

# *System 20/20*

## **PRODUCT DESCRIPTION**

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## 1. INTRODUCTION

### WHAT IS System 20/20?

System 20/20 is a software product, which enables you to configure your own system by licensing all or any combination of the twenty available modules. The system combines ease of use with sophisticated features that include on-line inquiry capabilities in each application module. The following fully integrated modules can be utilized to address the financial, cost accounting and human resource challenges of a company.

- Accounts Payable
- Accounts Receivable
- Contracts Management
- Cost Accounting
- Equipment
- Estimating
- Fixed Assets
- General Ledger
- Human Resources
- Inventory
- Labor Distribution
- Payroll
- Purchasing
- Receiving
- Report Generator
- Software Release
- System Control
- System Development
- Subcontracts
- Work Order

### COMPANY BACKGROUND

Construction Information Systems (CIS) developed system 20/20 for installation on a wide range of computers and operating systems. Since its inception in 1970, CIS has successfully researched and developed three application software systems for construction and related project oriented businesses. CIS currently offers the tenth release of its current application software product, System 20/20.

System 20/20 accommodates a variety of business applications and organizational structures. Although it is primarily targeted for large companies (\$50 million to over \$1 billion) who require a project oriented product, System 20/20 can be customized to meet the diverse needs of many companies across varying industries. Currently, it is used in such industries as construction, mining, agribusiness, discrete manufacturing, aerospace, lumber, railroad, hotel, telecommunication, and transportation.

### OPERATING ENVIRONMENT / PORTABLE DATABASE

System 20/20 utilizes IBM's Universe as its relational database management system. You can extract data from any portion of the database and create your own reports.

Universe is an open database environment that is portable across a wide range of operating systems (Windows, Unix, Linux, etc) and computer types (PC, workstation, minicomputer, and mainframe). This enables our customers to choose the computer that optimally matches their architecture requirements.

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System 20/20 can be transferred from one computing environment to another without altering the application software programs. This feature protects your investment in systems and training, while providing maximum flexibility for future hardware and operating environment requirements.

### **WHAT UNIQUE STRATEGIES DOES System 20/20 OFFER?**

System 20/20 offers an affordable solution, which enables you to effectively implement procedures for accessing, integrating and maintaining your valuable sources of information. This translates into the following features:

- Multi-company capability and inter-company transactions
- User-defined options control the operation of each module
- Security access at the user, module, and menu item levels
- Data import feature that facilitates system conversion
- Batch job capability for background processing
- Custom-defined user menus meet the specific requirements of each client
- Job stream feature for consolidating a sequence of processes into a single step
- Accessible on-line, context sensitive help system
- Extensive inquiry and tracking facilities within all modules
- Executive Menu with cross-module inquiry features for senior management
- Electronic Mail (Email)
- Informative and detailed reports
- Responsive customer support
- Periodic updates of new software enhancements
- Quarterly software releases
- Complete set of user and system documentation manuals
- Easy portability across multiple computer manufacturers and operating systems
- Easy integration of customized features
- Consistent user interface throughout all modules
- Permits each user to select either a graphical user interface or character user interface
- Interface with document imaging systems
- Multilingual reporting with user defined translations

## *INTRODUCTION*

### **WHO USES System 20/20?**

Construction Information Systems has installed systems and supports customers worldwide in countries such as Australia, Argentina, Belgium, Brazil, Canada, Denmark, England, France, Japan, Spain and the United States. The following is a partial list of the companies who use the software products developed by CIS.

<b>COMPANY</b>	<b>INDUSTRY</b>	<b>LOCATION</b>
Caddell Construction Company	Construction	Montgomery, Alabama
Construtora Mendes Junior	Construction	Belo Horizonte, Brazil
Chenega Operating Services	Construction	Anchorage, Alaska
GEA, Inc	Manufacturing	Columbia, Maryland
Hilton Hotels Corporation	Hotels	Las Vegas, Nevada
Huarte Construction	Construction	Madrid, Spain
Industrial Information Resources	Publishing	Houston, Texas
Jacobs Associates	Engineering	San Francisco, California
Mauna Loa Macadamia Nut Corporation	Agriculture	Hilo, Hawaii
Miller Contracting Limited	Construction	Vancouver, Canada
Park Place Entertainment	Gaming	Las Vegas, Nevada
Patterson Builders	Construction	Los Angeles, California
Siller Brothers	Logging	Yuba City, California
Snyder Langston Builders	Construction	Irvine, California
Swiss Services of Nevada	Manufacturing	Las Vegas, Nevada
Swinerton & Walberg	Construction	San Francisco, California
Tucson Electric Power	Power Generation	Springerville, Arizona
Vancouver Pile Driving	Engineering	Vancouver, Canada

## *INTRODUCTION*

### **WHAT MODULES ARE AVAILABLE IN System 20/20?**

The following description provides a module by module abstract of System 20/20.

<b>ACCOUNTS PAYABLE</b>	enables the user to easily process and pay vendor invoices. All invoices are expensed to the appropriate subledger: Cost Accounting, Inventory, Equipment, Work Order, Payroll, and General Ledger.
<b>ACCOUNTS RECEIVABLE</b>	is used to process and print customer billings and record payments against these generated invoices. Invoices can either be directly entered or generated from the Cost Accounting, Equipment, Work Order or Inventory modules.
<b>CONTRACTS MANAGEMENT</b>	enables you to administer the paperwork associated with pending changes in a project that may impact budgets, subcontracts, and/or purchase orders. This module monitors the paperwork through the appropriate determination and approval actions.
<b>COST ACCOUNTING</b>	is functionally a job cost system that tracks the cost, production, schedule and revenue components of a project. This module is used to report on the actual progress achieved on a project; provide management with complete reports that show actual performance versus budgeted performance; and create a detailed cost subledger to a company's general ledger.
<b>EQUIPMENT</b>	meets all the rental computation, historical costing, inventory, and maintenance scheduling needs of a company's equipment fleet.
<b>ESTIMATING</b>	enables a user to compute a total estimated "cost" for a project; distribute overhead costs and apply profit to arrive at a "bid price"; define schedules and compute the resource demand, cash flow, and return on investment analyses; specify a hierarchy of inflation and escalation indices to compute anticipated incremental costs and revenue; and provide risk analyses of a project's estimate.
<b>FIXED ASSETS</b>	computes financial depreciation on each asset for both book and tax reporting.
<b>GENERAL LEDGER</b>	receives journal transactions from the other modules in the system to maintain a balance in a company's chart of accounts. General Ledger is considered the end depository for System 20/20's "monetary" transactions and allows the customer to design and generate unique financial reports.
<b>HUMAN RESOURCES</b>	provides the user with an applicant and employee management system that consists of the following menu features: Job Requisition Processing, Applicant Tracking, Affirmative Action, Labor Relations, and Employee Records.

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<b>INVENTORY</b>	maintains a record of the quantity, value, and physical location of every inventory item; provides order entry functions; and controls the issuance of inventory to other modules. The Inventory module features multiple warehouses with on- line status of any inventory item in any or all the warehouses.
<b>LABOR DISTRIBUTION</b>	provides all necessary tools to capture employee timecards, generate an export file for use by an external payroll service, import the computed payroll data, and distribute the payroll costs to the appropriate expense destinations.
<b>PAYROLL</b>	provides all the necessary tools to compute and pay employees. Payroll accommodates each company's employer burden requirements and computation methods.
<b>PURCHASING</b>	monitors the flow of externally purchased materials from the point of purchase requisition to solicitation of quotations, purchase order generation and vendor invoice validation
<b>RECEIVING</b>	records materials received and charges them to the appropriate expense subledger. Based on a company's module set up, posted receiving transactions can generate cost transactions in any or all of the following modules: Cost Accounting, Inventory, Purchasing, Equipment, Work Order, General Ledger.
<b>SOFTWARE RELEASE</b>	is available for those clients with data processing departments who want to develop custom modules or features. Software Release also facilitates the transfer and update procedures of System 20/20 program enhancements
<b>SUBCONTRACTS</b>	controls the issuance of subcontracts, change orders and subcontract payment requests.
<b>SYSTEM CONTROL</b>	is used primarily by the database administrator for initializing and maintaining each customer's system configuration and security access. System Control also features database conversion and batch processing capabilities.
<b>SYSTEM DEVELOPMENT</b>	is utilized by CIS and the database administrator to streamline program development and system analysis. The System Development module provides a consistent standard for programming design and development; reduces the maintenance of a customer's database; and facilitates the configuration of the System 20/20 software product for diverse computer and operating system environments.
<b>WORK ORDER</b>	provides a method of cost accumulation that is primarily used when performing maintenance work orders on equipment identified in the Equipment module, on fabrication or assembly of products used in the Inventory module, or on short term jobs (work orders) that may be billed to outside customers or cost centers.

## **2. ACCOUNTS PAYABLE**

### **DESIGN CONCEPTS**

The purpose of the Accounts Payable module is to process and pay vendor invoices. All purchase invoices must be costed to the appropriate subsidiary ledger; for example, job related expenses are sent to the Cost Accounting module and inventory material purchases are costed to the Inventory module.

At the time of invoice entry, a purchase invoice can be validated against a purchase order in the Purchasing module, and the appropriate receiving documents in the Receiving module, before being recognized as a liability. All purchase invoices, and their subsequent payments, are posted automatically to the General Ledger using the accounts derived from the subsidiary ledger distribution.

### **FEATURES**

- Multiple companies operate simultaneously within the module.
- User-defined purchase order validation criteria by either company or specific vendor.
- Purchase order "tolerance parameter" definition. The invoice amount can exceed the associated purchase order amount by either a fixed dollar value, a percentage of the purchase order value, or as a combination of both, and still be accepted as a liability.
- Vendor master records can be flagged with a threshold amount; any invoice below the specified threshold does not require an associated purchase order or receiver for invoice processing.
- Accommodates sales tax, use tax, goods and services tax, and value added tax methods.
- Vendors and suppliers can share the same numbering system.
- Vendors can be accessed globally by a keyword name or by vendor number.
- Invoices may be recognized as liabilities of one company and expensed to other companies; the system automatically generates the appropriate intercompany clearing entries in the General Ledger.
- On-line validation prevents entry of a duplicate invoice for a vendor.
- On-line validation of all entered subledger expense distributions.
- Retention amounts can be entered on any invoice; the system separates payment of "net" and "retention" amounts.
- Freight type invoices from one vendor can be processed against a purchase order issued to another vendor.
- Recurring invoice entry and processing capability.
- Optional user-defined feature requires that a "receiving transaction" be posted before an invoice is applied to a purchase order.
- Automatically reverses any expense entries generated by the receiving transaction, and posts the actual invoice cost to the appropriate subledger.
- The "Check Request" feature allows you to enter an invoice, pay it and print the check simultaneously.
- Payments via check or Electronic Funds Transfer
- Credit memos may be issued against a specific invoice or as a general credit to a vendor.

## *ACCOUNTS PAYABLE*

- User controlled selection of unpaid invoices for payment using one or a combination of the following criteria:
  - ◆ Specific invoices
  - ◆ All unpaid invoices
  - ◆ All invoices due before a user specified date
  - ◆ All invoices with discount available
  - ◆ All or selected invoices for a specified vendor(s)
  - ◆ All invoices for a specific vendor type(s)
  - ◆ All invoices by vendor class(es)
  - ◆ All invoices which are past due a user-specified number of days
  - ◆ Invoices associated with a selected operating center(s)
  - ◆ Invoices associated with a selected cost center(s)
  - ◆ Subcontract payments requests
  - ◆ Retention invoices only
- Invoices can be paid for the total amount due or a partial payment.
- Invoices can be paid from multiple bank accounts.
- Discount amounts are automatically calculated based on user specified payment terms that can be assigned to each vendor and/or invoice. Discount earned is treated as miscellaneous income in the General Ledger.
- Invoices can be paid by either check or wire transfer.
- Easy customization of user-defined check formats.
- Automatic consolidation of all invoices payable to a single "pay to name" on one check.
- "Pay to name" can be different from a vendor's name on selected invoices. This feature can be used for joint check issuance or to insure separate and accurate disbursements for miscellaneous type vendors who are assigned a single vendor number.
- Subcontract payment requests can be broken into multiple checks with different joint payee names.
- Multiple "payment hold" methods:
  - ◆ Attach an accounts payable invoice to an accounts receivable invoice, so a vendor is not paid until a customer has paid.
  - ◆ Establish multiple criteria on a purchase order that can verify a "yes/no" condition, e.g., a date comparison or a value check.
  - ◆ Hold a specific invoice or hold all invoices for a vendor.
- Advance payments can be entered before receiving an invoice. This feature is often used for employee expense advances.
- Manually prepared checks, with "instant printing" capability.
- Commitment and commitment relief logic.
- Encumbrance and encumbrance relief logic for government accounting methods.
- Separate recognition of expense and liability entries from the payment entries in the General Ledger.
- On-line inquiry of historical vendor activity including demographic data, total amount invoiced to date, and balance due.

## ACCOUNTS PAYABLE

- Multi-level On-line Invoice Inquiry by Vendor
  - Total Invoice Activity for Selected Vendor
  - Summary Invoice Information
  - Receiver Information
  - Subledger Distribution Detail
  - Payment Details
- Multi-level On-line Check Activity Inquiry
  - Total Check Activity for Selected Vendor
  - Payment Detail associated with each Check
- Automatic accumulation of vendor activity by year.
- Generation of cash forecast report based on user-defined payment schedule.
- Bank reconciliation features that support multiple banks and multiple checking accounts.
- Purge processes for paid invoices, checks, etc. with interlocks that prevent deletion of "incomplete" transactions.

### MODULE INTERFACE

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Accounts Payable module.

		TRANSACTIONS
<b>Payroll</b>	⇒	Invoices for contributions and deductions
<b>Subcontracts</b>	⇒	Subcontract payment request invoices
<b>Cost Accounting</b>	⇐	Actual invoiced costs, quantities and commitment relief transactions
<b>Equipment</b>	⇐	Quantities and costs associated with external parts and equipment repair
<b>General Ledger</b>	⇐	Liability, expense and payment journals
<b>Inventory</b>	⇐	Purchase invoices
<b>Payroll</b>	⇐	Deductions for employee purchases
<b>Purchasing</b>	⇐	Invoiced quantities and costs against a purchase order
<b>Receiving</b>	⇐	Invoiced quantities, costs and invoice status
<b>Work Order</b>	⇐	Purchase invoices

## *ACCOUNTS PAYABLE*

### **REPORTS**

- Control File Section Listings
- Vendor Listing
- Vendor Transactions
- Vendor Summary
- Vendor Disbursements
- Unposted Invoices
- Unpaid Invoices
- Invoice Distribution
- Wire Transfers
- Lost Discounts
- Scheduled Payments
- Payment Check Register
- Outstanding Checks
- Processed Checks
- Cash Requirements
- Accounts Payable Subledger
- Aged Accounts Payables
- Federal 1099 Report

### **3. ACCOUNTS RECEIVABLE**

#### **DESIGN CONCEPTS**

The Accounts Receivable module is designed to accept the input of sales invoices, print invoices and statements, and record payments against those invoices. You can enter invoices directly into the Accounts Receivable module or generate them from the Cost Accounting, Equipment, Work Order, or Inventory modules.

#### **FEATURES**

- Multiple companies operate within the module simultaneously.
- "Open item" or "balance forward" methods of recording payments.
- Accommodates sales tax, goods and services tax, and value added tax methods.
- Supports credit limits and credit holds for customers.
- Customers can be accessed globally by a keyword name or customer number.
- Unlimited "ship to" locations for a customer, with tax codes by location.
- Supports entry of invoices, credit memos, cash sales invoices and recurring invoices.
- Flexible invoice entry screens meet the diverse needs of specific users.
- Product codes with table driven subledger and commission distributions.
- Multi-level sales persons and commission rates on a single invoice.
- Commission recipients and percentages can be revised after the invoice is posted.
- Retention processing capability.
- Multiple invoice print formats with flexible selection criteria by customer, invoice number, invoice type, etc.
- Computes finance charges and generates a service charge invoice on past due invoices based on user specified payment terms.
- Notepad feature for recording customer or collection activity comments can be associated with specific invoices.
- User-defined messages can be associated with invoices and statements.
- Miscellaneous cash receipts and unapplied payments entry.
- Voiding a cash receipt automatically resets the invoice(s) to an unpaid status.
- Multi-level On-line Invoice Inquiry by Customer

Total Invoice Activity for Selected Customer

Summary Invoice Data

Subledger Distribution

Receipt Details

- On-line inquiry of historical customer activity includes pertinent data such as contact name, credit limit, total receipts amount and balance due.
- Flexible print formats for periodic statements that meet each customer's requirements.
- Purge processes for all transactions with interlocks to prevent deletion of "incomplete transactions".

## ACCOUNTS RECEIVABLE

### MODULE INTERFACE

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Accounts Receivable module.

		TRANSACTIONS
<b>Cost Accounting</b>	⇒	Invoices for cost center billing
<b>Equipment</b>	⇒	Rental charges
<b>Inventory</b>	⇒	Customer order sales invoices and credit memos for returned goods
<b>Work Order</b>	⇒	Customer billings
<b>Cost Accounting</b>	⇐	Actual billing
<b>Equipment</b>	⇐	Customer billings of equipment rentals
<b>General Ledger</b>	⇐	Customer invoices, receipts, service charges, debit memos, unbilled retention
<b>Work Order</b>	⇐	Revenue transactions

### REPORTS

- Control File Section Listings
- Customer Listing
- Bill To Customer Listing
- Inactive Customer Listing
- Customer Performance
- Statements
- Billing and Receipt History
- Aged Accounts Receivable
- Accounts Receivable Subledger
- Invoice Detail
- Sales Invoices
- Unpaid Invoices - Collection Activity
- Unposted Recurring Invoices
- Projected Receipts
- Receipts Register
- Unapplied Payments
- Voided Receipts
- Summary Receipts Register
- Adjustment Journals
- Sales Tax Report (cash or accrual basis)
- Sales Commissions (cash or accrual basis)
- Product Analysis

## **4. CONTRACTS MANAGEMENT**

### **DESIGN CONCEPTS**

The Contracts Management module enables you to administer the paperwork associated with pending changes in a project that may impact budgets, subcontracts or purchase orders.

Contracts Management is designed to record all types of transactions associated with a cost center; these transactions may result in either a change order to a material supplier, a change order to a subcontractor, or a change order to the cost and/or revenue budget of a cost center.

Contracts Management monitors each document through the appropriate determination and approval actions. These documents are as diverse as drawings, bills of materials, schedules of quantities, letters, memos, owner's contract addenda, and subcontractor's memos.

Contracts Management involves the relationship between three parties: owner, contractor, and subcontractor. Generally, the user is considered the contractor who performs work for the owner by utilizing both his own resources and those of subcontractors.

### **FEATURES**

- Multiple cost centers within each Contracts Management database.
- Multiple codes can be assigned to reference documents for additional clarification and classification.
  - ◆ Document Source Codes
  - ◆ Document Class Codes
  - ◆ Document Type Codes
  - ◆ Responsibility Codes
  - ◆ Trade Codes
  - ◆ Variance Codes
- All documents are referred to by a sequentially assigned reference number within a cost center.
- Entry of contractor's direct cost estimate, indirect costs and add-ons associated with all reference documents.
- Variance assessment facility to determine cost impact of a reference document.
- Owner change order requests and recording of approved and non-approved change order requests.
- User-controlled generation of cost and/or revenue budget change transactions to the Cost Accounting module.
- Automatic generation of "request for quotation" letters, purchase orders, subcontracts, and change orders.
- Tickler file to monitor follow up actions.

## ***CONTRACTS MANAGEMENT***

### **MODULE INTERFACE**

The following **System 20/20** modules receive ( ⇐ ) transactions from the Contracts Management module.

#### **TRANSACTIONS**

<b>Cost</b>	⇐	Cost and/or revenue budget revisions
<b>Accounting</b>		
<b>Purchasing</b>	⇐	Purchase orders and/or change orders, backcharge change orders
<b>Subcontracts</b>	⇐	Subcontract orders and/or change orders, backcharge change orders

### **REPORTS**

- |  |   |
|--|---|
| <input type="checkbox"/> Control File Section Listings | <input type="checkbox"/> Document Cross Reference   |
| <input type="checkbox"/> Request for Quotation Letter  | <input type="checkbox"/> Owner Change Order Request |
| <input type="checkbox"/> Outstanding Quotation Listing | <input type="checkbox"/> Owner Change Order         |
| <input type="checkbox"/> Contractors Status            | <input type="checkbox"/> Subcontractor Backcharge   |
| <input type="checkbox"/> Owners Status                 | <input type="checkbox"/> Reference Document Detail  |
| <input type="checkbox"/> Subcontractor Status          | <input type="checkbox"/> Selective Mailing Labels   |

## 5. COST ACCOUNTING

### DESIGN CONCEPTS

The Cost Accounting module of System 20/20 is a "job cost" module, which allows you to manage the costs of your cost centers. The term, "cost accounting" is used instead of the more common term, "job costing" because cost centers may represent either real projects or departmental cost centers.

The design objectives of the Cost Accounting module are to provide management with concise and complete reports showing how actual performance compares with budgeted performance. In the predominant area of costs, this translates to a comparison of the "actual cost of work performed" (ACWP) with both the "budgeted cost of work performed" (BCWP) and the "budgeted cost of work scheduled" (BCWS).

The Cost Accounting module has two primary objectives. First, it enables you to budget the production operations of your company; you can compare the actual performance of those operations against the budget to supply each level of management with the information essential to make timely, accurate and effective decisions. The second objective is to provide a detailed cost subledger to your company's General Ledger. These principal objectives are met through the use of the various data elements that are maintained in the Cost Accounting database.

### FEATURES

- Multiple work breakdown structures can be defined and each of these utilize the following "key" data elements:
  - ◆ **Company** is the "Owner" of cost center
  - ◆ **Operating Center** is responsible for the cost center within the "owning" company
  - ◆ **Cost Center** is job, project, or department number
  - ◆ **Level** is the hierarchy in work breakdown structure
  - ◆ **Cost Account** is the work package or task
  - ◆ **Data Type** differentiates cost, production, revenue, and schedule data elements
  - ◆ **Detail Code** differentiates expenses within data type, e.g., separates labor costs by craft
- Unlimited user-defined data types, e.g., labor, material, subcontract, contract revenue, change order revenue, schedule, etc.
- Allocation of payroll burdens to each cost center via user-defined options.
- User-defined "summarization" rules for aggregating cost accounts within multiple work breakdown structures; i.e., cost center subtotalling can be completely independent of the cost account code.
- Detail code options by cost center by source module, e.g., labor costs from the Payroll module by craft, or by employee.
- Billing surcharge accrual tables enable the system to compute customer billing surcharge amounts using either a surcharge rate or a lump sum amount.
- Multiple cost centers can be processed simultaneously.
- Work breakdown structure for each cost center is user-defined.

## *COST ACCOUNTING*

- Multiple work breakdown structures can be processed simultaneously for each cost center; however, the system only requires the entry of source transactions to a single work breakdown structure. This feature permits the generation of reports according to multiple charts of accounts, e.g., the project manager's, an estimating standard, the client's reporting requirements, etc.
- "Actual" or "committed" options available for processing and reporting cost center data.
- Periodicity for transaction accumulation by cost center is user-defined, e.g., weekly, biweekly, semi-monthly, monthly, or fiscal period.
- Retroactive report generation delineates a project's progress; these options are accomplished by the accumulation of all data elements in the Cost Accounting database by period.
- Cost Variance analysis results in a quantitative evaluation. You can define "variance codes" and assign a percentage weighting factor by period to the cost variance amounts.
- User-defined labor charge rates expense labor costs to specific cost centers. These rates are used to override the actual payroll rates in the payroll module and replace them with rates that may be used for billing jobs.
- Accrued costs can be recorded and automatically reversed.
- Committed costs, invoiced costs against commitments, and open commitments by purchase order and subcontract within each cost account can be reported.
- Flexible budgeting techniques. A budget can be passed to the Cost Accounting module from the Estimating module, or can be entered directly into the Cost Accounting module. If entered directly, the budget can be expressed as either the "total budget" for the cost account or as the "incremental budget" by cost center period.
- Both original and current budgets are maintained by the system.
- Earned budgets (BCWP) are determined by optional methods: (1) computation based on physical progress achieved, or (2) allocated budgets entered by the user.
- Continuous projection of costs at completion based on actual performance utilizing a user-selected algorithm.
- Estimated cost at completion can be entered as either the "total" projected cost or the "remaining" projected cost.
- Continual computation of the following key management data elements:
  - ◆ Percent complete
  - ◆ Budgeted cost of work performed
  - ◆ Budgeted cost of work scheduled
  - ◆ Actual cost of work performed
  - ◆ Current and to date cost variance
  - ◆ Current and to date schedule variance
  - ◆ Estimated cost at completion
  - ◆ Estimated cost variance at completion
  - ◆ Estimated schedule variance at completion
- Preparation and generation of customer invoices in custom or standard AIA formats.
- Multiple methods of arriving at invoice cost.
- Time and materials billing capability allows you to bill at an individual cost transaction level through the utilization of billing rate schedules.

## *COST ACCOUNTING*

- Income Recognition processes automates the computation of General Ledger journals according to user-specified rules.
- External audit requirements can be met through the compilation of detail transactions.
- Multi-level Cost Account On-line inquiry provides immediate access to detail transaction information for cost accounts.
  - Cost Account Selection Screen
    - Budget Detail
    - Actual Detail
    - Commitment Detail
- Multi-level Cost Center On-line inquiry enables you to easily track the detail transactions associated with the costs, revenue, and production amounts accumulated in each cost center.
  - Cost Center Selection
    - Cost Center Recap
      - Margin Analysis by period
  - Cost Account Group Summary
    - Cost Account Summary
      - Cost Account Detail
        - Budget, Actual Cost, Commitment & Projection Transaction Listings
          - Transaction Detail
  - Revenue Account Group Summary
    - Revenue Account Summary
      - Revenue Account Detail
        - Budget & Actual Transaction Listings
          - Transaction Detail
  - Production Account Summary
    - Budget, Actual & Production Transaction Listings
      - Transaction Detail
- Project schedule data can be entered either directly or through the interface with a CPM module.
- Specification of non-linear distribution of resource consumption over the scheduled duration of a cost account.
- Actual performance schedules associated with cost accounts compute the budgeted cost of work scheduled (BCWS) for each cost account.
- The Cost Accounting database is specifically designed to facilitate the generation of user designed report formats using the operating system's integral report writer.

## *COST ACCOUNTING*

### **MODULE INTERFACE**

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Cost Accounting module.

		<b>TRANSACTIONS</b>
<b>Accounts Payable</b>	⇒	Actual invoiced costs, quantities and commitment relief's
<b>Accounts Receivable</b>	⇒	Actual billing
<b>Contracts Management</b>	⇒	Cost and/or revenue budget revisions
<b>Equipment</b>	⇒	Rental charges
<b>Estimating</b>	⇒	Revenue, cost and production budgets
<b>Fixed Assets</b>	⇒	Asset depreciation charges
<b>General Ledger</b>	⇒	Adjusting journals
<b>Inventory</b>	⇒	Inventory issues
<b>Payroll</b>	⇒	Actual labor costs and hours, labor accruals
<b>Purchasing</b>	⇒	Commitments and commitment relief transactions
<b>Receiving</b>	⇒	Estimated costs related to delivery tickets and commitment relief's
<b>Subcontracts</b>	⇒	Commitments and commitment relief transactions
<b>Work Order</b>	⇒	Work order costs and billings
<b>Accounts Receivable</b>	⇐	Invoices for cost center billing
<b>General Ledger</b>	⇐	Cost and revenue transfers, cost and revenue journals, income recognition journals, billing surcharges, cost allocations

## ***COST ACCOUNTING***

### **REPORTS**

- Control File Section Listings
- Cost Center Listing
- Cost Center Chart of Accounts
- Cost Center Summarization
- Cost Center Allocation
- Cost Account Summarization
- Cost Account Detail
- Cost Account Variance Analysis
- Cost Account/Schedule Status
- Cost Account Bar chart
- Cost Transaction Subledger
- Cost Analysis
- Cost Budget Transaction Ledger
- Actual Cost Transaction Ledger
- Cost Projection Ledger
- Cost Variance Analysis
- Cost Audit Detail
- Overhead Cost
- Manpower Efficiency
- Commitment Analysis
- Commitment Transaction Ledger
- Production Analysis
- Cost Accounting/General Ledger Reconciliation
- Production Budget Transaction Ledger
- Actual Production Transaction Ledger
- Production Projection Ledger
- Revenue Transaction Subledger
- Revenue Analysis
- Revenue Margin Analysis
- Revenue Transaction Ledger
- Revenue Budget Transaction Ledger
- Revenue Projections Ledger
- Customer Billing
- Billing Surcharges
- Income Recognition Journal
- Income Recognition Status
- Customer Payment Status
- CSSR - Cost / Schedule Status
- CPR - Work Breakdown Structure
- CPR - Functional Categories
- CPR - Baseline
- CPR - Manpower Loading
- CPR - Contract Funds Status
- Functional CPR
- Functional Variance Summary
- Functional Performance Summary

## **6. EQUIPMENT**

### **DESIGN CONCEPTS**

The Equipment module is designed to meet all the rental computation, historical costing, and maintenance scheduling needs of a company's equipment fleet. The design assumes that the ownership and operation of equipment will be treated as a separate profit center within a company. This feature recognizes the non-linear occurrence of equipment repair costs over the life of the equipment, while still allowing for a uniform rental charge to a project for the use of equipment from the equipment pool.

### **FEATURES**

- Multiple types of reporting units (e.g., hours, miles) including operating, idle, weather delayed, repair, etc.
- Physical inventory status and location for each unit of equipment.
- Utilization and availability percentages computed for each unit of equipment.
- Multiple methods of calculating rental charges for a unit of equipment based on reported units, elapsed time and lump sum methods.
- Repair costs can be subdivided by user-defined components, such as electrical systems, engine, and transmission. Within component, subdivision can occur by cost type, such as labor, repair parts, and outside services.
- Keyword access capability facilitates data entry, processing and reporting functions.
- Attachments can be recognized as separate units of equipment, while requiring that operating hours, etc., are reported only to the primary unit of equipment to which the attachment is currently associated.
- "Repair/replace" type decisions can be evaluated easily.
- Maintains current period, current year, and life-to-date accumulations for all revenue, ownership, repair, operating expenses and utilization data for each unit of equipment.
- Definition of Equipment Maintenance Tasks.
- Multi-level On-line Equipment Inquiry tracks income, expenses, margin, equipment utilization and equipment availability.

Equipment Inquiry Selection Screen

Equipment Income Detail

Equipment Expenses Detail

Equipment Use Detail

- Bill of materials can be associated with a unit of equipment.
- Transfer Docket capability offers alternative method of computing rentals based on "days at a site".
- Budgets can be established for each maintenance code.
- Multi-level On-line Cost Inquiry tracks units of equipment.

Equipment Cost Inquiry Selection Screen

Equipment Master Descriptive Data

Cost Summary by Fiscal Period

Equipment Cost Detail

## *EQUIPMENT*

Work Order Task Cost Detail

Work Order Transaction Detail

Bill of Materials

Bill of Materials Detail

Inventory Detail

Maintenance Schedule

Maintenance Budgets

- Preventive maintenance scheduling applies user-defined maintenance schedules for each class or unit of equipment.
- Generates and prints work orders for scheduled maintenance.
- Equipment Meter Reading reporting computes maintenance due on interval frequency codes.
- Notepad facility to record pertinent maintenance information on units of equipment.

### **MODULE INTERFACE**

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Equipment modules.

#### **TRANSACTIONS**

<b>Accounts Payable</b>	⇒	Quantities and costs associated with external parts and equipment repair
<b>Accounts Receivable</b>	⇒	Customer billings of equipment rentals
<b>Fixed Assets</b>	⇒	Depreciation charges
<b>General Ledger</b>	⇒	Adjusting journals
<b>Inventory</b>	⇒	Inventory issues
<b>Payroll</b>	⇒	Labor expenses
<b>Receiving</b>	⇒	Received quantities and costs
<b>Work Order</b>	⇒	Equipment repair costs
<b>Accounts Receivable</b>	⇐	Rental Charges
<b>Cost Accounting</b>	⇐	Rental Charges
<b>General Ledger</b>	⇐	Rental revenue, operating and repair expenses
<b>Work Order</b>	⇐	Preventative maintenance work orders, rental charges

## *EQUIPMENT*

### **REPORTS**

- Control File Sections Listings
- Equipment Profit and Loss Statement
- Equipment/General Ledger Reconciliation
- Equipment Bill of Materials
- Equipment Summary
- Equipment Status
- Equipment Detail
- Transaction Listings
- Equipment Subledger
- Equipment Rental Rate
- Proforma Rental Charge
- Equipment Rental Invoice
- Equipment Cost Analysis
- Equipment Utilization Analysis
- Equipment Maintenance Master Schedule
- Maintenance Due
- Maintenance Budget
- Maintenance Work Orders
- Maintenance History
- Scheduled Maintenance
- Work Order Detail

## 7. ESTIMATING

### DESIGN CONCEPTS

The Estimating module is an on-line system for estimating the cost of a project. It provides a series of analytical tools for evaluating an estimate through five major functional facilities: Estimating, Bidding, Scheduling, Inflation/Escalation Analysis, Risk Analysis.

- **Estimating** enables you to arrive at the total estimated "cost" for a project.
- **Bidding** enables you to distribute overhead costs, apply profit, and arrive at the "bid price" for a project.
- **Scheduling** allows you to define schedules for a project and compute the resource demand, cash flow analysis, and return on investment analysis.
- **Inflation/Escalation Analysis** enables you to specify a hierarchy of inflation indices that can be applied to the base cost of the estimate; together with the schedule, these indices compute the anticipated incremental cost associated with inflation. Additionally, you can define an escalation index, which can be applied to the bid price, and the payment schedule to compute the anticipated incremental revenue associated with escalation.
- **Risk Analysis** provides a method, which allows you to enter subjective assessments on the quality of estimated costs and quantities; the system quantifies these analyses and arrives at a risk evaluation of a project's estimated cost.

### FEATURES

- Multiple rate libraries can be set up for the different resources; these may be divided by geographic area or time period.
- Group libraries are utilized to define company standard labor crews, equipment spreads, material assemblies, etc; these can be accessed through a single code and exploded into their component resources.
- Historical costs can be stored either as unit costs or as productivity factors in the libraries.
- Flexible account structure allows user-defined account numbering and summarization.
- Multiple estimating methods include the following alternatives that can be used simultaneously: work study analysis, productivity, unit price, and lump sum.
- Multi-currency capability highlights and distributes a project's estimated cost in each currency. A cost type can have up to nine rate components. Each component can have a separate currency, which is converted to the project currency utilizing a user-defined exchange rate.
- Memo item entry enables you to flag each line in a cost item as either additive or non-additive to the total project estimate. This permits, for example, the inclusion of multiple subcontractor costs in analysis reports, while adding only the selected subcontractor quote to the project's total estimate.
- Multiple bid preparation methods enable you to allocate estimated costs to bid items and apply your profit margin to arrive at a final bid price. This allocation procedure can be performed at any time during the preparation of the cost estimate.
- Cash flow projection is achieved through the entry of a planned construction schedule; the system generates the cost, revenue, and resource demand curves for each user-defined period on a cash or accrual basis.

## ESTIMATING

- Inflation computations are available through utilization of the planned construction schedule, and user-defined inflation indices; the system can calculate the anticipated cost increment for inflation in each cost item.
- Risk analysis calculations present the probable ranges of the estimated costs. These statistics are achieved when you combine confidence levels and probable ranges for resource rates, quantity of work to be performed, and production rate.
- An Estimating to Cost Accounting Interface Menu enables you to generate Cost Accounting "revenue", "cost", and "production" budgets.

### MODULE INTERFACE

The following **System 20/20** module receives ( ⇐ ) transactions from the Estimating module.

#### TRANSACTIONS

**Cost Accounting** ⇐ Revenue, cost, and production budgets

#### REPORTS

- |  |   |
|--|---|
| <input type="checkbox"/> Control File Section Listings             | <input type="checkbox"/> Cost by Work Operation             |
| <input type="checkbox"/> Work Operation Detail                     | <input type="checkbox"/> Quantity and Rate Analysis         |
| <input type="checkbox"/> Project Parameters Summary/Detail Reports | <input type="checkbox"/> Bid Project Parameters Detail      |
| <input type="checkbox"/> Project Chart of Accounts                 | <input type="checkbox"/> Bid Item Summary/Detail Reports    |
| <input type="checkbox"/> Project Period Analysis/Recap Reports     | <input type="checkbox"/> Bid Item Analysis                  |
| <input type="checkbox"/> Resource Rate Summary/Detail Reports      | <input type="checkbox"/> Bid Item Schedule Listing          |
| <input type="checkbox"/> Resource Rate Cost Item Summary           | <input type="checkbox"/> Bid Total Cost Analysis            |
| <input type="checkbox"/> Resource Group Summary/Detail Reports     | <input type="checkbox"/> Schedule Project Parameters        |
| <input type="checkbox"/> Resource Cost Analysis                    | <input type="checkbox"/> Schedule Project Calendar Listing  |
| <input type="checkbox"/> Resource Schedule Listing                 | <input type="checkbox"/> Schedule Bar Listing               |
| <input type="checkbox"/> Resource Quantities by Cost Item Detail   | <input type="checkbox"/> Estimated Revenue Over Time        |
| <input type="checkbox"/> Resource Quantities by Cost Type          | <input type="checkbox"/> Investment Analysis                |
| <input type="checkbox"/> Cost Allocation Listing                   | <input type="checkbox"/> Inflation Analysis Reports         |
| <input type="checkbox"/> Cost Allocation Analysis                  | <input type="checkbox"/> Escalation Analysis Summary/Detail |
| <input type="checkbox"/> Cost Item Summary                         | <input type="checkbox"/> Risk Analysis Factors Listing      |
| <input type="checkbox"/> Cost Item Schedule Listing                | <input type="checkbox"/> Cost Item Level Risk Analysis      |
| <input type="checkbox"/> Total Cost Analysis                       | <input type="checkbox"/> Operation Level Risk Analysis      |

## 8. FIXED ASSETS

### DESIGN CONCEPTS

The principal function of the Fixed Assets module is to compute the depreciation on each asset, for both book and tax reporting. The Fixed Assets module provides accessible information on various aspects of fixed asset reporting, such as insurance value, book and tax amounts, and current status.

Depreciation amounts are passed to General Ledger and, as an option, can be passed to the Equipment or Cost Accounting modules.

### FEATURES

- Multiple companies can operate within the module simultaneously.
- Processes all fixed assets of a company, including office buildings and office equipment.
- Supports multiple depreciation methods such as straight line, declining balance, ACRS, and SYD.
- Maintains up to three depreciation schedules per asset, such as book, federal tax, and state tax.
- User-defined assets by class and group allow parameter driven logic for depreciation method, insurance code, general ledger debit and credit accounts, and automatic change of depreciation method.
- Previously depreciated assets can be processed.
- Multiple location codes and dates can be attached to an asset.
- On-line display of current and prior asset location with associated dates.
- On-line display of capitalization, depreciation and retirements over asset life, including capitalized date, depreciation start date, last date depreciation computed and current asset value.
- Allows full or partial retirements of assets as well as transfers.
- Multiple assets can be consolidated for reporting purposes.

### MODULE INTERFACE

The following **System 20/20** modules receive ( ← ) transactions from the Fixed Assets module.

	<b>TRANSACTIONS</b>
<b>Equipment</b>	← Depreciation charges (optional)
<b>Cost Accounting</b>	← Asset depreciation charges (optional)
<b>General Ledger</b>	← Capitalization, depreciation, transfer and retirement charges

## ***FIXED ASSETS***

### **REPORTS**

- Control File Section Listings
- Assets Master File Listing
- Asset Listing
- Asset Transfers
- Acquisition Report
- Retirements Report
- Depreciation Report
- Depreciation Status
- Fixed Assets Subledger
- Expense Subledger Distribution

## 9. GENERAL LEDGER

### DESIGN CONCEPTS

The General Ledger module is designed to be the "end" depository for all "monetary" transactions either entered directly into the general ledger or processed by any other module of System 20/20.

The General Ledger module has two functional components. The first component maintains the balances in the Chart of Accounts and produces the Trial Balance Reports. The second component computes and prints the Financial Reports based on user specified parameters. The Financial Report options include the ability to compare budget and actual values.

### FEATURES

- Multi-company capability with automatic intercompany clearing entries allow all companies to be in balance at all times.
- Allows any number of user-defined fiscal periods within a fiscal year.
- Fiscal periods can be closed to subsidiary modules, but remain open for General Ledger.
- Flexible chart of accounts coding system consists of three required data elements, **Company**, **Operating Center** (Division or Department), **Account** and one optional data element, **Sub-account**.
- A total of seventeen characters are available, including a single space character between each data element. These characters can be distributed among the above elements in any combination. The result is a customized coding structure that matches your company's requirements.
- Separate Chart of Accounts for each company.
- Chart of Accounts and Financial Report schedules can be copied between companies.
- A new fiscal year can be started before completing the closing entries for the prior fiscal year.
- Consolidation of subsidiary module transactions into a single journal based on user-defined consolidation options available in each source module.
- Journals may be on-line, batch, accrual, auto-reversal, inter-company, inter-module, year-end close, or encumbrance.
- Journals can be posted to any open fiscal period.
- Recurring journal entries can be established for either a specific company or across multiple companies.
- Separate financial report formats are available for each company in a multi-company environment.

## **GENERAL LEDGER**

- Flexible financial reports can display any of the following options within a four-column report format.

<b><u>COLUMN CONTENT</u></b>	<b><u>OPTIONS</u></b>		
<b>Beginning</b>	Current Period	Prior Period	This Period Last Year
	Current Quarter	Prior Quarter	This Quarter Last Year
	Current Year To Date	Prior Year To Date	
<b>Activity</b>	Current Period	Prior Period	This Period Last Year
	Current Quarter	Prior Quarter	This Quarter Last Year
	Current Year To Date	Prior Year To Date	
<b>Ending Balance</b>	Current Period	Prior Period	This Period Last Year
	Current Quarter	Prior Quarter	This Quarter Last Year
	Current Year To Date	Prior Year To Date	
		Prior Year Total	
<b>Original Budget</b>	Current Period	Prior Period	This Period Last Year
	Current Quarter	Prior Quarter	This Quarter Last Year
	Current Year To Date	Prior Year To Date	
	Current Year Total	Prior Year Total	
<b>Revised Budget</b>	Current Period	Prior Period	This Period Last Year
	Current Quarter	Prior Quarter	This Quarter Last Year
	Current Year To Date	Prior Year To Date	
	Current Year Total	Prior Year Total	
<b>Original Budget Variance</b>	Current Period	Prior Period	This Period Last Year
	Current Quarter	Prior Quarter	This Quarter Last Year
	Current Year To Date	Prior Year To Date	
<b>Revised Budget Variance</b>	Current Period	Prior Period	This Period Last Year
	Current Quarter	Prior Quarter	This Quarter Last Year
	Current Year To Date	Prior Year To Date	

- In addition to the above, other options calculate variances between specified columns of the financial report.
- Financial report formatting features include scaling, spacing and grand totals with single or double underscore.
- Consolidation of Financial Reports in a user-defined sequence across multiple companies.
- Financial reports can be calculated at any time for any fiscal period.

## GENERAL LEDGER

- Multi-level On-line Inquiry by General Ledger Account/Sub-account
  - Summary of Account Activity by Fiscal Period
  - Selected Fiscal Period Summary Journals
  - Selected Detail Journal Transactions
- Multi-level On-line Financial Report Inquiry
  - Line Display of selected financial report
  - Accounts within selected report line
  - Detail Journals within selected account
- Purge processes for deleting fiscal period details and posted journals.
- Bank account reconciliation for all bank accounts used in subsidiary modules

### MODULE INTERFACE

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the General Ledger module.

		<b>TRANSACTIONS</b>
<b>Accounts Payable</b>	⇒	Vendor invoices, credit memos, automatic, manual & void checks, encumbrance relief's, relief of materials received but not invoiced
<b>Accounts Receivable</b>	⇒	Customer invoices, payments, service charges, debit memos, unbilled retention
<b>Cost Accounting</b>	⇒	Cost journals, income recognition, cost reclassification, allocations
<b>Equipment</b>	⇒	Rental revenue, operating and repair expenses
<b>Fixed Assets</b>	⇒	Capitalization, depreciation, transfer, retirement charges
<b>Inventory</b>	⇒	Material receipts, issues, transfers, surcharges, physical inventory adjustments
<b>Payroll</b>	⇒	All computed payroll amounts
<b>Purchasing</b>	⇒	Purchase order encumbrances
<b>Receiving</b>	⇒	Cost of materials received but not invoiced
<b>Subcontracts</b>	⇒	Subcontract encumbrances
<b>Work Order</b>	⇒	Cost journals, transactions from allocations to final destinations, revenue from billing
<b>Cost Accounting</b>	⇐	Adjusting journals
<b>Equipment</b>	⇐	Adjusting journals
<b>Work Order</b>	⇐	Adjusting journals

## ***GENERAL LEDGER***

### **REPORTS**

- Control File Section Listings
- Chart of Accounts
- Unposted and Posted Journals
- Account Detail
- Detail and Summary Trial Balance
- Subsidiary Modules Subledger
- Financial Statements
- Financial Statement Audit
- Budget Comparisons
- Accounts Budget
- Budget Worksheet
- Accounts Budget Notes
- Prior Year Comparisons
- Account Encumbrance Detail
- Posted Encumbrance Journals
- Financial Statement Factors

### **10. HUMAN RESOURCES**

#### **DESIGN CONCEPTS**

The Human Resources module is designed to be an applicant tracking and employee management system; it is utilized to administer aspects of the employee labor force that are not related to the computation of the employee's pay.

This module provides flexible tracking and reporting capabilities, which enable you to comply with government reporting requirements such as EEO, Affirmative Action, COBRA, OSHA, and others.

The Human Resources module is divided into five functional components:

- Job Requisition Processing
- Applicant Tracking
- Affirmative Action Reporting
- Labor Relations Processing
- Employee Records Maintenance

#### **FEATURES**

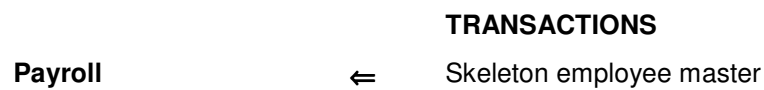
- Keyword access capability facilitates data entry, processing and reporting functions.
- Job requisition entry for both union and non-union positions.
- Applicant tracking system maintains a detailed history on all job applicants and their associated job requisition(s); this history includes job classification, department, EEO category, ethnicity, skills and skill levels, etc.
- Job application routing to the appropriate manager for interview scheduling.
- Interview and routing table maintains results and actions taken in each step of the application process.
- Recruitment and relocation expense tracking for each applicant and employee.
- Automatic generation of multiple applicant letter formats.
- Benefits and compensation tracking facility.
- Hire notice entry of accepted applicants.
- Detailed employee profiles that include educational background, skills, medical restrictions, benefits, emergency contact information and other pertinent data related to each employee's job history.
- Affirmative action commitments and manpower goals with flexible reporting capabilities to show breakdown by EEO, job classification, manpower utilization, etc.
- Complete grievance processing from initial entry through settlement.
- Conduct violation and absenteeism logs with associated disciplinary actions.
- Separation and termination processing.
- Employee data maintenance facilities for registering changes of status such as pay rates, promotions, job reclassifications, benefits, etc.
- On-line Employee Inquiry facility, which maintains and tracks each employee's job history including benefits and emergency detail data.

## ***HUMAN RESOURCES***

- Generates printed notices for changes of employee status, including hire, promotion, transfer, pay raise, termination and miscellaneous data changes.
- Employee Incident Log processes injuries and accidents and streamlines procedures for worker's compensation claims and OSHA reporting requirements.
- Union reporting requirements can be generated for job openings, employee promotions, employee transfers, etc.
- Automatic performance review scheduling and complete performance appraisal facility.
- Promotional ladders automatically maintained for union employees.
- Random Drug Testing capability.
- Employee mailing labels.

### **MODULE INTERFACE**

The following **System 20/20** module receives (⇐) transactions from the Human Resources module.



## *HUMAN RESOURCES*

### **REPORTS**

- Listings of all Control File sections
- Requisition Logs (Union and Salaried)
- Print Job Postings (Union and Salaried)
- Open Requisition Summary
- Print Applicant Letter
- Applicant Listing
- Applicant Routing Log
- Job Applicant Interview Log
- Recruiter Calendar
- Hire and Termination Log
- Terminated Employees with Recall Rights
- Employment Processing
- Employee Detail
- Employee Change of Status
- Employee Utilization Analysis
- Salaried Employee Job History
- Employee Conduct Violation Log
- Employee Incidents
- Print Employee Labels
- Recruitment Expenses Log
- Relocation Expenses
- Workforce Analysis
- Manpower Projections
- Manpower Summary
- Minority Employment Analysis
- EEO Job Group Activity
- Goal Progress
- Veteran Handicap Analysis
- Grievance Activity Summary
- Grievance Log
- Grievance Payoff Log
- Grievance Pending
- Absenteeism Occurrence
- Service Recognition
- Promotion and Transfer Notification
- Promotion and Transfer Requests
- Union Employee Performance Review
- Union Job History
- Union Performance Review Receipt Log
- Seniority Listing
- Seniority By Pay Type
- Affirmative Action Goals Reports
- Affirmative Action Activity
- Affirmative Action Hire, Termination & Promotion Logs

## **11.INVENTORY**

### **DESIGN CONCEPTS**

The Inventory module is an essential component of the Material Control system that also includes the Purchasing, Receiving, and Accounts Payable modules. Inventory's design incorporates data from Material Receiving reports; maintains details on the quantity, value and physical location of every inventory item; and controls the issuance of inventory to the Equipment, Work Order, Payroll, Cost Accounting or Accounts Receivable modules. The Order Entry functions of the Inventory module record customer orders, generate picking and packing lists, and subsequently creates accounts receivable invoices.

### **FEATURES**

- Daily transaction reports provide a continuous record of inventory activity and an audit trail.
- Simultaneous processing available for most functions.
- Security locks protect database from concurrent, but conflicting processes.
- Multiple warehouses with on-line status of the inventory of any item in all warehouses.
- Both on-line updating and batch processing.
- Multiple recording methods for receiving materials into inventory: Direct Shipment, Material in Transit, Transfer, and Refurbished Parts.
- Inventory valuation, using the average cost, standard cost, FIFO or LIFO methods.
- Actual cost, standard cost, and sales prices can be maintained for each inventory item.
- Surcharges are selectively and automatically added for freight, warehouse overhead, etc., on the receipt, transfer between warehouses, and issuance of materials.
- Easy access to the inventory system by inventory code, supplier part number, user part number or customer part number.
- On-line Activity Inquiry maintains historical data by warehouse code and inventory code.
  - Inventory Activity Selection Screen
    - Transaction Inquiry by period
    - Inventory Reserved/Locked Detail
    - Inventory On Order Detail
- Keyword capability facilitates data entry, processing and reporting functions.
- Material Safety Data Sheet facility, which includes multiple detail screens for information maintenance on inventoried and non-inventoried items.
  - ◆ Product Review Entry (Approvals)
  - ◆ Site Specific Data
  - ◆ Product Identification Data
  - ◆ Hazardous Components
  - ◆ Physical Properties
  - ◆ Fire and Explosion Hazards
  - ◆ Health Hazards

## INVENTORY

- ◆ Reactivity Data
  - ◆ Spill and Disposal Procedures
  - ◆ Protective Equipment Requirements
  - ◆ Storage and Handling Procedures
  - ◆ Transportation Procedures
- Simple transfer of inventoried items between warehouses utilizing picking and packing lists.
  - Alternate methods for adjustment of physical inventory shelf count and differences (shorts).
  - Details of material-in-transit from the supplier to the warehouse.
  - Tool issues and returns facility to record inventoried warehouse items issued to and returned by employees.
  - Inventory reservations for placing inventoried items in a reserved or locked status.
  - Inventory items can be issued to a specified cost account in the Cost Accounting module, work order in the Work Order module, unit of equipment in the Equipment module, or employee in the Payroll module.
  - Reorder and purchase requisitions are generated based on user-defined algorithm of inventory consumption to maintain stock at optimum levels.
  - Purchase orders can be generated for non-stock items originating from a customer order in the order entry functions.
  - Order Entry function permits the recording of customer orders, selective generation of picking lists, printing of packing lists, and generation of accounts receivable invoices.
  - Customer Quotation Facility allows you to input, track and print quotes made to customers of inventory in stock.

### MODULE INTERFACE

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Inventory module.

		TRANSACTIONS
<b>Accounts Payable</b>	⇒	Purchase invoices
<b>Purchasing</b>	⇒	"On order" transactions
<b>Receiving</b>	⇒	Material receipts
<b>Work Order</b>	⇒	Inventory locks and reservations
<b>Accounts Receivable</b>	⇐	Customer order sales invoices, credit memos for returned goods
<b>Cost Accounting</b>	⇐	Inventory issues
<b>Equipment</b>	⇐	Inventory issues
<b>General Ledger</b>	⇐	Material receipts, issues, transfers, surcharges, physical inventory adjustments
<b>Payroll</b>	⇐	Inventory issues (deductions for employee purchases)
<b>Purchasing</b>	⇐	Reorder requisitions
<b>Work Order</b>	⇐	Inventory issues

## *INVENTORY*

### **REPORTS**

- Control File Section Listings
- Material Master
- Warehouse Master
- Warehouse Master Catalog
- Warehouse Bin Labels
- Warehouse Search Listing
- Inventory Code - Supplier Part Number
- Supplier Part Number - Inventory Code
- Inventory Code - Customer Part Number
- Customer Part Number - Inventory Code
- Alternate Inventory Codes
- Inventory Code Components
- Inventory Transaction Listing
- Inventory Subledger
- Keyword Table
- Pending Transfers
- Transfers
- Picking List
- Packing List
- Physical Inventory Worksheet
- Physical Inventory Differences
- Negative Quantity Listing
- On Order Status
- Receiver Analysis
- Inventory Investment reports
- Tool Issues Status
- Delivery Request
- Warehouse Reorder
- Inventory Stockout
- Sales Price Catalog
- Confirming Order
- Customer Open Orders
- Customer Backorders
- Customer Completed Orders
- Customer Sales Analysis
- Print Customer Quotations
- Salesman Commissions

## **12. LABOR DISTRIBUTION**

### **DESIGN CONCEPTS**

The Labor Distribution module is intended for those clients who wish to have the payroll computations (gross to net, etc.) computed by an external payroll service, such as ADP, yet take full advantage of the expense distribution, reporting, and inquiry options that exist in the System 20/20 Payroll module.

Employee timecards are entered with full expense subledger distributions and earnings classifications. A summarized export file is generated in the format dictated by the external payroll service. The external payroll service imports this file and computes all employee deductions and employer contributions. The employees pay checks or direct deposits, withholding tax payments, etc are processed by the external payroll service. The external payroll service then generates an export file containing this information for transfer back to the Labor Distribution module. The Labor Distribution module imports the file from the external payroll service and updates the Labor Distribution modules database with details of all payroll calculations. At this stage the Labor Distribution database contains the same information as if the payroll had been computed in-house using the System 20/20 Payroll module.

All payroll costs are expensed to a specific subledger based on the cost distribution entered on an employee's timecard. In addition, all payroll expenses are automatically charged to the General Ledger based on the nature of expense and the cost subledger distribution.

### **FEATURES**

- All elements associated with the payroll processing are user-defined through The Labor Distribution control files.
  - ◆ **Pay Systems:** Payroll processing groups
  - ◆ **Pay Types:** Method of pay, hourly, salaried, etc.
  - ◆ **Pay Status:** Employee eligibility for pay, and termination reasons
  - ◆ **Destination Ledger:** All payroll parameters associated with a particular destination ledger: Cost Accounting, Equipment, Work Order and General Ledger
  - ◆ **Pay Cycle codes:** Weekly, biweekly, semi-monthly or monthly
  - ◆ **Bank codes:** Parameters associated with a payroll bank account
- Payroll expenses can be recognized in the Cost Accounting, Equipment, General Ledger, or Work Order subledgers based on either the date worked, or the pay period ending date. In the General Ledger, payroll journals are dated with either the pay period ending date, or the check date.
- Multiple pay calculation types are available including:
  - ◆ Hourly paid
  - ◆ Fixed salary
  - ◆ Variable salary
- Employees can transfer between employer companies and retain the same employee number when the employer companies have the same federal identification number.
- Employee purchase type deduction transactions can be entered directly or generated from the Accounts Payable or Inventory modules.

## *LABOR DISTRIBUTION*

- Multiple methods determine the General Ledger expense account associated with an employee's payroll based on the subledger distribution or user-defined override parameters.
- Payroll expenses are separated into three categories:
  - ◆ Earnings add to gross pay
  - ◆ Deductions subtract from gross pay
  - ◆ Contributions are employer paid expenses that do not directly affect an employee's pay
- Earning code definitions for all types of earnings.
- Automatic inclusion of "extra earnings" (not entered on an employee's timecard) based on the employee group (union), and the cost center to which these earnings are charged.
- Deduction code definition for all types of deductions.
- Automatic inclusion of deductions based on the employee's group (union), and the cost center to which the earnings are charged.
- Easy definition of employee specific deductions such as garnishments, voluntary deductions, etc.
- Contribution code definition for all types of contributions.
- Automatic inclusion of contributions based on the employee's group (union), and the cost center to which the earnings are charged.
- An employee's time can be charged to a specified destination ledger at an hourly rate which represents the actual payroll cost, the average annual hourly rate for salaried employees, or a standard cost rate. The standard cost rate can be defined at the employee, employee group, grade, or class level.
- Employees can be accessed by employee number or by keywords built from the employee's name.
- Department codes associate an employee to a department.
- Timecard parameters facilitate the customization of the timecard entry programs to match the requirements of each customer.
- Automatic generation of timecard transactions for "overhead" type employees.
- Entry of "add pay" type transactions to cover employee bonuses, subsistence pay, etc.
- Complete validation of all payroll transactions before initiating the export process minimizes potential errors based on user entered data elements.
- Offset entries can be generated to an employee's "home" department when his hours are expensed to other destination ledgers.
- On-line inquiry for employee benefits showing values accrued versus values taken, e.g., sick leave or vacation.
- Multi-level On-line Inquiry of Employee Activity
  - Summary by Pay Period with Status
  - Summary for Selected Pay Period
  - Earnings Detail
  - Contribution Detail
  - Deduction Detail
  - Check Detail
  - Timecard Detail

## ***LABOR DISTRIBUTION***

- Preprint option for employee timecards based on the last crew on which the employee worked, or on user-defined crew assignments.
- User-defined criteria for purging transactions.

### **MODULE INTERFACE**

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Payroll Module.

		<b>TRANSACTIONS</b>
<b>Accounts Payable</b>	⇒	Deductions for employee purchases
<b>Human Resources</b>	⇒	Skeleton employee master records
<b>Inventory</b>	⇒	Deductions for employee purchases (Inventory issues)
<b>Cost Accounting</b>	⇐	Actual labor costs and hours, labor accruals
<b>Equipment</b>	⇐	Labor expenses
<b>General Ledger</b>	⇐	All computed payroll amounts
<b>Work Order</b>	⇐	Work order related payroll expenses (labor charges)

### **REPORTS**

- |  |   |
|--|---|
| <input type="checkbox"/> Control File Section Listings | <input type="checkbox"/> Labor Distribution Subledger |
| <input type="checkbox"/> Employee Master Listing       | <input type="checkbox"/> Payroll Detail Register      |
| <input type="checkbox"/> Employee Group (Union)        | <input type="checkbox"/> Certified Payroll            |
| <input type="checkbox"/> Transactions Listing          | <input type="checkbox"/>                              |

## 13. PAYROLL

### DESIGN CONCEPTS

The Payroll module is designed to process all types of payroll transactions for the purpose of computing and paying an employee. The Payroll module provides multiple methods for expensing the payroll cost to the appropriate subledgers and includes all associated employer burdens.

The Payroll module is entirely "user file driven"; you define all possible categories of earnings, contributions and deductions, and their associated computation methods. This means that you can easily add another earnings, contribution, or deduction code as the payroll processing requirements change, without modifying any existing programs within the Payroll module.

All payroll costs are expensed to a specific subledger based on the cost distribution entered on an employee's timecard. In addition, all payroll expenses are automatically charged to the General Ledger based on the nature of expense and the cost subledger distribution.

### FEATURES

- All elements associated with the payroll processing are user-defined through Payroll control files.
  - ◆ **Pay Systems:** Payroll processing groups
  - ◆ **Pay Types:** Method of pay, hourly, salaried, etc.
  - ◆ **Pay Status:** Employee eligibility for pay, and termination reasons
  - ◆ **Destination Ledger:** All payroll parameters associated with a particular destination ledger: Cost Accounting, Equipment, Work Order and General Ledger
  - ◆ **Pay Cycle codes:** Weekly, biweekly, semi-monthly or monthly
  - ◆ **Bank codes:** Parameters associated with a payroll bank account
- Payroll expenses can be recognized in the Cost Accounting, Equipment, General Ledger, or Work Order subledgers based on either the date worked, or the pay period ending date. In the General Ledger, payroll journals are dated with either the pay period ending date, or the check date.
- Multiple pay calculation types are available including:
  - ◆ Hourly paid
  - ◆ Fixed salary
  - ◆ Variable salary
- Employees can transfer between employer companies and retain the same employee number when the employer companies have the same federal identification number.
- Specialized processing for calculating workers compensation insurance premiums. Payroll recognizes that workers compensation can be both an employer contribution and an employee deduction in some states.
  - ◆ Recognizes that different states have different methods for computing the insurable base
  - ◆ Different companies can apply their unique experience factor which impacts the computation of the workers compensation insurance premium
  - ◆ User-defined control of appropriate workers compensation insurance class

## *PAYROLL*

- Date dependent rates for earnings, contributions, and deductions; Payroll can accurately calculate an employee's pay when the employee group (union) rates change during a pay period.
- Employee purchase type deduction transactions can be entered directly or generated from the Accounts Payable or Inventory modules.
- Multiple methods determine the General Ledger expense account associated with an employee's payroll based on the subledger distribution or user-defined override parameters.
- Multiple state taxing for an employee in the same payroll calculation, if earnings are divided between cost centers located in separate states.
- Tax routines are available for all states.
- Facilitates user maintenance of withholding tax tables.
- Payroll expenses are separated into three categories:
  - ◆ Earnings add to gross pay
  - ◆ Deductions subtract from gross pay
  - ◆ Contributions are employer paid expenses that do not directly affect an employee's pay
- Earning code definitions for all types of earnings.
- Automatic inclusion of "extra earnings" (not entered on an employee's timecard) based on the employee group (union), and the cost center to which these earnings are charged.
- Deduction code definition for all types of deductions.
- Automatic inclusion of deductions based on the employee's group (union), and the cost center to which the earnings are charged.
- Easy definition of employee specific deductions such as garnishments, voluntary deductions, etc.
- Deductions can be targeted for specific pay periods, e.g., the third payroll of the month.
- Contribution code definition for all types of contributions.
- Automatic inclusion of contributions based on the employee's group (union), and the cost center to which the earnings are charged.
- An employee's time can be charged to a specified destination ledger at an hourly rate which represents the actual payroll cost, the average annual hourly rate for salaried employees, or a standard cost rate. The standard cost rate can be defined at the employee, employee group, grade, or class level.
- Employees can be accessed by employee number or by keywords built from the employee's name.
- Department codes associate an employee to a department.
- Timecard parameters facilitate the customization of the timecard entry programs to match the requirements of each customer.
- Automatic generation of timecard transactions for "overhead" type employees.
- Entry of "add pay" type transactions to cover employee bonuses, subsistence pay, etc.
- For transportation operations, a method of entering operator work schedules which enables an operator sign-in worksheet from which timecard entries are generated automatically.
- Absenteeism codes for tracking and categorizing time off.
- User-defined selections for determining which employees are to be included in a payroll calculation process. For example, you can select employees who are being terminated, in order to calculate only the termination payments.

## *PAYROLL*

- Manually computed payroll checks can be entered. The Payroll system accepts the manually computed contribution and deduction amounts, rather than adjusting federal withholding, and computes all other payroll expenses that are not manually computed. This method ensures that the sum of the employee's check stubs balances with the year-end earnings (W2) statement.
- Check distribution codes facilitate the distribution of payroll checks to employees.
- Multiple payrolls can be processed for an employee on the same pay period ending date.
- Complete validation of all payroll transactions before initiating the payroll computation process minimizes potential errors based on user entered data elements.
- User-defined vacation accrual expense can be computed.
- Contributions and deductions can automatically create invoices in the Accounts Payable module.
- Payments can be made by either check or direct deposit, using an easily customized format for the checks or the remittance advice notice.
- Ability to email direct deposit advice notices to employees
- Direct deposit of an employee's pay to more than one bank account.
- Magnetic media reporting of direct deposits.
- Offset entries can be generated to an employee's "home" department when his hours are expensed to other destination ledgers.
- Specialized processing for calculating accrued payroll entries to the General Ledger when a pay period spans more than one fiscal period.
- On-line inquiry for employee benefits showing values accrued versus values taken, e.g., sick leave or vacation.
- Multi-level On-line Inquiry of Employee Activity
  - Summary by Pay Period with Status
  - Summary for Selected Pay Period
  - Earnings Detail
  - Contribution Detail
  - Deduction Detail
  - Check Detail
  - Timecard Detail
- Retroactive reporting capability is available for any payroll computation report.
- W2 and 941 form content and layout is user-defined for both hard copy and magnetic media reporting.
- Preprint option for employee timecards based on the last crew on which the employee worked, or on user-defined crew assignments.
- User-defined criteria for purging payroll transactions.

**MODULE INTERFACE**

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Payroll Module.

**TRANSACTIONS**

<b>Accounts Payable</b>	⇒	Deductions for employee purchases
<b>Human Resources</b>	⇒	Skeleton employee master records
<b>Inventory</b>	⇒	Deductions for employee purchases (Inventory issues)
<b>Accounts Payable</b>	⇐	Invoices for contributions and deductions
<b>Cost Accounting</b>	⇐	Actual labor costs and hours, labor accruals
<b>Equipment</b>	⇐	Labor expenses
<b>General Ledger</b>	⇐	All computed payroll amounts
<b>Work Order</b>	⇐	Work order related payroll expenses (labor charges)

**REPORTS**

- Control File Section Listings
- Employee Master Listing
- Employee Group (Union)
- Payroll Transactions Listing
- Gross Register
- Net Register
- Detail Register
- Earnings, Deductions, Contributions Registers
- Salary Rate Listing
- Check Register
- Check Reconciliation
- Payroll Subledger
- Labor Distribution
- Certified Payroll
- Workers Compensation Insurance
- Quarterly 941 and Annual W2 Tax
- Accrual Detail

## **14. PURCHASING**

### **DESIGN CONCEPTS**

The Purchasing module is designed to monitor the flow of externally purchased materials from the point of purchase requisition, to solicitation of quotations, purchase order generation, and validation of subsequent vendor invoices. The use of the requisition and quotation solicitation feature is optional. A manually prepared purchase order can be directly entered into the system.

### **FEATURES**

- Multi-company environment allows a purchase order to be written on one company and expensed to other companies.
- A supplier file can be maintained that is independent of the Accounts Payable vendor file.
- Sales tax, use tax, goods and services tax, and value added tax processing capability.
- Maintains history, performance rating, demographic data and comments on each supplier.
- Purchase orders can be built from line items on multiple requisitions.
- Requisition line items can be divided between multiple purchase orders.
- Multiple supplier quotations can be entered for each line item of a requisition.
- Multi-level On-Line Requisition Inquiry
  - Requisition Selection Screen
  - Requisition Line Item Detail
  - Receiver Details
  - Invoice Details
- Change orders can be written for a purchase order.
- Purchase orders can be generated sequentially by company or prefix.
- "Quick pick" screen for issue of purchase order numbers by phone.
- Extensive text capabilities for descriptions and notes to suppliers, purchasing agents, shippers and receivers.
- "Blanket" type purchase order capability.
- Standard clauses can be defined and appended to purchase orders.
- Flexible purchase order print formats match the specific needs of each user.
- User-defined payment control codes can be associated with purchase orders.
- Purchase orders can be expedited by line item through the fabrication and delivery processes.
- Commitments are generated to the Cost Accounting and Work Order modules when a purchase order is costed to either of those subledgers.
- Commitments are automatically reconciled with actual costs when a purchase order is closed.
- Encumbrances can be optionally generated to the General Ledger module.

## PURCHASING

- Multi-level On-line Purchase Order Inquiry
  - Purchase Order Selection Screen
  - Purchase Order Line Item Detail
    - Expediting Detail
    - Invoice Detail
    - Receiver Detail
    - Purchase Detail
    - Direct Purchase Issues
    - Line Item Descriptions
- Purge processes for deleting completed requisitions and purchase orders.

### MODULE INTERFACE

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Purchasing module.

		<b>TRANSACTIONS</b>
<b>Accounts Payable</b>	⇒	Invoiced quantities and costs against a purchase order
<b>Contracts Management</b>	⇒	Purchase orders and/or change orders, backcharge change orders
<b>Inventory</b>	⇒	Re-order requisitions
<b>Receiving</b>	⇒	Updates the purchase order with received quantities and costs
<b>Cost Accounting</b>	⇐	Commitments and commitment relief transactions
<b>General Ledger</b>	⇐	Purchase order encumbrances
<b>Inventory</b>	⇐	"On order" transactions
<b>Work Order</b>	⇐	Commitments and commitment relief transactions

### REPORTS

- |  |  |
|--|--|
| <input type="checkbox"/> Control File Section Listings       | <input type="checkbox"/> Unposted Purchase Orders        |
| <input type="checkbox"/> Supplier File                       | <input type="checkbox"/> Purchase Orders                 |
| <input type="checkbox"/> Supplier Performance Report         | <input type="checkbox"/> Purchase Order Status           |
| <input type="checkbox"/> Supplier / Material Cross Reference | <input type="checkbox"/> Purchase Order Summary          |
| <input type="checkbox"/> Supplier Mailing Labels             | <input type="checkbox"/> Purchasing Subledger            |
| <input type="checkbox"/> Material Requisition Status         | <input type="checkbox"/> Purchase Order Payment Controls |
| <input type="checkbox"/> Quotations                          | <input type="checkbox"/> Change Orders                   |
| <input type="checkbox"/> Print Request for Quotations        | <input type="checkbox"/> Open Orders                     |
| <input type="checkbox"/> Requisitions                        | <input type="checkbox"/> Expediting Report               |

## **15. RECEIVING**

### **DESIGN CONCEPTS**

The Receiving module is designed to facilitate the recording of material delivery tickets and the optional expensing of those tickets to the appropriate subledger using either the purchase order unit rate, the price from the user maintained material price file, or the amount specified at the time of input. The Receiving module is primarily used to recognize material costs caused by time delays between the receipt of the materials and the vendor's invoice.

When invoices are entered in the Accounts Payable module for a vendor, the system automatically displays the unmatched receiving transactions for that vendor and requests that the user associate the receivers with the invoice being entered. Receiving transactions must always be associated with a pre-defined Accounts Payable vendor, and may be associated with a previously posted purchase order.

An invoice may have a different unit price than that of the receiving document. The system accommodates this disparity by reversing the expense and commitment relief transactions previously generated by the Receiving module when an invoice is posted. The actual cost and commitment relief transactions are generated from the invoice amounts.

### **FEATURES**

- Sequential assignment of receiver numbers.
- User specification of destination module(s) determines whether the value of goods received is to be expensed to a particular module at time of receipt.
- User-defined material price file for maintaining a price catalog for materials that are received in the Receiving module, but not matched with a Purchase Order from which a unit price can be extracted.
- Status change entry screen for revising status of a previously posted receiver.
- Flexible receiver entry screens meet the needs of specific users.
- Previously posted purchase orders can be matched with delivery tickets.
- Multi-level On-line Receiver Inquiry
- Generates reconciliation entries at closure, if required.
- Purge processes for deleting completed receivers.

**MODULE INTERFACE**

The following System 20/20 modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Receiving module.

**TRANSACTIONS**

<b>Accounts Payable</b>	⇒	Invoiced quantities, costs and invoice status
<b>Cost Accounting</b>	⇐	Estimated costs related to delivery tickets and commitment relief's
<b>Equipment</b>	⇐	Received quantities and costs
<b>General Ledger</b>	⇐	Cost of materials received but not invoiced
<b>Inventory</b>	⇐	Materials receipts
<b>Purchasing</b>	⇐	Updates the purchase order with received quantities and costs
<b>Work Order</b>	⇐	Received materials

**REPORTS**

- Control File Section Listings
- Receiving Subledger
- Material Price Catalog
- Unposted Receivers
- Receiver Status
- Receiver Analysis
- Receiver Cost Accounting Audit
- Receiver Reconciliation

## **16. REPORT GENERATOR**

### **DESIGN CONCEPTS**

There are effectively three options for creating custom reports in System 20/20, they are:

- 1) The General Ledger module has a built in financial report writer for computing financial reports from the General Ledger chart of accounts.
- 2) The Report generator module provides a step-by-step procedure, which leads the user through the process of creating complex reports from any segment of the System 20/20 database.
- 3) The Universe database manager includes an integrated report writer that permits custom reports to be created from simple 'English like' statements.

The Report Generator module is intended for use by either the client's database administrator, or a user who is familiar with the System 20/20 database organization.

Reports created via the Report Generator result in 'standard' programs that are automatically connected to the User Custom Reports menu in each module of System 20/20

## **17. SOFTWARE RELEASE**

### **DESIGN CONCEPTS**

The Software Release module is designed to control work orders associated with revisions and enhancements to the System 20/20 software product. Originally designed for internal use at CIS, this module subsequently has been installed at customer sites with in-house data processing departments. The Software Release module enables you to control software update procedures and maintain your custom programming effort.

### **FEATURES**

- Initialization, scheduling, and processing of internal work orders. An internal work order is one generated at the customer's facility.
- Audits internal work order programs and documentation for completeness and conformance to System 20/20 standards.
- Provides the facility to compare and record every change to a program in archive files.
- Automated procedures generate new releases of System 20/20.
- Incremental release numbers are automatically assigned to each program revision; the system inserts a release statement as a comment line in the program.
- Distribution of the software from the development environment to the production environment for both in-house and external users is controlled through the Software Release module.
- Controlled merging of externally generated work orders into the development environment. An external work order is one generated outside the user's facility.
- Automatically maintains complete system documentation when processing both internal and external work orders.
- Allows for inclusion of client developed custom modules.
- Generates current versions of System 20/20 user manuals by incorporating all processed work orders.
- Program Release facility tracks the release history of any specified program.
- Provides procedures for moving files between non-compatible operating environments.

### **REPORTS**

- |   |  |
|---|--|
| <input type="checkbox"/> Module Status            | <input type="checkbox"/> Print Work Order(s)             |
| <input type="checkbox"/> Customer Listing         | <input type="checkbox"/> Work Order Summary              |
| <input type="checkbox"/> Customer Task List       | <input type="checkbox"/> Current Release Users Manual    |
| <input type="checkbox"/> Customer Deliveries      | <input type="checkbox"/> Pending Transfers               |
| <input type="checkbox"/> Customer Release Summary | <input type="checkbox"/> Program Release History Reports |
| <input type="checkbox"/> Work Order Status        | <input type="checkbox"/> Program Comparison Reports      |

## **18.SUBCONTRACTS**

### **DESIGN CONCEPTS**

The Subcontracts module is designed to control the issuance of subcontracts, change orders and subcontract payment requests (including retention); and enables you to report on the status of the resulting commitments.

### **FEATURES**

- Multi-company environment allows a subcontract to be written on one company and expensed to one or more related companies.
- Supplier file can be maintained that is independent of the Accounts Payable vendor file.
- Subcontracts can be sequentially numbered by company or prefix.
- Demographic data and comments are maintained for each supplier.
- Flexible subcontract entry screens meet the needs of specific users.
- Retention schedules can be created and associated with subcontracts.
- Change orders can be written for a subcontract.
- Standard contract clauses can be defined and appended to subcontracts.
- Extensive text description capability for subcontract line items and change order line items.
- Commitments can be generated to the Cost Accounting module when a subcontract is costed to that subledger.
- Encumbrances can be generated to General Ledger.
- Flexible subcontract print formats meet the specific needs of each user.
- User-defined payment control codes can be appended to subcontracts to insure compliance with bonds, insurance, liens, etc.; additionally, these codes can control payments to subcontractors.
- Subcontract payment requests can be generated with retention calculation and the subsequent automatic creation of accounts payable invoices.
- Provides for the accrual of subcontractor billing not received, with automatic reversal.
- Automatically reconciles the commitment with the actual cost when a subcontract is closed.
- Multi-level On-line Subcontract Inquiry
  - Subcontract Selection Screen
  - Subcontract Line Item Summary
  - Payment Request Summary
  - Payment Request Detail
- Purge processing capability for deleting completed subcontracts.

## ***SUBCONTRACTS***

### **MODULE INTERFACE**

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Subcontract module.

		<b>TRANSACTIONS</b>
<b>Contracts Management</b>	⇒	Subcontract orders and/or change orders, backcharge change orders
<b>Accounts Payable</b>	⇐	Subcontract payment request invoices
<b>Cost Accounting</b>	⇐	Commitments and commitment relief transactions
<b>General Ledger</b>	⇐	Subcontract encumbrances

### **REPORTS**

- |  |  |
|--|--|
| <input type="checkbox"/> Control File Section Listings | <input type="checkbox"/> Subcontract Payment Control |
| <input type="checkbox"/> Supplier File                 | <input type="checkbox"/> Subcontract Payment Request |
| <input type="checkbox"/> Supplier Mailing Labels       | <input type="checkbox"/> Subcontract Summary         |
| <input type="checkbox"/> Unposted Subcontracts         | <input type="checkbox"/> Subcontracts Audit          |
| <input type="checkbox"/> Subcontracts                  | <input type="checkbox"/> Change Orders               |
| <input type="checkbox"/> Subcontracts Subledger        | <input type="checkbox"/> Commitment Summary          |
| <input type="checkbox"/> Subcontract Status            |  |

### **19. SYSTEM CONTROL**

#### **DESIGN CONCEPTS**

The principal design focus of the System Control module is the execution of system-wide and module-wide parameters based on each company's unique software environment and hardware requirements.

The System Control module is used primarily by the database administrator for initializing, maintaining, and updating a customer's system configuration and user security access. Additionally, this module includes a generalized data import facility and batch processing capability.

#### **FEATURES**

- Multiple databases and active modules within each user-defined database.
- Specification of each customer's unique combination of System 20/20 modules.
- System wide audit capability records the changes in any element in the database according to user specified options.
- Multiple user companies.
- Global option for American or International date format.
- Multiple printer destinations for routing reports to any user-defined printers.
- Module accessibility can be controlled by communication port (terminal line).
- Multiple terminal type definition.
- User data definition that includes the following features:
  - ◆ Passwords
  - ◆ System configuration defaults
  - ◆ User and function key groups
  - ◆ System security elements
  - ◆ Accessibility to individual menu options
  - ◆ Security restrictions on user access specified by terminals, hours, and/or days of the week
- User-defined menus can include options from multiple modules on a single menu.
- Multiple level menus are controlled and defined by the user.
- Process Lock Table prevents execution of simultaneous, but conflicting database update processes.
- Function Key Groups for defining a specific set of commands for a user's or user group's terminal function keys.
- Job Stream definition with multiple job step capability and easy substitution of run time variables such as current date, printer destination, company number, etc.
- Data import facility transfers and converts external data from other software products and performs complete data validation with minimal user intervention.
- User-defined batch queues for background processing.

## ***SYSTEM CONTROL***

- Electronic Mail facility which functions in two principal modes:
  - ◆ Send messages to other users - includes the ability to create, review, respond, print and delete messages of any length.
  - ◆ Notify users at a customer site of software updates and changes that are applicable to the user's specific area of system access.

### **MODULE INTERFACE**

System Control functions as a management module for all the modules of the **System 20/20** software product. There are no transactions generated between System Control and the other modules; in effect, System Control offers module-wide validation "rules" or format options, which designate the features available within each module.

### **REPORTS**

- |  |   |
|--|---|
| <input type="checkbox"/> Control File Section Listings   | <input type="checkbox"/> Import Process Report              |
| <input type="checkbox"/> Job stream Report               | <input type="checkbox"/> Import Process Before/After Report |
| <input type="checkbox"/> Import Task Definition          | <input type="checkbox"/> Import Process Error Log           |
| <input type="checkbox"/> Conversion Table Definitions    | <input type="checkbox"/> Implementation Task Report         |
| <input type="checkbox"/> ASCII File Definitions          | <input type="checkbox"/> Batch Queue Listing                |
| <input type="checkbox"/> File Transformation Definitions | <input type="checkbox"/> Batch Job Submitted Listing        |
| <input type="checkbox"/> Import Step Definitions         |   |

### 20. SYSTEM DEVELOPMENT

#### DESIGN CONCEPTS

The System Development module provides the system administrator or technical manager with an ability to define, update and analyze their unique software and hardware environment. The System Development module consists of a set of "tools" that are utilized during the following standard procedures:

- Installations
- Upgrades
- Database analysis
- Computer software and hardware configuration
- Custom programs and file definition
- Application software development and analysis

The tools used within the System Development module are actually a method that has been developed by CIS for designing and writing application software under a Relational Database Management System (RDBMS). The module's design provides a consistent standard for system analysis, programming, and automatic generation of user and system documentation. In addition, the System Development module facilitates the transfer of application software between diverse computers without requiring any changes in the application programs.

#### FEATURES

- "HELP" commands allow you to execute the following functions:
  - ◆ Retrieve or review context-sensitive on-line documentation from any prompt on any screen
  - ◆ Display a list of available values for designated data fields on a menu option screen
  - ◆ Execute a second level of data entry, processing or reporting menu options and return automatically to the field you were in on the original screen
  - ◆ Print a hard copy of screens
  - ◆ Print a hard copy of selected documentation from the User's Manual
- Configuration Menu allows you to define unique software set up and hardware configuration through the following features:
  - ◆ Operating environments and release numbers
  - ◆ Software configuration which includes account names and directories, modules installed
  - ◆ Customer configuration which includes custom programs, files, global terminal type characteristics
  - ◆ Global data element definition allows you to customize field sizes for selected data elements, e.g., General Ledger account string

## ***SYSTEM DEVELOPMENT***

- Development menu allows you to define your system's components as follows:
  - ◆ Module definition including data on available files
  - ◆ Custom versions of specific programs
  - ◆ Cross Reference Definition
- Transfer menu allows you to monitor and manage all deliveries of programs and documentation into your production environment.
  - ◆ Software Installation Inquiry with date/time of each incremental delivery
  - ◆ Program Delivery Inquiry with delivery data on individual programs or all programs within a specific module
- System Documentation menu provides on-line inquiry and report information on the usage of specified programs, files, and data fields within the System 20/20 application software.

### **PROGRAMMING ANALYSIS TOOLS**

The use of the System Development module means that the programmer effectively writes programs in a macro (high level) language. The "precompiler" function of the module then explodes the macros to create "source" code for the target computer on which the program is to be executed.

The System Development module also provides a subsystem whereby new global features can be added to the application software without having to modify each individual application program.

The System Development module is not an "applications generator". It is not intended to be used by the "general user", but rather by the systems analyst or programmer. In our experience, the use of the System Development module significantly reduces the man-hours required to design and develop application software.

The System Development module gives your data processing staff the ability to develop additional application modules that are specific to your software requirements while maintaining a consistent programming environment for all of your application software.

### **REPORTS**

- |  |   |
|--|---|
| <input type="checkbox"/> Environment Listing                       | <input type="checkbox"/> Module Listing                         |
| <input type="checkbox"/> Directory Listing                         | <input type="checkbox"/> File Usage and Listing Reports         |
| <input type="checkbox"/> Development Account Configuration Listing | <input type="checkbox"/> Program Usage and Listing Report       |
| <input type="checkbox"/> Customer Version Listing                  | <input type="checkbox"/> Cross Reference Usage & Listing Report |
| <input type="checkbox"/> Customer Configuration Listing            | <input type="checkbox"/> Variable Usage                         |
| <input type="checkbox"/> Global Data Element Listing               | <input type="checkbox"/> Database Record Format                 |
| <input type="checkbox"/> Data Element Group Listing                | <input type="checkbox"/> Custom Programs                        |
| <input type="checkbox"/> Key Code Listing                          | <input type="checkbox"/> Current Users Manual                   |

## **21. WORK ORDER**

### **DESIGN CONCEPTS**

The Work Order module is an alternate means of cost accumulation within System 20/20. In effect, the Work Order module is a simplified version of the Cost Accounting module.

The Work Order module, accumulates the costs associated with a work order and relieves those costs when the work order is complete by either (1) charging the cost to the appropriate unit of equipment, (2) receiving the fabricated or assembled part into inventory, (3) shipping the fabricated or assembled part to an external customer, or (4) expensing the work order to a cost center in the Cost Accounting module.

### **FEATURES**

- Format option codes provide ability to customize data entry screens and reports to match the needs of each customer or work order type.
- User-defined cost types within a work order.
- Actual cost and commitment maintenance.
- Optional detail budgets.
- Work order scheduling based on available manpower.
- Ability to place inventoried items in a reserved or locked status for specific work order tasks.
- Generation of time and materials or fixed price billing by work order.
- Extensive on-line inquiry for tracking work order costs.
- User-controlled automatic closing reconciliation.

## WORK ORDER

### MODULE INTERFACE

The following **System 20/20** modules send ( ⇒ ) transactions to and receive ( ⇐ ) transactions from the Work Order module.

		<b>TRANSACTIONS</b>
<b>Accounts Payable</b>	⇒	Purchase invoices
<b>Accounts Receivable</b>	⇒	Revenue transactions
<b>General Ledger</b>	⇒	Adjusting journals
<b>Equipment</b>	⇒	Preventive maintenance work orders, rental charges
<b>Inventory</b>	⇒	Inventory issues
<b>Payroll</b>	⇒	Labor charges (Work order related payroll expenses)
<b>Purchasing</b>	⇒	Purchase commitments and commitment relief transactions
<b>Receiving</b>	⇒	Received materials
<b>Accounts Receivable</b>	⇐	Customer billings
<b>Cost Accounting</b>	⇐	Work order costs and billings
<b>Equipment</b>	⇐	Equipment repair work order costs
<b>General Ledger</b>	⇐	Cost journals, transactions from allocations to final destinations, revenue from billing
<b>Inventory</b>	⇐	Inventory locks and reservations

### REPORTS

- Control File Section Listings
- Work Order Print
- Work Order Cost Reports
- Work Order Revenue Reports
- Work Order Transaction Reports
- Work Order Closing
- Work Order Subledger
- Manpower Requirements