

CP-6

Customer Support Handbook

Preface

Honeywell Bull's Software Product Support Services for CP-6 large systems offers software support services through the Customer Services Division (CSD). They are available to all properly licensed users of that software. This handbook describes these services and the procedures that users within the United States should follow to take advantage of them. For CP-6 systems outside the United States support policies vary; please contact your Honeywell Bull Marketing representative for the exact procedures to follow.

CSD installs and services information systems hardware and software worldwide through its network of customer service engineers, technical and remote support centers, National Response Center (NRC), service centers, and parts and repair depots. CSD employees serve in all 50 states, Puerto Rico, and many foreign locations. The division is headquartered in Newton, Massachusetts.

Computer Aided Publication (CAP) is an advanced electronic technical publishing system. CAP is based on the document database concept which also takes advantage of many features of the CP-6 Operating System. The Honeywell Bull CP-6 documentation group authors, edits, reviews, and creates laser print masters with integrated text and graphics using CAP. This manual is a product of CAP.

Readers of this document may report errors or suggest changes through a STAR on the CP-6 STARLOG system. Prompt response is made to any STAR against a CP-6 manual, and changes will be incorporated into subsequent releases and/or revisions of the manuals.

The information and specifications in this document are subject to change without notice. Consult your Honeywell Bull Marketing Representative for product or service availability.

Table of Contents

Section 1. Overview of CP-6 Support	1-1
National Response Center	1-1
Technical Assistance Center	1-2
Los Angeles Development Center	1-3
Section 2. User Responsibilities	2-1
Primary Technical Contact	2-1
Problem Definition and Documentation	2-2
System Maintenance	2-3
Patch Files	2-3
PMERGE.X	2-4
System Access	2-4
Section 3. Calling the NRC	3-1
Prerequisites	3-1
Call Dialogue	3-2
Response Time	3-4
Section 4. TAC Objectives	4-1
Problem Definition, Isolation and Documentation	4-1
Avoidance Techniques	4-2
Reassignment of Problem Responsibility	4-2
Section 5. LADC Support Environment	5-1
Communications Environment	5-1
ASync Capabilities	5-2
WOODPECKER	5-4
DAPPLE.X	5-4
EDIT	5-4
MAIL	5-4
BEAM	5-5
Sync Capabilities	5-6
Automated Support System	5-7
STARLOG	5-9
TATTLE	5-10
STARGAZE	5-11
Starlord STAR Review	5-11
ARCHLOG.STAR	5-12
Analyst Alert Stars	5-12

Support Processes	5-12
Diagnostic Data Collection	5-13
Early Warning System	5-13
Remote Debugging	5-14
Patch Management	5-14
PATCH_HIST	5-16
MAIL ALERTS	5-16
Section 6. STAR Guidelines	6-1
STAR Format and Content	6-1
Diagnostic Tools	6-2
ELBBIRD.X	6-2
SNAP.X	6-3
Optimal Problem Reporting	6-3
Dumps	6-3
Host System Screeches, SUAs and Snaps	6-8
Host System Hang	6-9
IDS Snaps	6-10
IBEX Snaps	6-11
ARES Snaps	6-12
DELTA Snaps	6-14
TCPN Snaps	6-15
TPA Snaps	6-15
FEP Screeches	6-16
TP Problems	6-17
Compiler Problems	6-20
Application Problems	6-21
Identifying System's Patch Level	6-23
Identifying Dump File Version	6-24
Retaining Files in :SYSTAC and :SYSTAC2	6-24
Section 7. STARLOG Common Usage Considerations	7-1
Modifying Your LOGON Record	7-1
Displaying STARS	7-2
Building a STAR	7-3
Editing a STAR	7-5
Appending NOTES	7-6
Editing a NOTE	7-7
Deleting a STAR or NOTE	7-8
Duplicating STARS	7-8
Common STAR Retrieval Functions	7-9
Creating STARLOG Reports in Batch Mode	7-11
Scheduling STARLOG Batch Job via SETUP File	7-12
Sample Weekly STARLOG Job	7-12
Sample Monthly STARLOG Job	7-14
Sending Supporting Documentation	7-16
Naming Convention for Supporting Documentation	7-16
BEAMing Supporting Documentation	7-16
Building STAR and Supporting Documentation in Batch Mode	7-17

Appendix A. STARLOG Data Base	A-1
STAR Area	A-2
NOTE Area	A-5
CUSTOMER Area	A-6
LOGON Area	A-9
PRODUCT Area	A-11
CATEGORY Area	A-11
PROGRAMMER Area	A-12
STAR Subjects	A-13
STAR Severities	A-14
STAR Statuses	A-16
 Appendix B. STARLOG Command Summary	 B-1
Invoking STARLOG	B-1
Positioning and Record Selection	B-2
Selection Criteria	B-2
Field Names	B-2
Logical Operators	B-3
Relational Operators	B-4
Literals	B-5
Command Concatenation	B-6
Command Variable and Percent Usage	B-6
Commands	B-7
ALL Command	B-8
BUILD Command	B-9
CHANGE Command	B-12
DATE Command	B-13
DIRECTORY Command	B-13
DISPLAY Command	B-14
DO Command	B-15
EDIT Command	B-16
END Command	B-17
ERASE Command	B-18
FIND Command	B-18
FIRST Command	B-20
HELP Command	B-21
LINK Command	B-22
LOGON Command	B-23
MODE Command	B-24
MY Command	B-24
NEXT Command	B-25
OFF Command	B-26
OUTPUT Command	B-27
PAGE Command	B-27
PRINT Command	B-28
READ Command	B-29

REPORT Command	B-29
REST Command	B-31
SELECT Command	B-32
THIS Command	B-32
WHEN Command	B-33

Appendix C. CP-6 Support Telephone Numbers	C-1
--	-----

Tables:

Table A-1. STAR Record Fields.	A-2
Table A-2. NOTE Record Fields.	A-5
Table A-3. CUSTOMER Record Fields.	A-7
Table A-4. LOGON Record Fields	A-9
Table A-5. PRODUCT Record Fields	A-11
Table A-6. CATEGORY Record Fields.	A-12
Table A-7. PROGRAMMER Record Fields.	A-12
Table A-8. STARLOG Subject Categories.	A-13
Table A-9. STAR Severity Level Guidelines.	A-14
Table A-10. STAR Statuses.	A-16

Figures:

Figure 5-1. LADC Communications Environment.	5-2
Figure 5-2. CP-6 Automated Support Process	5-8
Figure 6-1. ANLZ REC Display	6-4
Figure 6-2. ANLZ TCB Display	6-5
Figure 7-1. STAR Display After BUILD	7-4
Figure 7-2. Display of Completed STAR.	7-6
Figure 7-3. STARNOTE STAR Display.	7-8
Figure 7-4. Sample SETUP File for System Manager	7-12
Figure 7-5. Sample Weekly STARLOG Job.	7-12
Figure 7-6. Sample Monthly STARLOG Job	7-15
Figure 7-7. Sample JCL to Build STAR and Supporting Documentation.	7-17
Figure A-1. STARLOG Area Structure	A-1

About This Manual

Section 1 of the handbook provides a very general overview of the CP-6 Software Product Support Services that are available to licensed users of CP-6 systems.

Section 2 describes the responsibilities that the users have so that optimal support can be provided.

Section 3 outlines and describes the procedures to interface with the National Response Center (NRC) when placing requests for assistance.

Section 4 describes the role of the CP-6 TAC in the support process and how to utilize the services offered.

Section 5 discusses in some detail the various components of the LADC support environment available to customers.

Section 6 suggests guidelines for submitting problem reports to CP-6's on-line technical problem reporting system, STARLOG.

Section 7 describes how to get started using the STARLOG database and commands.

Appendix A describes the STARLOG data base.

Appendix B describes STARLOG command syntax.

Appendix C lists the telephone numbers used in support of CP-6 sites.

Related Manuals

The following is the list of manuals supporting the CP-6 Operating System and associated software.

ORDER NUMBER	TITLE	PUBLICATION DATE
CE28-01	CP-6 SORT/MERGE Reference	February 1983 *
CE29-02	CP-6 COBOL Reference (COBOL-74)	February 1983 *
CE30-02	CP-6 IDP Reference	July 1982 *
CE31-04	CP-6 FORTRAN Reference (FORTRAN-77)	July 1986 *
CE32-03	CP-6 BASIC Reference	March 1985 *

CE34-04	CP-6	Operations Reference	February	1987	*
CE35-02	CP-6	I-D-S/II Reference	February	1983	*
CE36-02	CP-6	I-D-S/II DBA Reference	February	1983	*
CE37-00	CP-6	RPGII Reference	December	1979	W
CE38-04	CP-6	APL Reference	May	1986	*
CE39-03	CP-6	DELTA Reference	March	1985	*
CE40-03	CP-6	Programmer Reference	March	1985	*
CE42-02	CP-6	Programmer Pocket Guide	January	1986	*
CE44-02	CP-6	PL-6 Reference	March	1985	*
CE45-01		Getting Started with Time Sharing	October	1987	*
CE46-02	CP-6	COBOL Programmer Guide (COBOL-74)	February	1983	*
CE47-04	CP-6	FORTRAN Programmer Guide (FORTRAN-77)	August	1986	*
CE48-02	CP-6	TEXT Processing Reference	February	1987	*
CE49-01	CP-6	TP Applications Programmer Guide	August	1985	*
CE50-01	CP-6	TP Administrator Guide	August	1985	*
CE51-01	CP-6	FPL Reference	August	1985	*
CE52-00	CP-6	TEXT Processing Administrator Guide	July	1982	*
CE53-00	CP-6	TEXT Processing Primer	June	1981	*
CE54-00	CP-6	I-D-S/II Guide	January	1982	*
CE55-01	CP-6	Application Programmer Handbook	January	1984	*
CE56-03	CP-6	Pocket Guide to Documentation	February	1987	*
CE59-00	CP-6	FASTEXT Guide	December	1982	S
CE60-00	CP-6	System Manager Handbook	March	1985	*
CE61-01	CP-6	Customer Support Handbook	October	1987	*
CE62-00	CP-6	System Programmer Guide	January	1984	*
CE64-02	CP-6	Operations Pocket Guide	February	1987	*
CE65-00	CP-6	FEP Assemblers Reference	March	1985	*
CE66-01	CP-6	FEP Monitor Services Reference	February	1987	*
CE67-00	CP-6	FEP Library Services Reference	February	1987	*
CE68-00	CP-6	COBOL Reference (COBOL-85)	April	1986	*
CE69-00	CP-6	COBOL Programmer Guide (COBOL-85)	April	1986	*
CE70-00	CP-6	6Edit Screen Editor Reference	April	1985	*
CE71-01	CP-6	Host Library Services Reference	February	1987	*
CE72-00	CP-6	DIGS (Graphics) Reference	March	1985	*
CE73-00	CP-6	Introduction to 6Edit Screen Editing	April	1985	*
CE74-00	CP-6	Host Monitor Services Reference (Desc.)	March	1985	*
CE75-00	CP-6	Host Monitor Services Reference (Struc.)	March	1985	*
DH03-01	DPS8	Assembly Instructions	June	1984	W
DU81-01	DPS 90	Site Preparation			W
DW17-00	DPS 90	System Power Sequencer Install			W
DY03-C	DPS 90	IOP Startup			W
DY04-C	DPS 90	IOPMPS Message Manual			W
DY05-C	DPS 90	MSOS Operation Manual			W
DY06-C	DPS 90	General Description			W
DY07-C	DPS 90	Console			W
DY08-C	DPS 90	Central Unit			W
HA01-01	CP-6	Introduction to ARES	August	1985	*
HA02-02	CP-6	ARES Reference	October	1986	*
HA03-01	CP-6	Introduction to MAIL	October	1986	*

HA04-01 CP-6 MAIL Reference	October	1986	*
HA07-00 CP-6 CAP Administrator Guide	February	1987	*
HA08-00 CP-6 CAP Reference	February	1987	*
HA09-00 CP-6 Introduction to ARGENT	August	1985	*
HA10-00 CP-6 ARGENT Reference	October	1985	*
HA11-00 CP-6 FEP Programming Concepts	May	1985	S
HA12-00 CP-6 ADAPT Reference	August	1987	*
HA13-00 CP-6 FORGE Reference	August	1987	*
HA15-00 CP-6 PC Terminal (PCT) Facility Reference	July	1986	*
HA16-00 CP-6 X Account Pocket Guide	July	1986	*
HA17-00 CP-6 C Programmer Guide	April	1986	S
HA18-00 CP-6 Introduction to CAP	April	1987	*
HA19-00 CP-6 Getting Started with CAP	August	1987	*
HA20-00 CP-6 System Support Reference (A-P)	February	1987	* !
HA21-00 CP-6 System Support Reference (Q-Z)	February	1987	* !
HA22-00 CP-6 System Support Reference (Appendixes)	February	1987	* !
HA23-00 CP-6 Software Applications Directory	September	1986	S

* = order from Westwood (also supplied on software release tape)
S = system-supplied only (not currently available from Westwood)
W = available only from Westwood

Manuals may be ordered from:

Honeywell Bull Inc.	Telephone:
National Distribution Operation	Customers (800) 343-6665
47 Harvard Street	Honeywell Bull (HVN) 392-5215
Westwood, Massachusetts 02090	

! = previous System Support manual (CE41) has been divided into a more manageable three volume set

Notation Conventions

The following table lists and describes notation conventions used in this manual.

Notation	Description
Lowercase Letters	Lowercase letters indicate that the element is a variable, to be replaced with the desired value.
Capital Letters	Capital letters indicate a literal, to be entered as shown.
Special Characters	Special characters are literals, to be entered as shown.
Numerals	Numerals standing alone are literals, to be entered as shown. Numerals embedded in or affixed to a string of capital letters are also literals, to be entered as shown. Numerals embedded in or affixed to a string of lowercase letters are part of the variable name to be replaced with a desired value, for example f1.
Brackets	<p>An element inside brackets is optional. For example, the notation</p> <p style="padding-left: 40px;">H[EIGHT]=value</p> <p>means that the bracketed portion may be omitted, or truncated at any point.</p>

Notation	Description
Braces	<p>Elements inside a pair of braces identify a required choice.</p> <p style="text-align: center;">{ON OVER T0}</p> <p>means that either a value of ON, OVER or T0 must be entered.</p>
OR Bar	<p>The OR bar separates elements in a list from which one element may be, or must be, chosen.</p> <p style="text-align: center;">{2 3}</p> <p>means that either the number 2 or 3 must be entered.</p>
Horizontal Ellipsis	<p>The horizontal ellipsis indicates that a previous bracketed element may be repeated, or that elements have been omitted.</p> <p style="text-align: center;">fid1 [, fid2,...]</p> <p>means that one or more name values may be entered, with commas inserted between the name values.</p>

Section 1

Overview of CP-6 Support

The primary objective of Honeywell Bull's Support Services is to help its CP-6 customers achieve the highest possible availability from their systems. These services cover the system hardware, the operating system software, CP-6, and all associated supported application software packages. Honeywell Bull feels that the key to effective support is in making a problem visible to the appropriate personnel in a timely manner.

Honeywell Bull's approach to achieving this goal is to provide customers with a single focal point for all calls for assistance. This point of contact is called the Honeywell Bull National Response Center (NRC), located in Atlanta, Georgia.

Note: For CP-6 systems installed outside the United States, support policies vary; please consult your Honeywell Bull Marketing representative for details.

The CP-6 support environment is unique in that it provides an alternative vehicle for requesting highly responsive software assistance via an interactive technical problem reporting system called STARLOG. STARLOG and other extremely useful automated support facilities are available to customers through the Los Angeles Development Center's support computer.

National Response Center

The NRC can coordinate and dispatch rapid and efficient support, 24 hours a day, 7 days a week. When a call for assistance is placed via the toll-free telephone number, the caller is questioned by the call coordinator as to the nature of the call. If the nature of the problem is hardware, then a Customer Service Specialist will be quickly dispatched to the customer site. If the call is for a software problem and is placed between the hours 08:00 a.m. and 06:00 p.m. in the customer's time zone, then the call will be switched to the CP-6 Technical Assistance Center (TAC) in Phoenix. The handling of calls placed outside these normal working hours is dependent upon the severity of the problem. If the problem is neither a system down nor one that is preventing essential production from completing (see Section 3, Calling the NRC), then the call will be transferred to the CP-6 TAC and processing will be delayed until the next working day. When a critical software problem does exist outside normal working hours, every effort will be made to respond to the call. However, it should be noted that the CP-6 TAC is not staffed during these hours and immediate response cannot be guaranteed.

The NRC administers and tracks calls for assistance for all Honeywell Bull products. Information about all calls is entered into an on-line administrative data base that contains the following:

- o Hardware and software configuration for the system where the problem occurred
- o Hardware maintenance and software support contractual information
- o Service history for each system
- o Contact sequence to be used to respond to a call for assistance.

All calls entered into the data base are monitored to completion.

Technical Assistance Center

The CP-6 TAC is the focal point which receives and responds to all calls for software technical assistance. The TAC is staffed by hardware and software specialists who are highly trained to remotely diagnose and analyze problems. They are equipped with terminals, complete current documentation and access to data bases containing the latest information on the status of any known technical problem. These specialists will work with the customer or on-site Customer Service Specialist, at their request, to resolve both hardware and software difficulties.

When the NRC relays a request for assistance to the TAC, it is assigned to a Specialist, who calls either the customer's primary technical contact or the Customer Service Specialist for the site, depending on who placed the call, to discuss and attempt to resolve the problem. Problem resolution may entail one or more of several actions by the Specialist:

- o Providing a recovery/avoidance procedure as a temporary correction of a problem
- o Answering a simple question
- o Providing a patch to correct a software problem
- o Requiring that the Specialist remotely access the customer's system to analyze the problem symptoms in an effort to diagnose and isolate the difficulty
- o Forwarding the request to another organization within Honeywell Bull for follow-up action (e.g., Marketing or Local CSD Hardware Support).

Los Angeles Development Center

The Los Angeles Development Center (LADC), the organization directly responsible for the production of CP-6, is an integral part of the total CP-6 support environment.

The CP-6 support computer system resides at and is operated and managed by LADC. The objectives of this system are

1. To provide a highly automated central support process
2. To permit the CP-6 customers, the CP-6 TAC, CP-6 CSD Field Software Support, LADC and other interested parties to communicate in a highly visible manner on issues relating to support.
3. To provide the customers with maintenance updates to the CP-6 operating system and related processors by means of incremental patch files that may be synchronously transmitted to their sites (or made available on magnetic tape).

Numerous support tools, procedures and data bases facilitate an extremely efficient support process. At the center of the whole process is CP-6's on-line technical problem reporting system, STARLOG. The LADC support environment is the subject of Section 5.

Section 2

User Responsibilities

In order for the NRC and the TAC to provide optimal software product support services, the customer's full cooperation is required in a number of areas, including:

1. Designating one or more software knowledgeable individuals to serve as the customer's primary technical contact for all software product problems (see "Primary Technical Contact").
2. Installing the most recent release of the software product.
3. Performing those problem definition activities and remedial actions prescribed by the TAC and/or LADC (see "Problem Definition and Documentation").
4. Installing patches to the operating system and associated processors as they're released (see "System Maintenance").
5. Permitting reasonable privileged access to your system by the TAC and/or LADC for purposes of problem duplication or analysis (see "System Access").
6. Ensuring that your own system's personnel have received adequate CP-6 training so to be able to effectively administer the system.

Primary Technical Contact

Each customer should designate the name of an individual, typically the site's system manager, who will serve as the primary contact for the TAC for all matters relating to software support. The designation is made via the initial NRC sign-up forms made available during the initial system installation. The individual should be sufficiently knowledgeable to relate technical aspects of a reported software problem to the TAC's technical representative and to apply any remedial instructions that are suggested.

Should it be necessary or desirable for a different person at the site to receive the TAC call in response to a given support request, that person's name and complete telephone number must be specified during the initial service request to the NRC. When the caller specifies no telephone number, return calls by the TAC will normally be made to the telephone at the customer's system console.

It is strongly suggested that the system manager (or site's technical contact) perform the following activities routinely:

- o Enter all the site's software problems into LADC's problem data base, STARLOG. Then monitor the status of the site's problem reports in case additional information is needed. Section 7 illustrates how to monitor a site's outstanding problem reports.
- o Examine software dump files that are created automatically, retaining files that represent actual problems and deleting dumps that do not represent actual problems. Section 6 discusses retention of dumps and other files in the :SYSTAC account.
- o Review ELAN's Summary (SUM) report and the Anticipatory Maintenance Summary (AMS) report daily and periodically review trends apparent in those reports with the CSD Field Engineer.

Problem Definition and Documentation

In general, before requesting software support services, the site's technical contact should collect all applicable documentation that will be useful in discussing the problem with the TAC Specialist. Generally, the following is considered the minimum documentation that should always be available when a call is placed:

1. A concise statement of the external symptoms of the problem
2. Error log data, console history log and dumps created as a result of the problem
3. If known, the data necessary to duplicate the problem
4. The patch level the system is currently running and the software product version (which for a processor may differ from the operating system version).

Beyond this basic minimum, the subsequent investigation may require the use of various other files depending on the nature of the difficulty including source files, data files, dumps and XEQ files.

System Maintenance

Obviously, a good deal of time could be wasted by the TAC and LADC working on a problem that has already been fixed by a patch that has been released but not installed at a site reporting the problem. As a result, it is recommended that sites not run their systems at a patch level more than 4 weeks behind that which is current. Section 5 discusses the procedure to obtain and install patches.

Patch Files

Under normal conditions, each week LADC will create an incremental patch file that contains all the host, FEP and processor patches. For the current release, those patches have been successfully exposed to general testing on the LADC CP-6 support computer and, consequently, are deemed ready to be released to customers. The CP-6 Support Group places that file into an account (.ZZZPATCH) on the CP-6 support computer which is accessible to all customers. The format of the file name for this incremental patch file is :vvvPATCH_INCRyww where vvv is the version number of the CP-6 system for which the patches are intended and yww is the last number of the year followed by the week number. For example, the file :DOOPATCH_INCR705 is the incremental patch file for D00 CP-6 that was released in week 5 of 1987. For all customers that have synchronous communications capability the file will automatically be transmitted to the account .:SYSTAC which must exist at each site with a password known to LADC. For those that do not have this capability, arrangements can be made so that the incremental patch files are sent to the site on tape.

Note that the files sent to the customer sites are not transmitted until a site actually establishes the synchronous connection to the support computer (see section 5). Consequently, so that excessive file space is not wasted on the support system, customers are requested to periodically pick up these files.

Full patch decks are maintained in the same account, ZZZPATCH, for each week an incremental is released. The format for the name of the full patch decks is :vvvPATCH_RELyww where vvv and yww are as defined above for the incremental files.

PMERGE.X

Installation of these incremental patch files at the customer site is accomplished via the PMERGE.X processor. The processor is used to merge the additional patches into the file at the site that contains the full set of patches currently in use. A complete description of the processor may be obtained using the CP-6 HELP facility on the customer system.

System Access

The support philosophy of CP-6 requires that LADC and the TAC be able to logon to the customer system and use CP-6 standard supplied tools to perform problem analysis with the aim of providing a timely resolution. More specifically, support personnel expect to be able to logon to a customer system with the logon :SYSTAC,LADC with the privileges that the account is created with BY DEFAULT (this is done automatically when the system is initially installed). These privileges permit one to access any file, run the host and FEP analysis programs, snap running memory in the host or FEP and other high-privileged processes. Denying CP-6 support personnel access to the customer system through anything but a fully privileged account will in many cases extend the resolution time of problems reported through the NRC and/or STARLOG. The customer will be required to supply, in lieu of privileged system access, complete supporting problem documentation transmitted to the CP-6 support computer or sent via the U.S. mail or other non-electronic means. Meanwhile, problem analysis will be put on hold (in STARLOG that means a STAR's status is changed to DOCUM) pending receipt of adequate documentation.

Following installation of the CP-6 software, the customer should password protect the :SYSTAC,LADC account with a password and inform the CP-6 TAC through the NRC. Any subsequent change of the password by the customer warrants a call to the TAC.

The LADC automated support process is very dependent upon the existence of a synchronous communications path between each customer site and the support computer. Its use is varied and extremely important to an efficient support process. Some of the more common usages are:

1. Retrieval of testcases from the customer system for supporting documentation for software problem reports.
2. Convenient means for customers to retrieve temporary patches for software problems or other important files related to support.
3. Convenient means for customers to keep abreast of support activity on the software problem reports they've made through STARLOG.

RESPONSIBILITIES

4. Receiving incremental patch files queued for transmission to customer sites automatically on a weekly basis by the LADC support process.
5. Gathering of stability information from each of the sites on a periodic basis as a means of identifying potential trouble sites.

It is the customer's responsibility to ensure that the synchronous facility is installed and operational (see Section 5) and that the CP-6 TAC is informed of the details.

Without these accesses to the customer site, the CP-6 support process is severely hampered. A customer wishing to run a totally secure system would have to make other arrangements for shipping problem documentation to the TAC and/or LADC as well as receiving the periodic incremental patch files.

Section 3

Calling the NRC

The procedure for placing a call for software assistance, either with a difficulty or a usage question, is simple and straightforward. The call procedure and key guidelines are outlined below. Adherence to these procedures should greatly enhance the overall quality and timeliness of the resulting software product support service.

Prerequisites

The following tasks should be performed prior to placing a call for assistance with a software difficulty:

1. If possible, determine the repeatability of the difficulty.
2. If possible, isolate the difficulty to a small testcase.
3. Have the necessary documentation available so that attempts at problem duplication and/or analysis can proceed without delay.
4. Assign a technical individual to follow through with the investigation of the difficulty in cooperation with the TAC Specialist who responds to the call for assistance (see "Primary Technical Contact" in Section 2).

The following tasks should be performed prior to placing a call requesting information relating to the usage of some system facility or program product:

1. Prepare specific questions in terms of the desired result you are attempting to achieve by using a given software facility.
2. Make use of and refer to available software documentation.
3. Assign a technically knowledgeable individual, if other than the primary technical contact, to discuss the question when the TAC Specialist responds to the request for technical assistance.

Call Dialogue

Any call for software assistance is initiated through the NRC. The toll-free telephone numbers are

(800) 282-4350 for calls within Georgia

and

(800) 241-1634 for calls within any other state.

The NRC operator answering your call will proceed through an established dialogue designed to determine who you are, what system you are running, the severity and a brief description of the difficulty you're experiencing. It is extremely important that the guidelines discussed here are exactly followed so that unnecessary delays do not result from miscommunication between the nontechnically oriented NRC operator and yourself. The dialogue follows:

1. The NRC operator will initiate the call with a greeting that should include his or her name. For future reference if problems should occur with the handling of the call, you should write down the name of the operator.
2. The NRC operator will ask "What is your site identification number?". If this number is not known, your Customer Service Account Representative (CSAR) or Local Customer Services Division (CSD) Representative should be contacted.
3. The NRC operator will verify the company name and address and ask whether you are running CP-6. It is important at this point to ensure that the operator understands that your site is running CP-6 since you may be taken through a dialogue that's unrelated to CP-6 and most surely will result in undue delays in the processing of your assistance request. Consequently, stop the dialogue at this point when CP-6 is not mentioned with a statement that you're a CP-6 customer.
4. The NRC operator will ask "What is the customer contact's name and telephone number?" to ensure that the call is returned to the proper area code, telephone number and technical contact.
5. "Does the difficulty involve Hardware, Software or is it Unknown?" is then asked. It is recommended that you respond either Hardware or Software at this point.

6. The NRC operator will ask "Is the entire system down?" and then "Is the problem preventing essential production from completing?". The answers to these questions should simply be either YES or NO. Do NOT attempt to explain the situation that exists at your site. The following criteria should be used for determining your answers to these key questions:

YES indicates a critical situation that includes either of the following:

- a) System inoperative, cannot boot, system hung, etc.,...
- b) System interruptions occur to the extent that daily production is impossible or severely hampered.
- c) Major production application is inoperative (e.g., Transaction Processing (TP) is down, payroll cannot be run, etc.,...).

NO indicates a noncritical situation. This classification includes requests for information or questions related to situations that do not fall into the critical criteria categories as defined above and other irritants that the customer can usually work around.

Procedures have been established to ensure rapid handling of a software problem of a critical nature (i.e., one that is blocking a production run). The action taken in these cases depends solely on your assessment of the situation. When these calls are received in the TAC, every effort is made to respond to them immediately. Judicious use of the critical call category will in the long run be of benefit to you and other customers when such assistance is required.

7. The NRC operator will ask "For what product code are you reporting the difficulty?". Your response should be

OSS for problems that relate to the CP-6 host operating system software or host processors. If you have any doubt, this is the code you should supply.

CSS for problems that relate to FEP or communications software.

8. You will be asked "What is the software problem?". Your response should be brief (about 25 characters) and to the point. Do not attempt to enter into a technical discussion of the problem.
9. The NRC operator will then terminate the call and provide you with a reference number of the form "999999AA" which should be written down. If at any time during the subsequent problem investigation you find it necessary to contact the TAC Specialist assigned to the call, then it is possible for you to call the TAC directly via a toll-free number. The TAC

operator will ask you for your reference number and then determine whether the TAC Specialist you are attempting to contact has an open call for your site that corresponds to this number. If so, you will be connected with the TAC Specialist. If not, you will be directed to initiate an assistance request through the NRC.

Response Time

When a call or service request is received in the TAC, the call is placed in a queue accessible to all the CP-6 TAC Specialists. The Specialist who is assigned to the call will contact the individual specified in step 4 above. This return call should normally be expected within one hour of the customer's call for assistance to the NRC.

Calls classified as critical will receive the fastest response from the TAC. Response time will vary with the availability of the specific resource needed at the time the call is received. Every effort is made to return critical calls within 15 minutes.

Section 4

TAC Objectives

The tasks normally performed by the CP-6 TAC Specialist responding to a request for software assistance are as follows:

1. Obtain a clear and concise definition of the problem
2. Isolate the difficulty to a particular unit of software
3. Accumulate or put together the documentation necessary to completely define the problem and, if necessary, to duplicate it
4. Provide a work-around for the problem or, if available, a temporary patch to fix the problem
5. If necessary, take action to involve other organizations (e.g., Marketing, CSD Hardware Support, etc.,...) to assume responsibility for problem resolution.

Problem Definition, Isolation and Documentation

The first task performed by the TAC Specialist when responding to a customer request for software assistance is to obtain a clear definition of the difficulty being encountered. Obviously, this task is greatly simplified by the customer who has properly prepared for the call by knowing exactly where the problem exists and having accumulated the necessary documentation that describes it and, in some cases, to duplicate it.

For many calls, the TAC Specialist may already have experienced the problem being described since the TAC is a focal point for problems being experienced by the CP-6 customer base and reviews daily all in-coming software technical problem reports entered into STARLOG. Consequently, due to the broad exposure to existing CP-6 problems, the request for assistance is often satisfied during this first call-back.

Having defined the problem, it may be necessary for the TAC Specialist to logon to the customer system for further problem analysis in order to isolate the difficulty to (1) CP-6 supported software, (2) customer developed software, (3) misuse of supported software or (4) failing hardware. However, prior to doing so, the Specialist will often query the other Specialists in the TAC as to whether they have encountered any similar problem and, if not, query the software problem data base using STARLOG to determine whether another customer has reported a similar problem.

If no known existing problem matches what the customer is reporting, the problem analysis on the customer system may require the Specialist to utilize various CP-6 diagnostic tools including DELTA, ANLZ, ELAN, REPLAY, STATS as well as some of the other CP-6 utilities and processors. If necessary, the documentation accumulated in this phase of the analysis should be moved to the LADC support computer. The documentation or testcase can be moved by using HASP synchronous file transfer or by using a PC communicating via TYMNET. The technique used depends on the size of the files and the type of problem reported.

Avoidance Techniques

Throughout the problem definition phase, foremost in the Specialist's mind is the task of finding a solution to the customer's problem. Often that solution may be provided best by means of a work-around procedure that involves the customer altering operational procedures or recoding a portion of a program in order to avoid the reported difficulty. At other times a temporary patch may be developed to correct the difficulty that can be provided to the customer by means of a PC or synchronous file transfer.

Reassignment of Problem Responsibility

The final solution for any software problem that's found to exist with the CP-6 system or related supported processor lies with the producer, LADC. Consequently, for such difficulties handled by the TAC, a STAR will be generated as part of the call handling procedures, if one does not already exist. After submitting the STAR, a developer will be assigned responsibility and the STAR will be opened. Any documentation gathered by the Specialist during problem analysis will be made available to the developer. For all but the most critical of problems, the system down call, the follow-up responsibility of monitoring the STAR for further documentation requests, and its resolution lies with the customer originating the call.

In some cases, it may be determined during analysis that the problem is not a software problem at all but a hardware problem. When this happens the TAC Specialist will take steps to transfer the call responsibility to the Hardware TAC. The Hardware TAC Specialist will review the findings with the Software TAC Specialist and if agreement is reached that a hardware problem exists, the

Hardware TAC will initiate contact with the Local Customer Service Account Representative (CSAR) to discuss the problem and recommend corrective action. The Software TAC Specialist will, of course, inform you of the findings, course of action and then, close the software request for assistance. The final responsibility for any repair action on the customer system hardware lies solely with the Local CSD Hardware Support organization.

In other cases, the reported difficulty may be determined to be neither software nor hardware. It's possible that it may be a problem that may best be handled by the Marketing Representative for the customer site. Or, it may be a problem with Software Distribution. The TAC Specialist will, for any problem that's the responsibility of any organization within Honeywell Bull, initiate the steps necessary to inform that organization of the problem that exists.

For those problems for which the cause is determined to be the customer's own software or that of another vendor, the Specialist will request that the customer assume responsibility for initiating corrective action.

Section 5

LADC Support Environment

CP-6 software support and maintenance can be viewed as a continuously flowing process with each new customer problem starting a sequence of steps to analyze and solve it. Although many times the sequence is quite short, there are instances when the problem is subtle and complex and, consequently, involves numerous interactions between the customer, the TAC, the CSD Field Software Support Specialist and LADC. With hundreds of these interactions underway at any given time, tracking and controlling the situation calls for a high degree of automation. The CP-6 automated support process which is based on the LADC support computer utilizes a large number of software tools, procedures and data bases which all CP-6 customers are asked to use in order to meet their responsibilities in the support process.

Communications Environment

The communications environment on the LADC support computer is depicted in Figure 5-1. Both asynchronous and synchronous communication paths are available to customers as well as support personnel attempting to assist them when problems arise.

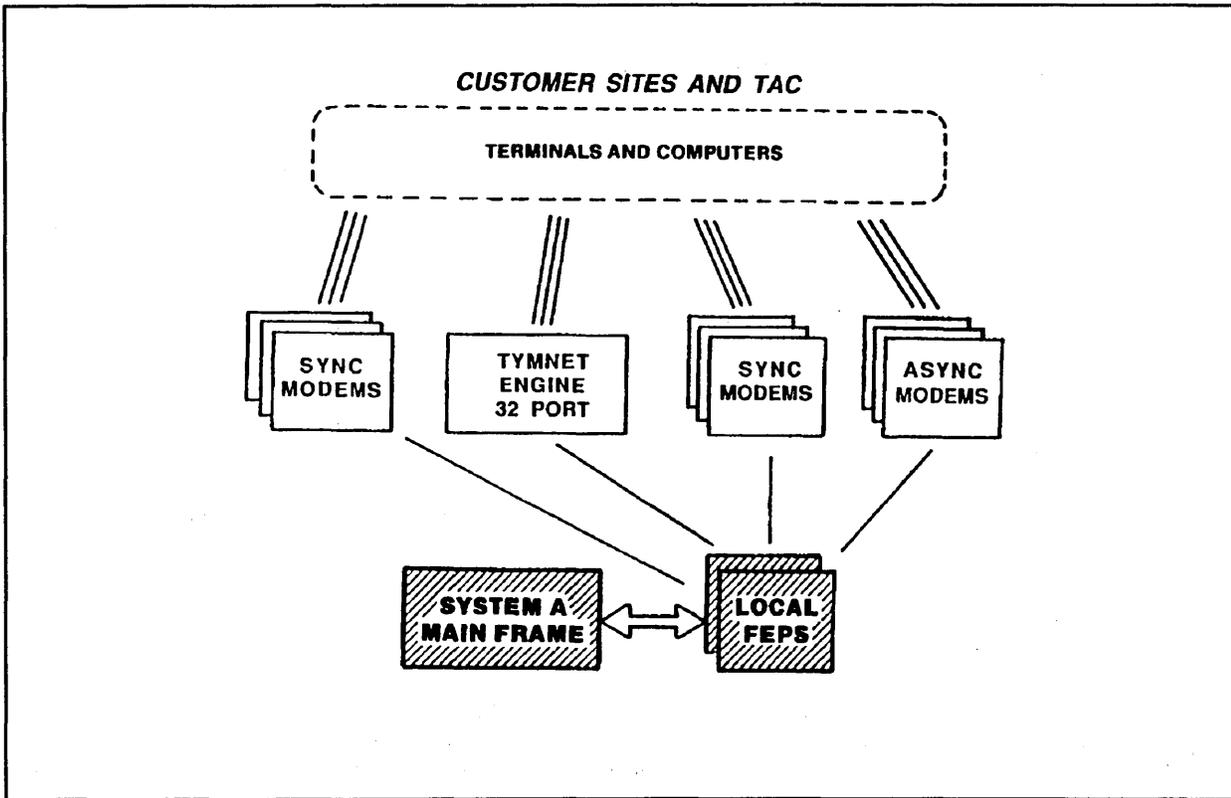


Figure 5-1. LADC Communications Environment

ASYNCR Capabilities

Customers are able to log on to the LADC support computer as time-sharing users by dialing up the system and entering an account, account name combination of the form:

`ZZZCUST,900site-id,password`

where site-id is the system identifier associated with the customer system and password is the password for the account, account name combination. Note that the password for the customer logon is initially supplied to new customers on the packing slip accompanying the first shipment of CP-6 software. The customer is free to change the password upon logging on to the system.

Access to the system may be accomplished via a direct connection using a Los Angeles phone number or through a local TYMNET number. The numbers available for direct connection are:

300/1200 baud (4 lines) _____

- or -

300/1200 baud (8 lines) _____

(Please consult your Honeywell Bull Marketing Representative for these telephone numbers.)

The toll-free number for TYMNET customer support is (800) 336-0149. Customers should contact this organization to obtain the local TYMNET number for their area and to report any difficulties experienced with the service provided.

To access the LADC support system through TYMNET the following steps are necessary:

1. Establish connection with the TYMNET system by dialing your local TYMNET number.
2. Upon connection, reply "A" (for most terminal types) to the prompt "please enter your terminal identifier". No carriage return is necessary.
3. Type a control-H character to set TYMNET up for full duplex operation.
4. In response to "please log in:", enter

(Please consult your Honeywell Bull Marketing Representative for this logon string.)

followed by a carriage return. Note that the ";" separates the TYMNET logon account from the TYMNET password. If only the TYMNET logon account is entered, then the TYMNET system will prompt for the password with "password:". If this occurs then the password should be entered. Finally, if a wrong password is entered, the customer will be prompted again for the correct password with "error, type password:".

5. Upon successful completion of the above logon sequence and connection to the LADC support computer, TYMNET will output "host : call connected" and the LADC system will prompt you with the standard CP-6 logon.

Once logged on to the LADC support system, the customers will have access to only those processors that are necessary to accomplish their support responsibilities. The processors available, each of which will be discussed briefly later in this section, are WOODPECKER, DAPPLE.X, EDIT, MAIL, BEAM, STARLOG, and ARCHLOG.STAR.

WOODPECKER

It's often necessary for customers to determine whether there is any output in the queue on the LADC support computer awaiting synchronous transmission to their site. The WOODPECKER processor is available for purposes of displaying all output destined for a particular workstation. The format of the command entered at the IBEX level is

```
!WOODPECKER
```

DABBLE.X

A bulletin board facility is available on the LADC support system for customers that permits the reading of messages or comments in any of a number of discussion areas called meetings. Users are able to join the conversation in any of a selected number of the meetings. Some of the meetings available to customers include a generalized discussion meeting (BB), a discussion of some techniques for using 6EDIT (6EDIT_NOTES) and a discussion of various CP-6 system management techniques (TECHNIQUES). A list of all existing meetings may be obtained with the DABBLE command CATALOG. For additional information and assistance with DABBLE.X, use the CP-6 HELP facility.

EDIT

Full access to the CP-6 EDIT processor is allowed for all customers. Refer to the CP-6 Programmer Reference (CE40) or use the CP-6 HELP facility for additional information or assistance.

MAIL

Full access to the CP-6 MAIL processor is allowed for all customers. Refer to the CP-6 Introduction to MAIL (HA03), the CP-6 MAIL Reference (HA04), or use the CP-6 HELP facility for additional information or assistance.

It is strongly recommended that all customers use the MAIL facility on a regular basis, i.e., put an invocation of the MAIL processor in their setup file on the LADC support computer in order to list any new messages they may have received. Frequently, valuable support information (e.g., ALERTs referencing bad patches) are electronically MAILED to customers.

Note: MAIL is NOT to be used for reporting or solving problems. For problem reporting and analysis always use STARLOG, so that your findings will be visible to all CP-6 users.

BEAM

Customers will find it useful to use the BEAM processor on both their own systems as well as the LADC support computer. It is the means by which files are transported between CP-6 systems. The syntax of the command entered at the IBEX level is

```
!BEAM source-fid { OVER | ON | INTO } destination-fid @wsn
```

where source-fid identifies the file which is intended to be transmitted, destination-fid specifies the name to give the file once it is transmitted to the destination site and wsn is the workstation name of the destination site.

The BEAM processor will respond with

```
..BEAMing source-fid
Enter account,name to run @wsn  CR for JIT account,name
*
```

After entering the account,name combination in which a job will be transmitted to and run at the destination site to create the file being sent, the BEAM processor will request

```
Please enter your password @wsn  (echo is off)
*
```

For additional information or assistance, use the CP-6 HELP facility for BEAM in the X account, i.e., HELP (BEAM.X). Note that the X account is an account supplied with the CP-6 system that contains numerous tools. See the CP-6 X Account Pocket Guide (HA16) for more information.

Occasionally your site may want to obtain a file from the support computer. In that case the tool MAEB must be in the X account, and the account under which your job runs must be allowed write access to your site's :SYSTAC account. The following command executed at your site causes the BEAM job to be scheduled at the next synchronous connection to the support computer.

```
!XMIT beam_jcl_fid to JE@LADC
```

where beam_jcl_fid refers to a file such as the following:

```
!JOB
!RES .....
!BEAM fid OVER file.:SYSTAC @wsn
:SYSTAC,LADC
password
```

where

wsn is your site's workstation name.

password is the password for your site's :SYSTAC account.

SYNC Capabilities

The synchronous communication paths available are used by customers, the TAC and LADC. To utilize this facility there are a number of requirements and steps that the customer must follow:

1. One of the FEPs at the customer site must have the synchronous communication hardware installed.
2. A 2400 baud modem must be available at the customer site.
3. The customer must agree upon a 1-to-8 character mnemonic by which their site will be referred to by all support personnel and automated processes that run on the LADC support system. This name is known as the customer's workstation name (WSN) and must be communicated to LADC via the TAC when the system is initially installed.
4. The customer must execute the file SYNCLADC.SUPPORT that's provided on the CP-6 software release tape as follows:

```
!XEQ SYNCLADC.SUPPORT XXX=mysite
```

where mysite is the agreed upon WSN.

5. The customer must install the BISYNC FEP software in the FEP that contains the synchronous hardware.
6. The customer must configure the synchronous channel that is connected to the 2400 baud modem as follows using the NETCON processor:

```
!NETCON
*SEL NODE=fep-node
*CONFIG .xxxx HARDWARE=NO,SPEED=2400,LOGON='LADC'
*KILL .xxxx
*ENABLE .xxxx
*END
```

where fep-node is the FEP node number of the FEP that contains the FEP synchronous hardware and xxxx is the synchronous channel number.

Once this is done, the line will remain dedicated to use by LADC until overridden with a new CONFIG command. NETCON remembers all configurations in the file :NETCON.:SYS. The customer may, however, wish to establish permanent configurations in a file that is XEQ'ed after a system startup.

If all of the above steps have been satisfied, synchronous transmission of jobs and/or files between the customer site and LADC is possible. Synchronous transmission may be initiated by the customer by dialing the toll-free number

_____ in California
or
_____ in states other than California.

(Please consult your Honeywell Bull Marketing Representative for these telephone numbers.)

Connection will automatically take place between LADC and the customer system and any files queued at LADC for the customer site or queued at the customer site for LADC will be automatically transmitted.

The BEAM processor may be used to transmit files to/from LADC.

Automated Support System

The objective of the LADC automated support system is simply to keep the software support and maintenance process flowing as efficiently as possible from the time a software problem (STAR) is reported via STARLOG through the time the problem is fixed by delivery of a patch to the customer site and/or the CP-6 source code is updated for the next release. There are not only numerous complex interactions between those submitting STARs and the various support personnel but, also, many internal processes that have to be managed, monitored and accounted for. Figure 5-2 illustrates the process.

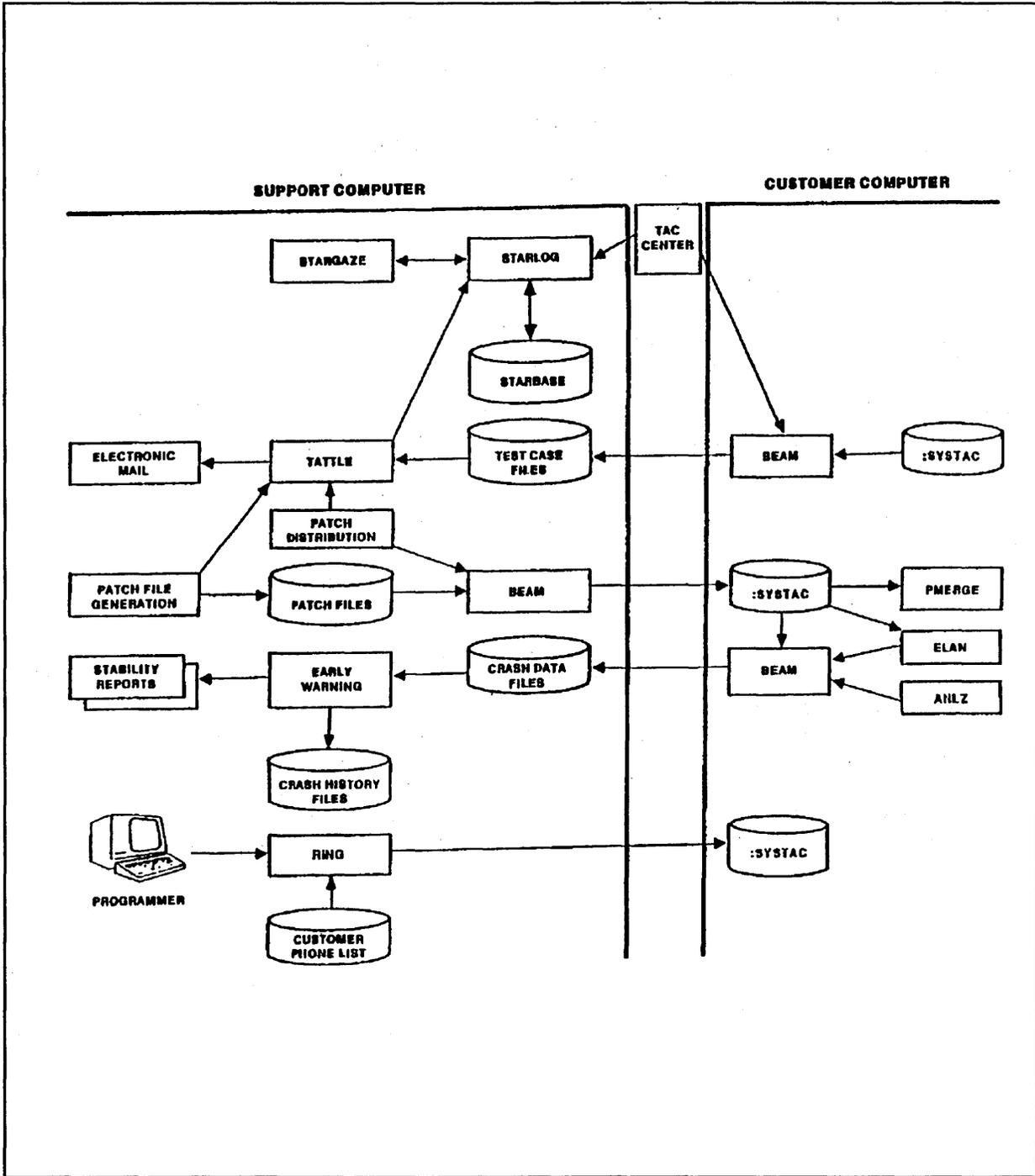


Figure 5-2. CP-6 Automated Support Process

STARLOG

STARLOG is an interactive on-line information management system used by CP-6 customers and support personnel with access to the LADC support computer to report product problems and documentation errors. The system enables a rapid, highly visible information flow that can involve a substantial interaction among the problem submitter, the TAC, the software developers at LADC, users at other sites and CSD field support personnel. Any problem that will require a software change to the CP-6 operating system or any related processor must be reported via STARLOG.

Problems reported through STARLOG are called System Technical Action Requests or STARS. Once a STAR is submitted, a dialogue is started between the customer and appropriate support organizations within Honeywell Bull. Most of this dialogue is visible to all customers, making the STARLOG data base a generally available and useful "known problems" data base. Customers who wish to take advantage of this facility are able to monitor STARS submitted and responses provided throughout the entire CP-6 customer base on a daily basis.

The reporting sequence starts with a customer submitting a STAR. The correction process may involve several CP-6 support organizations including the CP-6 TAC, LADC, CSD Field Software Support, the Software Distribution Center or possibly Marketing. Subsequent dialogue is conducted and recorded by appending NOTES to the STAR. NOTES are used by both the customer and CP-6 support personnel to add additional information, identify avoidance procedures and document the resolution of the problem. STARS are resolved and closed with information, a patch or a source fix targeted for a future release of the software. The type of solution depends on the severity and type of problem. Some STARS are resolved by a combination of information on how to avoid the problem, a patch for the current version of the software and/or a permanent source fix for the next release.

The STARLOG information system uses an IDS-II data base called STARBASE. Each STAR is a record in the data base and each NOTE is a subrecord in a STAR.

STARLOG has a HELP facility associated with it that provides users with syntax formats, parameter descriptions, examples and concepts at their terminals while in a STARLOG session.

To initiate a STARLOG session after logging on to the LADC support computer simply enter:

```
!STARLOG
```

and you will be greeted with, for example,

```
STARLOG B02B 09:45:03 FRI MAR 20 '87
```

```
-  
#
```

Customers are referred to Section 6 of this handbook which discusses recommended guidelines for submitting STARs of various types. Section 7 describes common STARLOG usages and techniques. In addition, this handbook provides in Appendix A, STARBASE information and characteristics, and in Appendix B, a summary of all STARLOG commands. Portions of this manual comprise the STARLOG CP-6 HELP facility.

As always, if further information is required the CP-6 TAC may be contacted.

TATTLE

STARLOG provides a journal of the sequence of interactions on all problems submitted, but to keep the support process flowing efficiently it is useful to notify the programmers in a more visible way when certain events occur. This is done automatically with a program called TATTLE, a multi-purpose message processing tool. TATTLE, responding to signals from several sources, writes notes in STARLOG and sends electronic MAIL to the appropriate programmers. Some specific instances are:

- o Notification that a testcase requested from a customer site in a STAR has arrived at the LADC support computer. For this to function properly, testcases must be sent to the account .ZZZTEST and each filename must begin with the number of the STAR for which the documentation is intended.
- o Notification that a patch for a STAR has completed the test cycle and is now generally available to customers in an incremental patch file.
- o Notification that a bad patch has been detected which requires corrective action.

STARGAZE

One of the initial steps in processing a newly received STAR is to assign it to the programmer responsible. With the large number of STARLOG problem categories called SUBJECTs (see Appendix A) and the large number of developers in LADC and Phoenix the task could be tedious and time consuming. However, the STARGAZE process accomplishes this automatically through a periodically invoked JCL stream that interrogates STARLOG for newly arriving STARs. It then assigns the appropriate programmer names to the new STARs based on a table which correlates STAR subject names with the module owner. The process is driven via a CP-6 processor called GOOSE which starts the sequence every 15 minutes.

For all severity 1 STARs submitted, STARGAZE will also write a MAIL message to the responsible programmer, the CP-6 TAC and the LADC Support Group notifying all automatically that a severe problem has been reported that requires their attention.

Starlord STAR Review

STARLOG permits users to be defined with varying degrees of privileges which, among other things, authorizes the level of administrative capability granted. Users with the highest administrative privilege are known as Starlords. When a user creates a new STAR or appends a NOTE to an existing star, that information is not generally visible to other customers until the information supplied has been "reviewed" by a Starlord. This is done primarily to protect the customers from misinformation and to make sure information that could compromise the security of their systems is not carelessly made visible to the outside world. It should be noted that this review process does not needlessly slow the problem solving process since the CP-6 TAC and the developers at LADC are able to view any STAR or note the moment it is submitted. The tasks performed by Starlords during this review process include:

1. For each new STAR submitted determine the correctness of the subject category used by the submitter on the basis of the STAR description
2. For each new STAR and every new NOTE
 - o Ensure no information that compromises the customer's security exists (e.g., account names, passwords, etc., ...) and edit, if necessary.
 - o Ensure that no information exists that could be misinterpreted or used to the detriment of a customer's system.

3. Change the status of a STAR according to the information supplied. For example, if more information is requested from the customer by the assigned programmer, then the status of the STAR will be changed from OPEN to DOCUM and remain in that status until the information requested is supplied.
4. When a STAR is first submitted determine whether the STAR is a duplicate of a previously submitted STAR.

The CP-6 TAC currently performs the Starlord review process at least twice each day.

ARCHLOG.STAR

With each release of CP-6, the STARLOG data base, STARBASE, is purged of old STARS (i.e., those closed by the release of the new software) and archived to another data base, the ARCHLOG data base. This process provides a valuable source of past history of all problems reported by CP-6 customers. It is accessible by all customers by using the ARCHLOG.STAR processor. The ARCHLOG.STAR processor is essentially another version of STARLOG that permits users to perform STAR displays or STAR searches based on varying criteria. No STAR updating is permitted. The following is necessary to invoke the processor:

```
!ORES MEM=256
!ARCHLOG.STAR
#
```

Analyst Alert Stars

An Analyst Alert STAR is one way the CP-6 TAC and LADC communicate extraordinary problems or concerns. This is a STAR which has a severity of "A". It is recommended that customers regularly generate a list of ALL such STARS for reference.

Support Processes

In addition to the processes already discussed relating to the STARLOG processor, there are a number of others that are of interest and are important for an overall understanding of the automated support process in use at LADC.

Diagnostic Data Collection

For each CP-6 system, the account :SYSTAC on the system pack is created to receive various files that can aid in problem analysis and resolution. The pertinent files are listed below by the file name prefix:

- :DF - Dump Files. The ANLZ processor is the tool provided to obtain essential information from dump files. The full file name is of the form :DFvvvxnnn, where vv is the operating system version (e.g., D00), x is the tape boot sequence number that is incremented at each tape boot, nnn is the numeric dump identifier. See Section 6 for more information.
- :ERRLOG - Error Log files. The ELAN processor is the tool provided to obtain meaningful reports from error log files. The full file name is of the form :ERRLOGyymmdd, where yymmdd represents a date.
- :OCHIST - Operator Console History files. The REPLAY processor is the tool provided to obtain information from these files. The full file name is of the form :OCHISTyymmdd, where yymmdd represents a date.

Early Warning System

The frequency and nature of system interruptions at a customer site is useful information in the support context. The pattern and trend at a given site, and comparisons to other sites, can give insight into problem situations and alert us to changes in site status. This data is recorded automatically by the ELAN error logging processor which runs continuously at each customer site. The data is transmitted to the LADC support computer on a regular basis where it is organized into a history file by the EARLY WARNING program. We then operate on that file to produce reports about the stability of customer systems. The sequence is started by the customer synchronously logging on to the support computer to obtain the current incremental patch update. While the patches are being transmitted, the error log data is passed to the support computer and, subsequently, processed without human intervention.

Remote Debugging

In the process of analyzing a customer-reported software problem, it is often necessary for the CP-6 TAC or the assigned programmer to log on to the customer system. With many programmers at LADC and Phoenix and with the increasing number of sites throughout the world, each with different access parameters, getting logged on could be a time consuming task.

The processor RING solves this problem with an automatic dial-out capability accessible from the LADC support computer. It interfaces with programmable dial-out modems and uses a data base containing the access data. The LADC programmers need only to tell RING the customer site name (WSN) for which access is desired and, shortly, they will be logged on to that computer from the terminal in their office without having to know phone number, logon or password. They can examine a dump file or interact with the failing program to experience the problem symptoms directly.

A very useful extension of this technique is provided by another CP-6 facility called DRIBBLE which permits the CP-6 TAC or LADC programmer to capture on the support computer an on-line session on the customer system. This could be used to transfer small testcases or to make a hard-copy of a formatted summary of a crash dump using ANLZ without ever moving the dump file from the customer computer or having to find a hard-copy terminal.

Patch Management

The process of patching a problem reported in STARLOG and getting that patch delivered and installed on the customer system involves a number of operations at LADC as well as some that must be performed on the customer system by the customer.

1. The process starts when a STAR is closed by a developer with mention that a patch will be submitted. All severity 1 and 2 STARs will be closed with a patch, if possible. The status of the STAR will be made TPATCH while the patch proceeds through the various stages of testing.
2. The responsible programmer uses standard tools to format and create the patch and performs initial testing to determine that the patch solves the specific problem reported by the STAR. If necessary, a dedicated CP-6 system will be used.
3. Each week the LADC Test Group merges all new patches into the current patch deck and attempts a trial boot and regression testing. The patches for the current release go through at least one week of exposure on the LADC support computer before being generally released to customers.

4. Each week the LADC Test Group moves all tested and ready to be released new patches into a file called the incremental patch file. The format for the name of these incremental files is :vvvPATCH_INCRyww where vvv is the CP-6 system version number (e.g., D00) and yww is the fiscal week number in which the patch will be released. These files are accessible to customers and are available in the account .ZZZPATCH.
5. At this time a full patch deck is created by the LADC Test Group by using the PMERGE processor to incorporate the new incremental patch file. The name of the full patch decks are of the form :vvvPATCH_RELyww and, again, they are accessible and available to customers in the account .ZZZPATCH.
6. Each week on Thursday the LADC Test Group queues the incremental patch file for the week for synchronous transmission to all customer sites that have synchronous communications capability.
7. The customer initiates the incremental patch file transmission by establishing the synchronous communication link to LADC.
8. The customer uses the PMERGE facility to incorporate new patches into the customer patch file and then places the new patch file on tape. See the CP-6 System Manager Handbook (CE60), System Creation, which illustrates this process. Typically the new patch file, with site-specific TIGR commands merged in, is copied to a scratch tape to be used as the second patch tape.
9. The patches are installed the next time the customer performs a tape boot. The operator responds "Y" to "Change boot options" in order to be prompted for information that allows reading of the second patch tape, and responds "X" to "Tape 1 patches" and "MTRPB" to "Tape 2 patches". Refer to the System Start-up and Recovery section of the CP-6 Operations Reference (CE34) for further information.

Any time during the patch test cycle the customer may request a pre-release copy of the patch due to the severity of the problem reported. This may be done via a call to the NRC or by appending a note to the appropriate STAR. The customer, however, should be aware that the patch so delivered has not undergone full testing and is provided on a use-at-your-own-risk basis.

PATCH_HIST

A complete history of the events pertaining to the release of patches is maintained in reverse chronological order in a customer accessible file called PATCH_HIST in the account .ZZZPATCH. Each time an incremental file is generally delivered to the CP-6 customer base an entry is made. Also, warnings concerning the release of bad patches and other patch related information is frequently input to the file. It is recommended that all customers regularly examine the contents of the file.

MAIL ALERTs

A parallel, more visible means of bringing to the attention of customers problems or information that relates to the CP-6 patch process is the MAIL ALERT system. Each time a patch that has been generally released is found and verified to be bad to the extent that it may jeopardize normal customer operation, an ALERT is MAILED to all customers. It is highly recommended that all customers regularly use the CP-6 LADC support computer MAIL processor. Customers should definitely check for ALERTs prior to installing any new incremental patch files.

Section 6

STAR Guidelines

Preceding sections of this handbook focus on problem reporting procedures to be followed by customers who have just installed a new CP-6 system. Over time as the system manager gains experience with the CP-6 system, software reporting procedures can become more streamlined.

Although hardware problems must always be reported to the NRC, software problems need not be. In fact, the experienced customer may accumulate the necessary supporting documentation, log on to the support computer and build a STAR directly. This section describes guidelines for STAR content and appropriate supporting documentation for various types of software problems. This section also briefly discusses dump analysis and retention of dump and other files which are automatically created by the CP-6 system.

STAR Format and Content

The resolution time for any STAR submitted obviously depends on many factors, some directly under the control of the submitter. A STAR properly submitted will generally significantly reduce the time necessary to arrive at a solution. The ideal situation is to submit a STAR and have the first note added be one that compliments you on its quality and provides you with the solution to your problem. The following should always be considered when entering a STAR:

1. Choose a TITLE that briefly describes the problem using as many keywords as possible.

Obviously, a proper TITLE is not going to reduce a STAR's resolution time. However, since the STARLOG data base serves as a repository of known problems and the best method of determining whether one's problem has already been reported and/or fixed is via a STAR search looking for keywords in the TITLE, it will be of benefit for others encountering the same problem by providing a handle by which the problem report can easily be located.

2. Use your name when submitting a STAR or appending a NOTE.

Don't use generic names like the company name for which you work or the WSN that's associated with your site. Doing so makes it difficult for the TAC or other support personnel to telephone you during the problem solving process and introduces unnecessary delays.

3. Enter a clear, concise and accurate problem description.

Confine each STAR to a single problem. Supply a complete description of the symptoms surrounding the difficulty. Suggest what you believe may be causing the problem. Describe any new, unusual, or different circumstances that may be related to the difficulty. Try to anticipate the questions the person responsible for solving the problem will ask; that is, ask yourself what information you would need to solve the problem.

4. Provide adequate problem documentation.

Adequate documentation, of course, is highly dependent on the type of problem being reported. Generally speaking, though, it's desirable to supply enough information so that the problem may be duplicated on the customer system and/or the LADC support computer. That may be difficult for some types of problems, but for most compiler, application or data base problems it's nearly essential.

For system host or FEP screeches and for host single user aborts or snaps, it's usually sufficient to identify the product version, current patch level of your system, and dump(s) that were created on your system. However, the process is speeded if, for such problems, you send preliminary information extracted from the dump(s) in question to LADC as supporting documentation for the STAR. See Section 7, "Sending Supporting Documentation" which describes ways to send (BEAM or transmit) this information to the CP-6 support computer.

Diagnostic Tools

In addition to the standard CP-6 diagnostic tools (e.g., ANLZ, ELAN, STATS, etc.) that are available and described in the CP-6 System Support Reference (HA20, HA21, HA22), there are a number of tools available in the X account that are of some use and will be briefly described here. Additional information for each may be obtained using the CP-6 HELP facility.

ELBBIRD.X

The ELBBIRD processor (DRIBBLE spelled backwards) should be used on every DRIBBLE file that you intend to BEAM to LADC as supporting documentation for a STAR. It produces a VFC-less file that makes it generally more readable. The following is necessary to clean-up a DRIBBLE file:

```
!ELBBIRD.X dribble-file-fid
```

SNAP.X

On occasion it will be necessary to produce a snapshot dump of a running user that is causing some difficulty (e.g., see the section on 'TP Problems'). The SNAP.X facility meets these needs. It may be invoked as follows:

```
!SNAP.X .user#
```

where user# is the user number of the user to be dumped.

Optimal Problem Reporting

The following subsections will identify the most desirable elements required to quickly resolve the difficulty for the type of problem being reported. For each problem type, a TITLE is suggested, useful information to be included in the description is identified, and supporting documentation requirements are outlined.

Dumps

Dumps are created by the CP-6 system in the :SYSTAC account on the system packset (DP#SYS). Dump file names are of the form :DFvvvxddd, where vvv is the operating system version (e.g., C01, D00, etc.) and xddd identifies the specific dump file.

The starting point in analyzing a dump is the recovery screech code, which is of the form mid-code-sev where

mid identifies the monitor routine that initiated the particular screech process.

code is a unique decimal number that identifies the failure.

sev is the severity of the failure (determines what classification of dump is produced), as follows:

- 7 - Full host system screech
- 6 - Single user abort (SUA)
- 5 - Snapshot dump (snap)
- 3 - FEP screech

The CP-6 processor that is used to provide much of the problem documentation for problems associated with system dumps resulting from screeches, SUAs and snaps is called ANLZ. Its use is described in the CP-6 System Support Reference, Volume 1 (HA20).

In the examples that follow, reference will be made at times to the safe store frame that gets output as a result of the ANLZ REC command (see Figure 6-1) when analyzing host dumps. The information presented describes the monitor environment at the time the screech occurred. In particular, the contents of pointer register 2, \$PR2, and the instruction counter, IC, will be referenced.

```

!ANLZ
ANLZ C01 L66A (node 0)
Selected L66A      -ANLZ D024
:DFC01D024 for UDE-M00501-6 at 22:19 FEB 11 '87 on LADC L66A

Nodes:      L66A
L66A (node 0) Selected
L66A      -REC
SCREECH CODE:

UDE-M00501-6  Memory fault

CURRENT USER .122 ON LOGICAL PROCESSOR #0 AT 22:19:39 FEB 11 '87

SAFE STORE FRAME:

WORD 0          WORD 1          EVEN INSTR.    ODD INSTR.    TIME STAMP
-----          -
775710777773   000306043776   200006756100   000001336007   010131 324665514411

IC=FMD$TRNC+.33   IR=.104210     MRT=NO        SSF=NO        FLTCODE=1

CP=0            SCR=0          ISSID=.6000   DSAR=.000000  EWSQ=8        VA=.35742-0

ISR: .200000-0,BD=.777777-3,WSR=0,FL=.757,TY=0
ASR: .33610-0,BD=.0-0,WSR=7,FL=.741,TY=1
LSR: .32000-0,BD=.441-3,WSR=0,FL=.543,TY=1
PSR: .33600-0,BD=.7-3,WSR=7,FL=.743,TY=1

PRO: .1046-0-0,$LS3      DR0: .136000-0,BD=.33777-3,WSR=7,FL=.743,TY=0
PR1: .466-0-0,$LS3      DR1: .136000-0,BD=.33777-3,WSR=7,FL=.743,TY=0
PR2: .710-0-0,$LS16     DR2: .26366-0,BD=.3411-3,WSR=7,FL=.743,TY=0
PR3: .62260-0-0,$LS83   DR3: .1420000-0,BD=.177777-3,WSR=0,FL=.703,TY=0
PR4: .651-0-0,$LS16     DR4: .26366-0,BD=.3411-3,WSR=7,FL=.743,TY=0
PR5: .652-0-0,$LS16     DR5: .26366-0,BD=.3411-3,WSR=7,FL=.743,TY=0
PR6: .376-0-0,$LS16     DR6: .26366-0,BD=.3411-3,WSR=7,FL=.743,TY=0
PR7: .25247-0-0,$LS2    DR7: .40000-0,BD=.75777-3,WSR=7,FL=.703,TY=0

```

Figure 6-1. ANLZ REC Display (cont. next page)

X0	X1	X2	X3	X4	X5	X6	X7
000004	547104	777067	000020	000002	000000	000002	704177

X1: MMJ\$FBT0IOP+.34
X2: ITB\$BEGIN+.57561
X7: XSA\$MON+.13

A: 000000000005 Q: 055055055055 E: 000 TIMER: 000133270000

MORE STUFF FROM THE RECOVERY BUFFER:

SSR: .32620-0,BD=.757-3,WSR=7,FL=.743,TY=1
PSR: .33600-0,BD=.0-0,WSR=7,FL=.741,TY=1
ASR: .33610-0,BD=.0-0,WSR=7,FL=.741,TY=1
WSRs: .1,.1,.0,.14,.4,.5,.6,.10
CURRENT COMGROUP: .0-0-0,\$PS0

Figure 6-1. ANLZ REC Display

The following discussion will at times reference the IC and \$PR2 from the safe store frame as output by the ANLZ TCB command (see Figure 6-2). Note that the TCB display in this case shows two safe store frames. The first, the ALTRET frame, describes the user's environment at the time of the last monitor service for which an abnormal condition was reported. The second and subsequent frames, EXCEPTIONAL condition frames, describe other abnormal conditions that the user has encountered (e.g., M\$ERR, M\$XXX, faults).

```

!ANLZ
ANLZ C01
L66A (node 0) Selected
L66A      -ANLZ F006
:DFC01F006 for ZIM-000775-5 at 19:21 FEB 26 '87 on LADC L66A

Nodes:      L66A
L66A (node 0) Selected
L66A      -TCB (ASL)
SYSID = 13359 :SYSTAC,LADC

```

Figure 6-2. ANLZ TCB Display (cont. next page)

ALTRET FRAME:

WORD 0	WORD 1	EVEN INSTR.	ODD INSTR.	TIME STAMP
000000000143	000000000000	000000000000	000000000000	010154 075251137670

IC=.071447 IR=.404010 MRT=NO SSF=NO FLTCODE=0

CP=0 SCR=3 ISSID=.6000 DSAR=.000000 EWSQ=0 VA=.0-0

ISR: .66000-0,BD=.107777-3,WSR=6,FL=.553,TY=0

ASR: .33612-0,BD=.0-0,WSR=7,FL=.741,TY=1

LSR: .32220-0,BD=.107-3,WSR=7,FL=.543,TY=1

PSR: .33600-0,BD=.11-3,WSR=7,FL=.743,TY=1

PRO: .6006-0-0,\$LS5 DR0: .1424000-0,BD=.105777-3,WSR=7,FL=.743,TY=0

PR1: .6006-0-0,\$LS5 DR1: .1424000-0,BD=.105777-3,WSR=7,FL=.743,TY=0

PR2: .14-0-0,\$LS4 DR2: .1420446-0,BD=.2377-3,WSR=7,FL=.743,TY=0

PR3: .570-0-0,\$LS7 DR3: .1540000-0,BD=.2333-3,WSR=7,FL=.743,TY=0

PR4: .34-0-0,\$LS6 DR4: .1532000-0,BD=.5777-3,WSR=7,FL=.563,TY=0

PR5: .0-0-0,\$LS5 DR5: .1424000-0,BD=.105777-3,WSR=7,FL=.743,TY=0

PR6: .0-0-0,\$LS6 DR6: .1532000-0,BD=.5777-3,WSR=7,FL=.563,TY=0

PR7: .0-0-0,\$LS7 DR7: .1540000-0,BD=.2333-3,WSR=7,FL=.743,TY=0

X0	X1	X2	X3	X4	X5	X6	X7
000010	000034	001235	001713	000034	000035	001713	004007

A: 000000000003 Q: 000000000000 E: 000 TIMER: 000024676000

FMG-M00083-2 Service request interrupted by break or control-y

000100 000000040003 000000000035 061507401232 0000000000001G.....

EXCEPTIONAL CONDITION FRAME AT .110:

WORD 0	WORD 1	EVEN INSTR.	ODD INSTR.	TIME STAMP
000000000003	000000000000	000000000000	000000000000	010154 075251160342

IC=.072502 IR=.104010 MRT=NO SSF=NO FLTCODE=0

CP=0 SCR=3 ISSID=.6000 DSAR=.000000 EWSQ=0 VA=.0-0

Figure 6-2. ANLZ TCB Display (cont. next page)

```

ISR: .66000-0,BD=.107777-3,WSR=6,FL=.553,TY=0
ASR: .33612-0,BD=.0-0,WSR=7,FL=.741,TY=1
LSR: .32220-0,BD=.107-3,WSR=7,FL=.543,TY=1
PSR: .33600-0,BD=.11-3,WSR=7,FL=.743,TY=1

PRO: .0-0-0,$LS5          DRO: .1424000-0,BD=.105777-3,WSR=7,FL=.743,TY=0
PR1: .71762-0-0,$LS0      DR1: .66000-0,BD=.107777-3,WSR=6,FL=.553,TY=0
PR2: .14-0-0,$LS4        DR2: .1420446-0,BD=.2377-3,WSR=7,FL=.743,TY=0
PR3: .0-0-0,$LS5        DR3: .1424000-0,BD=.105777-3,WSR=7,FL=.743,TY=0
PR4: .34-0-0,$LS6        DR4: .1532000-0,BD=.5777-3,WSR=7,FL=.563,TY=0
PR5: .0-0-0,$LS5        DR5: .1424000-0,BD=.105777-3,WSR=7,FL=.743,TY=0
PR6: .0-0-0,$LS6        DR6: .1532000-0,BD=.5777-3,WSR=7,FL=.563,TY=0
PR7: .0-0-0,$LS7        DR7: .1540000-0,BD=.2333-3,WSR=7,FL=.743,TY=0

X0      X1      X2      X3      X4      X5      X6      X7
-----
000035  071756  071452  001713  000034  000035  001713  004007

A: 000000303423    q: 000000303423    E: 000    TIMER: 000012410000

JSE-M00260-4  M$ERR issued by Alternate Shared Library.

000100  4000000000000 0010000000000 122305404044 0000000000000 .....RE.$..

```

Figure 6-2. ANLZ TCB Display

The patchweek under which a dump occurred is important information that should be supplied when creating STARS. The patch file in use at the time the dump occurred is represented as x in the dump file name (:DFvvvxd); x is the same as the last letter in the patch file name (:PFvvvx) and is the tape boot sequence number for your site.

To determine if a dump you are examining occurred under the current system patches, enter

```
!OUTPUT $VERSION
```

The resulting display is the portion of the patch file fid that follows :PF. For example, if the current patch file is :PFD00d, the display is D00d. Compare the x in :PFvvvx and :DFvvvxd. If they are the same, then the dump file is from the currently installed patch week, which may be displayed by entering:

For the host:

```
!WHAT.X PA
```

For the FEP:

```
!DELTA
>ANLZ FEP n
>DUA G_PATCHWEEK, 2
```

Host System Screeches, SUAs and Snaps

There is a wide variety of full system screeches, SUAs and snaps that may occur and, as a result, a tailor-made procedure to identify all the information required to arrive at a solution is impractical. However, the information identified below will, in most cases, permit a fairly good preliminary analysis of the problem.

SUGGESTED STAR TITLE: <wsn> scode @ ic

where

wsn is the site's workstation name.

scode is the screech code in the form mid-code-sev (e.g., UDE-501-6) and

ic is the instruction counter from the REC display (e.g., FMD\$TRUNC+.33).

STAR DESCRIPTION RECOMMENDATIONS:

1. Give the name of the dump file on your system and the patch level run at your site.
2. Note any extraordinary events associated with the Screech, SUA or snap, including any suspicious errorlog entries or system console messages prior to the problem.
3. If an SUA or snap is being reported, identify, when possible, the process the user involved was attempting to perform. The user can be identified from the dump using the ANLZ "SPY CUN" command.

SUPPORTING DOCUMENTATION:

BEAM the following ANLZ information extracted from the dump file:

REC	"Dump recovery buffer
:M \$I	"Display current instruction
AUTO \$LS16 FOR CUN WAPL	"If \$PR2 in the REC SSF, references \$LS16
AUTO \$LS33 WAPL	"If \$PR2 in the REC SSF, references \$LS33
JIT CUN	"Display minimal user information
STAR	"Obtain information appropriate to the "type of dump file.

Host System Hang

Your operational procedures to handle a host system hang should include steps to gather the necessary information to adequately document the problem in STARLOG prior to initiating an operator recovery. Also, note that the preferred method for initiating an operator recovery for a host system hang is through an execute fault (see CP-6 Operations Reference, CE34).

SUGGESTED STAR TITLE: <wsn> Host System Hang @ ic

where

wsn is the site's workstation name.

ic is the instruction counter from the REC display.

STAR DESCRIPTION RECOMMENDATIONS:

1. Give the name of the dump file on your system and the patch level run at your site.
2. Indicate if all users are hung, one user is hung, or some users are hung.
3. Note the response that on-line terminal users received from an <ESC Q> while the system was hung. If some on-line users are hung and others are not, provide the <ESC Q> information for both types of users.
4. Were keyins possible at the system console? If so, describe the response to the PEND keyin. If the hang occurred during a ZAP, describe the response to the ZAP!! keyin. If the hang occurred during a boot, describe the type of boot performed, how far the boot proceeded in terms of the system console output and the response, if any, to the STARTUP!! keyin.
5. Note any extraordinary events associated with the hang.

SUPPORTING DOCUMENTATION:

Beam the following ANLZ information from the dump:

REC	"Output the recovery buffer
USRT	"Format the user table
EVB	"Format the event buffer

IDS Snaps

An IDS snap, identified by the screech code ZIM-775-5, occurs when the IDS alternate shared library detects an abnormal condition. The dump that gets created documents the abnormal IDS environment and the user's environment that induced the condition. However, the dump alone generally is not sufficient documentation to resolve the difficulty.

SUGGESTED STAR TITLE: <wsn> ZIM-775-5 ec @ ic

where

wsn is the site's workstation name.

ec is the error code from the appropriate frame from the ANLZ command "TCB (ASL) CUN".

ic is the instruction counter from that frame.

Note that the "TCB (ASL) CUN" command will, in this case, output an ALTRET frame and one or more EXCEPTIONAL CONDITION frames. ANLZ will for each frame interpret the error code that caused it.

In some cases, the ALTRET frame will document a condition and the first and only EXCEPTIONAL CONDITION frame will be an MSERR by IDS as a result of that condition. In this case, use the ALTRET frame when deciding the content of the title.

In other cases, when more than one EXCEPTIONAL CONDITION frame exists, the ALTRET frame will be of little consequence and the first EXCEPTIONAL CONDITION frame should be used when writing the title.

STAR DESCRIPTION RECOMMENDATIONS:

1. Give the name of the dump file on your system and the patch level run at your site.

2. Describe the external conditions exhibited by the user who induced the snap. For example, if the user was a terminal user, describe the error messages displayed at the terminal. Note the user can be determined from the dump via the ANLZ "SPY CUN" command.
3. Identify the files on your system that contain the DDL source for the schema, subschema and DMCL that define the IDS data base. Also identify of the source of the program causing the IDS abort.
4. Provide the identity of an XEQ file on your system that may be used to duplicate the snap on your system. Also, any information required as input to the failing program should be provided.
5. Describe the sequence of IDS calls that cause the failure. If possible, identify the Line number in the source of the program of the IDS call that causes the problem.

SUPPORTING DOCUMENTATION:

BEAM the information extracted from the dump file by ANLZ's command:

```
STAR                "Obtain information appropriate to the
                    "type of dump file.
```

A concise, readily transportable testcase that can be used to demonstrate the difficulty on the LADC support computer, if available will, generally, greatly reduce the time required for problem resolution. Note that for problems of this nature it's often necessary to duplicate the difficulty on the support system. Consequently, it may be necessary to transport larger testcases on magnetic tape. It is also possible for support personnel to debug large testcases on your system, if you are prepared to help set up the environment.

IBEX Snaps

An IBEX snap is identified by the screech code CPC-700-5 indicating that the CP-6 command processor, IBEX, has encountered an abort condition. The dump file created documents the environment of the user using IBEX at the time of the failure.

SUGGESTED STAR TITLE: <wsn> CPC-700-5 @ ic

where

wsn is the site's workstation name.

ic is the instruction counter from the EXCEPTIONAL CONDITION frame that results from the ANLZ "TCB (ICP) CUN" command.

STAR DESCRIPTION RECOMMENDATIONS:

1. Give the name of the dump file on your system and the patch level run at your site.
2. If possible, describe the process the user who caused the snap was attempting. Note that the identity of this user may be obtained by ANLZing the dump and entering the command "SPY CUN".

Contact the user as soon as possible after the snap so that the details of what happened aren't obscured by the passage of time.

SUPPORTING DOCUMENTATION:

BEAM the information extracted from the dump file by ANLZ's command:

STAR	"Obtain information appropriate to the "type of dump file.
DUA \$LS10 FOR CUN,ICP	"Display GETCMD context area

ARES Snaps

An ARES snap, identified by the screech code ZJE-786-5, occurs when the ARES alternate shared library detects an abnormal condition. The dump that gets created documents the abnormal ARES environment and the user's environment that induced the condition. However, the dump alone generally is not sufficient documentation to resolve the difficulty.

SUGGESTED STAR TITLE: <wsn> ZJE-786-5 ec @ ic

where

wsn is the site's workstation name.

ec is the error code from the appropriate frame from the ANLZ command "TCB (ASL) CUN".

ic is the instruction counter from that frame.

Note that the "TCB (ASL) CUN" command will, in this case, output an ALTRET frame and one or more EXCEPTIONAL CONDITION frames. ANLZ will for each frame interpret the error code that caused it.

In some cases, the ALTRET frame will document a condition and the first and only EXCEPTIONAL CONDITION frame will be an M\$ERR by ARES as a result of that condition. In this case, use the ALTRET frame when deciding the content of the title.

In other cases, when more than one EXCEPTIONAL CONDITION frame exists, the ALTRET frame will be of little consequence and the first EXCEPTIONAL CONDITION frame should be used when writing the title.

STAR DESCRIPTION RECOMMENDATIONS:

1. Give the name of the dump file on your system and the patch level run at your site.
2. Describe the external conditions exhibited by the user who induced the snap. For example, if the user was a terminal user, describe the error messages displayed at the terminal. Note the user can be determined from the dump via the ANLZ "SPY CUN" command.
3. Identify the file on your system that contains the DDL source for the data base causing the difficulty. Describe the DML commands that were used to cause the snap.
4. Provide the identity of an XEQ file on your system that may be used to duplicate the snap on your system. Also, any information required as input to the failing program should be provided.
5. If a program is involved, describe the sequence of DML calls that causes the failure. Identify the source of the program on your system and, if possible, identify the line number in the source of the DML call that causes the problem.

SUPPORTING DOCUMENTATION:

BEAM the information extracted from the dump file by ANLZ's command:

STAR "Obtain information appropriate to the
"type of dump file.

A concise, readily transportable testcase that can be used to demonstrate the difficulty on the LADC support computer, if available will, generally, greatly reduce the time required for problem resolution. Note that for problems of this nature it's often necessary to duplicate the difficulty on the support system. Consequently, it may be necessary to transport larger testcases on magnetic tape. It is also possible for support personnel to debug large testcases on your system, if you are prepared to help set up the environment.

DELTA Snaps

A DELTA snap is identified by the screech codes DUX-xxx-5 indicating that the CP-6 debug processor, DELTA, has encountered an abort condition. The dump file created documents the DELTA user's environment and DELTA's environment at the time of the failure.

SUGGESTED STAR TITLE: <wsn> DUX-xxx-5 @ ic

where

wsn is the site's workstation name.

ic is the instruction counter from the EXCEPTIONAL CONDITION frame that results from the ANLZ "TCB (IDB) CUN" command.

STAR DESCRIPTION RECOMMENDATIONS:

1. Give the name of the dump file on your system and the patch level run at your site.
2. If possible, describe the process the user who caused the snap was attempting. Note that the identity of this user may be obtained by ANLZing the dump and entering the command "SPY CUN".

Contact the user as soon as possible after the snap so that the details of what happened aren't obscured by the passage of time.

SUPPORTING DOCUMENTATION:

BEAM the information extracted from the dump file by ANLZ's command:

STAR "Obtain information appropriate to the
"type of dump file.

A concise, readily transportable testcase that can be used to demonstrate the difficulty on the LADC support computer, if available will, generally, greatly reduce the time required for problem resolution. Note that for problems of this nature it's often necessary to duplicate the difficulty on the support system. Consequently, it may be necessary to transport larger testcases on magnetic tape. It is also possible for support personnel to debug large testcases on your system, if you are prepared to help set up the environment.

TPCP Snaps

A TPCP snap is identified by the screech code QXA-xxx-5 indicating that the CP-6 TP command processor, TPCP, has encountered an abort condition. The dump file created documents the environment of the user using TPCP at the time of the failure.

SUGGESTED STAR TITLE: <wsn> code @ ic

where

wsn is the site's workstation name.

code is the screech code.

ic is the instruction counter from the EXCEPTIONAL CONDITION frame that results from the ANLZ "TCB (ICP) CUN" command.

STAR DESCRIPTION RECOMMENDATIONS:

1. Give the name of the dump file on your system and the patch level run at your site.
2. If possible, describe the process the user who caused the snap was attempting.

SUPPORTING DOCUMENTATION:

BEAM the following ANLZ documentation from the dump:

SYM TPCP	"Run-unit to reference for SYMDEF/ENTDEFS
TCB (ICP)	"TPCP's TCB
AUTO \$LS4 FOR CUN,ICP WAPL	"Formatted dump of TPCP's AUTO storage

TPA Snaps

A TPA snap, identified by the screech code QQC-752-5, occurs when the CP-6 TP processor, TPA, encounters an abnormal condition. The dump file that gets created documents the TPA's environment at the point the abnormal condition is detected.

SUGGESTED STAR TITLE: <wsn> QQC-752-5 @ ic

where

wsn is the site's workstation name.

ic is the instruction counter from the EXCEPTIONAL CONDITION frame that results from the ANLZ "TCB" command.

STAR DESCRIPTION RECOMMENDATIONS:

Give the name of the dump file on your system and the patch level run at your site.

SUPPORTING DOCUMENTATION:

BEAM the following ANLZ documentation from the dump:

STAR "Obtain information appropriate to the
"type of dump file.

FEP Screeches

As with host screeches, there is a wide variety of FEP screeches that may occur; a tailor-made procedure to identify all the information required to solve the problem is not possible. The information listed below should be used as a guideline when submitting STARS to document a FEP problem.

SUGGESTED STAR TITLE: <wsn> scode @ ic

where

wsn is the site's workstation name.

scode is the screech code in the form mid-code-sev (e.g., GHT-1315-3).

ic is the instruction counter from the REC display (e.g., KNASMCL + .50).

STAR DESCRIPTION RECOMMENDATIONS:

1. Give the name of the dump file on your system and the patch level at your site.
2. Describe any observable external conditions at the time of the problem.

SUPPORTING DOCUMENTATION:

BEAM the following ANLZ information extracted from the dump file:

```
REC
PL .4000 FOR CUN
DUA .nnnn, .1000 FOR CUN  "where nnnn is the value displayed
                           "for B7 in the REC command.
```

TP Problems

A TP problem can be one of the more difficult problems to diagnose because they normally involve separate processes that reside in the FEP and the host that must communicate to one another through a host resident comgroup. Consequently, there usually is much information that must be accumulated at the time the problem is occurring to adequately document the situation in both the FEP and host. As is the case with most difficult problems, a concise testcase that duplicates the difficulty usually requires a good deal of effort on the part of the customer and, more often than not, is elusive. However, such a testcase that can be transported to LADC as supporting documentation will greatly reduce the time necessary for problem resolution.

SUGGESTED STAR TITLE:

See the recommendations discussed for TITLE in "STAR Format and Content"

STAR DESCRIPTION RECOMMENDATIONS:

1. Identify the names of any dump files produced and indicate the patch level run at your site.
2. Identify the name of the TP instance and the associated TRADER file.
3. Clearly describe the problem.

If an application (host or FEP) abort is occurring, what messages are output to the TPA or Master Control Terminal (MCT)? What does the TP terminal user(s) experience? What is the situation with the TPAP?

If the TP instance is hung, are there any messages that were output to the TPA or MCT? What is the state of the TP terminal users as determined via an <ESC Q> sequence? What is the state of the associated TPAPs (TPAPs may be identified in ANLZ with "SPY T" and their states can be determined with "USRT T")? What is the state of the TPA (the TPA may be identified with in ANLZ with "SPY CC=TPA" and its state can be determined with "USRT CC=TPA")?

4. If applicable, describe your attempts at running the application in the following modes:
 - o Debugging the TPAP at a time-sharing terminal and using the FPRG as a time-sharing forms program (see Appendix H of the CP-6 FPL Reference, CE51).
 - o Debugging the TPAP at a time-sharing terminal with actual transaction I/O from the FPRG (see TPAP Debugging in the CP-6 TP Administrator Guide, CE50).
 - o Debugging the TPAP at a time-sharing terminal with simulated transaction I/O (see TPAP Debugging in the CP-6 TP Administrator Guide, CE50).
 - o Invoking the debugger for a TPAP operating in the TP mode and supplying debug commands in a file (see TPAP Debugging in the CP-6 TP Administrator Guide, CE50).

SUPPORTING DOCUMENTATION:

1. In the case of an abort and possibly for the TP hung situation, you need to identify the data necessary to duplicate the problem on your system.
 - o The XEQ file used to start the TP instance.
 - o FPRG source and run-unit.
 - o TPAP source and run-unit.
 - o TP terminal dialogue necessary to reproduce the difficulty.
 - o TP terminal logon.

With the above documentation, indicate the line number in the source files where the problem is occurring.

2. In a TP hang situation, information should be gathered to document the problem while it is occurring into a DRIBBLE file.

First, it's important to dump the TPA's host LDCT used to communicate with the FPRG. The following ANLZ commands accomplish this:

```
SPY CC=TPA
USRT .TPA-user#
```

"The pointer in the USRT display under MISC\$ is usually is
"the pointer to the host LDCT in the form .xxxxxx006013
"where xxxxxx is the ldct-offset.

```
DUA $LS11->.ldct-offset,.30
```

"The first halfword of relative word 6 of the above display
"is the LDCT index, ldctx.

```
LDCT .ldctx
```

"The number of the FEP containing the user causing the TP
"instance to hang is in byte 0 of relative word .15 of the
"DUA display above and, also, in the LDCT display as the
"first number under the RLCID heading.

At this point, a dump of the TPA user should be obtained using the
SNAP.X facility as follows:

```
!SNAP.X  
.TPA-user#
```

If the FEP holding the user causing the TP instance to hang can be
conveniently crashed at this point, then do so from the system
console to produce a dump file with the keyin

```
!CRASH FEP n
```

The following information should be extracted from the dumps
produced and BEAMed to LADC. Also, if it was not possible to SNAP.X
the TPA user or situations were such that the FEP could not
conveniently be CRASHed, then the same information should be
obtained while the hang is occurring.

```
!ANLZ  
SEL HOST  
  
USRT .TPA-user#  
DCBS .TPA-user#  
TCB .TPA-user#  
SSF $LS37->.500 FOR .TPA-user#  
AUTO $LS16 FOR .TPA-user# WA  
  
SEL FEP  
  
SEL n
```

"The above command must be entered when obtaining the data
"from a live system at the time of the hang. n represents
"the FEP number containing the FEP user causing the TP
"instance to hang.

SPY

"From the 'Identification' field in the above SPY, locate
"the offending user by looking for a match with the field
"'DEVNAME' in the previous LDCT display. The 'Usr#' in
"the SPY for that user will be referred to as fepusr#.

```
TSA .50B6 FOR .fepusr#
TSA .50FF FOR .fepusr#
PL .4000 FOR .fepusr#
DUA .4400,.400 FOR .fepusr#
JIT .fepusr#
TCB .fepusr#
ECCB .fepusr#
DCBS .fepusr# "SSN$ field to be referred to as ssnptr
SSN .ssnptr "LDCT$ field to be referred to as ldctptr
LDCT .ldctptr
BOBCAT
SFILE
INTCON
ACCRES
MEMORY
STAT
PPUT
```

Compiler Problems

The STAR requirements for problems associated with the various CP-6 compilers or interpreters are essentially identical.

SUGGESTED STAR TITLE:

1. If no abort condition is associated with the difficulty, follow the guidelines for TITLE in "STAR Format and Content".
2. In the event of a compiler abort, the TITLE should be of the form

<wsn> code @ ic

where

wsn is the site's workstation name.

code is the monitor abort code.

ic is the IC of the abort obtained from the diagnostics produced or by running the compiler under DELTA.

STAR DESCRIPTION RECOMMENDATIONS:

1. Indicate the patch level run at your site.
2. Describe the compiler's external diagnostics at the time of the failure.

SUPPORTING DOCUMENTATION:

Provide the source of the program that's causing the compiler difficulties. Be sure all the files necessary to reproduce the failure are identified. For example, if a COBOL source program references COPY files, state that and indicate where they may be found.

The ideal situation would be to BEAM a single XEQ file that contains the entire source of the program and control commands necessary to reproduce the problem on the LADC system.

Application Problems

User application programs abort or have problems for a variety of reasons. Some of these are user errors including, for example, bad data or erroneous coding. Others involve problems with the CP-6 software including, for example, bad patches or software bugs. It is the user's responsibility to adequately debug an application difficulty to the extent that those dealing with user errors are eliminated.

Such debugging will quite often isolate a difficulty that's not a user error to the degree that a concise testcase can be developed to demonstrate the problem. Doing so and BEAMing such a testcase as supporting documentation will invariably significantly reduce the time required for problem resolution.

SUGGESTED STAR TITLE:

1. In the event of an abort condition in one of the CP-6 provided run-time libraries, the following is recommended as a title:

<wsn> code @ ic

where

wsn is the site's workstation name.

code is the monitor abort code.

ic is the IC of the abort obtained by running the failing application under DELTA.

2. If no abort condition is associated with the difficulty, follow the guidelines for TITLE in "STAR Format and Content" earlier in this section.

STAR DESCRIPTION RECOMMENDATIONS:

1. Indicate the patch level run at your site.
2. Identify the type of program that's failing.
3. Describe the external symptoms of the failure including those seen when running the program under DELTA.
4. Describe the failure in terms of the EDIT line numbers from the source program file supplied as supporting documentation.
5. Describe what changes on your system or in your program prompted the failure.

SUPPORTING DOCUMENTATION:

1. Identify all the files required to generate the run unit(s) from source. This includes all the source, copy or include files and XEQ files to perform the necessary compilations and links.
2. Identify the run unit(s) involved.
3. Identify an XEQ file required to reproduce the problem. The file should include the necessary SET commands that point to the data files involved. In addition, outline the terminal interactions that produce the failure.
4. BEAM to LADC a DRIBBLE that shows the run unit failing while being run under DELTA. After the failure occurs, a PLUGH command should be entered.
5. If a concise testcase that demonstrates the failure exists, BEAM it with all supporting documentation to LADC.

Identifying System's Patch Level

The current patch level of the system is essential information to include when reporting a problem.

For the CP-6 host system, enter

```
!WHAT.X PA
```

The resulting display gives the current patchweek number in the form yww, where y is the last digit of the year and ww is the fiscal week number.

For a local or a remote FEP, enter

```
!DELTA  
>ANLZ FEP n  
>DUA G_PATCHWEEK, 2
```

The desired FEP is indicated by n. The resulting display shows the current patchweek (yww) in decimal at the far right.

The patch week information is also stored in the patch file, which is named :PFvvvx.:SYSTAC (where vvv is the system version [e.g., C01, D00, etc.] and x is the tape boot sequence number for the site). In the current patch file, look for lines containing the string M B_SITEINFO. You will find a line such as

```
M B_SITEINFO+.70
```

If you find that, the contents of B_SITEINFO are being modified to the value of the "current patchweek". For example,

```
M B_SITEINFO+.70 '603' ('0000')
```

means that this :PF file was built using week 603 patches.

Identifying Dump File Version

The form of a dump file name is :DFvvvxddd, where vvv is the system version (e.g., C01, D00, etc.); x is the same letter as the last letter in the patch file (:PFvvvx.:SYSTAC) in use when the dump occurred; ddd is the numeric dump file identifier.

To determine if a dump you are examining occurred under the current system patches, enter

```
!OUTPUT $VERSION
```

The resulting display is the portion of the patch file fid that follows :PF. For example, if the current patch file is :PFD00d, the display is D00d. Compare the x in :PFvvvx and :DFvvvxddd. If they are the same, then the dump file is from the currently installed patch week, which may be displayed as described above.

Retaining Files in :SYSTAC and :SYSTAC2

Reviewing the dump files in the :SYSTAC account is important for optimal problem reporting and also to ensure that dump files do not accumulate, using up too much space on DP#SYS. Dumps that do not represent true problems (for instance, the dump created by a ZAP) can be deleted. Also dump files for closed STARs, for duplicate problems, or for hardware problems can be deleted. Section 7 recommends techniques to track STARs that facilitate maintenance of dump files.

Note: Retaining error log files in :SYSTAC for the previous week (Monday through Sunday) allows data gathering by the Early Warning System mentioned in Section 5. LADC schedules a deferred job that is queued for transmission on Wednesdays. That job is intended to pass the error log data to the support computer while the customer obtains the current incremental patches via the synchronous connection. (A second job also sent from LADC collects a profile of the versions of the software products installed at your site.) Saving the error log data is voluntary for all sites. From sites that retain the error log files, LADC can accumulate a data base of long-term stability data which can be analyzed for stability trends.

Optionally, your site can define a second account for storage of dump files. By convention, this account is called :SYSTAC2; it is defined on a packset other than DP#SYS, and has write access granted to the :SYSTAC account. If support personnel need to access your system for remote debugging, they will know to look in either of those two accounts. In addition, ANLZ is designed to look first in :SYSTAC and then in :SYSTAC2 for dump files.

Another optional naming convention that can help in maintaining dump files in :SYSTAC or :SYSTAC2 is to rename a dump file that is represented by a star so that its name begins with the STAR number. For instance, if the dump file is :DFD00D024 and if the corresponding STAR number is 33555, the dump file name can be renamed as 33555_D024. This simplifies the task of identifying dumps that can be eliminated when a STAR is closed.

:SYSTAC (or :SYSTAC2, if it is used) should be included in regular account maintenance procedures: older dump files can be stored on tape for later retrieval. Dumps for unresolved STARs should be saved to the greatest extent possible for timely problem resolution. By monitoring STAR closures, as explained in Section 7, you may determine when dump files for those STARs are no longer needed and therefore should be deleted.

Section 7

STARLOG Common Usage Considerations

The following sub-sections provide examples of the more common tasks a customer will perform that are related to the STARLOG processor. This section is task-oriented: it describes the commands and features that are used most often. For a complete discussion of the STARLOG data base and command syntax, see Appendixes A and B in this handbook.

Note that two formats are often given for the commands that are demonstrated. One using the unabbreviated commands and the second the short-hand notation. The short-hand versions shown will, when possible, concatenate multiple commands using the STARLOG command concatenation symbol, ".".

Modifying Your LOGON Record

One reason for modifying the LOGON record is to change the NAME field. This field contains the default name associated with a STAR you create or a NOTE you append. It is recommended that customers use their first and last name and identify their site by enclosing the WSN associated with their site in parentheses.

For example, suppose a user, Jim Smith, working for company called Xylo Yellow Zippers with a WSN XYZ wishes to make the changes suggested above when logging on to STARLOG for the first time. He must first use the FIND command to locate or position to his LOGON record. Once positioned there, fields within the LOGON record may be modified with the CHANGE command. For example, the following commands will accomplish the suggested task:

```
#FIND LOGON:SYS NUM IS ssssss  
#CHANGE LOGON:NAME TO 'Jim Smith (XYZ)'
```

or, alternatively,

```
#FI LOGON:SYS NUM IS ssssss.CH NAME TO 'Jim Smith (XYZ)'
```

where ssssss is the customer's site ID or system number (e.g., CX0003).

Note, also, that STARLOG permits modification of existing data in a field like LOGON's NAME through use of the EDIT command. For example, suppose Jim Smith's LOGON NAME was 'Jim Smith' and he wanted to change it to 'Jim Smith (XYZ)'. An alternative to the CHANGE command, assuming he's positioned to his LOGON record, is

#ED NAME

at which point the following is output

Name: Jim Smith

The system's terminal input editing features can then be used to alter the contents of the NAME field. In this case, the cursor would be positioned after the name 'Jim Smith'. To make the necessary changes, enter (XYZ) followed by a carriage return.

The user may also wish to have STARLOG automatically execute a command at the start of each on-line session. The following commands cause a change to the "first command" in the user's LOGON record:

```
#FI LOGON:SYS NUM IS ssssss  
#CH FIRST COMMAND TO 'WHEN STAR: STAR. WHEN FIND STAR:STAR'
```

where ssssss is the customer's site ID or system number. These sample commands cause the STAR report to be displayed each time the user steps to or finds a STAR.

Displaying STARS

In order to display a STAR, or for that matter to perform any operation on a STAR, it's necessary to be positioned to it by means of the following #FIND command:

```
#FI STAR:NUMBER IS nnnnn
```

where nnnnn is the number of the STAR.

Alternatively, one may position to the STAR by just entering the STAR number.

Once positioned to the appropriate STAR, there are a number of reports that are available. They're all invoked with the command:

```
#REPORT rptname
```

or, more simply,

```
#rptname
```

where rptname may be any of the following:

```
STARSUM - generates a one line summary of pertinent information  
          contained in the STAR.
```

- STARNOTE - generates the one line STARSUM report followed by all the NOTES in the STAR.
- STAR - generates the most complete report available for a STAR with all pertinent information contained in the heading followed by the description and all the NOTES.
- STARONLY - generates the standard STAR report without the NOTES.
- STARPAGE - generates the standard STAR report beginning each at the top of page.

Note that the command necessary to generate each of the reports above may be abbreviated to "rptname". For example, to display STAR nnnnn either sets of commands

```
#FI STAR:NUMBER IS nnnnn
#REPORT STAR
```

or

```
#nnnnn.STAR
```

may be entered. Sample displays will be shown in the following sections.

Building a STAR

To enter a STAR, the command "BUILD STAR" or, more simply, "BU STAR" is used. The following illustrates the interactions necessary for Jim Smith at a site known as XYZ to accomplish the task:

```
#BU STAR
Subject name: CENTRAL
Subject version: C01
Originator Name:
Severity: 2
Title: <XYZ> UDE-501-7 @ KQT$TREES+.2222
Star number: 1234
```

Description:

```
-The screech occurred during a ZAP of the system. After recovery,
-another ZAP proceeded without incident. Preliminary analysis
-information will be beamed to 1234_ANLZ.ZZZTEST. The dump @XYZ is
-1234_A004.:SYSTAC2. We're currently running on week 702 patches.
```

```
-
#
```

Note that just a carriage return was entered in response to the prompt for the originator's name. The name in this case will be the one stored in the user's LOGON record.

Note: Because STARLOG can interpret the command variables the percent character (%) must be entered as %% when building STARS and NOTES.

For a list of the legal subject names and the meaning of the various severity codes, see Appendix A.

After entering the above STAR, a STAR display would appear as in Figure 7-1.

```
#1234.STAR
Number:1234 UNREV (2) Date 02/26/87 09:45 Subject: C01 CENTRAL
Title: <XYZ> UDE-501-7 @ KQT$TREES+.2222
By: Jim Smith (XYZ) Cust: Xylo Yellow Zippers To: UNASSIGNED

The screech occurred during a ZAP of the system. After recovery,
another ZAP proceeded without incident. Preliminary analysis
information will be beamed to 1234_ANLZ.ZZZTEST. The dump @XYZ is
1234_A004.:SYSTAC2. We're currently running on week 702 patches.

Number: 1234 UNREV (2) To: UNASSIGNED Subject: C01 CENTRAL
#
```

Figure 7-1. STAR Display After BUILD

Note that the status of the STAR at this point is UNREV or UNREVIEWED and, consequently, is only visible to the submitter, the TAC and LADC developers. Only after the Starlord, currently a member of the CP-6 TAC, reviews the STAR's content and changes the status to OPEN, will it be visible to others. If the documentation mentioned in the STAR description has not arrived when the Starlord reviews it, the status will be changed to DOCUM, meaning that STAR problem analysis is put on hold pending receipt of the documentation.

Also, note that the ASSIGNED PROGRAMMER, the TO: field in the STAR's display header, is UNASSIGNED. Within 15 minutes an automated process known as STARGAZE will detect that a new STAR has been submitted and make the necessary programmer assignment.

Editing a STAR

After entering a STAR, it may be necessary to alter the description or any of the associated fields. It is advisable to perform any editing of the STAR immediately after entering it; otherwise Support personnel will have no reason to notice that changes were made.

Assuming the user has already positioned to the STAR or has just completed building it, then the following demonstrates how to modify the description of the STAR entered in the last section:

```
#ED DESC
Text:
EDIT C01 Here
*SE4;/A004/S/A005/;TS
1234_A005.:SYSTAC2. We're currently running on week 702 patches.
*END
#
```

The EDIT processor is entered to permit the user to perform alterations to the STAR description. Prior to entering EDIT, STARLOG writes the description to a temporary keyed file called *STAREEDIT which the user then modifies.

Suppose the severity of the STAR is to be changed from 2 to 3. The following command accomplishes this task when positioned at the STAR:

```
#CH SEV TO 3
```

Suppose the TITLE needs to be changed from "<XYZ> UDE-501-7 @ KQT\$TREES+.2222" to "<XYZ> UDE-501-7 @ KQT\$TREES+.1111". Two commands are available. The CHANGE command to perform the task is

```
#CH TITLE TO '<XYZ> UDE-501-7 @ KQT$TREES+.1111'
```

The alternative is the EDIT command:

```
#ED TITLE
Title: <XYZ> UDE-501-7 @ KQT$TREES+.2222
```

Your terminal cursor will be positioned at the end of the above title line and input editing may be used to alter the title to what is desired. In this case, four DEL characters, four new characters and a carriage return accomplish the task.

Assuming that the above editing has been performed, the Starlord has reviewed the STAR and the documentation has been delivered to the support computer, then the STAR display appears as in Figure 7-2.

```
#1234.STAR
Number:1234 OPEN (3) Date 02/26/87 09:45 Subject: C01 CENTRAL
Title: <XYZ> UDE-501-7 @ KQT$TREES+.1111
By: Jim Smith (XYZ) Cust: Xylo Yellow Zippers To:

The screech occurred during a ZAP of the system. After recovery,
another ZAP proceeded without incident. Preliminary analysis
information will be beamed to 1234_ANLZ.ZZZTEST. The dump @XYZ is
1234_A005.:SYSTAC2. We're currently running on week 702 patches.

Note: 1 Type: Name: TATTLE <TESTCASE> Date: 02/27/87 23:10
These testcases have arrived in ZZZTEST @LADC
1234_ANLZ

Number: 1234 OPEN (3) To: Subject: C01 CENTRAL
#
```

Figure 7-2. Display of Completed STAR

Note that the delivery of the testcase is noted by the automated process called TATTLE which in addition to appending the note, OPENS the STAR and sends a MAIL message to the responsible programmer. Also notice that after the STAR is assigned to a programmer, the "To:" field changed from UNASSIGNED to blanks. (The assigned programmer name is not visible to customers.)

Appending NOTES

Information is added to existing STARs by means of NOTES. To add a NOTE to a STAR, one must be positioned to the STAR. Suppose our chap Jim Smith wants to inform all that the screech he experienced and reported in the previous sections has occurred again. The following sequence is necessary:

```
#1234.BU NOTE
Name:
Type:
NOTE number: 2
-The problem occurred again (see dump 1234_B0034.:SYSTAC).
-
#
```

Support personnel may not notice notes that are added to STARs that are closed. It is important not to append notes to closed STARs unless you are claiming that the STAR is still a problem and should be reopened.

Editing a NOTE

In order to EDIT a NOTE, it is first necessary to position oneself to the STAR and then position to the NOTE that needs modification. Positioning to a NOTE is done similarly to positioning to a STAR. It is advisable to perform any editing of a note immediately after entering it; otherwise Support personnel will have no reason to notice that changes were made. If time has lapsed since you entered your note and you now wish to amend it, append a new note to the STAR rather than editing a prior note.

The commands required to modify the NOTE entered in the last section are

```
#FIND STAR:NUM=1234
#FIND NOTE:NUM=2
#EDIT TEXT
```

or, more simply,

```
#1234.:2.ED TEXT
```

Note that the command :2 serves as an abbreviated form for the FIND NOTE command. After entering the above commands, the text of the NOTE is written to a temporary keyed file called *STAREEDIT and the CP-6 EDIT processor is entered to permit modification to proceed. For example,

```
#1234.:2.ED TEXT
Text:
EDIT C01 Here
*/0034/s/003/;tx
1.000 The problem occurred again (see dump 1234_B003.:SYSTAC).
*Q
#
```

Of course, immediately after building a NOTE it would not be necessary to position to the STAR and then the NOTE as has been shown. This was done just for purposes of demonstration.

Figure 7-3 shows the STARNOTE display for the STAR 1234 after the NOTE has been edited. The NOTE at this point shows a type field with parentheses. This is an indication that it has yet to be reviewed by the Starlord and, until it is, is only visible to the submitter, the CP-6 TAC and LADC developers.

```

#1234.STARNOTE
1234 OPEN 3 02/26 C01  CENTRAL  <XYZ> UDE-501-7 @ KQT$TREES+.1111

Note: 1      Type:      Name: TATTLE <TESTCASE>  Date: 02/27/87 23:10
      These testcases have arrived in ZZZTEST @LADC
      1234_ANLZ

Note: 2      Type:(    ) Name: Jim Smith (XYZ)   Date: 02/29/87 08:12
      The problem occurred again (see dump 1234_B003.:SYSTAC).

```

Figure 7-3. STARNOTE STAR Display

Deleting a STAR or NOTE

In some cases you may find it necessary to delete a STAR that you have built. In this case, build a note specifying F as the note type. The Starlord will void the STAR for you.

If you have just entered a note and discover it is for the wrong STAR, for example, you can edit the note's type code, changing it to X. The Starlord will void the note.

Duplicating STARS

Frequently more than one customer will discover the same problem. When two STARS representing the same problem are entered, the later STAR is closed as a duplicate (CLDUP) of the first. It is important to understand that a CLDUP status does not mean that the problem is being ignored. Instead, it is being followed under a different STAR number. "Common STAR Retrieval Functions", example 8 discusses a technique for tracking duplicate STARS.

If you are aware that a problem already exists and know the STAR number, you are encouraged to join in the dialogue by adding a note. Appending a note with the words "Me Too" indicates that the STAR also represents a problem for your site. (If the site originating the STAR is unable to reproduce the problem but your site can, it is very helpful to state this in your note and to supply the appropriate supporting documentation.) If a suggested improvement agrees with your site's requirements, you could add a note saying "Me Too - suggested fix in Note 3", for example.

Common STAR Retrieval Functions

One of the obvious benefits of STARLOG is that it serves as a extremely useful repository of work-arounds and solutions for known problems. As a result, it frequently is necessary to scan the STARBASE for STARs that meet a variety of criteria. The following examples demonstrate some of the more common techniques for extracting the STAR numbers of those that meet the criteria specified.

1. Suppose you want a list of all COBOL STARs whose TITLE contains the word COMPUTE.

```
#STARSUM SUNA IS COBOL & TITLE CONTAINS COMPUTE
```

Here SUNA is an abbreviation for SUBJECT NAME.

2. Suppose you want a list of all FEP STARs whose number is greater than 30000 whose TITLE contains GHT or GHS.

```
#30000.STARSUM REST SUNA IS FEP & (TITLE CONTAINS GHT I GHS)
```

Here you must first position to STAR 30000 and then request that the search proceed forward from that point via the REST keyword looking for STARs that satisfy the criteria specified. This technique is useful when you know the STAR's number is in a particular range since you eliminate the need to scan those that exist with a number less than or equal to 30000.

3. Suppose you want a list of all STARs with "Analyst Alert" status for the D00 version of the operating system.

```
#STARSUM SEV IS A & SUBJ VERSION IS D00
```

4. Suppose you want a list of all STARs you submitted that are not closed.

```
#STARSUM ORNA IS ME & STATUS IS NOT CL
```

The symbol ORNA is an abbreviation for ORIGINATOR NAME and ME is a special STARLOG keyword that specifies the user's customer site name or logon name depending on the associated context. In this case, it's logon name; if instead of ORNA, ORCU SITE NAME (ORIGINATING CUSTOMER SITE NAME) had been used, then ME would refer to the customer site name. That is, the command

```
#STARSUM ORCU SITE NAME IS ME & STATUS IS NOT CL
```

will list all STARs submitted by your site that are not yet closed.

5. Suppose you want a list of all STARS that have been submitted by your site and have been modified since being logged on last.

```
#STARSUM ORCU SITE NAME IS ME & MOD DATE >= MY TIME
```

MOD DATE refers to the STAR's last modification date. This contains the time when modification of the STAR's title, description, status or severity last occurred or a NOTE was last appended or modified.

Two fields that exist in your LOGON record are MY TIME and LAST LOGON TIME. Both are used to hold the time of the last logon. The difference is that MY TIME is controlled by the way you terminate your STARLOG session. If END HOLD is entered to terminate a session, then the LAST LOGON TIME is updated but MY TIME is not. This provides you with a means of preserving the real LAST LOGON TIME, if a session was initiated and terminated for reasons other than finding STARS modified since the last logon.

Note: To edit the MY TIME field in case it is inadvertently updated, use the EDIT LOGON:MYTIME command to reset the field to the value when the last reporting job was run.

6. Suppose you want a list of all EFT or FILE STARS whose TITLE, DESCRIPTION or any NOTE's TEXT contains ARCHIVE.

```
#STARSUM (SUNA IS EFT | FILE) & ((TITLE CONTAINS ARCHIVE) | (DESC CONTAINS ARCHIVE) | (NOTE:TEXT CONTAINS ARCHIVE))
```

7. Suppose you want a summary of all STAR activity occurring in the last week, that is, a listing of STARS that are new, had notes added, had the status changed, etc. Since the report from these command is most useful in hard copy form, the commands are shown as a JCL file to be submitted for execution in batch mode.

```
1.000 !STARLOG
2.000 STARSUM REST NUM > 25000 AND MOD DATE >= WEEK AGO
3.000 END
```

The report STARSUM command asks for summaries of STARS with a STAR number greater than 25000 and a modification date within the last seven days. Starting the search at 25000 saves time, since few STARS below that number will have significant activity. This type of search is often best performed in batch mode, as discussed and illustrated in the next subsection.

8. Suppose you want a summary of NOTE activity on a set of STARS that are of interest to your site.

```

1.000 !STARLOG
2.000 WHEN    FIND STAR:STARSUM
3.000 WHEN    STEP STAR:STARSUM
4.000 SELECT NOTE:DATE >= WEEK AGO
29479.000 29479.NOTE
29581.000 29581
29581.100 26586.NOTE
32063.000 32063.NOTE
32150.000 32150.NOTE
99999.000 END

```

This JCL file uses two WHEN commands to request summary reports and a SELECT command to request printing of only NOTES added or changed within the last week. The individual STARS for which notes are to be printed are entered in the JCL file with an edit key that is the same as the STAR number. This use of edit keys facilitates finding and deleting STAR numbers, once a STAR is closed or no longer of interest. To track STARS that are "closed duplicate", the CLDUP STAR number is left in the JCL file (for example, 29581) without the .NOTE command, and following it at the next .1 increment, the number of the open STAR that represents the problem of interest is entered with the NOTE command. This sequence causes the CLDUP STAR summary to print, followed by the STAR summary of the open STAR and any notes from the past week.

See the following subsection for information on submitting batch jobs to STARLOG.

Creating STARLOG Reports in Batch Mode

When using STARLOG for extensive searches of the STARBASE, it is usually advisable to transmit a batch job request to the support computer, using the IBEX command, XMIT. For example:

```
!XMIT fid to JE@LADC
```

where

fid identifies a JCL file.

The next time your site dials up the LADC support computer, the JCL file from your site is sent and scheduled for execution. The JCL file such as the one in Figure 7-5, produces a STARLOG report which is automatically sent back to your site the next time your site dials up the support computer. Your STARLOG report then prints on your site's LOCAL line printer. Notice that the JCL file in Figure 7-5 does not contain an OUTPUT command and does not identify a WSN on the JOB card.

Scheduling STARLOG Batch Job via SETUP File

The SETUP command file used on the customer site by the system manager (or primary technical contact) can include the XMIT command that schedules the STARLOG job on a weekly basis. This is done via IBEX and LASTLOG.X commands in the SETUP file. In Figure 7-4, the STARLOG job would be transmitted when you dial up the support computer on Monday; output from the job would be sent back to your site when you dial up the support computer after the the job completes, which could be the following day.

```
.  
.  
!LASTLOG.X  
!IF STEPCC>0 THEN GOTO Logged-on-once  
!IF $DAY = 'MON' THEN XMIT star_job_fid to JE@LADC  
.  
.
```

Figure 7-4. Sample SETUP File for System Manager

Sample Weekly STARLOG Job

The following figure illustrates a sample weekly STARLOG job. This job generates several reports that summarize STARLOG activity in the previous week and reports the new notes for a specific set of STARS. You may adapt this job to report the STARS of particular interest to your site.

```
"SAMPLE WEEKLY STARLOG JOB  
"  
"In the JOB command, specify your logon  
"  account,uname,password  
"which is necessary to gain access to  
"STARLOG. As a courtesy, please defer  
"your job to run between these times:  
"17:00 - 23:59 or 0:00 - 7:00.  
!JOB account,uname,password NAME=STAR_WEEKLY, DEFER(22:00)  
"Always specify STAR=1, which is a pseudo  
"resource required by STARLOG jobs.
```

Figure 7-5. Sample Weekly STARLOG Job (cont. next page)

```

!RES TIME=20, MEM=128, STAR=1
                                "Invoke STARLOG.
!STARLOG
                                "Report a summary of my site's STARS
                                "that are not yet closed. See Common
                                "STAR Retrieval Functions, example 4,
                                "for details.
STARSUM ORIG CUST SITE NA = ME & STATUS IS NOT CL
PAGE
                                "Report any 'Analyst Alert' STARS with
                                "activity in the previous month.
STAR REST SEV IS A AND MOD DATE >= MONTH AGO
PAGE
                                "Report a summary of all STARS that
                                "had a modification in the past week.
                                "See Common STAR Retrieval Functions,
                                "example 7, for details.
                                "
                                "This sample uses the literal WEEK AGO,
                                "but an explicit date or the literal
                                "MY TIME could be used. For information
                                "about using MY TIME, please refer to
                                "Common STAR Retrieval Functions, example
                                "5.
                                "
                                "By scanning the summary report of STAR
                                "activity, it is possible to determine
                                "which STARS to examine further when
                                "accessing STARLOG online.
WHEN      FIND STAR:REPORT STARSUM
WHEN      STEP STAR:REPORT STARSUM
SELECT    MOD DATE >= WEEK AGO
FIND      NUMBER = 14594
NEXT
REST
PAGE
                                "Report a summary of specified STARS and
                                "print any notes added or changed in the
                                "past week. See Common STAR Retrieval
                                "Functions, example 8.
WHEN      STEP REPORT STARSUM
WHEN      FIND REPORT STARSUM
SELECT    NOTE:DATE >= WEEK AGO
                                "The STAR numbers listed are those of
                                "particular interest to your site. The

```

Figure 7-5. Sample Weekly STARLOG Job (cont. next page)

```
"List typically includes STARS you submitted
"that are SEVERITY 4 or higher. See
"example 8, Common STAR Retrieval
"Functions, for a more detailed discussion.
"
"By following the activity on these STARS
"it is possible to see that a patch is
"available, more problem documentation
"is requested, the STAR is closed, etc.
"The summary reports generated at the
"beginning of this job are useful in
"keeping this list of STAR numbers up to
"date.
```

```
29479.NOTE
29581
26586.NOTE
31932.NOTE
32063.NOTE
32149.NOTE
32150.NOTE
END
```

Figure 7-5. Sample Weekly STARLOG Job

Sample Monthly STARLOG Job

The Figure 7-6 illustrates a sample monthly STARLOG job. This job generates a summary of STARLOG activity in the previous month for products in use at your site. This job also produces a summary file that is BEAMED back to your site for reference. Should a user report a problem with a specific processor, you can search the current STARSUM file for that subject name to determine if another site has previously identified the problem, then access STARLOG online to view the STAR description and all current notes.

Note: Obtaining a STARSUM report rather than a voluminous STAR report is advisable. In addition, producing STARSUM reports for multiple subjects, rather than separate reports for particular subjects, is requested because multiple searches are very time-consuming.

This job also generates a STAR report for any "Analyst Alert" STARS that were created or modified in the last month.

```

                                "SAMPLE MONTHLY STARLOG JOB
                                "
!JOB account,uname,password NAME=STAR_WEEKLY, DEFER(22:00)
!RES TIME=20, MEM=128, STAR=1
!STARLOG
                                "Direct output to a temporary file.
OUTPUT INTO *FILE
                                "Obtain a STARSUM report, starting the
                                "search at 25000, for activity in the last
                                "month for the subjects not excluded by
                                "the clauses 'SUNA IS NOT ...'.
STARSUM REST NUM > 25000 AND MOD DATE >= MONTH AGO AND ;
SUNA IS NOT IDP AND ;
SUNA IS NOT IDS AND ;
SUNA IS NOT RPG AND ;
SUNA IS NOT HDLCX25 AND ;
SUNA IS NOT X29
                                "Obtain a STAR report of 'Analyst Alert'
                                "STARs with activity in the last month,
                                "except for subjects specifically excluded
                                "by SUNA IS NOT... clauses.
STAR REST NUM > 25000 AND MOD DATE >= MONTH AGO AND SEVERITY IS A AND ;
SUNA IS NOT IDP AND ;
SUNA IS NOT IDS AND ;
SUNA IS NOT RPG AND ;
SUNA IS NOT HDLCX25 AND ;
SUNA IS NOT X29
END
                                "BEAM the temporary file to your site
                                "(identified by your workstation name).
                                "Specify the logon account, user name
                                "and password to allow the file to be
                                "BEAMed. The file will appear with a
                                "name of the form 'date_STARSUM' in your
                                "account :SYSTAC.
!LET FIDSTR = '%($DATE)'||'_STARSUM'
!BEAM *FILE OVER %FIDSTR.:SYSTAC @your_site_wsn
account,uname
password

```

Figure 7-6. Sample Monthly STARLOG Job

Sending Supporting Documentation

Often the supporting documentation for a STAR is many lines long. To avoid creating voluminous STARS, it is preferable to send this information to the .ZZZTEST account on LADC's support computer.

The supporting documentation may be BEAMed to the CP-6 support computer. It is also possible to transmit a job to the support computer that builds a STAR and contains the supporting documentation. Both techniques are discussed in later headings.

Naming Convention for Supporting Documentation

The name of the supporting documentation or testcases for a STAR should be of the form:

starnumber_processorname

For instance, for ANLZ information related to STAR 30333, the the supporting documentation file should be sent to 30333_ANLZ.ZZZTEST. A DRIBBLE file for STAR 33444 should be sent to 33444_DRIBBLE.ZZZTEST.

The STAR number at the beginning of the file name allows TATTLE to report the arrival of the testcase in the .ZZZTEST account by appending a note to the STAR.

BEAMing Supporting Documentation

To BEAM supporting documentation from a customer system to LADC's support computer, enter the BEAM command. For example, to BEAM the file *STARINFO created via ANLZ's STAR command, the customer enters

```
!BEAM *STARINFO OVER starnumber_ANLZ.ZZZTEST @LADC
```

using the STAR number and underscore as the first portion of the file name (for example, 33555_ANLZ for STAR 33555).

When requested, enter your logon account,name and next your password. As soon as the synchronous connection is made (see Section 5, "SYNC Capabilities"), the file is transferred.

It is also possible to use a PC to perform file transfers, as discussed in Section 5, "ASYNCR Capabilities".

Building STAR and Supporting Documentation in Batch Mode

It may be convenient to create a job on the customer system that contains the STARLOG commands to build a STAR, and also contains the supporting documentation. That job can be scheduled for execution on the CP-6 support computer (as described in the heading above "Creating STARLOG Reports in Batch Mode").

Figure 7-7 shows such a job in abbreviated form. The job includes the commands to enter STARLOG, build a STAR, and exit STARLOG. Following that, it includes a COPY command and ANLZ supporting documentation (merged by from the *STARINFO file). In this sample, there is also another COPY command and a DRIBBLE file testcase (merged from an ELBBIRDed file). The COPY commands use the command variable LAST_STAR to include the STAR number in the file name of the files copied to .ZZZTEST.

```
!JOB account,uname,password NAME=STAR_BUILDER
!RES TIME=20, MEM=128, STAR=1
!STARLOG
BUILD STAR
CENTRAL
D00

4
<XYZ> UDE-501-7, IC=FMC$RELCACHE +.27
Date      Time      Dump File      Node      Comment
-----
04/21/87 12:52  star_H036
04/21/87 14:09  star_H038
Occurred running under patchweek 715.
.END
END
!COPY ME OVER %(LAST_STAR||_ANLZ).ZZZTEST
.
.
(Here merge the *STARINFO file produced via ANLZ)
.
.
!COPY ME OVER %(LAST_STAR||_DRIBBLE).ZZZTEST
.
```

Figure 7-7. Sample JCL to Build STAR and Supporting Documentation (cont. next page)

```
.  
(Here merge a DRIBBLE file that has been processed via ELBBIRD.X)  
.  
.  
!EOD
```

Figure 7-7. Sample JCL to Build STAR and Supporting Documentation

Appendix A

STARLOG Data Base

The major areas are STAR, PRODUCT, CUSTOMER, PROGRAMMER, CATEGORY, and LOGON. The [STAR] NOTE area is a sub-area of the STAR area, the [PRODUCT] VERSION area is sub-area of the PRODUCT area. Pictorially, this is represented in Figure A-1.

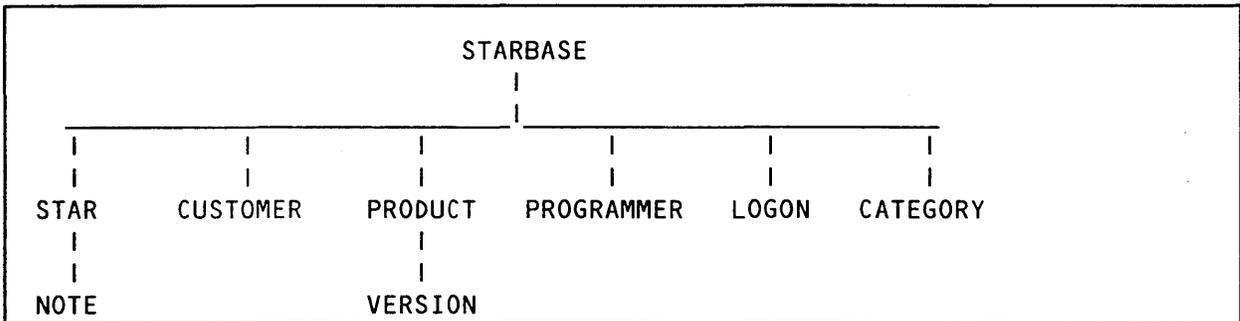


Figure A-1. STARLOG Area Structure

Position is established in any of these areas by finding or locating a record within the area. It may be assumed that each area contains a record of the same name as the area. For example, the STAR record is the only record in the STAR area. The major areas are independent of one another in that current position may be established for each simultaneously. The current position in a sub-area, however, is dependent on the current position of the area to which it is subordinate. For example, the current position for the NOTE area must be a NOTE record in the current STAR.

Also, position may be established in a major area through use of a field in another area. For example, you'll see that the STAR record contains a pointer to the customer record in the CUSTOMER area for the STAR's submitter. STARS may be positioned to on the basis of the name field in the LOGON area (by ORIGINATOR NAME).

The current position in the STAR area may be determined via the STARSUM report and in the NOTE area via the NOTE report.

STARLOG maintains a "default area" which changes whenever a FIND, SELECT or step command is executed. Subsequent commands which do not specify an area are defaulted to this area. The initial default area upon logging on is STAR.

Each of the areas' records have fields that may be referenced by users in STARLOG commands that retrieve information on the basis of user specified criteria. The areas and their corresponding records that are of concern to customers interested in pursuing their normal day to day CP-6 support responsibilities are STAR, NOTE, CUSTOMER and LOGON.

STAR Area

The STAR area contains a number of fields in its record that describe the entire content of a STAR except for the notes. Table A-1 describes all the STAR record fields. Note that each field name is shown with the minimum abbreviation that STARLOG accepts.

Table A-1. STAR Record Fields	
[AS[SIGNED]] PROG[RAMMER] pfn	<p>This field points to the appropriate record in the PROGRAMMER area that identifies the LADC developer who has responsibility for the STAR.</p> <p>pfn represents the programmer field name through which STARs may be positioned.</p>
[CUR[RENT]] STAT[US]	<p>Current state of the STAR (see STAR statuses in Table A-10).</p>
DESC[RIPTION]	<p>Detailed description of the reported difficulty. The description may consist of multiple lines.</p>
MOD[IFICATION] DA[TE]	<p>Date at which any of the following were changed:</p>

Table A-1. STAR Record Fields (cont)	
DESCRIPTION SEVERITY CURRENT STATUS ASSIGNED PROGRAMMER NOTE:TEXT	or the STAR was built or a NOTE appended.
{NUM[BER]INO}	STAR number (assigned by STARLOG)
NOT[E] snfn	This field points to the NOTES for this STAR contained in the NOTE area. snfn represents any STAR note field name by which STARS may be referenced. For example, STARS may be positioned to on the basis of NOTES that have your NAME (i.e., NOTE:NAME)
OR[IGIN] DA[TE]	STARLOG supplied data representing the date the STAR was submitted.
OR[IGINATOR] CU[STOMER] cafn	The field points to the record in the CUSTOMER area that identifies the submitter of the STAR. cafn represents any CUSTOMER area field name. STAR(s) may be referenced by any field in the CUSTOMER record of the submitter. For example, it is possible to find all STARS with an OR CU SITE NAME of 'XYZ'.

Table A-1. STAR Record Fields (cont)

ORIGINATOR NAME

Name of the STAR submitter as supplied at the time the STAR was created.

SEVERITY

1-4 indicates the user's perceived impact of problem (see the list of STAR severities in Table A-9).
5 indicates a desired improvement request.
A is an ANALYST ALERT providing technical information or warnings.
D is used for discussions or status STARS.

SUBJECT NAME

Problem's subject category, e.g., FORTRAN, FILE. For the list of subject names, see Table A-8.

SUBJECT VERSION

Problem's subject version, e.g., D00 for the D00 operating system, B06 for the B06 version of a compiler or processor, 01 for the 01 version of a reference manual.

STATUS CODE

Internal code representing the STAR's current state.

TITLE

One line description of the problem containing up to 60 characters.

VISIBILITY DATE

Date the STAR was reviewed (i.e., made visible to other customers).

NOTE Area

The NOTE area, as has already been mentioned, is a sub-area of the STAR area. The records in the area contain the data that users append to STARS as additional information. Table A-2 describes the fields that are in the NOTE record.

Table A-2. NOTE Record Fields	
DA[TE]	Date the NOTE was entered or reviewed.
LOG[ON] lfn	This field points to the LOGON record for the NOTE's originator. lfn represents any LOGON field name that may be used to position to NOTES.
NA[ME]	Name entered when the NOTE was created.
{NUM[BER]INO}	Number of the NOTE as assigned by STARLOG.
TEXT	Multiple lines of text.
TY[PE]	Code entered at the time the NOTE is entered in response to the "Type:" prompt:

Table A-2. NOTE Record Fields (cont)

blank	- indicates a NOTE that may be entered by any user with added information or questions.
F[ORGET]	- indicates that STAR is to be ignored and may be entered by the originator only.
R[ESPONSE]	- provides the LADC developer a means of acknowledgement.
D[ISPOSITION]	- indicates the NOTE provides a resolution for the problem reported. Entered by LADC programmers or CP-6 TAC.
A[VOID]	- provides a means to avoid or work-around the problem. Entered by LADC programmers or CP-6 TAC.
I[NVISIBLE]	- indicates that the NOTE is visible only to LADC programmers and CP-6 TAC. These are used for internal discussions related to the problem reported. These and "H" type NOTES cause the customers to see "gaps" in the successive NOTE numbers that appear in STAR displays.
H[ONEYWELL]	- indicates a NOTE entered by and only visible to Honeywell Bull personnel.
X	- indicates that the NOTE is to be ignored and may be entered the originator only.

CUSTOMER Area

The CUSTOMER area data describes the characteristics of CP-6 customers. Table A-3 contains a description of the various fields in this area.

Table A-3. CUSTOMER Record Fields

COMP[UTER] INFO[RMATION]
COMP[UTER] [SIGN[ON]] ACC[OUNT]
COMP[UTER] [SIGN[ON]] NA[ME]
COMP[UTER] [SIGN[ON]] PASS[WORD]
COMP[UTER] TEL[EPHONE]
CONT[ACT] NA[ME] Name of the primary contact at the site.
CONT[ACT] TEL[EPHONE] Phone number of the primary contact at the site.
COST CEN[TER] The Honeywell Bull cost center associated with the site.
DEL[IVERY] AD[DRESS]

Table A-3. CUSTOMER Record Fields (cont)

F[IELD] E[NGINEER] NA[ME]

Name of the CSD Field Software Support Specialist assigned to the site.

F[IELD] E[NGINEER] TEL[EPHONE]

Phone number of the CSD Field Software Support Specialist assigned to the site.

LA[ST] PA[TCHES]

OP[ERATOR] NA[ME]

Name of the site's operator.

OP[ERATOR] TEL[EPHONE]

Phone number of the site's system console.

RE[PLY] AD[DRESS]

SITE NA[ME]

The name of the customer. The contents of this field will appear in the heading of each STAR submitted by the site.

SYS[TEM] {NO | NUM[BER]}

The customer's system number, e.g., LX0001.

LOGON Area

The LOGON area contains records that describe valid logon identifiers. Customers may view only their own LOGON record. Table A-4 contains a description of the fields in these records.

Table A-4. LOGON Record Fields
<p>FIRST {COMM[AND] CMND}</p> <p>A one line command (up to 80 characters) that is to be executed whenever the user logs on to STARLOG.</p>
<p>LA[ST] {OFF LOGOFF} [TI[ME]]</p> <p>Time user last logged off from STARLOG.</p>
<p>LA[ST] {ON LOG[ON]} [TI[ME]]</p> <p>Time user last logged on to STARLOG.</p>
<p>MY ST[UFF]</p> <p>User field.</p>
<p>MY TI[ME]</p> <p>Contains the LOGON TIME of the last session that was terminated normally (without using the HOLD option).</p>
<p>NA[ME]</p> <p>Name user wishes to appear in STARs and NOTES.</p>

Table A-4. LOGON Record Fields (cont)

PRIV[ILEGES]	User's privileges as determined by the STARLOG administrator.
PROG[RAMMER] pfn	LADC used field. pfn points to the PROGRAMMER record.
[SI[GNON]] ACC[OUNT]	Logon account.
SI[GNON] NA[ME]	Logon name.
[SI[GNON]] PASS[WORD]	Logon password.
SITE {NO NUM[BER]}	User's site number, e.g., LX0001.
TEL[EPHONE]	Phone number at which the user may be contacted.
THIS {ON LOG[ON]} [TI[ME]]	Time user logged on for the current session.

PRODUCT Area

The PRODUCT area contains records describing products. Field names within the PRODUCT area are listed in Table A-5.

Table A-5. PRODUCT Record Fields
[MAR[KETING]] ID[ENTIFICATION] Honeywell Bull Marketing identifier.
NA[ME] Name commonly used in referring to product.
REL[EASE] VERS[ION] Current product version.

Each PRODUCT record may contain the sub-area VERSION.

CATEGORY Area

The CATEGORY area contains records which describe subject names. Fields named with the CATEGORY area are listed in Table A-6.

Table A-6. CATEGORY Record Fields
NA[ME]
PROD[UCT] product-field-name
TY[PE]

PROGRAMMER Area

The PROGRAMMER area contains a record for each person who is recognized as an LADC programmer. Only Starlords and LADC programmers may view the contents of the programmer area. Fields named within the PROGRAMMER area are listed in Table A-7.

Table A-7. PROGRAMMER Record Fields
EMP[LOYEE { NO NUM[BER] }
MAIL SLOT Honeywell Bull internal mailing address
{ MAN[AGER] MGR }

Table A-7. PROGRAMMER Record Fields (cont)

NA[ME]

STAR Subjects

Table A-8 contains a list of available STARLOG subject categories for which STARs may be submitted. Before a customer is permitted to submit a STAR against a particular subject, the customer's site must be licensed for it.

Table A-8. STARLOG Subject Categories

3270	6EDIT	ADAPT	ANLZ	ANVIL
APL	ARCOM	ARES	ARGENT	ASYNCR
BASIC	BISYNCR	C	CAP	CE?
CENTRAL	COBOL	COBOLE	COBOL85	COMGROUP
CONTROL	DELTA	DEMO	DH03	DMIVTP
DOG	EDIT	EFT	ELAN	ELF
ELSIE	FEP	FEPLINK	FILE	FIRMWARE
FORGE	FORTRAN	FPL	FPS	FROG
GMAP	GMAP6	GOOSE	GRAPHICS	HA?
HARDWARE	HDLX25	IBEX	IDP	IDS
IMP	INIT	INSYM	IO	JAYS
KEYIN	LABEL	LEMUR	LIBRARY	LINK
LOGON	MAIL	MM	NODEADMN	NETCON
OPER	OUTSYM	PARTRGE	PACT	PASCAL
PCL	PCT	PIG	PIGETTE	PIGLET
PL6	PLOVER	PRESCAN	QUAC	RATES
RCVR2	REPLAY	RPG	SCHED	SHARED_SYSTEM
SLUG	SORT	SPIDER	STARLOG	STATS
SUPER	SUPPORT	SYSCON	TEXT	TOLTS
TP	TPA	TPCP	TRADER	TURTLE
UNITREC	VDH	VARIPORT	VOLINIT	X
X29				

STAR Severities

For each STAR a customer submits, a severity level will be requested. The severities may be a numerical value from 1 to 5, D or A. The lower the numerical value used for a STAR's severity, the higher the impact of the problem on the customer's operation. A severity 1 problem is the most severe and should be used only when conditions so indicate. Table A-9 provides guidelines for the various severity possibilities.

Table A-9. STAR Severity Level Guidelines	
Severity	Guidelines for Use
1	<p>System is down or is crashing so frequently so as to hamper productive work.</p> <p>Major application won't run.</p> <p>Signifies a request by the customer for immediate attention from the TAC and/or LADC.</p> <p>Customer should follow up with a call to the CP-6 TAC.</p> <p>Customer should have available problem documentation or testcases to duplicate the difficulty.</p>
2	<p>Problem has a serious impact on customer, e.g., can't compile a program that's under development.</p> <p>Signifies a request by the customer for a patch and/or a usable work-around.</p> <p>Customer would like confirmation that a problem does exist.</p> <p>Customer should have available problem documentation or testcases to duplicate the difficulty.</p>
3	<p>Problem moderately impacts the customer.</p> <p>A work-around already exists.</p> <p>Indicates that the customer would be satisfied with a "fixed in the next release" resolution.</p>
4	<p>Problem has little impact.</p>

Table A-9. STAR Severity Level Guidelines (cont)

Severity	Guidelines for Use
5	<p>Used to report discrepancies between existing documentation and current CP-6 behavior.</p> <p>Used to report errors in existing documentation.</p> <p>Fast response is not critical to the customer.</p> <p>Signifies a request for product improvement.</p> <p>The fact that a product is working as designed but not as a customer would like is NOT grounds for a severity other than 5.</p>
D	<p>Used for discussion STARS, i.e., general discussion or technical questions.</p> <p>Used for reporting problems with programs that reside in the X account.</p> <p>Used for purposes of tracking (status STAR) critical customer events, e.g., BETA testing, installation of new release of software. STARS of this nature have been extremely useful in providing a highly visible status reporting vehicle for such events.</p>
A	<p>Analyst Alert STAR</p> <p>Used to warn customers about major pitfalls that are discovered with either hardware or software.</p>

STAR Statuses

Table A-10 describes the statuses a STAR may assume.

Table A-10. STAR Statuses	
Status	Description
CLDUP	Problem resolved as a duplicate of another STAR.
CLOSED	Problem resolved with information supplied. Usually the problem was the result of a misinterpretation of existing documentation or a user error.
CLPATCH	Problem corrected with the release of a patch. TATTLE normally assigns this status to the STAR when a note is added indicating the availability of the patch in an incremental patch file automatically shipped to customers.
CLPEND	Problem resolved with a fix to source that will be available to customers with the next release.
CLPREL	Problem resolved by the previous release of the software.
CLREL	Problem resolved by the current release of the software.
CPANS	Problem corrected by a local patch AND no source updates are required. This seldom-used status is used for a STAR previously in TPANS status.
UNREV	STAR has yet to be reviewed by the Starlord.
DOCUM	Additional documentation is required for problem analysis to proceed. Further work on the problem is normally suspended until the receipt of the requested information.
OPEN	STAR has been reviewed and, a programmer is assigned to the problem.
TPANS	Problem has been identified, a patch is available for testing, AND there are no source (NS) updates required for this STAR.
TPATCH	Problem has been identified and a patch is available for

Table A-10. STAR Statuses (cont)

Status	Description
	testing. At this point, the patch is not generally available to customers until it's been through the patch testing procedures at LADC. Customers may request a pre-release of the patch through the STAR; however, be aware that it's made available on a use-at-your-own-risk basis.

Appendix B

STARLOG Command Summary

This appendix describes STARLOG command syntax. For information on command usage, please refer to Section 7 which discusses the subset of STARLOG commands that help CP-6 users to fulfill their support responsibilities.

Prior to discussing the commands, however, it's necessary to describe a number of concepts that are essential in understanding command syntax and usage.

Invoking STARLOG

To run the STARLOG processor requires 128K of memory and, for batch runs, the STAR pseudo resource. (Use the IBEX command ORES MEM=128 for online sessions or RES STAR=1, MEM=128 for batch jobs.) To initiate a STARLOG session after logging on to the LADC support computer simply enter:

```
!STARLOG [optionlist]
```

where

optionlist consists of one option or two options separated by a comma. The options are

NFC for "no first command", causes the first command in the user's LOGON record not to be executed.

LOGON I NA causes the automatic logon information to be skipped. Instead, STARLOG prompts for a full logon. This option is primarily for use by Starlords.

STARLOG replies with a greeting, for example:

```
STARLOG B02B 09:45:03 FRI MAR 20 '87
```

```
-  
#
```

Positioning and Record Selection

Before any operation is performed on an existing STARLOG record, it's necessary to be positioned to that record. A user accomplishes this by means of the FIND or SELECT/STEP commands. Most often the records that customers will be positioning to will be STAR, NOTE or LOGON records. In the case of a NOTE record, since it's in a sub-area of the STAR area, it will be necessary to first position to the STAR record to which the NOTE belongs and then position to the appropriate NOTE.

STARLOG permits users to identify sets of records by means of the SELECT command that allows multiple selection criteria to be specified. The set of records thus selected may subsequently be acted upon by either the REPORT command to produce a variety of reports or by a "stepping facility" that automatically positions to each record in the set to perform some pre-defined user task. The WHEN command is used to specify the pre-defined user task.

Selection Criteria

STARLOG permits users to position to or locate a record or set of records based on some user-specified selection criteria. This criteria is a logical expression made up of the field names, relational and logical operators, and literals.

Field Names

A field is a basic unit of information within a record. Each field has a name unique to its area. Fields may be specifically accessed by their names in CHANGE, DISPLAY and EDIT commands as well as being used in specification of selection criteria in FIND and SELECT commands. Refer to Appendix A for a description of the more commonly used field names.

There are five types of fields, all of which have fixed length. They are

1. Decimal

Consists solely of numeric characters. On display, leading zeroes are suppressed. STAR:NUMBER, i.e., the NUMBER field in the STAR area record, is an example of a decimal field.

2. Text

Consists of any printable characters. On display, trailing blanks are suppressed. STAR:TITLE is an example of such a field.

3. Multi-Line text

Consists of one or more lines of printable characters. STAR:DESCRIPTION is an example.

4. Code

Consists of text fields that are restricted to specific characters. NOTE:TYPE is such an example.

5. Pointer

Consists of a pointer to another record. The field itself contains no displayable data. Its name is used in conjunction with field names within the record to which it points. An example of such a field is STAR:ORIGINATOR CUSTOMER. It points to the record that describes the customer that originated the STAR. Since SITE NAME is a field within the CUSTOMER record, a fully qualified pointer field name would be STAR:ORIGINATOR CUSTOMER SITE NAME.

Logical Operators

The logical operators are

```
{ NOT | ~ }  
{ AND | & }  
{ OR | | }
```

Parentheses, as commonly used in arithmetic expressions, may be used to influence the evaluation of terms of logical expressions. The field name or relational operator need not be respecified in successive terms if it is the same as used in the previous term. For example,

```
NUMBER < 5 OR = 7 OR 8
```

has the same meaning as

```
NUMBER < 5 OR NUMBER = 7 OR NUMBER = 8
```

Parentheses may also be used for sub-area criteria by following the left parentheses with a sub-area name and a colon. All field names that appear within the parentheses must describe fields within the sub-area record. For example,

```
SUBJECT NAME IS COBOL AND (NOTE:NA IS 'Jim Smith')
```

is a logical expression which is true if a STAR has a SUBJECT NAME of COBOL and has any NOTE that was originated by 'Jim Smith'.

Relational Operators

Relations are used in selection criteria to position to a single record or locate a set of records based on the contents of specific fields. The relational operators are:

```
{ LESS [THAN] | LT | < | BEF[ORE] }
{ GREAT[ER] [THAN] | GT | > | AFT[ER] }
{ E[QUAL] [TO] | IS | = }
{ NOT [EQUAL [TO]] | IS NOT | ~= }
{ LESS [THAN] [OR] EQU[AL] [TO] | LE | <= }
{ GREAT[ER] [THAN] [OR] EQU[AL] [TO] | GE | >= }
{ CONTAINING | CON[TAINS] | HAV[ING] | WITH }
NOT { CONTAINING | CON[TAINS] | HAV[ING] | WITH }
```

A relation is a field name followed by a relational operator followed by a literal. For example,

```
NUMBER = 6600
```

or

```
TITLE CONTAINS COMP? | CALC?
```

Note that the second example above demonstrates that relations may be combined with logical operators to form logical expressions. All comparisons are made after translating lower case characters to upper case. This example also shows the use of wild-carding; that is, it requests STARS containing the strings COMP or CALC in the title. (Wild-carding is permitted only in the CONTAINS clause.)

Literals

Literals may be decimal strings, quoted strings, symbols (unquoted words), dates, phone numbers and special names. Two special keyword names are

ME - depending on the associated field, it refers to the user's CUSTOMER:SITE NAME or the user's LOGON:NAME.

INPUT - is used with the CHANGE command. It instructs STARLOG to prompt for the literal when needed; it is used only with multi-line fields.

The format for dates on input is

mm[/dd]/yy [hh:mm]

or

hh:mm [mm[/dd]/yy]

where mm is the month number, dd is the day of the month, yy is the year's last two digits, hh is the hour and mm is the minute of the hour. If only hh:mm is specified, then the date defaults to the current date.

The format for dates as a literal in comparisons and modifications is

mm[/dd]/yy [hh:mm]

hh:mm [mm[/dd]/yy]

LAST YEAR	- any time during the previous year
LAST MONTH	- any time during the previous month
{LAST DAY YEST[ERDAY]}	- any time during the previous day
NOW	- current time and date
WEEK AGO	- time 7 days ago
YEAR AGO	- time 365 1/4 days ago
MONTH AGO	- time 30 1/2 days ago
DAY AGO	- time 1 day ago
TODAY	- any time today
L[AST] {LOG[ON] ON} [TI[ME]]	- time of previous session logon

L[AST] {LOGOFF | OFF} [TI[ME]] - time of previous session logoff
T[HIS] {LOG/ON | ON} [TI[ME]] - time of current session logon
MY TI[ME] - contents of LOGON:MY TIME field (see
END command)

The format of a phone number for input or comparison is

(acd) pre-numb [Xexten]
or
HVN pre-numb [Xexten]

where acd is a three digit area code, pre is a three digit prefix, numb is four digit number and exten is an up to five character extension. Use the characters "HVN" instead of area code designation for HVN phone numbers.

Command Concatenation

STARLOG permits the concatenation of two or more commands into a single entry at the command level. The concatenation symbol used to do this is the ".". For example, the sequence

```
#cmd1  
#cmd2  
#cmd3
```

is equivalent to

```
#cmd1.cmd2.cmd3
```

where cmd1, cmd2 and cmd3 are valid STARLOG commands.

Command Variable and Percent Usage

STARLOG allows command variables to be used in commands and text lines. A command variable is introduced by a percent sign (%). When STARLOG encounters a command variable invocation, it substitutes the contents of the command variable into the text before parsing it. For example,

```
!DATE.X (-15,DATE=TWO_WEEKS_AGO)  
!STARLOG  
#SE STAR ORCU=ME and MODDA > %TWO_WEEKS_AGO.STARSUM  
#END
```

reports a STAR summary of all STARS submitted by my site that were modified in the last 15 days.

Note: Because STARLOG allows command variables to be used, the percent character must be entered as %% in STARS and NOTES.

STARLOG provides a command variable, %LAST_STAR, containing the number it has assigned to the star just built. See Section 7, "Building STAR and Sending Testcase in Batch Mode" which illustrates the use of this command variable.

Commands

The STARLOG commands can be classified in one of three categories: Record, Step, and Miscellaneous commands.

o Record

The Record commands give users the ability to enter problem reports (STARS), to provide additional information for existing problem reports (NOTES), or to modify any data that exists in a STAR or NOTE they've previously entered. Record commands include:

```
BUILD
CHANGE
EDIT
```

o Step

The Step commands instruct STARLOG how to "walk through" and extract information from the STARBASE. The Step commands include:

To set very selective criteria for reports/displays:

```
FIND      ALL      REST
SELECT    FIRST   THIS
WHEN      NEXT
```

To extract selected information from the STARBASE:

```
DISPLAY
REPORT
```

o Miscellaneous

This set of commands allows users control of I/O during their STARLOG sessions as well as providing an access to CP-6 utilities during their sessions. These commands include:

```
DATE      END      LINK      MY      PAGE
DIRECTORY ERASE    LOGON     OFF     PRINT
DO        HELP    MODE     OUTPUT  READ
```

STARLOG COMMANDS

ALL Command

Syntax:

AL[L] [area:] [criteria]

Parameters:

area identifies an area within STARBASE. If area: is not specified, then the area to which the user is currently positioned is used.

criteria is a logical expression composed of field names, relational or logical operators, or literals that specify which records are to be selected. The criteria specified become the current selection criteria. If no criteria are specified, then the current selection criteria are used.

Description:

The ALL command steps through all of the records in the specified area which meet the selection criteria specified.

The action taken when STARLOG steps to each record is defined by the user via the WHEN command.

Example:

The commands necessary to obtain a list of all COBOL STARS are

```
#WHEN STAR:STARSUM          "Instructs STARLOG to produce the STARSUM
                             "report whenever the user steps to a STAR

#ALL STAR:SUNA IS COBOL     "Instructs STARLOG to step through to all
                             "STARS with a SU/JECT NA/ME of COBOL.
```

A more desirable alternative for obtaining the same results is shown as an example in the REPORT command section.

BUILD Command

Syntax:

```
BU[ILD] { STAR | NOTE } [ FROM fid ]
```

Parameters:

FROM fid specifies that information for the STAR or NOTE is stored in a file. The information in the file must be arranged exactly as if it were typed in from a terminal.

If no FROM fid is specified, STARLOG will prompt for the various fields necessary to build either the new STAR record or new NOTE.

Description:

The BUILD command is used to create a new STAR or to append a new NOTE to a STAR. It's necessary, of course, to first position to a STAR via the FIND or SELECT command prior to issuing the BUILD NOTE command.

Examples:

1. Building a STAR

After entering the BUILD STAR command, the following prompts are issued:

Subject name:	A subject category known to STARLOG (see Table A-8 for a list) and owned by the customer is required here.
Subject version:	The version of the product for which the problem is being reported.
Originator name:	The name of the submitter. If a carriage return is entered here, the name as stored in the user's LOGON record is used.
Severity:	The user's perceived severity of the problem (see Table A-9 for suggested guidelines).
Title:	The title for the problem report up to 60 characters.

After the above data is entered, STARLOG outputs the STAR number as follows:

Star number: nnnnn

Then, the user is prompted for the description of the problem by

Description:
-

A null response to the successive "-" prompts terminates the BUILD STAR process.

An example of using the BUILD command online is provided in Section 7.

2. Building a NOTE

After entering the BUILD NOTE command, the following prompts are issued:

Name: The name of the submitter. If a carriage return is input here, the name as stored in the user's LOGON record is used.

Type: For all customer supplied notes, a carriage return would suffice. See Table A-2 for a list of valid NOTE types.

At this point, the NOTE's number is output and the user is prompted for the text of the NOTE as follows:

NOTE number: nn
-

The NOTE building process is terminated by a carriage return in response to one of the successive "-" prompts.

3. Building STAR in a file

It may also be convenient to build STAR entries in an edit file, before logging on to the support system. In this case, use a template file of the form:

1.000 subject name
2.000 subject version
3.000
4.000 severity
5.000 title

When building a STAR, use EDIT to merge or copy the template file into the beginning of the STAR file. Then re-read (RR) the five lines. Replace the non-blank lines with correct STARLOG responses. For example, the subject could become FORTRAN, subject version could become D00, severity could become 3, and title would be whatever is appropriate. Then enter the description of the STAR following the title line. When the STAR description is complete, use the command BUILD STAR FROM fid command in STARLOG to build the actual STAR. (The originator name is supplied for line 3 when the BUILD STAR command is executed.)

To create a file containing multiple STARS, use a similar template, inserting the STAR description after the title, but instead of using the BUILD command, use the READ command. Separate the description of the STAR from the following BUILD command by ".END". A file containing two build STAR sequences is as follows:

```
1.000 BUILD STAR
2.000 subject name
3.000 subject version
4.000
5.000 severity
6.000 title
7.000 description (may be multiple lines)
8.000 .END
9.000 BUILD STAR
10.000 subject name
11.000 subject version
12.000
13.000 severity
14.000 title
15.000 description (may be multiple lines)
16.000 .END
```

Using this file as a template, the first of two STARS could appear as follows:

```

1.000 BUILD STAR
2.000 CENTRAL
3.000 C01
4.000
5.000 2
6.000 <XYZ> UDE-501-7 @ KQT$TREES+.2222
7.000 The screech occurred during a ZAP of the system. After recovery
7.100 another ZAP proceeded without incident. Preliminary analysis
7.200 information will be beamed to .ZZZTEST. The dump @XYZ will
7.300 be star_A005.:SYSTAC2. We're running on week 702 patches.
8.000 .END
.
.
.

```

CHANGE Command

Syntax:

```
CH[ANGE] [ area: ] fldn [{ TO | = } { Literal | INPUT } | FROM fid }
```

Parameters:

area identifies an area within STARBASE. If **area:** is not specified, then the area to which the user is currently positioned is used.

fldn represents a field name which exists in the area being modified.

Literal represents a valid literal as described previously in this section that matches the data type of the field being modified.

INPUT specifies multi-line text fields. STARLOG will prompt the user for successive lines of input.

fid specifies a file containing the replacement field (i.e., the literal or INPUT). The special symbol ".END" signals the end of multi-line text input.

Description:

The CHANGE command is used to alter the contents of specific fields of the current record. The EDIT command is recommended for altering STAR descriptions or NOTE text.

Example:

Change the subject name of an existing STAR, 1234, to FORTRAN.

```
#1234                "FIND command to position to STAR 1234
#CH SUNA TO FORTRAN  "Changes SUBJECT NAME to FORTRAN
```

Other examples are in Section 7.

DATE Command

Syntax:

```
{ DATE | TIME }
```

Description:

DATE (and its synonym TIME) displays the current date and time. The format of the display is:

```
mmm dd 'yy hh:mm (month)(day)(year)(hours)(minutes)
```

Examples:

```
#DATE
```

requests a display of the current date and time. A sample display is:

```
MAR 02 '86 11:03
```

DIRECTORY Command

Syntax:

```
{ DIR[ECTORY] } [ fid | R[ESET] ]
```

Parameters:

fid specifies the new default account fid, and may consist of an account or a packset name and an account.

RESET specifies that the default account is to be reset to the running account.

Description:

This command changes the default account and packset. The default account and set are the account and associated packset that are selected if an account is not supplied as part of a disk file fid specification. Initially, the default account is the logon or running account and the packset name is nil. When used without parameters, DIRECTORY displays the current directory pointer.

Examples:

```
#DIRECTORY .ZZZCUST
```

This command directs that subsequent fids that do not include an account are to default to the .ZZZCUST account and the packset associated with that account.

```
#DIRECTORY RESET
```

This command re-establishes the running account and its associated packset as the default.

DISPLAY Command

Syntax:

```
DI[SPLAY] [ area: ] { displaylist | ALL } [ step ] [ criteria ]
```

Parameters:

area identifies an area within STARBASE. If area: is not specified, then the area to which the user is currently positioned is used.

displaylist | ALL specifies one or more fields in either a STAR or NOTE to be displayed. The items in the displaylist are identified by field name and are separated by commas. If ALL is specified, all major fields are displayed.

step specifies which records are to be stepped to for the desired report. Valid step specifications are

- FIRST - step to the first record satisfying the selection criteria.
- NEXT - step to next record satisfying the selection criteria.
- REST - steps through all the records satisfying the selection criteria starting after the record to which the user is currently positioned.

ALL - steps through all the records satisfying the selection criteria. This is the default, if step is not specified.

criteria is a logical expression composed of field names, relational or logical operators, or literals that specify which records are to be selected. The criteria specified become the current selection criteria. If no criteria are specified, then the current selection criteria are used.

Description:

The DISPLAY command is entered following the SELECT or FIND command to generate displays of specified fields of selected STARs/NOTEs. If a step command is specified, the DISPLAY command becomes the new default WHEN command. The DISPLAY command applies only to the immediately preceding FIND or SELECT command. A global DISPLAY command is enabled through the WHEN command.

Examples:

1. To display just the STAR number field of STAR 8821 and the NOTE types attached to it, the STARLOG user enters:

```
#FIND STAR:NUMBER=8821
#DISPLAY NUMBER, (NOTE:TYPE)
```

2. To display all STARs whose subject name is FEP, the STARLOG user enters:

```
#SELECT STAR:SUBJECT NAME IS FEP
#DISPLAY ALL
```

3. To display the number, title and status of a STAR, the STARLOG user enters:

```
#FIND STAR:NUMBER=8821
#DISPLAY NUM, TITLE, STATUS
```

DO Command

Syntax:

```
{ DO | ! } IBEX-command
```

Parameters:

IBEX-command any legal IBEX command. See the CP-6 Programmer Reference Manual (CE40).

Description:

The D0 command allows the user to execute an IBEX command without exiting the current processor.

Note: The ! (exclamation point) may be used instead of the word D0. It should be noted however that if the ! is used in an XEQ file, it will terminate the current processor session unless preceded by at least one blank, or entered as a double ! (!!).

Examples:

1. To display the current system status enter

```
#D0 DI
```

2. To set up a title and page number for a report destination enter

```
#!LDEV LP09 TITLE='report title',PAGE=100,COPIES=3
```

EDIT Command

Syntax:

```
ED[IT] [ area: ] fldn
```

Parameters:

area identifies an area within STARBASE. If area: is not specified, then the area to which the user is currently positioned is used.

fldn represents a field name which exists in the area being modified.

Description:

The EDIT command works in one of two ways depending on the type of field being edited. If the field is not a multi-line text field, then the field is output to the user's terminal with the cursor left at the end of the field. The user at that point is free to use the standard CP-6 backspace editing commands to correct the data as desired.

If the field to be modified is a multi-line text field, then the data is written to a temporary file, *STAREdit, and the CP-6 editor, EDIT, is given control with the file open for modification.

Examples:

1. To edit the body of a STAR, enter:

```
starnumber.ED DESC
```

which positions to the specified star number at the description portion and prompts for entry of edit commands. *STAREdit is the temporary file that contains the STAR description.

2. To edit the title of a STAR, enter:

```
starnumber.ED TITLE
```

which displays the title and positions the cursor at the end of the title line. You may then delete and retype characters as needed.

3. To edit a NOTE, enter:

```
starnumber.:notenumber.ED TEXT
```

which positions to the specified star number at the specified note number and prompts for entry of edit commands. *STAREdit is the temporary file that contains the NOTE text.

END Command

Syntax:

```
{ EN[D] | X | Q[UIT] } [ HO[LD] ]
```

Parameters:

HOLD causes the field MY TIME in the user's LOGON record not to be updated when the session is terminated. Normally, MY TIME is updated to be the same date and time as the field LAST LOGON TIME in the LOGON record. The HOLD option is convenient when the LAST LOGON TIME needs to be preserved for use in a later session.

Description:

The END command is used to exit STARLOG and return to the IBEX level.

ERASE Command

Syntax:

ERASE [ALL | ldevlist]

Parameters:

ALL specifies that the accumulated output for all logical devices is to be deleted. This is the default.

ldevlist specifies that the accumulated output for the specified logical device or devices is to be deleted. The list is entered in the format

ldevname[,ldevname]...

ldevname is a logical device name established through the LDEV command.

Description:

ERASE deletes the accumulated output for logical devices.

Examples:

#ERASE ALL

deletes all output accumulated for all logical devices defined for the session or job.

FIND Command

Syntax:

FI[ND] [step] [area:] criteria (Format 1)

- or -

{ n1 [:n2] | :n3 } (Format 2)

Parameters:

step represents either FIR/ST or NE/XT. If neither is specified, NEXT is assumed.

area identifies an area within STARBASE. If area: is not specified, the area to which the user is currently positioned is used.

criteria is a logical expression composed of field names, relational or logical operators, or literals that specify which records are to be selected. The criteria specified become the current selection criteria. If no criteria are specified, then the current selection criteria are used.

n1 is a STAR number.

n2 is a NOTE number.

n3 is a NOTE number within the current STAR.

Description:

The FIND command positions to the first or next occurrence of a record fitting the specified criteria independent of the current selection criteria defined by the SELECT command.

The second form of the FIND command, probably the more useful of the two, is used to position to STARS or NOTES.

Note: If the response to a FIND command for a specific STAR is the message "*** Nothing found", that STAR is probably closed and archived. To view such STARS, invoke the processor ARCHLOG.STAR which accepts STARLOG commands.

Examples:

The following pairs of command sequences are identical:

Format 1	Format 2	Description
#FIND STAR:NUMBER=1234	#1234	Positions to STAR 1234
#FIND STAR:NUMBER=1234 #FIND NOTE:NUMBER=5	#1234:5	Positions to NOTE 5 of STAR 1234
#FIND NOTE:NUMBER=10	#:10	Positions to NOTE 10 of the STAR to which the user is currently positioned

Additional usage examples may be found in Section 7.

FIRST Command

Syntax:

FIR[ST] [area:] [criteria]

Parameters:

area identifies an area within STARBASE. If area: is not specified, then the area to which the user is currently positioned is used.

criteria is a logical expression composed of field names, relational or logical operators, or literals that specify which records are to be selected. The criteria specified become the current selection criteria. If no criteria are specified, then the current selection criteria are used.

Description:

The FIRST command causes a sequential search for the first record in the area which meets the specified selection criteria.

The action taken when STARLOG steps to each record is defined by the user via the WHEN command.

Example:

The commands necessary to produce a STAR report for the first STAR submitted by the user are

#WHEN STAR:STAR	"Instructs STARLOG to produce the STAR "report whenever the user steps to a STAR.
#FIRST STAR:ORNA IS ME	"Instructs STARLOG to step through to the "first STAR with a OR/IGINATOR NA/ME of ME "(i.e., the name specified in LOGON:NAME).

HELP Command

Syntax:

H[ELP] [(fid)] [TOPICS] [keyword1 [-] [keyword2]]

Note: The following elements can be specified in any order:

(fid)
TOPICS
[keyword1] [-] [keyword2]]

For example, HELP (fid) keyword1 - keyword2 TOPICS is acceptable.

Parameters:

(fid) specifies the processor name (for example, STARLOG). If (fid) is omitted, the current processor is assumed. The processor name can be ? to request a listing of processors that have HELP facilities available.

TOPICS requests a list of topic or subtopic names, rather than an information message.

keyword1 [-] [keyword2] specifies a topic, a range of topics, or a topic and subtopic to identify what HELP information is requested. keyword1 and keyword2 may be abbreviated (by truncation).

FORM	RESULT
HELP (fid) TOPICS	Lists all topics
HELP (fid) TOPICS keyword1 - keyword2	Lists all topics in the range specified by keyword1 - keyword 2
HELP (fid) TOPICS keyword1?	Lists all topics beginning with the prefix specified by keyword1
HELP (fid) TOPICS keyword1	Lists all subtopics for the topic specified by keyword1
HELP (fid) keyword1	Displays the first level information message for the topic keyword1
HELP (fid) keyword1 keyword2	Displays the information message for keyword1, but only the level identified by the subtopic keyword2

keyword1 may include the wild-card (?) character as the rightmost character, if TOPICS is specified.

Description:

HELP displays information.

HELP messages have levels. Once the initial level has been displayed, entering a question mark displays the next level, usually containing greater detail. Entering two question marks displays the entire message.

Examples:

HELP (STARLOG) BUILD

displays the syntax of the BUILD command. Entering ?? displays additional information on the BUILD command.

HELP (STARLOG) SUBJECT

displays the available STAR subjects.

HELP (STARLOG) SEVERITY

displays the meaning of STAR severity codes.

HELP (STARLOG) ASTAR TOPICS

displays all fields within the STAR area.

LINK Command

Syntax:

LINK fid

Parameters:

fid specifies the CP-6 processor to which control is to be transferred

Description:

The LINK command causes an M\$LINK to be issued to the processor specified by fid. When the processor receiving control is terminated, control returns to STARLOG.

LOGON Command

Syntax:

LO[GON] [HO[LD]]

Parameters:

HOLD specifies that the value stored in MY TIME, a STARLOG user-profile parameter that contains the logon time for the previous STARLOG session, not be updated.

Description:

The LOGON command ends the current STARLOG session and permits the user to logon to STARLOG with a different account name. Specifying HOLD notifies STARLOG not to change the value of the MY TIME parameter. HOLD is specified when the STARLOG user wishes to treat multiple STARLOG sessions as continuous sessions, usually for tracking purposes.

Examples:

To logon with a different account name, the STARLOG user enters:

```
#LOGON
```

The system responds:

```
STARLOG B02B 15:05:18 WED JUN 10 '87  
Please log on:
```

The user may respond with:

1. account,name,password [(option)]
2. account,name [(option)]
3. password [(option)]
4. [(option)]

For responses 3 and 4, the account, name are taken from the JIT. The Logon option permitted is NFC, meaning don't execute the FIRST COMMAND.

MODE Command

Syntax:

```
MODE [ BE[GINNER] | EX[PERT] ]
```

Parameters:

BEGINNER directs STARLOG to prompt with STAR> or NOTE> depending on the current default location (set by a FIND or SELECT command).

EXPERT directs STARLOG to prompt with #, the default.

Description:

The MODE command allows the user to change the STARLOG prompt mode. If the MODE command is issued and neither BEGINNER or EXPERT are specified, STARLOG will display the current mode.

Examples:

To request prompting in Beginner's mode, the STARLOG user enters:

```
#MODE BEGINNER  
STAR>
```

To position to a NOTE, STARLOG prompts as follows in Beginner mode:

```
STAR>FIND STAR:NUMBER=1234  
STAR>FIND NOTE:NUMBER=1  
NOTE>REPORT NOTE
```

MY Command

Syntax:

```
MY fldn { = | IS } literal [ , fldn { = | IS } literal ] ...
```

Parameters:

fldn represents a field name which exists in the area being modified.

literal represents a valid literal as described previously in this section that matches the data type of the field being modified.

Description:

The MY command is used to change the user's image as viewed by STARLOG. The user may change NAME, SITE, etc. in order to create STARS and NOTES as the proper entity. This facility is primarily to be used by support personnel when reporting problems experienced by their customers.

NEXT Command

Syntax:

```
{ NE[XT] | > } [ area: ] [ criteria ]
```

Parameters:

area identifies an area within STARBASE. If area: is not specified, then the area to which the user is currently positioned is used.

criteria is a logical expression composed of field names, relational or logical operators, or literals that specify which records are to be selected. The criteria specified become the current selection criteria. If no criteria are specified, then the current selection criteria are used.

Description:

The NEXT command causes a sequential search starting from the current position in the area for the first record which meets the specified selection criteria.

The action taken when STARLOG steps to each record is defined by the user via the WHEN command.

Example:

The commands necessary to produce a STAR report for the all the STARS submitted by the user in step mode are

```
#WHEN STAR:STAR          "Instructs STARLOG to produce the STAR  
                          "report whenever the user steps to a STAR
```

#FIRST STAR:ORNA IS ME "Instructs STARLOG to step through to the
"first STAR with a OR/IGINATOR NA/ME of ME
"(i.e., the name specified in LOGON:NAME)

#NEXT "Instructs STARLOG to step to the next STAR
"that meets the current selection criteria
"of ORNA IS ME. This action is performed
"each subsequent NEXT that is entered.

OFF Command

Syntax:

{ OFF | BYE } [HO[LD]]

Parameters:

HOLD specifies that the value stored in MY TIME, a STARLOG user-profile parameter that contains the logon time for the previous STARLOG session, not be updated.

Description:

The OFF command is used to exit STARLOG and terminate the current CP-6 session. Specifying HOLD notifies STARLOG to not change the value of the MY TIME parameter. HOLD is specified when the STARLOG user wishes to treat multiple STARLOG sessions as continuous sessions, usually for tracking purposes.

Examples:

To exit STARLOG and log off the CP-6 system, the STARLOG user enters:

#OFF

OUTPUT Command

Syntax:

```
OU[TPUT] [[ ON ] LP[@location ] ]
          [[ OVER ] fid ]
          [[ INTO ] ME ]
          [[ TO ] ]
```

Parameters:

{ON|TO|OVER|INTO} directs file output processing. OVER causes an existing file to be overwritten. INTO causes file extension. ON and TO are synonyms used to create a new file. If the file exists, an error will occur. The default is ON.

fid any valid CP-6 file identifier.

LP directs output to the default line printer. @location identifies a specific line printer.

ME redirects output to the user's terminal.

Description:

This command sends subsequent output to the specified destination.

Examples:

```
#OUTPUT ON OUTPUTFILE
#OUTPUT ON ME
```

PAGE Command

Syntax:

```
PA[GE]
```

Description:

The PAGE command causes a page eject to occur.

Examples:

To specify page ejects between STAR reports, the STARLOG user enters, for example:

```
#SELECT STAR:(SUBJECT NAME IS FEP) AND (NOTE:DATE > 04/08/87)
#REPORT STARSUM
#PAGE
#SELECT STAR:(SUBJECT NAME IS VDH) AND (NOTE: DATE > 04/08/87)
#REPORT STARSUM
```

PRINT Command

Syntax:

```
PRINT [ ALL | ldevlist ]
```

Parameters:

ALL specifies that the accumulated outputs for all logical devices are to be sent to their destinations immediately. This is the default.

ldevlist specifies that the accumulated outputs for the specified logical device or devices are to be sent to their destination(s) immediately. The list is entered in the format

```
ldevname[,ldevname]...
```

ldevname is a logical device name established through the LDEV command.

Description:

PRINT directs that output accumulated for logical devices be sent to its destination immediately.

Examples:

```
#PRINT LP01,LP02
```

The above example causes the accumulated output associated with logical devices LP01 and LP02 to be sent immediately to the associated destinations.

READ Command

Syntax:

REA[D] fid

Parameters:

fid is a file containing commands exactly as would be entered at a terminal during an interactive STARLOG session.

Description:

The READ command reads and executes commands stored in a file. As each command is executed, it is echoed.

REPORT Command

Syntax:

[RE[PORT]] rptname [step] [criteria]

Parameters:

rptname represents the name of the desired report. Possible report names are

STARSUM - one line description of a STAR

NOTE - a formatted display of a NOTE record

STARNOTE - a STARSUM report for a STAR followed by NOTE reports for each NOTE associated with the STAR

STARONLY - a formatted display of a STAR

STAR - a STARONLY report for a STAR followed by NOTE reports for each NOTE associated with the STAR

STARPAGE - STAR report preceded by a page eject

step specifies which records are to be stepped to for the desired report. Valid step specifications are

- FIRST - step to the first record satisfying the selection criteria.
- NEXT - step to next record satisfying the selection criteria.
- REST - steps through all the records satisfying the selection criteria starting after the record to which the user is currently positioned.
- ALL - steps through all the records satisfying the selection criteria. This is the default, if step is not specified.

criteria is a logical expression composed of field names, relational or logical operators, or literals that specify which records are to be selected. The criteria specified become the current selection criteria. If no criteria are specified, then the current selection criteria are used.

Description:

The REPORT command generates formatted displays of STARS and NOTES. It is the primary vehicle by which customers extract information from the STARBASE.

Examples:

1. To list all the COBOL STARS, enter

```
#STARSUM ALL SUNA IS COBOL
```

2. To display your site's STARS for which there has been activity since your last logon, enter the following command. The field MY TIME is usually used instead of LAST LOGON TIME (see the description of the END command's HOLD option).

```
#STAR ALL ORCU SITE NA IS ME & MOD DA >= MYTI
```

The above command instructs STARLOG to step to all STARS whose ORIGINATOR CUSTOMER SITE NAME is ME (i.e., that which is stored in the user's CUSTOMER record) AND whose MOD/IFICATION DA/TE is greater than or equal to the user's LOGON:MY TI/ME and to produce the STAR report for each.

REST Command

Syntax:

```
RES[T] [ area: ] [ criteria ]
```

Parameters:

`area` identifies an area within STARBASE. If `area:` is not specified, then the area to which the user is currently positioned is used.

`criteria` is a logical expression composed of field names, relational or logical operators, or literals that specify which records are to be selected. The criteria specified become the current selection criteria. If no criteria are specified, then the current selection criteria are used.

Description:

The REST command steps through all of the records, starting after the one to which the user is currently positioned, which meet the selection criteria specified.

The action taken when STARLOG steps to each record is defined by the user via the WHEN command.

Example:

The commands necessary to list all FORTRAN STARs that were submitted that have a number greater than 30000 and have either the word ENCODE or DECODE in the title are

```
#30000.STARSUM REST SUNA IS FORTRAN & (TI CONTAINS ENCODE I DECODE)
```

The first command above, a form of the FIND command, positions the user to STAR #30000. The second steps through all the STARs after 30000 that meet the specified criteria and produces the STARSUM report for each.

Note that this is a frequently used feature since, if a user knows approximately where a STAR that's being searched for exists, then it's desirable to begin the search well into the STARBASE rather than wasting time searching unnecessary STARs.

SELECT Command

Syntax:

```
SE[LECT] [ area: ] [ criteria | ALL ]
```

Parameters:

area identifies an area within STARBASE. If area: is not specified, then the area to which the user is currently positioned is used.

criteria is a logical expression composed of field names, relational or logical operators, or literals that specify which records are to be selected. The criteria specified become the current selection criteria. If no criteria are specified, then the current selection criteria are used.

ALL specifies that all the records are selected.

Description:

The SELECT command identifies a particular set of records within the specified area. The command simply establishes the selection criteria which will be used by the user stepping through the STARBASE. It does not position itself position to any record. Positioning is accomplished by means of a step or FIND command.

If a SELECT command is in effect for an area of the STARBASE and you issue another SELECT command for the same area, the new selection criteria replace the previous selection criteria.

Example:

See example 2 for the WHEN command for a SELECT usage example.

THIS Command

Syntax:

```
{ TH[IS] | * } [ STARINOTE ]
```

Parameters:

STAR changes the location to STAR.

NOTE changes the location to NOTE.

Description:

The THIS command "resteps" to the current position letting the user see the previous position again. The THIS command is primarily useful if a WHEN command has been specified. The THIS command can be used to help locate the current processing position by "revisiting" the last executed WHEN REPORT or WHEN DISPLAY command.

Examples:

To display a STAR again which has just been stepped to, the STARLOG user enters:

```
#WHEN STAR: REPORT STAR
#SELECT STAR: ORIGINATING CUSTOMER NAME IS ME
#FIRST
.
.
.
#NEXT
.
.
.
#THIS
```

WHEN Command

Syntax:

WH[EN] [operation] [area:] [command]

Parameters:

operation is one of the following:

FIND - indicates that the command specified is to be performed when a successful FIND is executed

SELECT - indicates that the command specified is to be performed when a successful SELECT is executed

STEP - indicates that the command specified is to be performed for each record the user steps. This is the default, if operation is not specified.

area identifies an area within STARBASE. If area: is indicated, then either STAR: or NOTE: must be specified. It indicates the type of record the user is to position via a FIND, SELECT or step operation.

If no area: is specified, then the area of the record to which the user is currently positioned is used. To avoid confusion, it's recommended that this specification always be made.

command must be a REPORT command (e.g., STARSUM) or a DISPLAY command. If no command is specified, the indicated WHEN is reset.

Description:

The WHEN command is used to define a REPORT command to be automatically executed whenever a STEP, FIND and/or SELECT command is successfully performed.

If a WHEN command is in effect for an area of the STARBASE and you issue another WHEN command for the same area, the new WHEN command replaces the previous WHEN command.

Examples:

1. The commands necessary to output a STARSUM report whenever a STAR is positioned to via a FIND or STEP operation are

```
#WH STAR:STARSUM      "Instructs STARLOG to perform a STARSUM report
                        "whenever the user steps to a STAR.

#WH FI STAR:STARSUM   "Instructs STARLOG to perform a STARSUM report
                        "whenever the user positions to a STAR via the
                        "FIND command.
```

In this case, a STARSUM report would be produced for the first two commands that follow but not the third:

```
#1234                  "FIND STAR number 1234

#NEXT                  "STEP to the NEXT STAR following 1234

#SE STAR:NUM=1234     "SELECT STAR number 1234
```

2. The following shows the commands necessary to step unconditionally through all the STARS submitted by the user's site with a number > 20000, producing a STARONLY report (STAR description with no NOTES) for each. In addition, commands are shown that permit the user, after positioning to each STAR, to display only those NOTES that have been added/modified since the user last logged on.

```
#WH STAR:STARONLY          "Instructs STARLOG to produce a STARONLY
                           "report each time the user steps to STAR.

#SE STAR:ORCU SITE NA IS ME "Sets the selection criteria for the STAR
                           "area to ORIGINATOR CUSTOMER SITE NAME
                           "equal ME (i.e., all STARS submitted with
                           "an ORCU SITE NA equal to that stored in
                           "the user's CUSTOMER record).

#SE NOTE:DA >= MYTI        "Sets the selection criteria for the NOTE
                           "area to DATE greater than or equal to
                           "MY TIME (see the HOLD option of the END
                           "command).

#20000.NEXT STAR.NOTE      "Three commands are used here:
                           "
                           " 20000      - positions (FIND) to the STAR
                           "                with number = 20000.
                           " NEXT STAR - starting from STAR 20000,
                           "                search forward for a STAR
                           "                meeting the current selection
                           "                criteria for the STAR area.
                           "                Note if one is found, a
                           "                STARONLY report is produced.
                           " NOTE      - produces a NOTE report for
                           "                each NOTE that meets the
                           "                current selection criteria
                           "                for the NOTE area.
                           "
                           "After the appropriate displays are output,
                           "it is possible for the user to append
                           "information to the currently positioned
                           "STAR without impacting the STAR and NOTE
                           "current selection criteria.

#NEXT STAR.NOTE            "To repeat the process for the next STAR.
```


Appendix C

CP-6 Support Telephone Numbers

This appendix lists the telephone numbers used in the CP-6 support process. Refer to the appropriate section listed below for additional information.

National Response Center (NRC)

In Georgia (800) 282-4350

In any state other than Georgia (800) 241-1634

See Section 3 in this Handbook for the NRC call procedure.

Support Computer (ASYNC)

_____ (300 baud)

or

_____ (1200 baud)

Please consult your Honeywell Bull Marketing Representative for these telephone numbers.

See Section 5 on asynchronous access to the support computer.

Support Computer (SYNC) (2400 baud)

In California _____

In any state other than California _____

Please consult your Honeywell Bull Marketing Representative for these telephone numbers.

See Section 5 on synchronous access to the support computer.

TYMNET Customer Support

(800) 336-0149

TYMNET Local Number/Logon _____/_____

For the local TYMNET number, call TYMNET Customer Support, listed above.

For the TYMNET logon string, consult your Honeywell Bull Marketing Representative.

See Section 5 for the TYMNET access procedure.

Index

A

- ALL Command - B-8
- Analyst Alert Stars - 5-12
- ANLZ processor (for dump analysis) - 6-3 6-3
- Appending NOTES - 7-6
- Application Problems - 6-21
- archived STARs - 5-12 B-19
- ARCHLOG.STAR - 5-12 B-19
- ARES Snaps - 6-12
- ASYNCR Capabilities - 5-2
- Automated Support System - 5-7
- Avoidance Techniques - 4-2

B

- Batching STARLOG jobs - 7-11
- BEAM - 5-5
- BEAMing Supporting Documentation - 7-16
- BUILD Command - B-9
- Building a STAR - 7-3
- Building STAR and Supporting Documentation in Batch Mode - 7-17
- bulletin board - 5-4

C

- Call Dialogue - 3-2
- CATEGORY Area - A-11
- CHANGE Command - B-12
- Command Concatenation - B-6
- Command Variable and Percent Usage - B-6
- Commands - B-7
- Common STAR Retrieval Functions - 7-9
- Communications Environment - 5-1
- Compiler Problems - 6-20
- console history log (display via REPLAY) - 5-13
- CPC-700-5 screech code - 6-11
- Creating STARLOG Reports in Batch Mode - 7-11
- CUSTOMER Area - A-6

D

- DABBLE.X - 5-4
- DATE Command - B-13
- debugger, universal (DELTA) - 4-2
- Deleting a STAR or NOTE - 7-8
- DELTA (universal debugger) - 4-2
- DELTA Snaps - 6-14
- :DF files in .:SYSTAC - 6-3
- Diagnostic Data Collection - 5-13
- Diagnostic Tools - 6-2
- DIRECTORY Command - B-13
- DISPLAY Command - B-14
- Displaying STARS - 7-2
- DO Command - B-15
- DRIBBLE - 5-14
- dump analysis (via ANLZ) - 6-3
- dump file naming convention - 6-3
- dump file's patchweek - 6-8 6-24
- dump file, convention for renaming - 6-24
- Dumps - 6-3
- Duplicating STARS - 7-8
- DUX-xxx-5 screech code - 6-14

E

- Early Warning System - 5-13 6-24
- EDIT - 5-4
- EDIT Command - B-16
- Editing a NOTE - 7-7
- Editing a STAR - 7-5
- 6EDIT_NOTES meeting - 5-4
- ELAN processor (for Error Log analysis) - 5-13
- ELBBIRD.X - 6-2
- END Command - B-17
- ERASE Command - B-18
- :ERRLOG files in .:SYSTAC - 5-13
- error log data (analysis via ELAN) - 5-13
- error log data, retention period - 6-24

F

- FEP Screeches - 6-3 6-16
- Field Names - B-2
- FIND Command - B-18
- First command - 7-2 B-20

H

HELP Command - B-21
host screech - 6-3
Host System Hang - 6-9
Host System Screeches, SUAs and Snaps - 6-8

I

IBEX Snaps - 6-11
Identifying Dump File Version - 6-24
Identifying System's Patch Level - 6-23
IDS Snaps - 6-10
Invoking STARLOG - B-1

L

LADC (Los Angeles Development Center) - 1-3
LAST_STAR command variable - B-7
LAST_STAR, usage of command variable - 7-17
LINK Command - B-22
Literals - B-5
Logical Operators - B-3
LOGON Area - A-9
LOGON Command - B-23
Los Angeles Development Center - 1-3

M

MAEB - 5-5
MAIL - 5-4
MAIL ALERTs - 5-16
MODE Command - B-24
Modifying Your LOGON Record - 7-1
MY Command - B-24
MY TIME in LOGON record - A-9

N

naming convention for dump files - 6-24
Naming Convention for Supporting Documentation - 7-16
National Response Center - 1-1
National Response Center (NRC) telephone - 3-2
NEXT Command - B-25
Notation Conventions - vii
NOTE Area - A-5
NOTE type codes - A-6
NRC telephone number - 3-2
NRC, National Response Center - 1-1

0

:OCHIST files in :SYSTAC - 5-13
OFF Command - B-26
operator console history files - 5-13
Optimal Problem Reporting - 6-3
OUTPUT Command - B-27

P

PAGE Command - B-27
patch file naming convention - 6-23
Patch Files - 2-3 5-14
patch level of system - 6-23
Patch Management - 5-14
PATCH_HIST - 5-16
percent character, usage in STARLOG - B-7
:PF file in :SYSTAC - 6-23
PMERGE.X - 2-4 5-15 5-15
Positioning and Record Selection - B-2
Prerequisites - 3-1
Primary Technical Contact - 2-1
PRINT Command - B-28
Problem Definition and Documentation - 2-2
Problem Definition, Isolation and Documentation - 4-1
PRODUCT Area - A-11
PROGRAMMER Area - A-12

Q

QQC-752-5 screech code - 6-15
QXA-xxx-5 screech code - 6-15

R

READ Command - B-29
Reassignment of Problem Responsibility - 4-2
recovery code - 6-3
Related Manuals - v
Relational Operators - B-4
Remote Debugging - 5-14
REPLAY processor (for displaying operator console history) - 5-13
REPORT Command - B-29
Response Time - 3-4
REST Command - B-31
Retaining Files in :SYSTAC and :SYSTAC2 - 6-24
RING - 5-14

S

Sample Monthly STARLOG Job - 7-14
Sample Weekly STARLOG Job - 7-12
Scheduling STARLOG Batch Job via SETUP File - 7-12
Screech - 6-3 6-8
screech code CPC-700-5 - 6-11
screech code DUX-xxx-5 - 6-14
screech code QQC-752-5 - 6-15
screech code QXA-xxx-5 - 6-15
screech code ZIM-775-5 - 6-10
screech code ZJE-786-5 - 6-12
SELECT Command - B-32
Selection Criteria - B-2
Sending Supporting Documentation - 7-16
Severity, STAR - A-14
Single user abort - 6-3
snap - 6-3 6-8
SNAP.X - 6-3
Snapshot dump - 6-3
STAR Area - A-2
STAR Format and Content - 6-1
STAR Severities - A-14
STAR Statuses - A-16
STAR Subjects - A-13
STARGAZE - 5-11
STARLOG - 5-9
Starlord STAR Review - 5-11
statistics, performance (via STATS) - 4-2
STATS (for performance monitoring) - 4-2
Status, STAR - A-16
SUA - 6-3 6-8
Subject, STAR - A-13
Support computer telephone number - 5-3
Support Processes - 5-12
SYNC Capabilities - 5-6
:SYSTAC account - 5-13 6-24
:SYSTAC2 account - 6-24
System Access - 2-4
System Maintenance - 2-3

T

TAC, CP-6 Technical Assistance Center - 1-2
TAC, telephoning - 3-3
TATTLE - 5-10
Technical Assistance Center - 1-2
TECHNIQUES meeting - 5-4
Telephone, National Response Center (NRC) - 3-2 C-1

Telephone, support computer, ASYNC - 5-3 C-1
Telephone, support computer, SYNC - 5-7 C-1
Telephone, TYMNET Customer Support - 5-3 C-2
Telephone, TYMNET local number - C-2
Telephoning TAC - 3-3
THIS Command - B-32
TP Problems - 6-17
TPA Snaps - 6-15
TPCP Snaps - 6-15
TYMNET access procedure - 5-3
TYMNET Customer Support telephone number - 5-3
TYMNET local telephone number and logon string - C-2
type codes for NOTES - A-6

W

WHEN Command - B-33
wild-carding in CONTAINS clause - B-4
WOODPECKER - 5-4
workstation (WSN) - 5-6
WSN, customer's workstation name - 5-6

Z

ZIM-775-5 screech code - 6-10
ZJE-786-5 screech code - 6-12
ZZZCUST account - 5-2
ZZZPATCH account - 5-14 5-16
ZZZTEST account - 5-10

HONEYWELL BULL
Technical Publications Remarks Form

TITLE

CP-6
CUSTOMER SUPPORT HANDBOOK

ORDER NO.

CE61-01

DATED

OCTOBER 1987

ERRORS IN PUBLICATION

[Empty box for errors in publication]

SUGGESTIONS FOR IMPROVEMENT TO PUBLICATION

[Empty box for suggestions for improvement to publication]



Your comments will be investigated by appropriate technical personnel and action will be taken as required. Receipt of all forms will be acknowledged; however, if you require a detailed reply, check here.

PLEASE FILL IN COMPLETE ADDRESS BELOW.

FROM: NAME _____
TITLE _____
COMPANY _____
ADDRESS _____

DATE _____

PLEASE FOLD AND TAPE-
NOTE: U.S. Postal Service will not deliver stapled forms



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 39531 WALTHAM, MA

POSTAGE WILL BE PAID BY ADDRESSEE

Honeywell Bull Inc.
200 Smith Street MS486
P.O. Box 9199
Waltham, Massachusetts, 02254-9832



Honeywell Bull

HONEYWELL BULL
Technical Publications Remarks Form

TITLE **CP-6
CUSTOMER SUPPORT HANDBOOK**

ORDER NO. **CE61-01**

DATED **OCTOBER 1987**

ERRORS IN PUBLICATION

[Empty box for reporting errors in publication]

SUGGESTIONS FOR IMPROVEMENT TO PUBLICATION

[Empty box for providing suggestions for improvement to publication]

 Your comments will be investigated by appropriate technical personnel and action will be taken as required. Receipt of all forms will be acknowledged; however, if you require a detailed reply, check here.

PLEASE FILL IN COMPLETE ADDRESS BELOW.

FROM: NAME _____
TITLE _____
COMPANY _____
ADDRESS _____

DATE _____

PLEASE FOLD AND TAPE-
NOTE: U.S. Postal Service will not deliver stapled forms

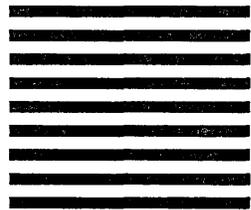


NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 39531 WALTHAM, MA

POSTAGE WILL BE PAID BY ADDRESSEE

Honeywell Bull Inc.
200 Smith Street MS486
P.O. Box 9199
Waltham, Massachusetts, 02254-9832



Honeywell Bull

Honeywell Bull

Corporate Headquarters:

3800 West 80th St., Minneapolis, MN 55431

U.S.A.: 200 Smith St., MS 486, Waltham, MA 02154

Canada: 155 Gordon Baker Rd., North York, ON M2H 3P9

Mexico: Av. Constituyentes 900, 11950 Mexico, D.F. Mexico

U.K.: Great West Rd., Brentford, Middlesex TW8 9DH **Italy:** 32 Via Pirelli, 20124 Milano

Australia: 124 Walker St., North Sydney, N.S.W. 2060 **S.E. Asia:** Mandarin Plaza, Tsimshatsui East, H.K.

49613, 5C1087, Printed in U.S.A.

CE61-01