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DEPOT DATABASE: Reference Manual & User's Guide*

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ABSTRACT

This document provides an overview to the DEPOT database, including descriptions of the various subfiles and their elements and uses.

Acknowledgements:

George Crane, who did much of the SPIRES/Prism programming; Les Cottrell, for his guidance and suggestions; and John Kieffer for being our first "guinea pig."

DOCUMENTATION CONVENTIONS

SPIRES subfile names are given in slanted text:

DEPOT DEVICE

Database element names are given in italics:

Nickname

Data entry text (commands, data values) are given in the typewriter font:

`MULTIBUS`

Parts, Chapters, Sections, and Subsections marked by an asterisk ("*") may be skipped by the casual user.

Part IV: Creating & Updating Records and **Part V: Searching & Reporting in Prism** are written as tutorials, giving step-by-step instructions, illustrated by screen pictures, for each of these functions.

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Parts, Chapters, Section and Subsections marked by an ⊗may be skipped by the casual user.

I. Introduction to the DEPOT Database

1. Overview of DEPOT

1.1 Motivation

DEPOT has been developed to provide tracking for the Stanford Linear Collider (SLC) control system equipment. For each piece of equipment entered into the database, complete location, service, maintenance, modification, certification, and radiation exposure histories can be maintained. To facilitate data entry accuracy, efficiency, and consistency, barcoding technology has been used extensively. DEPOT has been an important tool in improving the reliability of the microsystems controlling SLC.

This document describes the components of the DEPOT database, the elements in the database records, and the use of the supporting programs for entering data, searching the database, and producing reports from the information.

Part IV: Creating & Updating Records and Part V: Searching & Reporting in Prism are written as tutorials, giving step-by-step instructions, illustrated by screen pictures, for each of these functions.

1.2 System Overview

DEPOT, as currently implemented, runs under VM, using the Prism interface [1] to the SPIRES database management system[2]. Prism provides a consistent, full-screen interface to SPIRES with context sensitive on-line help and prompting, and easy to use report designing facilities.

Some DEPOT functions may also be exercised by CMS EXECs, or remotely from the MCC/SLC VAX (Reference [5]).

DEPOT provides the capability to maintain records on any individual piece of equipment significant enough to warrant a separate SLAC ID. This includes a

description of the equipment, purchase information, maintenance requirements, maintenance history, location history, etc. Related subfiles (described in the next section) provide standardized information for specific device *types,* vendors, and various data entry fields. The data in DEPOT, once entered, can be searched, extracted, summarized, and reported, using Prism, SPIRES, and other CMS tools.

1.3 Human Interface Overview

The human interface to the DEPOT system is primarily through the Prism interface to SPIRES. This provides full screen displays, menus for choices, and on-line help.

Special EXECs have been written to enter Prism and setup DEPOT, and to provide for simple "batch-mode" input of certain data, *e.g.* change of *State & Location.*

In addition, bar code technology has been utilized to simplify data input, as well as improve the accuracy of the data. All individual devices recorded in *DEPOT INVENTORY* are given a unique bar-coded ID label. The SLAC Property Control ID is used if it is available. Portable bar code readers are available for collection of data in the field, and bar codes are being used on various data entry forms used for entering Location and Maintenance History information. All of this helps offset the data entry requirements needed to make DEPOT function successfully.

2. DEPOT Database Subfiles

The DEPOT system includes several related SPIRES subfiles, including a number which are of interest only to the Data Base Administrator (account maintenance, source code files, etc). The five subfiles which are of interest to the general user are *DEPOT DEVICE, DEPOT INVENTORY, DEPOT MAKER, DEPOT TABLE,* and *DEPOT ALTLOC.* They are described briefly here, and in detail in Part III.

2.1 The *DEPOT DEVICE* Subfile

DEPOT DEVICE is a critical part of the system. Entries in this subfile describe the general characteristics of the individual devices which are recorded in *DEPOT INVENTORY.* A *DEVICE* record contains fields for the *Nickname, Make, Model, Revision level, Drawing Package number, Class* (CAMAC, MULTIBUS, Power Supply, etc) and other information which is common to all the individual devices of the type. This serves to insure uniformity in the DEPOT database, which makes meaningful searches and summary reporting possible.

2.2 The *DEPOT INVENTORY* Subfile

This is the subfile that will be of interest to the great majority of DEPOT users. They may never need to be aware that any other subfiles even exist.

DEPOT INVENTORY is the central subfile, containing detailed records for each ID'd piece of equipment. *DEPOT INVENTORY* is linked to *DEPOT DEVICE,* so that common information, such as *Nickname, Make, Model, Revision,* is displayed with the Inventory record. Information maintained in the Inventory record includes the complete Location History and Maintenance History.

DEPOT INVENTORY may also contain "logical" system records. For instance: the micro controlling sector 14 of the Linac is referred to as *LI14,* regardless of the specific piece of hardware performing that job at any given time.

A record in *DEPOT INVENTORY* has been created, with an ID of "LI14". (For reasons having to do with the special uses of these records, the physical location of LI14 is stored in the *Serial Number*). It can be used to record system information specific to *LI14*, but independent of the particular hardware in use at that location (*e.g.* crate profiles, maintenance schedules, etc).

2.3 ⊗ The DEPOT MAKER Subfile

DEPOT MAKER contains a list of vendor names, including common aliases. A unique code is associated with each vendor; this code is what is actually carried in the *DEVICE* and *INVENTORY* records, although linkage to *DEPOT MAKER* allows the name to be displayed to the user. This feature again allows for uniform data entry, so that there is no confusion when a user enters *IBM*, *I.B.M.*, or *International Business Machines*, etc. All are treated as equivalent and standardized within DEPOT as "IBM".

2.4 ⊗ The DEPOT TABLE Subfile

DEPOT TABLE contains lists of valid terms for fields whose content is required to be one of a finite list of entries; *e.g.* Procedure Type must be CALIB, CERT, CONFIG, INSPECT, MOD, or PM. This, again, insures uniform data entry. Maintaining these terms in a database subfile simplifies the process of adding new terms, as they are required.

DEPOT TABLE also contains the list of VM IDs valid for updating records, by Maintenance Group, in *DEPOT INVENTORY* (see Sections 12.1).

2.5 ⊗ The DEPOT ALTLOC Subfile

DEPOT ALTLOC contains a list of aliases for specific beam-line locations. The physical ("logical") location is concatenated with the slot from the *Location.Id* (*e.g.* LI18/CR04-S19) and used as the search value to find the alias (*e.g.* LI18,901 for the example).

At the current time, aliases are defined only for the Beam Position Monitor CAMAC modules.

3. Report Facilities

Reports are one of the main functions of any database. The data is of no particular value unless it can be presented in useful form.

Reports may list selected elements of individual records, summarize data from a number of individual records, display relationships between various records, or analyze data in the records and present information not readily apparent in the individual records (*e.g.* statistical data for repair times).

DEPOT Reports can be broken down into two broad categories, based on the method of production: reports available in the Prism environment – either pre-defined or designed by the user, and custom reports produced by programs running outside of Prism.

3.1 PRISM Reports

Reports available in the Prism environment include Prism DISPLAYS available to all users, public REPORTS of general interest available to all users, and user-defined REPORTS generated using Prism's Report feature.

A detailed description of the available displays and reports, as well as a guide to using them, is contained in Part V: *Searching & Reporting in Prism.*

3.1.1 Prism Displays

The Prism DISPLAY formats may be used for displaying records on the terminal, printing them, or saving them to a file. Chapter 16: *The Prism DISPLAY Command* discusses DISPLAYs in detail.

3.1.2 Prism Public Reports

A small number of public reports are shown on the Prism `Report` menu. They are available to all users. They are described in Chapter 18: *The Prism REPORT Command.*

3.1.3 Prism User-Defined Reports

User-defined reports can be defined using the Prism searching and sorting facilities and the `"SETUP REPORT"` feature, while in DEPOT. Normally, these reports are available only to the user who creates them; however, useful formats can be shared with other users by contacting the Data Base Administrator (DBA).

User-defined reports are discussed in detail in Chapter 18: *The Prism REPORT Command.*

3.2 CMS Reports

Report generation is not limited to the Prism environment. Special purpose reports can be created using the general facilities of SPIRES, outside the Prism interface. The SPIRES output can be further refined and formatted using any of the available programming tools, including REXX and XEDIT. These require the services of a programmer knowledgeable in SPIRES. Part VI: *Non-Prism Reports & Utilities* references the special purpose reports that have been defined.

II. ⊗ Preparing to Use DEPOT

4. ⊗ Definition of Purpose

DEPOT is a very flexible database with diverse functionality. It is adaptable to many different types of application needs. For example, it can track hardware, logical subsystem performance, correlate logical and physical locations, and store system and hardware configuration information. There are three necessary analysis steps which must be performed to optimize the use of DEPOT's diverse functionality. These are:

- Application Analysis
- Equipment Analysis
- Data Collection and Entry Analysis

5. ⊗ Application Analysis

This analysis question asks: *"What do you want* DEPOT *to do for you?"*. The answer is **NEVER** as simple as: *"Track the location and maintenance history of* XYZ *device"*. What is to be tracked must be explicitly defined.

For example: a device's location can be tracked by physical location, logical subsystem location, or by the assembly it's mounted in (*e.g.* memory boards or custom chips on a CAMAC or FASTBUS module). When components in DEPOT are located by the assembly that they are mounted in and the assembly is relocated, the components' locations are automatically updated. This avoids the need to update the location of every component in an assembly when the assembly is moved.

Is there a need to have system configuration information readily available? If so, this must be planned for.

For maintenance history: what specific procedures need to be tracked (*e.g.* modifications, certifications, inspections, etc)? These must be planned for. To facilitate maintenance analysis, it is important to define specific terms to describe specific situations in the database, so that the maintenance information can be readily analyzed.

The application analysis must be documented so that the users know what can be expected from DEPOT. After 6 months of data entry, where configuration analysis was not planned for, a user cannot expect DEPOT to suddenly do that for him. The application analysis should be documented and carefully approved by the users, so that they are not disappointed when it comes time for them to make use of their data in DEPOT.

The application analysis should also include detailed descriptions of the reports needed. Only by defining the reports that are going to be needed, can one assure that collection and entry of the relevant data will be performed.

6. ⊗ Equipment Analysis

Once the application analysis is done, and before the equipment of a subsystem is entered into DEPOT, the equipment must be thoroughly analyzed. The analysis includes:

1. Making a list of all the makers, models, and revision levels.
2. Deciding how to classify the equipment. Appropriate classification will facilitate database searching and analysis. There are two fields for classification: Class and Generic. Class is the more general classification. Some of the current Classes are: FASTBUS, CAMAC, VME, MULTIBUS, oscilloscopes, power supplies, and PC. Generic is more specific. Some of the CAMAC Generics are: SAM, DAC, ADC, PPOM, IDOM, IDIM, CRATE, and BLOWER. Some PC generics might be CPU, monitor, serial port, and memory.

3. A unique nickname must be defined for each (*Make, Model, Revision*) triplet. This may often be just the model number and the maker. It should be chosen with consideration given to how it will be used.

   In particular: truncated searching provides an additional method of grouping devices. The command `"FIND NICKNAME SAM*"` will find all records in the database whose nickname begins with "SAM". For example, there are versions of the *Sampling Analog Monitor, revision E* (commonly known as a "SAM") from four sources: the SLAC model 123-603, DSP model 2032, Kinetic Systems model 3527, and Transiac model 2032. By assigning these four devices the nicknames "SAM-E,SLAC", "SAM-E,DSP", "SAM-E,KINETIC", and "SAM-E,TRANSIAC", all of the records for these devices (which are functionally identical) can be accessed by the command `"FIND NICKNAME SAM-E*"`. By having separate *Nicknames* for each *Maker*, maintenance comparisons can be made between various manufacturers. The same principle may also be used for the *Class* and *Generic* fields.

4. A list must be made of which maintenance groups will be maintaining which Inventory entries in DEPOT.

5. Locations for the equipment must be defined and uniquely identified. See Reference [4] for an example.

6. If there are any maintenance procedures to be tracked, they should be detailed and uniquely identified.

7. If a detailed maintenance history is to be maintained for some equipment, its common problems, symptoms, and repairs should be detailed. The problems, symptoms, and repairs must be entered consistently (with consistent phraseology and syntax) to be analyzable. DEPOT provides space in the *DEVICE* records to maintain lists of symptoms and repairs by Maintenance Type, which are presented as choices at the

time the Maintenance History for individual items is entered into the database.

8. The kind of data that needs to be entered for equipment needs to be detailed. Examples here include, radiation exposure, calibration data, location data, maintenance data, etc.

9. A list of where data related to the equipment originates must be generated. This information is used to define the data collection and data entry mechanisms.

10. A description of how the data in the database is going to be used, and what reports are going to be needed, should be made. It is important to assure that all the data needed for these reports is going to be entered in DEPOT.

The importance of the equipment analysis phase can not be emphasized enough. The usefulness of DEPOT from now on is almost completely dependent on the organization, consistency, and quality of the data entered into the system.

7. ⊗ Data Collection & Entry Analysis

In order to effect consistent data collection and data entry, the data collection requirements must be defined. This entails:

1. Identifying all sources of data - where is the data generated?
   (a) On the maintenance bench
   (b) In the field
   (c) In the lab
   (d) By people changing modules
   (e) By users
2. Plan how the data is to be collected.

(a) By form

(b) By portable data collector

(c) By on-line data entry at the time of data generation. (What will happen when the computer is down?)

3. Where is the data going to be collected? Will it be sent to a central point to be entered by a data entry clerk?

Accurate, reliable, consistent data entry does not automatically happen! It must be planned for.

III. ⊗ DEPOT Subfiles

The DEPOT system includes several related SPIRES subfiles, including a number which are of interest only to the Data Base Administrator (account maintenance, source code files, etc). The four subfiles which are of interest to the general user are *DEPOT DEVICE, DEPOT INVENTORY, DEPOT MAKER* and *DEPOT TABLE.* Of these, *DEPOT INVENTORY* is of primary interest to all users of DEPOT; *DEPOT MAKER* and *DEPOT DEVICE* are of interest mainly to the primary data-entry users; *DEPOT TABLE* is of interest mainly to the Data Base Administrator, but impacts on anyone establishing guidelines for validating the data entered into various fields of *DEPOT INVENTORY* or *DEPOT DEVICE.*

This Part contains details about the individual DEPOT subfiles which may not be of concern to the casual user.

8. ⊗ *DEPOT DEVICE* Subfile Elements

DEPOT DEVICE is a critical part of the system. Entries in this subfile describe the general characteristics of the devices which are recorded in *DEPOT INVENTORY: Nickname, Make, Model, Revision level, Drawing Package number, Class* (`CAMAC`, `MULTIBUS`, `Power Supply`, etc) and other information which is common to all the individual devices of the type. This serves to insure uniformity in the DEPOT database, which makes meaningful searches and summary reporting possible.

The elements of *DEPOT DEVICE* are listed and described in detail below.

INDEX entries in the following list are coded as follows: "X" = element is indexed; "*" = element is indexed, and uses truncated searching (`"FIND MODEL A*"` finds all models beginning with "A"); "W" = each significant word of the element is separately indexed. "V" = a virtual element (pointer to an element in another subfile).

- *Device.Code* is the record key, made up of the concatenated *"Maker.Id,Model,Revision"*. The user never sees this field directly, but it is used to link the *DEVICE* and *INVENTORY* records.

- *Nickname* (X,*) – is a 28-character field labelled `"Nick"` on the input screens. *Nickname* is used as a convenient shorthand for *Make/Model/Rev.* It is, preferably, the common name for the device used at SLAC (*e.g.* "BPM" for Beam Position Monitor). If no common nickname is used at SLAC, *Nickname* can be entered as `Make,Model,Rev` - `Rev` may be omitted if it is not relevant.

  However, be careful in selecting the nickname: truncated searching provides a method of grouping devices. The command `"FIND NICKNAME SAM*"` will find all records in the database whose nickname begins with "SAM". For example, there are versions of the *Sampling Analog Monitor* (commonly known as a "SAM") from four sources: the SLAC model 123-603, DSP model 2032, Kinetic Systems model 3527, and Transiac model 2032. By assigning these four devices the nicknames "SAM-E,SLAC", "SAM-E,DSP", "SAM-E,KINETIC", and "SAM-E,TRANSIAC", all of the records for these devices (which are functionally identical) can be accessed by the command `"FIND NICKNAME SAM-E*"`. If, instead, they had been named "SLAC,123-603", "DSP,2032", "KINETIC,3527", and "TRANSIAC,2032" there would be obvious problems in selecting all these records.

  The same principle may also be used for the *Class* and *Generic* fields.

- *Maker* (V,*) is a 30-character field for the Maker name. The **display** of the name is controlled by entries in the *MAKER* file; so that `"International Business Machines"` may be typed in, but `"IBM"` will always be displayed.

  When creating a new *DEVICE* record, the Maker name should be en-

tered in the briefest recognizable form – aliases are recognized, but it is possible to enter the name in a way that will not be recognized, even though the maker exists in *DEPOT MAKER*, *e.g.* by spelling out "Incorporated". This can lead to unnecessary and undesirable duplications in *DEPOT MAKER*.

If a *DEVICE* record is created with a *Maker* which is not already entered in *DEPOT MAKER*, an entry screen will be displayed for creating the *MAKER* record. A complete description of the *DEPOT MAKER* record is contained in Section 2.3.

Maker is actually a "virtual" element – a link to the *DEPOT MAKER* subfile. The *DEPOT MAKER* subfile contains a *Maker.Id* (see below), and a variety of commonly used forms of the Maker name; *e.g.* "IBM", "I B M", "I.B.M.", etc. for "International Business Machines, Inc". All forms of the *Maker* are combined in a single index in which each significant word is separately indexed. This simplifies the task of finding the records for a certain maker, without knowing how the name was entered. It may occassionally cause some confusion when an *Alias* is defined for a *Maker*, but the *Alias* is not part of the *Maker* name. For example, "FIND MAKER LABS" will list "E-H Electronics" in the result because it has an *Alias* of "E.H. Research Labs".

- *Maker.Id* is the 6-character internal key form of the *Maker* name. This is the value that is actually carried in the *DEVICE* and *INVENTORY* records, linking them to the *MAKER* file.

  Persons doing "batch" entry of records to the subfiles need to be aware of this field.

- *Model* (X,*) is a 25-character field containing the manufacturer's model number.

- *Revision* is a 6-character field – labelled "Rev-Var" on the input

screens. It is the functional revision or variation level of the device – distinguishing it from other similar devices with different functionality.

- *Generic* (X,*) is a 22-character field. It is provided to allow grouping of similar devices, *e.g.* multiple revision levels of a Sampling Analog Monitor may have Nicknames of `"SAM-C"`, `"SAM-D"`, and `"SAM-E"`, and all have a *Generic* name of `"SAM"` to simplify searching for all SAM modules, regardless of revision level.

- *Class* (X,*) is a 12-character field. It is also provided to allow grouping of similar devices, but at a higher level: Classes may include `"CAMAC"`, `"MULTIBUS"`, `"FASTBUS"`, `"Power Supply"`, and subsystem names (*e.g.* `"BPM"`), etc.

- *Fullname* (X,*) is a 46-character field, also called *Full.Name* – labelled `"Full Name"` on the input screen. It contains a fully descriptive name of the device.

- *Desc* (X,*) is a 180-character field, also called *Description*. It is a free-form text field for describing the nature and function of the device.

- *Slot* (X) is a 5-character field – labelled `"Active Position..."` on the input screen. It is the "active" slot of a CAMAC, MULTIBUS, FASTBUS, etc. module, **counted from the right side.**

- *Width* (X) is a 5-character field. It contains the width of the device, counted in *W.Units* (below).

- *W.Units* is a 5-character field. It contains the units used to measure the width of the device: `SLOT`, `RACK`, `IN`, or `CM`.

- *Height* (X) is a 5-character field. It contains the height of the device, counted in *H.Units* (below).

- *H.Units* is a 5-character field. It contains the units used to measure the height of the device: `IN`, `CM`, or `RU` (rack units).

- *+12V* is a 5-character field. It lists the number of amps at +12 volts.
- *-12V* is a 5-character field. It lists the number of amps at -12 volts.
- *+6V* is a 5-character field. It lists the number of amps at +6 volts.
- *-6V* is a 5-character field. It lists the number of amps at -6 volts.
- *+24V* is a 5-character field. It lists the number of amps at +24 volts.
- *-24V* is a 5-character field. It lists the number of amps at -24 volts.
- *+15V* is a 5-character field. It lists the number of amps at +15 volts.
- *-15V* is a 5-character field. It lists the number of amps at -15 volts.
- *+5V* is a 5-character field. It lists the number of amps at +5 volts.
- *-5.2V* is a 5-character field. It lists the number of amps at -5.2 volts.
- *-2V* is a 5-character field. It lists the number of amps at -2 volts.
- *+28V* is a 5-character field. It lists the number of amps at +28 volts.
- *110V* is a 5-character field. It lists the number of amps at 110 volts.
- *208V* is a 5-character field. It lists the number of amps at 208 volts.
- *Aux1* is a 14-character field. It is provided for additional free-form data.
- *Aux2* is a 14-character field. It is provided for additional free-form data
- *Aux3* is a 14-character field. It is provided for additional free-form data.
- *Aux4* is a 14-character field. It is provided for additional free-form data.
- *Aux5* is a 14-character field. It is provided for additional free-form data.

- *Aux6* is a 14-character field. It is provided for additional free-form data.

- *Maint.Str* is a repeating structure that may contain lists of common symptoms and repairs, separated by Maintenance Type (*i.e.* the list of symptoms and repairs may be different for a MOD or a CONFIG than for a REPAIR).

  — *Maint.Type* is a 13-character field containing a code for sorting the various type of maintenance procedures. Valid entries are `CALIB` (Calibration procedure), `CERT` (Certification procedure), `CONFIG` (Configuration procedure), `FIELD CALIB` (Field Calibration procedure), `FIELD CERT` (Field Certification procedure), `FIELD CONFIG` (Field Configuration procedure), `FIELD INSPECT` (Field Inspection procedure), `FIELD MOD` (Field Modification procedure), `FIELD REPAIR` (Field Repair procedure), `INSPECT` (Inspection procedure), `MOD` (Modification procedure), `PM` (Preventive Maintenance procedure), and `REPAIR` (Repair procedure). Additional Repair Types may be defined by contacting the DBA.

  — *Symptom.Str* is a repeating structure within *Maint.Str* which contains the list of symptoms for the Maintenance Type.

    ◇ *Symptom* is an 18-character field containing the text of the symptom.

  — *Fix.Str* is a repeating structure within *Maint.Str* which contains the list of repairs for the Maintenance Type.

    ◇ *Fix* is an 18-character field containing the text of the repair.

- *Procedure.Str* is a repeating structure that may contain information regarding Maintenance and other procedures which are defined for a type of device, including:

— *Proc.Type* is a 9-character field – labelled "Type" on the input screen. It names the procedure type (currently: "CALIB", "CERT", "CONFIG", "INSPECT", "MOD", and "PM")

— *Proc* is a 390-character field (6 × 65-character lines) – labelled "Desc" on the input screen. It is a brief description of the procedure.

— *Proc.Name* is a 65-character field – labelled "Name" on the input screen. It contains the unique identifier of the procedure.

— *Days* is a 4-character field – labelled "Interval/Days" on the input screen. It is the interval at which the procedure is to be performed ("0" indicates no relevant interval)

— *Reference* is a 130-character field – labelled "Ref" on the input screen. It contains a pointer to any other procedure documentation (for instance, an on-line file or Technical Publication)

— *Pdate.Add*, *Ptime.Add*, and *Puser.Add* are automatically generated to record the date, time and user's VM ID when the structure is added.

— *Pdate.Upd*, *Ptime.Upd*, and *Puser.Upd* are automatically generated to record the date, time and user's VM ID when the structure is last updated.

- *Draw.Str* is a repeating structure that may contain the SLAC Drawing Package Number for a device and information on the components (sub-assemblies, ICs, etc) of the device. It may also be used for the crate profile information for system records (see the discussion in Section 9.1.3).

  — *Drawing* is a 28-character field – labelled "Drawing Pkg Number" on the input screen. It contains the SLAC drawing package number, if applicable.

— *CD.Str* holds the component information, which repeats for each *Draw.Str*. The data in the structure includes:

◇ *CD* is a 7-character field. It contains the component designation (*e.g.* U72).

◇ *Part.Type* is a 28-character field – labelled "Part Type" on the input screen. It contains the part type of the component.

◇ *Sa.Type* is a 17-character field – labelled "SA Type" on the input screen. It contains the sub-assembly type of the component.

◇ *Current* is a 3-character Yes/No field to indicate whether or not the component is the latest, current version (*vs.* an older version still in service, but not current).

◇ *Ok* is a 3-character Yes/No field to indicate whether or not the component is defective or obsolete.

◇ *FW.Index* is a 54-character field – labelled "Fwindex" on the input screen. This is a comment field containing a pointer to the firmware file for a programmable component, or other information.

◇ *Cdate.Add, Ctime.Add,* and *Cuser.Add* are automatically generated to record the date, time and user's VM ID when the structure is added.

◇ *Cdate.Upd, Ctime.Upd,* and *Cuser.Upd* are automatically generated to record the date, time and user's VM ID when the structure is last updated.

- *Add.Userid* and *Add.Date* are automatically generated to record the date and user's VM ID when the record is added.

- *All* (V,*) is an artificial term used for **Searching** only. When used, it retrieves **all** records in *DEPOT DEVICE*. Its syntax is: `"FIND ALL RECORDS"`.

9. ⊗ *DEPOT INVENTORY* Subfile Elements

This is the subfile that contains the data for the individual units. It is the only subfile that will be of interest to the great majority of "casual" DEPOT users.

DEPOT INVENTORY is the central subfile, containing detailed records for each ID'd piece of equipment. *DEPOT INVENTORY* is linked to *DEPOT DEVICE*, so that common information, such as *Make, Model, Revision*, is displayed with the Inventory record. Information maintained in the Inventory record includes the complete Location History and Maintenance History (see the subsections following the list of elements).

DEPOT INVENTORY may also contain "logical" system records. For instance: the micro controlling sector 14 of the Linac is referred to as *LI14*, regardless of the specific piece of hardware performing that job at any given time. A record in *DEPOT INVENTORY* has been created, with an ID of `"LI14"`, to record information about the micro subsystem *LI14* which is independent of any specific micro hardware.

INDEX entries in the following list have been coded as follows: "X" = element is indexed; "*" = element is indexed, and uses truncated searching (`"FIND MODEL A*"` finds all models beginning with "A"); "W" = each significant word of the element is separately indexed; "V" = a virtual element (pointer to an element in another subfile).

- *ID* (*) is a 19-character field. It contains the SLAC ID of the item or a logical subsystem name. This is usually a bar-coded ID assigned by Property Control, LEP, or some other department. This number must be **absolutely unique** throughout SLAC.

For new equipment, new IDs and bar-coded ID tags may be created to suit individual applications; *e.g.* a unique prefix followed by the item's *Serial Number* may be appropriate. A bar code printer is available in the Controls Department. Never use pure numeric sequential *ID's* starting below `01000000`.

- *DID* (V,*) is a synonym for *ID*. It is defined to allow its use in compound search statements (`"FIND DID nnnnnnnn AND STATE MAINT"`). The *ID* element, itself, cannot be used this way because of restrictions unique to the record key element.

- *Nickname* (V,*) is a 28-character field – labelled `"Nick"` on the input screen. It is used as a convenient shorthand for *Make/Model/Rev*, copied from *DEPOT DEVICE*.

- *Maker* (V,*) is the 30-character Maker name (*Offname*) copied from *DEPOT MAKER* via the *DEPOT DEVICE* subfile.

  Maker is actually a "virtual" element – a link to the *DEPOT MAKER* subfile. The *DEPOT MAKER* subfile contains a *Maker.Id* (see below), and a variety of commonly used forms of the Maker name; *e.g.* `"IBM"`, `"I B M"`, `"I.B.M."`, `etc.` for `"International Business Machines, Inc"`. All forms of the *Maker* are combined in a single index in which each significant word is separately indexed. This simplifies the task of find th cords for a certain maker, without knowing how the name was entered. it may occassionally cause some confusion when an *Alias* is defined for a *Maker*, but the *Alias* is not part of the *Maker* name. For example, `"FIND MAKER LABS"` will list `"E-H Electronics"` in the result because it has an *Alias* of `"E.H. Research Labs"`.

- *Model* (V,*) is the 25-character manufacturer's model number, copied from the *DEPOT DEVICE* record.

- *Rev-var* (V,*) is the 6-character functional revision level of the device (distinguishing it from other similar devices with different functionality),

copied from the *DEPOT DEVICE* record.

- *Generic* (V,*) is a 22-character field copied from the *DEPOT DEVICE* record.
- *Class* (V,*) is a 12-character field copied from the *DEPOT DEVICE* record.
- *Serial* (*) is a 19-character field. It contains the manufacturer-assigned serial number. This number must be unique for any given *Make* & *Model*.
- *Po.No* (*) is a 21-character field - labelled "Procurement Id" on the input screen. It contains the Purchase Order under which the device was purchased.
- *Account* (*) is a 14-character field. It contains the account number used for the purchase.
- *Cost* is a 15-character field. It contains the purchase price of the item.
- *Date-Rec* (*) is a 8-character field - labelled "Date Entered Service" on the input screen. It is the date the item was received at SLAC.
- *Own-Gr* (*) is a 16-character field - labelled "Owning Group" on the input screen. This item is a carry-over from the LEP database: the initials of the group which "owns" the item, although it can be used for other purposes.
- *Mg* (*) is a 12-character field - labelled "Maintenance Group" on the input screen. It contains the initials of the group responsible for maintenance of the item in the database. **This field also serves as a key to the individuals allowed to update this record in the database.**
- *Comment* (W,*) is a 132-character field used for any descriptive comments needed for the record. Among other things, it currently contains the old LEP ID for items which have been assigned new, bar-coded IDs.

- *Verify* is a 3-character field - labelled "Data Verified" on the input screen. It is a Yes or No string indicating whether the basic descriptive information has been checked and verified when the record was added to the database. This field must be set to Yes before updates can be made to the record.

- *Verify.Id* is an 8-character field - labelled "Userid" on the input screen. It is the userid of the person verifying the data.

- *Lep.Location* is a carry-over from the LEP database.

- *Location.Str* is a repeating structure containing the State & Location history of the device. Note that several of the elements have virtual elements defined which point to the latest entry in the structure. This allows for searching and/or reporting those elements only for the last (presumably "current") Location History entry.

  — *State* (*) is a 17-character field containing the state of the device at this location. Valid states include MAINT (item is undergoing maintenance), SPARE (item is available for use), IN USE (item is in use/service), OUT (item has been replaced at previous location), UNKNOWN (self-explanatory), and SALVAGE (item has been salvaged). If the item has a *Loc.Id*, the state of the parent is automatically copied into this entry.

    * *Cstate* (V,*) is the latest occurrence of *State*.

  — *Location* (*) is a 17-character field containing the physical location of the item. If the item has a *Loc.Id*, the location of the parent is automatically copied into this entry.

    Location is entered either as "BBBB-nnnn-...", where "BBBB" is the building number or beam-line sector number; or as the "logical" name of some part of the control system: *LI14* is the name of the micro controlling Sector 14, which is probably more useful

to interested parties than "KA14-0132" - which is literally correct, but not nearly as useful to most people. See Reference [4] for a complete description of the Location nomenclature for use in DEPOT.

* *Curloc* (V,*) is the latest occurrence of *Location*.

— *Loc.Id* (*) is a 30-character field - labelled "Location Id" on the input screen. It contains the DEPOT *ID* of a device in which this device is located; *e.g.* the ID of a MULTIBUS cage is given for the MULTIBUS cards plugged into the cage, the ID of a WSM module is given for the memory sub-assemblies plugged into the module, etc. If there is no parent device for this item, *Loc.Id* is left blank.

Loc.Id can have two parts, separated by "-": the *ID* of the parent, and a component designation; *e.g.* for a board located in slot 15 of a CAMAC crate whose ID is 15098765: "15098765-S15".

◇ If *Loc.Id* is given, *Location* and *State* are copied from the parent record, ignoring any attempt to set them explicitly for this item.

◇ Whenever a parent record's *Location* or *State* are changed, the change is propagated to all the records which reference it, and the records which reference them, etc.

◇ The use of the *Loc.Id* field provides a number of advantages. These are described in Subsection 9.1.1: *Location History*.

* *Clocid* (V,*) is the latest occurrence of *Loc.Id*.

* *Fclocid* (V,*) is the latest occurrence of *Loc.Id*, including the component designation.

— *L.Date* (*) is an 8-character field - labelled "In" on the input screen - containing the date the change of *State* and/or *Location*

occurred.

* *Cdate* (V,*) is the latest occurrence of *L.Date.*

— *L.Time* is a 4-character field – labelled "at" on the input screen – containing the time the change of *State* and/or *Location* occurred.

— *L.Name* is an 8-character field – labelled "By" on the input screen – for the name of the person responsible for the change of *State/Location.*

— *L.User* is an 8-character field automatically generated by SPIRES, containing the VM ID of the user making the Location History entry.

- *Locat.Times* is an internally generated count of the number of entries in the location history.
- *Use-Gr* (*) is a 5-character field – labelled "Using Group" on the input screen. It is a carry-over from the *LEP* database. If used, it indicates the group currently using the item.
- *Exp* (*) is a 5-character field. It is a carry-over from the LEP database. If used, it indicates the experiment the item is being used for.
- *User.Name* (*) is a 13-character field – labelled "Name" on the input screen. It is a carry-over from the *LEP* database. If used, indicates the individual in possession of the item.
- *User.Phone* is a 12-character field – labelled "Phone" on the input screen. It is a carry-over from the *LEP* database. If used, indicates the user's phone number.
- *Proc.Str* is a repeating structure containing information regarding maintenance and other procedures applicable to the device. If any procedures are defined in the *DEVICE* record, they will automatically be included in the *INVENTORY* records. The procedures may be modified,

or additional procedures may be defined for individual *INVENTORY* records.

- *Proc.Type* is a 9-character field - labelled "Type" on the input screen. It contains the name of the type of procedure. Valid procedure types are CALIB (Calibration procedure), CERT (Certification procedure), CONFIG (Configuration procedure), INSPECT (Inspection procedure), MOD (Modification procedure), and PM (Preventive Maintenance procedure). Additional Procedure types may be defined by contacting the DBA.
- *Proc.Name* is a 65-character field - labelled "Name" on the input screen. It contains the name of the procedure.
- *Proc.Desc* is a 390-character field - labelled "Desc" on the input screen. It contains is a description of the procedure.
- *Proc.Days* is a 4-character field - labelled "Interval/days" on the input screen. It contains the interval at which the procedure is to be performed. If there is no interval, *Proc.Days* should be 0.
- *Proc.Ref* is a 130-character field - labelled "Ref" on the input screen. It contains a pointer to documentation describing the procedure; either an on-line file or SLAC pub, etc.
- *P.Date, P.Time* and *P.User* are automatically generated by SPIRES to record the date, time and user's VM ID when the structure was created or last updated.

- *Drawing* (*) is a 28-character field. It contains the SLAC drawing package number for the device, if any.
- *CD.Str* is a multiply occurring structure for information about the components of the device.

The current use of these fields, which is to hold the functional crate profile information in the "logical" system records, is described in Subsection

9.1.3: *Component Description - Crate Profiles.*

If any component structures are defined in the *DEVICE* record, they will automatically be included in the *INVENTORY* records. The data may be modified for individual *INVENTORY* records.

- *CD* is a 7-character field. It contains the component designation, *e.g.* `U48` is the component designation of the processor sub-assembly on the Intel iSBC 86/30 MULTIBUS CPU board.
- *Sa.Id* is a 17-character field - labelled `"Subassembly Id"` on the input screen. It contains the bar-coded ID of a sub-assembly. The relationship implied by this information is more conveniently available through the use of the *Loc.Id* field in the location history. Updating this field is not automatically supported by the application - it must be done by the user.
- *Part.Type* is a 28-character field - labelled `"Part Type"` on the input screen. It contains the type of the component.

  FW.Index is a 51-character field - labelled `"Fwindex"` on the input screen. It contains a pointer to an on-line file containing the firmware, if any, for the component.
- *C.Date*, *C.Time* and *C.User* are automatically generated by SPIRES to record the date, time and user's VM ID when the structure was created or last updated.

- *Tld.Flag* (*) is a carry-over from the LEP database: a `Yes/No` field indicating whether the device has a dosimeter attached. This field is not currently used by DEPOT. It is recommended that a Maintenance History record be used to maintain TLD information.
- *Repair.Status* is not currently used by DEPOT.
- *Maint.Str* is a multiply occurring structure containing the maintenance history of the item. Note that several of the elements have virtual el-

ements defined which point to the latest entry in the structure. This allows for searching and/or reporting those elements only for the last Maintenance History entry.

— *M.Type* (*) is a 13-character field - labelled "Maintenance Type" on the input screen. It contains a code for sorting the various type of maintenance procedures. Valid entries are CALIB (Calibration procedure), CERT (Certification procedure), CONFIG (Configuration procedure), FIELD CALIB (Field Calibration procedure), FIELD CERT (Field Certification procedure), FIELD CONFIG (Field Configuration procedure), FIELD INSPECT (Field Inspection procedure), FIELD MOD (Field Modification procedure), FIELD REPAIR (Field Repair procedure), INSPECT (Inspection procedure), MOD (Modification procedure), PM (Preventive Maintenance procedure), and REPAIR (Repair procedure). Additional Repair Types may be defined by contacting the DBA.

-- *Cmtype* (V,*) is the latest occurrence of *M.Type*.

— *Problem* is a 58-character field - labelled "Reported Problem" on the input screen. It contains the original reason the device entered a maintenance cycle.

— *Cater* is a 58-character field. It contains the relevant CATER report number(s), if any exist.

— *Symptom* (W,*) is a 201-character field. It contains a description of the **actual** condition of the device, as determined by the repair person. This field will be useful for summary reporting and analysis **only if** the entries are standardized; *e.g.* if "no trouble found" is entered as No Trouble Found, N.T.F. and NTF, summarizing this category becomes a hopeless task. Standardization has been facilitated by including a list of common *Symptoms* in the *DEVICE* record, which is displayed whenever a Maintenance entry is

made. Standard symptoms can be included by checking the appropriate box on the entry screen.

  - *Cmsymptom* (W,*) is the *Symptom* element from the latest Maintenance record.

- *Fix* is a 201-character field – labelled "Desc. of repair" on the input screen. It contains a description of the maintenance work done on the item. This field will be useful for summary reporting and analysis **only if** the entries are standardized! Standardization has been facilitated by including a list of common *Repairs* in the *DEVICE* record, which is displayed whenever a Maintenance entry is made. Standard repairs can be included by checking the appropriate box on the entry screen.

  - *Cmfix* is the latest occurrence of *Repair*.

- *Parts* is a 22-character field, divided into a 16-character Part and a 5-character CD, separated by a "@" – labelled "Part/CD" on the input screen. This field contains a list of the parts and component designations ("76LS100@U78") used in a repair or modification.

- *Tech* (*) is a 8-character field – labelled "Technician" on the input screen. It contains the name of the technician who performed the maintenance.

- *Fte.Hours* is a 6-character field – labelled "Total Manhours" on the input screen. It contains the total man-hours spent on the maintenance.

- *Charge.Acct* is a 10-character field – labelled "Charge Acct" on the input screen. It contains the account number the maintenance is charged to.

- *M.Date.Start* is a 8-character field – labelled "Date Started" on

the input screen. It contains the date the maintenance history began. This field is used to sort the history into proper sequence.

— *Cmdate* is the latest occurrence of *M.Date.Start*.

— *M.Time.Start* is a 8-character field – labelled "Time Started" on the input screen. It contains the time the maintenance history began. This field is used to sort the history into proper sequence.

— *M.User.Start* is automatically generated by SPIRES to record the VM ID of the person creating the structure.

— *M.Date.Done* is a 8-character field – labelled "Date Finished" on the input screen. It contains the date the maintenance history ended.

— *M.Time.Done* is a 8-character field – labelled "Time Finished" on the input screen. It contains the time the maintenance history ended.

— *M.User.Done* is automatically generated by SPIRES to record the VM ID of the person last updating the structure.

- *Maint.Times* is an automatically generated count of the number of entries in the maintenance history.
- *Rad* is a multiply occurring structure which records radiation exposure information. These fields are not currently used by DEPOT.

  — *Rad.Date* is the date of the reading.

  — *Neutrons* is the neutron exposure reading.

  — *Gamma* is the gamma ray exposure reading.
- *I.Date.Add* is automatically generated by SPIRES to record the date the record was created.
- *I.Time.Add* is automatically generated by SPIRES to record the time the record was created.

- *I.User.Add* is automatically generated by SPIRES to record the VM ID of the person creating the record.
- *I.Date.Upd* is automatically generated by SPIRES to record the date the record was last updated.
- *I.Time.Upd* is automatically generated by SPIRES to record the time the record was last updated.
- *I.User.Upd* is automatically generated by SPIRES to record the VM ID of the person last updating the record.
- *Devicecode* is the concatenated *Maker.Id,Model,Rev* which links the *INVENTORY* record to the *DEVICE* record.
- *Fullname* (V) is the full name of the device, from the *DEVICE* record.
- *Description* (V) is the description of the device, from the *DEVICE* record.

9.1 ⊗ *DEPOT INVENTORY* FUNCTIONALITY

This section describes how various elements in the subfile are actually used in application. In particular, the Location History and Component Description fields have been put to uses which are not immediately obvious from an element-by-element inspection of the subfile.

9.1.1 ⊗ LOCATION HISTORY

This structure provides a continuous history of the state and location of all items. This information can be very useful for maintenance purposes; it is obviously important for being able to locate the item; it is critical for items which are used in the SLC control system. See Reference [4] for a description of the formal naming conventions for physical locations at SLAC.

Location IDs:

The *Loc.Id* can have two parts, separated by "-": the ID of the parent, and a component designation; *e.g.* for a board located in slot 15 of a CAMAC crate whose ID is 15098765: `"15098765-S15"`.

The use of the *ID* of another device to specify location provides a number of powerful tools:

1. Data validation – the *Loc.ID* must be the ID of an existing record in the database.
2. Data consistency – *State* and *Location* are consistent for all co-located items, since this information is copied from the "parent" to the device which points to it.
3. Minimal data entry – when a "parent's" *State* or *Location* changes, the new data is automatically copied to all the records which point to it. (*e.g.* If a MULTIBUS crate is moved to a new location, all of the boards in the crate and all of the subassemblies on the boards are automatically updated.)
4. Structured reporting – formats are available which allow the simple display of all of the items in a parent - child - grandchild relationship. (*e.g.* In the MULTIBUS example, one need only FIND the crate or one of the boards to display the complete relationship between the crate, the boards, and all of the subassemblies.)
5. Crate profiles – the *Loc.ID* is a critical component of the Crate Profiles, described in Subsection 9.1.3, below.

"Logical" system records:

It is possible for entries in this database to refer to logical entities, rather than real, ID'd devices. For instance: one of the CAMAC crates controlling the Klystrons and BPMs in sector 14 of the Linac is referred to as *LI14/CR02*, regardless of the specific piece of hardware performing that job at any given

time. A record in *DEPOT INVENTORY* has been created, with an ID of "LI14/CR02", to record information which is independent of any specific crate (*e.g.* ID = 16001001) which may have been located at *LI14/CR02* on a given date. In particular, the physical location of LI14/CR02 is recorded in this record. The location histories of the CAMAC crates which have served at this location, show a physical location of "LI14/CR02", since that nomenclature is understood and significant most of the time. In addition, the "LI14/CR02" record describes the crate, lists the CAMAC modules (in the Component structure – see Subsection 9.1.3) which it is supposed to contain, and lists any maintenance Procedures which need to be performed on the Control System crate.

9.1.2 ⊗ Maintenance History

This structure should give a continuous history of the maintenance performed on each item, including Repairs, Inspections, Calibrations, Certifications, Preventive Maintenance, etc.

Consistent terminology is required in these entries if performance or failure analysis is to be done. Consistent data entry is aided by use of the Maintenance information structure in the *DEVICE* record: lists of common symptoms and repairs can be entered, by Maintenance Type, for each device. The lists are displayed at data entry time, and the terms can be included by checking the appropriate boxes.

9.1.3 ⊗ Component Description – Crate Profiles

The *CD.Str* has been utilized to hold the functional crate profile descriptions for the Control System CAMAC crates. A "logical" system record has been created for each Control System crate (whose *ID* is the name of the crate: "LI06/CR04", "DR12/CR03", "FB29/CR01", etc).

1. The *CDs* in the *CD.Str* are the CAMAC slots: "S01" through "S25". This data is stored in the *CD* field of the structure.

2. The *Nickname* of the device which **should** be in the slot. For multi-slot modules, the correct slot corresponds to the *Active Slot* element in the *DEPOT DEVICE* record. The *Nickname* may be truncated if multiple devices are allowable; *e.g.* `"BPM*"` for `"BPM605"`, `"BPM605-A"`, `"BPM972"`, or `"BPM972-A"`. This data is stored in the *Part.Type* field of the structure.

   The programming which supports this application links to the *DEPOT DEVICE* subfile to extract the *Width* information, and automatically determines if multiple slots are occupied by the device. This is indicated in the *Nickname* field of the other slots.

3. *Reserved* indicates if the slot is "reserved" for future use, rather than currently occupied. This data is stored in the *Sa.Id* field of the structure.

4. *System* holds any desired system description information. This data is stored in the *FW.Index* field of the structure.

The Crate Profile, **along with the actual inventory** of devices in the crate, can be displayed from VM, from the MCC/SLC VAX, or from within DEPOT. (The display programs rely on the *Loc.Id* field to relate the profile information to the actual inventory information).

The structure could readily be used for Multibus and Fastbus crates, detector assemblies, etc.

10. ⊗ DEPOT MAKER Subfile

The *DEPOT MAKER* subfile contains a list of the recognized SLAC vendor names, including a variety of aliases. Each vendor has a unique number assigned; it is this number which is carried in the other DEPOT subfile records. This standardizes the form of vendor names and avoids the problems associated with data entered as, *e.g.* `HP`, `H.P.`, `H P`, `HEWLETT PACKARD`, `HEWLETT-PACKARD`, etc, while allowing the user to enter the name in any recognized form.

This file, and *DEPOT DEVICE* and *DEPOT INVENTORY*, which are linked to it, are indexed such that all elements are combined as *Maker:* `"FIND MAKER 013174"`, `"FIND MAKER HP"`, or `"FIND MAKER HEWLETT PACKARD"` all access the same index and find the same record. The *Offname* element from *DEPOT MAKER* is used to display the Maker name `"H.P."` in all cases. This also applies to creating *DEVICE* and *INVENTORY* records – whichever form of the name is entered, it will be resolved to the standard form.

Note that because of this flexibility, Maker names will not always be recognized as unique: `"DIGITAL"` points to `"Digital Equipment Corp"`, `"Digital Pathways, Inc"`, and `"Digital Research"`. When creating records, this leads to a multiple choice screen to uniquely define the Maker; however, when finding records, the result will include records for all three makers.

In addition, while *Alias* is never seen by the user (except when entered on the New Maker screen), it may cause some confusion when an *Alias* is defined for a *Maker*, but the *Alias* is not part of the *Maker* name. For example, `"FIND MAKER LABS"` will list `"E-H Electronics"` in the result because it has an *Alias* of `"E.H. Research Labs"`.

The *DEPOT MAKER* subfile is maintained by the Data Base Administrator, but anyone creating *DEPOT DEVICE* records may make a temporary entry to allow the device record entry to proceed unhindered.

- *ID* (*) is a 6-character field – labelled `"Maker ID"` on the input screen.

It contains an automatically-assigned code for the Maker. This code is referenced by the *DEVICE* and *INVENTORY* records.

- *Name* (*) [MAKER, MAKERNAME] is a 54-character field – labelled "Full Name" on the input screen – containing the full, official corporate name of the Maker.
- *Alt* (*) [ALT.NAME] is a 54-character field – labelled "Alias" on the input screen – containing alternate forms of the Maker name, *e.g.* "IBM", "I B M", "I.B.M.", "I. B. M.", etc. The different aliases are separated by a backslash ("\").
- *Offname* (*) [INTERNAL.NAME] is a 28-character field – labelled "DEPOT Name" on the input screen – containing the form of the Maker name that is displayed on reports and the Prism screens for the *DEVICE* and *INVENTORY* subfiles.
- *Comment* is a 54-character field – labelled "Comment" on the input screen – which may contains any relevant comments about the Maker, including the kinds of products available.
- *Add.Date* and *Add.Userid* are automatically generated by SPIRES to record the date and user's VM ID when the record is created.
- *Upd.Date* and *Upd.Userid* are automatically generated by SPIRES to record the date and user's VM ID when the record is last updated.

11. ⊗ DEPOT TABLE Subfile

The *DEPOT TABLE* subfile is maintained by the Data Base Administrator. It contains the valid entries for *Mg* (maintenance group), *Proc. Type* (procedure type), *M. Type* (maintenance type), *State* and the user ids of those individuals allowed by enter or update *DEPOT INVENTORY* records for a particular Maintenance Group *(Mg)*.

Additional valid entries for these fields may be defined by contacting the DBA.

IV. Creating & Updating Records

12. Introduction to Data Entry

These chapters discuss the various aspects of entering and updating records in the various subfiles of the DEPOT database, using the full-screen interactive facilities of the Prism interface on VM. An EXEC has been provided to simplify calling SPIRES/Prism and selecting the DEPOT subfiles. You must have access to the DEPOT 191 disk to use this EXEC: after logging on, type "GIME DEPOT". You may place this command in your PROFILE EXEC if you use DEPOT regularly. The syntax of the DEPOT command is described in Chapters 13 & 14.

12.1 Restrictions on Data Entry

Creating and updating records in the DEPOT databases is restricted on three levels:

1. Write access to the various subfiles *(INVENTORY, DEVICE, TABLE, MAKER)* is granted only to selected users (VM IDs). The different subfiles have separate access lists, so that write access to the *INVENTORY* subfile does not automatically imply write access to the *DEVICE* or *TABLE* subfile.

   The persons selected for write access to the database subfiles should be **thoroughly familiar** with the operation of the database programs and the data to be entered.

2. Write access to records in the *INVENTORY* subfile is controlled by the *Maintenance Group* element. VM IDs are given write access only to records with a specific Maintenance Group. This prevents different groups from updating other groups' records by mistake.

3. The acceptable *values* for various elements in the *INVENTORY* subfile are limited: *Nickname* must exist in the *DEVICE* subfile; *Maintenance Group, State, Maintenance Type,* and *Procedure Type* must exist in the *TABLE* subfile; *Location ID* must be a valid entry in the *INVENTORY* subfile; *Dates, Cost,* and *Procurement ID* must be in the correct form, etc.

12.2 PRISM ENTRY FORMS

Interactive data entry through the Prism interface is controlled by *Entry Forms:* combinations of full-screen displays and SPIRES programs that control which elements of the database are displayed and determine how input data is processed. An Entry Form must be set in order to modify a database record. Access to Entry Forms is restricted by VM ID in some subfiles.

Each subfile has its own associated Entry Forms, since each subfile contains a unique list of elements whose processing requirements differ from each other. While in Prism, the Entry Form can be set by typing the "ENTRY [name]" command. Typing "ENTRY" while a subfile is selected in Prism will display a list of the Entry Forms available for your use with that subfile. Note that the *DEPOT INVENTORY* Entry Forms are available to all users for display of records, but that an attempt to update a record will be rejected unless the user has been granted write access to that record.

Entry forms can be very useful in streamlining data entry, since they can be designed to restrict a user's view of the record to only those elements relevant to a particular update; *e.g.* when updating *Location History*, the maintenance history, procedures, etc. can be hidden from view. The Entry Forms available for each subfile are described in the following chapters.

12.3 PRISM ON-LINE HELP

Data entered (or not entered) in a record may occasionally be rejected by DEPOT. In such cases, an error code will be displayed next to the field where the error was detected. An explanation of the error code can be displayed by typing "HELP code" on the command line (where code is the two-character error code shown on the screen).

In addition, Help files are available for most of the elements in the record. Type "HELP element" (where element is the name of the element; *e.g. Nickname, Class, Drawing*) to display an explanation of the element, typical values, and uses.

Help is also available for the Prism commands. Type "HELP command" to get help for any command; *e.g.* "HELP SORT" for an explanation of the SORT command.

13. *DEPOT DEVICE* Records

There are only two Entry Forms for the *DEVICE* subfile: BASIC for creating and updating records, and CLONE for creating new records using an existing record as a template.

The DEPOT EXEC can be used to enter Prism with the *DEVICE* subfile selected, but the BASIC Entry Form is always set. From CMS type "DEPOT DEVICE [nickname]" – nickname is optional, if it is given Prism will automatically select the record. If no nickname is entered, the following screen will be displayed:

```
DEPOT Device                  Entry Form: BASIC                  10/01/90 10:05

                              *------------------*
                              |   BASIC FORM     |
                              *------------------*

   This BASIC form is used for initial record creation.  Use it to add
   new device records to the database.

   To begin data entry issue the CREATE command or press F6 function key.
   You may use F7 or F8 to advance or backup screens.  When the record
   entry is complete, press F5 or enter SEND on the command line.

-Entry form BASIC is now set
Type: CREATE to add a new record.     ENTRY to change entry forms.
      FIND to search this file.
YOUR RESPONSE:
f1=Help f2=Find f3=Select f4=Report        f6=Create       f8=Entry
Also:  Setup, Command, Suggest, Lock, Pause, End
```

13.1 Creating New DEVICE Records

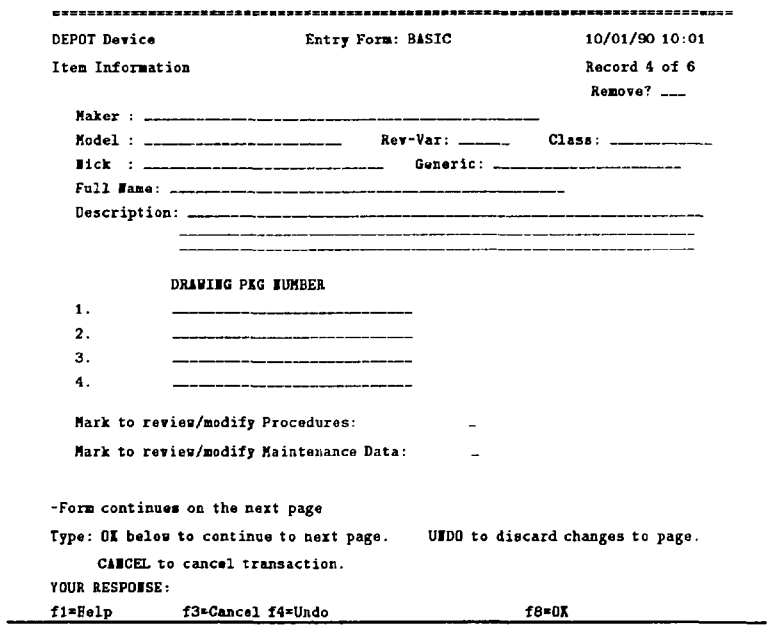
To create new *DEVICE* records: from CMS type "DEPOT DEVICE"; if you are already in Prism with the *DEVICE* subfile selected, type "ENTRY BASIC". To begin creating a new record hit PF6 or type "CREATE" on the command line.

The information in the *DEVICE* record is organized on five separate screens:

The **Item Information** screen contains the basic identifying information for the device, as well as menu selections for accessing the *Drawing*, *Procedure* and *Maintenance Info* screens.

Nickname must be entered for each device. It must be unique.

Maker, Model, and *Rev-Var* must be entered for each device. The combination must be unique.



If *Maker* does not point to a unique entry in the *MAKER* subfile, a menu will be displayed for selecting the correct *Maker*. For instance, if *Maker* is entered as `Digital`:

```
================================================================================
DEPOT Device                    Entry Form: BASIC                10/01/90 10:04
Select Maker

     You did not enter a unique maker name.  Please enter the number
     of the correct maker from this list, or enter the PREVIOUS
     command to correct your entry on the previous screen.

                         Maker number      : __

     1  Digital Equipment Corp              2 Digital Pathways
     3  Digital Research

Type: SEND to complete this transaction.    CANCEL to cancel transaction.
     PREVIOUS to return to prior page.      UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help       f3=Cancel f4=Undo f5=Send       f7=Previous
```

If *Maker* is not found in the *MAKER* subfile, a separate screen will be displayed for entering the necessary information to create a new entry in the *MAKER* subfile. For instance, if *Maker* is entered as `XYZ Corp`:

```
================================================================================
DEPOT Device                  Entry Form: BASIC              10/01/90 10:04
Maker not found

     The maker name you selected does not exist in the file. If you
     entered the name incorrectly, use the PREVIOUS command to
     correct your entry on the previous screen.

     Alternatively, you may enter the maker as a new entry in the
     maker file.  Add any alias names, which are used for searching
     here and use the SEND command to continue.

       Full Name : XYZ Corp_____________________________________

       Alias(s)  : _____________________________________________

       DEPOT Name: ____________________________

       Enter your name and phone number where you can be reached:
       ________________________________________________

Type: SEND to complete this transaction.    CANCEL to cancel transaction.
     PREVIOUS to return to prior page.      UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous
```

Full Name is the complete corporate name. *Alias* is for any common abbreviations (*e.g.* "IBM" or "I.B.M." for International Business Machines). Multiple *Aliases* can be separated by backslashes ("\"). *DEPOT Name* is for the form of the name normally displayed on DEPOT screens and reports; this should be relatively brief, to conserve screen space, but long enough to be recognizable and unique.

When creating a new *DEVICE* record, the Maker name should be entered in the briefest recognizable form - aliases are recognized, but it is possible to enter the name in a way that will not be recognized, even though the maker exists in *DEPOT MAKER*, *e.g.* by spelling out "Incorporated". This can lead to unnecessary and undesirable duplications in *DEPOT MAKER*.

The **Device Characteristics** screen contains information about the size and electrical characteristics of the device.

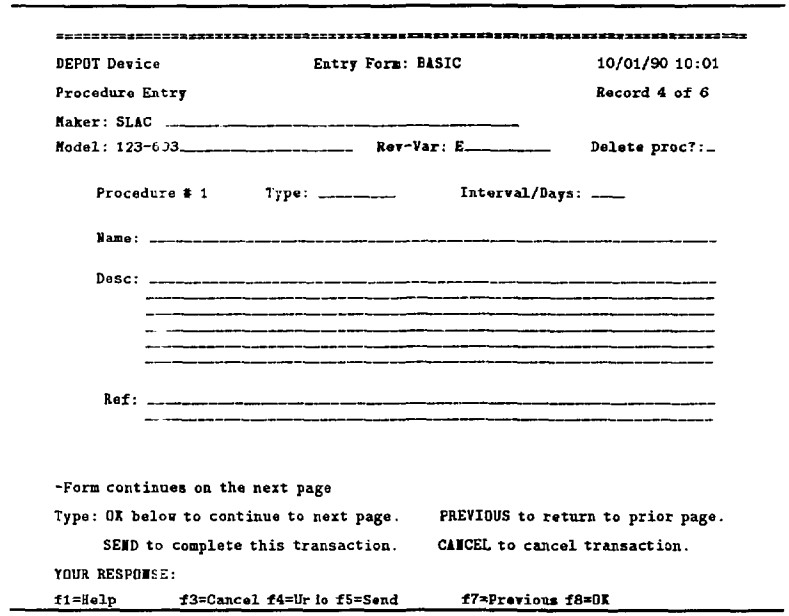
For CAMAC modules used in SLC, the *Active Slot* and *Width* and *W.Units* ("n SLOT") must be entered. It is highly recommended that this information be entered for **everything.**

```
DEPOT Device                    Entry Form: BASIC              10/01/90 10:01
Device Characteristics                                         Record 4 of 6

   Maker : SLAC_____________________________________________
   Model : 123-603_____________  Rev-Var: E____  Class: CAMAC_____________
   Nick  : SAM-E,SLAC_____________  Generic: SAM_____________________

   Active Position (as Counted from the RIGHT of a module): 1____
   Width: 1____   W.Units: SLOT_    Height: _____   H.Units: _____

   +12V @: _____ Amps    +24V @: __.04 Amps     +5V @: _____ Amps
   -12V @: _____ Amps    -24V @: __.04 Amps   -5.2V @: _____ Amps
    +6V @: __.90 Amps    +15V @: _____ Amps     -2V @: _____ Amps
    -6V @: _____ Amps    -15V @: _____ Amps   +28V @: _____ Amps

         110V @: _____ Amps                208V @: _____ Amps

   Aux1 _______________   Aux2 _______________   Aux3 _______________
   Aux4 _______________   Aux5 _______________   Aux6 _______________

-Form continues on the next page
Type: OK below to continue to next page.    CANCEL to cancel transaction.
     SEND to complete this transaction.     UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help       f3=Cancel f4=Undo f5=Send              f8=OK
```

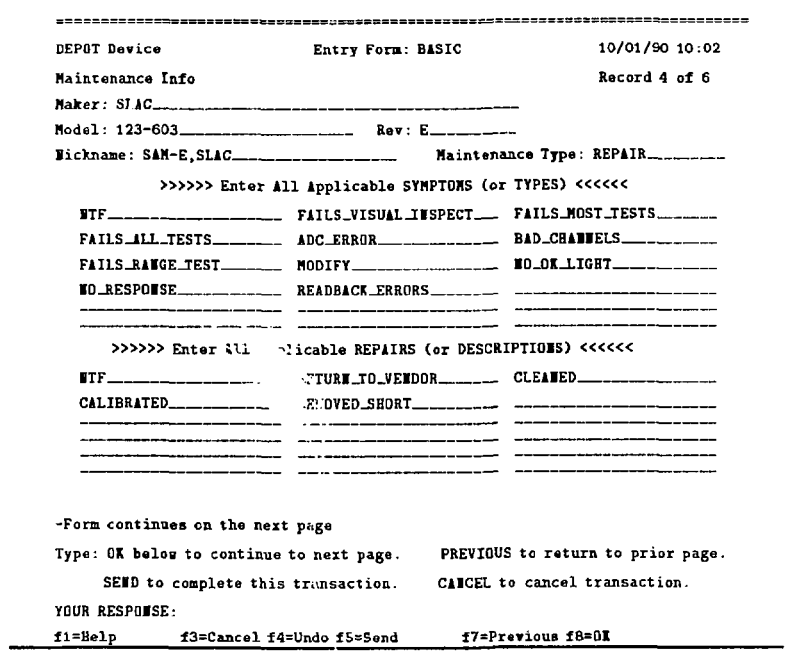
The **Drawing** screen contains component information for the device (or crate profiles – see section 9.1.3). It is not displayed unless a *Drawing Pkg Number* is entered on the first screen.

```
==============================================================================
DEPOT Device                    Entry Form: BASIC                10/01/90 10:01
Drawing                                                           Record 4 of 6
Maker: SLAC________________________________
Model: 123-603_______________   Rev: E______

  Drawing no: DL-123-603-00-R4________       To remove, enter 'R': _

   CD      Part Type          SA Type                  Current   Ok
 1 _____ __________   ______________________     ___      ___
   FwIndex ____________________________________________________
 2 _____ __________   ______________________     ___      ___
   FwIndex ____________________________________________________
 3 _____ __________   ______________________     ___      ___
   FwIndex ____________________________________________________
 4 _____ __________   ______________________     ___      ___
   FwIndex ____________________________________________________
 5 _____ __________   ______________________     ___      ___
   FwIndex ____________________________________________________
   More? _

-Form continues on the next page
Type: OK below to continue to next page.    PREVIOUS to return to prior page.
     SEND to complete this transaction.     CANCEL to cancel transaction.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send       f7=Previous f8=OK
```

The **Procedure Entry** screen contains information about any periodic procedures which are defined for the device. It is not displayed unless *Mark to review ... procs* is checked on the first screen. There may be an infinite number of Procedure Entry screens: new ones will be displayed until "OK", PF8, "SEND", or PF5 is entered for a screen with no data entry.



The **Maintenance Info** screen is for listing common terms for standardized entry of *Symptoms* and *Repairs* in the Maintenance History of the individual Inventory records. It is not displayed unless *Mark to review...Maintenance Data* is checked on the first screen. There may be an infinite number of Maintenance Info screens: new ones will be displayed until "OK", PF8, "SEND", or PF5 is entered for a screen with no data entry.



When all the device information has been entered, hit PF5 or type "SEND" on the command line to file the record in the database.

13.1.1 "Cloning" New DEVICE Records

Some types of devices will require multiple *DEVICE* records which vary only in minor details. To simplify entering these records, the CLONE Entry Form permits creation of a new record using an *existing* record as a template. While in Prism with the *DEVICE* subfile selected, type `"ENTRY CLONE"`.

Use the `FIND` command (see Chapter 15 for a complete explanation) to access the existing record to be used as the template. The existing record will appear with all of its information filled in – you only need to change the information that differs. You **must change** *Nickname* and (*Maker* or *Model* or *Rev-Var*) to make the record unique.

13.2 Updating Existing DEVICE Records

Updating existing device records works exactly the same as creating new ones, **with the following exceptions:**

1. *Maker, Model,* and *Rev-Var* may **not** be changed. You must use `ENTRY CLONE` to create a **new** device record with the changed *Maker/Model/Rev-Var* and then **remove** the old record. The associated *INVENTORY* records must be modified to point to the new *DEVICE* record. Until the *INVENTORY* records are updated, all the virtual fields and their indexes which depend on the *DEVICE* record will be blank.
2. Existing *Drawing* information is accessed by marking the modify box next to the drawing number on the first screen. The Drawing Package information can be deleted by checking the `"To remove..."` box on the drawing screen.

14. *DEPOT INVENTORY* Records

14.1 Creating New INVENTORY Records

Creating new *INVENTORY* records must be done in the Basic Entry Form. From CMS type "DEPOT BASIC"; if you are already in DEPOT, type "SEL DEPOT INV", then type "ENTRY BASIC". You will then see the DEPOT "Welcome" screen:

```
==========================================================================
DEPOT Inventory              Entry Form: BASIC              10/02/90 09:39

                * * Modify BASIC DEPOT Information Form * *

  This form will allow you to add new or modify existing basic item
  information.  If modifying an existing record issue SEARCH or FIND to
  identify the record (or set of records) you wish to modify.  Then issue the
  command GET nnn, where nnn is the search result number of the item you want.

  To add a new basic information record issue the CREATE command.

  When you are complete filling in the form, issue the SEND (PF5) command.
            +-----------------------------------------------+
            | For assistance with this application, contact |
            |     Patrick Clancey, CLANCEY, x2339.          |
            +-----------------------------------------------+

-Entry form BASIC is now set
Type: CREATE to add a new record.    ENTRY to change entry forms.
     FIND to search this file.
YOUR RESPONSE:
f1=Help f2=Find f3=Select f4=Report        f6=Create       f8=Entry
Also:  Setup, Command, Suggest, Lock, Pause, End
```

To begin creating a new record hit PF6 or type "CREATE" on the command line. The *Item Information* screen will be displayed:

```
DEPOT Inventory              Entry Form: BASIC              10/02/90 09:41
Item Information                                          Record 18 of 277
                                                            Remove? ___

  ID    : 16011015_________                    Serial : 165_____________
  Nick  : SAM-E,SLAC_____________ Drawing: _____________________________
  Maker : _____________________ Model : _____________________
  Rev-Var _____ Class: _____________ Generic: _____________________


  Procurement ID (PO,WO,Etc): _____________________ Cost: _____________
  Account: _____________ Date Entered Service: 05/03/84

  Maintenance Group: DMG_____ Owning Group: SLC_____________

  Comment: LEP ID - 16080_____________________________________________
           ____________________________________________________________


-Form continues on the next page
Type: OK below to continue to next page.   CANCEL to cancel transaction.
     SEND to complete this transaction.    UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send              f8=OK
```

ID (the SLAC-assigned ID of the item), *Serial Number* and *Maintenance Group* must be entered for every record. *ID* must be unique across all records. *Serial Number* must be unique for any given *Make* and *Model*. If the device does not have a serial number, or the serial number is not unique, the *ID* may be used as a serial number.

Each record must be linked to a template record in the *DEVICE* subfile; this can be done by entering the *Nickname* or the *Maker, Model,* and *Rev-Var*.

If you are not sure of the complete *Nickname*, it can be truncated with an "*" - DEPOT will present a multiple-choice list if the *Nickname* is not unique in the *DEVICE* subfile; *e.g.* if *Nickname* is entered as "SAM*:

```
================================================================================
DEPOT Inventory              Entry Form: BASIC              10/02/90 11:33
Pick Nickname

     You did not enter a unique nickname.  Please enter the number of
     the correct nickname from this list, or enter the PREVIOUS
     command to correct your entry on the previous screen.

                        Nickname number   : 4

     1  SAM TESTER                        2 SAM-E,DSP
     3  SAM-E,KINETICS                    4 SAM-E,SLAC
     5  SAM-E,TRANSIAC                    6 SAMPLER


-Form continues on the next page
Type: OK below to continue to next page.    CANCEL to cancel transaction.
     PREVIOUS to return to prior page.      UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help       f3=Cancel f4=Undo              f7=Previous f8=OK
```

Once the correct *DEVICE* record has been identified, DEPOT will extract *Nickname, Maker, Model, Rev-Var, Class, Generic* and *Drawing* for the *INVENTORY* record.

Typing "OK" or PF8 will signal DEPOT to process the first screen and display the second. The second screen contains fields to indicate that the information on the item has been verified (preferably by physical inspection) and a menu to access other parts of the record. If the *DEVICE* record has multiple *Drawing Numbers*, they will also be displayed - select the one specific to the item being entered.

```
DEPOT Inventory              Entry Form: BASIC              10/02/90 09:41
Menu                                                     Record 18 of 277

   ID    : 16011015_________                  Serial : 165_____________
   Nick  : SAM-E,SLAC_____________ Drawing: DL-123-603-00-R4_____________
   Maker : SLAC_____________________ Model : 123-603_____________
   Rev-Var E____    Class: CAMAC_____   Generic: SAM_____________

   Mark to create/ Review/ Modify PM, CALIB, CERT Procedures:          -
   Mark to create/ Review/ Modify STATE & LOCATION History:            -
   Mark to create/ Review/ Modify MAINTENANCE History:                 -
   Mark to CREATE/ Review/ Modify DRAWING/COMPONENT Information:       -

   Data Verified: Yes          Userid : JAT_____

-Form continues on the next page
Type: OK below to continue to next page.    PREVIOUS to return to prior page.
     SEND to complete this transaction.     CANCEL to cancel transaction.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous f8=OK
```

If additional information (Procedures, Location History, Maintenance History, Component Information) is to be entered, mark the appropriate menu choices and type "OK" or PF8 to proceed. The data entry for those sections of the record is discussed in the next section (*Updating Existing INVENTORY Records*). To complete the transaction, type "SEND" or PF5 to file the record in the database.

14.2 Updating Existing *INVENTORY* Records

There are several Entry Forms available for the *INVENTORY* subfile. The DEPOT EXEC provides an easy mechanism for setting the Entry Form when starting the DEPOT application.

To access the whole record:

```
DEPOT BASIC id
```

To update only the Location History:

```
DEPOT LOC id
```

To modify an existing Location History entry:

```
DEPOT MODLOC id
```

To add a new Maintenance History:

```
DEPOT ADDMAINT id
```

To modify an existing Maintenance History entry:

```
DEPOT MODMAINT id
```

To modify the Functional Profile:

```
DEPOT PROFILE id
```

To change a record ID:

```
DEPOT CHANGEID id
```

In all cases, `id` is optional; if it is provided, the record will be accessed automatically.

If you are already in Prism with the *INVENTORY* subfile selected, you can set any of the Entry Forms by typing `"ENTRY name"`, where `name` is any one of the six listed above. `"HELP ENTRY FORMS"` will list the available choices.

Accessing a record for data entry is a two-step process in Prism: first the record must be found using the "FIND" command (see Chapter 15 for a complete explanation), and then brought into the Entry Form using the "GET" command. DEPOT has been customized to automatically perform the GET if only one record results from the FIND command **and** an Entry Form is selected. This will be the case if you are updating individual records using "FIND ID nnnnnnnn". Otherwise, if a FIND command returns more than one record, they will be listed in the BRIEF display format: one per line and numbered 1–n (see Chapter 16 for an example); type "GET n" to bring the *nth* record of the search result into the Entry Form for updating.

14.2.1 Updating the Location History

If you are only updating *Location History* information, you may wish to ignore the rest of the record by using the LOCATION Entry Form: enter the DEPOT application by typing "DEPOT LOC [id]", or type "ENTRY LOC" while in Prism. Otherwise choose the "...Modify STATE & LOCATION History" option on the second screen of ENTRY BASIC to access the Location History screen:

```
DEPOT Inventory              Entry Form: BASIC              10/02/90 09:42
Location Info                                            Record 18 of 277

  ID    : 16011015_________                    Serial : 165_____________
  Nick  : SAM-E,SLAC_____________ Drawing: DL-123-603-00-R4_____________
  Maker : SLAC_____________________ Model : 123-603_____________________
  Rev-Var E____    Class: CAMAC_________  Generic: SAM_____________________

 (Use Location ID if item is Located IN a Module, Crate, Rack, etc...):
  State  : _____________   Location ID: ____________________________
  Location: _____________   In: 10/02/90   at 0942   By: _______
3 State  : IN USE          Location ID: 14132-S05
  Location: CA03/CR08      In: 09/04/90   at 1447   Out: 10/02/90
2 State  : SPARE           Location ID: 0-
  Location: B005           In: 03/19/90   at 0729   Out: 09/04/90
1 State  : MAINT           Location ID: 0-
  Location: B034           In: 03/07/90   at 0939   Out: 03/19/90
  More? _
  Using Group: SLC__  Exp: SLC__  Name: SLC_________  Phone: __________

-Form continues on the next page
Type: OK below to continue to next page.    PREVIOUS to return to prior page.
      SEND to complete this transaction.    CANCEL to cancel transaction.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous f8=OK
```

The Location History entry consists of:

1. *State* and *Location* **or** *Location ID*, which will copy *State* and *Location* from the parent record.

   If *Location ID* **is not** used, *State* and *Location* must **both** must be entered, if *Location ID* **is** given, *State* and *Location* are ignored.

   Values of *State* are restricted to entries in the *TABLE* subfile, *e.g.* `MAINT, SPARE, IN USE,` etc.

2. *In* (date) and *at* (time) the item entered this State and Location – this defaults to the current date and time, but may be changed by typing over the data.

3. *By* the individual responsible for placing it in this State and Location.

4. *Use-Gr, Exp, Name,* and *Phone* are provided for compatibility with the old LEP database; their use is optional.

14.2.2 Modifying the Location History

A special Entry Form is provided for correcting errors in the Location History entries: "ENTRY MODLOC". You may enter the *DEPOT application* by typing "DEPOT MODLOC [id]", or type "ENTRY MODLOC" while in Prism. This Entry Form allows you to delete entries or modify the information in an entry:

```
DEPOT Inventory              Entry Form: MODLOC              10/02/90 12:04
Location Info                                                Record 1 of 1

  ID    : 1G011015_____                    Serial : 165_____________
  Nick  : SAM-E,SLAC_____________  Drawing: DL-123-603-00-R4_____
  Maker : SLAC_____________________  Model : 123-603_____________
  Rev-Var E____    Class: CAMAC_____    Generic: SAM_____________

Delete? (Mark this column to delete occurrence)
  _   3 State   : IN USE_____    Location ID: 14132-S05_____
        Location: CA03/CR08_____  In: 09/04/90   at 1447   By: CLANCEY_
  _   2 State   : SPARE_____     Location ID: 0-_____
        Location: B005_____       In: 03/19/90   at 0729   By: JAT____
  _   1 State   : MAINT_____     Location ID: 0-_____
        Location: B034_____       In: 03/07/90   at 0939   By: JAT____
  _     State   : _____          Location ID: _____
        Location: _____           In: _____     at ____   By: _______
  More? _
  Using Group: SLC__  Exp: SLC__  Name: SLC_____  Phone: _____

-Form continues on the next page
Type: OK below to continue to next page.    PREVIOUS to return to prior page.
     SEND to complete this transaction.     CANCEL to cancel transaction.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous f8=OK
```

WARNING: this Entry Form does NOT provide for propagating location information! Because a parent device may no longer be at the same location it occupied at the time the record being modified was located with it, no reasonable assumptions can be made about *State* and *Location* when changing the *Location.Id.*

1. If you change a *Location.Id*, the *State* and *Location* will not be automatically changed.

2. Changing the location of a "parent" device will not automatically update the location of any "daughter" devices. *e.g.* if the location of a CAMAC crate has been entered incorrectly (using the BASIC or LOCATION Entry Forms, which automatically update the *State* and *Location* of all the modules located in the crate), and the information is corrected in the crate record, the individual module records must be corrected separately.

14.2.3 Updating the Maintenance History

If you are only updating *Maintenance History* information, you may wish to ignore the rest of the record by using the ADDMAINT or MODMAINT Entry Forms: enter the DEPOT application by typing "DEPOT ADDMAINT [id]", or "DEPOT MODMAINT [id]"; or type "ENTRY ADDMAINT" or "ENTRY MODMAINT" while in Prism, with the *INVENTORY* subfile selected. Otherwise choose the "... Modify MAINTENANCE History" option on the second screen of ENTRY BASIC.

ADDMAINT and MODMAINT differ only in that MODMAINT first presents a menu screen which allows you to choose to add a new maintenance record or select an existing maintenance record to modify:

```
==========================================================================
DEPOT Inventory                 Entry Form: BASIC              10/02/90 09:42
Maint Select                                                 Record 18 of 277

  ID    : 16011015_________                 Serial : 165_____________
  Nick  : SAM-E,SLAC_______________   Drawing: DL-123-603-00-R4_________
  Maker : SLAC______________________        Model : 123-603_______________
  Rev-Var E___     Class: CAMAC________    Generic: SAM_________________

        Start                                                    End
 Mark   Date   Type       Symptom or Procedure                   Date
 2 _  _______ Mark Here  To add new maintenance record__________ _______
 1 _  03/11/90 REPAIR____ 1) FAILS ALL TESTS. 2) FAILS RANGE TEST ( 03/15/90
   _  _______ _________ ______________________________________ _______
   _  _______ _________ ______________________________________ _______
   _  _______ _________ ______________________________________ _______
   _  _______ _________ ______________________________________ _______
   _  _______ _________ ______________________________________ _______

  More? _

-Form continues on the next page
Type: OK below to continue to next page.     PREVIOUS to return to prior page.
     SEND to complete this transaction.      CANCEL to cancel transaction.
YOUR RESPONSE:
f1=Help       f3=Cancel f4=Undo f5=Send        f7=Previous f8=OK
```

Otherwise the following points apply to both Entry Forms.

The first Maintenance screen identifies the *type* of Maintenance being recorded – this value is restricted by the entries in the *TABLE* subfile (REPAIR, MOD, CERT, CONFIG, INSPECT, etc). It also contains the dates and times and accounting information for the maintenance work. The correct dates are important for performing maintenance analysis on the data. If the *Maintenance Type* is REPAIR, and it is appropriate, the *Reported Problem* and *CATER Numbers* can be entered on this screen:

```
==============================================================================
DEPOT Inventory                  Entry Form: BASIC                10/02/90 09:43
Mod Maint (Type)                                                 Record 18 of 277

   ID    : 16011015__________                   Serial : 165______________
   Nick  : SAM-E,SLAC________________  Drawing: DL-123-603-00-R4___________
   Maker : SLAC__________________________   Model  : 123-603________________
   Rev-Var E____     Class: CAMAC_________    Generic: SAM__________________

   Maintenance Type: REPAIR________

   Date Started: 03/11/90   Date Finished: 03/15/90   Time Finished: 0000____

   Total ManHours: 6.00__    Technician: BMB_____   Charge Acct: NA________

     (IF "MAINTENANCE TYPE" = "REPAIR", enter the following: )
   Reported Problem: BAD READ BACKS______________________________________________
   (CATER Numbers) : NA__________________________________________________________

            Form continues on next page, type OK (PF8)


-Form continues on the next page
Type: OK below to continue to next page.     PREVIOUS to return to prior page.
      SEND to complete this transaction.     CANCEL to cancel transaction.
YOUR F'  'NSE:
f1=h l·       f3=Cancel f4=Undo f5=Send         f7=Previous f8=OK
```

The second Maintenance screen is for entering the symptoms that the technician encounters, or a description of the work to be done. The top of the screen lists any common symptoms that have been defined in the *DEVICE* record for the appropriate Maintenance Type. There is also an area for free-form data entry for any symptom not included in the list:

```
=========================================================================
DEPOT Inventory              Entry Form: BASIC              10/02/90 09:43
Mod Maint (REPAIR)                                          Record 18 of 277

  ID    : 16011015_________                  Serial : 165_____________
  Nick  : SAM-E,SLAC_______________   Drawing: DL-123-603-00-R4___________
  Maker : SLAC__________________________   Model : 123-603________________
  Rev-Var E____      Class: CAMAC__________   Generic: SAM__________________

           >>>>>> Check All Applicable SYMPTOMS (or TYPES) <<<<<<
_ NTF___________________  _ FAILS VISUAL INSPECT___  _ FAILS MOST TESTS_______
2 FAILS ALL TESTS_______  _ ADC ERROR______________  _ BAD CHANNELS___________
3 FAILS RANGE TEST______  _ MODIFY_________________  _ NO OK LIGHT____________
_ NO RESPONSE___________  _ READBACK ERRORS________  _ _______________________
_ ______________________  _ _______________________  _ _______________________
_ ______________________  _ _______________________  _ _______________________

  Symptom: 1) DIRTY  2) FAILS ALL TESTS  3) FAILS RANGE TEST___________________
           ___________________________________________________________________
           ___________________________________________________________________

-Form continues on the next page
Type: OK below to continue to next page.    CANCEL to cancel transaction.
      PREVIOUS to return to prior page.     UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo            f7=Previous f8=OK
```

Items from the menu may be selected by tabbing to the field and typing a number in the space in front of it. The character used to select menu items is concatenated with the text, allowing *Symptoms* to be numbered and related to *Repairs* – see the next screen.

The text of any selected menu item will be concatenated on the end of any free-form text entered after "`Symptom:`". It is possible to overflow the field, *i.e.* concatenated menu text may be longer than 201 characters; in which case, the **whole text string is saved and indexed but will not show on this screen.**

The example above shows the *Symptom* field **after** all the data has been entered. ("`1) Dirty`" was typed in, the other text was selected from the menu.

The third Maintenance screen is for entering the actual repairs or description of the work done on the item. The top of the screen lists any *common repairs* that have been defined in the *DEVICE* record for the appropriate Maintenance Type. There is also an area for free-form data entry for any repair not included in the list:

```
DEPOT Inventory              Entry Form: BASIC              10/02/90 09:43
Mod Maint (REPAIR)                                        Record 18 of 277

   ID    : 16011015_____________          Serial : 165_____________
   Nick  : SAM-E,SLAC_____________  Drawing: DL-123-603-00-R4_____________
   Maker : SLAC_____________________  Model : 123-603_____________
   Rev-Var E____    Class: CAMAC_____    Generic: SAM_____________

          >>>>>> Check All Applicable REPAIRS (or DESCS) <<<<<<
_ NTF_____________  _ RETURN TO VENDOR_____  1 CLEANED_____________
_ CALIBRATED______  _ REMOVED SHORT_____  _ _____________
_ _____________  _ _____________  _ _____________
_ _____________  _ _____________  _ _____________
_ _____________  _ _____________  _ _____________
_ _____________  _ _____________  _ _____________

   Desc. of 2) REPLACE 5E; ALSO, INSTALL CORRECT RESISTOR PACK AT 7R.'3)_____
   Repair: 3) REPLACE C10,C11 & C86 1) CLEANED_____
           _____

-Form continues on the next page
Type: OK below to continue to next page.    PREVIOUS to return to prior page.
     SEND to complete this transaction.     CANCEL to cancel transaction.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous f8=OK
```

Items from the menu may be selected by tabbing to the field and typing a number in the space in front of it. The character used to select menu items is concatenated with the text, allowing *Repairs* to be numbered and related to *Symptoms* – see the previous screen.

The text of any selected menu item will be concatenated on the end of any free-form text entered after "Desc. of Repair:". It is possible to overflow the field, *i.e.* concatenated menu text may be longer than 201 characters; in which case, the whole text string is saved and indexed, but will not show on this screen.

The example above shows the *Repair* field **after** all the data has been entered. "`1) CLEANED`" was selected from the menu; all of the following text was typed in.

For REPAIR, MOD, and CONFIG Maintenance Types, there is a fourth Maintenance screen for listing the parts and component designations of any parts which have been used in the repair:

```
==============================================================================
DEPOT Inventory                Entry Form: BASIC                10/02/90 09:44
Mod Maint (REPAIR)                                          Record 18 of 277

  ID    : 16011015__________                  Serial : 165______________
  Nick  : SAM-E,SLAC_______________  Drawing: DL-123-603-00-R4___________
  Maker : SLAC______________________  Model : 123-603________________
  Rev-Var E____   Class: CAMAC_________  Generic: SAM__________________

     >>>>>> Enter PART NUMBERS Used and COMPONENT DESIGNATIONS) <<<<<<

  Part: Z80___________   CD: 5E__________
  Part: ______________   CD: ____________
  Part: ______________   CD: ____________
  Part: ______________   CD: ____________
  Part: ______________   CD: ____________
  Part: ______________   CD: ____________

-Form continues on the next page
Type: OK below to continue to next page.   PREVIOUS to return to prior page.
     SEND to complete this transaction.    CANCEL to cancel transaction.
YOUR RESPONSE:
f1=Help     f3=Cancel f4=Undo f5=Send      f7=Previous f8=OK
```

14.2.4 ⊗ Migrating Records From the LEP Database

DEPOT is a replacement for and extension of the old LEP database. When records are sought by *ID* in DEPOT and not found, the LEP database is automatically searched for that *ID*. If the record is found in LEP, it is displayed with the option of migrating it to the DEPOT database. At this time you also have the option of changing the *ID* (whenever possible, the old red and white LEP ID tags should be replaced by bar-coded ID tags):

```
DEPOT Inventory              Entry Form: BASIC              10/02/90 09:51
Selected search type: ID

  The record you requested was not found in the DEPOT database.  It has
  been extracted from the old LEP database.  Confirm the following
  information to be correct and press OK (PF8) to add the record
  to DEPOT, or press CANCEL (PF3) to abort.

      ID     : 13351_______
      Make   : SLAC_____________________
      Model  : 135-563__________________
      Serial : 32_______________________

      You may change the LEP Id of 13351 when it is moved from LEP
      --> DEPOT.  If you would like a new or different record id then
      indicate here:

      New ID :  __________

-Enter OK (PF8) to accept and add new record
Type OK to continue search.
Type CANCEL to cancel search.
YOUR RESPONSE:
f1=Help        f3=Cancel                              f8=OK
```

The *Make* and *Model* information in LEP is not always correct or consistent with the DEPOT *DEVICE* records, and *Rev-Var* is missing altogether. Therefor, many migrated records will need to have a *Nickname* supplied after migration. **All records migrated from LEP must be carefully checked for accuracy.**

14.3 ⊗ Changing Record IDs

The Record ID is the one piece of information in the *INVENTORY* records that cannot readily be modified. A special Entry Form has been provided for this purpose. Enter the DEPOT application by typing "`DEPOT CHANGEID [id]`", or type "`ENTRY CHANGEID`" while in Prism with the *INVENTORY* subfile selected.

To change a record's *ID*, `FIND` the record, supply the *Serial Number* (as a double check on accuracy), and enter the new *ID*:

```
==========================================================================
DEPOT Inventory          Entry Form: CHANGEID          10/02/90 13:14
Which Record                                           Record 1 of 1

 To change the ID of an existing DEPOT inventory record:
    CAREFULLY enter the OLD ID, the Serial Number, and the NEW ID,
       and then type OK (PF8) ---

   OLD ID: 16011015_________     Serial Number: 165_____________

                       NEW ID: 61011015_________

          Form continues on next page, type OK (PF8)

-Form continues on the next page
Type: OK below to continue to next page.    UNDO to discard changes to page.
      CANCEL to cancel transaction.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo                        f8=OK
```

As a double check on accuracy, the new *ID* is prompted for a second time:

```
DEPOT Inventory          Entry Form: CHANGEID          10/02/90 13:14
Verify Record ID                                       Record 1 of 1

  OLD ID: 16011015_________          Serial: 165_____________

     Re-enter the NEW Record Id, to verify:

               NEW ID: 61011015_________

        Type "SEND" (PF5) to continue ---

Type: SEND to complete this transaction.    CANCEL to cancel transaction.
    PREVIOUS to return to prior page.       UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous
```

After the record has been re-keyed, it will be displayed in ENTRY BASIC - be sure to type in the old *ID* in the *Comment* field for cross reference.

V. Searching & Reporting in Prism

The *techniques* described in this section for searching the DEPOT databases, displaying the results, and creating reports, apply to all Prism databases. The only differences are in the record *elements* defined for searching and reporting, the *displays* defined for the subfiles, and the *public reports* defined.

This discussion will focus on the *DEPOT INVENTORY* subfile using screen examples for the *INVENTORY* file; however, the **principles** apply to all DEPOT, indeed all Prism, subfiles.

15. The Prism FIND Command

Searching is accomplished by the `"FIND"` command. On-line help is available in Prism by typing `"HELP FIND"`. The syntax of the command is:

`"FIND [index] [operator] [value]"`

`[index]` is the name of an indexed element in the subfile.

Not all elements in the subfiles are indexed (*i.e.* accessible via the FIND command). To see a list of indexed elements, type "FIND" followed by a carriage return; Prism will list all of the indexed elements in the DEPOT database:

```
DEPOT Inventory                Entry Form: BASIC                10/02/90 09:51
Search type selection for FIND

Choose a type of search by typing the name or number for each type of
information you have, e.g. ID or 1

TYPE OF SEARCH   DESCRIPTION                          EXAMPLE
  1.  ID         Record ID                           PC99999
  2.  NICKNAME   Nickname of device type             BPM
  3.  MAKER      Maker name or number                DEC
  4.  MODEL      Model name or number                DLV11-J
  5.  REV-VAR    Device revision number              1
  6.  SERIAL     Serial number                       123456
  7.  GENERIC    Generic description of device type  SAM
  8.  CLASS      Class of device type                CAMAC
  9.  CSTATE     Device state (CURRENT ONLY)         SERVICE
 10.  CURLOC     Location (CURRENT ONLY)             KG22-1143-S10
 11.  CLOCID     ID of parent device (CURRENT ONLY)  PC99999
 12.  FCLOCID    Location-Slot                       LI23/CR01-S19
 13.  AKA.CLOC   Alternate Location (Current)        LI19,401
 14.  STATE      Service state (ALL HISTORY)         SPARES
 15.  LOCATION   Device location (ALL HISTORY)       KF02-RA21
 16.  LOC.ID     ID of parent device (ALL HISTORY)   PC99999
 17.  FULL.LOC   Full Location/with Slot             LI19/CR03-S15
 18.  AKA.LOC    Alternate Location Name             LI19,401
 19.  L.DATE     Date Installed                      1/1/89
 20.  USE-GR     Using group                         SLC
 21.  EXP        Experiment number                   25
 22.  NAME       Users name                          George Crane
 23.  M.TYPE     Repair Type                         UPGRADE
 24.  SYMPTOM    Words from repair symptoms          SHORT
 25.  TECH       Maintenance technician              CLANCEY
 26.  DRAWING    Drawing number                      SD-123-603-01-R2
-The menu of search types continues on next page; press RETURN to continue
Enter one or more search types below.
Type CANCEL to cancel this search.
YOUR RESPONSE:
f1=Help        f3=Cancel
Also:  Lock, Pause, End
```

Note that when the list fills more than one screen you must hit RETURN to see subsequent pages.

Element names can be abbreviated to their shortest unique length.

[operator] is a relational operator. Valid operators include "=", "~=", ">", ">=", "<", "<=", and "STRING". Blank is equivalent to "=" (the default). "STRING" provides a substring search, *e.g.* "FIND CLASS STRING AMA" would find records with CLASS=**CAMAC**, among others.

On-line help in Prism is available by typing "HELP RELATIONAL".

[value] is the value of the element to search for.

Values can be truncated with a "*" for wild card searches: "FIND CLASS CAM*" would find all records for class CAMAC or CAMERA, etc.

Compound, or Boolean, searches can be made: "FIND CLASS CAMAC AND CSTATE IN USE" would find all CAMAC equipment currently "IN USE". "FIND CURLOC LI12* OR CURLOC LI13*" would find all equipment currently located with the Micro and CAMAC crates associated with LI12 and LI13 (Linac sectors 12 and 13). The Boolean searches can be applied in successive commands: "FIND CLASS CAMAC" followed by "AND CSTATE IN USE" will produce the same result as the first example above.

See Section 14.2.4 for an explanation of the result if the record sought is not in *DEPOT*, but is found in the *LEP* database.

16. The Prism DISPLAY Command

Following a successful search, the records are displayed on the terminal using one of two default formats called "Displays". If only one record is found, the "FULL" display is used; this shows all of the significant fields in the record.

If more than one record is found, the "BRIEF" display is used; this shows one line of information per record.

There are several additional "Display" formats available for the *DEPOT INVENTORY* subfile. They may be listed on-line by using the "HELP DISPLAYS IN DEPOT" command:

```
DEPOT Inventory              Entry Form: BASIC                10/02/90 13:46
                          HELP DISPLAYS IN DEPOT

                           *------------------*
                           | DEPOT DISPLAYS   |
                           *------------------*

   Records which have been found by a search (FIND term value) may
   be displayed in any of the following formats, using the syntax:

            DISPLAY # <display.name>

       where # is the record number in the search result and
       <display.name> is one of the following (eg: BRIEF or FULL):

   DISPLAY NAME      DESCRIPTION
   ------------      -----------------------------------------------
   BRIEF             The default for multiple records: ID, NICK, MAKE,
                     MODEL, and REV
   FULL              The default for single records: the entire record
   LOCATION          The Location history
   LOCINFO           Physical location equivalent of "logical" location
   MAINT             The Maintenance history
   PCNUM             The Property Control record, if ID = PC######
   CRATE             Crate Profile (CAMAC Crates only)
   TREE              Parent:Child relationships, if LOC.ID is used

-Press RETURN for your earlier display; type HELP again for more general help
YOUR RESPONSE:
f1=Help                                        f7=Previous f9=Print
```

Any of the formats may be used to display any record using the DISPLAY command. The syntax is "DISPLAY # name"; where "#" is the record number from the search result (it may be omitted if there is only one record), and "name" is one of the display names described below.

FULL – this is the default when only one record is found by a search. It displays the full record:

```
==============================================================================
DEPOT Inventory        Entry Form: BASIC / FULL display          10/02/90 13:48
Find ID 1601101*                                                 Record 7 of 10

ID    : 16011015                              Serial : 165
Nick  : SAM-E,SLAC                            Drawing: DL-123-603-00-R4
Maker : SLAC                                Model : 123-603
Rev Lv: E                Class: CAMAC              Generic: SAM

Procurement ID (PO,WO,etc): NA                        Cost: ?
Account: NA                       Date Entered Service: 05/03/84
Maintenance Group: DMG                Owning Group: SLC
Comment: LEP ID = 16080

Drawing/Component Information:
------------------------------


Procedures:
-----------

Location History:
-----------------

Using Group: SLC      Exp: SLC     Name   : SLC

State   : IN USE            Location ID: 14132-S05
Location: CA03/CR08          In: 09/04/90 1447  By:CLANCEY   Out:   /  /   ____
                            Entered by:CLANCEY
State   : SPARE              Location ID: 0-
Location: B005               In: 03/19/90 0729  By:JAT       Out: 09/04/90 1447
                            Entered by:DMG
State   : MAINT              Location ID: 0-
Location: B034               In: 03/07/90 0939  By:JAT       Out: 03.19/90 0729
                            Entered by:DMG
-This record continues next page; you may press RETURN to continue display
Type: CREATE to add a new record.            DISPLAY to see brief records.
     GET number, to update information.      PRINT to print/mail/save records.
YOUR RESPONSE:
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

BRIEF - this is the default when more than one record are found by a search. It displays the ID, NICKNAME, MAKE, MODEL, and REV:

```
=================================================================================
DEPOT Inventory        Entry Form: BASIC / BRIEF display          10/02/90 13:47
Find ID 1601101*                                           10 records (sorted)
Number    Id       Nickname              Make              Model             Rev
------ --------- --------------------- ---------------- ----------------- ---
     1 16011018  CAR RCVR-241          Various           VARIOUS           241
     2 16011010  CAR RCVR-241          Various           VARIOUS           241
     3 16011019  CAR RCVR-241          Various           VARIOUS           241
     4 16011012  CVII                  SLAC              123-589           A
     5 16011014  DAC-C,TRANSIAC        Transiac          3016              C
     6 16011011  PIOP-B                SLAC              123-624           B
     7 16011015  SAM-E, SLAC           SLAC              123-603           E
     8 16011016  SAM-E, SLAC           SLAC              123-603           E
     9 16011017  SAM-E, SLAC           SLAC              123-603           E
    10 16011013  SCC MOD 2             SLAC              135-559           0

-Result sorted by NICKNAME
Type: CREATE to add a new record.          DIS FULL number, to see a full
     GET number, to update information.  PRINT to print/mail/save records.
YOUR RESPONSE:
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

LOCATION - displays the Location History portion of the record:

```
==========================================================================================
DEPOT Inventory       Entry Form: BASIC / LOCATION display        10/02/90 13:48
Find ID 1601101*                                                 Record 7 of 10
                       Location History for 16011015
------------------------------------------------------------------------------------------
State    : IN USE          Location ID: 14132-S05
Location: CA03/CR08         In: 09/04/90 1447  By:CLANCEY   Out:  / /  ____
                          Entered by:CLANCEY
State    : SPARE           Location ID: 0-
Location: B005              In: 03/19/90 0729  By:JAT       Out: 09/04/90 1447
                          Entered by:DMG
State    : MAINT           Location ID: 0-
Location: B034              In: 03/07/90 0939  By:JAT       Out: 03/19/90 0729
                          Entered by:DMG

-Records continue on the next page; you may press RETURN to continue display
Type: CREATE to add a new record.           DISPLAY to see brief records.
     GET number, to update information.     PRINT to print/mail/save records.
YOUR RESPONSE:
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create    f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

LOCINFO - displays (in BRIEF style) the NICKNAME, ID, SERIAL NUMBER, CURRENT LOCATION, PHYSICAL LOCATION, and LOCATION DATE (date the item's *State* and/or *Location* changed) for the selected records. If the current Location is a *logical* location name (*e.g.* DR02, LI18, FF01/CR03, etc), the corresponding *physical* location is displayed; otherwise, the current Location is interpreted as the physical location:

```
DEPOT Inventory      Entry Form: BASIC / LOCINFO display      10/02/90 13:48
Find ID 1601101*                                          10 records (sorted)
    NickName        Id       Serial  Location        Physical Location Date
    ------------ -------- ---------- --------------- ---------------- --------
  7 SAM-E,SLAC   16011015        165 CA03/CR08       AS22-14-0221     09/04/90
  8 SAM-E,SLAC   16011016         43 EP01/CR01       EP20-7338        05/08/90
  9 SAM-E,SLAC   16011017        146 CA12/CR12       B725-0738        07/16/90
 10 SCC MOD 2    16011013        123 B005            B005             06/08/90

-End of records in result; you may press RETURN to begin DISPLAY again
Type: CREATE to add a new record.          DIS FULL number, to see a full
     GET number, to update information.  PRINT to print/mail/save records.
YOUR RESPONSE:
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

MAINTENANCE – displays the Maintenance History portion of the record:

```
DEPOT Inventory     Entry Form: BASIC / MAINTENANCE display      10/02/90 13:49
Find ID 1601101*                                                 Record 7 of 10
                    Maintenance History for 16011015

ID    : 16011015                              Serial : 165
Nick  : SAM-E,SLAC                            Drawing: DL-123-603-00-R4
Maker : SLAC                                Model : 123-603
Rev Lv: E              Class: CAMAC             Generic: SAM

Maintenance History:
--------------------

Maintenance Type: REPAIR                  Maint. Tech: BMB
Date Started: 03/11/90                    Date Finished: 03/15/90
Total ManHours: 6.00                      Charge Acct: NA
Reported Problem: BAD READ BACKS
(CATER Numbers) : NA                      (Entered by): DMG
Symptom: 1) FAILS ALL TESTS. 2) FAILS RANGE TEST (CH. 5).
Repair : 1) REPLACE 5E; ALSO, INSTALL CORRECT RESISTOR PACK AT 7R. 2) REPLACE
         C10,C11 & C86.
Parts  : Z80@5E @C11 @C10 @C86

-Records continue on the next page; you may press RETURN to continue display
Type: CREATE to add a new record.          DISPLAY to see brief records.
      GET number, to update information.   PRINT to print/mail/save records.
YOUR RESPONSE:
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

PCNUM – if the record *ID* starts with PC, the corresponding record from the Property Control database is displayed:

```
==========================================================================
DEPOT Inventory        Entry Form: BASIC / PCNUM display        10/02/90 13:51
Find ID PC*                                                  Record 24 of 4475

Tagno          : 07990C
Flag           : 1
Tagsuffix      : C
Contract       : 5
Class          : M-E
Catalog        : 72040506
Nomenclature   : GENERATOR PULSE
Manufacturer   : HEWLETT PACK
Model_Type     : 8011A
Serial_No      : 2111A14035
Requisition_No : 21945C
Purchase_No    : 220576M
Transaction    : 65
Usage          : 01
Acqn_Date      : 08/--/82
Service_Life   : 10
Tot_Cost       : $1350.00
Invy_Date      : 08/21/89
Building       : 015
Room           : -112
Group          : AD
Invy_Contact   : KRZASZCZAK, J

-Records continue on the next page; you may press RETURN to continue display
Type: CREATE to add a new record.          DISPLAY to see brief records.
      GET number, to update information.   PRINT to print/mail/save records.
YOUR RESPONSE:
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

TREE - if the current location (*Clocid*) is a **Location ID** the associated parent and sub-assembly records, and their relationship, are displayed:

```
==========================================================================
DEPOT Inventory       Entry Form: BASIC / TREE display        10/02/90 13:49
Find ID 1601101                                               Record 7 of 10
NickName              RecordID   Loc ID          Date
--------------------------------------------------------
CAMAC CRATE-SLC       14132                      08/23/89
.PS850MOD             13942      14132-PS        08/23/89
.CVII                 16001258   14132-S01       08/23/89
.SAM-E,KINETICS       16005736   14132-S02       08/23/89
.SAM-E,SLAC           18000443   14132-S03       08/14/90
.MMC-B                16003069   14132-S04       08/23/89
*SAM-E,SLAC           16011015   14132-S05       09/04/90
.SAM-E,SLAC           16000396   14132-S06       08/23/89
.DAC-C,DSP            16004436   14132-S08       08/23/89
.IDOM                 16000145   14132-S10       08/23/89
.TEH                  16004280   14132-S11       08/23/89
.BPM RF HEAD          16021122   14132-S13       02/02/90
.CAMAC FILTER HOLDER  16021123   14132-S19       02/02/90
.TWOSTP               16004695   14132-S20       08/23/89
.CSR                  16004151   14132-S23       08/23/89
.SCC MOD 2            17965      14132-S25       08/23/89

-Records continue on the next page; you may press RETURN to continue display
Type: CREATE to add a new record.          DISPLAY to see brief records.
      GET number, to update information.   PRINT to print/mail/save records.
YOUR RESPONSE:
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

Note that *ID* 16011015 (SAM-E,SLAC) is preceded by a "*", indicating the record for which the display was requested.

CRATE - displays the functional profile portion of the crate location record, along with the actual inventory of the crate. (Currently only the SLC control system CAMAC crates have functional crate profiles entered in DEPOT):

```
==========================================================================
DEPOT Inventory        Entry Form: BASIC / CRATE display        10/02/90 13:49
Find ID 16011101*                                              Record 7 of 10
Crate Profile for CA03/CR08 (AS22-14-0221)
-------------------------------------------------

Slot  Functional Profile          Inventory Profile*       Device Id   Date
----  --------------------------- ------------------------ ---------- --------
S01   CVII*                       CVII                      16001258  08/23/89
S02   SAM-E*                      SAM-E,KINETICS            16005736  08/23/89
S03   SAM-E*                      SAM-E,SLAC                18000443  08/14/90
S04   MMC                         MMC-B                     16003069  08/23/89
S05   SAM-E*                      SAM-E,SLAC                16011015  09/04/90
S06   SAM-E*                      SAM-E,SLAC                16000396  08/23/89
S07
S08   DAC-C*                      DAC-C,DSP                 16004436  08/23/89
S09
S10   IDOM                        IDOM                      16000145  08/23/89
S11   THH                         THH                       16004280  08/23/89
S12
S13   BPM RF HEAD                 BPM RF HEAD               16021122  02/02/90
S14   ==(BPM RF HEAD IS 2-WIDE [1
S15
S16
S17
S18
S19   CAMAC FILTER HOLDER         CAMAC FILTER HOLDER       16021123  02/02/90
S20   TWOWSTP                     TWOWSTP                   16004695  08/23/89
S21
S22   ==(CSR IS 2-WIDE [23])
S23   CSR                         CSR                       16004151  08/23/89
S24   ==(SCC IS 2-WIDE [25])
S25   SCC MOD*                    SCC MOD 2                 17965     08/23/89
-Records continue on the next page; you may press RETURN to continue display
Type: CREATE to add a new record.          DISPLAY to see brief records.
      GET number, to update information.   PRINT to print/mail/save records.
YOUR RESPONSE:
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

DEPOT DEVICE, DEPOT MAKER, and *DEPOT TABLE* have only the "BRIEF" and "FULL" displays defined.

Additional displays can be implemented by a knowledgeable SPIRES programmer.

17. The Prism SORT Command

If a search has found more than one record, the result can be sorted using the Prism "SORT" command. On-line help is available in Prism by typing "HELP SORT". The syntax of the command is:

"SORT [element] .. [element] ..."

[element] is the name of a subfile element defined for sorting.

Not all elements in the subfiles can be used for sorting. To see a list of the elements defined for sorting, type "SORT" followed by a carriage return; Prism will list all of the sortable elements in the DEPOT database:

```
================================================================================
DEPOT Inventory              Entry Form: BASIC                  10/02/90 09:52
Sorting options                                                  246 records

To sort your current search result, enter one or more sorting fields from the
list below.  If you choose more than one field, name the most important first.

Sorting fields: ID

 1. ID              30. CMFIX          59. COST
 2. NICKNAME        31. CMDATE         60. DATE-REC
 3. MAKER           32. MAINT.TYPE     61. OWN-GR
 4. MODEL           33. CATER          62. COMMENT
 5. REV-VAR         34. SYMPTOM        63. I.USER.ADD
 6. SERIAL          35. FIX            64. VERIFY
 7. GENERIC         36. PARTS          65. VERIFY.ID
 8. CLASS           37. TECH           66. I.DATE.UPD
 9. CSTATE          38. FTE.HOURS      67. I.USER.UPD
10. CURLOC          39. CHARGE.ACCT    68. DEVICECODE
11. CLOCID          40. M.DATE.START   69. FULLNAME
12. FULLCLOC        41. M.USER.START   70. DESCRIPTION
13. AKA.CLOC        42. M.DATE.DONE
14. CDATE           43. M.USER.DONE
15. STATE           44. REPAIR.STATUS
16. LOCATION        45. DRAWING
17. LOC.ID          46. DRAW.MAKER.ID
18. FULL.LOC        47. DRAW.MODEL
19. AKA.LOC         48. DRAW.REV
20. L.NAME          49. CD
21. L.DATE          50. SA.ID
22. L.TIME          51. C.USER
23. L.USER          52. PROC.TYPE
24. LEP.LOCATION    53. P.USER
25. USE-GR          54. RAD.DATE
26. EXP             55. TLD.FLAG
27. NAME            56. MG
28. CMTYPE          57. PO.NO
29. CMSYMPTOM       58. ACCOUNT
Type: OK to continue SORT processing.     CANCEL to cancel SORT processing.
      UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo                        f8=OK
```

Element names can be abbreviated to their shortest unique length.

The order in which the elements are selected, or listed in the command, determines the major and minor sorting.

Prism sorts all fields in **ascending** order. Nearly all DEPOT fields are defined as alphanumeric; meaning "1001" will precede "37".

The element names can be included with the "SORT" command: "SORT CURLOC" or "SORT NICKNAME CURLOC".

18. The Prism REPORT Command

In addition to the Prism *displays*, reports may be designed using Prism's *report* facilities.

There are two categories of PRISM reports: [1] "public" reports – the standard reports available to all users and [2] "personal" reports which are defined by each user using the PRISM SETUP REPORT command. The reports defined for each user are listed on the Report screen (type: "REPORT"), starting with the standard reports:

```
DEPOT Inventory                                          10/02/90 09:55
Report selection

Choose a report by typing its name or number below, e.g. BADCLOCID or 1

     NAME          DESCRIPTION
  1. BADCLOCID      Display invalid ClocID's
  2. HISTORY        Location and Maintenance History

Personal reports available for CLANCEY
  3. BPMLOC         Alternate Location Info for BPMs
  4. CRATE          MULTIBUS CRATE AND BOARD MAINT. HISTORY
  5. DEMO           TESTING
  6. GROUPLOC       test
  7. LH             Unsorted Location Histories
  8. MAINTHIST      Full Maintenance History
  9. MYJUNK         unnamed stuff
 10. PROFILE        testing
 11. SERIALS        Check for duplicate serial #s
 12. SPARELOC       Location of SPARE items
 13. STATUS         Current State & Location
 14. TEST           test
 15. WHEREIS        Current location information

Enter a report name or number below; type CANCEL if you do not want a report.
Type SETUP to define or modify a personal report.
YOUR RESPONSE:
f1=Help f2=Setup f3=Cancel
Also:  Lock, Pause, End
```

The standard reports are not listed on the Setup Report screen, since they cannot be modified by the user.

18.1 PRISM PUBLIC REPORTS

The following reports are available to all DEPOT users.

18.1.1 THE BADCLOCID REPORT

This report is used for verifying location information. The *Clocids* of all records in DEPOT are checked to determine if the records exist (this check is made when the *Clocid* is originally entered, but the record pointed to may subsequently be removed), and records whose *Clocid* points to a non-existent record are listed in the report. This report is primarily of interest to Data Base Administrators interested in verifying data integrity.

18.1.2 THE HISTORY REPORT

This report lists the formatted Location and Maintenance Histories of the selected records.

18.2 Defining Personal Reports

To design a report, type "SETUP REPORT" or "REPORT" followed by "SETUP" on the Report screen. You will be prompted to choose whether to design a new report, to modify an existing report, to derive a new report from an existing report, or to delete an existing report:

```
DEPOT Inventory                Setup Report                10/02/90 09:52
                        Select Personal Report Function

   _ <-- Type the number of the function you want to perform (1-4).
   1. DEFINE a new Personal Report layout.
   2. MODIFY an existing report layout.
   3. DERIVE a new report layout from an existing one.
   4. REMOVE an existing report layout.

  ___ <-- For MODIFY, DERIVE, or REMOVE, type a number from the list below.
   1. BPMLOC              Alternate Location Info for BPMs
   2. CRATE               MULTIBUS CRATE AND BOARD MAINT. HISTORY
   3. DEMO                TESTING
   4. GROUPLOC            test
   5. LH                  Unsorted Location Histories
   6. MAINTHIST           Full Maintenance History
   7. MYJUNK              unnamed stuff
   8. PROFILE             testing
   9. SERIALS             Check for duplicate serial #s
  10. SPARELOC            Location of SPARE items
  11. STATUS              Current State & Location
  12. TEST                test
  13. WHEREIS             Current location information

-Enter your choices to begin SETUP
Type: OK below to continue SETUP.     UNDO to discard changes to page.
      CANCEL to cancel SETUP.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo                          f8=OK
```

The standard reports are not listed on the Setup Report screen, since they cannot be modified by the user.

Whether designing a new report, or deriving or modifying an existing one, you will be prompted to list the element names to include (in the order you want them displayed in the report):

```
DEPOT Inventory          Setup Report: STATUS          10/02/90 09:53
                  Select Fields for Personal Report
From the list below, enter names, abbreviations, or numbers of fields to be
included in your report.  Enter fields in the order you want them to appear.
(Type HELP REPORT FIELDS below for field descriptions.)
   NICKNAME,_ID,_SERIAL,_CSTATE,_CURLOC,_CDATE_____________________________
   ________________________________________________________________________
   ________________________________________________________________________
   ________________________________________________________________________

  1. ID            24. LEP.LOCATION   47. M.TIME.DONE    70. RAD
  2. NICKNAME      25. USE-GR         48. M.USER.DONE    71. RAD.DATE
  3. MAKER         26. EXP            49. MAINT.TIMES    72. NEUTRONS
  4. MODEL         27. NAME           50. REPAIR.STATUS  73. GAMMA
  5. REV-VAR       28. USER.PHONE     51. DRAWING        74. TLD.FLAG
  6. SERIAL        29. LOCAT.TIMES    52. DRAW.MAKER.ID  75. MG
  7. GENERIC       30. CMTYPE         53. DRAW.MODEL     76. PO.NO
  8. CLASS         31. CMSYMPTOM      54. DRAW.REV       77. ACCOUNT
  9. CSTATE        32. CMFIX          55. CD             78. COST
 10. CURLOC        33. CMDATE         56. SA.ID          79. DATE-REC
 11. CLOCID        34. MAINT.TYPE     57. PART.TYPE      80. OWN-GR
 12. FULLCLOC      35. PROBLEM        58. FW.INDEX       81. COMMENT
 13. AKA.CLOC      36. CATER          59. C.DATE         82. I.DATE.ADD
 14. CDATE         37. SYMPTOM        60. C.TIME         83. I.TIME.ADD
 15. STATE         38. FIX            61. C.USER         84. I.USER.ADD
 16. LOCATION      39. PARTS          62. PROC.TYPE      85. VERIFY
 17. LOC.ID        40. TECH           63. PROC.NAME      86. VERIFY.ID
 18. FULL.LOC      41. FTE.HOURS      64. PROC.DESC      87. I.DATE.UPD
 19. AKA.LOC       42. CHARGE.ACCT    65. PROC.DAYS      88. I.TIME.UPD
 20. L.NAME        43  M.DATE.START   66. PROC.REF       89. I.USER.UPD
 21. L.DATE        44. M.TIME.START   67. P.DATE         90. DEVICECODE
 22. L.TIME        45. M.USER.START   68. P.TIME         91. FULLNAME
 23. L.USER        46. M.DATE.DONE    69. P.USER         92. DESCRIPTION

-After completing this screen, type OK below to continue SETUP
Type: OK below to continue SETUP.          CANCEL to cancel SETUP.
     PREVIOUS to return to prior page.     UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help       f3=Cancel f4=Undo              f7=Previous f8=OK
```

The second Report screen prompts for a name and description for the report. It also includes a menu which gives the opportunity to customize the layout, sort and group records, share the report with other users, and include summary statistics:

```
DEPOT Inventory          Setup Report: STATUS          10/02/90 09:54
                  Select Options for Personal Report

     Layout Name      Description
     STATUS_____      Current State & Location____________________

  1 <-- Choose how you want fields to be displayed in your report (1-2).
       1. ACROSS: Fields next to each other in columns across the page.
       2. DOWN: Fields under each other in rows down the page.

  Mark additional options you want to include, change, or review with an "X":
       x  Organize report items into groups (*)
       x  Include summary statistics              NOTE: (*) indicates an
       x  Customize field titles and/or widths (*)  option with settings
       x  Customize report page layout            currently in effect for
       _  Prepare for export to another program     this report layout.
       x  Share this layout with other people

    (Type HELP below for more information on options for Personal Reports)

-Type OK below to see marked options, or SEND to finish
Type. OK below to continue SETUP.      PREVIOUS to return to prior page.
     SEND below to complete SETUP.     CANCEL to cancel SETUP.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous f8=OK
```

If the "Organize report items into groups" option is chosen, the screen for detailing the sorting order is displayed:

```
DEPOT Inventory          Setup Report: STATUS          10/02/90 09:54
                    Organize Report Items into Groups
Enter up to four groups for grouping.  Choose from your report fields listed
below or, if you want to use a field not included in your report, enter its
name or abbreviation.  (For more information, type HELP GROUPING below.)

  GROUP BY:   1. NICKNAME_____      _ <-- NEW PAGE: Mark an "X" if new
              2. _____              _     groups for any of these fields
              3. _____              _     should begin on a new page.
              4. _____              _

  ORDERING: To arrange items within groups in alphabetical/numerical order by
  an additional field, enter its name or number here:  _____

  1. NICKNAME       3. SERIAL        5. CURLOC
  2. ID             4. CSTATE        6. CDATE

    (Type HELP REPORT FIELDS to see a complete list of valid field names.)

-After completing this screen, type OK below to continue SETUP
Type: OK below to continue SETUP.          CANCEL to cancel SETUP.
     PREVIOUS to return to prior page.     UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo              f7=Previous f8=OK
```

If the "Include summary statistics" option is chosen, the screens to pick the elements to summarize and the type of statistics to calculate are displayed:

```
================================================================================
DEPOT Inventory              Setup Report: STATUS                10/02/90 09:54
                    Select Fields for Summary Statistics
       Mark any field you want to summarize in your report with an "X":

  x NICKNAME        _ ID              _ SERIAL          _ CSTATE
  _ CURLOC          _ CDATE

To report ONLY summary statistics (not individual records), mark an "X" here: _

On additional screens you will be able to choose from the following statistics:
    COUNT   --  count occurrences of a field in the report.
    TOTAL   --  add up a field's values.
    AVERAGE --  show average or mean of a field's values.
    MIN     --  show smallest value for a field.
    MAX     --  show largest value for a field.
    STD-DEV --  show standard deviation or spread of values around an average.

-After completing this screen, type OK below to continue SETUP
Type: OK below to continue SETUP.          CANCEL to cancel SETUP.
      PREVIOUS to return to prior page.    UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo              f7=Previous f8=OK
```

And for each field that summary statistics have been selected:

```
================================================================================
DEPOT Inventory              Setup Report: STATUS                10/02/90 09:54
                          Select Summary Statistics

 For each field below, type an "X" for the statistics you want in your report:

                                 COUNT
   NICKNAME
     For overall report:           _
     For group NICKNAME:           x

-After completing this screen, type OK below to continue SETUP
Type: OK below to continue SETUP.          CANCEL to cancel SETUP.
      PREVIOUS to return to prior page.    UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo              f7=Previous f8=OK
```

If the "Customize field titles and/or widths" options is selected, the screen for specifying titles and widths is displayed:

```
DEPOT Inventory          Setup Report: STATUS          10/02/90 09:55
                  Customize Field Titles and Widths

      To change a field width or title, type a new value over it.

        Field Name        Width  Title
   1.   NICKNAME          20_    Nickname____________________
   2.   ID                15_    ID__________________________
   3.   SERIAL            12_    Serial No.__________________
   4.   CSTATE            10_    Cstate______________________
   5.   CURLOC            15_    CurLoc______________________
   6.   CDATE             8__    Date________________________

   Total report width:    90
   To recalculate total report width, mark an "X" here --> _

 (Use double-slashes to create multi-line column titles; e.g., Work//Phone.)
-After completing this screen, type OK below to continue SETUP
Type: OK below to continue SETUP.          CANCEL to cancel SETUP.
     PREVIOUS to return to prior page.     UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo              f7=Previous f8=OK
```

If the "Customize report page layout" options is selected, the layout screen is displayed:

```
================================================================================
DEPOT Inventory              Setup Report: STATUS              10/02/90 09:55
                          Customize Page Layout Options
  To change a page layout option for your report, type a new value over it.

      Maximum number of lines per page:                    60_

      Number of lines to be skipped between records:        0_

      Number of spaces to appear between columns:           2_

      Number of lines to be skipped between groups:         1_

      Number of spaces to indent report when printing:      8_

      Suppress page headers and field titles?              No_

      Report title to appear at the top of each page:
      STATUS_Report_____________________________________________________

Type: SEND below to complete SETUP.          CANCEL to cancel SETUP.
     PREVIOUS to return to prior page.       UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help       f3=Cancel f4=Undo f5=Send       f7=Previous
```

If the "Share this layout with other people" option is selected, the following screen is displayed:

```
DEPOT Inventory          Setup Report: STATUS          10/02/90 09:55
              Share this Report Layout with Other People
To make this report layout available to other people, enter one or more
userids.  Use commas or spaces to separate multiple userids.  To remove an
account, blank it out.

  PUBLIC_____________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________
  ___________________________________________________________________

(Note:  You may also enter SPIRES access-lists here.  Type HELP for details.)
-This is your last SETUP screen; type SEND below when finished
Type: SEND below to complete SETUP.        CANCEL to cancel SETUP.
     PREVIOUS to return to prior page.     UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous
```

The VM ID "PUBLIC" in this example is used to share the layout with ALL users of DEPOT.

Once defined and saved, the report format is available for future use until it is deleted by the user.

18.3 Displaying Reports on the Terminal

To display your search result on the terminal using a Report form, type "DISPLAY REPORT" after finishing "SETUP REPORT". To use an existing report form, type "REPORT", select the report you wish to use, then type "DISPLAY REPORT":

```
================================================================================
DEPOT Inventory                Report: STATUS                  10/02/90 09:56
Display Report STATUS (only 79 of 95 columns shown)
Oct. 2, 1990                              STATUS Report

Nickname            ID              Serial No.    Cstate      Cloc
------------------- --------------- ------------ ---------- --------------
PSC-E                13295           2             IN USE     SPEAR4/CR00
                     13297           4             IN USE      SPEAR4/CR00
                     13300           7             IN USE      SPEAR4/CR00
                     13301           8             IN USE      LI24/CR01
                     13303           10            IN USE      SPEAR4/CR00
                     13305           12            IN USE      CA12/CR12
                     13306           13            IN USE      FF11/CR05
                     13308           15            IN USE      FF11/CR03
                     13309           16            IN USE      SPEAR4/CR00
                     13311           18            IN USE      DR02/CR01
                     13312           19            IN USE      DR03/CR01
                     13314           21            IN USE      LI31/CR01
                     13317           24            IN USE      DR12/CR01
                     13318           25            IN USE      SPEAR4/CR00
                     13319           26            IN USE      DR03/CR01
                     13349           30            IN USE      DR12/CR07
                     13352           33            IN USE      LI06/CR01
                     13354           35            IN USE      SPEAR4/CR00
                     13356           37            SPARE       B034-DMG
                     13358           39            SPARE       B034-DMG
                     13359           40            IN USE      SPEAR4/CR00
                     13360           41            IN USE      LI31/CR02
                     13361           42            IN USE      LI19/CR01
-Report continues on the next page; press RETURN to continue
Type: PRINT to print/mail/save report.      FIND to begin a new search.
      DISPLAY REPORT to restart report.     REPORT to change reports.
YOUR RESPONSE:
f1=Help f2=Find f3=Select f4=Report f5=Dis Rept       f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Setup, Sort, Command, Suggest, Lock, Pause, End
```

18.4 Printing Reports

To print your search result, type "PRINT". From the menu, select the option to print all the records in the search result, then select the display format to use for printing:

```
DEPOT Inventory              Report: STATUS              10/02/90 09:57
Print options                                             246 records
1  <-- RECORDS to be printed
   1. Your current search result of 246 records.

2_ <-- FORMATTING of the data (enter a number from the list below)
   1. BRIEF display
   2. FULL display
   3. CRATE display
   4. LAC display
   5. LOCATION display
   6. LOCINFO display
   7. MAINTENANCE display
   8. PCNUM display
   9. PROFILE display
  10. RACK display
  11. TREE display

1  <-- DESTINATION of the output (enter a number from the list below)
   1. System prin.er     | System printer id: IMELA2__
   2. Another user       | Copies: 1_   Indent: 8_
   3. Computer file      |
                         |
                         | Other options: EXEC IMPRT (ON IMELA2 CC_____________

Type: OK to continue PRINT request.     UNDO to discard changes to page.
      CANCEL to cancel request.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo                        f8=OK
```

If you wish to use a Report format, rather than a Display, type "REPORT" to select the format before typing "PRINT"; the report format will then be included as the first choice on the print menu:

```
DEPOT Inventory              Report: STATUS              10/02/90 09:57
Print options                                             246 records
1  <-- RECORDS to be printed
   1. Your current search result of 246 records.

1_ <-- FORMATTING of the data (enter a number from the list below)
   1. STATUS report
   2. BRIEF display
   3. FULL display
   4. CRATE display
   5. LAC display
   6. LOCATION display
   7. LOCINFO display
   8. MAINTENANCE display
   9. PCNUM display
  10. PROFILE display
  11. RACK display
  12. TREE display

1  <-- DESTINATION of the output (enter a number from the list below)
   1. System printer     | System printer id: IMELA2__
   2. Another user       | Copies: 1_   Indent: 8_
   3. Computer file      |
                         |
                         | Other options: EXEC IMPRT (ON IMELA2 CC__________

Type: OK to continue PRINT request.     UNDO to discard changes to page.
      CANCEL to cancel request.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo                        f8=OK
```

Finally, select the *System printer* option (if this choice was not highlighted, hit Enter to bring up the menu choices for printer),

1. To print on the 3800 laser printer at SCS, leave "System printer id:" blank and type "EXEC PRT (ON 3800A CC" after "Other options:". Use 3800D to print on Class D paper.

2. To print to an Imagen or other RSCS type printer, type the printer name after "System printer id:" (*e.g.* an Imagen printer name, such as IMCGB1 and type "EXEC IMPRT (ON <printer name> CC" after "Other options:". <printer name> must be replaced by the name of the printer to be used – same as the System printer id.

18.5 Sending Reports to Another User

To send a report of your search result to another user, follow the steps for printing, but select the *Another user* option (if this choice was not highlighted, hit Enter to bring up the menu choices for Email addresses), and enter the Email address of the user you wish to send the report to.

```
DEPOT Inventory                Report: STATUS                10/02/90 09:57
Print options                                                 246 records
1  <-- RECORDS to be printed
   1. Your current search result of 246 records.

1_ <-- FORMATTING of the data (enter a number from the list below)
   1. STATUS report
   2. BRIEF display
   3. FULL display
   4. CRATE display
   5. LAC display
   6. LOCATION display
   7. LOCINFO display
   8. MAINTENANCE display
   9. PCNUM display
  10. PROFILE display
  11. RACK display
  12. TREE display

3  <-- DESTINATION of the output (enter a number from the list below)
   1. System printer     | Email address: DEPOT AT SLACVM_____________________
   2. Another user       |
   3. Computer file      |
                         |
)

Type: OK to continue PRINT request.     UNDO to discard changes to page.
      CANCEL to cancel request.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo                        f8=OK
```

18.6 Saving Reports to Disk

To save your search result on disk, follow the steps for printing, but select the *Computer file* option (if this choice was not highlighted, hit Enter to bring up the menu choices for computer files), and enter the filename filetype filemode to use for saving the file. Under *Other options* you may enter "REPLACE":

```
DEPOT Inventory              Report: STATUS              10/02/90 09:57
Print options                                             246 records
1  <-- RECORDS to be printed
   1. Your current search result of 246 records.

1_ <-- FORMATTING of the data (enter a number from the list below)
   1. STATUS report
   2. BRIEF display
   3. FULL display
   4. CRATE display
   5. LAC display
   6. LOCATION display
   7. LOCINFO display
   8. MAINTENANCE display
   9. PCNUM display
  10. PROFILE display
  11. RACK display
  12. TREE display

3  <-- DESTINATION of the output (enter a number from the list below)
   1. System printer     | File name: STATUS REPORT A_____________________
   2. Another user       |
   3. Computer file      |
                         |
                         | Other options: REPLACE_____________________

Type: OK to continue PRINT request.     UNDO to discard changes to page.
      CANCEL to cancel request.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo                        f8=OK
```

19. Searching & Reporting in *DEPOT INVENTORY:* An Example

This chapter gives an annotated, step by step list of the commands needed to enter DEPOT, find a collection of records, sort the records, create and display a report, and save the report to disk. The example is fairly simple, for the sake of brevity and clarity.

- Log on to VM
- Access the DEPOT program disk: "GIME DEPOT 191". (This command may be placed in your PROFILE EXEC if you are a regular user of DEPOT.)
- Enter the SPIRES/Prism DEPOT application. "DEPOT". The DEPOT Welcome screen will be displayed:

```
================================================================================
DEPOT Inventory              Entry Form: BASIC                 10/05/90 14:01

                * * Modify BASIC DEPOT Information Form * *

   This form will allow you to add new or modify existing basic item
   information.  If modifying an existing record issue SEARCH or FIND to
   identify the record (or set of records) you wish to modify.  Then issue the
   command GET nnn, where nnn is the search result number of the item you want.

   To add a new basic information record issue the CREATE command.

   When you are complete filling in the form, issue the SEND (PF5) command.
               *-------------------------------------------------*
               | For assistance with this application, contact  |
               |       Patrick Clancey, CLANCEY, x2339.         |
               *-------------------------------------------------*

-Entry form BASIC is now set
Type: CREATE to add a new record.     ENTRY to change entry forms.
      FIND to search this file.
YOUR RESPONSE: FIND NICK SAM-E* AND CSTATE IN USE
f1=Help f2=Find f3=Select f4=Report       f6=Create       f8=Entry
Also:  Setup, Command, Suggest, Lock, Pause, End
```

- Find all of the records for *Sampling Analog Monitors* which are currently in service. Note that truncated searching is used on the *Nickname*, since there are four different varieties of the SAM-E.

  "FIND NICK SAM-E* AND CSTATE IN USE"

  The resulting records are shown using the default BRIEF display:

```
===============================================================================
DEPOT Inventory         Entry Form: BASIC / BRIEF display        10/05/90 14:02
Find NICKNAME SAM-E* and CSTATE IN USE                              424 records
Number     Id     Nickname             Make             Model            Rev
------ --------- -------------------- ---------------- ---------------- ---
     1 13275     SAM-E,SLAC           SLAC             123-603           E
     2 18000460  SAM-E,SLAC           SLAC             123-603           E
     3 18000443  SAM-E,SLAC           SLAC             123-603           E
     4 16002120  SAM-E,DSP            DSP              2032              E
     5 16030296  SAM-E,DSP            DSP              2032              E
     6 16011036  SAM-E,SLAC           SLAC             123-603           E
     7 15628     SAM-E,SLAC           SLAC             123-603           E
     8 16000190  SAM-E,SLAC           SLAC             123-603           E
     9 13344     SAM-E,SLAC           SLAC             123-603           E
    10 16030229  SAM-E,DSP            DSP              2032              E
    11 16030231  SAM-E,DSP            DSP              2032              E
    12 16030232  SAM-E,DSP            DSP              2032              E
    13 16030230  SAM-E,DSP            DSP              2032              E
    14 16030233  SAM-E,DSP            DSP              2032              E
    15 18000128  SAM-E,SLAC           SLAC             123-603           E
    16 15819     SAM-E,SLAC           SLAC             123-603           E
    17 16000479  SAM-E,SLAC           SLAC             123-603           E
    18 16011017  SAM-E,SLAC           SLAC             123-603           E
    19 16011016  SAM-E,SLAC           SLAC             123-603           E
    20 16011015  SAM-E,SLAC           SLAC             123-603           E
    21 16021700  SAM-E,KINETICS       Kinetic Systems  3527              E
    22 16021697  SAM-E,KINETICS       Kinetic Systems  3527              E
    23 16021698  SAM-E,KINETICS       Kinetic Systems  3527              E
    24 16021694  SAM-E,KINETICS       Kinetic Systems  3527              E
    25 16021692  SAM-E,KINETICS       Kinetic Systems  3527              E
-Records continue on the next page; you may press RETURN to continue display
Type: CREATE to add a new record.        DIS FULL number, to see a full
      GET number, to update information.  PRINT to print/mail/save records.
YOUR RESPONSE: SORT CURLOC
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

• Sort the search result by current location:

"SORT CURLOC"

The sorted records will be re-displayed using the BRIEF display:

```
================================================================================
DEPOT Inventory        Entry Form: BASIC / BRIEF display        10/05/90 14:02
Find NICKNAME SAM-E* and CSTATE IN USE                       424 records (sorted)
Number    Id       Nickname             Make             Model             Rev
------ --------- -------------------- ---------------- ----------------- ---
     1  16000190  SAM-E,SLAC            SLAC              123-603            E
     2  13344     SAM-E,SLAC            SLAC              123-603            E
     3  16006861  SAM-E,SLAC            SLAC              123-603            E
     4  16008726  SAM-E,KINETICS        Kinetic Systems   3527               E
     5  16020415  SAM-E,DSP             DSP               2032               E
     6  16005074  SAM-E,KINETICS        Kinetic Systems   3527               E
     7  16007438  SAM-E,KINETICS        Kinetic Systems   3527               E
     8  16030233  SAM-E,DSP             DSP               2032               E
     9  16030230  SAM-E,DSP             DSP               2032               E
    10  16005056  SAM-E,KINETICS        Kinetic Systems   3527               E
    11  16030232  SAM-E,DSP             DSP               2032               E
    12  16030231  SAM-E,DSP             DSP               2032               E
    13  16030296  SAM-E,DSP             DSP               2032               E
    14  16001321  SAM-E,SLAC            SLAC              123-603            E
    15  16002082  SAM-E,SLAC            SLAC              123-603            E
    16  16007436  SAM-E,KINETICS        Kinetic Systems   3527               E
    17  16008730  SAM-E,KINETICS        Kinetic Systems   3527               E
    18  14899     SAM-E,SLAC            SLAC              123-603            E
    19  16073     SAM-E,SLAC            SLAC              123-603            E
    20  16000245  SAM-E,SLAC            SLAC              123-603            E
    21  16005055  SAM-E,KINETICS        Kinetic Systems   3527               E
    22  16008731  SAM-E,KINETICS        Kinetic Systems   3527               E
    23  16018434  SAM-E,KINETICS        Kinetic Systems   3527               E
    24  16018435  SAM-E,KINETICS        Kinetic Systems   3527               E
    25  16018425  SAM-E,KINETICS        Kinetic Systems   3527               E
-Result sorted by CURLOC
Type: CREATE to add a new record.        DIS FULL number, to see a full
      GET number, to update information.  PRINT to print/mail/save records.
YOUR RESPONSE: SETUP REPORT
f1=Help f2=Find f3=Sel f4=Report f5=Get f6=Create     f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Help Displays, Setup, Sort, Suggest, Lock, Pause, End
```

- Enter SETUP REPORT to create a report to display the record elements of interest:

"SETUP REPORT"

```
DEPOT Inventory                Setup Report                10/05/90 14:03
                        Select Personal Report Function

   1  <-- Type the number of the function you want to perform (1-4).
   1.  DEFINE a new Personal Report layout.
   2.  MODIFY an existing report layout.
   3.  DERIVE a new report layout from an existing one.
   4.  REMOVE an existing report layout.

   ___ <-- For MODIFY, DERIVE, or REMOVE, type a number from the list below.
   1.  BPMLOC              Alternate Location Info for BPMs
   2.  CRATE               MULTIBUS CRATE AND BOARD MAINT. HISTORY
   3.  DEMO                TESTING
   4.  GROUPLOC            test
   5.  LH                  Unsorted Location Histories
   6.  MAINTHIST           Full Maintenance History
   7.  MYJUNK              unnamed stuff
   8.  PROFILE             testing
   9.  SERIALS             Check for duplicate serial #s
  10.  SPARELOC            Location of SPARE items
  11.  STATUS              Current State & Location
  12.  TEST                test

-Enter your choices to begin SETUP
Type: OK below to continue SETUP.     UNDO to discard changes to page.
      CANCEL to cancel SETUP.
YOUR RESPONSE:
f1=Help       f3=Cancel f4=Undo                          f8=OK
```

- Select the *DEFINE a new Personal Report layout* option ([1]); hit "PF8" to proceed.

- Select the elements to display in the report (Nickname, ID, Serial Number, Current Location, Current Location Id, and Date of Location entry - NICKNAME ID SERIAL CURLOC CLOCID CDATE):

```
==========================================================================
DEPOT Inventory              Setup Report                  10/05/90 14:03
                  Select Fields for Personal Report
From the list below, enter names, abbreviations, or numbers of fields to be
included in your report.  Enter fields in the order you want them to appear.
(Type HELP REPORT FIELDS below for field descriptions.)
  2 ID SERIAL 10 11 CDATE_____________________________________________
---------------------------------------------------------------------
---------------------------------------------------------------------
---------------------------------------------------------------------

 1. ID            24. LEP.LOCATION   47. M.TIME.DONE    70. RAD
 2. NICKNAME      25. USE-GR         48. M.USER.DONE    71. RAD.DATE
 3. MAKER         26. EXP            49. MAINT.TIMES    72. NEUTRONS
 4. MODEL         27. NAME           50. REPAIR.STATUS  73. GAMMA
 5. REV-VAR       28. USER.PHONE     51. DRAWING        74. TLD.FLAG
 6. SERIAL        29. LOCAT.TIMES    52. DRAW.MAKER.ID  75. MG
 7. GENERIC       30. CMTYPE         53. DRAW.MODEL     76. PO.NO
 8. CLASS         31. CMSYMPTOM      54. DRAW.REV       77. ACCOUNT
 9. CSTATE        32. CMFIX          55. CD             78. COST
10. CURLOC        33. CMDATE         56. SA.ID          79. DATE-REC
11. CLOCID        34. MAINT.TYPE     57. PART.TYPE      80. OWN-GR
12. FULLCLOC      35. PROBLEM        58. FW.INDEX       81. COMMENT
13. AKA.CLOC      36. CATER          59. C.DATE         82. I.DATE.ADD
14. CDATE         37. SYMPTOM        60. C.TIME         83. I.TIME.ADD
15. STATE         38. FIX            61. C.USER         84. I.USER.ADD
16. LOCATION      39. PARTS          62. PROC.TYPE      85. VERIFY
17. LOC.ID        40. TECH           63. PROC.NAME      86. VERIFY.ID
18. FULL.LOC      41. FTE.HOURS      64. PROC.DESC      87. I.DATE.UPD
19. AKA.LOC       42. CHARGE.ACCT    65. PROC.DAYS      88. I.TIME.UPD
20. L.NAME        43. M.DATE.START   66. PROC.REF       89. I.USER.UPD
21. L.DATE        44. M.TIME.START   67. P.DATE         90. DEVICECODE
22. L.TIME        45. M.USER.START   68. P.TIME         91. FULLNAME
23. L.USER        46. M.DATE.DONE    69. P.USER         92. DESCRIPTION

-After completing this screen, type OK below to continue SETUP
Type: OK below to continue SETUP.          CANCEL to cancel SETUP.
     PREVIOUS to return to prior page.     UNDO to discard changes to page.
YOUR RESPONSE:
f1=Help       f3=Cancel f4=Undo              f7=Previous f8=OK
```

Note that the fields may be entered by name or by number. Hit "PF8" to proceed.

- Enter the *Layout Name* ("WHEREIS") and *Description* ("Current location info"). Hit "PF8" to proceed.
- Select *ACROSS* ([1]) for the layout.
- At this point you may indicate that you wish to further customize the report using the *Group, Summary statistics, field titles and/or widths,* or *report page layout* options:

```
DEPOT Inventory                Setup Report                10/05/90 14:04
                    Select Options for Personal Report

     Layout Name       Description
     WHEREIS____       Current location info_____________________

  1 <-- Choose how you want fields to be displayed in your report (1-2).
       1. ACROSS: Fields next to each other in columns across the page.
       2. DOWN: Fields under each other in rows down the page.

  Mark any additional options you want to include in your report with an "X":
       _ Organize report items into groups
       _ Include summary statistics
       _ Customize field titles and/or widths
       _ Customize report page layout
       _ Prepare for export to another program
       _ Share this layout with other people

   (Type HELP below for more information on options for Personal Reports)

-Type OK below to see marked options, or SEND to finish
Type: OK below to continue SETUP.      PREVIOUS to return to prior page.
     SEND below to complete SETUP.    CANCEL to cancel SETUP.
YOUR RESPONSE:
f1=Help      f3=Cancel f4=Undo f5=Send      f7=Previous f8=OK
```

- Save the report definition:

"SEND" or "PF5"

```
DEPOT Inventory                Report: WHEREIS                10/05/90 14:05
Find NICKNAME SAM-E* and CSTATE IN USE                    424 records (sorted)

Your report, WHEREIS, is now ready for use.  To produce a report with your
current search result,

          type DISPLAY REPORT to view this report online.
     or:  type PRINT to print, mail, or save a copy of this report.

To produce a report with a different search result, first type FIND to search
this file, and then use DISPLAY REPORT or PRINT.

To modify this report layout, type SETUP REPORT *.

-Report WHEREIS is now set
Type: DISPLAY REPORT to see report online.     FIND to begin a new search.
     PRINT to print/mail/save report.         REPORT to change reports.
YOUR RESPONSE: DISPLAY REPORT
f1=Help f2=Find f3=Select f4=Report f5=Dis Rept      f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Setup, Sort, Command, Suggest, Lock, Pause, End
```

- Display the report on the terminal:

"DISPLAY REPORT"

```
DEPOT Inventory                Report: WHEREIS                10/05/90 14:05
Display Report WHEREIS (only 79 of 88 columns shown)
Oct. 5, 1990                          WHEREIS Report

Nickname             ID          Serial No.  CurLoc          ClocID
-------------------- --------  ------------  --------------  --------- ------
SAM-E,SLAC           16000190            255  AM00/CR02       16019002-S04
SAM-E,SLAC           13344                25  AM00/CR03       16578-S05
SAM-E,SLAC           16006861            427  B006/RM109A     0-
SAM-E,KINETICS       16008726            242  B015-PS0G       0-
SAM-E,DSP            16020415              7  B015-102A       16020412-
SAM-E,KINETICS       16005074            140  B015,112        0-
SAM-E,KINETICS       16007438            267  B033            0-
SAM-E,DSP            16030233            453  B034-RM.250     0-
SAM-E,DSP            16030230            450  B034-RM.250     0-
SAM-E,KINETICS       16005056            138  B040            0-
SAM-E,DSP            16030232            451  B040-RM.G111    0-
SAM-E,DSP            16030231            452  B040-RM.G111    0-
SAM-E,DSP            16030296            458  B040-RM.G111    0-
SAM-E,SLAC           16001321            412  B040-Y105       0-
SAM-E,SLAC           16002082            418  B040,G123       0-
SAM-E,KINETICS       16007436            266  B041            0-
SAM-E,KINETICS       16008730            274  B041            0-
SAM-E,SLAC           14899                64  B060-01         0-
SAM-E,SLAC           16073               211  B060-01         0-
SAM-E,SLAC           16000245            266  B084            0-
SAM-E,KINETICS       16005055            139  B084            0-
SAM-E,KINETICS       16008731            265  B084-G213       0-
SAM-E,KINETICS       16018434            313  B084/B222       0-
-Report continues on the next page; press RETURN to continue
Type: PRINT to print/mail/save report.      FIND to begin a new search.
      DISPLAY REPORT to restart report.     REPORT to change reports.
YOUR RESPONSE: PRINT
f1=Help f2=Find f3=Select f4=Report f5=Dis Rept       f8=Entry f9=Print f10=Dis
Also:  And, Not, Or, Setup, Sort, Command, Suggest, Lock, Pause, End
```

- Select the PRINT option to save the output ("print to disk"):

"PRINT"

```
DEPOT Inventory                Report: WHEREIS                10/05/90 14:06
Print options                                                 424 records (sorted)
1  <-- RECORDS to be printed
   1. Your current search result of 424 records.

1_ <-- FORMATTING of the data (enter a number from the list below)
   1. WHEREIS report
   2. BRIEF display
   3. FULL display
   4. CRATE display
   5. LAC display
   6. LOCATION display
   7. LOCINFO display
   8. MAINTENANCE display
   9. PCNUM display
  10. PROFILE display
  11. RACK display
  12. TREE display

3  <-- DESTINATION of the output (enter a number from the list below)
   1. System printer     | System printer id: 3800____
   2. Another user       | Copies: 1_   Indent: 8_
   3. Computer file      |
                         |
                         | Other options: CLASS A_____________________

Type: OK to continue PRINT request.     UNDO to discard changes to page.
      CANCEL to cancel request.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo                          f8=OK
```

- Select *Current search result of nn records* ([1]).
- Select the *WHEREIS* report ([1]).

- Select the *Computer file* option ([3]). If this was not the default option, you must hit RETURN to see the choices for Computer file.
- Enter a *File name* (using standard VM filename filetype and filemode). Enter "REPLACE" in *Other options* if you want to automatically replace any existing file with the same name:

```
DEPOT Inventory                Report: WHEREIS                10/05/90 14:16
Print options                                                 35 records (sorted)
1  <-- RECORDS to be printed
   1. Your current search result of 35 records.

1_ <-- FORMATTING of the data (enter a number from the list below)
   1. WHEREIS report
   2. BRIEF display
   3. FULL display
   4. CRATE display
   5. LAC display
   6. LOCATION display
   7. LOCINFO display
   8. MAINTENANCE display
   9. PREMUM display
  10. PROFILE display
  11. RACK display
  12. TREE display

3  <-- DESTINATION of the output (enter a number from the list below)
   1. System printer     | File name: WHEREIS REPORT A_____________________
   2. Another user       |
   3. Computer file      |
                         |
                         | Other options: REPLACE_____________________________

Type: OK to continue PRINT request.     UNDO to discard changes to page.
      CANCEL to cancel request.
YOUR RESPONSE:
f1=Help        f3=Cancel f4=Undo                          f8=OK
```

- Hit "PF8" to complete the transaction.
- The report is now in a VM file which can be edited or printed in the usual ways.

20. Searching & Reporting in *DEPOT DEVICE*

The *techniques* described above for the *DEPOT INVENTORY* database are also applicable to the *DEPOT DEVICE* database; however, only the FULL and BRIEF displays are defined.

VI. Non-Prism Reports

21. CMS-Level Reports

Certain types of reports require special processing to display only the record elements of interest, *i.e.* selected entries in the Location or Maintenance Histories. These reports are produced by CMS EXECs located on the DEPOT disk: you must log on to VM, type `GIME DEPOT 191`, and issue the relevant command for the report. Selection of the records for the report is controlled by each EXEC.

N.B.: these reports are **NOT** available from the Prism environment. The appropriate EXECs must be invoked from CMS.

Since the list of programmed reports is growing, they are not listed here. They are described in Reference [5].

VII. References

1. Prism is a SPIRES application development system developed and marketed by Stanford University.

2. SPIRES (**S**tanford **P**ublic **I**nformation **RE**trieval **S**ystem), is a database management system developed and marketed by Stanford University.

3. A general overview of DEPOT is given in SLAC-PUB-5166: *DEPOT: Database for Electronics Parts and Other Things*, by C. Logg, P. Clancey, and G. Crane.

4. A description of the standard nomenclature used for locations in DEPOT is in ADDOC #1: *SLC/SLAC Location Specification Proposal*, by C. Logg.

5. A description of various special reports, available on VM or the MCC/SLC VAX, is in ADDOC #9: *DEPOT Database Reports & Utilities*, by P. Clancey and C. Logg.

VIII. Index