

# **STAR-1100**

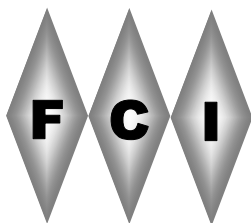
# **System for Tape**

# **Administration and**

# **Reporting**

## **Product Overview**

Software Version 7R1  
Document Number FP-152-02  
May 1999



**Formula  
Consultants  
Incorporated**



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To: UNISYS Clearpath HMP IX and 2200 Users

Your tape library is an inventory of assets important to your company, assets that need to be protected.

Conventional methods, based on standard vendor software, are inadequate for protecting your valuable tape data and managing your library.

Every operations manager who has authorized extensive overtime and scheduled hours of computer time to recover lost tape data has wondered: Is there a better way?

Many Clearpath HMP IX and 2200 users have already found that STAR-1100 is the better way.

As you take a few moments to read this overview, you'll see how STAR-1100 can work for you to reduce tape management costs and solve many tape handling problems.

When you purchase STAR-1100, you get more than a software package; you get a company that is dedicated to the development of UNISYS Clearpath HMP IX and 2200 software and fully committed to provide the highest quality product support.

I encourage you to contact me or other FCI marketing personnel to further discuss our products.

Sincerely,

*Arnie Silverman*

Arnie Silverman  
Sales Manager

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DCN: FP-152-02

# System for Tape Administration and Reporting

STAR-1100 is a software package that provides effective management of magnetic tapes on UNISYS Clearpath HMP IX and 2200 computers. STAR-1100 was first installed in Level 32 of OS 1100 and has been upgraded to be compatible with all subsequent operating system releases. Beginning with release SB4R5 STAR-1100 is the only tape management system that does not require local changes to OS 1100. STAR-1100 has been in production use since 1977.

## How STAR-1100 Saves Time and Money

STAR-1100 provides immediate and direct cost savings along with many other attractive benefits.

### Reduced Personnel Requirements

- Tape librarian resources can be reduced by as much as 60%.
- Manual collection and maintenance of tape information can be eliminated.
- Relabeling tapes after they are scratched is unnecessary.
- Gummed labels can be eliminated or automatically printed as tapes are created.
- Write rings can be left in reels.
- Fully compatible with all commercially available robotic devices.
- STAR-1100 is a must component of a "lights out" operation.

### Reduced Tape Errors

- Reruns due to wrong tape usage are greatly reduced.
- Tape loss through human error is practically eliminated.
- Only scratch tapes are scheduled for cleaning.
- Only scratch tapes can be relabeled.

### **Improved Cleaning**

- Tapes are selected for cleaning based on uniform, consistent usage criteria.
- I/O errors are reduced due to more timely cleaning, tape read/write error reporting and replacement of tapes.

### **Improved Library Management**

- Improved library organization generally means that fewer tape reels/cartridges are required.
- Superior tape storage control automates the archival and return of important tapes.
- Librarian can change the status of any tape at any time.
- Comprehensive series of standard reports is based on up-to-date information.
- Special reports can be generated quickly and easily.
- Tape protection available to multiple 2200's

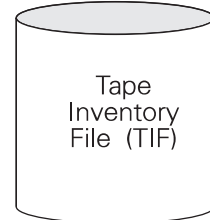
# STAR-1100: A Comprehensive Solution To Tape Management Problems

How do we provide such a complete solution to your tape management needs? The key to STAR-1100's success is the way the package maintains extensive information on each tape.

## Tape Inventory File is the Backbone of STAR-1100

The Tape Inventory File (TIF) is maintained on-line. It contains a record for each tape controlled by STAR-1100. Each tape is uniquely identified by its volume number.

The tape record contains a wealth of important data. The following is a partial list of tape record data fields.



### "Permanent" Tape Information

- Volume Serial Number
- Purchase Date
- Clean Count
- Last Clean Date
- Label Type
- Tape Maintenance
- Number of Read/Write Errors

### Current Data or Owner Information

- Account
- Project
- User ID
- Runid
- Owner

- Qualifier/Filename/Cycle
- Creating Program
- Create Date/Time
- Create Unit
- Expiration Date or Code
- Recording Characteristics: Density, etc.
- Multi-reel Chaining
- Free Form Description
- Security Flags
- Robotic Tape Information

### **Usage and Location Information**

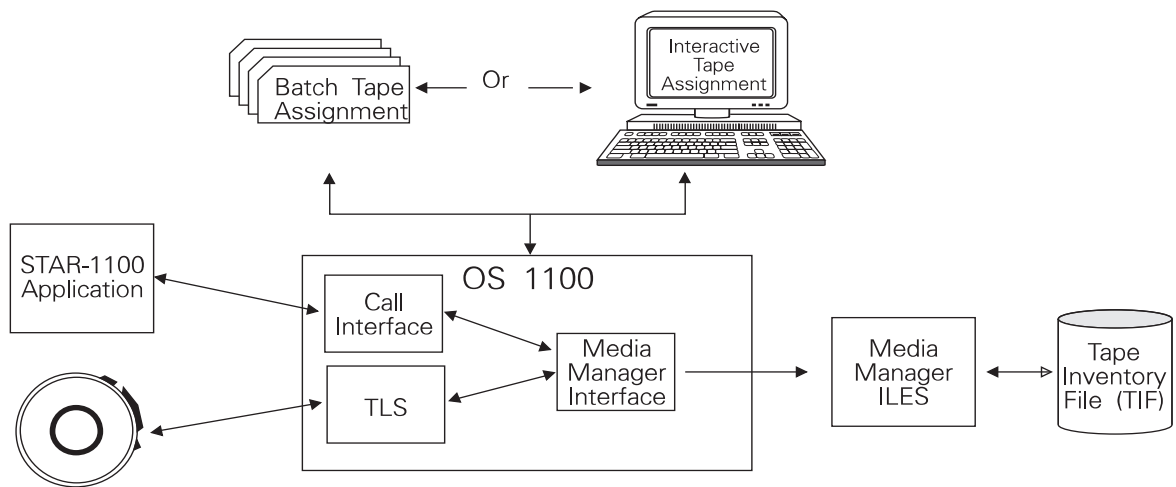
- Last Use Runid
- Last Use Date/Time
- Last Use Unit
- Usage Count
- Usage Count Since Cleaning
- Out-of-Area Location
- Tape Transfer Date
- Vault Slot Number

## **Tape Inventory File Maintenance**

STAR-1100 utility programs, available to operations personnel and other authorized users, perform the following functions:

- Add records into the TIF for new tapes
- Display information on individual tapes
- Display a list of tapes owned by an individual or organization
- Update any data field other than volume number within the tape record (librarian use only)
- Reorganize, backup, and recover the TIF

# The Tape Inventory File is Available to the Operating System (OS 1100)



## STAR-1100 Accesses TIF During Each Tape Processing Sequence

Before a tape is read or written, OS 1100 must validate the tape label or confirm that the tape is unlabeled. OS 1100 then passes control to STAR-1100/Media Manager for additional processing. STAR-1100 uses the volume number as a unique key to retrieve the tape record from the Tape Inventory File (TIF). All of the information within the tape record is available every time the tape is processed. Whenever a tape is read or written, STAR-1100 updates the TIF so that information for each tape in the library is always up-to-date.

## Automatic Tape Write Protection

STAR-1100 uses the individual tape record to determine whether a tape may be processed. When programs are writing tapes, STAR-1100 requires reels/cartridges

that are scratched or tapes that have been specifically authorized for output. Since the TIF provides an expanded "label" for all tapes, unlabeled tapes are also protected.

By referencing the TIF before any I/O can occur, STAR-1100 practically eliminates inadvertent writing to wrong reels. Many sites have so much confidence in STAR-1100 that they leave all tapes permanently write enabled.

## **Automatic Tape Data Collection**

Because STAR-1100 automatically updates the TIF, there is no need to manually collect and enter standard tape information. The on-line information collected by STAR-1100 is so reliable that many sites have entirely eliminated the use of gummed labels.

## **No ECL Changes Required**

Enhanced STAR-1100 tape retention values may be coded in the standard expiration fields of the (@ASG) statement or automatically retrieved from a retention table by the Automatic Attribute Feature included with STAR-1100.

## **TIF and MASTER File Directory are Mutually Independent**

The STAR-1100 TIF is updated at the beginning of physical tape processing. The associated file is not automatically cataloged in the OS 1100 Master File Directory (MFD). Likewise, when a tape is cataloged in the MFD, it is not automatically entered into the TIF.

However, STAR-1100 tapes can be cataloged so that users can take advantage of OS 1100 file management features such as reference by file name, automatic cycling, etc. The only relationship between STAR-1100 and the MFD occurs when a special expiration option is used.

## **No Local Code in OS 1100**

By using new technology introduced by Unisys®, FCI was able to eliminate the need for local modification to the basic operating system, OS 1100. STAR-1100 is the only tape management system that offers on-line verification, security, and recording of tape information without requiring you to modify your Exec.



## **Benefits of STAR-1100**

STAR-1100 provides some important tape management benefits:

- Protection against writing on wrong tapes.
- Added protection for unlabeled tapes.
- Tape information always up-to-date and automatically collected.
- Ease of use - standard ECL.
- Write rings can be permanently left in place.
- Gummed labels can be eliminated or automatically printed depending on site requirements.
- Installation without costly and time consuming OS 1100 generation.
- On-the-fly installation of new levels.
- Automation with robotic tape libraries

# More Control — Less User Responsibility

## Flexible Expiration Criteria

STAR-1100 offers enhanced expiration values that simplifies tape handling and reduces the time and cost required to manage the tape library. These codes can be managed by the Automated Attribute Feature described in the following—you do not need to put them in your ECL.

|        |   |                                     |
|--------|---|-------------------------------------|
| USEDxx | = | Retain for 'xx' days after last use |
| MFD    | = | Scratch when deleted from MFD       |
| DCYCy  | = | Scratch copies in excess of 'yy'    |
| NOSCR  | = | Never scratch (allow owner rewrite) |
| READ   | = | Never scratch (read only)           |
| DAYS   | = | Expiration code is a number of days |
| FCYCy  | = | Scratch copies in excess of 'yy'    |
| YEARzz | = | Retain for 'zz' years               |

## Automatic or Manual Attribute Setting

STAR-1100's Automatic Attribute Feature (AAF) eliminates the need to make ECL changes or manual entries to accommodate STAR-1100's enhanced tape handling criteria. Up to four of the following parameters can be used to define which attributes will be assigned to any given tape:

### Parameters

- Account Number
- Project ID
- File Name
- Qualifier

- RunID
- UserID
- CMACID (multiple Clearpath HMP IX and 2200s only)
- PoolID

### **Attributes**

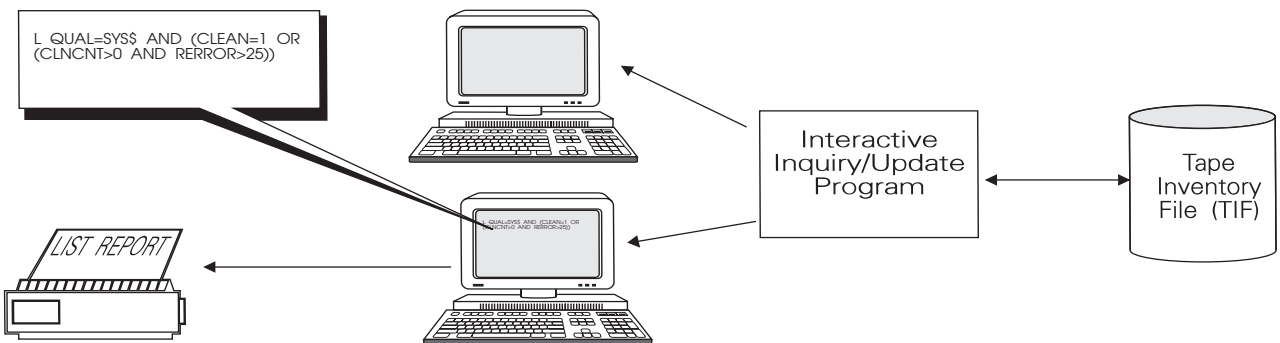
- Expiration Code
- Privacy Code
- Media Manager Specification
- Owner Read Flag
- Owner Write Flag
- F-Option Flag
- Read-only Flag
- Volume Scratch Flag
- Description

However, if you need to specify a unique group of attributes for a particular tape, or if a tape file cannot be easily defined to AAF, the attributes can be coded in the standard ECL tape assignment statement, or manually updated.

## **Automatic Tape Ownership**

STAR-1100 frees the librarian from the need to manually track tape ownership. When a tape is written, STAR-1100 automatically updates the TIF with the proper ownership code. The ownership code is derived as a site-defined subset of the runid, account number, user-id, or project-id of the creating run. For example, site management might decide to use the first four characters of the account number as the ownership code.

# The Tape Inventory File can be Queried From Terminals



## Up-to-Date Tape Information On-Line To Librarian

The librarian can conveniently access information on any tape registered in the Tape Inventory File (TIF). The librarian can display this information with one command, or generate small reports with the powerful "LIST" command.

## Librarian Maintains Tape Information

The librarian, using the same STAR-1100 utility, can change any tape attribute except the VOLSER number. For example, the librarian may wish to extend the expiration period or set the out-of-area code to indicate the tape is off-site.

## Library Information Optionally Available To Users

Users, under strict security controls, can use this same utility to display and list information on tapes they own. For example, a user might list all of the tapes produced by a specific job to help select the proper input cycle to be used for some special processing. Finally, users can be permitted to update non-critical TIF data such as the description field. Extensive on-line help is available for the casual user.

```

@STAR,Z,,,,STR-1100
* S T A R *7R1-08 S75R3M 08/27/98 07:54:52
H=HELP,R=REEL,F=FNAME,D=DISPLAY,L=LIST,V=VERIFY,C=CHANGE
U=UPDATE,X=EXPIRE,Z=CLEANED,E=EXIT
R L10924
VOLSER =L10924          QFN=RELTAPE          STAR-6R2          ( 1)
-- CREATION INFO -- VCRTDT=06/14/98 13:28:24 MMSPEC=          DENCOD=C
ACCTNO =0500000        CRTDT =06/14/98 13:28:24 EXPCOD=2047          EXPDT =N/A
PROJID =SYS$           OWNR =GARY          LTYPE =SL          NUMFIL=00014
USERID =GARY           RUNID=CREATE          PRIVAT =0          VOLSEQ=001
PGMNAM =FURPUR        BLKCNT/BLKSI=00000/99999 CRUNI =ATAP10        BLKNUM=
FRSVOL/PRVVOL/NXTVOL=L10924/          /          LRECL =00000        CMPRES=
-- USE/VAULT INFO-- POOLID=
OUTAREA=              OUTDT =              SLOT =000000        RERROR=00000
BTHDT =04/06/89       CLNDT =              CLNCNT=000          WERROR=00000
VENDOR =3MCART        UCOUNT=000336        USECLN=000336        TRTCH =000110
LASUSR =RIC           USEDT =08/25/98 13:26:55 USUNI =ATAP7
-- USER INFO/FLAGS--
CUTDT = / /          DESCR=
FLAGS = AUTOLIB,DEFMMS, CAT          ,FOPTION,TLERBIT,
--TIF CONTROL INFO--
UPDRUN=MMGR3          PAGTYP=60          CMACID=A
UPDRUN=MMGR3          PAGTYP=60          CMACID=A
TIFPTR =0000000        UPDDT =08/25/98 13:26:55 TIFDVN=AABAR4        UMACID=A
BWDPTR =0000000        PUPDDT=08/23/98 15:36:23 VERSION=2          LMACID=A
VOLSER # L10924 ACTIVE
H=HELP,R=REEL,F=FNAME,D=DISPLAY,L=LIST,V=VERIFY,C=CHANGE
U=UPDATE,X=EXPIRE,Z=CLEANED,E=EXIT

```

### Display Single Tape

```

@STAR,A,,,,STR-1100
* S T A R *7R1-08 S75R3M 09/01/98 10:17:28
H=HELP,R=REEL,F=FNAME,D=DISPLAY,L=LIST,V=VERIFY,C=CHANGE
U=UPDATE,X=EXPIRE,Z=CLEANED,E=EXIT

L QUAL=SYS$ AND (CLEAN=0 OR (CLNCNT>0 AND RERROR>25))
CREATE EXPIRE
VOLSER          FILE-NAME          CYCLE          DESCRIPTION          DATE          DATE          LABEL
A00008*SYS$    *OBACKUP2          ( 1) FAS SYSTEM BACKUP 072793 081698 SL,F
L11047 SYS$    *OBACKUP1          ( 1) FAS SYSTEM BACKUP 082593 082698 SL,F
L11015*SYS$    *OBACKUP          ( 1) FAS SYSTEM BACKUP 082493 083098 SL,F
A00014 SYS$    *OBACKUP1          ( 1) FAS SYSTEM BACKUP 082693 091598 SL,F
ARC028 SYS$    *OBACKUP2          ( 1) FAS SYSTEM BACKUP 082693 091598 SL,F
ARC116*SYS$    *OBACKUP1          ( 1) FAS SYSTEM BACKUP 072793 081698 SL,F
HA0002*SYS$    *OBACKUP          ( 1) FAS SYSTEM BACKUP 111486 111897 SL,F
L10996*SYS$    *OBACKUP          ( 1) FAS SYSTEM BACKUP 011293 021198 SL,F
L10604 SYS$    *OBACKUP          ( 1) FAS SYSTEM BACKUP 021193          2047 SL,F
ARC066*SYS$    *OBACKUP1          ( 1) FAS SYSTEM BACKUP 081093 083098 SL,F
ARC034 SYS$    *OBACKUP2          ( 1) FAS SYSTEM BACKUP 082693 091598 SL,F
ARC002*SYS$    *OBACKUP2          ( 1) FAS SYSTEM BACKUP 081093 083098 SL,F
***          12 FILES SELECTED ***

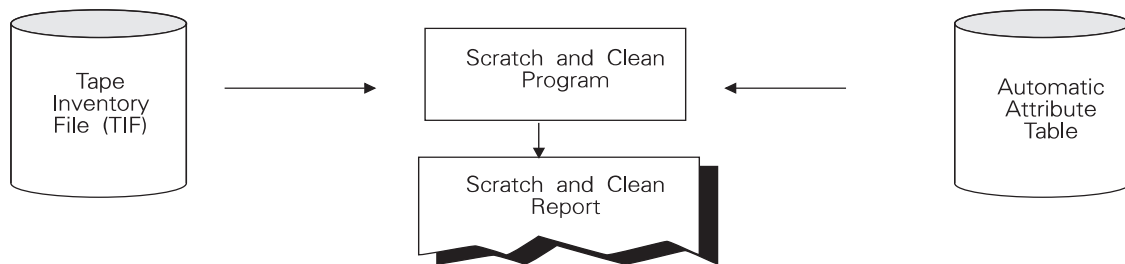
H=HELP,R=REEL,F=FNAME,D=DISPLAY,L=LIST,V=VERIFY,C=CHANGE
U=UPDATE,X=EXPIRE,Z=CLEANED,E=EXIT

E
*** STAR PROCESSING TERMINATED ***

```

### List Function Example

# Utility Maintains Scratch Pool, Automates Scratch Criteria, and Monitors Cleaning Process



## Scratch List Organizes Output Pool

The STAR-1100 utility scratch-n-clean analyzes the retention status of every tape in the Tape Inventory File (TIF). The Automatic Attribute Record processed by scratch-n-clean provides an easy method by which the site can pre-define the expiration attribute associated with an individual tape or group of tapes. Once the expiration attribute has been determined, scratch-n-clean selects tapes that have expired. The TIF records for those selected tapes are updated and listed in a standard STAR-1100 scratch tape report.

## Utility Automatically Selects Tapes For Cleaning

Because of STAR-1100's tape statistics, the scratch-n-clean utility run allows the librarian to clean tapes more selectively. If the number of times a tape has been used or the number of days since it was last cleaned exceeds a site's standard values, the tape is flagged for cleaning. By properly setting the parameters, a site can avoid excess cleaning while assuring that individual tapes receive the cleaning they need.

| AS OF 09/10/98                                                                                                  |           | STAR-1100 SCRATCH AND CLEAN REPORT OF |     |        |        | EXPIRED TAPES TO BE PULLED BY THE LIBRARIAN |      |        |      | PAGE 003 |     |    |             |                   |  |
|-----------------------------------------------------------------------------------------------------------------|-----------|---------------------------------------|-----|--------|--------|---------------------------------------------|------|--------|------|----------|-----|----|-------------|-------------------|--|
| REPORT PAGE BREAKS BY CMACID,POOLID,DENCODE,PRIVACY,L THIS PAGE CMACID=B,DENCODE=C ,PRIVAT=0,LTYPE=SL RPTDEF,CM |           |                                       |     |        |        |                                             |      |        |      |          |     |    |             |                   |  |
| VOLUME                                                                                                          | FILE NAME | CYC                                   | VOL | CREATE | V      | CREATE                                      | EXP  | EXP    | MAC  | DEN      | SL  | P  | DESCRIPTION | TIFDVN            |  |
| SERIAL                                                                                                          |           | NO.                                   | SEQ | RUN-ID | S      | DATE                                        | CODE | MMSPEC | DATE | ID       | COD | NL | V           | POOL-ID           |  |
| MMFD06                                                                                                          | NEWTAPES2 | CATALOGED-B                           | 1   | 1      | SANDCR | 071098                                      | 0    | MFD    |      | B        | C   | SL | 0           | MACHINE B'S TAPES |  |
| NMFD06                                                                                                          | NEWTAPES1 | CATALOGED-B                           | 1   | 1      | SANDCR | 071098                                      | 1900 |        |      | B        | C   | SL | 0           | MACHINE B'S TAPES |  |
| OMFD06                                                                                                          | OLDTAPES  | CATALOGED-B                           | 1   | 1      | SANDCR | 071098                                      | 1900 |        |      | B        | C   | SL | 0           | MACHINE B'S TAPES |  |

| AS OF 09/10/98 |            | STAR-1100 SCRATCH AND CLEAN REPORT OF |    |    |    | EXPIRATION FORECAST SUMMARY |       |  |  | PAGE 006 |
|----------------|------------|---------------------------------------|----|----|----|-----------------------------|-------|--|--|----------|
| TODAY+2        | 09/12/1998 | DENCODE                               | SL | NL | EB | ??                          | TOTAL |  |  |          |
|                |            | 7                                     | 0  | 0  | 0  | 0                           | 0     |  |  |          |
|                |            | 9V                                    | 0  | 0  | 0  | 0                           | 0     |  |  |          |
|                |            | 9S                                    | 0  | 3  | 0  | 0                           | 3     |  |  |          |
|                |            | C MANUAL                              | 5  | 5  | 0  | 0                           | 10    |  |  |          |
|                |            | C ALS                                 | 7  | 3  | 0  | 0                           | 10    |  |  |          |
|                |            | TOTAL                                 | 12 | 11 | 0  | 0                           | 23    |  |  |          |
| TODAY+3        | 09/13/1998 | DENCODE                               | SL | NL | EB | ??                          | TOTAL |  |  |          |
|                |            | 7                                     | 0  | 0  | 0  | 0                           | 0     |  |  |          |
|                |            | 9V                                    | 0  | 0  | 0  | 0                           | 0     |  |  |          |
|                |            | 9S                                    | 0  | 2  | 0  | 0                           | 2     |  |  |          |
|                |            | C MANUAL                              | 3  | 9  | 0  | 0                           | 12    |  |  |          |
|                |            | C ALS                                 | 4  | 3  | 0  | 0                           | 7     |  |  |          |
|                |            | TOTAL                                 | 7  | 14 | 0  | 0                           | 21    |  |  |          |

| AS OF 09/10/98                            |  | STAR-1100 SCRATCH AND CLEAN REPORT OF |             |       |                  | SUMMARY OF ALL TAPES |  |  |  | PAGE 008 |
|-------------------------------------------|--|---------------------------------------|-------------|-------|------------------|----------------------|--|--|--|----------|
|                                           |  | MAIN LIBRARY                          | OUT-OF-AREA | TOTAL | % OF TOTAL TAPES |                      |  |  |  |          |
| **SUMMARY OF TAPES BY EXPIRATION CRITERIA |  |                                       |             |       |                  |                      |  |  |  |          |
| TAPES SCRATCHED THIS RUN:                 |  | EXPIRED BY DATE                       | 0           | 0     | 0                | 0.0%                 |  |  |  |          |
|                                           |  | 18XX EXPIRATION                       | 0           | 0     | 0                | 0.0%                 |  |  |  |          |
|                                           |  | 1900 EXPIRATION                       | 3           | 1     | 4                | 0.4%                 |  |  |  |          |
|                                           |  | 19XX EXPIRATION                       | 0           | 0     | 0                | 0.0%                 |  |  |  |          |
|                                           |  | 30XX EXPIRATION                       | 0           | 0     | 0                | 0.0%                 |  |  |  |          |
| TOTAL TAPES SCRATCHED BY THIS RUN:        |  |                                       | 3           | 1     | 4                | 0.4%                 |  |  |  |          |
| TOTAL SCRATCHED & OWNED TAPES             |  |                                       |             |       |                  |                      |  |  |  |          |
|                                           |  | EXPIRED BY DATE                       | 94          | 32    | 126              | 15.0%                |  |  |  |          |
|                                           |  | 18XX EXPIRATION                       | 80          | 3     | 83               | 9.9%                 |  |  |  |          |
|                                           |  | 1900 EXPIRATION                       | 45          | 12    | 57               | 6.8%                 |  |  |  |          |
|                                           |  | 19XX EXPIRATION                       | 451         | 9     | 460              | 54.9%                |  |  |  |          |
|                                           |  | 2047 EXPIRATION                       | 37          | 0     | 37               | 4.4%                 |  |  |  |          |
|                                           |  | 30XX EXPIRATION                       | 59          | 4     | 63               | 7.5%                 |  |  |  |          |
|                                           |  | INVALID EXPIRATION CODE               | 11          | 0     | 11               | 1.3%                 |  |  |  |          |
| TOTAL SCRATCHED & OWNED TAPES:            |  |                                       | 777         | 60    | 837              | 99.8%                |  |  |  |          |

**Scratch-N-Clean Sample Reports**

# Management Reports With Up-to-Date Information Can Be Generated At Any Time



## STAR-1100 Serves the Needs Of Management

A comprehensive STAR-1100 report series provide management with the information required for normal tape administration. Special needs are accommodated by the STAR-1100 standard MAPPER interface or the optional QLP-1100 Report Subsystem.

### Reporting Options

The following standard reports are available:

#### "Volume List"

- Sorted by volume serial number

#### "File List"

- Sorted by filename and qualifier
- Sorted by qualifier and filename



**"Out-of-Area List"**

- Sorted by vault and slot, qualifier, filename, and cycle
- Sorted by vault and volume serial number
- Sorted by vault and out date

**"Owner List"**

- Sorted by owner, qualifier, filename, create date, and volume
- Sorted by owner and volume serial number

**"Statistics Report"**

- Sorted by volume serial number
- Sorted by vendor, write errors, and read errors

**"TIF Audit Report"**

Sorted by serial number and update date and time in ascending order. This report also contains console messages for special volume processing

| STAR-1100 REPORT-1 VOLSER # LIST ALL |               | PAGE 001         |                                                     |
|--------------------------------------|---------------|------------------|-----------------------------------------------------|
| AS OF 07/20/98 TIME 13:57            |               | SORT BY VOLSER   |                                                     |
| REPORT PAGE BREAKS BY NONE           |               | THIS PAGE NONE   |                                                     |
|                                      |               | OPTION R         |                                                     |
|                                      |               | RPTDEF,          |                                                     |
| S                                    |               |                  |                                                     |
| C REEL                               | FILE NAME     | CYC VOL CREATE V | CREATE EXPR                                         |
| R NUMBER                             |               | NO. SEQ RUN-ID S | DATE TIME CODE MMSPEC                               |
|                                      |               |                  | EXPR DATE                                           |
|                                      |               |                  | DESCRIPTION                                         |
|                                      |               |                  | MAC DEN SL OUTA                                     |
|                                      |               |                  | ID COD NL CODE SLOT DATE V                          |
| 1                                    | REPORT *TAPES | 1 1              | 072093 0000 2047 NOSCR ----- SHOULD BE FIRST UNLESS |
| 10                                   | REPORT *TAPES | 1 1              | 072093 0000 2047 NOSCR ----- SHOULD BE SECOND       |
| *11                                  |               | 1 1              | 010188 0000 1900 -----                              |
| 100                                  | REPORT *TAPES | 1 1              | 072093 0000 2047 NOSCR ----- SHOULD BE THIRD        |
| 1000                                 | REPORT *TAPES | 1 1              | 072093 0000 2047 NOSCR ----- SHOULD BE FOURTH       |
| 10000                                | REPORT *TAPES | 1 1              | 072093 0000 2047 NOSCR ----- SHOULD BE FIFTH        |
| TEST2                                | CAS           | 1 1              | 072093 0000 0 ----- 072093                          |
| TEST4                                |               | 1 1              | 072093 0000 300 ----- 051694                        |

**Volume List (Sorted by Volume)**

**STAR-1100 Product Overview**

| STAR-1100 REPORT-2 FILE NAME LIST ALL                                  |           |        |     |        |   |        |      |      |        |        |                        |      | PAGE      | 001               |      |      |        |   |
|------------------------------------------------------------------------|-----------|--------|-----|--------|---|--------|------|------|--------|--------|------------------------|------|-----------|-------------------|------|------|--------|---|
| AS OF 08/27/98 TIME 08:47 CMACID,DENCOD,FNAME,QUAL,CRTDT,FCYCLE,VOLSEQ |           |        |     |        |   |        |      |      |        |        |                        |      | OPTION    | F                 |      |      |        |   |
| REPORT PAGE BREAKS BY CMACID,DENCOD                                    |           |        |     |        |   |        |      |      |        |        |                        |      | THIS PAGE | CMACID=A,DENCOD=C |      |      |        |   |
| S                                                                      |           |        |     |        |   |        |      |      |        |        |                        |      | RPTDEF,MC |                   |      |      |        |   |
| C REEL                                                                 | FILE NAME | CYC    | VOL | CREATE | V | CREATE | EXPR | EXPR | MAC    | DEN    | SL                     | OUTA | OUTA      | P                 |      |      |        |   |
| R NUMBER                                                               |           | NO.    | SEQ | RUN-ID | S | DATE   | TIME | CODE | MMSPEC | DATE   | DESCRIPTION            | ID   | COD       | NL                | CODE | SLOT | DATE   | V |
| AL0010                                                                 | AUTOLIB   | *TAPES | 1   | 1      |   | 090192 | 0000 | 2    | -----  | 090392 |                        | C    | SL        |                   |      |      | 0      |   |
| AL0008                                                                 | AUTOLIB   | *TAPES | 1   | 1      |   | 090192 | 0000 | 2    | -----  | 090392 |                        | C    | SL        |                   |      |      | 0      |   |
| AL0009                                                                 | AUTOLIB   | *TAPES | 1   | 1      |   | 090192 | 0000 | 2    | -----  | 090392 |                        | C    | SL        |                   |      |      | 0      |   |
| OUT030                                                                 | OUTAREA   | *TAPES | 1   | 1      |   | 090192 | 0000 | 0    | -----  | 090192 |                        | C    | SL        | SCR1              |      | 0    | 090192 | 0 |
| OUT029                                                                 | OUTAREA   | *TAPES | 1   | 1      |   | 090192 | 0000 | 0    | -----  | 090192 |                        | C    | SL        | SCR1              |      | 0    | 090192 | 0 |
| 100                                                                    | REPORT    | *TAPES | 1   | 1      |   | 072093 | 0000 | 2047 | NOSCR  | -----  | SHOULD BE THIRD        | C    | SL        | NUM1              |      | 5    | 072093 | 0 |
| 1                                                                      | REPORT    | *TAPES | 1   | 1      |   | 072093 | 0000 | 2047 | NOSCR  | -----  | SHOULD BE FIRST UNLESS | C    | SL        | NUM1              |      | 3    | 072093 | 0 |
| 1000                                                                   | REPORT    | *TAPES | 1   | 1      |   | 072093 | 0000 | 2047 | NOSCR  | -----  | SHOULD BE FOURTH       | C    | SL        | NUM1              |      | 1    | 072093 | 0 |
| 10                                                                     | REPORT    | *TAPES | 1   | 1      |   | 072093 | 0000 | 2047 | NOSCR  | -----  | SHOULD BE SECOND       | C    | SL        | NUM1              |      | 2    | 072093 | 0 |

**File List (Sorted by Filename and Qualifier)**

| STAR-1100 REPORT-4 STR-OWNER AAF1 ALL                                                |           |        |     |        |      |        |      |      |        |        |             |      | PAGE      | 005                           |      |      |   |  |
|--------------------------------------------------------------------------------------|-----------|--------|-----|--------|------|--------|------|------|--------|--------|-------------|------|-----------|-------------------------------|------|------|---|--|
| AS OF 08/27/98 TIME 08:47 SORT BY CMACID,OWNER,DENCOD,QUAL,FNAME,CRTDT,FCYCLE,VOLSEQ |           |        |     |        |      |        |      |      |        |        |             |      | OPTION    | M                             |      |      |   |  |
| REPORT PAGE BREAKS BY OWNER,CMACID,DENCOD                                            |           |        |     |        |      |        |      |      |        |        |             |      | THIS PAGE | CMACID=A,DENCOD=OTHER THAN MC |      |      |   |  |
| S                                                                                    |           |        |     |        |      |        |      |      |        |        |             |      | RPTDEF,MC |                               |      |      |   |  |
| C REEL                                                                               | FILE NAME | CYC    | VOL | CREATE | V    | CREATE | EXPR | EXPR | MAC    | DEN    | SL          | OUTA | OUTA      | P                             |      |      |   |  |
| R NUMBER                                                                             |           | NO.    | SEQ | RUN-ID | S    | DATE   | TIME | CODE | MMSPEC | DATE   | DESCRIPTION | ID   | COD       | NL                            | CODE | DATE | V |  |
| AAF001                                                                               | AAFUPD    | *TAPES | 1   | 1      | AAF1 | 072393 | 0000 | 5    | -----  | 072893 |             | A    | 9V        | SL                            |      |      | 0 |  |
| AAF002                                                                               | AAFUPD    | *TAPES | 1   | 1      | AAF1 | 072393 | 0000 | 5    | -----  | 072893 |             | A    | 9V        | SL                            |      |      | 0 |  |
| AAF003                                                                               | AAFUPD    | *TAPES | 1   | 1      | AAF1 | 072393 | 0000 | 5    | -----  | 072893 |             | A    | 9V        | SL                            |      |      | 0 |  |
| AAF004                                                                               | AAFUPD    | *TAPES | 1   | 1      | AAF1 | 072393 | 0000 | 5    | -----  | 072893 |             | A    | 9V        | SL                            |      |      | 0 |  |
| AAF005                                                                               | AAFUPD    | *TAPES | 1   | 1      | AAF1 | 072393 | 0000 | 5    | -----  | 072893 |             | A    | 9V        | SL                            |      |      | 0 |  |

| STAR-1100 REPORT-4 STR-OWNER SANDCTEST ALL                                           |           |            |     |        |        |        |      |      |        |        |             |      | PAGE      | 009                           |      |      |   |  |
|--------------------------------------------------------------------------------------|-----------|------------|-----|--------|--------|--------|------|------|--------|--------|-------------|------|-----------|-------------------------------|------|------|---|--|
| AS OF 08/27/98 TIME 08:47 SORT BY CMACID,OWNER,DENCOD,QUAL,FNAME,CRTDT,FCYCLE,VOLSEQ |           |            |     |        |        |        |      |      |        |        |             |      | OPTION    | M                             |      |      |   |  |
| REPORT PAGE BREAKS BY OWNER,CMACID,DENCOD                                            |           |            |     |        |        |        |      |      |        |        |             |      | THIS PAGE | CMACID=A,DENCOD=OTHER THAN MC |      |      |   |  |
| S                                                                                    |           |            |     |        |        |        |      |      |        |        |             |      | RPTDEF,MC |                               |      |      |   |  |
| C REEL                                                                               | FILE NAME | CYC        | VOL | CREATE | V      | CREATE | EXPR | EXPR | MAC    | DEN    | SL          | OUTA | OUTA      | P                             |      |      |   |  |
| R NUMBER                                                                             |           | NO.        | SEQ | RUN-ID | S      | DATE   | TIME | CODE | MMSPEC | DATE   | DESCRIPTION | ID   | COD       | NL                            | CODE | DATE | V |  |
| *NBAD01                                                                              | NEWTAPES1 | *1800EXP   | 1   | 1      | SANDCR | 071092 | 0000 | 1800 | DAYS   | -----  |             | A    | 9S        | SL                            |      |      | 0 |  |
| NBAD02                                                                               | NEWTAPES1 | *3095EXP   | 1   | 1      | SANDCR | 071192 | 0000 | 3095 | DAYS   | -----  |             | A    | 9S        | SL                            |      |      | 0 |  |
| *NDAY01                                                                              | NEWTAPES1 | *EXPZERO-1 | 1   | 1      | SANDCR | 071092 | 0000 | 0    | -----  | 071092 |             | A    | 9S        | SL                            |      |      | 0 |  |
| NDAY02                                                                               | NEWTAPES1 | *EXPZERO-2 | 1   | 1      | SANDCR | 071192 | 0000 | 0    | -----  | 071192 |             | A    | 9S        | SL                            |      |      | 0 |  |
| NDAY03                                                                               | NEWTAPES1 | *EXPZERO-3 | 1   | 1      | SANDCR | 071292 | 0000 | 0    | -----  | 071292 |             | A    | 9S        | SL                            |      |      | 0 |  |

| STAR-1100 REPORT-4 STR-OWNER TIMSNC ALL                                              |           |              |     |        |        |        |      |      |        |        |                       |       | PAGE      | 018               |      |      |   |   |
|--------------------------------------------------------------------------------------|-----------|--------------|-----|--------|--------|--------|------|------|--------|--------|-----------------------|-------|-----------|-------------------|------|------|---|---|
| AS OF 08/27/98 TIME 08:47 SORT BY CMACID,OWNER,DENCOD,QUAL,FNAME,CRTDT,FCYCLE,VOLSEQ |           |              |     |        |        |        |      |      |        |        |                       |       | OPTION    | M                 |      |      |   |   |
| REPORT PAGE BREAKS BY OWNER,CMACID,DENCOD                                            |           |              |     |        |        |        |      |      |        |        |                       |       | THIS PAGE | CMACID=A,DENCOD=C |      |      |   |   |
| S                                                                                    |           |              |     |        |        |        |      |      |        |        |                       |       | RPTDEF,MC |                   |      |      |   |   |
| C REEL                                                                               | FILE NAME | CYC          | VOL | CREATE | V      | CREATE | EXPR | EXPR | MAC    | DEN    | SL                    | OUTA  | OUTA      | P                 |      |      |   |   |
| R NUMBER                                                                             |           | NO.          | SEQ | RUN-ID | S      | DATE   | TIME | CODE | MMSPEC | DATE   | DESCRIPTION           | ID    | COD       | NL                | CODE | DATE | V |   |
| SNC001                                                                               | SANDCTEST | *SCRATCHNOW  | 1   | 1      | SNCTIF | 090192 | 0000 | 0    | -----  | 090192 | SCRATCH IMMEDIATELY   | 10/2  | A         | C                 | SL   |      | 0 |   |
| SNC002                                                                               | SANDCTEST | *SCRATCHDAYS | 1   | 1      | SNCTIF | 090192 | 0000 | 10   | -----  | 091192 | SCRATCH 10 DAYS       | 10/11 | A         | C                 | SL   |      | 0 |   |
| SNC003                                                                               | SANDCTEST | *DAYSATERUSE | 1   | 1      | SNCTIF | 090192 | 0000 | 1805 | -----  | 091592 | SCR 5 DAYS USED       | 10/16 | A         | C                 | SL   |      | 0 |   |
| SNC004                                                                               | SANDCTEST | *MFDDELETION | 1   | 1      | SNCTIF | 090192 | 0000 | 1900 | -----  | -----  | SCR WHEN DEL FROM MFD |       | A         | C                 | SL   |      | 0 |   |
| SNC005                                                                               | SANDCTEST | *CYCLES      | 1   | 1      | SNCTIF | 090192 | 0000 | 1903 | -----  | -----  | KEEP 3 CYCLES         |       | SCR       | A                 | C    | SL   |   | 0 |
| SNC006                                                                               | SANDCTEST | *CYCLES      | 1   | 1      | SNCTIF | 090292 | 0000 | 1903 | -----  | -----  | KEEP 3 CYCLES         |       | KEEP      | A                 | C    | SL   |   | 0 |

Owner List (Sorted by Owner and Volume)

**Owner List (Sorted by Owner and Volume)**

| AS OF 07/20/98 TIME 13:57     |               |         |     |               |      |             |           |           |                        |           |             |        |         | STAR-1100 REPORT-3 OUT-OF-AREA LIST |           |        | VAULT - NUM1 ALL |  | PAGE 001 |  |
|-------------------------------|---------------|---------|-----|---------------|------|-------------|-----------|-----------|------------------------|-----------|-------------|--------|---------|-------------------------------------|-----------|--------|------------------|--|----------|--|
| REPORT PAGE BREAKS BY OUTAREA |               |         |     |               |      |             |           |           |                        |           |             |        |         | SORT BY OUTAREA,VOLSER              |           |        |                  |  | OPTION V |  |
| THIS PAGE NONE                |               |         |     |               |      |             |           |           |                        |           |             |        |         |                                     |           |        |                  |  | RPTDEF,  |  |
| S                             |               |         |     |               |      |             |           |           |                        |           |             |        |         |                                     |           |        |                  |  |          |  |
| C REEL                        | FILE NAME     | CYC NO. | VOL | CREATE RUN-ID | V S  | CREATE DATE | EXPR TIME | EXPR CODE | EXPR MMSPEC            | EXPR DATE | DESCRIPTION | MAC ID | DEN COD | SL NL                               | OUTA SLOT | P DATE |                  |  |          |  |
| 1                             | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE FIRST UNLESS | 0         | C           | SL     | 3       | 072093                              | 0         |        |                  |  |          |  |
| 10                            | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE SECOND       |           | C           | SL     | 2       | 072093                              | 0         |        |                  |  |          |  |
| 100                           | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE THIRD        |           | C           | SL     | 5       | 072093                              | 0         |        |                  |  |          |  |
| 1000                          | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE FOURTH       |           | C           | SL     | 1       | 072093                              | 0         |        |                  |  |          |  |
| 10000                         | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE FIFTH        |           | C           | SL     | 4       | 072093                              | 0         |        |                  |  |          |  |

| AS OF 07/20/98 TIME 13:57     |                 |         |     |               |      |             |           |           |             |           |             |        |         | STAR-1100 REPORT-3 OUT-OF-AREA LIST |           |        | VAULT - SCR1 ALL |  | PAGE 002 |  |
|-------------------------------|-----------------|---------|-----|---------------|------|-------------|-----------|-----------|-------------|-----------|-------------|--------|---------|-------------------------------------|-----------|--------|------------------|--|----------|--|
| REPORT PAGE BREAKS BY OUTAREA |                 |         |     |               |      |             |           |           |             |           |             |        |         | SORT BY OUTAREA,VOLSER              |           |        |                  |  | OPTION V |  |
| THIS PAGE NONE                |                 |         |     |               |      |             |           |           |             |           |             |        |         |                                     |           |        |                  |  | RPTDEF,  |  |
| S                             |                 |         |     |               |      |             |           |           |             |           |             |        |         |                                     |           |        |                  |  |          |  |
| C REEL                        | FILE NAME       | CYC NO. | VOL | CREATE RUN-ID | V S  | CREATE DATE | EXPR TIME | EXPR CODE | EXPR MMSPEC | EXPR DATE | DESCRIPTION | MAC ID | DEN COD | SL NL                               | OUTA SLOT | P DATE |                  |  |          |  |
| OUT001                        | OUTAREA *TAPES  | 1       | 1   | 090170        | 0500 | 3000        | DAYS      | 111878    |             |           |             | B      | C       | SL                                  | 1         | 090192 | 0                |  |          |  |
| OUT002                        | OUTAREA *TAPES  | 1       | 1   | 090170        | 0700 | 0           | USED05    | 090892    |             |           |             | B      | C       | SL                                  | 2         | 090192 | 0                |  |          |  |
| OUT003                        | OUTAREA *TAPES  | 1       | 1   | 090192        | 0800 | 0           | MFD       | -----     |             |           |             | B      | C       | SL                                  | 3         | 090192 | 0                |  |          |  |
| OUT004                        | OUTAREA *DCYCLE | 1       | 1   | 090192        | 0245 | 0           | DCYC01    | -----     |             |           |             | B      | C       | SL                                  | 4         | 090192 | 0                |  |          |  |
| OUT005                        | OUTAREA *DCYCLE | 1       | 1   | 090292        | 0722 | 0           | DCYC01    | -----     |             |           |             | B      | C       | SL                                  | 5         | 090192 | 0                |  |          |  |

**Out-of-Area (Sorted by Vault and Volume)**

| AS OF 08/27/98 TIME 08:47                    |               |         |     |               |      |             |           |           |                        |           |             |        |         | STAR-1100 REPORT-3 OUT-OF-AREA LIST  |           |        | VAULT - NUM1 ALL |  | PAGE 001  |  |
|----------------------------------------------|---------------|---------|-----|---------------|------|-------------|-----------|-----------|------------------------|-----------|-------------|--------|---------|--------------------------------------|-----------|--------|------------------|--|-----------|--|
| REPORT PAGE BREAKS BY OUTAREA,CMACID,DENCODE |               |         |     |               |      |             |           |           |                        |           |             |        |         | SORT BY OUTAREA,CMACID,DENCODE,OUTDT |           |        |                  |  | OPTION W  |  |
| THIS PAGE CMACID=,DENCODE=C                  |               |         |     |               |      |             |           |           |                        |           |             |        |         |                                      |           |        |                  |  | RPTDEF,MC |  |
| S                                            |               |         |     |               |      |             |           |           |                        |           |             |        |         |                                      |           |        |                  |  |           |  |
| C REEL                                       | FILE NAME     | CYC NO. | VOL | CREATE RUN-ID | V S  | CREATE DATE | EXPR TIME | EXPR CODE | EXPR MMSPEC            | EXPR DATE | DESCRIPTION | MAC ID | DEN COD | SL NL                                | OUTA SLOT | P DATE |                  |  |           |  |
| 1000                                         | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE FOURTH       |           | C           | SL     | 1       | 072093                               | 0         |        |                  |  |           |  |
| 100                                          | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE THIRD        |           | C           | SL     | 5       | 072093                               | 0         |        |                  |  |           |  |
| 10                                           | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE SECOND       |           | C           | SL     | 2       | 072093                               | 0         |        |                  |  |           |  |
| 10000                                        | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE FIFTH        |           | C           | SL     | 4       | 072093                               | 0         |        |                  |  |           |  |
| 1                                            | REPORT *TAPES | 1       | 1   | 072093        | 0000 | 2047        | NOSCR     | -----     | SHOULD BE FIRST UNLESS | 0         | C           | SL     | 3       | 072093                               | 0         |        |                  |  |           |  |

| AS OF 08/27/98 TIME 08:47                    |                |         |     |               |      |             |           |           |             |           |             |        |         | STAR-1100 REPORT-3 OUT-OF-AREA LIST  |           |        | VAULT - SCR1 ALL |  | PAGE 002  |  |
|----------------------------------------------|----------------|---------|-----|---------------|------|-------------|-----------|-----------|-------------|-----------|-------------|--------|---------|--------------------------------------|-----------|--------|------------------|--|-----------|--|
| REPORT PAGE BREAKS BY OUTAREA,CMACID,DENCODE |                |         |     |               |      |             |           |           |             |           |             |        |         | SORT BY OUTAREA,CMACID,DENCODE,OUTDT |           |        |                  |  | OPTION W  |  |
| THIS PAGE CMACID=,DENCODE=C                  |                |         |     |               |      |             |           |           |             |           |             |        |         |                                      |           |        |                  |  | RPTDEF,MC |  |
| S                                            |                |         |     |               |      |             |           |           |             |           |             |        |         |                                      |           |        |                  |  |           |  |
| C REEL                                       | FILE NAME      | CYC NO. | VOL | CREATE RUN-ID | V S  | CREATE DATE | EXPR TIME | EXPR CODE | EXPR MMSPEC | EXPR DATE | DESCRIPTION | MAC ID | DEN COD | SL NL                                | OUTA SLOT | P DATE |                  |  |           |  |
| OUT029                                       | OUTAREA *TAPES | 1       | 1   | 090192        | 0000 | 0           | -----     | 090192    |             |           |             | C      | SL      | 0                                    | 090192    | 0      |                  |  |           |  |
| OUT030                                       | OUTAREA *TAPES | 1       | 1   | 090192        | 0000 | 0           | -----     | 090192    |             |           |             | C      | SL      | 0                                    | 090192    | 0      |                  |  |           |  |

| AS OF 08/27/98 TIME 08:47                    |                  |         |     |               |      |             |           |           |             |           |             |        |         | STAR-1100 REPORT-3 OUT-OF-AREA LIST  |           |        | VAULT - SCR1 ALL |  | PAGE 003  |  |
|----------------------------------------------|------------------|---------|-----|---------------|------|-------------|-----------|-----------|-------------|-----------|-------------|--------|---------|--------------------------------------|-----------|--------|------------------|--|-----------|--|
| REPORT PAGE BREAKS BY OUTAREA,CMACID,DENCODE |                  |         |     |               |      |             |           |           |             |           |             |        |         | SORT BY OUTAREA,CMACID,DENCODE,OUTDT |           |        |                  |  | OPTION W  |  |
| THIS PAGE CMACID=B,DENCODE=C                 |                  |         |     |               |      |             |           |           |             |           |             |        |         |                                      |           |        |                  |  | RPTDEF,MC |  |
| S                                            |                  |         |     |               |      |             |           |           |             |           |             |        |         |                                      |           |        |                  |  |           |  |
| C REEL                                       | FILE NAME        | CYC NO. | VOL | CREATE RUN-ID | V S  | CREATE DATE | EXPR TIME | EXPR CODE | EXPR MMSPEC | EXPR DATE | DESCRIPTION | MAC ID | DEN COD | SL NL                                | OUTA SLOT | P DATE |                  |  |           |  |
| OUT024                                       | OUTAREA *TAPES   | 1       | 1   | 090192        | 0000 | 0           | -----     | 090192    |             |           |             | B      | C       | SL                                   | 0         | 090192 | 0                |  |           |  |
| OUT018                                       | OUTAREA *YEARCYC | 1       | 1   | 090190        | 0245 | 1901        | YEAR01    | 090191    |             |           |             | B      | C       | SL                                   | 18        | 090192 | 0                |  |           |  |
| OUT003                                       | OUTAREA *TAPES   | 1       | 1   | 090192        | 0800 | 0           | MFD       | -----     |             |           |             | B      | C       | SL                                   | 3         | 090192 | 0                |  |           |  |
| OUT004                                       | OUTAREA *DCYCLE  | 1       | 1   | 090192        | 0245 | 0           | DCYC01    | -----     |             |           |             | B      | C       | SL                                   | 4         | 090192 | 0                |  |           |  |
| OUT010                                       | OUTAREA *TAPES   | 1       | 1   | 090186        | 0245 | 0           | YEAR05    | 090191    |             |           |             | B      | C       | SL                                   | 10        | 090192 | 0                |  |           |  |
| OUT005                                       | OUTAREA *DCYCLE  | 1       | 1   | 090292        | 0722 | 0           | DCYC01    | -----     |             |           |             | B      | C       | SL                                   | 5         | 090192 | 0                |  |           |  |

**Out-of-Area (Sorted by Vault and Out Date)**



# MAPPER and QLP-1100 Report Subsystem Generate Special One-Time Reports

Ability to respond to the special needs of management is a key feature of STAR-1100. With MAPPER and QLP, Operations can respond promptly and efficiently to Management requests for custom one-time reports. These special reports can be generated quickly using standard MAPPER or QLP functions. They can also be tailored with headings, footings, subtotals, etc., using the QLP-1100 report writer or customized MAPPER runs.

## The MAPPER Interface

The STAR-1100 MAPPER interface provides an easy, menu-driven method of analyzing many aspects of tape usage. With MAPPER you can

- View a complete picture of a single tape.
- See how various types of tapes are being used.
- Determine how pools within a robotics system are being allocated.
- Determine how various retention values have been allocated.
- See how many tapes have been retained by various owners.

Using the information stored and the vast capabilities of MAPPER, you can obtain special reports unique to your site.

```

          S T A R - 1 1 0 0   M A P P E R   I n t e r f a c e
          (Enter Function Code <   > or Tab to Appropriate Function )

          DISPLAY RIDS           PRINT RIDS           TIFMAP FUNCTIONS
          -----
          A. Rid 1 Result >      E. Rid 1 Result >      I. Display Selected reel   >
          B. Rid 2 Result >      F. Rid 2 Result >      J. Start Batch Tif Capture >
          C. Rid 3 Result >      G. Rid 3 Result >      K. Refresh Rids From Exec Files >
          D. Rid 4 Result >      H. Rid 4 Result >      L. Blend 4 Tif Rids       >

          STAR SUMMARY REPORTS
          -----
          M. Total Summary Report >      P. Owner Usage Type Report >
          N. Pool Summary Report >      Q. Owner Retention Report >
          O. Retention Usage Report >    R. Vault Summary Report >

          X. EXIT >

          Date & time the Tifmap Rids were created :

          Date: 09/01/98           Time: 11:32:24
  
```

## The QLP Report Subsystem

Sites that license QLP-1100 from Unisys can use the STAR-1100 QLP Report Subsystem to create custom reports based on up-to-date information extracted from the Tape Inventory File (TIF). TIF data is read and reformatted into a standard PCIOS file. The user can then execute QLP-1100 which reads the PCIOS file and generates the desired report.

To: Fred Jones  
From: Michael Simmons  
Subject: Special Tape Use Report  
Date: 08/01 10:30 a.m.

Fred,  
I'm going to an important audit department meeting on 8/8. I need a listing of inactive, only tapes created by runids: AUDITK, and AUDITS.

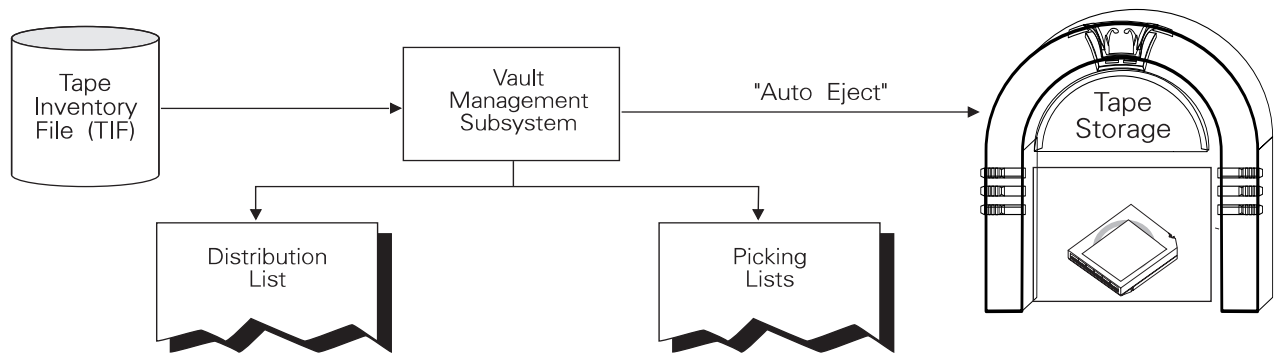
```
@QLP
QLP 6R2 08/01/98 10:18:44 6R2
1 1 INVOKE STAR1100 IN SYS$LIB$*STAR
2 2 LIST BY COLUMN VOLSER,OWNR,QUAL,FNAME,CRTDT,EXPDT ;
3 3 SORTED ON OWRN,VOLSER ;
4 4 WHERE EXPDT='2047' AND CRTDT-S<'9808/01 AND
CRTDT-S>'9807/01' ;
5 5 AND VOLSER<10000
```

| VOLSER | OWNR | QUAL   | FNAME | CRTDT |
|--------|------|--------|-------|-------|
| 10038  | BARB | STRGEN |       |       |
| 10069  | BARB |        |       |       |
| 10127  | BARB |        |       |       |
| 10153  | BARB |        |       |       |
| 10165  | BARB |        |       |       |
| 10177  | BARB |        |       |       |
| 10181  | BARB |        |       |       |

To: Michael Simmons  
From: Fred Jones  
Subject: Special Tape Use Report  
Date: 8/1

Mike,  
Here's your report. We're expecting to scratch a bunch of these tapes soon, so your response is needed asap.

# Vault Management Subsystem Controls Transfers of Tapes To and From Storage



## Gaining Control of Tape Storage

The Vault Management Subsystem (VMS) manages the transfer of tapes to and from separate vaults or storage locations. VMS

- Generates picking and distribution reports.
- Automatically produces commands to eject volume from Robotic Tape Library.
- Automatically assigns slot numbers for efficient vault storage.

Because the storage information is kept within the Tape Inventory File, it is available for display or reporting as necessary.

## Reducing Librarian Workload

VMS makes it much easier for the librarian to organize tape storage. This subsystem is particularly effective in managing cycled tape files. VMS can maintain most current version(s) of a file on-site and automatically schedule other generations for archival. It also automates the return of tapes to the central site.

**From the Desk of Michael Simmons  
D.P. Director**

To: Fred Jones  
Date: 08/04

Fred, the auditors advised me that we should change our procedures for storage of the payroll master. They are asking for three cycles in the library, two at the bank, and they suggest we keep one cycle in the mountain vault. Please take the necessary steps to implement this.

*Thanks,  
Mike*

```
VAULTS=BANK,MNTN,VLT2
QFN=PRODUCTION*INVENTORY.
V=BANK,C=1
V=LIBR,C=4
QFN=PRODUCTION*CUSTOMER-MST.
V=LIBR,C=4
V=BANK,C=1
QFN=PRODUCTION*PAYROLL-MST.
V=LIBR,C=13
V=BANK,C=12
QFN=PRODUCTION*EMPLOYEE-MST.
V=LIBR,C=2
V=BANK,C=1
```

**V=MNTN,C=1**

*8/10*

*Gloria,*

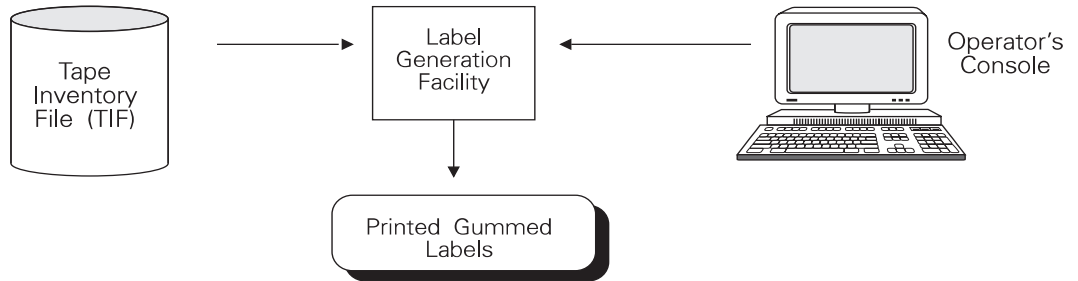
*Please update the vault pattern parameters as I've indicated before tonight's VMS run.*

*Thanks,*

*Fred*



# Gummed Labels Can Be Printed On-Line

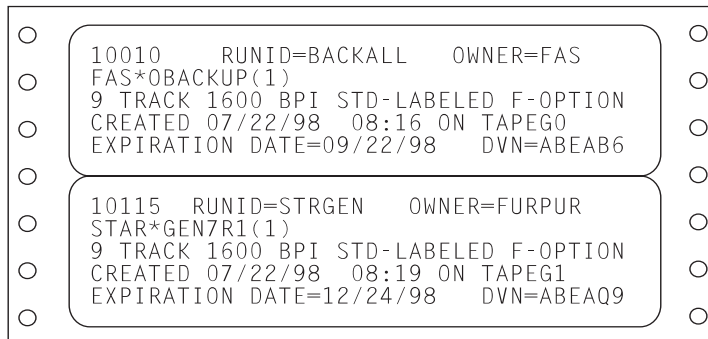


## Gummed Labels Printed As Tapes Are Created

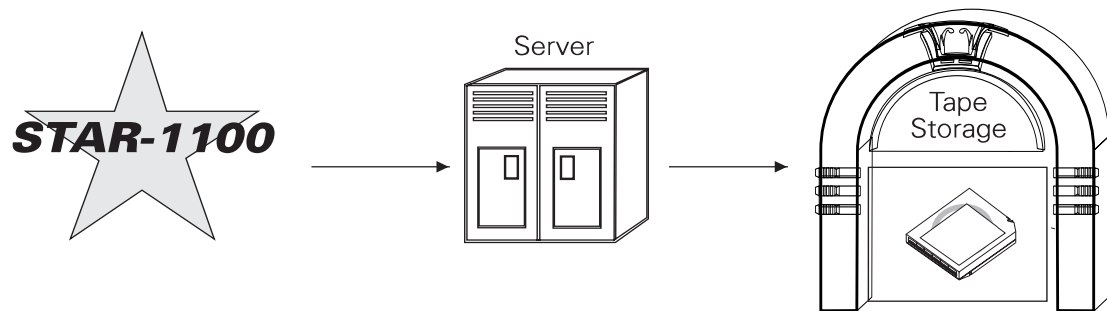
A subsystem of STAR-1100 can be used to print gummed labels for output tapes as they are created. The labels are printed on gummed stock on any terminal/printer operating in standard OS 1100 demand mode. This feature can also be used to print labels for specific tapes on request.

## Saves Time, Reduces Human Error

At most sites, gummed labels are filled out by a combination of users, librarians, and operators. This subsystem saves people time by eliminating manual preparation of labels. By printing complete and accurate information from the TIF, STAR-1100 greatly reduces human error in filling out labels.



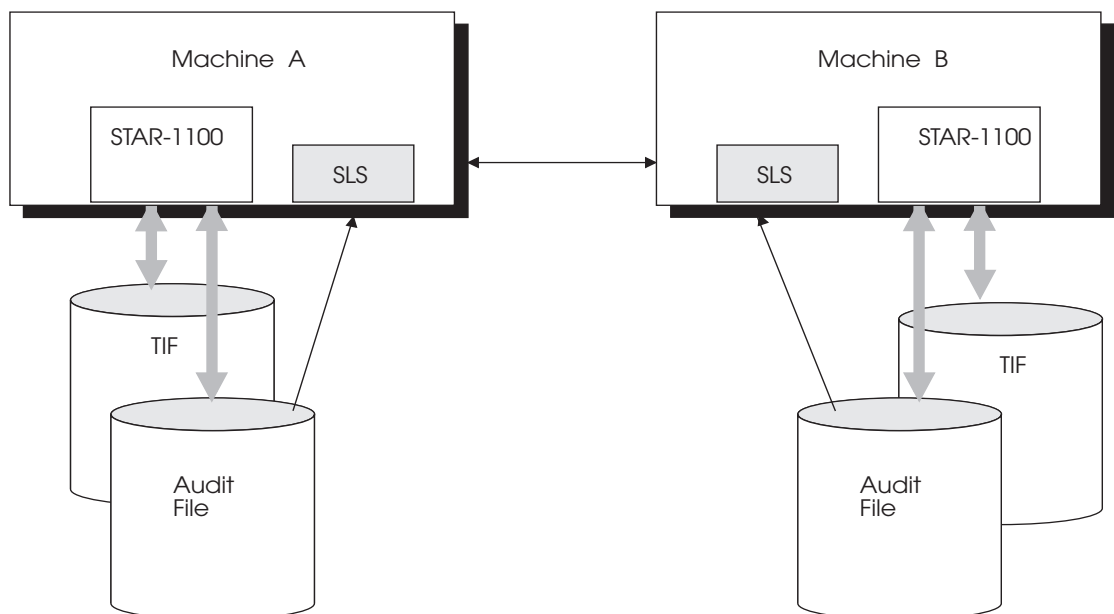
# STAR-1100 Enters the Robotic Era



STAR-1100's Automated Library Subsystem (ALS) provides the features needed when you add tape robotics to your operational environment. FCI continues to work closely with all the major manufactures of robotic systems in an effort to provide the most comprehensive set of interface functions, including

- Synchronization of the TIF and robotic databases (scratch pools)
- Automatic tape EJECT (primarily used for off-site vaulting)

# Multiple Clearpath HMP IX & 2200 Computer Systems– One Tape Library



## Automatic TIF Updates When Tapes Are Accessed

Multiple Clearpath HMP IX and 2200 systems that use one physical tape library require the site to maintain a logical pool of tapes for each Clearpath HMP IX and 2200. This leads to added manual procedures and increases the chance for lost data.

STAR-1100's Shared Library Subsystem (SLS) allows a site to maintain one logical tape pool by automatically insuring that tape information on one Clearpath HMP IX and 2200 is identical to the information contained on any other SLS-configured Clearpath HMP IX and 2200. Tapes created on one machine can be taken to any other machine and accessed under the full control and protection of STAR-1100.

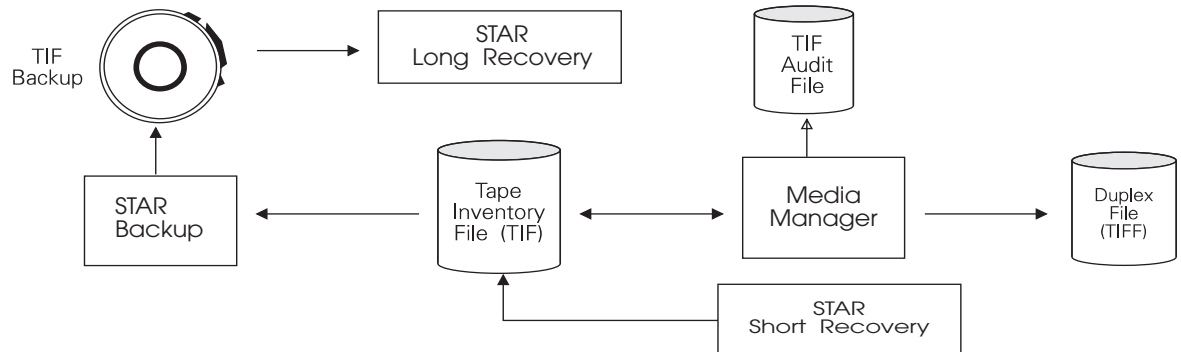
## **Protection Without Manual Controls or Procedures**

SLS eliminates the need for logical tape pools. There is no need for operational or librarian controls when using the same tape on multiple Clearpath HMP IX and 2200's running SLS. Protection is guaranteed even if the communications link is temporarily down.

## **Flexibility and Compatibility**

SLS is flexible. As the site grows, so can SLS. SLS supports two or more Clearpath HMP IX and 2200's operating under independent copies of OS 1100. SLS is fully compatible with all STAR-1100 subsystems.

# Valuable STAR-1100 Library Data Protected



## Comprehensive Back-Up and Recovery

As the ultimate source of tape protection and management, the Tape Inventory File (TIF) is a valuable resource. The STAR-1100 package includes back-up and recovery processes that protect tape library data.

### Back-Up

The TIF data is protected in three ways. First, the data is maintained in a duplex file (TIFF) as an exact copy of the TIF. Second, all updates to the TIF are logged within the TIF audit file. Finally, the entire TIF file is periodically copied to tape. The back-up tape establishes a checkpoint that can be input to the long recovery process.

### Uninterruptable Processing: Media Manager On-The-Fly Recovery

If the Media Manager detects an error while accessing the TIF and a TIFF is available, it will automatically switch to the TIFF, continue normal processing, and notify operations of the problem.

### Quick Recovery

Quick recovery simply restores the TIF as a copy of the duplex file (TIFF).

### Long Recovery

In the event of a catastrophic disk failure, the most recent TIF checkpoint is restored and subsequent updates are reapplied from the TIF audit file.

# Security For Critical Tape Information

## Security That Protects

STAR-1100 protects critical data during the tape's entire life cycle. When first creating a tape, STAR-1100 insures that the tape is the type requested and that it is in a scratch status. Once data has been written to the tape, STAR-1100's flexible expiration criteria insure the tape will not be scratched except in accordance with the user's specifications. As long as the tape is owned, no unauthorized user can overwrite the tape.

## Tape Inventory Data Protected

The Tape Inventory File that contains information on each tape is always assigned to the Media Manager. This means a user cannot read, write, or destroy the file or information kept in the file. Even those programs that are provided for the purpose of reading and updating tape information restrict access through the use of passwords and configurable restrictions. For example, only the owner of a tape can display information on the tape, and only those elements that have been authorized by the site can be modified by the user.

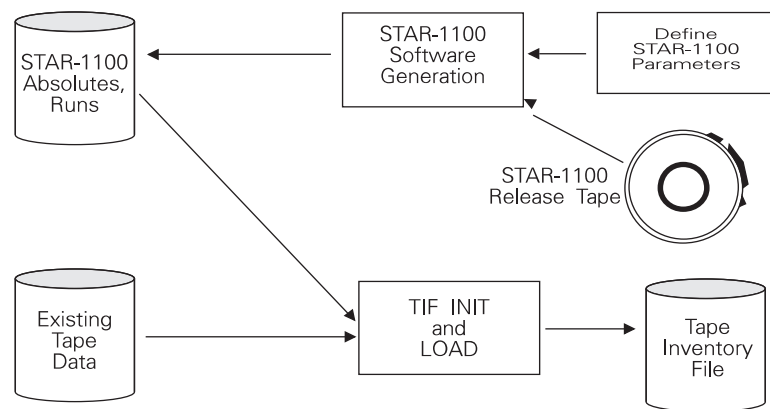
## User-Selective Security

The user can specify that the owner is the only one permitted to read or write the tape.

## System-Wide Security

If it becomes necessary to relabel a tape, the STAR-1100 utility LABEL prevents inadvertent labeling of the wrong tape by verifying both the tape number and that the tape is in a scratch status.

# STAR-1100 Is Carefully Planned For Smooth Installation



## Pre-Installation Planning

A smooth STAR-1100 installation is important and sets the tone for everything that follows. FCI has continually upgraded the installation documentation so that today STAR-1100 installation is fast and easy.

## Automated Software Generation Easy To Use

STAR-1100 is shipped with a COMUS compatible generation procedure. This convenient process allows the site to configure STAR-1100 to its specific needs.

## No ECL Changes Prior To Installation

The installation process can be facilitated by using the Automatic Attribute Feature (AAF) that is provided as a standard part of STAR-1100. This feature allows the site to define the critical attributes that will be associated with an individual tape or groups of tapes. Users are not required to code these attributes on assign statements included in their ECL. AAF greatly reduces the amount of user education required prior to installation.

## **Building The Tape Inventory File**

FCI's installation procedures offer three methods for building a TIF. The easiest technique is to initialize the TIF with a record for each tape and use default values for all TIF data fields. The librarian can manually cause expired tapes to be scratched within STAR-1100. The librarian can also manually update expiration values in the TIF to match actual retention requirements for key applications. As new tapes are written, STAR-1100 automatically updates the TIF and the tape information progressively becomes current.

In the second method, a standard STAR-1100 utility accepts terminal input or a pre-edited SDF file and loads the corresponding tape data into the TIF.

The third solution uses an FCI-supplied skeleton program to handle all of the TIF preparation up to the point of accessing input data. The customer adds specific logic to access the local file containing existing tape data.

# **STAR-1100 Will Take You Into the Future**

Today, if a software company does not keep adding value to their products, their business and customers can fall behind. At FCI we continually strive for improvement in our products while staying on the leading edge of technology. We have recently proven this with the introduction of the Media Manager, which requires no local code in STAR-1100.

## **Continuing to Move Ahead**

FCI is always working to improve and enhance its products. Today, "dark computer room operation" is being considered by many large tape users. STAR-1100 is ready when you are. STAR-1100 supports both the StorageTek ACS and the Unisys CTL. If you are thinking of reducing operating expense by using robotics, then STAR-1100 is your only logical choice. Both manufacturers recommend implementation of an automated tape management system in conjunction with their hardware.



# Product Support

## Getting Help

### Mail Support

Formula Consultants Incorporated  
P. O. Box 544  
Anaheim, California 92815

### Telephone Support

The normal business hours for Formula Consultants Inc. is Monday through Friday from 8:00 AM to 4:00 PM Pacific time. The STAR-1100 Product Emergency Support is available 24 hours a day, 7 days a week. The phone number for both services is:

(714) 778-0123 extension 5.

After normal business hours extension 5 will automatically page the product support team. Please give your name and phone number and a brief explanation of the problem. Your call will be returned promptly.

### Internet E-Mail Support

The Product Support group can also be reached with E-Mail at the following address:  
STAR@FORMULA.COM

The E-Mail will be broadcast to all the members of the Product Support Team to ensure that a prompt answer will be received.

The Automated Mailing of STAR News and Corrections is also available upon request. All that is needed is your E-Mail address. The STAR News can contain STAR -1100 Notes of Interest and the latest STAR -1100 corrections.

### FAX Support

The FAX number for Formula Consultants Inc. is (714) 778-6364.

### **FCI Support Center RSS Support**

The FCI support center is a RSS 3R2 compatible server that can be accessed using a MultiTech Modem at phone number (714) 765-1156.

### **The Product Release Tape**

The last file of the Product Release Tape will contain all of the STAR News information and all of the corrections that were available as of the date and time the tape was created.

## **FCI's In-Depth Experience**

STAR-1100 provides more than proven programs and quality documentation. You get the benefit of Formula Consultants many years of Unisys support experience. As we provide ongoing Unisys Clearpath HMP IX and 2200 series support, we become familiar with the latest Unisys software releases. We promptly upgrade STAR-1100 to reflect the newest, generally available levels of Unisys software.

Our considerable experience of installing and supporting Unisys products in a variety of government and industry settings has given us a broad appreciation of the needs of Clearpath HMP IX and 2200 series users.

## **Extended Maintenance Services**

Clients who subscribe to the STAR -1100 extended maintenance services receive:

- Emergency product fixes to problems
- Any known solutions to problems reported by other clients
- Modifications to accommodate new Unisys software releases
- Enhancements to STAR-1100, when they are not sold separately

## **We're With You Into the Future**

The FCI commitment is one that will be with you into the future. At FCI we continually work with our clients, listening to their needs. This ongoing commitment allows us to keep evolving our products to meet new needs and changing requirements.

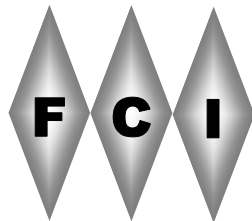
# Other FCI Products

**OTS-1100** — Online Terminal Security System

**AccommoDATE** — Date Simulation for Y2K and Beyond

**Education** — FCI offers a wide variety of courses taught at your site or ours

At FCI we are continually looking for ways to improve our products and services. Talk to our customers. They will tell you the truth, and without exception will tell you that FCI's products are the best; that FCI's people are the most responsive; and that FCI's management is there to service you, the customer.



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