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INTEGRATED INFORMATION NETWORK FOR EFFECTIVE MANAGEMENT  
OF RESEARCH AND DEVELOPMENT INSTITUTIONAL ACTIVITIES

DP/EGY/88/031

THE ARAB REPUBLIC OF EGYPT

Technical report: Integrating information network\*

Prepared for the Government of the Arab Republic of Egypt  
by the United Nations Industrial Development Organization,  
acting as executing agency for the United Nations Development Programme

Based on the work of Mieczyslaw Muraszekiewicz,  
Chief Technical Adviser

Backstopping officers: M. Boutoussov and J. Pavlik,  
Institutional Infrastructure Branch

United Nations Industrial Development Organization  
Vienna

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\* This document has not been edited.

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Explanatory Notes

Value of the local currency "Egyptian pound"  
1 US \$ = 3.33 Egyptian pounds (June 1991)

Abbreviations

CTA Chief Technical Adviser  
RAMSES Research-Access data Management System for Engineers and  
Scientists  
R+D Research and Development

Abstract

Muraszkiewicz, M. Chief Technical Adviser (CTA)  
UNIDO

Integrated Information Network for Effective Management of  
R+D Institutional Activities  
Report (return mission) /EGY/88/031

This report presents the results of the mission undertaken by the CTA in May 4-June 13, 1991 to the Ministry of Industry in Cairo, within the project: "Integrated Information Network for Effective Management of R+D Institutional Activities (DF/EGY/88/031). The mission was aimed at: (i) designing and development of database software prototype on HP VECTRA QS/165 computers; (ii) filling out the the database with actual testing data collected form R+D organizations in Egypt; (iii) establishing a database administrator team and a team of application programmers; (iv) training the above mentioned staffers; (v) prepare the transfer of databases software from HP VECTRA QS/165 to the HP 3000; (vi) to coordinate activities of the UNIDO consultant on hardware and telecommunication (11-51) and counterparts. The CTA was attached to the Ministry of Industry of Egypt.

As a result of the mission it is recommended to do, among others, within three coming months:

- to approve the Project Revision Proposal;
- to collect updated data on R+D activities from the participants of the network;
- to acquire the MINISIS package and to train 2-3 persons on its usage;
- to acquire 2 public ("normal") telephone lines in ARENTO (national telephone service company) and a leased line in EGYPTNET (provider of X25 service in Egypt);
- to establish all network connections and test them;
- to develop software tools for transferring RAMSES databases software from HP VECTRA QS/165 to HP 3000;
- to organize abroad training for the RAMSES software developers;

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## INTRODUCTION

The Chief Technical Adviser (in the sequel called CTA) was attached to the Ministry of Industry of Egypt. The mission lasted from May 4 to June 13, 1991 and constituted the second part of CTA's intervention: the first one took place in January 1990. The continuation of the present mission is planned for Sept./Oct., 1991 in order to complete the project.

The main immediate objective of the project "Integrated Information Network for Effective Management of R+D Institutional Activities (DF/EGY/88/031) is the following: to design and establish a nucleus of the integrated information network (later on called RAMSES Research-Access data Management System for Engineers and Scientists) in order to provide facilities for efficient management and co-ordination of R+D institutions belonging to the research infrastructure of the Ministry of Industry in Egypt.

Briefly, so far the Ministry has obtained as a result of joint effort of the Ministry staffers and UNIDO consultants:

- (i) a detailed concept of the management system on R+D activities based on broad analysis of actual needs and existing facilities;
- (ii) computer hardware composed mainly of the HP VECTRA QS/165 microcomputers, the HP 3000 minicomputer and telecommunication equipment to ensure data transmission on the basis of X.25 international standard protocol;
- (iii) a prototype of database software (shell) implemented on the HP VECTRA QS/165 microcomputer under Micro CDS ISIS software;
- (iv) training of 2 persons as database administrators and application programmers

Later on, according to the Project Document schedule, the Ministry will obtain the following:

- (i) the vendor independent network for efficient data exchanging ensuring interoperability of various technical and human resources employed in the field of R+D management (on the basis of already available hardware);
- (ii) R+D databases at two levels: headquarters level (based on MINISIS running on the HP 3000 computer) and an R+D institution level (based on Micro CDS ISIS, running on HP VECTRA QS/165). Databases on both levels are to be compatible and interlinked;
- (iii) trained staff to run the network.

In general terms it is expected that RAMSES will create a demand for more vendor-independent products with the special emphasis on the Arabic language and that the infrastructure created by RAMSES

will be a model for co-operative research and development work throughout Egypt. It is also believed that RAMSES could play the role of a point of reference for other countries in the region looking for similar facilities.

The methodology adopted by the CTA in performing the mission included, *inter alia*: (i) analysis of documents and existing software tools related to the aims formulated in the job description; (ii) analysis of findings provided by the Consultant in R+D Management and Technology Transfer (11-02) and the Consultant in Design and Establishment of Computer Network (11-51); (iii) personal visits to some organizations related to the project; (iv) interviews and consultations.

\* \* \*

The Ministry of Industry of Egypt considers the strengthening R + D institutions as one of the major prerequisites for further industrial development. This requires effective management, coordination and technology transfer from R + D institutions to the industry, therefore, the establishment of the information network for handling these functions has been considered by the Ministry as an urgent task. The network is to cover R + D institutions operating in the most significant from industrial viewpoint areas like applied chemistry, electronics, engineering and industrial design, metallurgy, electric and power industries, etc.

Although the policy making and management tasks are basically performed by the Ministry, the participation of industry in creating a sound industrial and technological information system, especially dealing with the commercialization of R + D results, has to be the case. Actually, <sup>steps</sup> to bridge the gap between industry and R + D institutions enterprises from the both involved sides have already been undertaken.

Several premises govern the designing and implementation phase of the RAMSES (R-earch-Access data Management System for Engineers and Scientists) network building.

- (a) A functional rather than structural approach should be adopted in order to introduce new services and to improve the existing ones.
- (b) Actual and potential users should be involved in designing and implementing of RAMSES.
- (c) Basically, information has to be available at the place where it is needed. Similarly, it has to be inputted into RAMSES where it is created.
- (d) A geographically distributed and heterogeneous rather than a centralized and homogeneous system is to take place.
- (e) Computerized information services should be extremely user-friendly

- (f) RAMSES has to be able to co-operate with other computerized systems used in related domains, e.g. with a planning system.
- (g) Only standardized hardware, software and development approaches should be used.
- (h) The system has to be logically consistent, flexible, modular and open to future changes and innovations. Especially, openness to the new users is required.

\* \* \*

#### Acknowledgments

A great deal of very helpful opinions and suggestions, and valuable contributions were received from the counterpart specialists; some of their proposals have been incorporated into the present document. The final conclusions and recommendations of the mission, however, reflect the views of the CTA only.

The CTA is indebted to Dr. Yusef Mazhar, First Under Secretary at the Ministry of Industry, for valuable information on R+D activities carried out in Egypt.

Special thanks are addressed to Ms. Nagwa Zayed Abdel-Aziz, Manager of Industrial Information Center of the Ministry of Industry and to Mr. Shams El Den Mohamed Salem, Supervisor of this Center, who has made great efforts to render remarkable assistance to the CTA in the course of his assignments.

Messrs Mohamed Moubark, Mohammed Salah Salheen and Reda Tobbala contributed a lot to the establishment of experimental databases and to testing the RAMSES software.

Co-operation with Dr. W. Bauerfeld was of special value: it allowed, *inter alia*, to establish concise criteria and interworking proofs of the network building.



### CONCLUSIONS AND RECOMMENDATIONS

1. Evaluation of the premises (formulated 14 months ago) underlying the concept of the RAMSES network proved correctness of the previous assumptions and decisions made in respect to the network structure, functioning and choice of equipment and software. However, slight reorientation towards encompassing not only public R+D organizations but also other types of organizations, especially from the private sector, has been observed.
2. All ordered hardware equipment was delivered. At the time being all the components, except for the telecommunication X.25 module, are functioning.
3. All necessary software, except for MINISIS, is available and used for the database prototypes development.
4. The prototypes of the RAMSES databases, including the following bases: ORGANIZATIONS, PROJECTS, EXPERTS, REPORTS, SOFTWARE, LIBRARY MANAGEMENT, INQUIRY have been implemented on the HP VECTRA QS/165 computer. Moreover, the ORGANIZATIONS, PROJECTS, EXPERTS and REPORTS databases are being filled out with testing data collected from R+D institutes involved in the project.

The first reaction of users on the coverage and friendliness of the prototype is positive.

5. Thorough training of two MICRO ISIS designers and database application programmers has been started.
6. It seems that the number of persons dedicated so far to the team of application programmers and to telecommunication issues is too small (all together 3 staffers).
7. It is necessary to undertake the following measures in the coming three months:
  - to collect detailed comments and remarks of the RAMSES network users on the prototype software and extended data input forms;
  - to collect updated data on R+D activities from the participants of the network;
  - to acquire the MINISIS package and to train 2-3 persons on its usage (through the Arab League Documentation Center based in Cairo which does it free of charge on behalf of the International Development Research Center, Ottawa, Canada);
  - to acquire 2 public ("normal") telephone lines in ARENTO (national telephone service company) and a leased line in EGYPTNET (provider of X25 service in Egypt);
  - to establish all network connections and test them (according to the specification by ISIDO consultant Mr. V. Barents).

- to develop software tools for transferring RAMSES databases software from HP VECTRA 05/165 to HP 3000.
- to organize abroad training for the RAMSES software developers (cf Annex 5).

All this above should be done before the last interventions of the CTA and the consultant on hardware and telecommunication (11-51).

8. Due to organizational changes in the Ministry of Industry, in particular consisting in reducing the number of qualified personnel, some elements of the Project Document have to be revised.

The Ministry, CTA and consultant 11-51 prepared the Project Revision Proposal (see Annex 4) and submitted it to the UNDP office and the Egyptian Government. To reach the objectives of the project the Proposal should be put into effect as soon as possible.

### ACTIVITIES

1. As preparatory work the CTA along with the consultant 11-51 and the managers from the Ministry
  - evaluated the current status of the project;
  - checked out and tested the equipment delivered and prepared a list of the items missing and out of order (minor items, cf. Annex 3)
  - visited the EGYPTNET company which is responsible for data transmission services in Egypt.
2. The data collected from R+D organizations was analyzed. It gave rise to the establishment of the revised data input forms (Annex 6).
3. Software of the RAMSES databases ORGANIZATIONS, PROJECTS, EXPERTS, REPORTS, SOFTWARE, LIBRARY MANAGEMENT, INQUIRY was prototyped and disseminated among the network participants
4. The ORGANIZATIONS, PROJECTS, EXPERTS and REPORTS databases are being filled out with testing data collected from R+D institutes involved in the project.
5. Training of two MICRO ISIS designers and database application programmers has been started.
6. The workshop for the participants of the RAMSES network was designed and took place.
7. The demonstration of MINISIS functioning on the HP 3000 computer was carried out by Mr. A. Eweida from the Academy of Scientific Research and Technology.
8. The demonstration of the RAMSES database functioning was given to the UNDP representatives, viz., Mr. Tharwat Sabry - Senior Programme Officer and Ms. Laila Darwish - Programme Officer.
9. Candidates for abroad training were identified and the training programme was elaborated.
10. A split unit air conditioner was purchased and installed.
11. Financial and organizational problems concerned with the project performing were discussed with the UNDP officers.
12. Permanent contact with ORASCOM, which is the main project contractor, and supervision of its work took place.

## II OUTPUTS

1. The Ministry, CTA and consultant 11-51 prepared the Project Revision Proposal (see Annex 4) and submitted it to the UNDP office and the Egyptian Government.

2. The new data input forms were established (Annex 6).

3. The prototypes of the RAMSES databases, including the following bases: ORGANIZATIONS, PROJECTS, EXPERTS, REPORTS, SOFTWARE, LIBRARY MANAGEMENT, INQUIRY were implemented on the HP VECTRA QS/165 computer.

The documentation for the database administrator(s) and casual users was written (Annex 6).

The first phase of training of database designers and administrators was provided.

4. The databases, first of all, the ORGANIZATIONS and PROJECTS databases are filled out with testing yet actual data. The number of input documents reaches 60

5. The RAMSES computer center has been organized (9th floor in the Ministry building). The computer equipment and the air conditioner along with some (modest) furniture were put there.

6. Telecommunication tests on local and remote access to the HP 3000 computer were positively done. This does not apply for access through the X.25 protocol.

7. The workshop for the participants of the RAMSES network took place.

8. The training programme along with the time schedule were set up. The details are given in Annex 5.

Nominations forms of candidates for training were filled out. The name of the fellows are: Mr. Mohamed Mahmoud Moubarak, Mr. Reda Mohamed Tobbala and Mr. Mohamed Zaki Nafeh.

### III. ACTION PROGRAMME (FOLLOW-UP)

Below are given the most important tasks to be undertaken in order to accomplish the project.

Within 3 coming months:

to UNIDO/UNDP:

1. To approve the Project Revision Proposal prepared by the Ministry, CTA and consultant 11-51 and submitted to the UNDP office and the Egyptian Government, and to put it into effect as soon as possible.
2. To assist in performing abroad training (cf. Annex 5).

to the Ministry of Industry:

1. To collect detailed comments and remarks of the RAMSES network users on the prototype software and extended data input forms.
2. To collect updated data on R+D activities from the participants of the network.
3. To acquire the MINISIS package and to train 2-3 persons on its usage (through the Arab League Documentation Center based in Cairo which does it free of charge).
4. To acquire 2 public ("normal") telephone lines in ARENTO (national telephone service company) and a leased line in EGYPTNET (provider of X.25 service in Egypt).
5. To establish all network connections and test them (according to the specification by UNIDO consultant Mr. W. Bauerfeld), including purchase and installation of X.25 component for the ICL ME 29 computer.  
  
This should be done by ORASCOM and CODEX companies under the Ministry's supervision.
6. To increase the Ministry contribution to the project, in particular to dedicate more persons to the RAMSES software development and telecommunication, as well as, to strengthen the project leadership structure.
7. To formulate the highlights of the national R&D policy for the 3-5 coming years.

to CTA:

1. To test thoroughly the RAMSES software prototype on the actual data sample
2. To develop software tools in order to transform the RAMSES prototype database shell into the final product.
3. To develop software tools for transferring RAMSES databases software from HP VECTRA QS/165 to HP 3000.

to Consultant 11-51:

1. To check out the established data transmission facilities (by ORASCOM and CODEX).
2. To participate in the final RAMSES network acceptance test.

All this above should be done before the last interventions of the CTA and the consultant on hardware and telecommunication (11-51). After that implementation of remaining tasks as specified in the Project Document can take place, in particular:

- the RAMSES software refinement at the HP VECTRA QS/165 level;
- transfer of the above mentioned software to the HP 3000 computer through the on-line MINISIS package and development of specific MINISIS software utilities to handle the databases;
- finalization of inputting the first batch of actual data;
- continuation of the on-the-job training;
- the demonstration of RAMSES functioning for the Ministry staffers and interested organizations in Egypt, UNDP and UNIDO representatives with local counterpart operating the RAMSES network.

**DOCUMENTS USED**

1. Bankowski J., Wysocki A., Guidelines for the Establishment or Redesign of Industrial and Technological Information Service System, including Selection of Software and Hardware, UNIDO/IS.597, Jan.15, 1986.
2. El Sherif H., El Shooky E., Industrial Information Development in Egypt, paper presente to UNIDO/INTIB Workshop for National Focal Points on Industrial Information Networking and Cooperation, Moscow, USSR, May 30, 1988.
3. El Toukhy M., Yudin A., Country Report on the Industrial and Technological Information Systems in Egypt, UNIDO/IS/R.33, Feb.28, 1986.
4. Integrated Information Network for Effective Management of R+D Institutional Activities. Project Document DP/EGY/88/031/01/37.
5. Page W., Survey of R&D ativities and conceptual design of the Integrated Information Network for R&D, UNIDO technical report, 25 Jan. 1990.

**PERSONS CONTACTED**

**Ministry of Industry**

Dr. Youssef Mazhar	First Under Secretary at the Ministry of Industry
Ms. Nagwa Zayed Abdel-Aziz	Manager of Information Center for the Ministry of Industry and its Organizations
Mr. Shams El Din Mohamed Salem	Supervisor of Information Systems Center for the Ministry of Industry and its Organizations
Mr. Mahmoud Aly Salem	General Manager Hewlett Packard

**UNDP**

Ms. Laila Darwish	Programme Officer
Mr. Tharwat Sabry	Senior Programme Officer

**Others**

Mr. Adel E. Eweida	Supervisor of Computer Section, Academy of Scientific Research and Technology
Mr. Ahmed Shawki	Managing Partner, Shawki & Co.
Mr. Hani I. A. El-Mohsen	Engineer, Systems Engineering of Egypt



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Dr. Mieczyslaw Muraszkiewicz  
EGY/88/031, Chief Technical Advisor

May 16, 1991

Mr. Mahomou Salem  
General Manager  
ORASCOM  
160, 26th July str., Agouza, Cairo

Dear Mr. Salem,

Thank you very much for your so far co-operation with the Industrial Information Center of the Ministry of Industry and your company within the RAMSES project EGY/088/031. The first phase of the equipment installation and training of the staffers proved to be very efficient and advantageous for the project.


Below there is a list of items to be delivered or clarified in terms of the Purchase List and the actual delivery.

- Weldone*
- (i) Item C10016 - 2 workstations are bilingual and 1 workstation is Latin only, whereas all 3 workstations should be bilingual. Moreover, a power cable is missing.
  - (ii) Guter line conditioner - not delivered.
  - (iii) Item D1462A - one of the VECTRA PCs is not working correctly.
  - (iv) Advanced Link Application for PC terminal emulation has been provided for 2 VECTRAS instead of 4 of them.
  - (v) Although X.25 telecommunication equipment and software component have been delivered yet the installation did not take place.  
We re especially interested in having the facility to transfer files from the PCs terminals to the HP computer and vice versa.

Please, find enclosed an installation note by the UNIDO consultant Dr. Bauerfeld. This note along with some comments and explications have been given to Eng. Fanny Wahbe on May 14th, 1991 by me. The specification provided in this note gives details on installation steps and interworking proofs. The fulfillment of this specification (partially done successfully by your engineers) is a necessary condition to make the RAMSES information network operational.

I do hope that the final installation can be done very soon which will allow the Ministry of Industry and the UNDP office to release the rest of the due payment.

Sincerely yours,

  
Dr. M. Muraszkiewicz

## UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

## PROJECT REVISION PROPOSAL

Integrated Information Network for Effective  
Management of R + D Institutional Activities  
(RAMSES)

EGY/88/031

Original budget

IPF	US \$	278.714
Government input	LE	250,000

Proposed budget

IPF	US \$	310.319
Government input	LE	250.000

<b>Increase:</b>	<b>US \$</b>	<b>31,605</b>
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Cairo, May 9, 1991

This proposal has been prepared by Mr. W. Bauerfeld (consultant in computer networking, 11-51) and Mr. M. Muraszkiewicz (CTA, 11-01) as a result of the evaluation of the present status of the project development and discussions with the counterpart specialists.

The main findings are:

1. Growing awareness and interest of the project as a pilot application of a vendor independent communication which is based on international ISO standards and CCITT recommendations and will include recently available public facilities as EGYFTNET.
2. Adjustment of the project to a national trend towards strengthening the private sector and emphasis on commercialization of the economy.
3. Some of the originally identified specialists are not available any more; even if the role of telecommunication facility operators has been recognized, it cannot be appropriately staffed by the available personnel.
4. Most study tours and the complete training have not been completed due to some organizational problems.

Therefore, in general, advice, resources and training have to be extended beyond the originally planned scope. An exhaustive budget proposal is given below.

**Budget Proposal**

11-01	0.7 mm (from 4.5 mm to 5.2 mm)	US \$ 6,000
11-51	0.5 mm (from 1.5 mm to 2.0 mm)	US \$ 6,000
17-01	cancelled	US \$ -2,500
17-02	1.5 mm US \$ 1,500 - 6,600 (part time over the period of 6 months: from 10.0 mm to 1.5 mm)	US \$ -5,100

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Total US \$ 4,100

**21-00 Subcontract**

Consultancy, user support and training in facility management and pilot operation of the communication components (over the period of 6 m) US \$ 20,000

NOTE: As the ORASCOM company is a principal contractor of the project and has installed successfully the equipment and has been providing basic training, it is strongly recommended to render the subcontract to this company.

**42-00 Non-expendable Equipment and Supplies**

A.25 connection of the ICL ME 29 computer	US \$ 6,000
PHYPINET connection installation	US \$ 2,000
Laptop personal computer	US \$ 4,000
Plotter and 2 printers	US \$ 4,000
Computer supplies (diskettes, ribbons, paper, etc.)	US \$ 1,000
Air-conditioner	US \$ 1,500
Computer room equipment (cables, racks, desks, etc.)	US \$ 5,000

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US \$ 23,500

Amount available within the year 1991: US \$ -17,495

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Total US \$ 6,005

**51-00 Sundries**

Additional promotional material for shares, materials, etc. US \$ 1,500

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**GRAND TOTAL US \$ 31,005**

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
UNIDO

JOB DESCRIPTION

*Post title* Expert in Design and Establishment of Management Information Systems, Chief Technical Adviser (11-01)

*Duration* 1.5 months

*Date required* 15 August 1991

*Duty station* Warsaw, Poland

*Purpose of project* Establishment of the Integrated Information Network RAMSES for effective management and coordination of R & D institutional infrastructure of the Ministry of Industry in Egypt.

*Duties*

The Expert is expected to carry out the following activities:

1. To test thoroughly the RAMSES software prototype on the actual data sample collected from R & D organizations
2. To refine and extend the following functions of the RAMSES software: (i) sorting and printing; (ii) data editing by means of look up tables; (iii) customization of database administrator options; (iv) retrieval by newly defined fields.
3. To prepare the software tools for transferring the RAMSES software from the PC level (under the MICRO CDS ISIS shell) to the HP 3000 level (under the MINISIS on-line package).
4. To draft the guidelines on the usage of the RAMSES database, including data inputting. The text should be later on (during the assignment in Cairo) discussed with the representatives of terminal users and refined.

*Qualifications*

University degree or equivalent in computer/information science, with intensive experience in information systems and databanks design, especially in systems dealing with R + D issues.

*Language* English

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
UNIDO

JOB DESCRIPTION

*Post title* Consultant in Design and Establishment of Computer Networks (11-51)

*Duration* 0.7 months

*Date required* Sept. 1991

*Duty station* Cairo, Egypt

*Purpose of project* Establishment of the Integrated Information Network RAMSES for effective management and coordination of R + D institutional infrastructure of the Ministry of Industry in Egypt.

*Duties*

The Consultant will be attached to the Ministry of Industry and will be expected to carry out the following activities:

1. To check out the telecommunication component of the RAMSES network installed by the project principal contractor (ORASCOM company).
2. To elaborate a set of manuals on the usage of the hardware within RAMSES.
3. To provide on-the-place training for the RAMSES technical maintenance team (2 persons).
4. Prepare a final report setting up the findings, evaluation and results of the work and recommendations on further action which might be taken.

*Qualifications*

University degree or equivalent in computer science, with intensive experience in computer network design and implementation, especially for information systems.

*Language* English

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
UNIDO

JOB DESCRIPTION

*Post title* Subcontractor on networking, telecommunication and distributed databases.

*Duration* 6 months

*Date required* June 1991

*Duty station* Cairo, Egypt

*Purpose of project* Establishment of the Integrated Information Network (IIN) for effective management and coordination of R + D institutional infrastructure of the Ministry of Industry in Egypt.

*Duties*

The Subcontractor will be attached to the Ministry of Industry and in close co-operation with the CTA and will be expected to carry out the following activities:

1. To transfer the experimental connection within the RAMSES network into the pilot and demonstration stage. In particular:
  - (a) Interconnection of the computer HP 3000 (including PAD software) the RAMSES-Switch (private X.25-switch, CODEX 6525) at the premises of MoI via the HP 3000 interface;
  - (b) Connection of one or two (according to requirements of MoI) VECTRA PCs to be installed at the premises of MoI to the RAMSES-PAD (private PAD, CODEX 6505);
  - (c) Connection of RAMSES-PAD (Code 6505) and RAMSES-Switch (CODEX 6525);
  - (d) Installation of directly connected HP Terminals in the following offices at MoI:
    - Ms. Nagwa
    - Mr. Mazahr
    - Minister of Industry;
  - (e) Installation of a dial-up modem at UNDP (off. of Mr. Sabry);
2. To maintain and operate the RAMSES computer network, in particular the following connection possibilities:
  - (a) interworking (remote log in) between a local PC and the HP 3000 operating system via RAMSES-PAD (CODEX 6505) and RAMSES X.25-Switch (CODEX 6525);
  - (b) interworking (remote log in) between a remote PC and the HP 3000 operating system via dial up line to RAMSES-PAD (CODEX 6505) and RAMSES X.25-Switch (CODEX 6525);

- (c) interworking (remote log in) between a remote PC and the HP 3000 operating system via dial-up line to public FAD (Egyptnet). Egyptnet Packet Switching and RAMSES-X.25-Switch (CODEX 5625)
  - (d) interworking (remote log in) between a remote PC and the HP 3000 operating system via direct access to public FAD (Egyptnet). Egyptnet Packet Switching and RAMSES-X.25-Switch (CODEX 5625)
  - (e) interworking (remote log in) between a HP-3000 terminal and the ICL ME 29 operating system via HP-PAD software and RAMSES-X.25-Switch (CODEX 5625)
  - (f) interworking (remote log in) between a ICL ME 29 terminal and the HP 3000 Operating system via ICL PAD software and RAMSES-X.25-Switch (CODEX 5625)
3. To deal in all communication matters with the external partners specifically with the R+D Centers, Egyptnet and the UNDP office.
  4. To provide on-the-place training for the RAMSES network technical maintenance team (2 persons).
  5. To support the Ministry of Industry in problems concerning internal cabling.
  6. To provide training and consultations on distributed databases designing, implementation, maintenance.

Working languages: Arabic, English



### Training Programme and Time Schedule

The following sections correspond to the entries 13-19 in the Nomination Form.

*Training is requested in the following fields*

Designing, implementing, database application programming and maintenance of small and medium size databases implemented on the IBM AT (and higher) compatible computers.

*Detailed description of the requested training*

The training should cover the following specific topics connected to the development of databases software:

- (i) Elaboration of a conceptual model of a database;
- (ii) Computer representation of the conceptual model in terms of the DDL available;
- (iii) Design and implementation of data input forms customized for the user needs;
- (iv) Design and implementation of data output layouts;
- (v) Implementation of a retrieval language;
- (vi) Implementation of sorting and printing (hard copy) facilities;
- (vii) Transferring the data to other databases;
- (viii) Programming in the data manipulation language available;
- (ix) Administration of network databases;
- (x) Telecommunication issues.

It is required that the training should be performed by means of the CDS MICRO ISIS, ver. 2.3 software package as this software has been used to implement the prototype of the RAMSES database that is a central part of the project in question. Moreover, problems of compatibility and linkages between the CDS MICRO ISIS shell and the MINISIS packages should be a part of the training.

*Description of the practical use to be made of this training upon return home:*

The acquired knowledge is about to be used threefold:

1. To continue the development of the RAMSES database software in order to transform it from a prototype stage to a regular-use stage. To this end especially two skills are of the first priority: programming in the database manipulation language and transferring software from one computer platform to another.
2. To be trainers of local staff being a part of the organizations participating in the R & D network in the field of database establishment and exploitation.
3. To be the databases administrator of the RAMSES network, in particular to extend and upgrade the services of the RAMSES network after the project completion upon the request of its users.

*Proposed duration of training*

21 days (15 days at the Institute for Computer and Information Engineering, Warsaw, Poland  
4 days in DETECON, Berlin, Germany and  
2 days at the INTIB headquarters, Industrial Information Section, UNIDO, Vienna, Austria)

*Proposed countries of training*

Austria (Vienna); Germany (Berlin); Poland (Warsaw)

*Proposed training institutions*

(i) Institute for Computer and Information Engineering,  
02-793 Warsaw, ul. Lokańskiego 16/22

contact persons:

Prof. H. Rybinski, tel. (00-48-22)-40-72-65  
Prof. M. Muraszkievicz, tel. (00-48-22)-643-28-75

DETECON

Voltastr. 5, D-1000 Berlin 65, Germany

contact person:

Dr. W. Bauerfeld, tel. 49-30-46701-318  
fax 49-30-46701-445

(ii) INTIB headquarters, Industrial Information Section, UNIDO,

contact person:

Mr. V. Podshibvakin, Chief of Industrial Information Section  
UNIDO, VIC, A-1100 Vienna, Austria

*Earliest possible starting date*

Aug 15, 1991

*Proposed time schedule*

*Departure time*

Cairo --> Vienna	Sept. 8	12.00
INTIB/UNIDO	Sept. 9-10	
Vienna --> Berlin	Sept. 11	9.15 am
DETECON	Sept. 11-14	
Berlin --> Warsaw	Sept. 15	11.25
ICIE	Sept. 16-28	
Warsaw --> Cairo	Sept. 29	13.25

*Any definite period during which the training should not take place*

after Nov. 1, 1991

USER'S GUIDE  
TO THE RAMSES DATABASE  
AND  
INPUT FORMS

Cairo, June 1991

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## 0. INTRODUCTION

This document is a manual dealing with the RAMSES database. RAMSES has been designed to provide information on:

- (i) R + D institutes and organisation carrying out their activities in Egypt (database ORGANISATION);
- (ii) Projects performed by these organisations (database ORGANISATION);
- (iii) Experts available within these organisations and co-operating with them (database EXPERT);
- (iv) Queries and relevant responses addressed to the R + D organisations (database INQUIRY)
- (v) Reports and other documents related to the execution of projects (database REPORT);
- (vi) Software available within the R + D community (database SOFTWARE);
- (vii) Library activities related to the R + D organisations and projects (database LIBRARY).

RAMSES encompasses all the above listed databases. The term RAMSES stands for : Research data Access Management System for Engineers and Scientists.

The RAMSES database is implemented for IBM PC XT/AT and compatible microcomputers. The software is based on the Micro CDS/ISIS, ver. 2.3, package [1] developed by UNESCO, 1989.

This manual is composed of three basic parts. The first one (Chap. 1) gives rules installing the RAMSES shell. The second part (Chapters 2-8) presents the main functions available for a user of the databases, such as data entry and retrieval. The last part (Chapter 9) contains some recommendations for a database administrator. Technical specifications of the equipment and software required to run the Micro CDS ISIS software are given in Appendix 1.

It is believed that the described software is self-explanatory and friendly enough to the user due to its menu-driven philosophy. This manual should be considered as a user reference rather than a detailed document for study, as much information is displayed on the screen. However, some knowledge on the usage of the Micro CDS ISIS and its various features and functions is mandatory. One has to realize that controlling and validation procedures implemented within the RAMSES software are limited, therefore, the user is responsible for the quality of input and, as a result, the final output.

## 1. GETTING STARTED

### (a) Installing the RAMSES software package

The RAMSES software is distributed on 3 diskettes labelled RAMSES01, RAMSES02 and RAMSES03.

The diskettes contain:

- RAMSES01 - the ISIS program and a batch file INSTALL.BAT
- RAMSES02 - the MICRO CDS ISIS files and programs
- RAMSES03 - the RAMSES database files and IIN\_INST.BAT batch file

Installation of the RAMSES software is done automatically by the IIN\_INST.BAT program. However, before invoking this program some preparatory steps must be performed. They are described below.

Note: the IIN\_INST.BAT program is a slightly modified version of the UNESCO program INSTALL.BAT provided on the diskette RAMSES01.

#### Step 1

You should be aware that certain screen formatting functions performed by the RAMSES software will not be done properly if the ANSI.SYS driver is installed, although all other functions of the system will be executed correctly. Furthermore, you must make sure that your DOS system is set up to support the number of files required by the RAMSES software. Both of these requirements are contained in the DOS file called CONFIG.SYS. Switch to the root directory and have this file displayed on the screen doing as follows:

```
TYPE CD\          <CR>  ( <CR> stands for pressing the ENTER key.)
TYPE CONFIG.SYS  <CR>
```

If this file does not exist you must create one containing the following lines

```
BUFFERS = 20
FILES = 20
```

Use EDLIN or another text editor to do this.

If the CONFIG.SYS file has been already created check whether the above records are included and that the number of FILES and BUFFERS is at least 20. If not, modify the file by adding the above lines or increase the values. Then check if the file contains the following command

```
DEVICE = ANSI.SYS
```

If it exists you should delete it for proper software functioning. However, if some other software package installed on your computer requires the ANSI.SYS driver, you must keep a copy of the original CONFIG.SYS, before deleting the above command.

We suggest in this case that you keep two copies of CONFIG.SYS, e.g. one called CONFIG1.SYS and the other CONFIG2.SYS. Before using

the RAMSES software you check out which CONFIG.SYS you have. If it is not the correct one replace it.

Step 2

Run 'IN\_INST.BAT program specifying the name of the hard disk where the RAMSES software is to be installed. To do this, mount the RAMSES03 diskette on drive A:, and for the hard disk C type

```
A:                <CR>
IIN_INST C:      <CR>
```

As this procedure is executed it will ask you to mount each diskette when required.

Step 3

You must now establish an access path to the subdirectory \IIN To do this you have to edit the file AUTOEXEC.BAT (or create one if it does not exist) in the root directory, and change or add the appropriate PATH command. Any familiar text editor, e.g. EDLIN, can be used for this purpose. If the PATH command does not exist you have to write it

```
PATH C:\IIN
```

If such a command already exists you have to add a path only, e.g.

```
PATH C:\DOS;C:\GAMES;C:\IIN
```

(b) Invoking the RAMSES services

To invoke RAMSES functions you should type

```
CD\                <CR>
RAMSES            <CR>
```

From this moment the program is driven by menus and worksheets. The first menu is as follows:

RAMSES - R & D DATABASES

- 1 - Organisation
- 2 - Expert
- 3 - Inquiry
- 4 - Report
- 5 - Software
- 6 - Library Management
- 7 - Database Administrator
- 8 - Return to DOS

You can pick up the needed option using the arrow or typing the number of the option. Then you will see the following menu



- 1 - Retrieval and Printing
- 2 - Retrieval, Input and Printing
- 3 - Return to Main Menu

which contains access points to the specified database either for users authorized to browse, retrieve and print out the data (passive usage of the database) - option 1, or those who can, in addition, input data and update the database - option 2. The system prompts you to provide a password. A list of current passwords is available at the RAMSES Databases Administrator. The passwords using during the development of RAMSES databases shell are given in Appendix 3. It has to be noted that the names of databases given above and used by the users differ from the system names. The list of system names of databases is also provided in Appendix 3.

After successful entering into the RAMSES database the main menu (EXISI) will be displayed as in Fig.0.a (option - retrieval and printing) or in Fig.0.b. (option - retrieval, input and printing).

It has to be noted that the RAMSES Databases Administrator has access through a special entry (first menu, option ?) and gets all the services provided by Micro CDS/ISIS package (consult the Reference Manual [1]).

(a)

S - Information retrieval services	- ISISRET
P - Sorting and printing services	- ISISPRT
X - Exit	

(b)

E - Data entry/update services	- ISISENT
S - Information retrieval services	- ISISRET
P - Sorting and printing services	- ISISPRT
I - Inverted file services	- ISISINV
X - Exit	

Fig.0. The main menu - EXISI

Note that operations performed within the ISIS.EXE program may lead to temporary inconsistencies between the database files. Therefore, the system asks you, when leaving the ISIS.EXE program, whether you want to update the inverted file. The recommended answer is "Y".

#### Example

```
Database name: ENTRE
      0 Records created
      3 Records updated
      0 Records deleted
Do you want to update the inverted file now (Y/N)?   Y
```

Service ISISRET	Information Retrieval Services	Menu EXGEN
-----------------	--------------------------------	------------

B - Browse Master file
T - Display terms dictionary
S - Search formulation
D - Display search results
P - Save search results

X - Exit
----------

Fig.1. The menu "Information Retrieval Services" - EXGEN

## 2. BROWSING THE DATABASE

To enable one to have a look at the RAMSES database the function "Browse Master file" is provided. In order to use this function you should:

- invoke the ISISRET service (Information Retrieval Services) from the main menu (EXISI) by typing

S

The menu EXGEN - "Information Retrieval Service" will be displayed (see Fig. 1) as a result;

- choose the B option ("Browse Master file") by typing

B

**NOTE** In case of the ORGANISATION database you will get two options shown in Fig.2. Select your format using down and/or up arrows. Confirm your choice by pressing ENTER. If you changed your mind and you do not want to browse you have to strike X in order to exit to the EXGEN menu;

- you will be prompted to provide the starting MFN (document number) for browsing. At the bottom of the screen you will find the following message

Starting MFN for browse?

Type an appropriate number as a sequence of 1-5 digits. Press <CR>

Then the first document chosen for browsing is to be displayed on the screen. To continue browsing press <CR>. To stop the browsing strike the "ESC" key and you will return to the menu "Information Retrieval Services".

Organisation  
Project

Fig.2. Display formats

### 3. RETRIEVAL FROM THE DATABASE

In order to perform retrieval you have to use the ISISRET service (see Chapter 2). You can invoke this service from the main ISIS menu (EXISI) by typing

S

The menu EXGEN - "Information Retrieval Service" will be displayed (see Fig. 1) as a result. After choosing the S option (Search formulation) you can type your query and strike <CR>.

For syntactic rules dealing with the query formulation see the description of the CDS ISIS search language given in detail in the manual [1].

As a result of searching in your database the system will present you a query report which, for the query FRANCE \* CONCRETE + USA, could look as follows

```
Set.      1: FRANCE * CONCRETE + USA
P=        2  FRANCE
P=        2  CONCRETE
T=        1 -#2: FRANCE * CONCRETE
P=        3  USA
T=        3 -#3: #2 + USA
T=        3 - #1: #3
```

This data means that there are 2 access points for the primitive terms FRANCE and CONCRETE, one access point for sub-expression FRANCE \* CONCRETE (later referred to as a subexpression #2), 3 access points for the primitive term USA, 3 access points for the expression #2 + USA (later referred to as #3) and 3 access points for the whole query (later referred to as #1), which is identical with the expression #3. Press <CR> to return to the main menu.

If you wish to display the results of the search on the screen you should choose the D option and type

D

The hits are displayed on the screen in the same way as during browsing (see Chapter 2).

In order to prepare the results of search for printing select the P option from the menu and then you will be prompted to give the save file name. You should answer by typing

XXXX <CR>

where XXXX is the system name of the database (c.f. Appendix 3). The results of retrieval are to be stored in this save file and may be printed out using the ISISPRT service (see Chapter 7) and exported by means of the ISISXCH service (see Chapter 9).

To facilitate the query formulation the option T (Display terms dictionary) is provided. It allows to display the full dictionary of search terms, in lexicographical order, related to the database in question. You can choose the starting point of the dictionary

browsing: (i) if you strike <CR> the dictionary will be presented starting from the very beginning; (ii) if you enter any sequence of letters, followed by <CR> then the relevant part of the dictionary will appear. The cursor position is controlled by the arrow ←, →, ↑, ↓ keys; to proceed to the next page strike the PgDn key (note that it is impossible to return to the previous page).

The term indicated by the cursor can be marked using either ^, + or \* keys which correspond to the NOT, OR, AND boolean operators, respectively. In that way the query formulation can actually be facilitated (cf. Fig. 3). To terminate this phase of defining the query press X. You will then be brought to the same place as after choosing the option S in the main menu. Now, you have your query displayed explicitly and you can modify it using the editor available.

Dictionary list	Data Base Name: ENTRE
- BRUSHING	- CHEMICAL
+ BUILDING	- CHEMICAL ELEMENTS
* BULGARIA	- CHEOPS GROUP
- CALIBRATION	- CIVIL
- CANADA	- COATING

Fig. 3. A part of the ENTRE database dictionary. The query BUILDING \* BULGARIA is defined

#### 4. DATA ENTRY

General rules concerning data entry into the RAMSES worksheets are given in this chapter. Some of them are briefly recalled at the worksheet level after pressing the key 'F1' for help.

To start the process of data entry for all RAMSES databases except for ORGANISATION you should choose the option E from the main ISIS menu (EXISI) what brings you to the the menu "Data Entry Service", menu EXE1, which is displayed in Fig. 4.a.

(a)

ISISENT	Data entry Services	Menu EXE1
	N - Create new record	
	E - Edit record	
	R - Edit last search results	
	X - End Data Entry	

(b)

N - Create new record
E - Edit record
C - Copy PROJECT record
R - Edit last search results
T - Transfer record to next year
X - End Data Entry

Fig. 4. The "Data Entry Service" menu

To create a new record press N. Then you will see the first page of the data input worksheet. You should fill in subsequent fields following the format of the worksheet. Whenever in doubt how to fill out a field strike the F1 key, before filling, for help. If you want to skip over a field press <CR>.

**NOTE** Again, in case of the ORGANISATION database you will get the menu (Fig.2) where you have to choose a type of document. Select one of them. Use down and/or up arrows to pick up an appropriate worksheet and press <CR>. To leave the menu strike X, as usually.

Certain fields contain default values. If the pre-defined value is adequate to the document just press <CR>. However 2 fields can be never changed for the ORGANISATION database, namely: *Type of the record and Archive/Current*.

When filling out a page is completed, in the lower part of the screen you will see the following text

CR - Next page	B - Previous page	M - Modify
R - Screen restore	X - Exit.	D - Delete
R - End revise		C - Cancel

To proceed to the next page press <CR>. If you have made some mistakes you can correct them with the M option.

## 5. UPDATE, TRANSFER, COPYING

When updating existing records you should take into account the rules given for data inputting (Chapter 4).

To update the existing records choose the option E from the menu EXE1 - "Data Entry Services" (cf. Fig. 4). You will be then prompted to give the number of the document to be modified. Next, press <CR>. After that you will see the first page of the document. You can either proceed to the next page by striking <CR> or start updating by pressing M and then correcting the fields. It is possible to reiterate the process of updating by striking M again.

As for the data entry (Chapter 4) the help is provided by pressing the F1 key.

One can transfer ORGANISATION and PROJECT records to the next financial year. To do this, one has to select the option T - *Transfer record to next year* from the menu EXE1 (Fig.4.b) and specify the MFN of the record to be moved. The system prompts adequate actions when moving a record, in particular you can use a look up table to identify a record to be transferred. The option C - *Copy PROJECT record* available on the menu shown in Fig.4.b allows one to copy a PROJECT record specified by the MFN number. This can be especially useful when inputting projects having similar characteristics connected to the same organisation.

### 6. DELETE

To delete existing records choose the option E from the menu EXE1 - "Data Entry Services" (cf. Fig. 4) and answer to the prompts as for updating (Chapter 5). From the options which are displayed at the bottom of the screen pick up the D one. Press <CR> to confirm deletion.

Service ISISPRT	Sorting and printing	Menu EXPRT
	S - User print worksheet	
	P - System print worksheet	
	X - Exit	

Fig. 5. The "Print and Sort" menu

### 7. PRINTING AND SORTING

Before printing you should check that your printer is properly connected, has sufficient quantity of paper loaded, is in "On-line" status and its system name is LPT1. The latter can be tested and, if needed, corrected from the DOS level [2].

In order to use the print and sort functions you should activate the ISISPRT service from the main CDS ISIS menu, viz EXISI. by pressing

P

The menu EXPRT - "Sorting and printing" will appear (cf. Fig. 5). For all the RAMSES but ORGANISATION databases pick up the option P. For the ORGANISATION database proceed to printing by choosing the option S (User print worksheet). The system will display the menu shown in Fig. 6 and you should decide whether you want to print hits or the whole database. As usually, use up and/or down arrow and strike <CR> to select the desired option. To leave the menu press X. After that you will see further menu offering further specification of indexes (reports) to be printed. Again, you have to select, according to your needs, one of the proposed options. Note that printing may be preceded by sorting.

Finally, you will see a pre-defined (already filled out) worksheet. Skip over all the fields by pressing the key PgDn or <CR> until you see a message made up of four options at the bottom of the screen. Press X for printing and sorting. For all the indexes but the List of References the next pattern will appear. Again, you should skip over the fields and press X.

#### RAMSES Indexes - Printing

Hits	<---
Whole database	

Fig. 6. Hits vs. whole database menu

## 8. INVERTED FILE GENERATION

For retrieval and in order to maintain the database consistency it is necessary to have the inverted file updated after each modification of the database contents. Basically, there are two ways of updating the inverted file. First, you can update it when leaving the ISIS.EXE program after modifying the database. Second, you can invoke the ISISINV service (Inverted file services) from the main menu EXISI by typing

I

You will see the menu EX01 - "Inverted File Services" which is also depicted in Fig. 7.

To update the inverted file you have to choose the option U. After some system messages you will see the text

Inverted file update completed

Press <CR>.

The option F is used for full inverted file generation. For a database which contain a substantial amount of documents the process of the inverted file generation may be a lengthy one.

The option P is very useful for a database administrator as it allows to obtain the actual list of indexing terms occurring in the database documents. We will discuss this more exhaustively in Chapter 9.

Service ISISINV	Inverted File Services	Menu EX01
	F - Full inverted file generation	
	U - Update inverted file	
	B - Inverted file backup	
	R - Restore inverted file	
	P - Print search term dictionary	

Fig. 7. The "Inverted File Services" menu

## 9. DATABASE MAINTENANCE

This chapter is dedicated to a database administrator, who is responsible for the system reliability and maintenance. The structure of the ORGANISATION/PROJECT database, viz. its FDT and FST tables are given in Appendix 2. Also, the system names of databases and passwords are presented in this Appendix.

(a) The RAMSES software protection

The RAMSES software is distributed on 3 diskettes. The first two diskettes contain the CDS MICRO ISIS package as it is distributed

by UNESCO (except for the INSTALL.BAT file) whereas the third one contains system files specific for RAMSES. Note that no data (records) pertaining to the RAMSES databases itself are stored on these diskettes. As the first job recommended to be done after receiving these diskettes is to prepare the verified copies of them. To do so check out whether they are protected against writing and if not, protect them. Then insert the diskette labelled RAMSES01 into the drive A and insert an unprotected diskette into the drive B. Type the DOS command

```
DISKCOPY A: B:      <CR>
```

When finished answer N to the DOS question and type

```
DISKCOMP A: B:     <CR>
```

If the comparison is OK protect and label the diskette from the drive B. Otherwise, repeat the process of copying. Repeat the process for the diskettes RAMSES02 and RAMSES03.

#### (b) Database building

There are several ways of database building. The first one has been described in Chapters 4-6. The second one is concerned with the import of data (received from R+D centers or other sources). Basically there are two possible cases

- (i) The database is empty (i.e. only the diskettes RAMSES01, RAMSES02 and RAMSES03 were copied to your computer), then you should invoke the ISISXCH - "Master file services" from the main ISIS menu (EXISI) by typing

M

You will see the menu EXCH - "Master file services" which is presented in Fig. 8.

To load the external database (in ISO 2709 format) type I. As a result you will see the input form which is depicted in Fig. 9.

#### Master file services

- L - Change dialogue language
- B - Master file backup
- R - Master file restore
- C - Reorganize Master file
- I - Import external file
- E - Export CDS/ISIS file
- X - Exit

- ?

Fig. 8. The "Master file services" menu



Data interchange services - Import parameters

```

Data base name          ENTRE___

                        ISO File parameters
Input ISO file name    MST.ISO__      field separator      #
                                                record separator    #

                        Input options
First MFN to be assigned      1_____  Input tag containing MFN _
Load/Merge/Update    L

Reformatting parameter file  _____  Gizmo conversion file _____

```

Fig. 9. The input form for data import

To skip over a field and leave it unchanged strike <CR>. After reaching the bottom of the screen press X. The prompt:

"Backup drive and/or directory?"

will appear. The name of the drive which contains the diskette with the data has to be given followed by pressing <CR>.

Example

```

Backup drive and/or directory? A:
Mount diskette number 1 on drive a: X - no more diskettes, <CR>
to continue after mounting new diskette      <CR>
Master file exists and will be cleared. OK (Y/N) Y

```

```

MFN 1 added
MFN 2 added
MFN 3 added
MFN 4 added
MFN 5 added
MFN 6 added
MFN 7 added
MFN 8 added

```

```

Mount diskette number 2 on drive a: X - no more diskettes, <CR>
to continue after mounting new diskette      X
Next MFN to be assigned: 9

```

Note that the file stored on the diskette(s) mounted on the drive must be MST.ISO. To return to the menu strike <CR>.

- (ii) Some records have been already stored in a database. Then you should read the MFN number displayed at the bottom of the menu "Master file services". After that your steps are the same as described in (i), except for that you put
- M into the field "Load/Merge/Update";
  - MFN+1 into the field "First MFN to be assigned". e.g. if MFN is 7, you write 8.

The third possibility of the database building is concerned with the "Master file restore" option (R) on the menu "Master file utility services". To perform it you must have diskette(s) prepared under the option B (master file backup) available on the same menu (see below).

To proceed, strike the key R. Comply with the system prompts concerning diskettes. Beware! the order of diskettes is critical, i.e. they must be mounted in the same order they were produced.

(c) Backup

To avoid the consequences of an accidental database destruction it is recommended to backup its contents from time to time. For this purpose you can use the option B from the EXCH - "Master file services" menu. After typing B you will be prompted to give the database name. The next prompt is "Backup drive and/or directory?". It is recommended to type

A: <CR>

which means that a backup file is to be stored on the diskette mounted in the drive A. After usual prompts concerning diskettes and system messages press <CR> (after an arrow which is displayed on the screen). As a result of backup function you will have your backup file XXXXX.BKP on the diskette(s), where XXXXX stands for a system name of the database (c.f. Appendix 3).

If there are more diskettes than one needed for backup they should be cautiously labelled and numbered to ensure correct restore (see p.b).

(d) Transfer of database to other centers

To prepare the diskette(s) containing the databases (or their increments) you should invoke the ISISXCH service from the main ISIS menu and, then, choose the option E from the menu EXCH - "Master file services". As a result you will see an input form presented in Fig. 10. As usually, you can skip over the fields by striking <CR>.

Data interchange - Export option parameters

```

Data base name          ENTRE____

                        ISO File parameters
Input ISO file name    MST.ISO__      field separator      #
                        record separator #

                        Input options
MFN limits 1/32000____ Save file name ____ Hit file (Y/N)? N

Reformatting FST _____ Gizmo conversion file _____
Renumber records from _____

```

Fig. 10. The input form for data export

The range of records to be exported has to be put into the field "MFN limits", e.g. if you want to export records having MFN numbers 123, 124, 125, 126, 127 write 123/127 in this field. If a file containing results of searching is to be exported put into the field "Save file name" the name of your save file (cf. Chapter 3, usage of the P option - "Save search results" on the menu "Information Retrieval Services") and overwrite Y in the field "Hit file(Y/N)?". If the records from the master file are supposed to be exported leave the fields "Save file name" and "Hit file(Y/N)?" unchanged.

After reaching the message area at the bottom of the screen, press X, and you will see the prompt: "Backup drive and/or directory?". It is recommended to type

A: <CR>

which means that the database will be unloaded to the diskette that is mounted on the A drive. Comply with the system prompts concerning diskettes. After that the system will communicate which records are unloaded.

#### Example

```
MFN 1 unloaded
MFN 2 unloaded
MFN 3 unloaded
MFN 4 unloaded
MFN 5 unloaded
MFN 6 unloaded
MFN 7 unloaded
MFN 8 unloaded
MFN 9 unloaded
Total output records 9
```

To continue press <CR>. Now the exported data are stored in the MST.ISO file on the diskette.

Beware! Each file created by this option on diskette(s) is named MST.ISO. So, to avoid confusion it is strongly recommended to unload every database on a separate set of diskette(s).

#### (e) Printing search term dictionary

To perform this function choose the option P from the menu EXG1 - "Inverted File Services" (see Chapter 8). After that the text:

```
"Dictionary list completed"
```

is displayed. To continue press <CR>. The dictionary is stored in the form suitable for printing in the file IFLIST.LST. You can print this file using the DOS command

```
PRINT IFLIST.LST <CR>
```

**Example**

```
C:\MINISISWORK> PRINT IFLIST.LST
Name of list device (PRN): LPT1
Resident part of PRINT installed
C:\MINISISWORK> IFLIST.LST is currently being printed
C:\MINISISWORK>
```

The dictionary may be distributed to the users who have no direct access to the computer, in order to facilitate them formulating the queries and get the overall knowledge about the database contents.

## 10. REFERENCES

1. Mini-micro CDS/ISIS, Reference manual (Version 2.3), UNESCO, Paris, 1989.
2. PC's Handbook for 16 Bit PC User's, Microway Enterprises Co. Ltd.

### Appendix 1

#### Technical Specification

The minimum hardware requirements for running MICRO CDS/ISIS are the following.

IBM PC XT/AT or compatible microcomputer equipped with:

- 640K RAM memory
- 1 floppy disk drive
- 1 hard disk
- 1 monitor (monochrome or color)
- 1 printer

The MS-DOS operating system, ver. 2.0 (or higher) has to be installed on a microcomputer.

The following MICRO CDS/ISIS restrictions are, *inter alia*, currently in effect:

max. number of records	16 millions
max. size of record	8000 characters
maximum number of stopwords	799

RAMSES Structure

The most important 3 tables are given below, viz, FDT, FST and PFT of the ORGANISATION database.

FDT

W:ENTRE PROJ

F:ENTRE PROJ

S:ENTRE

\*\*\*

Type of the record		3 1 0 0
Archive/Current		4 1 0 0
**** Level I ****		990 1 0 0
Financial Year	9999	5 4 3 0
Name of Institution		10 160 0 0
Abbreviation		15 80 0 0
Code (identifier)		17 80 0 0
Supervising Organization		18 160 0 0
Location		19 80 0 0
Director		25 80 0 0
Person to be contacted		26 80 0 0
Adresse		20 160 0 0
Tel.		21 40 0 0
Telex		22 20 0 0
Fax		23 40 0 0
Electronic Mail		24 25 0 0
ISIC		30 20 0 1
Sector		35 80 0 1
Sub-sector(s)		40 80 0 1
public		50 1 1 0
private		51 1 1 0
mixte		52 1 1 0
Subsidiaries		66 400 0 1
Total Capital Invest. in EP		70 40 0 0
Total Capital Invest. in \$		71 100 0 0
Annual Operating Expenses EP		72 100 0 0
Annual Operating Expenses in \$		73 100 0 0
Annual Revenue and Fees EP		74 100 0 0
Annual Revenue and Fees \$		75 100 0 0
Total Annual Salaries EP		76 100 0 0
Number of Professionals		80 5 2 0
Other		82 5 2 0
Pure Research		90 3 2 0
Applied Reserch		91 3 2 0
Training		92 3 2 0
Consultations		93 3 2 0
Services		94 3 2 0
Instailations		95 3 2 0
Maintenance		96 3 2 0
List of Main Depts		100 240 0 0
List of Resources Utilised	Inup	105 400 0 1
List of resources required	Inup	106 320 0 1
List of Projects (IDs)		107 250 0 1

Brief Statement of Area of		110 320 0 0
Principales references		500 240 0 0
Publications		520 160 0 0
Exportation		525 240 0 0
*** PROJECT Level ***		954 1 0 0
Project Title		200 160 0 0
Code		210 40 0 0
Status-Planned		215 1 1 0
Status-Approved		216 1 1 0
Status-Initiated		217 1 1 0
Status-Completed		218 1 1 0
Status-Canceled		219 1 1 0
Type-Research		220 1 1 0
Type-Development		222 1 1 0
Type-Training		224 1 1 0
Type-Consultations		226 1 1 0
Type-Service		228 1 1 0
Type-Installation		230 1 1 0
Type-Maintenance		232 1 1 0
Department		235 80 0 0
Project Leader		240 70 0 0
Summary of Objectives		250 320 0 0
Contributing Organization(s)		260 400 0 1
Client Organization(s)		270 400 0 1
Starting Date	99-99-99	280 8 3 0
Completion Date	99-99-99	282 8 3 0
Duration		284 3 2 0
Next Review Date	99-99-99	286 8 3 0
Remarks		530 160 0 0
*****		994 0 0 0
input by		900 40 0 0
date	99-99-99	901 8 3 0
update by		902 40 0 0
date	99-99-99	903 8 3 0

FST

```

3 0 "TYPE="v3
5 0 "YEAR="v5
10 0 "ORG="v10
17 0 "ORG_CODE="v17
30 0 (ISIC=iv30/)
35 0 (v35/)
40 0 (v40/)
110 2 v110
200 0 "PRO="v200
210 0 "PRJ_CODE="v210
    
```

PFT (for Organisation)

```

if v3='I' then MFN(5)..C60.."Financial year "v5/
"Organisation name:"C25D10.v10(24,24)..." ("v15(24,24)");/
"Code: "C25D17.v17(24,24)/
"Location: "C25D19.v19(24,24)/.
    
```

"Supervising org.: "C25D18.v18(24,24)/  
 "Director: "C25D25.v25(24,24)/,  
 "Contact person: "C25D26.v26(24,24)/  
 "Contact address: "C25D20.v20(24,24)/  
 "Tel. "C25D21.v21(24,24)/,"Telex: "C25D22.v22(24,24)/  
 "Fax: "C25D23.v23(24,24)/,  
 "E-Mail: "C25D24.v24(24,24)/  
 if p(v30) then 'ISIC: 'C25D30.(v30(24,24)+!; !)/ fi,  
 if p(v35) then 'Sector(s): 'C25D35.(v35(24,24)+!; !)/ fi  
 if p(v40) then 'S/Sector(s): 'C25D40.(v40(24,24)+!; !)/ fi  
 if v50='Y' or v50='y' then 'Type of organisation: public'd50 fi,  
 if v51='Y' or v51='y' then 'Type of organisation: private'd51 fi  
 if v52='Y' or v52='y' then 'Type of organisation: mix'd52  
 fi./,

"Main Departments: "C25D100.v100(24,24)/,,  
 if p(v66) then 'Subsidiaries: 'C25D66.(v66(24,24)+!; !)/ fi.  
 #x12'AREA of SPECIALIZATION, OBJECTIVES. FUNCTIONS'//v110/  
 # 'FINANCIAL  
 INFORMATION:'//,,,,,

"Total Capital Investment E.P. "v70., ""C49D71,"US \$ "v71/  
 "Annual Operating Expenses E.P. "v72., ""C49D73,"US \$ "v73/  
 "Annual Revenue and Fees E.P. "v74., ""C49D75,"US \$ "v75/  
 "Total Annual Salaries E.P. "v76/,,

#"STAFF:"D80/,  
 "professionals: "v80,," others: "v82/,,  
 #'ANNUAL NUMBER of ACTIVITIES:'/  
 "Pure research: "v90/  
 "Applied research: "v91/  
 "Training: "v92/  
 "Consultations: "v93/  
 "Services: "v94/  
 "Installation: "v95/  
 "Maintenance: "v96/#

"Principal references: "C25D500.v500(24,24)/  
 "Publications: "C25D520.v520(24,24)/,,,,,  
 "Exportation: "C25D525.v525(24,24)/,,  
 # "PROJECTS:"D107/,,

(ref(I(PRJ\_CODE=iv107),v200,, ; (code: iv210!);!,Leader: iv240+!  
 !/)),,,

#"RESOURCES UTILISED:"D105/,  
 (!Localisation: iv105^l(0,24)/,  
 !Name/type: iv105^n(0,24)/,  
 !Level of utilisation: iv105^u(0,24)/  
 !Price: iv105^p(0,24)+!; !/)

#"RESOURCES REQUIRED:"D105/,  
 (!Localisation: iv105^l(0,24)/,  
 !Name/type: iv105^n(0,24)/,  
 !Level of utilisation: iv105^u(0,24)/,  
 !Price: iv105^p(0,24)+!; !/)../# fi



Passwords and System Names of Databases

<i>DATABASE</i>	<i>SYSTEM NAME</i>	<i>PASSWORDS</i>	
		<i>Retrieval</i>	<i>Update</i>
Organisation/Project	ENTRE	ent	ents
2 - Experts	SPECS	spe	spes
3 - Inquiry	QERE	qr	qrs
4 - Reports	BIBLO	bib	bibs
5 - Software	LOGI	log	logs
6 - Library Management	PRETS	pre	pres
7 - Database Administrator		mstr	mstr

## RAMSES DATABASE ON R + D ACTIVITIES IN EGYPT

Headquarters: Industrial Information Center, Ministry of Industry  
 2, America El-Latania str., Garden City, Cairo, Egypt  
 tel. 355-88-93, fax. 354-83-62, telex 93112 MIDUS UN

Input by \_\_\_\_\_

date \_\_\_\_\_

## ORGANISATION

Financial Year 199\_\_

Organisation Name \_\_\_\_\_

\_\_\_\_\_

Abbreviation \_\_\_\_\_ Code (Id) \_\_\_\_\_

Location (address) \_\_\_\_\_

\_\_\_\_\_

Supervising Organization \_\_\_\_\_

Director \_\_\_\_\_

Person to be contacted \_\_\_\_\_

Address \_\_\_\_\_

Tel. \_\_\_\_\_ Telex \_\_\_\_\_

Fax \_\_\_\_\_ E-Mail \_\_\_\_\_

ISIC \_\_\_\_\_

Sector(s) \_\_\_\_\_

Sub-sectors \_\_\_\_\_

Type of Institution

public

private

mix

Subsidiaries \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FINANCIAL INFORMATION**

Total Capital Investment            E.P. \_\_\_\_\_            US \$ \_\_\_\_\_

Annual Operating Expenses        E.P. \_\_\_\_\_            US \$ \_\_\_\_\_

Annual Revenue and Fees         E.P. \_\_\_\_\_            US \$ \_\_\_\_\_

Total Annual Salaries            E.P. \_\_\_\_\_

**NUMBER of EMPLOYEES**

Professionals \_\_\_\_\_

Other \_\_\_\_\_

**ANNUAL NUMBER of ACTIVITIES IN:**

Pure Research \_\_\_    Applied Research \_\_\_    Training        \_\_\_

Consultations \_\_\_    Services        \_\_\_    Installations \_\_\_    Maintenance \_\_\_

List of Main Departments \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Principal References \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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**Brief Statement of Area of Specialization, Objectives and Functions**  
(important key-words put between brackets < > )

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**Main Publications**

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**Exportation**

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**List of Projects Identificators**

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**List of Resources Required**

<i>Localisation</i>	<i>Name/type</i>	<i>Utilization (hrs./year)</i>	<i>price</i>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks \_\_\_\_\_

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Input by \_\_\_\_\_

date \_\_\_\_\_

#### PROJECT

Financial Year 199\_\_

Project Title \_\_\_\_\_  
\_\_\_\_\_

Code \_\_\_\_\_

#### PROJECT STATUS

Planned     Approved     Initiated     Completed     Canceled

#### PROJECT TYPE

Research     Development     Training     Consultations   
Service     Installation     Maintenance

Department \_\_\_\_\_

Project Leader \_\_\_\_\_

Address \_\_\_\_\_

Tel. \_\_\_\_\_

Telex \_\_\_\_\_

Fax \_\_\_\_\_

E-Mail \_\_\_\_\_

Summary of Objectives (important terms put between brackets < > )

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**FINANCIAL INFORMATION**

Total Capital Investment	E.P. _____	US \$ _____
Annual Operating Expenses	E.P. _____	US \$ _____
Annual Revenue and Fees	E.P. _____	US \$ _____

**NUMBER of EMPLOYEES**

Professionals \_\_\_\_\_ Other \_\_\_\_\_

**Contributing Organizations**

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**Client Organizations**

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Starting Date \_\_\_\_\_ Completion Date \_\_\_\_\_ Duration \_\_\_ months

Next Review Date \_\_\_\_\_





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Input by \_\_\_\_\_

date \_\_\_\_\_

**EXPERT**

Name \_\_\_\_\_

First name(s) \_\_\_\_\_

Title \_\_\_\_\_

Date of birth \_\_\_\_\_

Post \_\_\_\_\_

Expert's employer name  
\_\_\_\_\_

Office address  
\_\_\_\_\_  
\_\_\_\_\_

Tel. \_\_\_\_\_ Telex \_\_\_\_\_

Fax \_\_\_\_\_ E-mail \_\_\_\_\_

Expert's home address (permanent)  
\_\_\_\_\_  
\_\_\_\_\_

Tel. \_\_\_\_\_

E-Mail \_\_\_\_\_

Languages \_\_\_\_\_

References  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Experience record (publications, projects, etc.)

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Primary specialisation

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ISIC \_\_\_\_\_

Secondary specialisation

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ISIC \_\_\_\_\_

Remarks

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Research by: \_\_\_\_\_

Date of input: \_\_\_\_\_

## INQUIRY

Name of inquirer: \_\_\_\_\_

his title: \_\_\_\_\_

Name of his institution: \_\_\_\_\_

Type of institution: \_\_\_\_\_

Address: \_\_\_\_\_

Query \_\_\_\_\_

Type of query (e.g. bibliographic, products, raw materials, etc.): \_\_\_\_\_

ISIC: \_\_\_\_\_

Key-words( e.g.<chemistry>, <methanol> )

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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References to: \_\_\_\_\_

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Response (important words put between brackets < > ):

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Remarks

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Input by \_\_\_\_\_ date \_\_\_\_\_

## SOFTWARE

Name of the software package/program

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Made by (software manufacturer)

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Address of the software manufacturer

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Tel. \_\_\_\_\_ Telex \_\_\_\_\_

Fax \_\_\_\_\_ E-Mail \_\_\_\_\_

Public domain software

 Y N

Commercial software

 Y N

Type of computer(s) to run the software

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Description of the software (key-words put between < >)

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Localisation \_\_\_\_\_

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Name of contact person

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Address, tel., etc.

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Price \_\_\_\_\_

Remarks \_\_\_\_\_

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---

Input by \_\_\_\_\_ date \_\_\_\_\_

LIBRARY

Name of borrower \_\_\_\_\_

First name(s) \_\_\_\_\_

Identifier \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

Tel. \_\_\_\_\_

E-Mail \_\_\_\_\_

Borrower's employer name  
\_\_\_\_\_  
\_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Tel. \_\_\_\_\_ Telex \_\_\_\_\_

Fax \_\_\_\_\_

E-Mail \_\_\_\_\_



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Title of the lent item

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Author \_\_\_\_\_

Signle/ID number \_\_\_\_\_

Date of lend \_\_\_\_\_

Date of render \_\_\_\_\_

Remarks \_\_\_\_\_

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# RAMSES DATABASE ON R + D ACTIVITIES IN EGYPT

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Input by \_\_\_\_\_ date \_\_\_\_\_

## REPORT

Type of document (e.g. report, feasibility study, market analysis, etc.)

---

Author(s) \_\_\_\_\_

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Collective - author (e.g.: UNESCO, UNIDO )

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Title \_\_\_\_\_

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Language

Codes: AR - Arabic, EN - English  
FR - French GR - German

Document issued by \_\_\_\_\_

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Place of edition \_\_\_\_\_

Date of publication \_\_\_\_\_

pages \_\_\_\_\_

price \_\_\_\_\_

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Abstract

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Key-words (descriptors) - put them between brackets ( )

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Localisation of document

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sigle (access number)

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INFORMATION about the PROJECT

Name of project

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Project number (or code)

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Project description (put important words between ( ) )

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ISIC \_\_\_\_\_

Project localisation \_\_\_\_\_

Project implementator \_\_\_\_\_

Project beneficiaries \_\_\_\_\_

Project financed by \_\_\_\_\_

Project budget \_\_\_\_\_

Duration \_\_\_\_\_

Remarks \_\_\_\_\_