).

### Problem E-2A<sup>A</sup>

Special journals, subsidiary ledgers, and schedule of accounts receivable—periodic

C3 P2 P3

Assume that Wise Co. in Problem E-1A uses the periodic inventory system.

### Required

1. Prepare headings for a sales journal like the one in Exhibit E-A.1. Prepare headings for a cash receipts journal like the one in Exhibit E-A.2. Journalize the April transactions shown in Problem E-1A that should be recorded in the sales journal and the cash receipts journal assuming the *periodic* inventory system is used.
2. Open the general ledger accounts with balances as shown in Problem E-1A (do not open a Cost of Goods Sold ledger account). Also open accounts receivable subsidiary ledger accounts for





Brooke Sledd, Paul Kohr, and Amy Nilson. Under the periodic system, an Inventory account exists but is inactive until its balance is updated to the correct inventory balance at year-end. In this problem, the Inventory account remains inactive but must be included to correctly complete the trial balance.

- Complete parts 3, 4, and 5 of Problem E-1A using the results of parts 1 and 2 of this problem.

**Check** Trial balance totals, \$415,185

The April transactions of Wise Company are described in Problem E-1A.

#### Required

- Prepare a general journal, a purchases journal like that in Exhibit E.9, and a cash disbursements journal like that in Exhibit E.11. Number all journal pages as page 3. Review the April transactions of Wise Company and enter those transactions that should be journalized in the general journal, the purchases journal, or the cash disbursements journal. Ignore any transactions that should be journalized in a sales journal or cash receipts journal.
- Open the following general ledger accounts: Cash, Inventory, Office Supplies, Store Supplies, Store Equipment, Accounts Payable, Long-Term Notes Payable, Common Stock, Retained Earnings, Sales Salaries Expense, and Advertising Expense. Enter the March 31 balances of Cash (\$85,000), Inventory (\$125,000), Long-Term Notes Payable (\$110,000), Common Stock (\$20,000), and Retained Earnings (\$80,000). Also open accounts payable subsidiary ledger accounts for Ned's Supply, Negi Company, Price Company, and Madison, Inc.
- Verify that amounts that should be posted as individual amounts from the journals have been posted. (Such items are immediately posted.) Foot and crossfoot the journals and make the month-end postings.
- Prepare a trial balance of the general ledger and a schedule of accounts payable.

#### Problem E-3A

Special journals, subsidiary ledgers, and schedule of accounts payable—perpetual

C3 P1 P2

**Check** Trial balance totals, \$233,525

Refer to Problem E-1A and assume that Wise Co. uses the periodic inventory system.

#### Required

- Prepare a general journal, a purchases journal like that in Exhibit E-A.3, and a cash disbursements journal like that in Exhibit E-A.4. Number all journal pages as page 3. Review the April transactions of Wise Company (Problem E-1A) and enter those transactions that should be journalized in the general journal, the purchases journal, or the cash disbursements journal. Ignore any transaction that should be journalized in a sales journal or cash receipts journal.
- Open the following general ledger accounts: Cash, Inventory, Office Supplies, Store Supplies, Store Equipment, Accounts Payable, Long-Term Notes Payable, Common Stock, Retained Earnings, Purchases, Purchases Returns and Allowances, Purchases Discounts, Sales Salaries Expense, and Advertising Expense. Enter the March 31 balances of Cash (\$85,000), Inventory (\$125,000), Long-Term Notes Payable (\$110,000), Common Stock (\$20,000), and Retained Earnings (\$80,000). Also open accounts payable subsidiary ledger accounts for Ned's Supply, Negi Company, Price Company, and Madison, Inc.
- Complete parts 3 and 4 of Problem E-3A using the results of parts 1 and 2 of this problem.

#### Problem E-4A<sup>A</sup>

Special journals, subsidiary ledgers, and schedule of accounts payable—periodic

C3 P2 P3

**Check** Trial balance totals, \$234,438

Bishop Company completes these transactions and events during March of the current year (terms for all its credit sales are 2/10, n/30).

- Mar. 1 Purchased \$42,600 of merchandise from Soy Industries, invoice dated March 1, terms 2/15, n/30.
- 2 Sold merchandise on credit to Min Cho, Invoice No. 854, for \$15,800 (cost is \$7,900).
- 3 Purchased \$1,120 of office supplies on credit from Stacy Company, invoice dated March 3, terms n/10 EOM.
- 3 Sold merchandise on credit to Lance Snow, Invoice No. 855, for \$9,200 (cost is \$4,600).
- 6 Borrowed \$72,000 cash from Federal Bank by signing a long-term note payable.
- 9 Purchased \$20,850 of office equipment on credit from Tells Supply, invoice dated March 9, terms n/10 EOM.
- 10 Sold merchandise on credit to Taylor Few, Invoice No. 856, for \$4,600 (cost is \$2,300).
- 12 Received payment from Min Cho for the March 2 sale less the discount.
- 13 Sent Soy Industries Check No. 416 in payment of the March 1 invoice less the discount.
- 13 Received payment from Lance Snow for the March 3 sale less the discount.
- 14 Purchased \$31,625 of merchandise from the JW Company, invoice dated March 13, terms 2/10, n/30.
- 15 Issued Check No. 417, payable to Payroll, in payment of sales salaries expense for the first half of the month, \$15,900. Cashed the check and paid the employees.

#### Problem E-5A

Special journals, subsidiary ledgers, trial balance—perpetual

C3 P1 P2



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- 15 Cash sales for the first half of the month are \$164,680 (cost is \$138,000). (Cash sales are recorded daily, but are recorded only twice here to reduce repetitive entries.)
- 16 Purchased \$1,670 of store supplies on credit from Stacy Company, invoice dated March 16, terms n/10 EOM.
- 17 Received a \$2,425 credit memorandum from JW Company for the return of unsatisfactory merchandise purchased on March 14.
- 19 Received a \$630 credit memorandum from Tells Supply for office equipment received on March 9 and returned for credit.
- 20 Received payment from Taylor Few for the sale of March 10 less the discount.
- 23 Issued Check No. 418 to JW Company in payment of the invoice of March 13 less the March 17 return and the discount.
- 27 Sold merchandise on credit to Taylor Few, Invoice No. 857, for \$13,910 (cost is \$6,220).
- 28 Sold merchandise on credit to Lance Snow, Invoice No. 858, for \$5,315 (cost is \$2,280).
- 31 Issued Check No. 419, payable to Payroll, in payment of sales salaries expense for the last half of the month, \$15,900. Cashed the check and paid the employees.
- 31 Cash sales for the last half of the month are \$174,590 (cost is \$143,000).
- 31 Verify that amounts impacting customer and creditor accounts were posted and that any amounts that should have been posted as individual amounts to the general ledger accounts were posted. Foot and crossfoot the journals and make the month-end postings.

**Required**

1. Open the following general ledger accounts: Cash; Accounts Receivable; Inventory (March 1 beg. bal. is \$300,000); Office Supplies; Store Supplies; Office Equipment; Accounts Payable; Long-Term Notes Payable; Common Stock (March 1 beg. bal. is \$30,000), and Retained Earnings (March 1 beg. bal. is \$270,000); Sales; Sales Discounts; Cost of Goods Sold; and Sales Salaries Expense. Open the following accounts receivable subsidiary ledger accounts: Taylor Few, Min Cho, and Lance Snow. Open the following accounts payable subsidiary ledger accounts: Stacy Company, Soy Industries, Tells Supply, and JW Company.
2. Enter these transactions in a sales journal like Exhibit E.5, a purchases journal like Exhibit E.9, a cash receipts journal like Exhibit E.7, a cash disbursements journal like Exhibit E.11, or a general journal. Number all journal pages as page 2.
3. Prepare a trial balance of the general ledger and prove the accuracy of the subsidiary ledgers by preparing schedules of both accounts receivable and accounts payable.

**Check** Trial balance totals, \$783,105

**Problem E-6A<sup>A</sup>**

Special journals, subsidiary ledgers, trial balance—periodic

C3 P2 P3



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Assume that Bishop Company in Problem E-5A uses the periodic inventory system.

**Required**

1. Open the following general ledger accounts: Cash; Accounts Receivable; Inventory (March 1 beg. bal. is \$300,000); Office Supplies; Store Supplies; Office Equipment; Accounts Payable; Long-Term Notes Payable; Common Stock (March 1 beg. bal. is \$30,000), and Retained Earnings (March 1 beg. bal. is \$270,000); Sales; Sales Discounts; Purchases; Purchases Returns and Allowances; Purchases Discounts; and Sales Salaries Expense. Open the following accounts receivable subsidiary ledger accounts: Taylor Few, Min Cho, and Lance Snow. Open the following accounts payable subsidiary ledger accounts: Stacy Company, Soy Industries, Tells Supply, and JW Company.
2. Enter the transactions from Problem E-5A in a sales journal like that in Exhibit E-A.1, a purchases journal like that in Exhibit E-A.3, a cash receipts journal like that in Exhibit E-A.2, a cash disbursements journal like that in Exhibit E-A.4, or a general journal. Number journal pages as page 2.
3. Prepare a trial balance of the general ledger and prove the accuracy of the subsidiary ledgers by preparing schedules of both accounts receivable and accounts payable.

**Check** Trial balance totals, \$786,966

**PROBLEM SET B**

*For account titles and numbers, use the Chart of Accounts at the end of the book.*

**Problem E-1B**

Special journals, subsidiary ledgers, schedule of accounts receivable—perpetual

C3 P1 P2



Alcorn Industries completes these transactions during July of the current year (the terms of all its credit sales are 2/10, n/30).

- |      |  |
|------|--|
| July | <ol style="list-style-type: none"> <li>1 Purchased \$6,300 of merchandise on credit from Tahoe Company, invoice dated June 30, terms 2/10, n/30.</li> <li>3 Issued Check No. 300 to <i>The Weekly</i> for advertising expense, \$575.</li> <li>5 Sold merchandise on credit to Kim Newsom, Invoice No. 918, for \$18,400 (cost is \$9,700).</li> </ol> |
|------|--|



- 6 Sold merchandise on credit to Ruth Baker, Invoice No. 919, for \$7,500 (cost is \$4,300).
- 7 Purchased \$1,050 of store supplies on credit from Pryor, Inc., invoice dated July 7, terms n/10 EOM.
- 8 Received a \$150 credit memorandum from Pryor, Inc., for the return of store supplies received on July 7.
- 9 Purchased \$37,710 of store equipment on credit from Caro's Supply, invoice dated July 8, terms n/10 EOM.
- 10 Issued Check No. 301 to Tahoe Company in payment of its June 30 invoice, less the discount.
- 13 Sold merchandise on credit to Stephanie Meyer, Invoice No. 920, for \$8,350 (cost is \$5,030).
- 14 Sold merchandise on credit to Kim Newsom, Invoice No. 921, for \$4,100 (cost is \$2,800).
- 15 Received payment from Kim Newsom for the July 5 sale, less the discount.
- 15 Issued Check No. 302, payable to Payroll, in payment of sales salaries expense for the first half of the month, \$30,620. Cashed the check and paid employees.
- 15 Cash sales for the first half of the month are \$121,370 (cost is \$66,330). (Cash sales are recorded daily using data from the cash registers but are recorded only twice in this problem to reduce repetitive entries.)
- 16 Received payment from Ruth Baker for the July 6 sale, less the discount.
- 17 Purchased \$8,200 of merchandise on credit from Dixon Company, invoice dated July 17, terms 2/10, n/30.
- 20 Purchased \$750 of office supplies on credit from Caro's Supply, invoice dated July 19, terms n/10 EOM.
- 21 Borrowed \$20,000 cash from College Bank by signing a long-term note payable.
- 23 Received payment from Stephanie Meyer for the July 13 sale, less the discount.
- 24 Received payment from Kim Newsom for the July 14 sale, less the discount.
- 24 Received a \$2,400 credit memorandum from Dixon Company for the return of defective merchandise received on July 17.
- 26 Purchased \$9,770 of merchandise on credit from Tahoe Company, invoice dated July 26, terms 2/10, n/30.
- 27 Issued Check No. 303 to Dixon Company in payment of its July 17 invoice, less the return and the discount.
- 29 Sold merchandise on credit to Ruth Baker, Invoice No. 922, for \$28,090 (cost is \$22,850).
- 30 Sold merchandise on credit to Stephanie Meyer, Invoice No. 923, for \$15,750 (cost is \$9,840).
- 31 Issued Check No. 304, payable to Payroll, in payment of the sales salaries expense for the last half of the month, \$30,620.
- 31 Cash sales for the last half of the month are \$79,020 (cost is \$51,855).

### Required

1. Prepare a sales journal like that in Exhibit E.5 and a cash receipts journal like that in Exhibit E.7. Number both journals as page 3. Then review the transactions of Alcorn Industries and enter those transactions that should be journalized in the sales journal and those that should be journalized in the cash receipts journal. Ignore any transactions that should be journalized in a purchases journal, a cash disbursements journal, or a general journal.
2. Open the following general ledger accounts: Cash, Accounts Receivable, Inventory, Long-Term Notes Payable, Common Stock, Retained Earnings, Sales, Sales Discounts, and Cost of Goods Sold. Enter the June 30 balances for Cash (\$100,000), Inventory (\$200,000), Long-Term Notes Payable (\$200,000), Common Stock (\$10,000), and Retained Earnings (\$90,000). Also open accounts receivable subsidiary ledger accounts for Kim Newsom, Stephanie Meyer, and Ruth Baker.
3. Verify that amounts that should be posted as individual amounts from the journals have been posted. (Such items are immediately posted.) Foot and crossfoot the journals and make the month-end postings.
4. Prepare a trial balance of the general ledger and prove the accuracy of the subsidiary ledger by preparing a schedule of accounts receivable.

**Check** Trial balance totals, \$602,580

### Analysis Component

5. Assume that the total for the schedule of Accounts Receivable does not equal the balance of the controlling account in the general ledger. Describe steps you would take to discover the error(s).

**Problem E-2B<sup>A</sup>**

Special journals, subsidiary ledgers, and schedule of accounts receivable—periodic

C3 P2 P3

**Check** Trial balance totals, \$602,580

Assume that Alcorn Industries in Problem E-1B uses the periodic inventory system.

**Required**

1. Prepare headings for a sales journal like the one in Exhibit E-A.1. Prepare headings for a cash receipts journal like the one in Exhibit E-A.2. Journalize the July transactions shown in Problem E-1B that should be recorded in the sales journal and the cash receipts journal assuming the periodic inventory system is used.
2. Open the general ledger accounts with balances as shown in Problem E-1B (do not open a Cost of Goods Sold ledger account). Also open accounts receivable subsidiary ledger accounts for Ruth Baker, Stephanie Meyer, and Kim Newsom. Under the periodic system, an Inventory account exists but is inactive until its balance is updated to the correct inventory balance at year-end. In this problem, the Inventory account remains inactive but must be included to correctly complete the trial balance.
3. Complete parts 3, 4, and 5 of Problem E-1B using the results of parts 1 and 2 of this problem.

**Problem E-3B**

Special journals, subsidiary ledgers, and schedule of accounts payable—perpetual

C3 P1 P2

**Check** Trial balance totals, \$349,130

The July transactions of Alcorn Industries are described in Problem E-1B.

**Required**

1. Prepare a general journal, a purchases journal like that in Exhibit E.9, and a cash disbursements journal like that in Exhibit E.11. Number all journal pages as page 3. Review the July transactions of Alcorn Industries and enter those transactions that should be journalized in the general journal, the purchases journal, or the cash disbursements journal. Ignore any transactions that should be journalized in a sales journal or cash receipts journal.
2. Open the following general ledger accounts: Cash, Inventory, Office Supplies, Store Supplies, Store Equipment, Accounts Payable, Long-Term Notes Payable, Common Stock, Retained Earnings, Sales Salaries Expense, and Advertising Expense. Enter the June 30 balances of Cash (\$100,000), Inventory (\$200,000), Long-Term Notes Payable (\$200,000), Common Stock (\$10,000), and Retained Earnings (\$90,000). Also open accounts payable subsidiary ledger accounts for Caro's Supply, Tahoe Company, Dixon Company, and Pryor, Inc.
3. Verify that amounts that should be posted as individual amounts from the journals have been posted. (Such items are immediately posted.) Foot and crossfoot the journals and make the month-end postings.
4. Prepare a trial balance of the general ledger and a schedule of accounts payable.

**Problem E-4B<sup>A</sup>**

Special journals, subsidiary ledgers, and schedule of accounts payable—periodic

C3 P2 P3

**Check** Trial balance totals, \$351,772

Refer to Problem E-1B and assume that Alcorn uses the periodic inventory system.

**Required**

1. Prepare a general journal, a purchases journal like that in Exhibit E-A.3, and a cash disbursements journal like that in Exhibit E-A.4. Number all journal pages as page 3. Review the July transactions of Alcorn Company (Problem E-1B) and enter those transactions that should be journalized in the general journal, the purchases journal, or the cash disbursements journal. Ignore any transaction that should be journalized in a sales journal or cash receipts journal.
2. Open the following general ledger accounts: Cash, Inventory, Office Supplies, Store Supplies, Store Equipment, Accounts Payable, Long-Term Notes Payable, Common Stock, Retained Earnings, Purchases, Purchases Returns and Allowances, Purchases Discounts, Sales Salaries Expense, and Advertising Expense. Enter the June 30 balances of Cash (\$100,000), Inventory (\$200,000), Long-Term Notes Payable (\$200,000), Common Stock (\$10,000), and Retained Earnings (\$90,000). Also open accounts payable subsidiary ledger accounts for Tahoe Company, Pryor, Inc., Caro's Supply, and Dixon Company.
3. Complete parts 3 and 4 of Problem E-3B using the results of parts 1 and 2 of this problem.

**Problem E-5B**

Special journals, subsidiary ledgers, trial balance—perpetual

C3 P2 P3

Suppan Company completes these transactions during November of the current year (terms for all its credit sales are 2/10, n/30).

- Nov. 1 Purchased \$5,062 of office equipment on credit from Blix Supply, invoice dated November 1, terms n/10 EOM.
- 2 Borrowed \$86,250 cash from Kansas Bank by signing a long-term note payable.
- 4 Purchased \$11,400 of merchandise from ATM Industries, invoice dated November 3, terms 2/10, n/30.
- 5 Purchased \$1,020 of store supplies on credit from Globe Company, invoice dated November 5, terms n/10 EOM.



- 8 Sold merchandise on credit to Sid Ragan, Invoice No. 439, for \$6,350 (cost is \$3,710).
- 10 Sold merchandise on credit to Carlos Mane, Invoice No. 440, for \$12,500 (cost is \$7,500).
- 11 Purchased \$2,887 of merchandise from Xu Company, invoice dated November 10, terms 2/10, n/30.
- 12 Sent ATM Industries Check No. 633 in payment of its November 3 invoice less the discount.
- 15 Issued Check No. 634, payable to Payroll, in payment of sales salaries expense for the first half of the month, \$8,435. Cashed the check and paid the employees.
- 15 Cash sales for the first half of the month are \$27,170 (cost is \$17,000). (Cash sales are recorded daily but are recorded only twice in this problem to reduce repetitive entries.)
- 15 Sold merchandise on credit to Tony Timmons, Invoice No. 441, for \$4,250 (cost is \$1,450).
- 16 Purchased \$559 of office supplies on credit from Globe Company, invoice dated November 16, terms n/10 EOM.
- 17 Received a \$487 credit memorandum from Xu Company for the return of unsatisfactory merchandise purchased on November 11.
- 18 Received payment from Sid Ragan for the November 8 sale less the discount.
- 19 Received payment from Carlos Mane for the November 10 sale less the discount.
- 19 Issued Check No. 635 to Xu Company in payment of its invoice of November 10 less the return and the discount.
- 22 Sold merchandise on credit to Carlos Mane, Invoice No. 442, for \$2,595 (cost is \$1,060).
- 24 Sold merchandise on credit to Tony Timmons, Invoice No. 443, for \$3,240 (cost is \$1,090).
- 25 Received payment from Tony Timmons for the sale of November 15 less the discount.
- 26 Received a \$922 credit memorandum from Blix Supply for the return of office equipment purchased on November 1.
- 30 Issued Check No. 636, payable to Payroll, in payment of sales salaries expense for the last half of the month, \$8,435. Cashed the check and paid the employees.
- 30 Cash sales for the last half of the month are \$35,703 (cost is \$20,400).
- 30 Verify that amounts impacting customer and creditor accounts were posted and that any amounts that should have been posted as individual amounts to the general ledger accounts were posted. Foot and crossfoot the journals and make the month-end postings.

### Required

1. Open the following general ledger accounts: Cash; Accounts Receivable; Inventory (November 1 beg. bal. is \$40,000); Office Supplies; Store Supplies; Office Equipment; Accounts Payable; Long-Term Notes Payable; Common Stock (Nov. 1 beg. bal. is \$10,000), and Retained Earnings (Nov. 1 beg. bal. is \$30,000); Sales; Sales Discounts; Cost of Goods Sold; and Sales Salaries Expense. Open the following accounts receivable subsidiary ledger accounts: Carlos Mane, Tony Timmons, and Sid Ragan. Open the following accounts payable subsidiary ledger accounts: Globe Company, ATM Industries, Blix Supply, and Xu Company.
2. Enter these transactions in a sales journal like that in Exhibit E.5, a purchases journal like that in Exhibit E.9, a cash receipts journal like that in Exhibit E.7, a cash disbursements journal like that in Exhibit E.11, or a general journal. Number all journal pages as page 2.
3. Prepare a trial balance of the general ledger and prove the accuracy of the subsidiary ledgers by preparing schedules of both accounts receivable and accounts payable.

**Check** Trial balance totals, \$223,777

Assume that Suppan Company in Problem E-5B uses the periodic inventory system.

### Required

1. Open the following general ledger accounts: Cash; Accounts Receivable; Inventory (November 1 beg. bal. is \$40,000); Office Supplies; Store Supplies; Office Equipment; Accounts Payable; Long-Term Notes Payable; Common Stock (Nov. 1 beg. bal. is \$10,000), and Retained Earnings (Nov. 1 beg. bal. is \$30,000); Sales; Sales Discounts; Purchases; Purchases Returns and Allowances; Purchases Discounts; and Sales Salaries Expense. Open the following accounts receivable subsidiary ledger accounts: Carlos Mane, Tony Timmons, and Sid Ragan. Open the following accounts payable subsidiary ledger accounts: Globe Company, ATM Industries, Blix Supply, and Xu Company.
2. Enter the transactions from Problem E-5B in a sales journal like that in Exhibit E-A.1, a purchases journal like that in Exhibit E-A.3, a cash receipts journal like that in Exhibit E-A.2, a cash disbursements journal like that in Exhibit E-A.4, or a general journal. Number journal pages as page 2.
3. Prepare a trial balance of the general ledger and prove the accuracy of the subsidiary ledgers by preparing schedules of both accounts receivable and accounts payable.

### Problem E-6B<sup>A</sup>

Special journals, subsidiary ledgers, trial balance—periodic

**C3 P2 P3**

**Check** Trial balance totals, \$224,540





## SERIAL PROBLEM

Business Solutions P1

(This serial problem began in Chapter 1 and continues through most of the book. If previous chapter segments were not completed, the serial problem can begin at this point. It is helpful, but not necessary, to use the Working Papers that accompany the book.)

**SP E** Assume that Santana Rey expands Business Solutions' accounting system to include special journals.

### Required

1. Locate the transactions related to January through March 2012 for Business Solutions in Chapter 4.
2. Enter the Business Solutions transactions for January through March in a sales journal like that in Exhibit E.5 (insert "n/a" in the Invoice column), a cash receipts journal like that in Exhibit E.7, a purchases journal like that in Exhibit E.9 (use Computer Supplies heading instead of Office Supplies), and a cash disbursements journal like that in Exhibit E.11 (insert "n/a" in the Check Number column), or a general journal. Number journal pages as page 2. If the transaction does not specify the name of the payee, state "not specified" in the Payee column of the cash disbursements journal.
3. The transactions on the following dates should be journalized in the general journal: January 5, 11, 20, 24, and 29 (no entry required) and March 24. Do not record and post the adjusting entries for the end of March.

## Beyond the Numbers

### REPORTING IN ACTION

A1 

**RIM**

**BTN E-1** Refer to **Research In Motion's** financial statements in Appendix A to answer the following.

1. Identify the note that reports on Research In Motion's business segments.
2. Describe the focus and activities of each of Research In Motion's business segments.

### Fast Forward

3. Access Research In Motion's annual report for fiscal years ending after February 27, 2010, from its Website (**RIM.com**) or the SEC's EDGAR database (**www.SEC.gov**). Has Research In Motion changed its reporting policy regarding segment information? Explain.

### COMPARATIVE ANALYSIS

A1 

**RIM**

Apple

**BTN E-2** Key figures for **Research In Motion** and **Apple** follow (\$ millions).

| RIM Segment             | Current Year    |                | One Year Prior  |                | Two Years Prior |                |
|-------------------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|
|                         | Segment Revenue | Segment Assets | Segment Revenue | Segment Assets | Segment Revenue | Segment Assets |
| Domestic . . . . .      | \$8,620         | \$4,059        | \$6,968         | \$2,647        | \$3,529         | \$1,739        |
| International . . . . . | 6,333           | 6,145          | 4,097           | 5,454          | 2,480           | 3,772          |

| Apple Segment           | Current Year    |                | One Year Prior  |                | Two Years Prior |                |
|-------------------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|
|                         | Segment Revenue | Segment Assets | Segment Revenue | Segment Assets | Segment Revenue | Segment Assets |
| Domestic . . . . .      | \$22,325        | \$2,698        | \$20,893        | \$2,269        | \$14,683        | \$1,752        |
| International . . . . . | 20,580          | 495            | 16,598          | 410            | 9,895           | 260            |

### Required

1. Compute the ratio of segment revenue divided by segment assets for each of the segments of Research In Motion and Apple for each of the two most recent years shown. (We do not compute the segment return on assets as these companies did not report their segment income.)
2. Interpret and comment on your results of part 1.





**BTN E-3** Erica Gray, CPA, is a sole practitioner. She has been practicing as an auditor for 10 years. Recently a long-standing audit client asked Gray to design and implement an integrated computer-based accounting information system. The fees associated with this additional engagement with the client are very attractive. However, Gray wonders if she can remain objective on subsequent audits in her evaluation of the client's accounting system and its records if she was responsible for its design and implementation. Gray knows that professional auditing standards require her to remain independent in fact and appearance from her auditing clients.

## ETHICS CHALLENGE



### Required

1. What do you believe auditing standards are mainly concerned with when they require independence in fact? In appearance?
2. Why is it important that auditors remain independent of their clients?
3. Do you think Gray can accept this engagement and remain independent? Justify your response.

**BTN E-4** Your friend, Wendy Geiger, owns a small retail store that sells candies and nuts. Geiger acquires her goods from a few select vendors. She generally makes purchase orders by phone and on credit. Sales are primarily for cash. Geiger keeps her own manual accounting system using a general journal and a general ledger. At the end of each business day, she records one summary entry for cash sales. Geiger recently began offering items in creative gift packages. This has increased sales substantially, and she is now receiving orders from corporate and other clients who order large quantities and prefer to buy on credit. As a result of increased credit transactions in both purchases and sales, keeping the accounting records has become extremely time consuming. Geiger wants to continue to maintain her own manual system and calls you for advice. Write a memo to her advising how she might modify her current manual accounting system to accommodate the expanded business activities. Geiger is accustomed to checking her ledger by using a trial balance. Your memo should explain the advantages of what you propose and of any other verification techniques you recommend.

## COMMUNICATING IN PRACTICE



**BTN E-5** Access the March 18, 2010, filing of the fiscal 2010 10-K report for **Dell** (ticker DELL) at [www.SEC.gov](http://www.sec.gov). Read its Note 14 that details Dell's segment information and answer the following.

## TAKING IT TO THE NET

1. Dell's operations are divided among which four global business segments?
2. In fiscal year 2010, which segment had the largest dollar amount of operating income? Which had the largest amount of assets?
3. Compute the return on assets for each segment for fiscal year 2010. Use operating income and average total assets by segment for your calculation. Which segment has the highest return on assets?
4. For what product groups does Dell provide segment data? What percent of Dell's net revenue is earned by each product group?



**BTN E-6** Each member of the team is to assume responsibility for one of the following tasks:

- a. Journalizing in the purchases journal.
- b. Journalizing in the cash disbursements journal.
- c. Maintaining and verifying the Accounts Payable ledger.
- d. Journalizing in the sales journal and the general journal.
- e. Journalizing in the cash receipts journal.
- f. Maintaining and verifying the Accounts Receivable ledger.

## TEAMWORK IN ACTION

C3 P1 P2

The team should abide by the following procedures in carrying out responsibilities.

### Required

1. After tasks *a–f* are assigned, each team member is to quickly read the list of transactions in Problem E-5A, identifying with initials the journal in which each transaction is to be recorded. Upon completion,



the team leader is to read transaction dates, and the appropriate team member is to vocalize responsibility. Any disagreement between teammates must be resolved.

2. Journalize and continually update subsidiary ledgers. Journal recorders should alert teammates assigned to subsidiary ledgers when an entry must be posted to their subsidiary.
3. Team members responsible for tasks *a*, *b*, *d*, and *e* are to summarize and prove journals; members responsible for tasks *c* and *f* are to prepare both payables and receivables schedules.
4. The team leader is to take charge of the general ledger, rotating team members to obtain amounts to be posted. The person responsible for a journal must complete posting references in that journal. Other team members should verify the accuracy of account balance computations. To avoid any abnormal account balances, post in the following order: P, S, G, R, D. (*Note:* Posting any necessary individual general ledger amounts is also done at this time.)
5. The team leader is to read out general ledger account balances while another team member fills in the trial balance form. Concurrently, one member should keep a running balance of debit account balance totals and another credit account balance totals. Verify the final total of the trial balance and the schedules. If necessary, the team must resolve any errors. Turn in the trial balance and schedules to the instructor.

## GLOBAL DECISION



NOKIA

**BTN E-7** Access and refer to the December 31, 2009, annual report for **Nokia** at [www.Nokia.com](http://www.Nokia.com).

### Required

1. Identify its Note 2 (Segmental Information) to its financial statements and locate its information relating to Nokia's operating and reportable segments. Identify those three segments.
2. What financial figures does it disclose for each segment?
3. Does Nokia have a dominant segment? Explain.

## ANSWERS TO MULTIPLE CHOICE QUIZ

- |      |      |
|------|------|
| 1. a | 4. b |
| 2. e | 5. a |
| 3. d |      |