



**SDS/VCO Generic
Release Notes Addendum
V4.2 FSR00 PUN 25**

63103950142-0AR

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generated, used, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manuals, may cause interference in which case the user will be required to correct the interference at his/her own expense.

NOTICE: Customers connecting this device to the network shall, upon request of the telephone company, inform the telephone company of the particular lines such connections are made, the FCC registration number, and ringer equivalence number of this device. This information is contained on the label located on the rear panel of the system.

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For further information about this product, contact:

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Table of Contents

PREFACE

Release Documentation Now in Two Formats	1
Definition of Terms	1
What is Included in the Release Notes Addendum?	1
What is Not Included in the Release Notes Addendum?	2
This Release Notes Addendum	2

SECTION 1 – CONTENTS OF THE RELEASE

1.1 INTRODUCTION	1-1
1.2 MFCR2 ENHANCEMENT FOR OUTPUTTING DIFFERENT CATEGORIES	1-2
1.3 NETWORK SIDE SUPPORT FOR NET5	1-3
1.3.1 Summary of Features	1-3
1.3.2 The T309 Timer	1-4
1.3.3 RESTART if the Timer T308 Expires Twice	1-4
1.4 BUSY (REORDER) TONE FOR JAPANESE NETWORKS	1-4
1.4.1 User Interface—Convert Reorder Tone To Busy	1-4
1.5 NEW MESSAGES	1-5
1.6 PROBLEMS CORRECTED IN V4.2 SINCE THE FSR00 RELEASE	1-6
1.6.1 Problems Corrected in V4.2 FSR00 PUN22	1-6
1.6.2 Problems Corrected in V4.2 FSR00 PUN23	1-8
1.6.3 Problems Corrected in V4.2 FSR00 PUN24	1-13
1.6.4 Problems Corrected in V4.2 FSR00 PUN25	1-17

SECTION 2 – SYSTEM REQUIREMENTS

2.1 INTRODUCTION	2-1
2.2 DATABASE CONFIGURATION	2-1
2.3 HARDWARE REQUIREMENTS	2-1
2.4 FIRMWARE REQUIREMENTS	2-2
2.5 SOFTWARE REQUIREMENTS	2-6

SECTION 3 – UPGRADING TO V4.2 FSR00 PUN 25

3.1 INTRODUCTION	3-1
3.2 REFERENCES	3-1
3.3 OVERVIEW OF THE INSTALLATION PROCEDURE	3-2
3.4 WHAT YOU NEED	3-4
3.5 BACKING UP THE DATABASE	3-5
3.6 HARDWARE AND FIRMWARE REQUIREMENTS	3-8
3.6.1 Replacing Hardware and Firmware	3-10
3.6.2 Removing and Replacing Through-Hole PROMs and PLDs	3-10
3.6.3 Removing and Replacing Surface-Mount PROMs and PLDs	3-12
3.6.3.1 Replacing Surface-Mount PROMs and PLDs	3-13

Table of Contents

3.6.4 Updating the 8 Mb CPU Firmware (68030 Processor)	3-14
3.6.5 Upgrading from the 8Mb CPU to the 16Mb CPU	3-14
3.6.6 Updating the NBC-3 Firmware	3-14
3.6.7 Updating the PRI/N Firmware	3-14
3.7 INSTALLING THE SOFTWARE	3-14
3.7.1 Installing the Generic Software	3-15
3.7.2 Installing Ethernet for Host and SNMP Communication	3-17
3.7.3 Installing Optional Software	3-21
3.8 PERFORMING A DATA BASE CONVERSION	3-22
3.9 INSTALLING THE SOFTWARE ON THE B-SIDE	3-22
3.9.1 Verifying File Synchronization	3-23
3.10 INSTALLING THE MIB SOFTWARE	3-23
SECTION 4 – KNOWN DESIGN CONSTRAINTS	
4.1 INTRODUCTION	4-1
SECTION 5 – KNOWN FUNCTIONAL CONSTRAINTS	
5.1 INTRODUCTION	5-1
5.2 SYSTEM ADMINISTRATION	5-2
5.2.1 U508295234/TR5234: Adding Cards to End of Configured Data Base	5-2
5.2.2 U708280004: Wrong size of dbvers.tbl Following Database Conversion	5-2
5.2.3 U803190001: IPRC Call Chain Corruption (Fixed in PUN25)	5-2
5.3 DIGIT COLLECTION	5-2
5.3.1 U802130005: System Failure with Enhanced \$67 Command (Fixed in PUN24)	5-2
5.4 INITIALIZATION ISSUES	5-3
5.4.1 U804150001: FRM Errors on CPA	5-3
5.5 FOUR SPAN CARDS	5-3
5.5.1 U507185123: Processing WINK Command	5-3
5.5.2 U710290005: MVDC T1 Fails to Clear Alarms	5-3
5.5.3 U710300006: FXSGS Configuration Does Not Process All Calls (Fixed in PUN23)	5-3
5.5.4 U710300008: Aborted Download Does Not Resume After Switchover	5-3
5.5.5 U710310001: Display Card Data Screen Not Recording Slips	5-4
5.6 MISCELLANEOUS CARD ISSUES	5-4
5.6.1 U609230005: Outgoing T1 Stuck in CP_OUTPUL	5-4
5.7 ISDN	5-4
5.7.1 U707300002: SETUPACK Message Type missing; required for Overlap Receiving/ Sending	5-4
5.8 INTERNATIONAL ISSUES	5-4
5.8.1 U803110013: Telnet Logout Locks Console (Fixed in PUN25)	5-4

List of Figures

Figure 1.1: System Features Screen with Normal/Reorder Tone Selection	1-5
Figure 3.1: Maintenance Menu	3-5
Figure 3.2: Disk Utilities Menu	3-6
Figure 3.3: Aligning PROM or PLD Pins	3-11
Figure 3.4: Notch Orientation for Integrated Circuit	3-11
Figure 3.7: PLD Alignment	3-13
Figure 3.8: Installation Utilities Menu	3-16
Figure 3.9: Ethernet Installation Utilities Menu	3-18
Figure 3.10: Ethernet Configuration Menu	3-19
Figure 3.11: Optional Software Installation Utilities Menu	3-21

List of Tables

Table 2.1: Common Firmware Requirements	2-2
Table 2.2: Domestic (U.S.) Firmware Requirements	2-6
Table 2.3: V4.2 FSR00 PUN 25 Software Requirements	2-7
Table 2.4: V4.2 FSR00 PUN 25 Optional Products Software Requirements	2-8
Table 3.1: File Sizes	3-3
Table 3.2: Upgrading Hardware & Firmware: Current Configuration	3-8
Table 3.3: Upgrading Hardware & Firmware: New Cards	3-9

PREFACE

Note: These release notes for V4.2 FSR00 PUN 25 are provided in a different form than previous releases of this product. Please note the following changes.

Release Documentation Now in Two Formats

In an effort to make the documentation easier to use and to highlight change, Summa Four has elected, effective with this release, to provide release documentation in two formats. A baseline will be established with each FSR release (FSR00, FSR01, etc.). For these baseline releases, complete documentation (Release Notes) will be provided in the format that has been traditionally used. For PUN releases, a shorted version of the release notes (Release Notes Addendum) will be provided that deals only with the incremental changes since the product's documentation baseline. More detail on content is contained below.

Definition of Terms

FSR Release

The initial (and subsequent) release of the Generic containing significant number of fixes and/or minor functionality change.

PUN Release

An intermediate release of the Generic containing fixes and/or a small number of minor functionality changes.

Release Notes

Documentation provided with each FSR release that completely describes the Generic, including complete lists of design and functional constraints.

Release Notes Addendum

Documentation provided with a PUN release that describes the incremental changes since the previous FSR or PUN release. (The complete product description is a combination of the FSR and PUN release documentation—the Release Notes and the Release Notes Addendum.)

What is Included in the Release Notes Addendum?

This document contains the following:

- A cumulative list of new features since the FSR release
- A cumulative list of fixes since the FSR release
- A cumulative list of Known Design Constraints since the FSR release
- A cumulative list of Known Functional Constraints since the FSR release
- Installation Instructions for the current PUN release (essentially unchanged from the FSR release)
- Specific firmware and software download changes since the previous FSR (or PUN) release

What is Not Included in the Release Notes Addendum?

Since complete documentation is provided with the FSR release, the following is not included in this PUN release document (the Release Notes Addendum):

- Functionality introduced with the FSR release
- A complete list of Known Design Constraints (See Section 4 in the appropriate FSR release notes.)
- A complete list of Known Functional Constraints (See Section 5 in the appropriate FSR release notes.)
- Database Card Configuration information for new systems (See Appendix A in the FSR00 release notes.)
- Re-installation instructions for the Generic—the conventional procedure, not Live Upgrade (See Appendix B in the FSR00 release notes.)
- MIB configuration information (see Appendix C in the FSR00 release notes)

This Release Notes Addendum

For this release, complete information is contained in the V4.2 FSR00 Release Notes, Part Number 6122030004, which was shipped with the FSR00 release and which is shipped with all subsequent PUN releases. The FSR00 release notes are also available on the Summa Four WEB site, <http://www.summa4.com/support/library.htm>.

Section 1

CONTENTS OF THE RELEASE

1.1 INTRODUCTION

Generic V4.2 is the system software for all SDS and VCO Series systems. V4.2 FSR00 PUN 25 is an incremental release that consists of the following components:

- Five (5) Generic V4.2 FSR00 PUN 25 software diskettes that contain the Generic V4.2 PUN 25 files. These files include the database files and the card download files.
- Optional diskettes. For example: TeleRouter, Ethernet (includes the MIB Supplemental disk), ISDN, NFAS, and NI-2.

Refer to Appendix B in the V4.2 FSR00 Release Notes for information on installing the Generic software, or *Section 3* for information on upgrading your system to V4.2 FSR00 PUN 25.

If any of the required diskettes or technical publications are not in this package, contact Summa Four, Inc. Technical Support at 1-800-9SUMMA4.

NOTE: This PUN 25 release documentation is an accumulation of changes to the Generic V4.2 FSR00 since its release and includes PUN 22, 23, 24, and 25 changes.

New systems shipped with V4.2 software have all generic and download files installed on the system hard disk. If you need to re-install the software, you must install all files from the five V4.2 diskettes onto the hard drive as outlined in Appendix B of the V4.2 FSR00 Release Notes. If you are upgrading to V4.2 FSR00 PUN 25, you must install all files from the five V4.2 diskettes onto the hard drive as part of the overall upgrade steps outlined in *Section 3*.

Generic V4.2 FSR00 PUN 25 provides full upgrade compatibility with previous versions of Generic software.

The Generic V4.2 FSR00 PUN 25 release includes:

- Fixes since PUN 24 — refer to *Section 1.6.4*

The Generic V4.2 FSR00 PUN 24 release included:

- MFCR2 Enhancement for Outpulsing Different Categories — refer to *Section 1.2*
- Fixes since PUN 23 — refer to *Section 1.6.3*
- Support for the new 16Mb, 33MHz CPU

The Generic V4.2 FSR00 PUN 23 release included:

- NET5 Network Side Support — refer to *Section 1.3*
- A new Feature Flag for Busy Tone in Japanese Networks — refer to *Section 1.4*
- New Messages — refer to *Section 1.5*

The Generic 4.2 FSR00 release included (refer to V4.2 FSR00 Release Notes, 61220300042, available on the Summa Four WEB site www.summa4.com, for details):

- National ISDN-2 (NI-2) Option
- Drop and Insert Card Support
- ISDN NET5 Overlap Sending
- Network-side Japanese ISDN
- Call throughput performance enhancement
- Live Upgrade
- Remote File Transfer
- Inverted E&M
- Host Failure Detection
- Configurable IP Subnet Mask
- Core Dump

1.2 MFCR2 ENHANCEMENT FOR OUTPUTTING DIFFERENT CATEGORIES

In order to output a category digit, a user has to define an output rule with the token OPCAT. The OPCAT token takes a single digit field as a parameter where the category digit can be specified. If a user wants to output "n" different category digits at different times, "n" different output rules are required, where each rule would specify a different digit. Since there are a limited number of output rules, this could be a resource limitation.

Two new tokens have been added to address this problem. These are the OPCAT2 and IPCAT2 tokens. See also fix U802090003 in *Section 1.6*.

The user is now able to specify the new OPCAT2 token in the output rule table and the new IPCAT2 token in the input rule table via the screen manager or via SNMP.

Both of these new tokens are fieldless tokens. That is, there is no parameter field associated with them.

The call record structure currently supports five fields whose values can be supplied by a \$69 host command at run time. These fields are:

- ANI field
- Field 1
- Field 2
- Field 3
- Field 4

The call record is expanded to include a sixth field which is called Field 6 (not Field 5 because code uses 0, 4, and 5 to refer to the ANI field). Field 6 in the call record is capable of holding a single digit. (the category digit).

The \$69 host command is used to populate Field 6 with a category digit at run time. Now all a user need do is specify an outpulse rule with the OPCAT2 token. Any time the OPCAT2 token is encountered in a rule, the Generic extracts the category digit from the call record if Field 6 has been populated (the call record maintains information as to the presence of data in a field) and also the size of the data (number of digits).

A single rule can then be used to specify any category digit (as opposed to a single rule per-digit). The user sends a \$69 host command at run time that specifies the category digit using Field 6 in the digit outpulse control segment of the command where the command specifies an outpulse rule that contains the OPCAT2 token.

The IPCAT2 token is provided so the category digit can be collected from an inpulse stream. When processing an inpulse rule, if the IPCAT2 token is encountered, a single digit is collected and stored as a Field 6 digit in the call record.

1.3 NETWORK SIDE SUPPORT FOR NET5

Network side NET5 ISDN Primary Rate Interface is a variant of CCITT and is a separate product from User side NET5. The NET5 Network side product provides the functionality of the User side product plus the Network side capabilities.

1.3.1 Summary of Features

Functionality common to both Network and User side NET5:

- All features of the User side are supported
- The message set
- The information element set Network Side functionality:
- Modified User Side call states, timers, and event processing to support the Network Side
- Outgoing RESTART after expiry of timer T308
- Mandatory network timers
- Implementation of timer T309

Additional support for the following (both Network and User Side):

- Advice of Charge supplemental service
- CRC4 programmability for all countries
- Sending Status inquiry

1.3.2 The T309 Timer

The T309 timer is optional for the User side, but is mandatory for the Network side. Per the ETSI specification, "In case of data link failure the network stops all timers relative to the call, releases the call inside and starts timer T309. It then sends a DISCONNECT message with cause 41 'Temporary failure' and clears at the other party's interface. If the low layer recovers normally before timer T309 times out, the network sends a DISCONNECT message and clears at that interface."

1.3.3 RESTART if the Timer T308 Expires Twice

When a RELEASE is sent as a response to a DISCONNECT message, the layer3 starts the timer T308. If a RELEASE message is not received within time T308, a RELEASE message is sent for the second time. If the other side continues to fail to respond, a RESTART message is sent to the other side and the call is cleared normally.

1.4 BUSY (REORDER) TONE FOR JAPANESE NETWORKS

A new feature flag has been added to the System Features screen to provide selection of an alternate busy tone for Japanese networks which use a normal busy tone instead of the reorder tone during PSC (Permanent Signaling Condition) processing on a port. See U711120006 in *Section 1.6.1*

1.4.1 User Interface—Convert Reorder Tone To Busy

The default setting of the new feature flag is "N" which results in the normal reorder tone during PSC. When this flag is set to a "Y" the normal busy tone is presented instead of reorder. See *Figure 1.1*.

S Y S T E M F E A T U R E S			
FEATURES	ALLOWED (Y,N)	FEATURES	ALLOWED (Y,N)
Redundant System	Y	Send All ISDN Connect Reports	N
Output Periodic Alarm Reports	N	Enable \$66 Cmd Host Checking	N
Card/Alarm Status at Init.	N	Cut Thru For Non-ISDN Alerting	N
Manual Intervention For SLIP/OOF	N	Enable 4th Column DTMF	N
Enable Grace Timing On Null Rule	N	Set MVDC-Backplane to A-Law	N
Disable Card Error Report/Reset	N	Enable AllPortsDeactivated Alrm	N
Enable Digit Field Reporting	N	\$EA Reports on DChannel RESTART	N
Suppress PSC/Rule Abort Messages	N	Enable NET5 Overlap Receiving	N
Enable Host Password Check	N	Extended Operation Mode Set	N
Force Bearer/Lap Activation	N	C-bus Mode Enabled	N
Enable MFC-R2 Supervised Clear	N	K1197 Layer 3 Testing	N
Enable SLIC Guarded Disconnect	N		
Enable CPA Monitor Disconnect	N		
Revert to Basic Redundancy	N		
Send Reports Before Guard Time	N		
Enable ISDN Manual Disconnect	N		

TP000120

Figure 1.1: System Features Screen with Normal/Reorder Tone Selection

1.5 NEW MESSAGES

There are two new diagnostic tests that are now run on an MVDC T1 card while it is in the diagnostic state. See U711010001 in *Section 1.6.2*. The messages are:

"DGN45: %s Test Aborted, Card Went OOS -ATP- %d Tests Executed"

"DGN46: %s Test Aborted, Card Went OOS -STF- %d Tests Executed, %d Failed"

1.6 PROBLEMS CORRECTED IN V4.2 Since the FSR00 Release

1.6.1 Problems Corrected in V4.2 FSR00 PUN22

TR #	Corrected Problems
U706250004	<p>Previously, if a bad DRC-48 card or a DRC-48 that was not in the database was inserted in a slot, an "FRM341: NBC Error - Comm Bus Interf- DID err, 3 reset/polling cycles done" message was generated in the Log file. Once this message appeared, the DRC-48 card would not activate other than via the console.</p> <p>This has been fixed. A DRC-48 card inserted after the FRM341 message will now activate by itself without manual intervention.</p>
U706250005	<p>5191: There are now log messages that indicate the PCM coding configuration (A-Law or μ-Law) whenever a 4xT1 or 4xE1 card is brought into service: "FRM103: T1/E1 Card Configured for U-Law- RLS X,X,XX-span" and "FRM104: T1/E1 Card Configured for A-Law - RLS X,X,XX-span." When the configuration is changed, the message indicates the change.</p> <p>4.2 DS: While restoring the 4xT1/E1 card, the log messages for the configuration of the A Law/Mu Law were not found in the log file. These should have been generated to indicate the PCM coding law configuration used whenever the card was brought into service or when the configuration was changed for the PCM coding law.</p> <p>New behavior: When a span of 4xT1/W1 card is activated, its PCM coding law is indicated by a log message "FRM125: T1/E1 Card Configuration For U-Law - RLS X,X,XX-span" or "FRM126: T1/E1 Card Configuration For A-Law - RLS X,X,XX-span" is printed to the log file and on the console terminal.</p>
U707290001	<p>Previously, when the system attempted to write to a protected floppy disk, a misleading error was returned. The message was: "Error During Disk Operation."</p> <p>The correct message now appears: "Error: Disk Write Protected or Bad."</p>
U708070003	<p>Previously, during a switchover from Active to Standby, all ports on the new standby side in CP_SUBRAT state were forced to CP_IDLE.</p> <p>Normally ports not in CP_STAB and CP_SETUP (with Basic Redundancy) are forced to CP_IDLE. Attached resources are also released. Ports in CP_SUBRAT were treated similarly.</p> <p>Now ports in CP_SUBRAT are no longer affected, even in systems with Basic Redundancy.</p>

TR #	Corrected Problems
U708130003	<p>Previously, if a bad MFCR2 card or a MFCR2 that was not in the database was inserted in a slot, an "FRM341: NBC Error - Comm Bus Interf- DID err, 3 reset/polling cycles done" message was generated in the Log file. Once this message appeared, the MFCR2 card would not activate other than via the console.</p> <p>This has been fixed. An MFCR2 card inserted after the FRM341 message will now activate by itself without manual intervention.</p>
U708130004	<p>Previously, if a bad card or a card that was not in the database was inserted in a slot, an "FRM341: NBC Error - Comm Bus Interf- DID err, 3 reset/polling cycles done" message was generated in the Log file. Once this message appeared, any valid card (configured in the database) would not activate other than via the console.</p> <p>This has been fixed. A card inserted after the FRM341 message will now activate by itself without manual intervention.</p>
U708130006	<p>Previously, if a bad IPRC-64 card or a MFCR2 that was not in the database was inserted in a slot, an "FRM341: NBC Error - Comm Bus Interf- DID err, 3 reset/polling cycles done" message was generated in the Log file. Once this message appeared, the IPRC-64 card would not activate other than via the console.</p> <p>This has been fixed. An IPRC-64 card inserted after the FRM341 message will now activate by itself without manual intervention.</p>
U708220002	<p>Previously, if a bad NBC-3/DTG-2 card or a NBC-3/DTG-2 that was not in the database was inserted in a slot, an "FRM341: NBC Error - Comm Bus Interf- DID err, 3 reset/polling cycles done" message was generated in the Log file. Once this message appeared, the NBC-3/DTG-2 card would not activate other than via the console.</p> <p>This has been fixed. An NBC-3/DTG-2 card inserted after the FRM341 message will now activate by itself without manual intervention.</p>
U710130001	<p>There was an issue in which 4xT1 cards took an excessive amount of time to report an inward seizure. In addition, the 4xT1 port did not report the seizure within a consistent time period. The FXS ground start timer was changed to a "one-phase" counter which is tested against a configurable timer value. An FXS or FXO ground start port on the 4xT1 card will now report an inward seizure after the off-hook timing requirement has been satisfied.</p>
U710140005	<p>Previously, the size of the DBvers.tbl failed to properly update after a database conversion. In the previous Generic release the table size was 306 bytes, which remained unchanged. (This was further complicated by the fact that the empty table size in V4.2 is 324 bytes.) In a related matter the table size remained at 288 bytes following an upgrade from a V3.3 database.</p> <p>The table size after upgrade is now 324 bytes.</p>

TR #	Corrected Problems
U710290003	<p>The MVDC-T 1 card experienced problems with set up for conference calls. No voice path was established to the DCC even after the port was properly added to the conference. The code has been changed to allow set up of the MVDC-T1 card with the \$6D command in the same manner as the 4xT1 card.</p>
U711030003	<p>A problem occurred when MVDC-T1 spans were used for primary and secondary incoming timing source. Following a primary loss the timing did not switch to secondary. Instead, the internal clock was used. This was fixed as part of a more general solution to the problem of a failure to switch to internal timing for a momentary (less than two second) loss of carrier and when no secondary timing was configured.</p> <p>MVDC-T1 cards now switch properly to secondary timing (when previously so configured).</p>
U711120004	<p>Previously, when a 4xT1/E1 span was taken out of service from the Maintenance menu, both active and standby sides of a redundant system sent a \$D9 report to the Host indicating an OOS state. When the span was restored, a \$D9 report was generated only by the active side. The Host connected to the standby side did not receive a report.</p> <p>The code has been modified to remove a check of the active/standby side status associated with the span before the \$D9 message is sent. The result is that a \$D9 message is generated both active and standby sides of a redundant switch.</p>
U711120006	<p>The VCO system was designed to present a fast busy (reorder) tone during PSC processing on a port. This fast busy tone is not supported in Japanese networks. The normal busy tone is, instead, used in Japanese networks. This has been accommodated by the addition of a feature flag on the System Features screen. This feature "Convert Reorder Tone To Busy" when set to "Y" results in the normal busy being presented to the caller instead of fast busy.</p>

1.6.2 Problems Corrected in V4.2 FSR00 PUN23

TR #	Corrected Problems
U507315154 (TR5154)	<p>Trace files did not close at the end of the calendar day unless tracing had previously been disabled. The system continued to add trace data to the previous date's trace file.</p> <p>This has been fixed.</p>
U604190004	<p>Previously, when a span was taken out of service on a 4xE1, the green LED did not illuminate. It now does so, to indicate an OOS span.</p>

TR #	Corrected Problems
U610030003	<p>Cold boots would intermittently cause an error "FRM051 Error Reading Download File-Code 0x73e Filename C:/boot/4xE1.dwn" and "... Filename C:/boot/mvdct1.dwn." The cards would then load properly. This problem occurred more frequently with a greater number of cards (such as 4xT1/E1s).</p> <p>The messages no longer occur during a cold boot.</p>
U704090001	<p>If the external timing source was connected only to the active side NBC-3, or if the external timing source was removed from the standby side, the standby side continuously reported FRM020 and FRM040 messages reporting the failure to obtain an external clock on the standby side. This was because the Generic did not inform the NBC-3 to switch to internal clock.</p> <p>Now, when the standby side NBC-3 reports an inability to sync to the external clock, the Generic instructs the NBC-3 to switch to internal clock. The NBC-3 selects internal clock and sends an acknowledgement message to the Generic.</p>
U706230001	<p>This was a problem that occurred with PRI/N call processing. The switch would intermittently report "FRM182: Outpulsing In Incorrect State - RLSP x, x, xx, x." This was caused by an error of the Generic code that failed to perform a check on the state of the port before a call.</p> <p>Now the outgoing port is released as expected and no FRM182 report is generated.</p>
U707080004	<p>The problem of new trace files not being created at midnight, even when the trace was left enabled, has been corrected.</p>

TR #	Corrected Problems
U707300004	<p>When the external timing source was lost, the system would switch to the internal timing source. However, once the external timing source was restored, the system did not switch back to external as it should have. In addition, upon external timing source loss, a major alarm was not generated.</p> <p>The corrected behavior of the system is that a major alarm is now set and cleared when the external clock is lost and then recovered. The following FRM messages are displayed and sent to the log: FRM504: Major Alarm Set For - ALM067: NBC Loss of External Sync. FRM511: Major Alarm Clear For - ALM067: NBC Loss of External Sync. These alarms also appear under the Major alarms of the System Alarms Display option.</p> <p>In addition, \$F0 reports similar to the following are sent to the host when ALM67 is set and cleared: df 44 00 00 f0 43 05 01 05 df 44 00 00 f0 43 00 00 00 The \$43 in the \$F0 report indicates this new alarm code.</p> <p>Also, upon external timing reference loss, the Generic tries three times, at one minute intervals, to reselect the external clock. If the NBC3 reports a success on the first attempt, subsequent attempts are aborted. If the incoming timing source is selected immediately after the external timing reference loss, the Generic aborts the external clock selection.</p> <p>Since the host now receives an indication of the external clock loss, it can send a \$C002 command at any time to retry selecting the external source, or switch to an incoming source.</p>
U708010008	<p>Previously, the inactivity time on remote terminals was inconsistent; the timer would vary from three to eight minutes. Now, if a user logs on to a remote terminal and then does nothing, after five minutes have elapsed the connection is closed with a logout message.</p>
U708140001	<p>There was a problem with the IPRC card still being able to run diagnostics while it was active. Users would see the proper message, "ERROR: Receiver NOT in Diagnostic Mode." However, if the user pressed the Enter key, the test would run. This problem has been corrected.</p>
U708200006	<p>Previously, when a card was deleted through the admin console on the active side, the number of timeslots on the active side was reduced by the number of timeslots occupied by the deleted card. The number of timeslots on the standby side however, was not reduced. This could cause problems if a switchover to the standby side occurred, since these timeslots remained occupied as far as the system was concerned, and therefore, would remain unused.</p>

TR #	Corrected Problems
U709020009	<p>There was a problem with the standby side NBC3: when the card was pulled out of the slot, the active side continued to display its status "S" (standby) instead of "O" (out of service). Now, the active side takes the card's state to out of service and declares an update channel failure.</p>
U709110001	<p>There was a problem with running diagnostic tests on the IPRC. Users could not stop the test by pressing a key, and the screen would lock until the tests were completed. Now, if an operator presses a key, the tests are aborted and the DGN09 or DGN11 messages are displayed.</p>
U709120005	<p>Previously, when users printed the Database Detail from the Database Administration menu, the Ethernet TCP/IP and/or Subrate Configuration detail was not included.</p>
U709180001	<p>A problem existed when a cable was pulled for fewer than two seconds from a carrier which was acting as the primary timing source. (For that brief a period of time, no alarms are generated.) The NBC3 however, would lose its synchronoization to the incoming timing source. Therefore, if no secondary timing source was configured, the VCO switched to internal instead of trying to use the primary again.</p> <p>Now, if a cable is removed from the adapter of a card (span) being used as primary timing source for less than two seconds, the Generic will try to use it again, rather than switching to the internal clock and generating alarms.</p>
U709230001	<p>When a \$49 command is used to connect a controlling port and an associated port for an outgoing call, the active side removes the start and end records after redirecting the associated port (from incoming to outgoing). An issue previously existed in which the standby side's start and end records were not deallocated properly. This caused the start and end records to accumulate until they exceeded the memory pool size. In addition, the number of allocated start and end records were not in synch between the active and standby sides, and the number of start and end records would not reset to zero, even after the call had been torn down. The system could not deallocate the start and end records while the major state of the standby side's ports were in CP_SETUP.</p> <p>With this release, the \$49 command's connection operation deallocates the start and end records on both the active and standby sides, if the associated port is formerly allocated with those records. Therefore, the start and end record exhaust condition will not occur on the standby side due to this call scenario.</p>
U710140001	<p>When the card used for Incoming Primary timing was pulled, the switch went to Internal timing rather than Secondary timing.</p> <p>Secondary timing is now used when the Primary timing card is pulled.</p>

TR #	Corrected Problems
U710240003	<p>The \$72 command (seize and unseize a port) sent to the switch did not function properly. When a \$72 command was processed to seize a port, the port should have been flagged as SEIZED. Instead, it was flagged as ANSWER. Therefore, the system saw nothing to unseize and the port remained unavailable.</p> <p>The conditions of the port are now acknowledged properly.</p>
U710280002	<p>The class of service bits are set according to the characters entered. Valid characters are A, O, T, and 2, or a combination of these characters. However, the software did not reject certain invalid combinations. If a call was routed through this port the switch rebooted. This was found in Line, Trunk, and PRI Card configurations.</p> <p>The port's class of service bits are now verified. If invalid, the function's logic rejects it and an error message is printed.</p>
U710300006	<p>When the AM2-D bulk call generator was configured as FXOGS, and the MVDC T1 card configured as FXSGS, only 50% of the calls were processed. After the first call, the ports stayed in CP_GARD, GD_NORMAL mode. The next call from the load box hung up the port. The MVDC T1 card saw 100% completions and the load box only saw 50% completions.</p> <p>The MVDC T1 card now reacts faster when it gets the seizure. When the MVDC T1 is commanded to abandon a call, it now goes back to an IDLE condition in a reasonable time. The port is no longer hung in an infinite loop.</p>
U711010001	<p>The System Administration master console would hang if the MVDC T1 diagnostics were running in 'Continually Loop Through Test' mode, and the MVDC T1 was pulled out of the subrack and then reinserted. The card downloaded and resumed running, but the console did not accept key-strokes to terminate the diagnostics.</p> <p>The diagnostics tests are now only run on an MVDC T1 card which is in the diagnostic state. If the card goes to an out-of-service (OOS) state, the test loop is terminated. The operator is notified, via a console message, that the diagnostics test has been terminated due to a card going OOS.</p> <p>Two new diagnostic messages are associated with this fix: "DGN45: %s Test Aborted, Card Went OOS -ATP- %d Tests Executed" "DGN46: %s Test Aborted, Card Went OOS -STF- %d Tests Executed, %d Failed"</p>
U712010001	<p>When the \$67 command was issued to remove a DTMF receiver from a port, the command was rejected, indicating that there was no resource of this type in the call's resource chain. The m_state of the controlling port was being changed when the receiver was detached.</p> <p>Now, when the command is rejected, the port's m_state does not change. The m_state is changed only when the command is executed successfully.</p>

TR #	Corrected Problems
U712090001	<p>The CPA Monitor Disconnect feature did not function properly. After a call was established, and the calling party disconnected, the UTC port did not return to an IDLE state.</p> <p>The UTC port is now released when the calling party hangs up.</p>
U712100002	<p>A feature was recently added to improve the speed of the system. However, due to an adjustment of calls-in-queue, the messages transferred between the switch and host were not being prioritized properly. This resulted in a HOST_TX_Q overflow.</p> <p>The enhancement has been removed and the calls in queue are no longer automatically running at a higher priority in order to continue processing without getting disgarded.</p>
U712160003	<p>The system failed to switch from secondary incoming timing source to primary incoming timing source. The switch selected the secondary timing source. If not there, it searched for the internal timing source, even though the primary timing source was available.</p> <p>The system now successfully switches from the primary incoming timing source to the secondary incoming timing source and vice versa.</p>

1.6.3 Problems Corrected in V4.2 FSR00 PUN24

TR #	Corrected Problems
U610160001	<p>The MVDC erroneously reported PRI D-Channel Failure as a failure. This occurred even though the switch did not have either the PRI or PRI/N option installed. The correct alarm is T1 OOF. This was caused by an error string mismatch within alarm look-up. The correct alarm is now displayed.</p>
U702280004/ U710080002	<p>During the file sync, the standby side would sometimes report database errors (RED45: Standby DB Update Error). This has been fixed.</p>
U707300004	<p>There are two problems associated with this fix. The first occurred when the external timing source was lost. When restored, the switch stayed at internal source and did not switch back to external. The second issue was the failure to generate a major alarm when the external timing was lost.</p> <p>Now major alarm is set and cleared when the external clock is lost and then restored. The following FRM messages are displayed on the screen and are sent to the logs: FRM504: Major Alarm Set For - ALM067:NBC Loss Of External Sync (SA) and FRM511: Major Alarm Clear For - ALM067:NBC Loss Of External Sync.</p>

TR #	Corrected Problems
U704140001	<p>Fixed by U708130004 implemented in V4.2 FSR00 PUN23.</p> <p>Previously, if the error message FRM341: NBC error - Comm Bus Interf-DID err was received, cards in the system could fail to come into service. This usually occurred because a card was in a slot that was not defined for that card. When this was the case, other cards, even if properly defined, could also fail to come into service because device polling is discontinued.</p>
U708260018	<p>The IPRC prompt library maintenance screen failed to show the correct data for TOTAL USAGE. When initially entering the screen it shows 0:00. Subsequent entries show correct values. Also a message "Error - No Such Prompt ID" appears if you enter a library number followed by the enter key. This is an invalid error.</p> <p>The correct library data is now shown and the erroneous error message does not appear.</p>
U709100001	<p>When multiple NFAS groups are configured in a VCO switch and the D channel of the group (other than group 1) is taken down it causes all the B channels in group 1 to be OOS-NE (Out-Of-Service Near-End). The B channels in the broken D channel remain IN_SERV.</p> <p>Now when the D channel of a NFAS group goes out of service, only the B channel ports for that group become out of service.</p>
U710290004	<p>CP_MSG_Q overflow occurs as a result of burst commands from multiple hosts connected via Ethernet.</p> <p>Command bursts from multiple hosts via Ethernet are now handled at higher volume.</p>
U711040004	<p>Slip and OOF counters were not clearing at midnight on cards such as the MVDC, 4XT1, and 4XE1.</p> <p>Counters are now cleared at midnight.</p>
U711110006	<p>If a virtual port was allocated via a \$6A command, but not connected, the port was unavailable if the host connection was lost and then re-established.</p> <p>Now if the host connection is lost and host failure action is set to call teardown, the system makes virtual ports available for allocation in the future.</p>
U712080003	<p>When an ISDN command (\$49) was issued to tear down a T1 incoming call in CP_SETUP state, the switch crashed.</p> <p>This was an invalid command. However, the switch now accepts the command without crashing the switch.</p>
U712150005	<p>This was a problem of the switch supporting loads only to 68K. This is now fixed to run at 75K.</p>

TR #	Corrected Problems
<p>U801020001 related: U207293581 (TR3581) U603040003 U709100001</p>	<p>If the span carrying the active or backup D channel of an NFAS group goes out of service, the D channel is properly identified as out of service and (if active) is switched to the backup. The B channels, however, appear to be in service and available for calls when, in fact, they are not.</p> <p>The B channels are now marked OOS-NE rather than left as IN-SERV.</p>
<p>U801130001</p>	<p>4xE1 cards running in CCS31 signaling mode were reporting MFA alarms that were inconsistent with the mode. Alarms were being generated for channel 17 for OOF, AIS (remote alarm), or all zeros for an entire Multi-frame. In CCS31 mode channel 17 is a bearer channel not a signaling channel, and the alarms are valid only for channel 17 operating in signaling mode.</p> <p>The card no longer reports MFA alarms when operating in CCS31 mode.</p>
<p>U801130009</p>	<p>This is a new feature called Party Re-Answer added to 4xE1 capabilities. This is used in Singapore to allow the called party to hang up and go offhook again, without releasing the call. The called party has to go offhook within a certain time, otherwise the call is released. The call can also be torn down by the calling party as soon as it goes onhook.</p>
<p>U802050001</p>	<p>When using a Telerouter on a VCO to provide NTT to NET5 protocol converter application, CAUSE IE for the DISCONNECT message is not propagated from one side of the call to the other. Instead, the VCO always generates a predefined CAUSE IE of "Normal Call Clearing" (80 90).</p>
<p>U802090003</p>	<p>This is an enhancement that allows the host application to outpulse different category digits from a \$69 command as part of the MFCR2 call processing. This provides flexibility over defining each different category digit in a different Outpulse Rule.</p>
<p>U802090005 and U802130004</p>	<p>Previously, several screens experienced a lockup problem after the EXIT_SCREEN or PREV_MENU keys were pressed. Once locked up there was no response to any key, and the screen timed out after 15 minutes. During the lockup all other Generic functions remained intact.</p> <p>There are now no screen lockups regardless of key input.</p>
<p>U802100005</p>	<p>The dbvers.tbl file in V4.2 PUN23 did not contain the latest version number for itself. When a database conversion was done, an unexpected report states that dbvers.tbl was converted Version 4 to Version 5. The number of records recorded for dbvers.tbl was also incorrect (one less than the actual number). Note that dbvers.tbl contains a value for the version number of every table in the database, including itself.</p> <p>There is no effect on the system from this error, but it could cause confusion.</p> <p>Now a database conversion will not report that any files were converted.</p>
<p>U802130004</p>	<p>See U802090005</p>

TR #	Corrected Problems
U802130005	<p>Intermittent system crashes were reported which were believed to be associated with Enhanced \$67 command processing. However, the problem could not be reproduced at either Summa Four or the customer site.</p> <p>The problem was identified from core file analysis and code inspection and a fix was implemented.</p>
U802180003	<p>When a 4xE1 card was added with its spans configured as CCS/31, time slot 17 was unavailable. It could be made available by manually P'ing it in from the maintenance menu.</p> <p>Time slot 17 is now available without manual intervention.</p>
U802230001	<p>Previously with an outbound PSTN port connected to a clear-channel port via \$6A and \$66 commands, no \$DA report was sent to the host following a switchover with the PSTN port going onhook.</p> <p>Now when a switchover is initiated and the PSTN port goes onhook, a \$DA report is sent to the host.</p>
U802240001	<p>During live upgrade while the switch is processing calls, after option F (switchover to ACT on the SBY side), the new active side (after switchover) rebooted. This has been fixed.</p>
U803020002	<p>Start/End record exhaust condition was seen during host initialization as the host sent a burst of commands to activate the ports and connect them using a \$66 command. The number of start and end records have been increased from 900 to 1600.</p>
U803110014	<p>Occasionally users experienced a problem where they could not go beyond the Main Menu, and that any attempt to use any one of the four options available on the Main Menu would then cause the user to be logged out. Once this condition occurred, both telnet and local console access would experience the same behavior. The switch did allow the user to log in, but did not allow access to any other menu beyond the Main menu.</p> <p>The forced logout and access denial no longer occur.</p>

1.6.4 Problems Corrected in V4.2 FSR00 PUN25

TR #	Corrected Problems
U802100001	<p>Prior to this fix if you attempted to exit a Telnet session with the CTRL] escape combination, the working (displayed) screen did not close and you were not returned to the login screen unless you had first logged out from the switch. Subsequent Telnet sessions would bring up the same menu from where the previous Telnet session was terminated instead of bringing up the login screen.</p> <p>The system now treats the CTRL] escape sequence as a valid logout event. The new Telnet session will always take the you to the login screen.</p>
U803110012	<p>There was a problem in the dbvers.tbl data base file that occurred with the transition from the V4.2 FSR00 PUN 23 release to the PUN 24 release. PUN 23 had failed to fill in the filename field for subrate and motomap table entries and with PUN 24 the conversion program was modified to fill in the filenames. If an conversion had been performed with PUN 23, an upgrade to PUN 24 would not correct the missing table entries.</p> <p>All filenames and field entries are now correctly made.</p>
U803110013	<p>Previously, when you logged out of a Telnet session and logged into the console, the console would lock up at the main menu and would not accept any keyboard input until the 15-minute system time-out. Occasionally this lockout would also occur if you exited from the Telnet session via the escape sequence resulting in keyboard input lockout after telnet reconnection.</p> <p>A logout from a Telnet session will not prevent keyboard access to the administration screen.</p>
U803190001	<p>If an IPRC64 or IPRC128 was taken out of service while their ports were engaged in active calls, a call chain corruption would occur that would subsequently cause a system dump.</p> <p>Now neither call corruption nor a system dump will occur if an IPRC64 or IPRC128 is taken out of service even if their ports are attached to calls. All calls associated with the IPRC are released when the card goes OOS.</p>
U803230008	<p>Data base conversion after an upgrade from any V4.2 FSR00 Generic release to a newer PUN release will fail if it is attempted in systems with a new 33 MHz CPU (NVRAN un-initialized).</p> <p>Prior to this fix a workaround was to upgrade the Generic before upgrading the CPU.</p> <p>With V4.2 FSR00 PUN25 both Generic and CPU upgrade can be performed at the same time. Database conversion is successful even for systems with new, un-initialized CPUs.</p>

TR #	Corrected Problems
U804010005	<p>Previously, live upgrade from V4.2 FSR00 PUN24 to V4.2 FSR00 PUN25 failed. The standby side of a redundant system would crash as soon as a live upgrade was attempted. The problem occurred only if the system was processing calls. Live upgrade could not be performed from PUN24 to PUN25.</p> <p>This problem existed only when live upgrading from PUN24 to PUN25. Customers running any other V4.2 Generic release, such as the V4.2 FSR00 base line or V4.2 FSR00 PUN23 are able to live upgrade to PUN25 successfully. Live upgrade from PUN25 onwards works correctly.</p>

Section 2

SYSTEM REQUIREMENTS

2.1 INTRODUCTION

This section provides a listing of system requirements for running Generic V4.2 FSR00 PUN 25. These requirements are divided into database, hardware, firmware, and software. Contact Summa Four, Inc. Technical Support at 1-800-9SUMMA4 for any site-specific information.

2.2 DATABASE CONFIGURATION

The VCO system is shipped to you with:

- the Generic software installed on the hard drive
- the licenses configured in the database
- the NBC-3 and DTG/DTG-2 cards configured in the database
- all cards physically installed inside the enclosure

Appendix A in the V4.2 FSR00 Release Notes contains an overview of the steps you must follow to add and configure the cards in your system.

2.3 HARDWARE REQUIREMENTS

To operate V4.2, a system must be equipped with the following components:

System Controller

- VME-147 System controller card (must have updated boot PROMs) or Combined Controller.
- CPU Transition Module (CPU-TM) or Storage/Control I/O module
- 8 MB 68030-based CPU (central processing unit)
- SWI Version A0AR

Storage Subsystem

- SCSI interface hard drive, 42 Megabytes or larger
- 3.5" SCSI Interface Floppy Drive

Control Circuit Cards

- NBC-3 card Rev C0GR (or later) or E0AR (or later)
(Two NBC-3 cards are required for redundant systems; one NBC-3 for non-redundant systems.)
- BRC—Bus Repeater Card—*not required for VCO/20 systems*
(A BRC is required for each expansion rack—one in slot 1 in non-redundant systems, one each in slots 1 and 2 in redundant systems. SDS and VCO/80 systems only.)

Port Interface Cards

- E1-PRI 120 Ω card Rev A0CR (or later)

Service Circuit Cards

- DTG/DTG-2—Digital Tone Generator
(All systems require a tone card to provide a quiet tone to the network.)

SNMP

- Ethernet connection

If you are planning to use SNMP on your system, an SNMP network management application or platform is recommended. You will need an SNMP application to perform SNMP tests on your system. One alternative is to use the tools available with applications such as Hewlett Packard's OpenView™ or Sun Microsystem's Net Manager®.

The components listed in this section are installed in new systems prior to shipment.

For information on the NBC-3 card hardware requirements, see the *Technical Description: Network Bus Controller-3 (NBC-3) Card*.

2.4 FIRMWARE REQUIREMENTS

System firmware requirements common to all systems are listed in Table 2.1. Table 2.2 lists domestic (U.S.) firmware requirements. Refer to the technical descriptions in Volumes 3 and 4 of your hardware documentation set for firmware locations for each card. Instructions for removing and replacing firmware PROMS are contained in *Section 3* of this document.

Table 2.1: Common Firmware Requirements

Card	Firmware	Checksum ¹	Version	Location	Changed Since V4.2 FSR00 PUN 23?	Changed Since V4.2 FSR00?
North American Requirements						
BRC	BRC	00002412	2.01	U2	N	N
CPA	CPA	0000A7A2	1.03	U2	N	N
CPU 8Mb ³	Boot Even	006E6CB3	4.04	U1	N	N
	Boot Odd	0086954F	4.04	U15		
	VME147 1	5741B41F	2.44	U30		
	VME147 2	5741B42F	2.44	U22		

Table 2.1: Common Firmware Requirements(Continued)

Card	Firmware	Checksum ¹	Version	Location	Changed Since V4.2 FSR00 PUN 23?	Changed Since V4.2 FSR00?
CPU 16Mb 33MHz	Boot Even	006E691D	5.00	U1	New	New
	Boot Odd	00866CBF	5.00	U15		
	VME147 1	5741B41F	2.44	U30		
	VME147 2	5741B42F	2.44	U22		
DID-2	DID-2	000010C3	1.41	U2	N	N
DRC-8	DRC	00009625	5.23	U2	N	N
DRC-24/48	DRC-2	00004241	3.08	U2	N	N
Drop & Insert	D&I	00A998F6	2.01	U9	N	N
DVC	DVC	000095BE	2.07	U2	N	N
E+M	E+M	0000D381	2.06	U2	N	N
E1-CAS	E1-CAS/MERC	0000F1C6	2.13	U23	N	N
	E1-CAS/R2	00002654	2.01	U23		N
	E1-31B	0000EF58	3.03	U23		N
	E1-CAS/R2 (No CRC4)	000EDF08	3.43	U23		Y
	CAS PROC	00001E78	1.04	U85		N
	32 CHAN SETUP	0000CDDE	1.00	U113		N
	GAIN/LAW PROM	000011D2	1.02	U45/53		N
IIRC-8	IIRC 8-PORT	00220D75	1.03	U2	N	N
IIRC-64	IIRC 64-PORT	00220DC1	1.03	U2	N	N
IIRC-128	IIRC 128-PORT	00220E0A	1.03	U2	N	N
MRC	MRC	0000EE80	3.08	U2	N	N
MVDC-T1	Local Bus	000D373B	LP100A	U35	N	N
	Com Bus	00186169	LP101A	U19		
	Interrupt	000AE787	LP102	U75		
	PCM Interface	001748E3	LP103A	U107		
	Framer	0005FE2C	LP104	U76		
	Gain/Law	0005A153	LP105B	U49		
	T1 Clock	000BE051	LP106	U80		
	Gain/Law	00776220	—	U50		
	Boot PROM	0065B028	1.06	U10		

Table 2.1: Common Firmware Requirements(Continued)

Card	Firmware	Checksum ¹	Version	Location	Changed Since V4.2 FSR00 PUN 23?	Changed Since V4.2 FSR00?
NBC-3 Card Rev C	LP122 SWI	00194974	LP122C	U66	N	N
	LP123 Counter	0018E096	LP123E	U13		
	LP124 Chip Select	000D7B43	LP124C	U12		
	LP125 Com Bus FPGA ²	—	LP125C	U43		
	LP126 Com Bus EPLD	0005CED8	LP126B	U47		
	LP127 Mezzanine Add.	0006C919	LP127A	U105		
	Boot PROM	00F597BE	1.02	U4		
NBC-3 Card Rev E	LP141 SWI	0019204D	LP141A	U31	N	N
	LP140 Counter	00187206	LP140C	U73	N	Y
	LP139 Chip Select	000D4209	LP139A	U30	N	N
	LP125 Com Bus FPGA ²	—	LP125C	U53		
	Boot PROM	00F597BE	1.02	U1		
SSC	Com Bus Control	00186169	LP101A	U24	N	N
	PCM Interface	00198315	LP130B	U76	N	Y
	Quad 9 to 1	0017878C	LP129A	U71/U70	N	N
	Redundancy Control	0017F249	LP128A	U100		
	Substrate Matrix Control	000BB573	LP131	U31		
	Boot PROM	00400736	1.02	U10	N	Y
SLIC-2	SLIC-2	000010B9	1.41	U2	N	N
SRC	SRC	0000E5C7	1.07	U2	N	N
T1	T1	00002BA5	1.26	U2	N	N
	T1 Aux Proc	00007125	1.00	U45	N	N
UTC-2 Rev A UTC-2 Rev B	UTC	0000F91E	6.00	U2	N	N
	UTC	0000ECF0	6.54	U2	N	N

Table 2.1: Common Firmware Requirements(Continued)

Card	Firmware	Checksum ¹	Version	Location	Changed Since V4.2 FSR00 PUN 23?	Changed Since V4.2 FSR00?
4XT1/E1	4XT1/E1 68340 VIRT CM	00291041	1.08	U10	N	N
	4XT1 68302 ODD	00277AE4	1.14	U47, 93, 150, 185	N	Y
	4XT1 68302 EVEN	00242750	1.14	U48, 94, 151, 186	N	Y
	GAIN/LAW CCITT G.711	000FCD68	1.03	U25, 28, 67, 78, 120, 131, 158, 170	N	N
	PATH SETUP ROM	0000CDDE	1.00	U35, 86, 116,178	N	N
	4XE1 68302 ODD	00263E25	1.04	U47, 93, 150, 185	N	Y
	4XE1 68302 EVEN	002313DD	1.04	U48, 94, 151, 186	N	Y
International Requirements						
E1-PRI (NTDASS2, DPNSS)	E1-PRI FW Odd	00105999	1.03	U38	N	N
	E1-PRI FW Even	000DA0C3	1.03	U39		
	E1-PRI 32 Chan Setup	0000CDDE	1.00	U113		
	PCM Gain/Law	000011D2	1.02	U45/53		
E1-PRI 120Ω (NET5)	Net5 Odd	001075A4	1.04	U38	N	Y
	Net5 Even	000DB375	1.04	U39	N	Y
PRI	PRI FW Odd	00107EA5	1.02	U38	N	N
	PRI FW Even	000DB30B	1.02	U39		
	32 Chan Setup	0000CDDE	1.00	U29		
	PCM GAIN/LAW	000011D2	1.02	U45/53		
PRI/N	Odd	00115CB1	1.09	U38	N	N
	Even	000DEE1D	1.09	U39		
	32 Chan Setup	0000CDDE	1.00	U29		
	PCM Gain/Law	000011D2	1.02	U45/53		

Notes:

¹The firmware label applied by Summa Four may list only the last four digits of the checksum.

²The checksum for the NBC-3 LP125 is not given because the programming for this item is part of the NBC-3 download file and is included in the checksum for the NBC download file.

³All customers currently running Generic V3.3+, V4.0+, V4.1+ and V4.2FSR00 through V4.2 FSR00 PUN23 are using the 8MB CPU. The 16MB CPU card became available with V4.2 FSR00 PUN24.

Table 2.2: Domestic (U.S.) Firmware Requirements

Card	Firmware	Checksum	Vers.	Location	Changed Since V4.2 FSR00 PUN 23?	Changed Since V4.2 FSR00?
DCC	DCC	0000A575	2.02	U2	N	N
	LIN/PCM 0 DB	0000B9A2	1.00	U43		
	LIN/PCM -3 DB	0000AB04	1.00	U44		
	PCM/LIN Odd	0000AFA2	1.00	U33		
	PCM/LIN Even	0000B736	1.00	U34		
DTG/DTG-2	DTG-FW	00007991	1.24	U2	Y	Y
	Tone Odd	00000078	2.04	U54		
	Tone Even	00004217	2.04	U53		

2.5 SOFTWARE REQUIREMENTS

Valid software checksums and versions for the Generic V4.2 FSR00 PUN 25 software are listed in Table 2.3. Valid software checksums and versions for optional products are listed in Table 2.4.

Use the Software/Firmware Configuration utility to identify the version and checksum of each software file installed on the system (refer to the *System Administrator's Guide* for more information). Generic software files are distributed across the installation floppy diskettes. Each optional software product is contained on a single floppy diskette.

Table 2.3: V4.2 FSR00 PUN 25 Software Requirements

Software Product	S/W Vers.	S/W FSR	Filename	Check-sum	File Vers.	Changed since V4.2 FSR00 PUN 23?	Changed since V4.2 FSR00?
GENERIC PUN 25	4.2	00	GLOBALS.EXE	0154923B	4.04	Y	Y
			HOSTMGR.EXE	02210D86	4.04	Y	Y
			SYSWD.EXE	00000000	4.04	N	N
			REDMGR.EXE	00F0DB5C	4.04	Y	Y
			PERMGR.EXE	00000000	4.04	N	N
			NETMGR.EXE	028105F4	4.04	Y	Y
			SNMP.EXE	05073B3C	4.04	Y	Y
			INSTALL.EXE	0217998C	4.04	Y	Y
			MVDCT1.DWN	00F2D33A	1.08	N ¹	Y
			NBC.DWN	0108C8D1	1.07	N	Y
			SSC.DWN	006C84CB	1.00	N	N
			CPA.DWN	003079F3	8.09	N	N
			DVC.DWN	005ADA02	1.08	N	N
			IPRC.DWN	0022E1EA	1.04	N	N
			DTMF.DWN	00053D1A	2.02	N	N
			DNI.DWN	006EF8D7	1.01	N	N
			4XT1.DWN	00349052	1.49	N	Y
			4XE1.DWN	003773FA	1.39	Y	Y
						VRTX OS	—
			IFX	—	1.11	N	N
			TNX	—	1.45	N	N

Note

¹*Version change only.*

Table 2.4: V4.2 FSR00 PUN 25 Optional Products Software Requirements

Software Product	S/W Vers.	S/W FSR	Filename	Check-sum	File Vers.	Changed since V4.2 FSR00 PUN 23?	Changed since V4.2 FSR00?
			Optional Product Release Note Reference				
ETHERNET	4.2	00	ETHERMGR.EXE	00007B0C	4.02	N	N
TELEROUTER	4.2	00	TELERTE.EXE	00007ADA	4.00	N	N
MOTOROUTER	4.2	00	MOTORTE.EXE	00007ADA	4.00	N	N
ISDN Options							
ISDN-PRI/NFAS	4.2	00	See ISDN/NFAS Release Notes for Generic V4.2 FSR00			N	Y
NI-2	4.2	00	See NI-2 Release Notes for Generic V4.2 FSR00			N	Y
NTTPRI	4.2	00	See NTTPRI Release Notes for Generic V4.2 FSR00 and higher			N	Y
NTDASS2	4.2	00	See NTDASS2 Release Notes for Generic V4.2 FSR00			N ¹	Y
DPNSS	4.2	00	See DPNSS Release Notes for Generic V4.2 FSR00			N ¹	Y
NET5	4.2	00	See NET5 Release Notes for Generic V4.2 FSR00			N ¹	Y

Note

¹Released for V4.2 FSR00 PUN23 after the initial release of the PUN.

Section 3

UPGRADING TO V4.2 FSR00 PUN 25

3.1 INTRODUCTION

This section describes the procedures for installing Generic V4.2 FSR00 PUN 25 on systems currently running Generic V4.2 FSR00.

Note: Call Summa Four at 1-800-978-6642 (or 603-695-1293) if you are running a version of the Generic other than listed above.

Note: All customers currently running Generic V3.3+, V4.0+, V4.1+ and V4.2FSR00 through V4.2 FSR00 PUN23 are using the 8MB CPU. The 16MB CPU card became available with V4.2 FSR00 PUN24.

CAUTION: This section provides detailed installation instructions for loading system software and upgrading hardware. Deviating from these instructions can result in lost data. Read all the material in this section prior to installing the software. If you encounter any problems during the installation, contact Summa Four.

If you are running a Generic with a version V4.2 FSR00 through V4.2 FSR--PUN23, you may perform a Live Upgrade (See the System Administration Guide, Section 5).

Do not perform a Live Upgrade if you are currently running V4.2 FSR00 PUN 24 (see the fix for issue U804010005 in Section 1.6.4).

To perform an upgrade of the system and/or optional software, you must take both redundant and non-redundant systems off-line for a brief period.

CAUTION: Upgrading to V4.2 on systems with any card other than the NBC-3 configured in slot 2 of the Master Port Subrack, can cause the CPU to crash during the reboot after the data base conversion is performed. There is also a potential risk that the database cannot be converted back to its original state after the CPU crashes.

To avoid this condition on redundant systems, verify that the redundant NBC-3 is correctly configured in slot 2 before you begin the upgrade. On a non-redundant system, verify that slot 2 is empty and not configured in the database.

3.2 REFERENCES

Before you install the software, make sure you are familiar with the material contained in this section. You may also want to refer to the following documents:

- SDS and VCO *Installation Manual*
- Technical Description: Network Bus Controller 3 (NBC-3) Card
- Product supplements for optional software, including:
 - *VCO V4.2 Management Information Base (MIB) Reference Guide*
 - *VCO V4.2 Management Information Base (MIB) User's Guide*

- *TeleRouter Reference Guide*
- *ISDN Supplement*
- *Ethernet Supplement*
- *DPNSS Supplement*
- *DASS2 Supplement*
- *IPRC Supplement*
- *NI-2 Supplement*
- *ISDN NET5*
- *Japanese ISDN (NTTPRI)*
- *Applicable country supplements*

3.3 OVERVIEW OF THE INSTALLATION PROCEDURE

To upgrade a system you must perform six tasks.

1. Database backup (Section 3.5)
This is a precaution against any possible loss of data.
2. Hardware and firmware replacement (Section 3.6)
Upgrade the NBC-3/DTG-2, the CPU card (and the PRI/N card if installing ISDN, NFAS, NI2, or NTTPRI).
3. System software installation (Section 3.7)
Install the Generic and optional software.
4. Database conversion (Section 3.8)
Update the database tables.
5. Install software on the B-side (Section 3.9)
Redundant systems only.
6. Host software installation (Section 3.10)
Install the MIB on your network management system.

Each of these tasks is organized as a separate section. Because redundant systems require software installation on both sides, and because the optional software varies from customer to customer, there will very likely be a slightly different path for each upgrade. If you follow the instructions sequentially and perform the tasks as they apply to your system, you will be assured of a successful installation.

As you perform the upgrade, note that task 3, system software installation, is more detailed because it also deals with optional software installation.

Determining File Sizes

Because of some variations in existing installations, you may have difficulty converting from your current database to V4.2 FSR00 PUN25. To determine if this is the case, you need to know the size of several of your files. To determine the file sizes, use the Show Directory option in the Disk Utilities menu to display the files in the c:/dbase directory. The sizes of your files should match the file sizes in Table 3.1.

Table 3.1: File Sizes

Version Number	File Name					
	syscnfg.tbl	dbvers.tbl	card.tbl	port.tbl	resgroup.tbl	promptlb.tbl
V3.3 FSR00	2081	288	32046	93184	2016	1120
V3.3 FSR01	2081	288	32046	93184	2016	1120
V3.3 FSR02	2160	288	32046	93184	2016	1120
V3.3 FSR03	2160	288	32046	93184	2016	1120
V3.3 FSR04	2160	288	32046	93184	2016	1120
V3.3 FSR05	2160	288	32046	93184	2016	1120
V3.3 FSR06	2160	288	32046	93184	2016	1120
V4.0 FSR00	2160	288	32046	93184	2016	1120
V4.0 FSR01	2928	306	32046	158720	2016	1120
V4.0 FSR02	2928	306	32046	158720	2016	1120

If the size of any of these files does not match the size listed in Table 3.1, contact Summa Four Technical Support immediately. Failure to have technical support evaluate the file size inconsistency will result in problems converting your current database to the V4.2 FSR00 PUN25 format.

If you are running a version of software that is not in Table 3.1, you should also contact Summa Four Technical Support. An engineer will determine if the size of your database is correct for the software version numbers that you are running.

3.4 WHAT YOU NEED

You need the following hardware, firmware, and software to do the installation. Make certain you have:

Software:

- Five (5) diskettes labeled as follows:

VCO SYSTEMS V4.2 FSR00 PUN25
GENERIC
DISK x OF 5

Note: The *x* is a number from 1 to 5. The number indicates the sequence in which the diskettes must be loaded when you install the generic software. Only Disk 1 contains the installation utilities.

- V4.2 Diskettes containing the installation utilities for any optional software packages, for example, TeleRouter, ISDN-NFAS and/or Ethernet, the MIB supplemental Disk Files (optional) are to install the MIB software on your network management system only.

Hardware:

- NBC-3 card, Rev C0GR (or later) or E0AR (or later)—two cards for redundant systems
- 8Mb or 16Mb CPU card

Firmware

- 8Mb (68030) CPU PROMs, ODD and EVEN V4.04 (if upgrading the 8Mb CPU card)
- NBC-3 Card Boot V1.02
- Compare with the V4.2 FSR00 Release Notes for firmware changes

Other

- Blank diskettes to back up the system database.
- System printer, so you have a printed record of the installation process.

For redundant systems, be sure you can connect a system console to both system controllers.

Depending on your equipment's arrangement, you can:

- Set up a separate system console for each controller (A- and B-side).
- Use an A/B transfer switch wired to both system controller CPU-TM front panels to switch access.
- Physically remove and reconnect the system console cable from one CPU-TM front panel to the other.

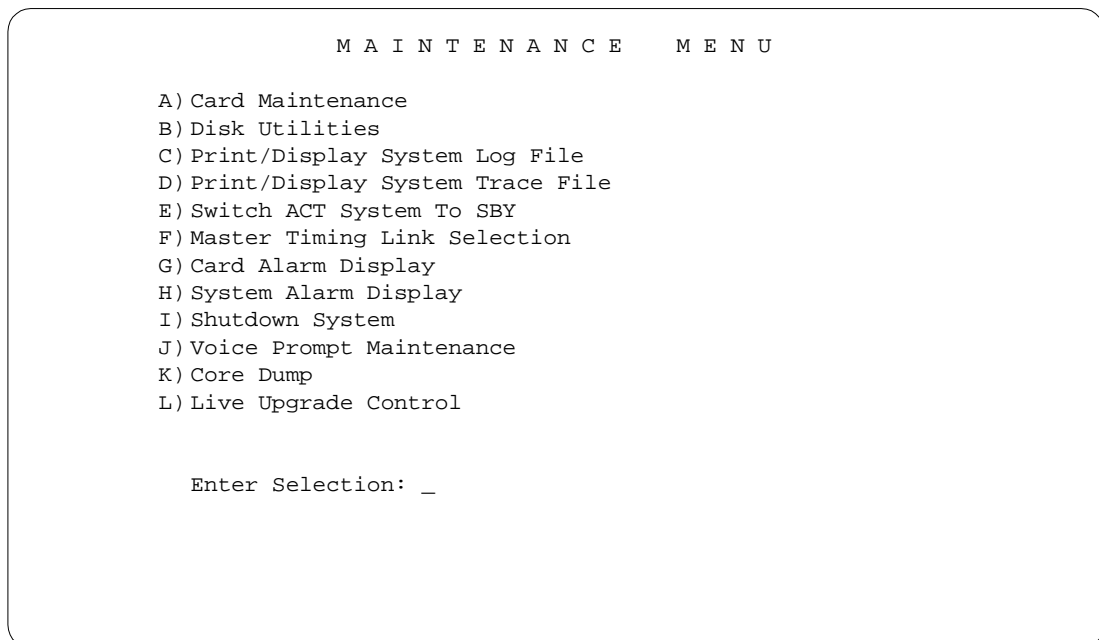
3.5 BACKING UP THE DATABASE

Back up the database prior to beginning this installation. Do not try to back up the system database during the installation or after replacing the hardware and firmware (as described in Section 3.6 of this procedure).

NOTE: During normal system operation, use the Data Base Store functions on the Disk Utilities menu to back-up the system data base. For more information about the Disk Utilities menu, refer to your System Administrator's Guide.

To back-up the system data base, follow these steps.

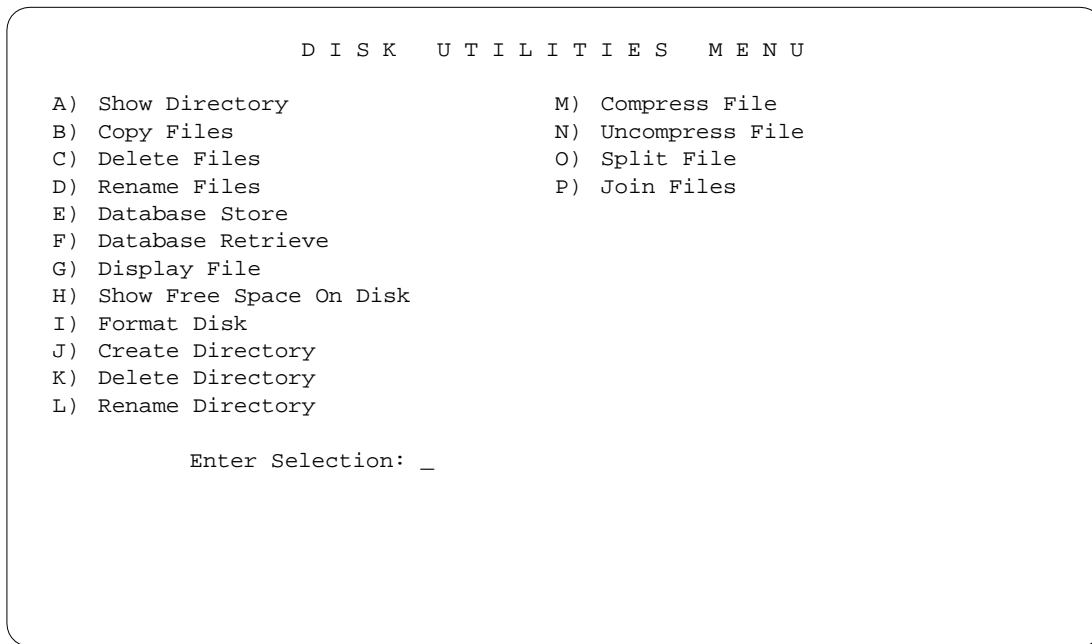
1. Sign onto the system and access the Maintenance menu. (Refer to Figure 3.1)



TP000072

Figure 3.1: Maintenance Menu

2. Remove any diskette in the diskette drive on the A-side and insert a high-density diskette.
3. Type **B** to access the Disk Utilities, and press the **Return** key. The Disk Utilities menu appears (Refer to Figure 3.2.)



TP000096

Figure 3.2: Disk Utilities Menu

4. a. To format the diskette, type **I** and press the **Return** key.
The following message appears:

```
          F O R M A T   D I S K

Format What Drive? _____
Disk Volume Label? _____
Do Bad Sector Scan During Format <Y/N>? ____
```

The cursor is in the first field waiting for your response.
Appropriate responses to the prompts are provided below:

Format What Drive?

Type **A**:
then press the **Next Field** key.

Disk Volume Label?

This is optional. If you do not want to label the disk, press the **Next Field** key.
If you want to label the disk, type in the label name and then press the **Next Field** key.

Do Bad Sector Scan During Format
<Y/N>?

Type **Y**.
This is optional. If you do not want to scan the disk for bad sectors, type **N**.
Note: This field is required and cannot be left blank.

- b. A message appears to confirm your responses.
For example:

FORMAT DISK

Format Drive:

A:

OKAY TO FORMAT DISK? <Y/N>? ____

Type **Y** and then press **Enter**.

5. When the formatting is complete the Disk Utilities menu appears.
- a. Type **E** for **Database Store** and press **Return**. The following message appears:
- Ok to Store Database From C: to A: <Y/N>?
- b. Type **Y** and press **Return**. A message at the bottom of the screen indicates the copying is taking place.
6. When the copy is complete, the message in Step 5 above reappears. Press **Exit** to return to the Disk Utilities menu.
7. Power down the system and continue to the next section.

Note: If you use this backup diskette to restore the current data base after the upgrade, you will have to do a data base conversion after restoring. Refer to Performing a Data Base Conversion, in Section 3.8 on page 22. If you do not do the conversion after restoring from this diskette, the data base will not be compatible with the new version of software.

3.6 HARDWARE AND FIRMWARE REQUIREMENTS

V4.2 requires upgrades in your system's current hardware and/or firmware. The upgrade depends on your current configuration. Please refer to *Table 3.2* and *Table 3.3* for information on the update requirements for your system.

The *Diagnostics/Display Card Data* screen displays the current version of the prompts on your cards. This screen is accessed from Card Maintenance. Refer to the *System Administration Guide* for additional information.

Table 3.2: Upgrading Hardware & Firmware: Current Configuration

Card	Note	Refer to:
CPU Card (8Mb)	You must update the firmware on the CPU card if you are at any version before V4.2 FSR00.	Section 3.6.4 — for the location of the firmware to be updated. Refer to Section 2 for checksum and version.
NBC Card	<p>V4.2 does not support the NBC card. If you currently have an NBC card, you must upgrade to the NBC-3 card.</p> <p><i>Note:</i> The new NBC-3 card supports the DTG-2 mezzanine card.</p> <p>Your system can operate with an NBC-3 card and your current DTG card, or with the new NBC-3/DTG-2 card combination.</p> <p>The NBC-3 card is a hot swap card: it can be removed and replaced while the system is powered up.</p>	<p>The <i>Technical Description: Network Bus Controller 3 (NBC-3) Card</i> in your hardware volume set — for instructions on installing the NBC-3 card.</p> <p><i>Note: If you are upgrading from the NBC card, make certain to following the removal instructions for the NBC card. Do not remove the NBC card while the system is in operation.</i></p>
NBC-3 Card (Rev C)	The NBC-3 card firmware must be updated if you are at any version before V4.2 FSR00.	Section 3.6.6 — for the location of the NBC-3 firmware to be updated. Refer to Section 2 for checksum and version.

Table 3.3: Upgrading Hardware & Firmware: New Cards

New Card	Note	Refer to:
NBC-3 (Rev E)	<p>The new NBC-3 card supports the DTG-2 mezzanine card.</p> <p>Your system can operate with an NBC-3 card and your current DTG card, or with the new NBC-3/DTG-2 card combination.</p> <p>The NBC-3 card is a <i>hot swap</i> card: it can be removed and replaced while the system is powered up.</p> <p><i>Note: Depending on your configuration, the NBC-3 card may be a new card. Some customers may have already upgraded to the NBC-3. If you already have an NBC-3 card installed in your system, you need to update the firmware, (see Table 3.2). You may also opt to install the DTG-2 mezzanine card on your NBC-3 (refer to DTG-2 Card information in this table).</i></p>	<p><i>Technical Description: Network Bus Controller 3 (NBC-3) Card</i> in your hardware volume set — for instructions on installing the NBC-3/DTG-2 card.</p> <p><i>Note: If you are upgrading from the NBC card, be sure to follow the removal instructions for the NBC card. Do not remove the NBC card while the system is powered on.</i></p>
DTG-2 Card (optional)	<p>If you have an NBC-3 card, you may opt to purchase and install the DTG-2 mezzanine card on your current NBC-3.</p> <p>The DTG-2 is optional. Your system can operate with an NBC-3 card and your current DTG card, or with the new NBC-3/DTG-2 card combination.</p>	<p><i>Technical Description: Digital Tone Generator 2 Mezzanine (DTG-2) Card</i> in your hardware volume set — for instructions on installing the DTG-2 mezzanine card.</p>
E1-PRI 120Ω Card (optional)	<p>If you have this card, Revision A0BR or earlier, you must swap this for an A0CR, or higher, card to avoid CRC errors.</p>	<p><i>Technical Description: E1-PRI Card</i> in your hardware volume set — for instructions on installing the DTG-2 mezzanine card.</p>

3.6.1 Replacing Hardware and Firmware

The following describes the procedures for installing new firmware and programmable logic in circuit cards. Some of the procedures may not be applicable to this release depending on the upgrade.

Firmware is shipped in the form of programmable read only memory (PROMs), dual in-line packages (DIPs), integrated circuits (ICs) for through-hole mounting, and plastic leaded chip carriers (PLCC) for surface mount. Programmable logic is shipped in the form of programmable logic devices (PLDs), DIPs for through-hole mounting, and PLCCs for surface mount.

PROMs are labeled with configuration data which should be checked, prior to installation, against the firmware requirements contained in *Section 2*. PLDs are labeled with their LP identification number.

3.6.2 Removing and Replacing Through-Hole PROMs and PLDs

The following sections provide information about removing and replacing through-hole PROMs and PLDs. Refer to the appropriate technical description for the physical locations of the PROMs and PLDs on each circuit card.

Removing Through-Hole PROMs and PLDs

To remove a through-hole PROM or PLD, follow these steps.

1. If the circuit card is currently installed in the system, follow the removal and replacement procedures in the appropriate technical description. Be sure to also locate affected circuit cards kept as spares.

CAUTION: Observe antistatic precautions near circuit cards. Wear a ground strap connected to the equipment frame whenever servicing or cleaning circuit cards (ground points are indicated by labels on the system front).

2. Remove the PROM to be replaced from the circuit card. Use a PROM removal tool to grasp the integrated circuit and pull it straight up and away from the socket.

CAUTION: Avoid using devices, such as screwdrivers, to remove PROMs. These devices can damage PROM pins and scratch the circuit card.

3. Remove the PROM chip from the shipping package. Refer to *Section 2* to verify that the label on the chip matches the software requirements.

Replacing Through-Hole PROMs and PLDs

To replace a through-hole PROM or PLD, follow these steps.

1. Before installing the new chip, verify that its pins are all evenly spaced and vertically aligned. If necessary, align the IC pins properly prior to installation. To align the pins, you can either use a commercially available pin-straightener tool, sized for a 28-pin DIP device, or you can lay the PROM or PLD on its side and gently press the top edge, being careful not to press on the pins (Figure 3.3). Repeat this procedure for the other row of pins.

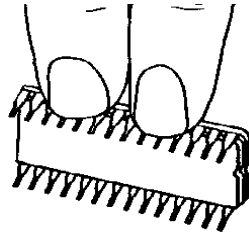


Figure 3.3: Aligning PROM or PLD Pins

2. Orient the PROM or PLD chip so that the notch in the chip (Figure 3.4) faces the notch on the circuit card.

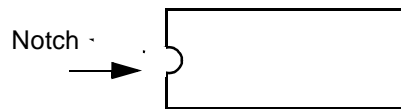


Figure 3.4: Notch Orientation for Integrated Circuit

3. Carefully insert the pins on one side of the PROM or PLD chip into holes on the correct side of the socket (see Figure C.5).

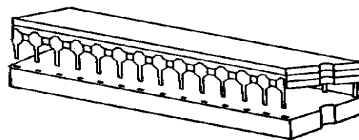


Figure C.5: Inserting Pins in One Side of Socket

4. Insert the pins on the other side of the PROM or PLD chip into holes on that side of the socket (see Figure C.6).

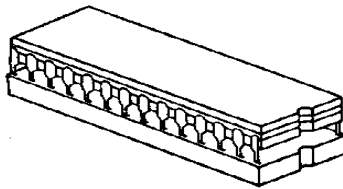


Figure C.6: Inserting Pins in Other Side of Socket

NOTE: If the pins are not aligned with the socket holes, remove the PROM or PLD chip and straighten the pins (see Step 1). After realigning the pins, repeat Step 2 through Step 4.

5. Carefully examine all the pins on the PROM or PLD chip. Be sure that none of the pins are bent or touching one another.
6. With all of the pins inserted into the socket holes, apply gentle and even pressure to the top of the chip until it is fully seated in the socket.
7. Re-install the circuit card in the system or return the card to spares stock.

3.6.3 Removing and Replacing Surface-Mount PROMs and PLDs

The following sections provide information about removing and replacing surface-mount PROMs and PLDs. Refer to the appropriate technical description for the physical locations of the PROMs and PLDs on each circuit card.

CAUTION: Make sure you use the proper tool to remove surface mount PROMs and PLDs, or you may damage the board.

Removing Surface-Mount PROMs and PLDs

To remove a surface-mount PROM or PLD, follow these steps.

1. If the circuit card is currently installed in the system, follow the removal and replacement procedures contained in the appropriate technical description. Be sure to also locate affected circuit cards kept as spares.

CAUTION: Observe antistatic precautions near circuit cards. Wear a ground strap connected to the equipment frame whenever servicing or cleaning circuit cards (ground points are indicated by labels on the system front).

2. Use the surface-mount chip removal tool, provided by Summa Four, Inc. to remove the PROM or PLD that is to be replaced on the circuit card. To remove the PROM or PLD chip:
 - a. Spread or compress the tool legs so the tongs fit into the slots of the chip carrier socket.
 - b. Insert the tool tongs into the slots of the socket, and push firmly so that the tool butts on the socket.
 - c. Place the thumb and forefinger on the tool's grip. Squeeze the thumb and forefinger together to remove the chip from the socket.

3. Remove the PROM or PLD chip from the shipping package. Refer to *Section 2* to verify that the label on the chip matches the software requirements.

3.6.3.1 Replacing Surface-Mount PROMs and PLDs

To replace a surface-mount PROM or PLD, follow these steps.

1. Before installing the new PLD, verify that the pins are all evenly spaced and properly aligned. If necessary, use tweezers to carefully align the IC pins prior to installation.
2. Align the notch or chamfered edge on the PLD to the silkscreened dot on the circuit card (see Figure 3.7).

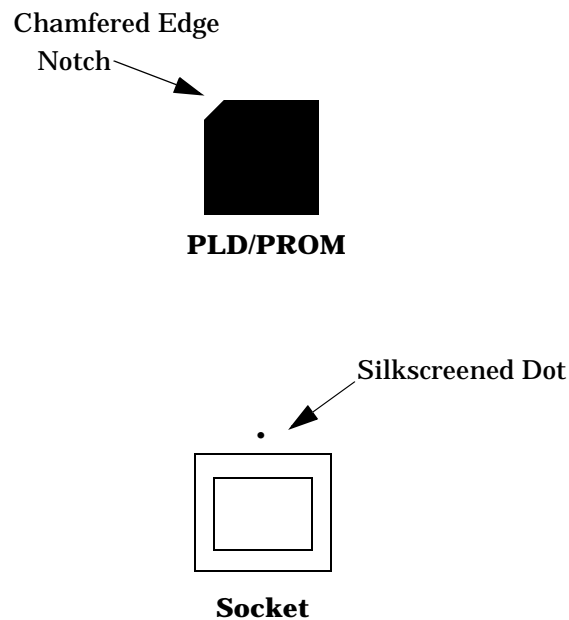


Figure 3.7: PLD Alignment

3. With all pins aligned to the pins of the socket, apply gentle, even finger pressure to the top of the chip until it is fully seated in its socket. This completes the installation of the surface mount chip.
4. Reinstall the circuit card in the system or return the card to spares stock.

3.6.4 Updating the 8 Mb CPU Firmware (68030 Processor)

You must update the EVEN (U1) and ODD (U15) PROMs on your CPU card. Refer to Section 2 for version and checksum information. The new firmware is included in your upgrade kit.

Refer to the *Technical Description: Central Processing Unit (CPU) Card* for the location of the PROMs that you need to update. The technical description also contains card removal procedures. The (Even) U1 and (Odd) U15 sockets are located next to the four LEDs on the CPU board and consist of 32-pin ICs. With the face plate towards you, these are the two left-most ICs of the four that are socketed on the board.

3.6.5 Upgrading from the 8Mb CPU to the 16Mb CPU

The 16Mb CPU card became available with V4.2 FSR00 PUN24. If you want to upgrade to the 16Mb card, refer to the *CPU Upgrade Procedure*, 63104050100.

3.6.6 Updating the NBC-3 Firmware

If you currently have an NBC-3 card in your system, you must update the 40-PIN DIP, firmware on the card. Refer to Section 2 for version and checksum information. The new firmware is included in your upgrade kit.

Refer to the *Technical Description: Network Bus Controller 3 (NBC-3) Card* for the location of the firmware (U4 in the Rev C card, U1 on the Rev E card). The technical description also contains card removal procedures.

3.6.7 Updating the PRI/N Firmware

If you currently have a PRI/N card in your system, you must update the firmware on the card. Refer to Section 2 for version and checksum information. The new firmware is included in your upgrade kit.

Refer to the *Technical Description: Primary Rate Interface/NFAS Card* for the location of the firmware. The technical description also contains card removal procedures.

3.7 INSTALLING THE SOFTWARE

The following provides instructions for installing Generic V4.2 FSR00 PUN25 on systems currently running V4.0 FSR00 or later and V3.3 FSR00 through V3.3 FSR06. Installation procedures for Ethernet and optional software follow the Generic installation.

Note: Call Summa Four at 1-800-978-6642 (or 603-695-1293) if you are running a Generic other than the above.

On Disk 1, the Incremental Install Basic System Software option installs the Generic software and downloads files onto the hard disk. This selection does not format the hard drive.

Note: Before continuing, make certain that you have completed your database backup and hardware/firmware replacement.

The instructions in the following subsections assume that the system console is connected to the CPU-TM of the side being installed.

CAUTION: Do not install the MIB - Supplemental Disk software on the switch. The MIB software is installed on the Host computer. Refer to Section 3.10, *Installing the MIB Software*. Do this after completing the installation of the Generic software on the switch.

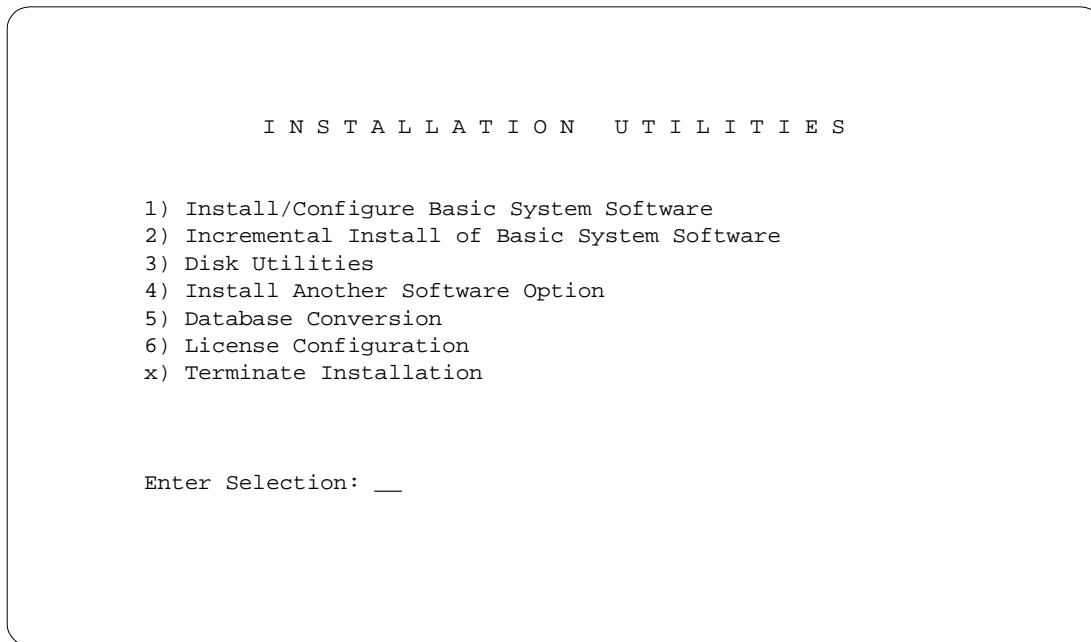
3.7.1 Installing the Generic Software

With the new hardware and firmware in place (Section 3.6), install the new Generic software on your system:

1. Insert Disk 1 into the floppy diskette drive (A-side if this is a non-redundant system, B-side if you are returning to this procedure to install software for that side).
2. Connect or switch the administration console to the A-side CPU-TM, or go to the A-side system console.
3. Power on the A-side.
4. After the system performs diagnostic tests, the Installation Utilities menu appears (*Figure 3.8*).
5. The cursor is located in the Enter Selection data entry field. Type **2**, (for Incremental Install of Basic System Software) then press **Return**.

The following message appears:

Do You Wish To Back-Up The System Data Base? (Y/N) =N?_



TP000121

Figure 3.8: Installation Utilities Menu

6. Press **Return** (this defaults to N).
The database will not be backed up at this time. Make certain that the database was backed up previously, as described in Section 3.5 of this installation procedure.
7. The following message appears:

```
Insert disk 2 of Installation Set
Press return to continue
```

Remove the current diskette from the drive, insert Disk 2, and press **Return**. The system copies the files from Disk 2 to the C: drive in the /BOOT, /DBASE, /LOG and /TRACE directories.
8. When all the files from Disk 2 are copied, the following message appears:

```
Insert disk 3 of Installation Set
Press return to continue
```

Remove the current diskette from the drive, insert Disk 3 then press **Return**. The system copies the files from Disk 3 onto the C: drive.
9. This pattern, of the system copying from the diskette then prompting for the next, continues until all five diskettes have been loaded and copied onto the system. Continue to remove and insert the installation diskettes when prompted to do so.

When the installation is complete, the Installation Utilities menu appears again (*Figure 3.8*).

10. Optional software needs to be installed every time you update the Generic to ensure NVRAM update. For options such as TeleRouter, ISDN-NFAS, or Ethernet, type **4**, Install Another Software Option, then press **Return**.

The following message appears:

Insert Another Install Disk

Press Return To Continue

Instructions for installing Ethernet for the Host and SNMP communications are contained in the next section, Section 3.7.2.

NOTE: When you install a software option (such as TeleRouter, etc.) on a system, the installation process makes changes to the nonvolatile RAM (NVRAM) on the CPU. These changes make operation of software options specific to the CPU on which you installed the options. For this reason:

- *Software options must be installed on both system controllers in a redundant system.*
- *Software options must be reinstalled if the CPU is replaced. Although the data base information resides on the hard disk, a new CPU is unable to access this information.*

Because of the reliability of the CPU, failures requiring replacement are very rare occurrences.

If you are installing Ethernet, go to that section now. If you have other optional software to install after you have installed the Generic, see Section 3.7.3 for generalized installation instructions. More information on optional software installation is provided in the appropriate product supplement.

- a. If there is no Ethernet or optional software to be installed, continue to Section 3.8 to convert your database.

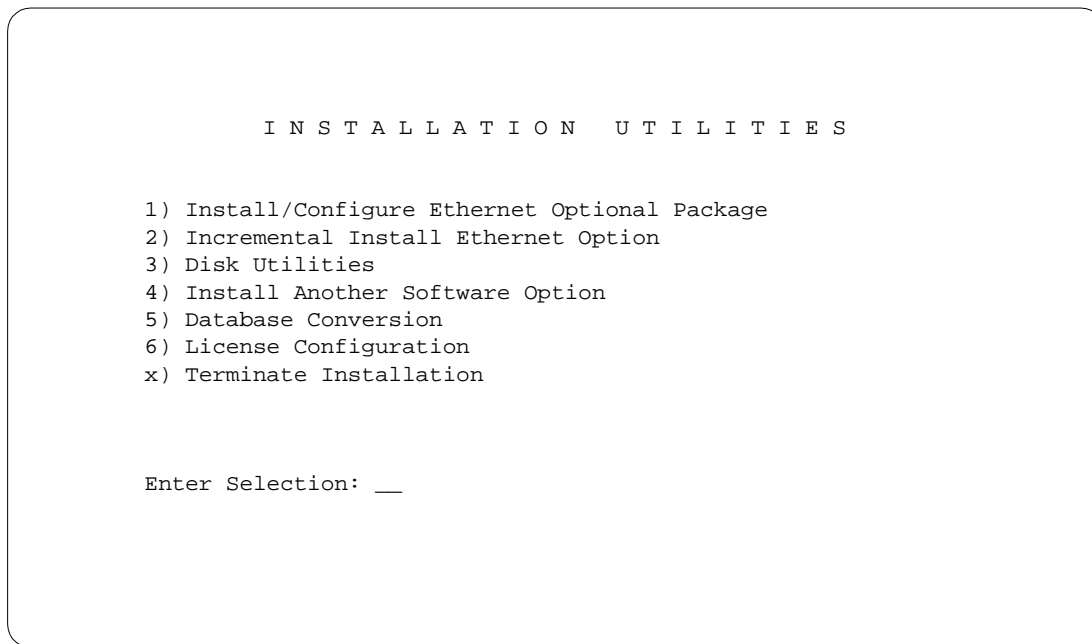
3.7.2 Installing Ethernet for Host and SNMP Communication

You can install Ethernet software as part of the generic software installation or separately. For complete installation instructions, refer to the supplement provided with the Ethernet software.

The following section provides generalized instructions for installing Ethernet optional software package. It is assumed that this step is being completed as part of the overall install and is being done as a continuation of *Installing the Software*.

To install and configure the Ethernet optional software, follow these steps:

1. Insert the Ethernet software diskette and press the **Return** key. After the system loads the Ethernet files from the diskette, the Ethernet Installation Utilities menu appears with the cursor located in the Enter Selection field (see Figure 3.9).



TP000122

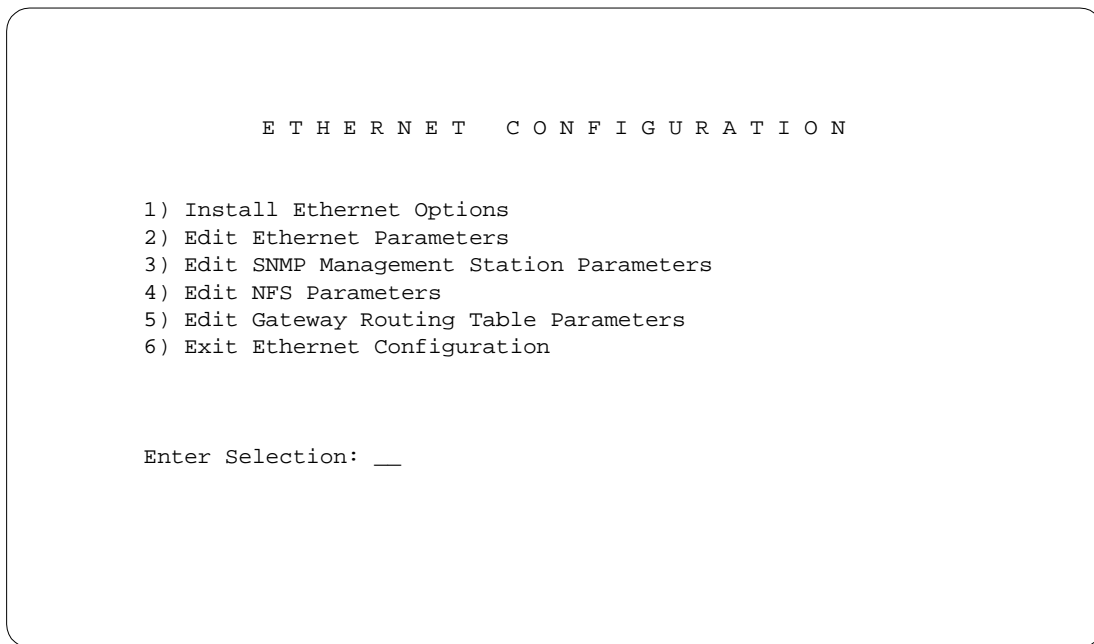
Figure 3.9: Ethernet Installation Utilities Menu

2. To install and configure the Ethernet software, type **1** and press **Return**. The following message appears:

Do You Wish To Back-Up The System Data Base? (Y/N) =N?_

Press **Return** (this defaults to N). You will not be backing up the data base at this time. Data base backup should have been done in Section 3.5 of this installation.

The Ethernet Configuration menu appears (see *Figure 3.10*).



TP000019

Figure 3.10: Ethernet Configuration Menu

3. Type **1** and press **Return**. The following message appears:

```
Copy A:/BOOT/ETHERNET.EXE
1 files(s) copied
Ethernet Option Enabled
```

4. To set the Ethernet Parameters, type **2** and press **Return**. The following message appears:

```
System Internet Address = 107.3.254.98?
```

Note: The Ethernet and Internet address numbers that you see in the screen messages in this section are only examples. In your system these numbers are replaced by numbers that represent your system addresses.

5. Set the Internet Address of this system and press **Return**.

```
Set System Internet Address To 107.3.254.98 (Y/N) =Y?
```

6. If you change the address, you are prompted to confirm your new address. Type **Y** to confirm your selections. The following confirmation message appears:

```
System Internet Address Configured
```

7. Set the System Subnet Mask, or press **Return** to accept the displayed value.

After you complete this step, you can connect a remote console to your system via Telnet.

8. a. If you are *not* going to manage this system with SNMP, go to Step 14.
- b. If you *are* going to manage this system with SNMP, type **3** and press **Return** to set the SNMP Management Station Internet address. The following message appears:

SNMP Management Internet Address = 0.0.0.0?

9. Set the Internet address to the address of the system that you are using as the NMS (Network Management System). Press **Return**. The following message appears:

Set SNMP Management Internet Station Address To 189.7.107.44 (Y/N) =Y?

10. Type **Y** to confirm your selections. The following confirmation message appears:

SNMP Management Station Internet Address Configured

After you complete this step, the system will report SNMP trap messages to the NMS that you selected.

11. a. If you are not going to boot your system over the network, go to Step 14.
- b. If you are going to boot your system over the network, continue with Step 12.
12. Type **4** to set the Network File System (NFS) server parameters. The following selections appear one at a time. Enter the information for your system. Type **Y** and press **Return** after each selection.

Enable NFS Access (Y/N) =Y?

NFS Server Internet Address = 000.0.000.000?

NFS Server Name =xxx?

NFS Mount Directory Point #?

Target System Name =

Target System User Id =

Target System Group Id =

Target System Umask =

Update NFS Configuration With Above Data (Y/N) =Y?

13. After you update the NFS configuration with the new data, the following message appears:

NFS Configuration Updated

You can now save the log files and database to a remote location.

14. Type **6** to exit and press **Return**. The Installation Utilities screen appears (see Figure 3.9).
15. To end the Ethernet installation, type **7** and press **Return**.
16. Remove the Ethernet diskette from drive A.
17. If you have additional optional software to install, proceed to Section 3.7.3, *Installing Optional Software*, which follows.
18. If there is no optional software to install, proceed to Section 3.8, *Performing a Data Base Conversion*.

3.7.3 Installing Optional Software

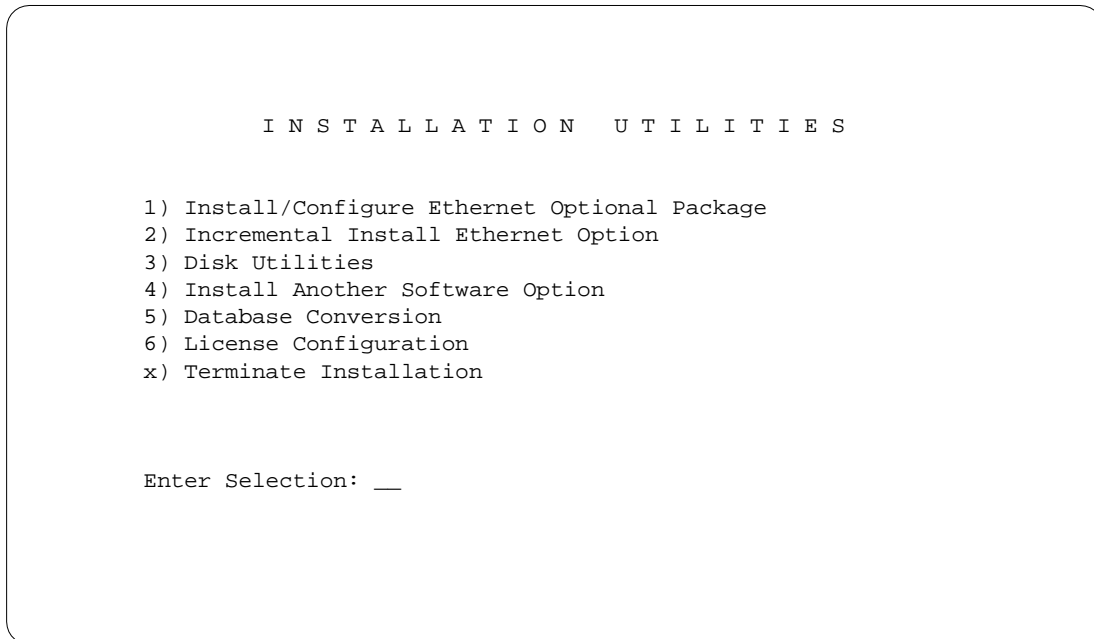
You can install optional software as part of the generic software installation or separately. For complete installation instructions, refer to the supplement provided with the optional software.

The following section provides generalized instructions for installing an optional software package. It is assumed that this step is being completed as part of the overall install and is being done as a continuation of *Installing the Software*.

To install optional software, follow these steps:

1. Insert the optional software diskette and press the **Return** key.

If you are installing optional software such as TeleRouter or ISDN-NFAS, the optional software being installed appears in place of *Ethernet* in choices 1 and 2 (*Figure 3.11*).



TP000122

Figure 3.11: Optional Software Installation Utilities Menu

2. To install and configure the optional software, type **1** and press **Return**. The following message appears:

Do You Wish To Back-Up The System Data Base? (Y/N) =N?_

Press **Return** (this defaults to N). You will not be backing up the data base at this time. Data base backup should have been done in Section 3.5 of this installation.

3. The following messages appears for most options:

Copying A:/Option Filename.EXE...

n file(s) copied

Option Name Option Enabled

4. If you are installing additional software packages, press **4**, (Install Another Software Option) and repeat the steps above.
5. After you install the last optional software package, type **3** and press **Return**. Proceed to Section 3.8.

3.8 PERFORMING A DATA BASE CONVERSION

Since the data base tables have changed, it is mandatory that you do a data base conversion. To do this, select option **5** in the Installation Utilities menu.

The conversion takes a few seconds. The following message is displayed on the screen:

Data base path for conversion: C:/dbase/

If the database does not need to be converted (i.e. it had previously been converted), no other messages are displayed. However, if you do convert the database, several other messages may be displayed. For example:

Converting the System Configuration table ...

This will take just a few seconds.

If you are upgrading a non-redundant system or you have finished installing software on the B-side of a redundant system, the upgrade is complete. Type **7**, Terminate Installation (refer to *Figure 3.11*), reboot the system, and proceed to Section 3.10, *Installing the MIB Software*.

If you are upgrading a redundant system, you can boot the A-side of the system (the side you have just completed upgrading) at this time to process calls. This is optional and can be done later, after you upgrade the B-side. Continue to the next section to complete the upgrade by installing software on the B-side.

3.9 INSTALLING THE SOFTWARE ON THE B-SIDE

If you do not have a redundant system, proceed to Section 3.10, *Installing the MIB Software*.

1. Connect or switch the administration console to the B-side CPU-TM, or go to the B-side system console.
2. Insert Disk 1 into the B-side drive.
3. Power on the B-side.
4. After the system performs diagnostic tests, repeat *Section 3.7, Installing the Software*, starting with Step 4 on page 8, to install the Generic software and optional software, and then Section 3.8, *Performing a Data Base Conversion*, on the B-side.

NOTE: Make certain that you place the Installation Disks into the B: drive during installation of the B-side.

5. After you have installed the software and converted the database on the B-side, type 7, Terminate Installation (refer to *Figure 3.11*), place the ACC switch in Auto, reboot the system, and proceed to the next section to verify file synchronization.

3.9.1 Verifying File Synchronization

For redundant systems, after you have installed the software on both sides and rebooted the system, you must verify that file synchronization has occurred. Check the messages at the bottom of the screen until you see:

ACT FILE SYNC COMPLETED

Note: This message may be replaced by subsequent messages before it can be seen. Check the active and standby log files to confirm completion.

When file synchronization has been verified, the installation of system software is complete. Proceed to the next section to install the MIB software.

3.10 INSTALLING THE MIB SOFTWARE

If you use SNMP to manage your switch, install the MIB software on your network management system. See Appendix C in the V4.2 FSR00 Release Notes.

This completes your upgrade to Generic V4.2.

Section 4

KNOWN DESIGN CONSTRAINTS

4.1 INTRODUCTION

Note: No new design constraints have been introduced with the V4.2 FSR00 PUN 22, 23, 24, or 25 release.

Summa Four, Inc. has identified and evaluated design constraints in Generic V4.2 FSR00 software, firmware, and hardware. This section provides explanations of, and where applicable, workarounds for, design constraints in the following areas:

- Upgrading to V4.2 on SDS and VCO/80 Systems
- Simple Network Management Protocol (SNMP)
- System Configuration Utilities
- Systems Considerations
- Software Exceptions on System Controller
- Card Initialization
- DTG-2 Card Alarms
- T1 Trunk Card Support
- Digit Collection
- Inpulse Rule Processing
- Resource Group Processing
- Conferencing
- MVDC-T1
- Operational Constraints
- Connecting to Modems
- IP Addressing

Section 5

KNOWN FUNCTIONAL CONSTRAINTS

5.1 INTRODUCTION

Summa Four, Inc. has identified and evaluated functional constraints in Generic V4.2 FSR00PUN22 through V4.2 FSR00 PUN25 software, firmware, and hardware. These are functional constraints that have been identified since the V4.2 FSR00 baseline release.

This section provides explanations and, where applicable, workarounds for functional constraints for each PUN release in the following areas:

- System Administration
- System Configuration Utilities
- Special Redundant Systems Considerations
- Disk Operations
- Digit Collection
- Inpulse/Outpulse Rule Processing
- Call Processing
- Command/Report Processing
- Initialization
- Network Bus Controller-3 (NBC-3)
- Digital Tone Generator (DTG) and Digital Tone Generator-2 (DTG-2)
- Four Span Cards
- Miscellaneous Card Issues
- Multiple Host Connections
- TeleRouter
- Simple Network Management Protocol (SNMP)
- Ethernet
- ISDN Issues
- International Issues

5.2 SYSTEM ADMINISTRATION

Not all system administration tasks are supported by SNMP. (See the V4.2 FSR00 release notes for a list of the tasks not supported.) There is no SNMP support for Network Side NET5, the REORDER tone feature for Japanese networks, or for other V4.2 FSR00 PUN 22 or PUN 23 features.

5.2.1 U508295234/TR5234: Adding Cards to End of Configured Data Base

If you try to add cards to the end of a configured data base, you may see the following message: NO AVAILABLE PORT MEMORY. This is caused by port fragmentation, which means that there are enough total ports, but they are not contiguous.

This could happen, for example, if 1576 ports are assigned out of the 1776 that were licensed, and you try to add a 64-port IPRC.

Resolution

Rebuild the data base to reallocate the ports in a contiguous block.

5.2.2 U708280004: Wrong size of dbvers.tbl Following Database Conversion

For software releases beginning with V4.0 FSR01, the dbvers.tbl file size should be 306 bytes. The correct file size occurs following a full installation, but following an incremental installation and database conversion, the file size may remain at 288 bytes. This has no effect on switch operation.

5.2.3 U803190001: IPRC Call Chain Corruption (Fixed in PUN25)

Customers may experience call chain corruption leading to a system dump or reboot when they take an IPRC64 or IPRC128 out of service while its ports are involved in calls.

Resolution

Do not take an IPRC64 or IPRC128 out of service during call processing. If for some reason it becomes necessary to take the card out of service while calls are being processed, first P out all the ports (place all the ports in Maintenance Busy state from the Card Maintenance menu) of that particular IPRC. This will release the calls and will prevent the call chain corruption.

After IPRC card is activated, P the ports back in so they can be used.

5.3 DIGIT COLLECTION

5.3.1 U802130005: System Failure with Enhanced \$67 Command (Fixed in PUN24)

Intermittent system failures are believed to be associated with the Enhanced \$67 command processing. However, the problem has not been reproduced at either Summa Four or the customer site.

5.4 INITIALIZATION ISSUES

5.4.1 U804150001: FRM Errors on CPA

A switch containing a CPA, 4xT1, and a DRC48 card will experience FRM179 INTERNAL PORT CARD ERRORS when a cold re-boot is performed (following the card downloads). The error points to the RLS of the CPA card.

Resolution

Before performing a cold re-boot/switch reset, remove the CPA card. When the switch has finished rebooting, and file sync has completed, reinit the CPA card.

5.5 FOUR SPAN CARDS

5.5.1 U507185123: Processing WINK Command

Note: This was erroneously listed under the following number in the V4.2 FSR00 release notes: U507201007.

When the Four Span T1 is configured as FXO-LX, the card processes a WINK command after it seizes out. The card does not support a WINK, but will accept the command without an error; there is no indication that the customer's inpulse/outpulse rule is invalid.

Resolution

Do not use a WINK in an Outpulse rule when Four Span T1 cards are configured as FXO-LX.

5.5.2 U710290005: MVDC T1 Fails to Clear Alarms

When multiple MVDC T1 cards are installed in a subrack, some cards re-download after a warm restart. The cards finally clear alarms after the download is complete. Also, there are queue overflows with data lost on RED_TX_Q, SCR_MSG_Q, CP_TX_Q, and SNMP_MSG_Q.

5.5.3 U710300006: FXSGS Configuration Does Not Process All Calls (Fixed in PUN23)

When the AM2-D bulk call generator is configured as FXOGS, and the MVDC T1 card configured as FXSGS, only 50% of the calls are processed. After the first call, the ports stay in CP_GARD, GD_NORMAL mode. The next call from the load box hangs up the port. The MVDC T1 card sees 100% completions and the load box only sees 50% completions.

5.5.4 U710300008: Aborted Download Does Not Resume After Switchover

In a redundant system, when a download is in progress and an Active to Standby switchover occurs, the MVDC download aborts on the previously Active side but does not resume on the new Active side.

5.5.5 U710310001: Display Card Data Screen Not Recording Slips

The Display Card Data screen does not record slips. The system was forced to slip by changing the AM2-D bulk call generator from internal to LINE A. Slips are recorded at the load box but the slip count does not increase on the Display Card Data screen.

5.6 MISCELLANEOUS CARD ISSUES

5.6.1 U609230005: Outgoing T1 Stuck in CP_OUTPUT

Outgoing ports on Single Span T1 cards intermittently became stuck in CP_OUTPUT after incoming seizures.

5.7 ISDN

5.7.1 U707300002: SETUPACK Message Type missing; required for Overlap Receiving/ Sending

To set the switch up for ISDN Overlap Receiving or Sending, the switch needs to be configured with ISDN Message templates containing SETUPACK and INFO tokens. The INFO token was added in V4.0 FSR02, but the SETUPACK token was inadvertently omitted.

5.8 INTERNATIONAL ISSUES

5.8.1 U803110013: Telnet Logout Locks Console (Fixed in PUN25)

Users running Generic V4.2 FSR00 PUN24 may experience a telnet or console lockup when logging out of the administrative interface via a telnet session and then logging in again via the local console or via telnet. During the lockup you will be unable to enter keys or display anything.

If you experience this problem, wait 15 minutes for the automatic console time-out to occur. Following the time-out, return to the telnet window and enter one or more keys before logging back in via the console.

Resolution:

To prevent lockout, enter one or more keys (or press the Enter key twice) at the password screen within the telnet window before terminating the telnet session.