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ASSISTANCE IN COMPUTERIZATION TO THE BARBADOS
INDUSTRIAL DEVELOPMENT CORPORATION (BIDC)

SI/BAR/84/801

BARBADOS.

Technical report: Design of a management system plan*

Prepared for the Government of Barbados
by the United Nations Industria. Development Organization,
acting as executing agency for the United Nations Development Programme

Based on the work of P. Bondesson and L. Bergwik
Industrial management experts

United Nations Industrial Development Organization

Vienna

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FINAL REPORT AND MANAGEMENT SYSTEM PLAN (MPS).

0.   INTRODUCTION

In the spring 1984, a project was defined by UNIDO in consort with the Barbados Industrial Development Corporation to strengthen the capabilities of the BIDC staff in the development and use of micro-computers. The use of the micro-computers is intended to support the overall objective of improving management efficiency and the effectiveness of the BIDC technical assistance provided to the Barbados industrial development process. UNIDO ultimately agreed to fund a small project to help the BIDC design a computer-based management information system and define a computer training programme for the BIDC staff.

I.   GENERAL

The consultants to do this project were Per Boncesson and Lars Bergwik from Turn-Key System AB, Stockholm, Sweden. The schedule for the project was from November 12th to December 21th 1984.

The accomodations were adequate. The BIDC employees were very friendly. To provide for transportations, the consultants were given a car.

The project was defined by UNIDO in consort with the BIDC to strengthen the capabilities of the BIDC staff in the development and use of microcomputers. The use of microcomputers is intended to support the overall objective of improving management efficiency and the effectiveness of the BIDC technical assistance provided to the Barbados industrial development process.

Accomplished objectives:

The specific objectives of the project that were accomplished include:
- i) reviewing and analysing the information needs of the BIDC
- ii) revising the Management System Plan (MSP) outlined by UNIDO staff
- iii) designing of system components
- iv) implementing of system components
- v) conducting training sessions

The review of the BIDC information needs consisted of meetings with division and department managers. After being informed and having discussed their needs in general terms, we proposed and discussed different software solutions for the different system areas (e.g, spreadsheet, database, commercial software). As a result of the meetings, the system descriptions in the MSP were prepared.

The MSP was originally outlined by UNIDO staff to serve as a guideline, and prepared in current draftform by the consultants. The MSP includes:

i) management summary	UNIDO
ii) system descriptions	UNIDO/consultants
iii) software/hardware evaluation criteria	UNIDO
iv) implementation work programme	UNIDO/consultants
v) training programme	consultants

Problems:

We faced some general problems during the project. Initial dates
given by NCR when the computer, the software, and the manuals
would arrive were not met. Rescheduling introduced difficulties to
our workplan. Some of the manuals did, in fact, not arrive at all
during our stay, which meant we were unable to perform some of the
original worksteps.

The employees we interviewed and worked with were mostly department
managers. Meetings and training sessions were often interrupted by
telephone calls or by secretaries and collegues. Thus, our schedule
had to be flexible to work around their work schedules. The BIDC was
also in the process of moving to new corporate offices.

Remaining objectives

The remaining work includes:

    i) Getting the NCR Tower fully installed.

    ii) Conduct training session in UNIX,
                             Ingres and
                             Wordmarc.

    iii) Implement the following systems:
        - Client profile database (Ingres)
        - Company profile database (Ingres)
        - Project profile database (Ingres)
        - Application profile database (Ingres).
        - Set up communication line between IDC and
          overseas offices.

    iv) Design and implement the following systems:
        - Capital resource database (Ingres)
        - Handicraft market analysis model (Multiplan, UNIX)
        - Handicraft production planning (Multiplan, UNIX)
        - Financial planning model (Multiplan, UNIX)
        - Cash management model (Multiplan, UNIX)
        - Budget development model (Multiplan, UNIX).

    v) Finding and installing commercial software packages:
        - Cost control system in the construction & estates department
        - Order/entry and inventory system to manage the materials
          management and retail sales recording in the handicraft
          department
        - Payroll system incorporated in the financial accounting
          system.

II. HARDWARE

We were informed that the main computer, the NCR Tower, should have been installed upon our arrival in Barbados, November 14 1984. However this was not the case. According to BIDC, the installation was rescheduled for November 26 1984. Meetings with NCR confirmed that there could be problems with the shipping schedules, and the installation could be further delayed. During the meetings we developed a fairly good contact with the NCR staff.

The computer arrived in Barbados December 3 1984. After having problems with the Customs and the operating system UNIX, the NCR Tower was installed at BIDC on December 11 1984. The installation was, however, not complete. Only single-user mode functioned which means only one user could use the computer at a time. This has not, at the time of writing, been settled. A UNIX expert from NCR have been working on the NCR Tower a couple of hours every day from the day of installation until now, mainly trying to get the operating system UNIX and the printer to function properly and to install softwares.

One of the terminals to the NCR Tower is a NCR PC4, which also can be used as a stand-alone micro-computer using the operating system DOS. It will be used in the research and planning department. All systems implementation and training sessions were held on the NCR PC4, while waiting for the NCR Tower to be properly installed.

When implementing systems on an NCR PC4, a large number of diskettes for programs, files, and backups are required. We had some problems convincing the BIDC to buy an adequate number of diskettes. In Barbados diskettes are expensive and the BIDC has a tight budget. However, after several training sessions the BIDC staff had a better understanding of the storage requirements and the need for backup procedures.

III. SOFTWARES

One of our worksteps was to help the BIDC select and buy appropriate software packages. However, the BIDC had already acquired the DOS-versions of the spreadsheet program Multiplan and Lotus 1-2-3, the database manager dBASE II, and the wordprocessor Wordstar, with the intention to run these under UNIX. The BIDC did not initially understand that these versions do not run under UNIX. The packages, however, were able to run on the NCR PC4.

The only commercial software packages available for UNIX on the NCR Tower are the spreadsheet program Multiplan, the database manager program Ingres, and the wordprocessor program Wordmarc. NCR assured the BIDC that it was adequate for their requirements.

This left us with only one software selection; Multiplan or Lotus 1-2-3 as spreadsheet program for the NCR PC4 with the DOS operating system. The BIDC chose to use Propspin (a general purpose analysis model developed by UNIDO) for the feasibility analysis function. Since Propspin runs under Multiplan, and the only spreadsheet program running under UNIX on the NCR Tower is Multiplan, the BIDC elected to use Multiplan rather than Lotus 1-2-3. This means that the BIDC will not have to learn two different spreadsheet programs.

The UNIX operating system is currently installed with only a single-user option. The manual has not yet arrived. Tne database manager software Ingres and the wordprocessor program Wordmarc were installed on UNIX December 14 1984. Neither of these manuals had been delivered which means that we were unable to implement tne Ingres system, to conduct Ingres training sessions, or to conduct Wordmarc training sessions.

The financial accounting system, wnich will run on the NCR Tower, was decided to be a commercial software package. The Open Systems package, recommended by UNIDO, seemed to be very adequate according to the chief accountant. We were told the UNIX version was no longer supported by the supplier. Another financial accounting package that we considered was the Realworld System, but upon request we were told that they had also stopped supporting the UNIX version. Tnat left the BIDC with the NCR system, a package from Canada. The system is now installed. Unfortunately, the user manual is not easily understood by the first time user.

IV. DESIGNS AND IMPLEMENTATIONS

Designs:

The design of the system components included:
- i) determine software (e.g., spreadsheet, database manager, commercial software)
- ii) determine multiuser/stand-alone micro-comouter system
- iii) determine record format
- iv) determine inout forms
- v) determine report forms

The design did not include detail program design as the time schedule did not allow it. The following system comoonents were designed but not implemented:
- company profile database   Ingres
- client profile database   Ingres
- application processing database   Ingres
- library cataloging system   Ingres
- estates and tenants database   Ingres

Implementations:

The systems that were designed and implemented were all implemented on the NCR PC4 micro computer (used as one of the terminals on the Tower system) running under the DOS operating system. The systems include:

- Feasibility analysis models. Proospin   Multiplan
  was used and modified to meet BIDC
  requirements.
- Statistical analysis models. Implemented   Multiplan
  as part of the spreadsheet training session.
- Client profile database. Implemented as part   dBASE II
  of the dBASE II training session. The data-
  base will eventually be converted to Ingres.
- Personnel administration database.   dBASE II
- Salary/wages model. Input data is generated   Multiplan
  from the personnel administration database.
- Accounting system for overseas offices.   Multiplan

The only system that is installed and functioning under UNIX on the NCR Tower, is the financial accounting system. It was irstalled by NCR. The user manual is deficient as, it merely tells what the system can do but not how to do it. However, the BIDC are now familiar with the menus and screens.

V.   TRAINING SESSIONS

There was a great deal of time soent in training sessions. We conducted training session for implemented systems, the operating system DOS, the spreadsheet program Multiplan, the database manager dBASE II, and the wordprocessing orogram Wordstar. These sessions were conducted on the NCR PC4. The sessions for the financial accounting system and the operating system UNIX were conducted on the NCR Tower.

The BIDC staff were at all times very eager to learn. The training sessions were conducted at different levels. Some employees were taught only the general functions of the different softwares, while others were taught in detail how to use them. The objectives of the detailed training sessions were to teach the employees to maintain the implementations made by the consultants, and to teach them to implement new functions and systems on their own.

On-line tutorials were used in the DOS-, in the dBASE II-, and in the Wordstar training sessions, as well as explanations by the consultants.

The Client profile database was implemented on dBASE II as part of the dBASE II training session. The Statistical analysis model was implemented as part of the Multiplan training session.

The Wordstar training sessions for secretaries were quite successfull. As a part of the training they wrote various parts of the MSP.

The training sessions for the financial accounting system consisted of guiding the staff thru the menus and screens. For the operating system UNIX we taught simple UNIX commands; to log in, to load Multiplan, Ingres and Wordmarc, to print, to change user attributes, to add a user and to change passwords.

VII. CONCLUSION

The BIDC staff knowledge of computers and their use was rather
little at the beginning of the project. During the project, where we
worked close to the staff and had many training sessions, they came
to learn more and more ; e.g. the difference between micro-computer
single-user and multi-user systems, the difference between various
software packages, that a difference exists between two operating
systems, etc.

Thanks to the implementations, the training sessions and the
training materials (tutorials, videos, magazines, etc.), the BIDC
has now a good foundation for achieving their EDP objectives.

The database manager system Ingres will be one of the main keys to
succes. Most of the remaining systems are designed to be implemented
on the Ingres. This demands that someone at the BIDC gets the time
and possibilities to learn the Ingres in detail. The knowledge of Ingres
should then not stay in just one department, but must be shared among
the others. Local consultancies can be available from the NCR, if
obstacles arise when learning the Ingres.

VII.   MANAGEMENT SUMMARY, MSP

In the spring 1984, a project was defined by UNIDO in consort
with the Barbados Industrial Development Corporation to strengthen
the capabilities of the BIDC staff in the development and use of
micro-computers. The use of the micro-computers is intended to
support the overall objective of improving management efficiency and
the effectiveness of the BIDC technical assistance provided to the
Barbados industrial development process. UNIDO ultimately aggreed to
fund a small project to help the BIDC design a computer-based
management information system and define a computer training
programme for the BIDC staff.

The UNIDO section responsible for backstopping the project
(Factory Establishment and Management) elected to use headquarters'
staff personnel to perform some of the early project activities,
thereby realizing considerable cost savings and maximizing the use
of projects funds for consultants. Such an approach will enable the
project to go beyond the systems design stage and actually implement
some of the systems. The specific revised objectives of the project
include:

(i)   Review and analyze the information needs of the
        BIDC.
(ii)   Prepare a Management Plan for implementing
        computerbased systems. The Plan will include
        conceptual design of system components, work
        programmes for implementing the systems,
        hardware/software evaluation criteria, and a
        training programme for BIDC staff.
(iii)   Design and implementation of several system
        components. (The use of commercially available
        software is to be used as much as possible).
(iv)   Conduct seceral training sessions outlined in the
        Management Plan.

The Management Plan is intended to serve as a
guide/reference for the BIDC and in no way is assumed to be
a static document. The BIDC should, accordingly, review and
revise the plan to include new information as it arises, and
reflec: changing management priorities as well as the
resource constraints of the organisation.

Work Performance

The work performance by UNIDO headquarters' staff consisted of the following major steps:

*	WORK STEP	PURPOSE
i)	Review existing business functions.	To determine the basic information used and the objectives of each business function.
ii)	Determine information requirements.	To document additional required information not readily available.
iii)	Determine mechanization requirements.	To prioritize business areas for use of mechanized systems.
iv)	Develop system/function area profiles.	To identify key inputs, outputs processing features, information flows.
v)	Document hardware/software evaluation criteria.	To select appropriate software/ hardware configuration.
vi)	Develop work plans for implementing systems.	To utilize work programmes for systems implementation and as terms of reference for consultants.
vii)	Prepare management system plan document.	To serve as a guide and reference for implementing an MIS at BIDC.

* Work involved extensive interviews with potential users of systems, department heads, staff and management at the BIDC.

Underlining Assumptions

BIDC Objectives

There is a fundamental commitment on the part of the BIDC Management to provide BIDC personnel with experience in systems design, computer hardware/software selection and installation, and increasing the effectiveness of the organisation through the use of Management Information System (MIS). Well designed systems should increase overall management efficiency and foster sharing of information among the three (3) main divisions of the organization.

However, it must also be recognised that the BIDC has limited resources in terms of available expenditures for systems and availability of man-power to implement them.

Clearly, not all systems applications posses the same priority. In addition, introducing management systems and office automatic tools for the first time in an organisation will not doubt carry with it some confusion and frustration. Designing and installing systems to the first-time user should not be overly ambitious. System requirements should be prioritized and introduced carefully. The BIDC will need to rely on the skills and experience of its existing staff to a great extent, as it is assumed creation of an EDP staff is to be avoided. Therefore, it is imperative that a phased approach be utilized in conjunction with a sound training programme.

MIS APPROACH AND STRATEGY FOR BIDC

Systems Development

Six (6) major business functions at the BIDC were identified during the preliminary review work performed by UNIDO headquarters' staff that could substantially benefit from mechanized systems.

These functions are:

Investment Promotion	)	
Research and Planning	)	Investment Promotion Division
	)	
Estates Management	)	
Handicraft	)	Commercial Operations Division
	)	
Corporate Services	)	
Finance and Accounting	)	Corporate Services Division
	)	

There are four (4) types of systems that each functional area could utilize: Strategic Planning, Operations Planning, Control Reporting, and Transaction. An information schematic reflecting the management information requirements of the BIDC is presented at Exhibit 1. The schematic shows the type of system for each business area and the integration of some of the system components. Each system component is subsequently described in greater detail in Section II of the Management Plan.

Given the fact that the BIDC does not wish to establish an EDP function through the hiring of additional personnel, existing staff will need to enhance their computer skills in order to develop and use the mechanized systems. Recent innovations in computer software will enable BIDC staff to focus attention on computer usage issues rather than technical detail computer programming. Nevertheless, there will be a need for a few selected staff to become familar with acquired computer software.

A suggested strategy would be for BIDC to use commercial software, user friendly data base systems, powerful "spreadsheet" programmes. Exhibit 1 illustrates the systems that could be developed using such tools. Such an approach would enable BIDC staff to develop their own systems, hence minimizing the need for expensive consultants. Realistically, however, some outside assistance will be necessary from time to time, but the use of software packages will substantially reduce EDP expenditures.

Hardware

There are a variety of alternatives available to BIDC in the hardware area. Recent developments in the micro-computer area have enabled very sophisticated configurations to be assembled, that were only possible using mini-computers several years ago. In fact, the difference between micro and mini is becoming somewhat "blurred". One distinctive difference is "price". Another difference is the level of technical background of the staff who operate the systems.

Exhibit II presents a sample configuration that would be appropriate for the BIDC. Such a configuration makes use of centralised processing as well as decentralized processing. There are variations, of course, such as decreasing the number of storage devices, installing each work station in a phased approach over time, increasing the storage capacity as the need arises in the future, increasing the processing capacity of the computers themselves, and expanding the staff levels of the organisation. Cost must be balanced with the information requirements and the expected use of the system.

Training

Section V of the Management Plan outlines suggested training for the BIDC staff. Training sessions and seminars should be geared to the level of responsibility of each individual in the organization.

Key management personnel should attend executive seminars periodically to keep abreast of developments in corporate systems and data bases. BIDC staff should become conversant with management tools such as spread-sheets and data base systems. Most commercial packages include tutorials and guidelines for use of their products which for the most part are self-explanatory. Occasional workshops or commercially available video tape curses are also recommenced.

Key Management Issues

The introduction of mechanized systems to an organisation requires careful planning and co-ordinated execution. Senior management of an organisation must affirm commitment to the system development efforts in order for them to succeed. Policy issues must also be resolved among the various business departments. For the BIDC, the following key issues should be addressed as the systems development efforts get under way.

1. The Finance and Accounting Department is the most desirable department to monitor and control the development, installation, and operation of the systems. Strong internal control of processing and data security are of paramount importance.

2. Computerization for its own sake should be avoided. Priorities should be established by BIDC Management and a time-phased approach for implementation should be utilized. Given the nature of the need for systems and the charter of the BIDC, establishing strong financial control of its operations appears to be the top priority.

3. Creating an EDP Department would require the hiring of additional personnel. Developing and conducting a training programme to strengthen the skills of existing employees to operate the newly implemented systems is the most desirable and cost effective approach. It should be recognised, however, that some restructuring of job functions will be necessary.

4.   Standardization of hardware and software should be pursued.
      There will be significant benefit to the organisation if the
      same word processors, spreadsheets, and data base systems are
      used in each department. Communication and co-operation among
      employees is likely to improve as employees assist each other
      in resolving technical obstacles. There is also substantial
      cost benefits using standard hardware and software.

5.   A computer literacy campaign at the BIDC should be adopted as
      part of the overall training and computer awareness efforts.   A
      small library of books, periodicals, and computer magazines
      should be made readily available to employees. Once systems
      are developed and in place, employees will need to stay current
      in the rapidly changing EDP field.

VIII. SYSTEM DESCRIPTIONS, MSP

A.   FINANCE AND ACCOUNTING DEPARTMENT

Financial planning model

This model provides a tool for calculating the financial implications of varying assumptions regarding future events. The financial performance of the BIDC can be forecasted in terms of projected operating revenues and costs. The model provides the capabilities which support:

- Planning the acquisition of new equipment or development of industrial facilities.

- Planning manpower requirements based upon demand and availability of funds.

- Projecting grant requirements.

- Presenting an anticipatory management posture rather than a reactionary image to short term changes.

Then main illustrative inputs to the model include:

- Lease revenue and other revenue forecasts.
- Capital outlay requirements.
- Estates management maintenance forecasts.
- Operating cost projections.
- Depreciation schedules for BIDC assets.
- External economic factors (inflation, wage increases, etc.).

Typical illustrative outputs of the model include:

- Capital equipment acquisition schedules.
- Industrial facility expansion schedules.
- Financial requirements analysis (revenue, grants).

Cash management system

This system is a mechanism for collecting and analysing information about anticipated sources and uses of cash. The information is used to plan and control cash transactions within interim periods of the budget cycle. This system enables a short term financial planning capability which supports:

- Determining and monitoring cash flow.

- Determining the amounts and timing of disbursements.

- Anticipated short term borrowing requirements.

- Determining investment strategy for investing excess cash in marketable securities.

Typical illustrative inputs to the system include:

- Actual and accrued liabilities/payables.

- Accounts recievable, cash receipts and credits.
- Budget levels per period (from budget development).
- Interest rates for borrowing/investing.

Typical illustrative outputs of this system include:

- Cash flow reports.
- Cash requirements listings.
- Cash flow analysis worksheets.
- Borrowing/investment interest costs/returns.

Budget development

The budget development system provides a means for collecting, accumulating and adjusting financial and operating target data. The most basic function is to collect preliminary budget estimates, summarize the data by categories and facilitate simulation based upon alternative assumptions. The system provides capabilities which support:

- Building budget worksheets with historical data by line-item for cost centres, organizational department or division.

- Analysing budget changes at the detail level and analysing the overall impact at the summary level.

- Formatting budget data for review by different organizational or business functions.

The main illustrative inputs to the system include:

- Preliminary revenue estimates (operations, grants).
- Inflation factors.
- Historical information such as prior budget vs. actual data, year-to-date performance data, projected revenues from leases and handicrafts.
- Inventory levels and changes in net assets.

Typical illustrative outputs of the system include the following:

- Annual and multi-year budget summaries.
- Cost centre, department and divisional budgets.
- Net current asset/cash flow budgets.
- "What if" analysis.
- Interface to general ledger, cash management system.

Financial accounting system

The system provides a mechanism for accumulating summary financial transactions. The system provides management with reports concerning financial condition and financial operating results. The system maintains a general ledger, transaction details and subsidiary ledgers for such areas as property records. cost accounting and inventory. The system's potential features include the capacity to support:

- Processing and maintaining general ledger accounting transactions and balances (including encumbrance accounting if required).

- Maintaining work-in-progress accounts for individual projects including construction activities.

- Preparing actual versus planned cost accounting reports for manufacturing-type activities.

- Preparing actual versus planned costs and output measures reports by organizational element.

- Preparing summary financial statements (e.g., income and expense, balance sheet, source and application of funds).

The main illustrative inputs to the system would come from other systems as well as direct entries as follows:

- Budget development information (e.g., budget expenses by category).
- Construction and maintenance expenses.
- Property accounting information (e.g., depreciation).
- Payroll expense summary information.
- Revenue and accounts receivable summary information.
- Purchasing/receiving/accounts payable information.
- Inventory valuation summaries.

Illustrative output reports include:

- Financial reports such as trial balances, balance sheets income statements, source and use of funds.
- General ledger account listings.
- Detail transaction lists.
- Financial summaries by organization unit.
- Cost accounting summaries.

Payroll

This system provides a mechanism for computing and recording pay, distributing the related expenses, and maintaining personnel information on employees. The system consists of two inter-related components. The payroll component collects payroll data, calculates pay bonus, gross pay, net pay and employer benefit/tax expenses. The personnel component maintains employee data and change-of-status transactions. The system performs the following functions:

- Computing pay bonus, gross pay and net pay for hourly and piece workers.

- Computing gross pay and net pay for salaried workers.

- Preparing payroll checks, check registers and payroll summaries.

- Determining employer portion of tax and benefit costs.

- Creating and maintaining individual employee payroll/personnel files.

The main illustrative inputs to the system include:

- Employee name, number, codes, etc.
- Time period data, hours worked, attendance data.
- Employee wage rates, overtime rates, piece rates.
- Tax rate schedules.
- Benefits/deductions information.

Typical illustrative outputs of this system include:

- Payroll checks and earnings statements.
- Payroll registers.
- Labor distribution reports.
- Transactions to general ledger (payroll expenxe, etc.)

Revenue/accounts receivable

This system accounts for all the revenues and receivables of the BIDC. The revenue and accounts receivable transactions are accumulated for rental property owned by the BIDC, sales of handicraft to retail establishments, and direct sales of items from BIDC outlets. The system would provide the capabilities which support:

- Maintaining an information file on past and current customers.

- Invoicing customers and maintaining an open invoice file.

- Reconciling cash receipts and accounts receivable.

- Preparing accounts receivable control reports.

The main illustrative inputs to the system include:

Customer information.
Rental receipts and accrued receivables for leased property.
Billing information such as amount due, terms, date due, etc.
Revenue and accrued receivables for sales of handicraft
 products to third party establishments.
Revenue from sales of handicraft products from BIDC retail
 sales outlets.
Accounts receivable write offs.

Typical illustrative outputs of the system include the following:

Open invoice listing.
Journals of cash receipts.
Aged accounts receivable trial balance.
Customer information listing.
Delinquent payments summary.

Purchasing/receiving/accounts payable

This system provides a mechanism for executing and controlling orders, receipts and payments for goods and services. Accordingly, it provides capabilities which support:

Selecting a supplier for a given purchase requirement.

Negotiating a procurement contract convering the required material or service.

Following up with suppliers on outstanding orders, expediting and monitoring status.

Receiving and inspecting materials and services supplied by vendors.

Paying vendors for materials and services purchased.

Interface with general ledger system.

The main illustrative inputs to the system include:

Request for procurement of materials and services, for inventory and for direct usage.
Vendor information such as availability, price, terms and delivery time.
Procurement policies regarding bidding requirements, internal approvals.
Executed purchase orders.
Receiving and inspection documentation.
Vendor invoices.

Typical illustrative outputs of the system include the following:

Procurement activity summaries.
Vendor summaries and listing.
Open purchase order status summaries.
Receiving activity summaries.
Accounts payable listings.
Invoices paid listings.
Check registers.
Interface to general ledger.

B.   PERSONNEL AND OFFICE MANAGEMENT DEPARTMENT

Salary/wages model

This model has the capability to support analysis of the wages,
salaries and associated benefits costs of the organization. The
model allows for extensive "what if" analysis under varying
assumptions such as inflation rate, salary increasement, tax
increasement and benefit costs increasements. The model will
serve as an analysis tool to support union negotiations and the
annual costs to the BIDC of payroll operations.

Then main illustrative inputs to the model include:

    Salary increase rate by salary scale.
    Allowancies increase rate by salary scale.
    Inflation rate.
    Tax increase rate.

Typical illustrative outputs of the model include:

    "what if" analysis
    new total costs by salary scale
    new total personnel costs

Personnel administration database

This system provides a mechanism for collecting, maintaining and
analyse personnel information and histories.

The main illustrative inputs to the system include:

    Employee name, address, department, codes, etc.
    Salary information.
    Position, training and qualification.
    Vacation information.

Typical illustrative outputs of teh system include:

    Vacation report.
    Pension scheme report.
    Age ranges report.
    Salary scale report.

Wordprocessor documents

A number of file management documents, where the wordprocessors "search" function is applicable. Each file management document containing all files within a specific file number range. Due to the internal memory of the microcomputer, a single file management document is not possible. The following information is kept for every file in a file management document:

File number.
Reference number.
Number of volumes and physical location.
Date of volume.
Contents of file.
Title of file.
To whom and when the volume was given.

A document containing the history of IDC, including all members of the board for each year.

A mailing list document containing clients name and address and which information they will recieve; general report, christmas card, general information, etc.

C.   INVESTMENT AND PROMOTION DIVISION

Feasibility analysis model

This model has the capability to support management decision-making in investment simulations, facility investment alternatives and financial performance analysis. The model allows for variations of assumptions to enable powerful "what if" analysis. The system features include:

- Analysis of capital structure alternatives for industrial facilities, including depriciation rates.

- Simulation of operation analysis including raw materials, labour, energy costs and inflation rate.

- Unit cost analysis of the variable cost components in the production process.

- Balance sheet and income statement.

The main illustrative inputs to the system include:

- Inflation rate.
- Salary increase rate.
- Sales price increases.
- Capacity utilization of the facility.
- Rated capacity of the facility.
- Raw material costs.
- Manpower costs.
- Energy consumption rates.
- Overhead costs.
- Sales and administrative expenses.

Typical illustrative outputs of the system include:

- Capital structure.
- Depreciation analysis.
- Operations analysis.
- Balance sheet.
- Income statement.
- Financial performance indicators.
- Variable unit cost analysis.

Clients profile database

This system provides a mechanism for processing a client profile catabase, to maintain and analyze interesting/interested clients.

The main inputs to the system include:

- Name and address of client.
- Products that the client is interested of.

Typical outputs of the system include:

- Clients listed by products.

Companies profile database

This system provides a mechanism for processing a company profile catabase, to maintain and analyze interesting/interested companies.

The main inputs to the system include:

- Name and address of company.
- Current procucts.
- Products of interest in the future.
- Joint venture/Sub contracting.

Typical outputs of the system include:

- Companies listed by products.
- Companies listed by joint venture/sub contracting.

Project profile database

This system provides a mechanism for processing a project profile database, to maintain and analyze projects.

The main inputs to the system include:

- Areas.
- Products.
- Machines.
- Companies.

Typical outputs of the system include:

- Feasability report.
- Projects listed by area/products.

Library cataloging system

This system provides a mechanism for maintaining and administer books, texts, periodicals, journals, rewspaper, reports, etc. A number of keywords (topics) will be created for each publication to produce a fast and easy search of a specific document.

The main inputs to the system include:

- Catalogue number, ISBN number.
- Author and title of publication.
- Classification code.
- Usage code.
- Present status code.
- Information of borrower and date due.

Typical outputs of the system include:

- Books on loan.
- Books overdue.
- Value of publications by type and classification code.
- Number of publications by type and classification code.

D. RESEARCH AND PLANNING DEPARTMENT

Statistical analysis model

This model has the capability to maintain and analyse statistical
information on the whole manufacture market.

The main inputs to the system include:

 - Statistical economy information.

Typical outputs of the system include:

 - Direction of trade, imports/exports.
 - Estimates of Gross Domestic Product.
 - Commercial bank loans/credits.
 - Composition of domestic exports.

Application processing database

This database provides a mechanism for maintaining and analysing
applications requiring fiscal incentives and factory space.

The main inputs to the system include:

 - Name and location of company.
 - Dates for application/reappraisel/approval/rejection.
 - Main product (industry group) and subproducts.
 - Various statistical information.

Typical outputs of the system include:

 - Number of applications recieved/approved/rejected by fiscal
   incentive and factory space.
 - Companies approved by industrygroup.
 - Applications for factory space by industry group.
 - Applications for fiscal incentive by industry group.

Application form in the wordprocessor

A standard form for applications should be produced as a wordprocessor
document. When writing out the application, the secretary will copy
the standard format, fill in the information and print the
application.

E.   CONSTRUCTION AND ESTATES MANAGEMENT DEPARTMENT

Cost control

This system provides a means for controlling the cost spent in a project to maintain profitability. In order to achieve this the system must get timely information on expenditures from the financial accounting system.

The main inputs to the system include:

- Material and labour costs per project and period.
- Labour hours per project and period.

Typical outputs of the system include:

- Project cost report.
- Project profitability report.

Scheduling/estimating system

This system will provide a mechanism for planning the projects in a critical path network method.

Capital resource analysis

This system provides a mechanism for estimating and calculating the costs of a new building. Following up of actual costs given by the financial accounting system will be done in order to approve estimations.

The main inputs to the system include:

- Material costs.
- Labour costs.
- Consultant costs.
- Capital costs.

Typical outputs of the system include:

- Estimated total cost.

Estates and tenants database

This system provides a mechanism for collecting, maintaining and analysing information about buildings and tenants.

The main inputs to the system include:

- Estates information.
- Building information by estate.
- Tenants information by building.
- Start and finnish times.
- Rent or lease.

Typical outputs of the system include:

- General information about tenants and their status.
- Tenants with notice.
- What has been repaired on each building.

F.   HANDICRAFT DEPARTMENT

Market analysis model

This model has the capability to support the analysis of the market
for handicraft products. The model serves as a collector of historical
data for products and groups of products, related revenue information
and cost information. The model has the capability to perform
statistical analysis to formulate trends and forecasts. The model also
orc ides the means to collect results and summarize survey data.

The main inputs to the system include:

  - Historical sales.
  - Market projections.
  - Customer survey data.
  - Historical effects of advertising, promotion and sales efforts.
  - Product cost and revenue data.

Typical outputs of the system include:

  - Survey result summaries.
  - Product/product group forecast.
  - Statistical analysis reports.
  - Customer reaction summaries.
  - Trend analysis.
  - Customer inquiry and follow reports.

Production planning

This system provides a mechanism for operating the production planning
and scheduling and the requirements planning for handicraft products.
In order to achieve this, information will be provided from materials
management system and the retail sales recording system.

The main inputs to the system include:

  - Historical information.
  - Sales reports.
  - Forecasts.

Typical outputs of the system include:

  - Product mix by section.
  - Production schedules.
  - Requirements based on the product mix and schedules.

Material management

This system provides a mechanism for raw material control and inventory control of raw material. Each raw material must be given a unique item number. The system would provide the capabilities which support:

- Maintaining an inventory file of raw materials.

- Handling order points (requisition points).

- Keep track of raw material movements.

The main inputs to the system include:

- Purchases of raw material.
- Outlets of raw materials.
- Miscellaneous debit/credit of raw materials.

Typical outputs of the system include:

- Requisition report.
- Inventory balance report.
- Purchase report of raw material.
- Miscellaneous debit/credit entry report.

Retail sales recording

This system provides a mechanism for recording sale of finnished goods. The information is used to control an inventory file of finnished goods. Each item must then be given a unique item-number. The system would provide the capabilities which support:

- Maintaining an inventory file of finnished goods.

- Keep trac of stock movements.

The main inputs to the system include:

- Sales by handicraft site.

Typical outlets of the system include:

- Sales analysis by salesman.
- Sales analysis by handicraft shop.
- Stock level report.

IX.   SOFTWARE AND HARDWARE EVALUATION CRITERIA, MSP

SOFTWARE EVALUATION CRITERIA

Custom development of computer programmes is expensive, time-consuming
and requires considerable skill. The continued support of a custom
system requires an on-going, in-house data processing function which
is also expensive. Today's availability of commercially available and
public domain software makes the custom approach less desirable,
except in unusual circumstances. The use of prepared software offers
considerable time and cost advantage.

Installation of software, however, does require careful planning or
serious errors can be made therby eroding the benefits from a package
approach. All software packages have a "learning curve", and often
times, finding the perfect solution is just not possible. Some changes
to the software may be necessary, and certainly future growth
requirements of the organization must be built into the software
selection process.

A software package should be evaluated against specific criteria. The
business and user requirements must be used in conjunction with other
general criteria. General criteria includes:

- Required hardware
- Software requisition costs
- Quality of software documentations
- Vendor support
- Other users experiences

An application specific criteria checklist should be prepared and used
for the evaluation. A number of general criteria will apply to all
areas, while there will also be unique considerations for each
individual application. General items include:

- Vendor name
- Original development year
- Year (month) of latest revision
- Number of users
- Minimum hardware requirements
- Minimum storage requirements
- Programming language
- Level of documentation
- Cost

Specific items (for example, used in selecting a general accounting
system) might include:

- Provision for accumulating original budget, revised budget and
  actual costs.
- Provision for period and year to date information.
- Flexible account descriptions (versus pre-coded).
- Provision for year to year comparisons.

- Detail to summary reporting for balance sheet, income statement and
  cash flow.

HARDWARE EVALUATION CRITERIA

There are several hundred different vendors of micro-computer hardware and associated peripherals. There appears to be in the market today four major price ranges for micro-computers:

1. less than $US 2000

2. $US 2000 - 5000

3. $US 5000 - 10000

4. more than 10000

Most micro-computer vendors offer options that increase the basic price. Specifically defining one's requirements is essential to avoid constantly "adding on" components and features. The combination of the basic computer, printers, disk storage devices, screen monitors and so forth must be included in the hardware analysis.

Major technical factors to consider in the evaluation include:

1. **Random Access Memory (RAM)** — The amount of internal storage capacity of the machine.

2. **Operating system** — The main language of the machine for processing and communicating.

3. **Video screen (CRT)** — The type and size of the display screen.

4. **Disk drive capacities** — The available storage capability of the machine for data files and application programmes.

5. **Printer interface** — The method of transmitting information to printer devices.

6. **Network** — The availability to have a multiuser micro-computer system.

X.   IMPLEMENTATION WORK PROGRAMME, MSP

The implementation work programme is based on the system descriptions.
The following schedule shows the systems by department. type of
software to use (commercial. database manager, spreadsheet),
prioritization in form of requested implementation period and date
for implementation completed.

Function	Software	Impl. period	Completed
Finance & accounting dept:			
Financial accounting system	Commerc.	84-12	
- G/L, A/R, A/P, Payroll etc.			
Cash management	Spreadsh.		
Budget development	Spreadsh.		
Financial planning model	Spreadsh.		
Account. system for overseas offices	Spreadsh.	84-01	
Communication overseas offices	Commerc.	84-01	
Personnel & office manag. dept:			
Personnel administration database	Database	84-12	84-12-05
Salary/wages model	Spreadsh.	84-12	84-12-03
wordprocessor document ;	Wordproc.		
Handicraft dept:			
Materials management and retail	Commerc.		
sales recording (order/entry and			
inventory system)			
Production planning	Spreadsh.		
Market analysis	Spreadsh.		
Constr. & estates manag. dept:			
Cost control and construction and	Commerc.		
maintenance control			
Capital resource database	Database		
Estates and tenants database	Database		
Research & planning dept:			
Application processing database	Database	84-12	
Statistical analysis database	Spreadsh.	84-12	
Investment & promotion div:			
Feasibility analysis models	Spreadsh.	84-12	84-12-03
Client profile database	Database		
Customer profile database	Database		
Project profile database	Database		
Library cataloging system	Database		

For each system being implemented, a detail implementation work plan should be specified. The contents of a work plan are described as follows:

Task	Responsibility	Comments

Organization and Administration

1. Establish overall project
co-ordination and administration.

2. Arrange and conduct management
meetings.

Management should be directly involved in systems implementation activities and review and approve designs and implementation.

Systems designs

1. Review Systems Plan and revise
priorities.

2. Confirm information requirements.

Detail, specific requirements need to be clearly identified at this stage.

3. Summarize costs of current
procedures.

4. Define reporting requirements
and design reports.

Prepare sample reports, review with users and obtain approval.

5. Determine input requirements and
design input forms/screens.

Input transactions should be documented as to frequency and source.

6. Design data file requirements.

Number and description of fields.

7. Design data controls.

Input/output and security measures for data integrity.

Economic Considerations

1. Estimate costs for software.

2. Determine special training
requirements.

3. Estimate efforts to develop.

Task	Responsibility	Comments

Hardware Feasibility/Configuration

1. Confirm general system
   requirements.

Minimum storage, memory, capacity, etc.

2. Determine peripheral requirements.

Printers, storage media.

3. Confirm hardware operating system

e.g., dBASE II runs under MS-DOS.

4. Determine system backup
   requirements.

Document step to protect data files for
power failures, accidental erasures, etc.

5. Select and install hardware.

Procedures Development

1. Prepare data entry procedures.

All procedures are in written form
and compiled in an operations manual.

2. Prepare processing procedures.

3. Prepare report distribution
   procedures.

Programming, Debugging and testing

1. Develop programme code.

The use of database and spreadsheet
software requires generation of

2. Test assumptions and formulas.

instructions to create input screens,
files and output reports.

3. Review outputs and revise.

4. Develop system test data.

5. Prepare predetermined results.

6. Run tests and implement
   correction.

Obtain management approval of tested
system.

Task	Responsibility	Comments

Data conversion

1. Plan for records conversion efforts.

2. Prepare schedule and orient personnel.

3. Convert master files.

4. Prepare training plan for personnel.

5. Conduct operations training.

6. Update procedures manuals and system documentation.

Work steps necessary for packaged software installation such as general ledger, accounts receivable.

i.e., create up-to-date master files to run in parallel to old system.

XI. TRAINING PROGRAMME, MSP

The training programme consists of:

a computer literacy campaign

how to use implemented systems

how to modify existing systems and implement new systems

In the computer literacy campaign the employees will learn to understand how computer works and how to use a computer. A small library of books, periodicals and computer magazines will be made available. Once the computer systems are installed and training sessions been held, employees need to stay current in the rapidly changing EDP field.

The employees can be divided into four categories of users:

Endusers who learn to use the systems developed, spreadsheet systems, database manager systems and commercial software systems.

Secretaries who will learn to use the wordprocessor to write letters, memos, reports etc.

System developers who will learn to use spreadsheet models and database manager systems to modify existing and implement new systems.

System administrators who will learn how the operating systems works, in order to allow new users, passwords, security restrictions and software packages.

Training sessions	Category of users
1. General information about computers.	All.
2. Implemented systems for the finance & accounting department.	Endusers in the department.
3. Implemented systems for the personnel & office department.	Endusers in the department.
4. Implemented systems for the research & planning department.	Endusers in the department.
5. Implemented systems for the investment & promotion division.	Endusers in the division.
6. Implemented systems for the construction & estate management department.	Endusers in the department.
7. Implemented systems for the handicraft department.	Endusers in the department.

Training sessions	Category of users

8. Wordprocessor Wordstar (DO.
   - disk tutorial session
   - training guide session, ssons 1 - 12
	Secretaries.

9. Wordprocessor Wordmarc (UNIX).	Secretaries.
10. Spreadsheet program Multiplan. - teacher guided sessions	Spreadsheet developers.

11. Database manager system dBASE II (DOS).
   - on disk tutorial session
   - dGEN instruction session
	Database developers.

12. Database manager system Ingres (UNIX).	Database developers.

13. Operating system (DOS).
   - exploring the IBM PC session
   - NCR-DOS tutor session
	Systems administrator.

14. Operating system (UNIX).	Systems administrator.

DOCUMENTATION AND MANUALS   PAGE

I.   PROCEDURE MANUAL, PERSONNEL ADMINISTRATION DATABASE

Contents   Page

1. START UP AND BACKUP COPY

Put the diskette "dBASE II. Em-main" in drive A. and the diskette "dBASE II. Personnel file" in drive B.

After given todays date, enter the following in boldface:

A) **DBASE**   (return)

.DO EM-MAIN

The personnel main menu is now displayed. Now enter your choice.
To exit enter select :0 and **.QUIT**. If anything goes wrong or
you misspell a command, use the key **Esc** and start over again.

Important! When you've finished with **.QUIT** you will se the A) prompt.
You **must** now take a **backup copy** of the database file. Do as follows:

Take out the diskette from drive A. Put in the diskette "dBASE II,
Personnel file, Backup" in drive A. Enter the command:

A) **DBCOPY**

2. SELECT FUNCTION

When the main menu is displayed, you can select the following
functions:

    0. exit

    1. view employees

    2. add employees

    3. edit employees

    4. pack the database

    5. print vacation report

    6. print pension scheme report

    7. print age ranges report

    8. print salary scale report

    9. print employee report

To select just key one of the numbers.

3.   VIEW EMPLOYEES

On this screen you will be able to view employee information. You
will not however be allowed to change any information.

On the bottom rows you will find the command line, which tells you
what you are allowed to do. Just press the letter within the
paranthesis to perform the command.

> D - Display. Allows you to view more than one record at a time
> based on the Locate expression. Enter Locate expression, for
> example **SALSCALE=12** . Next enter Display string, for
> example **SURNAME+POSITION** .

> F - Find. Enter text of keyword (SURNAME) for desired employee.
> For example **SMITH** .

> L - Locate. Enter Locate expression. For example **CATEGORY=1**
> or **DIVCODE=2 .AND. BIRTHDATE)621213** which will display the
> first employee (in alphabetic order) that satisfies the
> expression. This is the basis for Display and Continue.

> C - Continue. Go to the next employee that satifies the last
> Locate expression. If no Locate expression was given,
> Continue skips to the next employee in the database. At end
> of file, press (return) to get back to the command prompt.

> S - Skip. Skip to the next employee. The database file is sorted
> in SURNAME order (keyword), which means that the employees
> will be displayed in alphabetic order when using Skip. At
> end of file, press (return) to get back to the command
> prompt.

> To exit to the main menu, press the two keys **Ctrl** and **W**
> at the same time.

When using Locate and Display commands, only database names are
allowed. For example you must enter DEPTCODE=31, which is the name
(database field name) that the computer uses for references, and not
DEPARTMENT CODE=31. See chapter 4. Add employees for information on
valid database field names.

4.   ADD EMPLOYEES

On this screen you will be able to add an employee to the database
file. Fill in the information for each field, and press (return).
Each time you enter all information for an employee, a new screen
appears for the next employee. When you finish, press the two keys
Ctrl and W at the same time to get back to the main menu.
The input field are as follows:

db field name	description	characters
SURNAME	Employees surname.	15
FIRSTNAME	Employees firstname and initials.	15
EMPLOYEENO	Employee number.	6 numeric
ADDR1	Home address of employee. Street.	15
ADDR2	Home address of employee. Town.	15
ADDR3	Home address of employee. Parish.	15
TELEPHONE	Employees home telephone number.	7 numeric
BIRTHDATE	Employees birthdate. Year/month/day.	6 numeric
SEX	Sex of employee. F or M.	1
DIVCODE	Division code. 1=General management. 2=Investment promotion. 3=Commercial operations. 4=Corporate services.	1 numeric
DEPTCODE	Department code. 11=General management. 21=North America. 22=Europe. 23=Local operations. 24=Research and planning. 31=Handicraft. 32=Construction and estates management. 33=Commercial services. 41=Finance and accounts. 42=Personnel and office management.	2 numeric
EMPLDATE	Employment date. Year/month/day.	6 numeric
SALSCALE	Salary scale.	2 numeric
SALARY	Salary or wage in $BDS.	5 numeric
SALTYPE	Type of salary/wage. M=monthly. F=Fortnightly. W=weekly. P=Piece worker.	1
CATEGORY	Code for category of employment. 1=None established 2=Clerical 3=Secretarial 4=Executive 5=Management	1 numeric
ALLOWANCE1	Entertainment allowance per SALTYPE. $BDS.	4 numeric
ALLOWANCE2	Travel allowance per SALTYPE. $BDS.	4 numeric
ALLOWANCE3	Telephone allowance per SALTYPE. $BDS.	4 numeric
POSITION	Current position held in department.	20
PREVPOS	Previous positions held.	68
NATINSNO	National insurance number.	6 numeric

db field name	description	characters
NATREG1	National register number, part 1.	6 numeric
NATREG2	National register number, part 2.	4 numeric
NEXTOFKIN	Employees next of kin and relationship.	20
TRAINING	Training made at IDC.	148
QUALIFIC	Employees qualifications.	68
VACATENTIT	Days of vacation entitled per year.	2 numeric
VACATACCUM	Remaining accumulated days of vacation.	2 numeric
VACAT1	Approved vacation period, from date. In form year/month/day. Example 850503.	6 numeric
VACAT2	Approved vacation period, to date. In form year/month/day. Example 850519.	6 numeric
SICKLEAVE	Number of sickdays, year to date.	3 numeric

5. EDIT EMPLOYEES

On this screen you will be able to change employee information. However you cannot add a new employee. On the bottom rows you will find the command line, which tells you what you are allowed to do. Just press the letter within the parenthesis to perform the command.

E - Edit. Lets you correct any information for an employee. Use the (return) key and backspace key (above the (return) key) to position the cursor on the screen.

D - Delete. Message "DELETED" appears left of the date in the scree header. To erase the deleted employee from the database file, see chapter 6. Pack the database.

U - Undelete. Erases the "DELETED" message.

C - Continue. If you didn't Edit, Delete or Undelete the employee currently displayed, Continue brings up the next employee in SURNAME order.

P - Position. Brings up the second command line for Edit screen, see below.

The second command line for the Edit screen is as follows:

D - Display. Allows you to view more than one record at a time based on the Locate expression. Enter Locate expression, for example SALSCALE=12 . Next enter Display string, for example SURNAME+POSITION .

F - Find. Enter text of keyword (SURNAME) for desired employee. For example SMITH .

L - Locate. Enter Locate expression. For example CATEGORY=1 or DIVCODE=2 .AND. BIRTHDATE)621213 which will display the first employee (in alphabetic order) that satisfies the expression. This is the basis for Display and Continue.

C - Continue. Go to the next employee that satifies the last Locate expression. If no Locate expression was given, Continue skips to the next employee in the database. At end of file, press (return) to get back to the command prompt.

S - Skio. Skio to tne next employee. The database file is sorted
in SURNAME order (keyword), which means that tne employees
will be disolayed in alphabetic order when using Skio. At
end of file, oress (return) to get back to tne command
oromot.

To oring uo the first command line, press the two keys Ctrl and W
at the same time.

when using Locate and Disolay commanas. only database names are
allowed. For example you must enter **DEPTCODE=31**, which is the name
(catabase field name) that the comouter uses for references, and not
DEPARTMENT CODE=31. See cnaoter 4. Acd emoloyees for information on
valid aatabase fielc names.

6.   PACK THE DATABASE

On this screen you can oack the aatabase file. Tnat means tnat all
emoloyees tnat are deleted in tne edit screen are now erased from the
database file.

7.   VACATION REPORT

Tne vacation reoort will orint surname, firstname, position and
aooroveo vacation oeriod. Selection criterias are 1) all emoloyees or
emoloyees in a given deoartment and 2) with an existing aooroved
vacation oeriod after a given date.

To select a soecific deoartment, enter tne deoartment code as

   11 for General management
   21 for Nortn America
   22 for Eurooe
   23 for Local ooerations
   24 for Research anc olanning
   31 for Handicraft
   32 for Construction and estates management
   33 for Commercial services
   41 for Finance and accounts
   42 for Personnel and office management

or O for all emoloyees. If a non existing code is given, tne reoort
will be emoty.

8.   PENSION SCHEME REPORT

Tne oension scheme reoort will orint surname, firstname, birthdate ano
oosition for all emoloyees over 20 years of age.

9.   AGE RANGES REPORT

The age ranges report will calculate and print the total number of
employees with an age of < 20 years, 20 - 25 years, 25 - 30 years,
30 - 35 years, 35 - 40 years, 40 - 45 years, 45 - 50 years, 50 - 55
years, 55 - 60 years and > 60 years. This will be printed by category
group where

                    1 = None established
                    2 = Clerical
                    3 = Secretarial
                    4 = Executive
                    5 = Management
                    6 = Miscellaneous

10.   SALARY SCALE REPORT

The salary scale report will calculate and print yearly salary in
$BDS, yearly allowancies in $BDS, yearly national insurance paid by
employer in $BDS and number of employees. The printout will be by
salary scale. The report is to be used as input to the salary/wages
spreadsheet model.

Selection criterias: By department or all departments.
                     Piece workers are not included (salary type = P).
                     Only employees with salary type = M, F or W are
                     included.

If salary type = M, the salary and allowancies are multiplied by 12.
If salary type = F, the salary and allowancies are multiplied by 26.
If salary type = W, the salary and allowancies are multiplied by 52.

The national insurance are calculated as:
   8 % of the monthly salary, not over $BDS 208, multiplied by 12
   8 % of the fortnightly salary, not over $BDS 104, multiplied by 26
   8 % of the weekly wage, not over $BDS 48, multiplied by 52

11.   EMPLOYEE REPORT

The employee report will list all employees in one specific
department, or all departments if none is given, by surname or
employee number. The report contains the following fields:

 Name, Employee number, Department code, Category code, Position

II. PROGRAM DEVELOPMENT MANUAL, PERSONNEL ADMINISTRATION DATABASE

Contents   Page

1. DATABASE AND START UP

The database used for the personnel administration is the dBASE II version 2.41. For further information on dBASE II, se dBASE II on-disk tutorial and dBASE II user manual.

To start up the system put the program and database diskette "dBASE II, Em-main" in drive A and the personnel file diskette "dBASE II, personnel file" in drive B.

Enter the following:

A) **DBASE**   (return)   (dBASE II will be started)

.DO EM-MAIN (return)   (The personnel database main menu is shown)

Now enter your choice. To exit to the operating system (the A) prompt) enter O and when a . is displayed, enter quit.

2. CREATE THE DATABASE

For further detail see dBASE II user manual, red section 1, page 11. The creation of the personnel database is described below. The bolaface characters are the input. The parenthesis are authors commentaries. Press (return) after each input.

Insert the diskettes,

drive A: dBASE II diskette
drive B: empty formatted diskette

A) **DBASE**

.CREATE

```
ENTER FILENAME:B:EMPLOYEE          (The personnel file is named EMPLOYEE
ENTER RECORD STRUCTURE AS FOLLOWS:   and stored on diskette in drive B)
  FIELD    NAME,TYPE,WIDTH,DECIMAL PLACES
  001      SURNAME,C,15
  002      FIRSTNAME,C,15
  003      ADDR1,C,15
  004      ADDR2,C,15
  005      ADDR3,C,15
  006      TELEPHONE,N,7
  007      BIRTHDATE,N,6
  008      SEX,C,1
  009      DIVCODE,N,1
  010      DEPTCODE,N,2
  011      EMPLDATE,N,6
  012      SALSCALE,N,2
  013      SALARY,N,5
  014      SALTYPE,C,1
  015      CATEGORY,N,1
  016      ALLOWANCE1,N,4
  017      ALLOWANCE2,N,4
  018      ALLOWANCE3,N,4
  019      POSITION,C,20
  020      PREVPOS,C,68
  021      NATINSNO,N,6
```

```
022        NATREG1,N,6
023        NATREG2,N,4
024        NEXTOFKIN,C,20
025        TRAINING,C,148
026        QUALIFIC,C,68
027        EMPLOYEENO,N,6
028        VACATENTIT,N,2
029        VACATACCUM,N,2
030        VACAT1,N,6
031        VACAT2,N,6
032        SICKLEAVE,N,3      (No more than 32 fields are allowed.)

INPUT DATA NOW? N
.USE B:EMPLOYEE
.INDEX ON SURNAME TO B:EMPLINDX      (Index the file EMPLOYEE on SURNAME
.QUIT                                 giving indexfile EMPLINDX.)
A)                                   (Now you're back in DOS!)
```

3.   PROGRAM GENERATOR

The dBASE II programs were created by the program generator dGEN. See
dBASE II user manual, dGEN page 1 - 26. The steps taken are described
below. The boldface characters are the input. The squarebrackets are
authors commentaries. Press (return) after each input.

Insert the diskettes,

drive A: dBASE II diskette
drive B: the diskette with the file EMPLOYEE

A) **DBASE**

.**DO DGEN**   (The dGEN main menu is displayed, choose function
                    no 2, FILE generator.)
select :**2**:

Enter DATABASE filename:**B:EMPLOYEE**
Enter INDEX filename:**B:EMPLINDX**
Enter index keyfield:**SURNAME**
INDEX FILE DOES NOT EXIST. Create it? (Y/N) **Y**

Creating index file...
Getting field names...

(The following dBASE II programs are generated on drive A and
 displayed on the screen:

            EM-MAIN.PRG
            EM-FRAME.PRG
            EM-GETS.PRG
            EM-SOME.PRG
            EM-EDIT.PRG
            EM-PACK.PRG
            EM-POSN.PRG
            EM-LOCAT.PRG)

.**QUIT**
A)   (You are now back in DOS!)

All programs have been modified according to specifications. This has
been done with the wordprocessor Wordstar.

4.   REPORT GENERATOR

The dBASE II report programs were created by the program generator
dGEN. See dBASE II user manual, dGEN page 1 - 26. The steps taken
to generate one of the reports are described below. The boldface
characters are the input. The squarebrackets are authors commentaries.
Press (return) after each input.

Insert the diskettes,

drive A: dBASE II diskette
drive B: the diskette with the file EMPLOYEE

A) DBASE

.**DO DGEN**   (The dGEN main menu is displayed, choose function
                no 3, REPORT FORM generator.)
select :**3**:

Enter DATABASE filename:**B:EMPLOYEE**   (The file EMPLOYEE is on drive B.)
Enter REPORT FORM filename:**EMPLREP4**

ENTER OPTIONS:
   Left Margin...(1):**1**
   Lines/Page...(56):**56**
   Page Width...(80):**80**

Enter Page Heading.:**PERSONNEL DATABASE - SALARY SCALE REPORT**
Are Totals Required? (Y/N):**Y**
Subtotals in Report? (Y/N):**Y**
Enter subtotal field:**SALSCALE**   (A subtotal of salaries by salary
                                    scale.)
ENTER COLUMN DESCRIPTORS:
  1. Width.Contents. :**5, SALSCALE**
     Heading........:**SALARY SCALE**
     Totals? (Y/N):**N**
     Subtotals? (Y/N):**N**

  2. Width,Contents. :**9, SALARY**
     Heading........:**SALARIES**
     Totals? (Y/N):**Y**
     Subtotals? (Y/N):**Y**

  3. Width,Contents. :**6, ALLOWANCE1**
     Heading........:**ALOWANCIES**
     Totals? (Y/N):**Y**
     Subtotals? (Y/N):**Y**

  4. Width,Contents.: (return)
The program EMPLREP4.PRG is now generated and displayed on the screen.

Strike any key to continue...   (return)

The dGEN main menu will now be displayed.

select :**0**:   (Exit from the menu.)

```
.QUIT       (Exit from dBASE II to the DOS.)
A)
```

The program EMPLREP4.PRG was then modified using Wordstar. For the program to function properly, the database EMPLOYEE was sorted in salary scale order. The national insurance was added and calculated. The national insurance is 8% of the salary, but not more than $ 208 per month. Only the subtotals needed to be printed, so the printing of the detail lines was erased. For more details see the program listing.

The program was then run and tested in dBASE II:

A> DBASE

.DO EMPLREP4

5.   PROGRAMS

The programs included in the personnel administration database system have all been generated by dGEN and modified with Wordstar. The program listings are attached to the program documentation.

Screen programs:

EM-MAIN.PRG   - Handles the employee main menu and calls the
                suborogram that matches the selection.
                selection   calls
                 1   DO EMO-FRAME
                 2   DO EM-GETS
                 3   DO EM-POSN

EM-FRAME.PRG - Writes the leading text for all input fields on the
                screens.

EM-GETS.PRG   - Is used to output the field values of the current
                database record on the view- and add employee screens.

EM-SOME.PRG   - Is used to output the field values of the current
                database record on the edit employee screen.

EM-EDIT.PRG   - Is used to edit employee-records and calling EM-POSN
                on the edit employee screen.

EM-PACK.PRG   - Is used to pack the employee database file. This will
                erase all deleted employee-records.

EM-POSN.PRG   - Is used to get the desired employee-record upon the
                screen and call EM-LOCAT on the view- and edit
                employee screens.

EM-LOCAT.PRG - Is used for the Display and Locate commands on the
                view- and edit employee screen.

EM-CODE.PRG   - Is used to translate codes on the view- and edit
                employee screens. (Not generated by dGEN.)

Report programs:

EMPLREP1.PRG   - Vacation report.

EMPLREP2.PRG   - Pension scheme report.

EMPLREP3.PRG   - Age ranges report.

EMPLREP4.PRG   - Salary scale report.

EMPLREP5.PRG   - Employee report.

III.   DIFFERENCE IN USE OF PROPSPIN

Preparing diskette for using PROPSPIN

Load DOS in the Personal Computer's drive A when starting up.
Prepare a blank, formatted diskett in drive B.
 - use the DOS-command A)FORMAT B: (return)
Put the diskette with modified PROPSPIN-modules in drive A
and make a copy of all modules onto the blank diskette in B.
 - use the DOS-command A)COPY A:*.* B: (return)
Store the PROPSPIN master in safe place. Use it only for copying
the modules onto workingdiskette.

Using PROPSPIN

Now put MULTIPLAN-diskette into drive A and type mp after
the A) prompt. (return)
Now you should have the blank worksheet.

Load the INVEST-module.
 - use (T)ransfer, (L)oad and type B:invest (return)
Note: Use (O)ption to set recalc to no
Input the data needed, see manual, and save it on diskette B.
 - use (T)ransfer, (S)ave and type B:investxx (return)

Load the OPERAN-module.
 - use (T)ransfer, (L)oad and type B:operan (return)
This will give a message "Enter Y to retry access to invest".
Answer N to this message.
This will save time as information will not be copied from the
blank INVEST onto OPERAN.
Now copy information from B:investxx onto B:operan.
 - use (X)ternal, (U)se and type B:investxx instead of: invest.
 - use (O)ptions to set recalculation to no.
Now input the data needed. Refer to manual.
See inputdescription for LVA next page.
 - (T)ransfer, (S)ave and type B:operanxx (return)

Now load the INCOME-module.
This time you will get the "...retry..."-message two times.
Answer N both times.
Now link INCOME to B:investxx and B:operanxx.
 - (X)ternal, (U)se and type B:investxx instead of: invest.
 - (X)ternal, (U)se and type B:operanxx instead of: operan
When saving B:incomexx there might be another "...retry..."-
message. Answer N if there is.

Now you can take printouts of all three modules, or only the one
your interested in. You will get printout of module that is
loaded.
 - use (P)rint, (M)argins and set left:0 top:0 print width
   to 132 (return), (O)ptions and set area:R1:189 (income)
   and setup:^0 (return) and press (P)rint. Check to see that
   printer is READY. If not, press ON LINE.

Input for calculation of Local Value Added in Operan-module

INPUT - LVA	Local	Foreign	Total
Labour	I	A	A
Materials	I	A	A
Deoreciation	I	I	A
Interest	A	A	A
Undistributed Profit	I	I	A
Other Costs	I	I	A
	------	------	
Total Costs	A	A	

I = has to be inputted
A = automatically computed

Before entering any data, press F8 for recalculation. This will
provide Labour- and Materialtotals which you then will only have
to distribute to Local. Foreign will be dependent on what you put
in for Local on these two.
For Deoreciation, Undistributed Profit and Other Costs you will
have to input both Local and Foreign.
Interest is fully calculated when linking OPERAN to Investxx.

After input: press F8 once again.

IV.   MANUAL FOR SALARY-WAGES MODEL

Load DOS in the Personal Computer's drive A when starting up.

Put SALARY-WAGES MODEL-diskette in drive A and type **mp** after the
A) prompt

Now you should have the blank worksheet.
Load SALARY-WAGES MODEL.
 - use (T)ransfer, (L)oad and type **SALWAGE** (return)

Set recalculation option to No.
 - use (O)ptions, press spacebar once and press **(return)**

Fields to input are:

  Once per report

  1) Date   ALPHA -use (A)lpha
  2) Department (dept)   VALUE -use (A)lpha
  3) Inflation rate   VALUE -use (A)lpha

 Per each Salary Scale

  4) Salary Range   ALPHA -use (A)lpha
  5) # of employees   VALUE -use (V)alue
  6) Salary BDS $ VALUE -use   "
  7) Allowancies   VALUE -use   "
  8) National Insurance   VALUE -use   "
  9) Increase Salary rate   VALUE -use   "   (a 5 % inc-
  10) Increase rate Allowancies VALUE -use   "   rease, in-
                                                          put 1.05)

Press F8 to see results. This can be done at any time.

Save the report with new name.
 - use (T)ransfer, (S)ave and type XXXXXXXX (return)
    (use any name you want not more than 8 letters. It shold be
     something that will show what it is, e.g. SWREP001. You can
     use the same diskette for storing different reports.
     SWREP001 to SWREP999.)

Take out the report.
 - use (P)rinter
        (M)argins to set print width to 132
        press (return)
        (O)ptions to set print area to R1:45
        and press (return) twice.

N.B.   These things might already be set. The printarea might be
specified differently. If so, press P and (return) to start
the printout.

V.   SHORT MANUAL ON HOW TO USE THE MULTIPLAN COMMANDS

Once you have the blank worksheet you are ready to use the
commands in the commandmenu below the worksheet.
The ones you will use for this operation are;
Alpha - this command is used to enter alphabetics in cells that
        no computing will be done on.
Help - this will give you the help function.Here you can choose
        help on different things, such as Commands and formulas.
Print - here you get into a submenu saying:
        Printer File Margins Options
        Printer - starts the printout
        File   - if you want output to a file for printing
                  at a later time.
        Margins - here you set left- and topmargins, printwitch,
                  printlength and page length.
                  Use the TAB-key to move between the different
                  inputs. Press (return) when you are finished
                  setting margins.
Options - Here you set recalculation to no.
Quit   - used to exit from Multiplan
Transfer- here you get into a submenu saying;
        Load Save Clear Delete Options Rename
        Load   - used to load Multiplan-modules from diskette
        Save   - "   " save   "   "   to   "
        Clear   - used to clear screen to get a blank worksheet
                  This can be used if you want to disregard what
                  you've done so far and start again with the
                  original module
        Delete - used to delete no good reports or modules.
        Options- refer to manual. Shouldn't be used.
        Rename - used to give a saved report or module another
                 name.
Value   -used to input values that is being computed on.

To choose a command, type the first letter in that command.
If you don't want to carry out a command, press (Esc)
within a submeny, type the first letter in the command you
want to use.
Within a command requiring more than one input, use the (Tab)
to move between the inputfields and press return when finished.
(Esc) always give you the main Command meny and leave the
command without carrying it out.
Press ? at any time to get help on what you're involved in at
the moment.
Press F8 at any time to see results if you've set recalculate to
no.
When you've inputted in a cell using Alpha or Value and use any
direction-key to move to another cell Multiplan will wait auto-
matically for either alphabetics or digits. Depending on what
you start with, it will choose what is appropriate. If you want
to input a date as alphabetics, make sure you've choosen Alpha.
If you input 84-10-10 as a value the result will be 64.

VI.   WORDSTAR, START UP AND PROGRAM DISKETTES

HOW TO START UP WORDSTAR

1.   Put a Wordstar diskette in drive A.

2.   Turn on the computer.

3.   Enter todays date, month-day-year.

4.   Skip the time, just press (return).

5.   You will now see the DOS-prompt A)

6.   Put in your personnel Wordstar-document-diskette in drive B.

7.   Enter **WS** to start Wordstar.

8.   You will now see the Wordstar Opening Menu.

9.   Change the logged disk drive from A: to B: by pressing **L**
     and then entering **B:**

10. To open a document, press **D**

11. Enter the name of the document. If it doesn't exist it will
     be created.

12. Now you will see the Main Menu, and you can start editing the
     document.

13. Save and exit the document being edited by pressing **^K and D**

14. Exit from Wordstar by pressing **X**

15. You will now see the DOS-prompt B:

16. Take out the diskettes carefully and turn off the computer.
     Or, to start Wordstar again enter **A:** and you will see the
     A: prompt. Now enter **WS**

To insert a new space line while editing, put the cursor at the
left at col 1. Make sure that you have INSERT ON, press (return)
and a new space line is created.

TO MAKE WORDSTAR-PROGRAM SYSTEM DISKETTES (A-DRIVE).

1. Put the NCR-DOS diskette in drive A:

2. Put a new emoty diskette in drive B:

3. Turn on the computer. When you see the A) promot, enter

4. **A)FORMAT B:/S**

5. After complete formatting, put the Original Installed wordstar diskette in drive A.

6. Enter the command to copy the contents of diskette in drive A to the diskette in drive B:

7. **A)COPY A:*.* B:**

8. After cooying, store the Original Installed Wordstar diskette in a safe olace.

9. The diskette in drive B is now a Wordstar Program diskette. which will be out in drive A when using Wordstar.

TO MAKE WORDSTAR-PROGRAM DISKETTES (A-DRIVE).

1. Put the NCR-DOS diskette in drive A:

2. Put a new emoty diskette in drive B:

3. Turn on the computer. When you see the A) promot, enter

4. **A)FORMAT B:**

5. The diskette in drive B is now a Wordstar Document diskette. which will be out in drive B when using Wordstar. The documents will be stored on this diskette.

VII. SCREEN- AND REPORT LAYOUTS, LIBRARY SYSTEM

```
-------------------------------------------------------------------
                 INDUSTRIAL DEVELOPMENT CORPORATION

RESEARCH & PLANNING      LIBRARY SYSTEM            841224

Accession no :  _____    Type of publication :  _    ISBN : _____
                          Number of pages     :  ____  ISSN : _____
Author : _____
Title  : _____
Subtitle: _____
Date received     :  _____      Date ordered :  _____
Classification code :  _____  Usage code  :  _
Subject notes : _____ _____
Publisher    :  _____    Price : $ ___.__
Year of publication :  ____  Place of publication : _____

                 CIRCULATION RECORD
Present status   :  __
Name of borrower : _____
Department       :  _____
Date borrowed    :  _____
Date due         :  _____
IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
(F)ind   (L)ocate  (S)kip   (Q)uit
MESSAGES HERE (e.g. DATABASE EMPTY)
-------------------------------------------------------------------
```

FIELD	DESCRIPTION	CHARACTERS
ACCNO	Accession number, IDC-defined	8
TYPE	Type of publication; P = Periodical, M = Monograph	
	J = Journal, N = Newspaper, R = Report	1
ISBN	ISBN-number	13
ISSN	ISSN-number	12
PAGES	Number of pages	4 numeric
AUTHOR	Authors name	70
TITLE	Title of publication	70
SUBTITLE	Subtitle	70
DATEREC	Date received	6 numeric
DATEORD	Date ordered	6 numeric
CLASSCOD	Classification code: Standardcode	10
USECODE	Usage code; R = Reference, S = Short term loan,	
	L = Long term loan, O = Overnight.	1
PUBLISH	Publisher	30
PRICE	Original price of publication	5 numeric
YEARPUB	Year of publication	4 numeric
PLACEPUB	Place of publication	25
PRESSTAT	Present status code; OL = On loan, R = under repair,	
	L = lost, I = in library.	2
NAMEBORR	Name of borrower	20
DEPT	Department	10
DATEBORR	Date borrowed	6 numeric
DATEDUE	Date due for return	6 "

--- REPORT 1 ---

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

```
24:22:              INDUSTRIAL DEVELOPMENT CORPORATION

                    REPORT 1: BOOKS ON LOAN

Title
Author
Catno                                            Due    Borrower
================================================ ====== ==================

------------------------------------------------

------------------------------------------------

--------                                         ------ --------------------

------------------------------------------------

------------------------------------------------

--------                                         ------ --------------------

Sorted on            : Borrower
Selection criteria : Present status = OL
```

--- REPORT 2 ---

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||: |||||||||||||||||||||||

```
24:22:              INDUSTRIAL DEVELOPMENT CORPORATION

                    REPORT 2: BOOKS OVERDUE

Title                                                   Days
Author                                                  over
Catno                                            Due    due  Borrower
================================================ ====== ===  ==================

------------------------------------------------

------------------------------------------------

--------                                         ------ ---  --------------------

Sorted on            : Due
Selection criteria : Present status = OL
                     and Datedue < Today,date
```

--- REPORT 3 ---
IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII

841220   INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 3: VALUE OF PUBLICATIONS - PUBLICATIONTYPES

Publication	Value Bds$	Number
Journals	571.10	13
Monographs	150..	150
Newspapers	227.00	227
Periodicals	2507.00	2567
Reports	1256.10	1256

Selection criteria : Publication
Sorting criteria in 2 all publicationtypes

--- REPORT 4 ---
IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII

841220   INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 4: VALUE OF PUBLICATIONS - CLASSIFICATION CODES

Classification	Value Bds$	Number
1234567870	300.00	13
1234573901	251.00	765
7654730100	378.00	2
4567390100	567.90	7

Selection criteria : Classification (the first six digits)
Sorting criteria in : Classificationcode = 0 - 999999999

```
           --- REPORT 5 ---
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

S4:::            INDUSTRIAL DEVELOPMENT CORPORATION

           REPORT 5: PUBLICATIONS IN IDC LIBRARY COLLECTION

Author
Title
======================================================================


----------------------------------------------------------------


----------------------------------------------------------------


----------------------------------------------------------------

.....  ----------------------------------------------------------


  ** Subtotal for Classificationcode 999999999 **  76



.....  ----------------------------------------------------------

...............  ----------------------------------------------


----------------------------------------------------------------

.....  ----------------------------------------------------------


  ** Subtotal for Classificationcode 999999999 **  508


Sorted on : Classification code and Title
```

--- REPORT 6 ---
##

841220   INDUSTRIAL DEVELOPMENT CORPORATION

          REPORT 6: PUBLICATIONS IN IDC LIBRARY COLLECTION
Author
Title
==

  ## Subtotal for Classificationcode 999999999 ## 76

  .   ... -----------------------------

  .   ... --

  ..   .. --

  .... --

  ## Subtotal for Classificationcode 999999999 ## 508

Sorted on : Classification code and Author

VIII. SCREEN- AND REPORT LAYOUTS, COMPANY PROFILE DATABASE

```
------------------------------------------------------------------------
                INDUSTRIAL DEVELOPMENT CORPORATION      841208

                      COMPANY PROFILE DATABASE

Name    : _____
Address : _____      Phone  : _____
Managing director : _____

CURRENT PRODUCTS

 1 : _____   2 : _____   3 : _____
 4 : _____   5 : _____   6 : _____
 7 : _____   8 : _____   9 : _____
10 : _____

INTEREST IN FUTURE PRODUCTS

 1 : _____   2 : _____
 3 : _____

Joint Venture :    Sub-contract : _     Industry group : __   Status : ___
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
·Find and other functions specified
MESSAGES HERE  e.g. DATABASE EMPTY
------------------------------------------------------------------------
```

FIELD	DESCRIPTION	CHARACTERS
COMPNAME	Name of company	25
ADDRESS	Address of company	30
PHONE	Phone	8
MD	Managing director	25
PROD1	Current products	20
PROD2	" "	20
PROD3	" "	20
PROD4	" "	20
PROD5	" "	20
PROD6	" "	20
PROD7	" "	20
PROD8	" "	20
PROD9	" "	20
PROD10	" "	20
INTPROD1	Product of interest in the future	20
INTPROD2	" " " " " "	20
INTPROD3	" " " " " "	20
JOINVENT	Check for interest of Joint-Venture	1
SUBCONTR	" " " " Sub-Contracting	1
INDGROUP	Industrygroup	2 numeric
STATUS	Statuscode: API = approved, AII = approved act 1963, AX = approved act 1969, AF = approved for Fiscal Incentives, NA = not approved	3

--- REPORT 1 ---

****

INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 1: COMPANY-INTEREST
JOINT VENTURE

PLASTICS

Company	Managing director	Phone	Products of interest
====================	====================	========	====================
--------------------	--------------------	--------	--------------------
			--------------------

--------------------	--------------------	--------	--------------------
			--------------------

Sorted on : "Industry group"
Selection Criteria : Industry group, Joint Venture, Sub-Contract

Depending of what industry group and type of interest you specify, this
report will give different reports.

--- REPORT 2 ---

****

INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 2: DIRECTORY LISTING OF COMPANIES

CHEMICALS

Company	Managing Director	Current Products	Phone	Status
====================	====================	====================	========	======
--------------------	--------------------	--------------------	--------	------
		--------------------		
--------------------	--------------------	--------------------	--------	------
		--------------------		

PLASTICS

Company	Managing Director	Current Products	Phone	Status
====================	====================	====================	========	======

Sorted on : "Industry group"
Selection criteria : none

IX.   SCREEN- AND REPORT LAYOUTS, APPLICATION PROCESSING DB SYSTEM

```
-----------------------------------------------------------------------
                    INDUSTRIAL DEVELOPMENT CORPORATION

                    APPLICATION PROCESSING DATABASE SYSTEM

Application ID : ___    Company : _____
                       Location : _____


DATES  Application : _____    Approval    : _____
       Production  : _____    Reappraisal . _____
       Rejection   : _____    Completed reappraisals : _____ _____ _____

Approved status    : __        Industry group : __  Subindustry group : __


VITAL STATISTICS  Factory space       : _____   sq m   IDC : _  Other : _
                  Initial investment : _____ Bds$
                  Initial equity     : _____ Bds$
                  Initial loan       : _____ Bds$
                  Initial employment : ____     persons


OWNERSHIP Barbadian : __ %  Other : __ %  Caricom : __ %  Foreign : __ %
Remarks : _____
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
:F-ind and other commands specified here
MESSAGES HERE
-----------------------------------------------------------------------
```

FIELD	DESCRIPTION	CHARACTERS
APPLID	Application ID; I001 I denoting Fiscal incentives, S001 S denoting Factory space	4
COMPNAME	Company name	30
COMPLOC	Company Location	30
APPLDATE	Application date	6 numeric
APPRDATE	Approval date	6 "
PRODDATE	Production date	6 "
REAPDATE	Reappraisal date due	6 "
REJEDATE	Rejection date	6 "
REAPCPL1	Reappraisal completion date 1	6 "
REAPCPL2	" " " 2	6 "
REAPCPL3	" " " 3	6 "
APPRSTAT	Approved status	2 "
INDGR	Industry group	2 "
SUBINDGR	Subindustry group	2 "
FACSPACE	Factory space	6 "
SPACEIDC	Factory space IDC	1
SPACEOTH	Factory space Other	1
INITINV	Initial investment	8 numeric
INITEQ	Initial equity	8 "
INITLOAN	Initial loan	8 "
INITEMPL	Initial employment	4 "
OWNBDS	Ownership Barbadian	3 "
OWNCARIC	Ownership other Caricom	3 "
OWNFOR	Ownership foreign	3 "
REMARKS	Remarks	70

--- REPORT 1 ---
****

INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 1: NUMBER OF APPLICATIONS

Period : _____ - _____   Date : 841208

    FISCAL INCENTIVES
    =================

      Received : ___
      Approved : ___
      Rejected : ___

    FACTORY SPACE
    =============

      Received : ___
      Approved : ___
      Rejected : ___

Selection criteria : Application ID, Application date, Approval date
                  Rejection date

--- REPORT 2 ---
****

INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 2: COMPANIES APPROVED BY INDUSTRYGROUP, FACTORY SPACE

                        Date : 841208

Indgrp	Company	Initial inv	Subindgrp
======	==============================	===========	=========
--	------------------------------	--------	--

Sorted on   : "Industry group"
Selection criteria : Date approved
                    Application ID

--- REPORT 3 ---

INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 3: APPLICATIONS FOR FACTORY SPACE BY INDUSTRY GROUP

Date : 841208

Indgrp	Company	Initial inv	Subindgrp
======	============================	===========	=========
--	---------------------------	--------	--

Sorted on   : "Industry group"
Selection criteria : Date of application
                     Application ID

--- REPORT 4 ---

INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 4: COMPANIES APPROVED BY INDUSTRYGROUP, FISCAL INCENTIVES

Date : 841208

Indgrp	Company	Initial inv	Subindgrp
======	============================	===========	=========
--	---------------------------	--------	--

Sorted on   : "Industry group"
Selection criteria : Date of approval
                     Application ID

--- REPORT 5 ---

::

INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 5: APPLICATIONS FOR FISCAL INCENTIVES BY INDUSTRY GROUP

Date : 841208

Indgrp	Company	Initial inv	Subindgrp
======	==============================	===========	=========
--	------------------------------	--------	--

Sorted on   : "Industry group"
Selection criteria : Date of application
                     Application ID

--- REPORT 6 ---

::

INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 6: COMPANIES DUE FOR REAPPRAISAL

Period : __-__   Date : 841208

3 YEAR APPRAISALS

Appl ID	Company	Production date	Reappraisal date
=======	==============================	===============	================
----	------------------------------	--------	--------

5 YEAR APPRAISALS

Appl ID	Company	Production date	Reappraisal date
=======	==============================	===============	================
----	------------------------------	---- --	--------

7 YEAR APPRAISALS

Appl ID	Company	Production date	Reappraisal date
=======	==============================	===============	================
----	------------------------------	--------	--------

Sorted on   : "Company"
Selection criteria : Production date

X.   SCREEN- AND REPORT LAYOUTS, ESTATES AND TENANTS DATABASE

```
------------------------------------------------------------------------
                      INDUSTRIAL DEVELOPMENT CORPORATION

64:221      ESTATES AND TENANT DATABASE - ESTATES


Estate # : __
Estate   : _____




```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!Find and other commands specified here
MESSAGES HERE
------------------------------------------------------------------------
```

FILE: Estates

FIELD	DESCRIPTION	CHARACTERS
ESTATE	Name of estate	60
ESTATENO	Estate number, 1 - 10	2 numeric

                    INDUSTRIAL DEVELOPMENT CORPORATION

241221   ESTATES AND TENANT DATABASE - LOTS

Estate # : __

Lot #   : __

Area of road reserve : _____ sq. ft. _____ sq. m.
Area of building land : _____ sq. ft. _____ sq. m.

‡‡‡
(Find and other commands specified here
MESSAGES HERE

FILE: Lots

FIELD	DESCRIPTION	CHARACTERS
ESTNO	Estate number	2 numeric
LOTNO	Lot number	2 numeric
RDRESFT	Area of road reserve in square feet	6 numeric
RDRESM	Area of road reserve in square meters	7 numeric
BLDRESFT	Area of building reserve in square feet	6 numeric
BLDRESM	Area of building reserve in square meters	7 numeric

```
------------------------------------------------------------------------
                    INDUSTRIAL DEVELOPMENT CORPORATION

841221          ESTATES AND TENANT DATABASE - BUILDINGS

Building number : __   Estate # : __   Lot # : __

AREAS

Floor        : _____ sq. ft. _____ sq. m.
Rented       : _____ sq. ft. _____ sq. m.
Vacant       : _____ sq. ft. _____ sq. m.

Build year : ____  Building type : _____

Remarks :
------------------------------------------------------------------------




::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
/F>ind and other commands specified here
MESSAGES HERE
------------------------------------------------------------------------



FILE: Buildings
```

FIELD	DESCRIPTION	CHARACTERS
BUILDNO	Number of building	2 numeric
ESTATENO	Estate number	2 numeric
LOTNO	Lot number	2 numeric
FLOORFT	Floor area in square feet	6 numeric
FLOORM	Floor area in square meters	7 numeric
RENTEDFT	Floor area rented in square feet	6 numeric
RENTEDM	Floor area rented in square meters	7 numeric
VACANTFT	Floor area vacant in square feet	6 numeric
VACANTM	Floor area vacant in square meters	7 numeric
BUILDYR	Build year	4 numeric
BUILDTYP	Building type	40
REMARKS	Remarks	80

INDUSTRIAL DEVELOPMENT CORPORATION

541221   ESTATES AND TENANT DATABASE - TENANTS

Estate # : __   Lot : __   Building number : __

Tenant   : _____
Address : _____   Telephone : _____
Products : _____

Type of rental : _   Rent : _____.__ Rds $ / month
Area rented   : _____ sq. ft. _____ sq. m.

Tenant start   : _____ Tenant expiration : _____

Remarks : _____

$$
(F)ind and other commands specified here
MESSAGES HERE

FILE: Tenants

FIELD	DESCRIPTION	CHARACTERS
ESTNO	Estate number	2 numeric
LOTNO	Lot number	2 numeric
BUILDNO	Building number	2 numeric
TENANT	Tenant name	40
ADDRESS	Tenant address	40
TELEPH	Telephone number	8
PRODUCT	Products	60
RENTTYPE	Type of rental; L= lease, R= rental and S= sold	1
RENTMNTH	Amount of rent paid per month	9 numeric
AREARTFT	Area rented in square feet	6 numeric
AREARTM	Area rented in square meters	7 numeric
TENSTART	Tenancy start date	6 numeric
TENEND	Tenancy end date	6 numeric
REMARKS	Remarks	70

INDUSTRIAL DEVELOPMENT CORPORATION

941221   ESTATES AND TENANT DATABASE - COMPLAINTS

Estate # : __   Lot : __   Building number : __

Complaint: _____

Response : _____

Response date : _____

Amount spent : _____.__

:::
(Find and other commands specified here
MESSAGES HERE

FILE: Complaints

FIELD	DESCRIPTION	CHARACTERS
ESTNO	Estate number	2 numeric
LOTNO	Lot number	2 numeric
BUILDNO	Building number	2 numeric
COMPLAIN	Complaint	60
RESPONSE	Response to complaint	60
RESPDATE	Response date	6 numeric
AMTSPENT	Amount spent to respond to complaint	8 numeric

--- REPORT 1 ---

##

E41233   INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 1: LEASES / RENTALS DUE FOR EXPIRATION

Tenant	Estate	Date
=================================	=============================	======
----------------------------------	-----------------------------	------
----------------------------------	-----------------------------	------
----------------------------------	-----------------------------	------

Sorted on   : Tenant
Selectioncriteria : TENANTEND < todays date + 6 months

--- REPORT 2 ---

##

B41223   INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 2: ESTATES REPORT

ESTATE: Harbour Industrial Park

| Lot | Lotarea | |
Build.	Buildarea	Building type
======	=============	=====================================
--	---------	---------------------------------------
--	---------	
--	---------	---------------------------------------
--	---------	
--	---------	---------------------------------------

Sorted on   : Estate
Selectioncriteria : None

--- REPORT 3 ---

111111111111111111111111111111111111111111111111111111111111111111111111111111

541220   INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 3: AMOUNT SPENT ON BUILDINGS

Estate	Lot	Build	Amount spent	# of compl.
=====================================	===	=====	=======	===========
--------------------------------------	--	--	-----.--	---
--------------------------------------	--	--	-----.--	---
--------------------------------------	--	--	-----.--	---

Sorted on : Estate
Selection criteria : none

--- REPORT 4 ---

111111111111111111111111111111111111111111111111111111111111111111111111111111

541220   INDUSTRIAL DEVELOPMENT CORPORATION

REPORT 4: AREA RENTED

Estate Tenant	Lot	Build	Area	Rentant
==	===	=====	=======	=======

---	---	-----	--------	----.--

---	---	-----	--------	----.--
....				
....	---	-----	--------	----.--

Sorted on : Estate
Selectioncriteria : Estate, lot or building

XI.   MANUAL FOR SUMMARY OF ACCOUNTS-MODEL IN MULTIPLAN

Put DOS-diskette in the PC drive A when starting up to
load DOS into memory. Then remove the DOS-diskette.
Put SUMMARY OF ACCOUNTS-MODEL-diskette in drive A and type mp
after the A) prompt.
Now you should have the blank worksheet.
Load the model.
 - use (T)ransfer, (L)oad and type SUMACC (return)
Set recalculation option to No.
 - use (O)ptions, press spacebar once and press (return)

Fields to input are:
1)   month
2)   check date
3)   description (name of payee etc)
4)   voucher no
5)   check no
6)   check amount
7)   distributed amounts, account 101 to 797 plus not numbered
      accounts.

Press F8 to see results. This can be done at any time.

Save the report with new name.
 - use (T)ransfer, (S)ave and type SUMACCO1 (return)
   (the two last digits denoting the month)
Take out the report.
 - use (P)rinter
       (M)argins to set print width to 132
       press (return)
       (O)ptions to set print area to R1:53C1:45
       and press (return) twice.

If you run out of space you can use the Insert command to insert
the number of rows you need.
 - use (I)nsert (R)ow and type in no of rows.
   Be sure two place cursor on the row you want to insert before.
   This will be the ========= - row.
Then format the new rows you inserted to have all amounts disp-
layed as fixed point numbers with two decimals.
 - use (F)ormat (C)ells
   Specify cells:RXCX:RYCY (place cursor in upper left corner of
   area just inserted and type : and then use directionkeys
   to move to lower right corner of the area inserted.)
   Specify format code:Fix (press (TAB)-key twice to get to input
   field for format code and type F to select Fix.
   Specify no of decimals:2 (Press (TAB)-key once more to get to
   inputfield for no of decimals.
   Now press (return) to tell Multiplan that this is the complete
   formatspecification for this "range" of cells.
Make sure that when you take a printout the whole worksheet is
being defined in the (P)rint (O)ptions print area.

XII.   PLAN FOR COMMUNICATION BARBADOS — NEW YORK AND BARBADOS — BRUSSELS

1984-12-13

1. GENERAL DESCRIPTION

A communication line using telephone lines will be established
between IBM PC in New York and NCR TOWER in Barbados. The IBM PC
PC will then function exactly as TOWER-terminal using hardware
for emulating.

2. REQUIREMENTS

SOFTWARE

Communication software will be needed for the IBM PC.
The TOWER need no software for communication as it will se the
IBM PC as a remote terminal.
Emulatingsoftware for the PC will be supplied with the hardware for
emulating.

HARDWARE

Emulatinghardware for the IBM PC. This should be purchased in the
U.S.
Two modems will be needed.
One should be purchased on Barbados and one in NY.

3. PROCEDURE

PROGRAMMING

A accounting package should be developed on Multiplan on the
TOWER. The NY-office will use this when inputting data and the
TOWER-operator can then access the files created by NY-office.

TRAINING

The staff of the NY-office will then be trained on how to use the
modem and how to use the Multiplan package and how the IBM PC
will function as a TOWER-terminal.

XIII.   MANUAL ON HOW TO TRANSFER FILES USING SMARTCOM II

1. NEW-YORK AND BRUSSELS

Completion and saving multiplanmodels

Complete the multiplanmodels, SUMACC, GENJOU and BANKRE.
Make sure they are saved on the harddisk.
Use the name of the original model SUMACC and add two numbers
for the month so that the completed Summary of accounts for
January will be called SUMACC01.
Never save a model for a specific month using the same name
as the original model.

Getting ready for transferring of files

Start up Smartcom II. Typing (SCOM) after the C)-promt will start
it up. (anything within (and) snall be typed by you)
Make your computer available for AUTO ANSWER and REMOTE ACCESS.
Choose (1) for begin communication and (A) for answering a call.
Choose (O) as the label telling the Smartcom which communication-
set you will be using.
Now you should have a screen that says;

> AUTO ANSWER
> REMOTE ACCESS

Now your computer is set up so that Head Office can access your
computer and take out files from your harddisk.

2. BARBADOS

Getting ready to receive files from N.Y. and Brussels

Make sure the above steps have been completed in N.Y. and
Brussels.
Start up Smartcom II, typing (SCOM).
Now begin communication typing (1), originate a call (O) and
choose label O for communication with New York or label P for
Brussels. Make sure that you use the right number.
N.Y. is 1 (212) 6825496.
Once you have established connection, you know this is so when it
says either NEW YORK or BRUSSELS in the lower right corner of the
screen. If the asterisk in front of menu-selections for sending
and receiving files are still there, press F1 to replace them by
a 4 and a 5. Now you are on-line.

Now choose menuselection 8 for remote access.
It will take a few minutes for you to go into remote access mode.
When the toggleswitch after selection 8. Remote access (toggle-
switch) says ON, you're ready to receive files from the remote
computers in N.Y. or Brussels.

Receiving files

Make sure your'e logged onto the harddisk C of the remote computer. If not so, press (C). This will also take some time since the directory is quite big. Have a diskette ready in drive a with enough space for the SUMACC-model (30000 bytes).
Now choose menuselection 4 Receive file.
Specify the filename, e.g. SUMACC01 if you want to receive the Summary of Accounts for January. Answer (Y) to the question if remote filename is the same.
Press return and the transfer will begin.

When the transfer is complete, end the communication (O).
If you want N.Y. or Brussels to send their files to Barbados. just do the reverse,
N.Y. and Brussels will use the Send-option in Smartcom II.

Viewing and printing the model

View
Start up multiplan.
 - put multiplan in drive a and type (mp) after the A)-prompt.
 - put diskette with received file in drive a.
Load the model.
 - Use (T)ransfer, (L)oad and type SUMACCXX. (XX = month)

Print
Print the model.
 - Use (P)rint and press (return).

XIV. HOW TO USE MULTIPLAN-MODELS IN N.Y., BRUSSELS AND BARBADOS

Lars Bergwik January 12, 1985

1. MULTIPLAN

Start up

Put multiplandiskette in drive A or if you have multiplan on the
hardisk, make sure you have the C)-prompt.
Type (mp) and press return.

Move cursorkeys and other keys used

Homekey

This key takes you to upper left corner of the worksheet.

Pg Up and Pg Dn

These take you 20 rows up/down on the worksheet.
The worksheet is 255 rows long and 65 columns wide.
We use only approximately 90 rows and 45 columns for the SumACC-
model, which leaves blank space on the rest of the worksheet.

Endkey

This takes you to the end of the model. Not the end of the work-
sheet.

Escapekey (Esc)

This key takes you to the main command-menu.
Used also when you don't want to carry out a chosen command.

F8

F8 makes Multiplan calculate all totals at any time when you
press this key.

Tabkey

Located directly under Escapekey. Used for moving the cursor
within a command where more than one input is needed.

Command menu

Main menu

Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
Name Option Print Quit Sort Transfer Value Window Xternal

Select command

Press spacebar to move cursor between different command and press
return on the command you want,
or
Press the first letter in the command.
Sometimes this will take you into a sub menu.

Sub menu

e.g. GOTO: Name Row-col Window
Use spacebar or first letter e.g. press R if you want to specify
a cell by telling multiplan the row and column.
Then you get into where you shall do the actual input,
GOTO: row: 54   column: 15
The row will be the current cell you're in. You can use this
rowspecification or type in a different one.
Then you want to specify the column to goto. Press TAB-key once
to go to the inputfield for column. The column will be the
current cell.
When you have done your selecion press return and the cellpoint-
er will move to that cell. When you have the main menu displayed
at the bottom you now it's ready.

Some useful commands

  Alpha

This command is used for inputting alphabetic characters.
Press Alpha when you have the main menu at the bottom. You are
now ready to input into a cell.
To actually input what you type in, press return.
Up till then what you type in will be displayed where the main
menu used to be. E.g. Alpha:Rental of Computer.
When you press return, "Rental of Computer" will be inputed in
the cell where the cellpointer is at, and the main menu will
be displayed at the bottom again.

  Blank

Used to blank cells of their content.
Press B for blank. This will give you something looking like
this at the bottom of the screen,
BLANK: cells:R1C1
Multiplan will give you the current cell of the cellpointer as
a preset value. You can type in your own choice or just press
return for blanking the current cell.
You can also blank out a range of cells. The format looks like
this,
BLANK: cells:R1C1:R5C5
R1C1 specifies upper left corner of area to be blanked.
R5C5 specifies lower right corner of area to be blanked.
Make sure to separate the specifications by colon (:).
This is the procedure to specify a range (area) in any of the
multiplan-commands.

Goto

Press G for Goto when you have the main menu.
Press R for Row-col in the sub menu.
Now specify cell to goto.

Help

You can press H for help at any time you have the main menu.
If you have choosen a command e.g. Alpha, you can press ?
and you will get the help for that specific command

Options

Use this when you want to set Recalculation to No.
Every time you input anything in a cell, MUltiplan calculates
every formula as the whole model. As this takes to much time,
press O for Options when you have the main menu.
Here press N for No recalcualtion and press return.

Print

Use this to print out a model.
Press P for print.
This will take you into a submenu saying,
PRINT: Printer File Margins Options.
Printer - begins printing
Files   - store printout on diskfile
Margins - sets margins to be used on the printed output.
Options - controls part of worksheet to be printed and controls
some printer setups.
Press M for margins to set the print width to 80 or 132.
80 is normal printing and 132 is compressed printing.
Use TABkey to move between different input-fields and press
return when ready. This will take you back into the submenu.
Now press Options.
Area   - the area to be printed. You can print part of models.
Printer - other printer than usual, seldom used.
Formulas - gives a printout with formulas is set to yes.
row-col - gives a printout with row and columnnumbers if Yes
Make sure the area you want printed is specified and that
formulas is set to no and row-col set to no as well.
Press return and P for Print to start printout.

Quit

Used to quit Multiplan. (make sure you've saved any model you've
been working on.)
Press Q for Quit when you have the main menu and answer Y to the
question Enter Y to confirm message at the bottom.
Answer N if you pressed Q by mistake.

Transfer

Press T for Transfer. This takes you into a submenu saying,
TRANSFER: Load Save Clear Delete Options Rename
Load - loads model from disk into memory (onto screen)
Save - Saves model from screen onto diskette. The model stays
       on the screen though. A copy is saved to diskette (disk)
Clear - clears the screen. Clears whatever is on the screen.
       Anything done from last Save will be lost.
Delete- deletes files
Option- used to save in different format, never used.
Rename- renames files.
You are going to use Save and Load.
Press L for Load and specify the filename you weant to load.
If the file is on different diskette than Multiplandiskette.
specify drive e.g. B:SUMACC. Press return.
Press S for Save and specify what file-name you want the model
to have on the diskette or harddisk.
N.B. Never save models you have inputted on using the same file-
name as the original.

Value

Used to input values.
You will use this when inputting into cells that are going to
be incuded in any total. Multiplan cannot do any calculations
on cells that have been inputted as Alphabtic characters.
Press V for Value when you have the main menu.

2. SUMMARY OF ACCOUNTS

Start up multiplan
 - type (mp) after the c)-prompt (a)-prompt if you use diskette.
Now you should have the blank worksheet.
Load the model.
 - use (T)ransfer, (L)oad and type SUMACC (return)
Set recalculation option to No.
 - use (O)ptions, press spacebar once and press (return)

Fields to input are:
1)   month, use (A)lpha (type (A) on the main command-menu.)
2)   check date, use (A)lpha
3)   description, use (A)lpha
4)   Payee, use (A)lpha
5)   voucher ⌐, use (A)lpha
6)   cneck ⌐, use (A)lpha
7)   check amount, use (V)alue
8)   distributed amounts, account 101 to 797 plus not numbered
      accounts, use (V)alue

Press F8 to see totals. This can be done at any time.

Save the report with new name.
 - use (T)ransfer, (S)ave and type SUMACC99 (return)
   (the two last digits denoting the month)
Take out the report.
 - use (P)rinter
      (M)argins to set print width to 132
      press (return)
      (O)ptions to set print area to whole model.
      and press (return) twice.

Make sure that when you take a printout the whole worksheet is
being defined in the (P)rint (O)ptions print area.

3. GENERAL JOURNAL

Start up multiplan
 - type (mp) after the c)-prompt (a)-prompt if you use diskette.
Now you should have the blank worksheet.
Load the model.
 - use (T)ransfer, (L)oad and type GENJOU (return)
Set recalculation option to No.
 - use (O)ptions, press spacebar once and press (return)

Fields to input are:
1)   month, use (A)lpha (type (A) on the main command-menu.)
2)   date, use (A)lpha
3)   description, use (A)lpha
4)   Account name, use (A)lpha
5)   Cash debit, use (V)alue
6)   Cash credit, use (V)alue
7)   Other debit, use (V)alue
8)   Other credit, use (V)alue

Press F8 to see totals. This can be done at any time.

Save the report with new name.
 - use (T)ransfer, (S)ave and type GENJOU99 (return)
    (the two last digits denoting the month)
Take out the report.
 - use (P)rinter
        (M)argins to set print width to 132
        press (return)
        (O)ptions to set print area to whole model.
        and press (return) twice.

4. BANK RECONCILIATION

Start up multiplan
 - type (mp) after the c)-prompt (a)-prompt if you use diskette.
Now you should have the blank worksheet.
Load the model.
 - use (T)ransfer, (L)oad and type **BANKRE** (return)
Set recalculation option to No.
 - use (O)ptions, press spacebar once and press (return)

Fields to input are:
1)   Date, use (V)alue
2)   Opening book balance, use (V)alue
3)   Check disbursements, use (V)alue
4)   Credit adjustments, use (V)alue
5)   Cash received, use (V)alue
6)   Debit adjustments, use (V)alue
7)   Opening bank balance, use (V)alue
8)   Outstanding checks, use (V)alue
9)   Debit adjustments, use (V)alue
:0) Outstanding deposits, use (V)alue
:1) Credit adjustments, use (V)alue

Press F8 to see totals. This can be done at any time.

Save the report with new name.
 - use (T)ransfer, (S)ave and type **BANKRE99** (return)
   (the two last digits denoting the month)
Take out the report.
 - use (P)rinter
       (M)argins to set print width to 132
       press (return)
       (O)ptions to set print area to whole model.
       and press (return) twice.

5. RECEIVING FILES USING SMARTCOM II

NEW-YORK AND BRUSSELS

  Completion and saving multiplanmodels

Complete the multiplanmodels, SUMACC, GENJOU and BANKRE.
Make sure they are saved on the harddisk.
use the name of the original model SUMACC and add two numbers
for the month so that the completed Summary of accounts for
January will be called SUMACC01.
Never save a model for a specific month using the same name
as the original model.

  Getting ready for transferring of files

Start up Smartcom II. Typing (SCOM) after the C)-promt will start
it up. (anything within (and) shall be typed by you)
Make your computer available for AUTO ANSWER and REMOTE ACCESS.
Choose (1) for begin communication and (A) for answering a call.
Choose (O) as the label telling the Smartcom which communication-
set you will be using.
Now you should have a screen that says:

                    AUTO ANSWER
                    REMOTE ACCESS

Now your computer is set up so that Head Office can access your
computer and take out files from your harddisk.

BARBADOS

  Getting ready to receive files from N.Y. and Brussels

Make sure the above steps have been completed in N.Y. and
Brussels.
Start up Smartcom II, typing (SCOM).
Now begin communication typing (1), originate a call   (O) and
choose label P for communication with New York or label Q for
Brussels. Make sure that you use the right number.

Once you have established connection, you know this is so when it
says either NEW YORK or BRUSSELS in the lower right corner of the
screen. If the asterisk in front of menu-selections for sending
and receiving files are still there, press F1 to replace them by
a 4 and a 5.

Now choose menuselection 8 for remote access.
It will take a few minutes for you to go into remote access mode.
When the toggleswitch after selection 8. Remote access (toggle-
switch) says ON, you're ready to receive files from the remote
computers in N.Y. or Brussels.

Receiving files

Make sure your'e logged onto the harddisk C of the remote comput-
er. If not so, press (C).
Have a diskette ready in drive A with enough room for the files
you'll receive. 100000 bytes should be sufficient.
Now choose menuselection 4 Receive file.
Specify the filename, e.g. SUMACC01 if you want to receive the
Summary of Accounts for January.
Answer yes to question if remote file-name is the same.
Press return and the transfer will begin.
When the transfer is complete you can end the communication by
pressing (O) for end communication.