

## TABLE OF CONTENTS

### Chapter 1 - Update Procedure

1.1	Introduction.....	1-1
1.1.1	Before You Begin .....	1-1
1.1.1.1	D/F PROMs.....	1-1
1.1.1.2	DCN Node Upgrade Sequence for Alarm Burst Handling.....	1-1
1.1.1.3	General .....	1-1
1.2	Preconditions .....	1-2
1.3	Contents of Version 14.4/0.....	1-5
1.4	Special Instructions Dependent Upon Upgrade Level.....	1-5
1.4.1	CCF/ TRIO .....	1-5
	10.0/3 or Base Version 12.0 .....	1-5
	10.0/4.....	1-6
	10.0/5 - SMR103072 in Pch. (123), or 12.0/2 - Pch. (65) .....	1-6
	10.0/6 - SMR105627 in Pch. (153), or 12.0/3 - Pch. (10).....	1-6
	12.0/3 - Patch 14R0 (0010) .....	1-6
	10.0/8 - Patch 10R0 (168), and 14.0/1 - Patch 14R0 (0028): SMR106213 .....	1-6
	14.1/1 - Patch 14R1 (0017) .....	1-7
1.4.2	Ladder Logic.....	1-7
	10.0/3 - SMR102496 in Patch (64), or Base Version 12.0.....	1-7
	10.0/5 - SMR105844 in Pch. (125), or 12.0/2 - Pch. (72) .....	1-7
	10.0/6 - SMR105924 in Pch. (125), or 12.0/2 - Pch. (72) .....	1-8
	14.2/5 - Patch 14.2 (3124) or Base Version 14.3/0 - Update 14.3-03 .....	1-8
1.4.3	Analog Output Runtime Diagnostics for Controller I/O: .....	1-8
1.4.4	Serial I/O Templets .....	1-8
	10.0/4 - SMR101615 in Patch (87), or Base Version 12.0.....	1-8
1.4.5	Device Loops .....	1-9
	10.0/5 - SMR102111 in Pch. (113), or 12.0/1 - Pch. (58) .....	1-9
1.4.6	Multiple CDPs Only .....	1-9
	10.0/4 - SMR105834 in Pch. (108), or 12.0/1 - Pch. (57) .....	1-9
	10.0/4 -in Pch. (77), or Base Ver. 12.0 - Upd. 12.0 - 70 ..	1-9
	10.0/4 - SMR104901 in Pch. (111), or 12.0/1 - Pch. (54).....	1-10
	10.0/4 - SMR200036 in Pch. (89), or Base Version 12.0 - Pch. (31).....	1-11
1.4.7	TCL/Batch .....	1-11
	10.0/8 or Patch 14R0 (0021) in Base Version 14.0.....	1-11
	14.1/1.....	1-11

## CONTENTS (continued)

1.4.8	Report Generator .....	1-12
	10.0/7 or Base Version 14.0 - Patch (0016).....	1-12
1.4.9	Configurator .....	1-12
	Base Version 14.0 - Patch (0019) .....	1-12
	14.1/1 - Patch (0044) .....	1-12
	14.2/3 - Patch 14.2 (2074), SMR108305.....	1-13
	14.2/5 - Pch 14.2 (3127) or Ver. 14.3/0 - Upd. 14.3-0381-13	
	Base Version 14.3/0 - Update 14.3-058.....	1-14
1.4.10	Console Configurator .....	1-14
	14.1/1 - Patch 14R0 (0035) .....	1-14
1.4.11	Controllers.....	1-14
	10.0/7 Patch 10.0 (166) or 14.0/1 Patch 14R0 (0027)	
	Special Instructions for SC Controller Cards ONLY .....	1-14
	10.0/8 or 14.1/1 - Patch 14R1 (0004) .....	1-15
	14.1/1 - Patch 14R1 (0062) for SMR106617 ONLY.....	1-15
	14.2/5 - Patch 14.2 (4137) or 14.3/0 - Update 14.3-052	
	New Diagnostics for SC_Controllers .....	1-16
	14.2/4 -Patch 14.2 (3109) .....	1-17
1.4.12	Consoles .....	1-17
	14.1/1 - Patch 14R1 (0017) .....	1-17
	14.1/1 - Patch 14R1 (0031) .....	1-18
	10.0/8 or 14.1/1 - Patch 14R1 (0041) SMR 109337 .....	1-18
	10.0/9 or 14.1/1 - Patch 14R1 (0064) .....	1-18
	14.2/4 - Patch 14.2 (3108) .....	1-18
	14.2/5 - Patch 14.2 (4138) or 14.3/2 - Patch 14.3 (0009)1-18	
1.4.13	Pagebuilder.....	1-18
	10.0/10 or 14.2/6 - Patch 14.2 (5224).....	1-19
1.4.14	Ethernet .....	1-20
	14.2/5 - Patch 14.2 (4144) or 14.3/2 - Patch 14.3 (0010)1-20	
1.4.15	Alarm Event Logger.....	1-20
	14.2/3 - Patch 14.2 (1045), SMR107776.....	1-20
	14.3/2 - Patch 14.3 (0015) .....	1-20
1.4.16	PLC .....	1-21
	10.0/2 - Patch 10R0(025) .....	1-21
	12.0/2 - Patch 12R0 (066) .....	1-23
	10.0/6 or 12.0/3 .....	1-23
	14.2/6 - Patch 14.2 (5200) or 14.3/2 - Patch 14.3 (1060)1-24	
	14.2/6 - Patch 14.2 (5217) .....	1-24
1.4.17	SCSI Technology .....	1-24

## CONTENTS (continued)

	10.0/9 or 14.2/3 .....	1-24
	14.2/6.....	1-25
1.4.18	Special Instructions for Version 14.4/0.....	1-25
1.4.18.1	Console.....	1-25
	Update 14.4-017.....	1-25
1.4.18.2	Configurator .....	1-25
	Update 14.4-028.....	1-25
1.4.18.3	Alarm/ Event.....	1-26
	Update 14.4-029.....	1-26
1.5	Installation Instructions.....	1-26
1.5.1	DCN Node Upgrade Sequence for Alarm Burst Handling.....	1-26
1.5.2	Booting Base System .....	1-26
1.5.3	Preparing the System Disk.....	1-27
1.5.3.1	Preparing an Empty System Disk or a Disk at Version 9 or Below Software .....	1-27
1.5.3.2	Preparing a System Disk Already at Version 10 or Above Software .....	1-27
1.5.4	Loading Software to the System Disk .....	1-27
1.5.5	Checksum Verification.....	1-28
1.5.6	Creating Boot Files .....	1-29
1.5.7	Special Instructions for Non - English Systems .....	1-30
1.5.8	Installing Default Data Base for Nodes Other Than 0100.....	1-30
1.5.9	Running Conversion Tasks .....	1-31
1.5.9.1	Memory Pool Utility .....	1-31
1.5.9.2	Configurator .....	1-32
1.5.9.3	Page Builder/ Console Configurator .....	1-34
1.5.9.4	Report Generator.....	1-35
1.5.9.5	Programmable Logic Controllers.....	1-35
1.6	Final Disk Configuration and Software Loading for Systems Upgraded from Version 9 and EARLIER Software or an Empty Disk.....	1-36
1.7	Final Disk Configuration and Software Loading for Systems Upgraded from Version 10.0 and ABOVE.....	1-36
1.7.1	Software Loading.....	1-37
	Controllers.....	1-37
1.8	Special Instructions for Controller Subsystems.....	1-38
1.8.1	Loading Software into SC Controllers if 10.0/3 or Base 12.0 was not Previously Installed .....	1-38
1.8.2	Loading 14.4/0 Software into Model A/B and SC Controllers.....	1-40
1.8.2.1	On-line Upgrade of Controllers Using Existing PROMs.....	1-40

## CONTENTS (continued)

1.8.2.2	Loading Revision Software onto Systems that Need Backup Memory PROMs and/or Model A or B Ctlr. PROMs ....	1-40
1.9	Multifunction Console/History Nodes .....	1-42
1.10	Multiple CDP's and Remote Data Processors.....	1-42
1.11	Tape Creation .....	1-42
1.11.1	Option 1 - Making a Tape of 14.4/0 System Software Only.....	1-43
1.11.2	Option 2 - Making a Full System File Backup Tape.....	1-45
	Checksum Verification .....	1-45

### Chapter 2 - Interfaces and I/O Release Notes

2.1	ABB PC Release Notes.....	2-1
2.1.1	PC Interface.....	2-1
2.1.2	PC Templet Generator.....	2-1
2.1.3	PC Data Analysis .....	2-1
2.2	ABB MOD 300™ Plant Network Gateway.....	2-1
2.3	VAX Interface .....	2-1
2.4	Accuray Notes.....	2-2
2.4.1	1180M and 1190 DIU Accuray Interface Procedures .....	2-3
2.4.2	Accuray Procedures When Upgrading from Version 8.....	2-3
2.4.3	Accuray Notes from Revision 14.2/3.....	2-4
2.5	Smart Platform Interface Notes.....	2-4
2.6	MOD 30 Instrument Interface.....	2-4
2.7	Smart I/O Interface.....	2-5

### Chapter 3 - Remote Data Processors

3.1	Introduction .....	3-1
3.2	Application Packages .....	3-1
3.3	Creating or Upgrading a Remote Data Processor .....	3-1
3.4	Configuration Considerations .....	3-1

### Chapter 4 - Version 14.4/0 File Listing

4.1	Version 14.4/0 File Listing.....	4-1
4.2	File Listing for 14.4/0 .....	4-1
4.3	Remaining Files from Version 14.3/0 .....	4-8

### Chapter 5 - Prom Checksums

### Chapter 6 - MOD 300™ Version 14.4/0 Fixes

6.1	Description of Updates Included in 14.4/0 .....	6-1
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## **CONTENTS (continued)**

**Chapter 7 - Boot Files**

**Chapter 8 - COMPUTER INTERFACE/ MOD300 COMPATIBILITY**



## Chapter 1 Update Procedure

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### 1.1 Introduction

#### 1.1.1 Before You Begin

##### 1.1.1.1 D/F PROMs

New D/F PROMs are required for SC Controller applications before upgrading to Revision 14.4/0. The D/F PROMs are also recommended for Model B Controller D/F boards, especially for systems with high communication loads. D/F PROM Kits 155S1026 are available from the Columbus factory.

##### 1.1.1.2 DCN Node Upgrade Sequence for Alarm Burst Handling

This software update provides a new Alarm/Event handling capability that required a change to existing Alarm/Event messages formats (as they exist on the MOD system). For this reason, if a site is upgrading to this software 'on-line', it is **IMPORTANT** to upgrade the nodes on the DCN in a certain sequence. If the upgrade is not done in this sequence, Process Alarms may be **MISSED** by Mod Consoles, CDP's, Advant Operator Stations, Advant Engineering Stations, and Advant IMS nodes during the time of upgrade.

The correct node upgrade sequence **MUST** be as follows:

1. Upgrade and restart **ALL** nodes that can be the **RECEIVERS** of Alarm/Event Messages first. This means all Mod Consoles, CDP's, and Advant OS, ES, and IMS nodes.
2. Upgrade and restart any Multibus nodes which have both Console and CCF functionality. This would include Turbo nodes functioning as Bulk I/O or PLC Gateways. This represents a special class of node which is both a receiver and a sender.
3. Upgrade **ALL** nodes that can be the **ORIGINATORS** of Alarm/Event Messages last. This means Model A/B, SC, and Advant Controllers. On-line upgrade capability can be used to upgrade Controller software.

##### 1.1.1.3 General

This document describes the procedure to Upgrade the MOD 300™ System Software from Version 8 and higher to Version 14.4/0. Version 14.4/0 contains the *entire* system software, which can be loaded onto an existing system or an empty Disk.

Upgrading to 14.4/0 requires a 14.4/0 utility diskette, and a streaming tape cartridge or Dat tape. Version 14.4/0 contains the following updates: Update 14.4- 003 through 005, 009 through 017, 020 through 024, 027 through 029, 031, 032, 034, 035, 039, 041, 045, 046, 047, 050, and Patches 14.4 (0004), (0010), (0014), and (0023). Updates or Patches not listed are Advant® only updates, and are not applicable to MOD300 nodes.

If any other patches after Patch 14.4 (0004), (0010), (0014) or (0023) have been previously installed on a system, these patches may be *overwritten* by 14.4/0, and will have to be reloaded after 14.4/0.

In order for MOD 300™ Software Version 14.4/0 to be compatible with an Advant® Operator Station running Batch 300 software, the OS must be at AdvaCommand™ Basic Functions Version 1.6. If using an Engineering Station on the same ring, it must be at AdvaBuild™ Basic Functions Version 2.7.

## 1.2 Preconditions

### WARNING

**For upgrading from any version**, determine if any items in the following sections affect your system *before performing the upgrade*:

Section 1.2 Preconditions

Section 1.4 Special Instructions Dependent Upon Upgrade Level

Section 1.6 through Section 1.10

Chapter 2 Interfaces and I/O Release Notes

### WARNING

The Software Installation Procedure must be performed to *each* CDP (Configurator Data Processor) Node and Remote Data Processor separately, one domain at a time.

**Note:** A Batch Node is a remote Data Processor!

### WARNING

The following suggestions will help reduce the risk involved in the upgrade, and are intended to minimize P-Bus and F-Bus load on the controllers while the new software is being loaded.

- Keep the amount of TCL sequence activity as small as possible. Do not attempt sequence or recipe downloads and try to avoid activating and aborting sequences.
- Avoid doing segment loads and removes in TLL.
- When using CCF, do not attempt downloads during the upgrade.
- If using TRIO, terminate LAN redundancy during failover and switchbacks if possible.

When it is an option, take the system off-line before performing the update. This will help to minimize the chance for problems that could arise during the procedure.

If the entire system cannot be rebooted after installing the software, special loading and rebooting instructions in Section 1.7 Final Disk Configuration and Software Loading for Systems Upgraded from Version 10.0 and ABOVE, and Section 1.8 Special Instructions for Controller Subsystems must be followed carefully.

### WARNING

Before upgrading, determine if any of the following points affect your system and take the described action. Most of the items depend upon what version you are upgrading.

- If the upgrade is to be done to a configured system, make backup copies of the data base,

environments, TCL programs and other user defined files.

- The minimum memory requirement for any multifunction turbo node is 8 Meg.
- When doing any upgrade, software changes result in internal timing differences, which may cause problems in applications such as TCL.
- If your system is at a version *prior to version 10*, all nodes in the system must be rebooted during the upgrade procedure. If your system is at *version 10 or higher*, you can choose to either reboot the controllers, or upgrade the controllers software on-line, as described in Section 1.8 Special Instructions for Controller Subsystems. You will have to reboot the multibus subsystems.
- It is not necessary to do a Database Compile from the top when going from 10.0 and above to 14.4/0. If a top down compile is ever done in the data base configurator, use the default COMPILE WITH SAVING LREFS (this option is under the "SERVICE" SOFTKEY). If a COMPILE WITHOUT SAVING LREFS is done and there are multiple CDPs, the System ID will change and the other databases will be rendered incompatible. The databases will then have to be recompiled, exported, installed, and rebooted.
- Computer Interface (i.e. CIGATE.PK running on a Turbo or Gateway node) requires the use of the following Host versions or higher:
  - VAX/VMS Host Catalog 6053SC14106B Software
  - VAX Open VMS Ethernet Interface for DEC C Host Catalog 6073SG14101A Software
  - Alpha Host Catalog 6071SG14102B Software
  - IBM PC Host Catalog 6059SE14120B Software
  - IBM PC Data Analysis Host Catalog 6065SE14102B Software
  - IBM PC Templet Generator Host Catalog 6072SE14105B Software

If these Host versions are not General Released to Columbus Manufacturing, they are available as Beta Software from the Technical Services Group.

- The latest released PROMs are listed in Chapter 5 Prom Checksums.  
**New D/F PROMs are required** for SC Controller applications.  
D/M PROMs were new in July, 1997. 512K version of D/M PROMs are needed for new model boards only.  
New Model A and B Controller PROMs were recommended, but not required in Version 14.3/0 - Update 14.3-023, or Revision 14.2/4 - Patch 14.2 (3109).  
Multibus PROMs were new in September, 1995.  
Serial I/O PROMs were new in May, 1994, and were required for Version 8.2.R2 and above.

If upgrading from Version 8, all Multibus, D/F, and Controller type PROMs are required before doing this software upgrade. D/D Proms are not used in Version 10.0 and above.

Kits to fix Redundancy problems included: Backup Memory Controller Proms or SC Backup Memory Controller Proms, plus the associated patch set. The kits were general released in the following versions as follows:

Revision	Backup Memory Kit	SC Backup Memory Kit
12.0/3	164S233	164S236
10.0/6	164S232	164S235

8.2.R4 Patch Set #4

164S231

164S234

If one of these kits *was not loaded*, then Backup Memory Proms or SC Backup Memory Proms are required for the upgrade to 14.4/0, in addition to special instructions for controllers if an on-line upgrade is needed - version 10.0 and above only.

- If your system is not at Version 14.1/1 or above, TRIO users should be aware of Warmstart Functionality introduced in Patch 14R1 (0017) for Turbo and SC Controllers. Some reconfiguration may be desirable before loading 14.4/0. See Section 1.4.1 CCF/ TRIO.
- If your system is not at Revision 10.0/4 or above, or 12.0 or above, there are two instances where an on-line controller upgrade cannot be performed: Refer to special instructions in Section 1.4.1 CCF/ TRIO - Step 2 and Section 1.4.6 Multiple CDPs Only - Step 4.
- If your system is not at Revision 12.0/2 or above - Patch 12R0 (85), on control target selection, the cursor will no longer move to the softkeys unless the operator specifically moves the cursor.
- If your system is not at Base Version 12.0 or above:  
Any device that goes into a state not defined in the Device Descriptor Templet will generate an illegal state alarm. The proper states should be added to the Device Descriptor Templet before compiling the data base.

Two special options were added to the Alarm environments that change the following:

The color of the unacknowledged alarm text changes to that of the acknowledged color. The default for this option is 'NO' and doesn't change the current functionality for the alarm colors.

Also, the global acknowledge changes to acknowledge only alarms in environments with the same name. The default for the special option is 'NO' and doesn't change the current functionality of the global acknowledge. If a customer wants these options, they have to be set to 'yes' in the Special Options Page for each environment.

- If your system is not at Revision 10.0/3 or above, refer to Section 1.4.16 PLC, before upgrading System to Version 14.3, because some pre-configuration of PLC Commands may be required.
- If your system is not at Revision 10.0/2 or above, the Automatic Environment Download Feature must be disabled before upgrading software, or a Bus error may occur when rebooting. This is accomplished by clearing the "Default Environment Field" for all Console and Generic\_DPSS templets.
- Version 10 and above Software is compatible with GENI Model 3180 and above Printers with the following exception: If you include graphics as part of reports, then Version 10 and above software is only compatible with Model 3300 printers and above. (GENI Model 3180 will no longer function).
- Upgrading software to 8.2 or above automatically changes 8.1 Ladder Logic Templets from Catalog [0.PLC] to [1.PLC]. If future Ladder Logic templets are created on an 8.1-320 or earlier systems and transferred to 14.3, Ladder Logic devices will not be accessible to the user, unless LIB\_DIR.\* files are copied to catalog [1.PLC].

Any problems or questions with this installation should be directed to Technical Services Group via SUPPORTLINE: in the U.S. - 1-800-HELP-365; World-Wide - 1-614-224-5888.

## 1.3 Contents of Version 14.4/0

Part Number	Application	Description	Quantity
166S286-1F3 <b>or</b> 166S286-1F5	SCSI  Traditional	Ver. 14.4/0 Utility Patch Diskette 3 1/2”  Ver. 14.4/0 Utility Patch Diskette 5 1/4”	1  1
166S286-1DT <b>or</b> 166S286-1ST	SCSI  Traditional	Ver. 14.4/0 DDS Tape  Ver. 14.4/0 Streaming Tape	1  1
3BUR 001 292D0001 Rev AAll		Version 14.4/0 Release Notes	1

## 1.4 Special Instructions Dependent Upon Upgrade Level

### NOTE

Since systems at **Version 9 and earlier** will require a complete database compile, install, and reboot, these systems will *not* require any individual loop or node compiles, installs, or reboots outlined below in some of the steps.

- **Systems at Version 10.0 and later may require individual loop or node compiles, installs, and reboots outlined below, depending upon the software version of the system being upgraded.**
- If any Controllers cannot be rebooted below, they will be done so later in Section 1.7 Final Disk Configuration and Software Loading for Systems Upgraded from Version 10.0 and ABOVE, and Section 1.8 Special Instructions for Controller Subsystems.

### 1.4.1 CCF/ TRIO

Special Instructions if the System was *NOT* at the Following Level or Above:

#### 10.0/3 or Base Version 12.0

1. TRIO Users should be aware that the fix for SMR103383 caused the following change during a start up:  
  
During the time between the geni master connecting to the field bus and CCF initiating processing, 0 is output to all blocks. Before the fix, in some cases an unknown value was output before CCF began processing.
2. SMR103068 fixed the problem of a few TRIO blocks which INIT FAIL on LANs with 22 - 30 blocks. This problem was fixed in the GENI proms version 1.7 and greater.

#### 10.0/4

For SMR200106 in Patch (103), or Base Version 12.0, a compile, install, and download is required (for this fix to take place) of only nodes containing 8CCT I/O TRIO Blocks (6224B) on lans other than 1. Thus an on-line controller upgrade (Section 1.8 Special Instructions for Controller Subsystems) of these nodes *cannot be performed*, resulting in no diagnostics for these nodes, and no access to remote block I/O page.

#### 10.0/5 - SMR103072 in Patch (123), or 12.0/2 - Patch (65)

**RTD TRIO Block Templets:** If there are RTD templets where the Chan 4 Resistance default value was used, templets saved using the old source defaults should be replaced by using the following procedure:

For each node containing RTD TRIO blocks and the default value was used for Chan 4 Resistance, Decompile the node, then compile, install, and reboot.

- TRIO Isolated Blocks, 10.0/4 - SMR102757 in Patch (95), or Base Version 12.0 - Patch (29). The fix will not become effective until the ISOLATED block either logs in or its config is saved.

If the system allows, reboot the controller, then go to the Remote I/O Config Display and save config on the controller (no changes need to be made to the configuration).

#### 10.0/6 - SMR105627 in Patch (153), or 12.0/3 - Patch (0010)

Loops using Analog Input FCMs configured for TRIO thermocouple or RTD blocks need to reconfigure the counts bounds due to the changes made for SMR 105627. With this fix, when using TRIO thermocouple or RTD blocks, analog input FCMs will perform limit checking. Note that the data quality is set to 'bad' when the input is beyond the configured counts bounds + deadband, regardless of the limit checking field. this affects previously configured FCMs which get their input from TRIO thermocouple or RTD blocks.

#### 12.0/3 - Patch 14R0 (0010)

1. SMR101727: If no backmem is available after a new loop is down loaded, CCF issues a non fatal diagnostic stating that memory for alarm loop table could not be allocated. the controller will not fail over, but transient alarm conditions can not be reported. A transient alarm condition occurs only if an alarm can not be routed because the alarm queue is temporarily full. Normal alarm conditions continue to be handled and are unaffected by this change.
2. SMR103997 - fix for SMR104002 - abnormal change of state alarms no longer will be inhibited by a transition timer (TIMER\_1) of zero.

#### 10.0/8 - Patch 10R0 (168), and 14.0/1 - Patch 14R0 (0028): SMR106213

Eliminate TRIO periodic bus check; thus periodic lan checks must now be done manually.

### 14.1/1 - Patch 14R1 (0017)

#### WARNING

TRIO users should be aware of new Warmstart Functionality introduced for Turbo and SC Controller nodes, which is specified in document FS\_253000\_1 and in updated CCF and TRIO documentation. See IB-28B130 Issue 2, and IB-28A150 Issue 2 for details. Some reconfiguration may be desirable before loading the patch set.

1. Device Loops with Inputs:

The following is a special case where warmstart action will be overridden:

- a. If a node is booted up and the `init_flg` is set, and
- b. the device loop's `init_cmd` is "no command" and
- c. there is no `new_cmnd` (`new_cmnd` = "no") and
- d. there are inputs to the device

then the `dev_cmnd` is adjusted to command the device to assume the existing field state, and the warmstart action is defeated. The tag is then not displayed in inverse video on the TRIO block I/O display. This previously existing functionality was left in so as to not bump outputs.

If there are no inputs to the device, the `dev_cmnd` is set to the `init_cmd` (= "no command"), which satisfies the warmstart spec, and warmstart action is observed.

2. Effect on TRIO Redundancy following node bootup:

During node bootup (not SC controller failover), for a redundant TRIO Lan, the system initially forces all blocks to the "A" bus. To enable warmstart functionality, blocks are denied outputs from the system until after the current outputs have been read from the blocks. It has been discovered that unforcing the blocks (enabling TRIO redundancy) before sending outputs to the blocks causes the blocks to switch busses. To prevent this, the blocks will remain forced to the "A" bus for the first minute after the node has become operational, to guarantee that outputs have been sent. To repeat, TRIO redundancy is not available during the first minute of node operation.

## 1.4.2 Ladder Logic

Special Instructions if the System was *NOT* at the Following Level or Above:

### 10.0/3 - SMR102496 in Patch (64), or Base Version 12.0

Ladder Logic segments which contain message statements need to be saved (recompiled), and downloaded.

### 10.0/5 - SMR105844 in Patch (125), or 12.0/2 - Patch (72)

The new version of the compiler which does not compile a rung that takes up more than 20 lines. If Ladder Logic Segments currently contain rungs with more than 20 lines, these rungs

will need to be modified to comply with this restriction. Prior to this revision, the compiler would produce invalid code, hang, or bus error (if any rung consisted of more than 20 lines). Therefore, if any segment contains a rung with more than 20 lines, this segment must be modified and saved (recompiled).

#### **10.0/6 - SMR105924 in Patch (125), or 12.0/2 - Patch (72)**

Changes the “LADDER LOGIC SCAN OVERFLOW” diagnostic to a debug diagnostic. The diagnostic will only be seen if diagnostics are in the debug mode. To enter debug mode from the diagnostics display:

Enter **DEBUG** for the DEVICE / SUBDEV field.

At the lower right hand corner of the diagnostics display a DEBUG MODE field will appear. Use the NEXT FIELD key to select this field.

Enter **ON** in this field and press **ENTER**.

The diagnostic has also been modified to inform the user of the number of scan overflows that have occurred.

#### **14.2/5 - Patch 14.2 (3124) or Base Version 14.3/0 - Update 14.3-03**

This fix will send TLL load error messages to a TCL unit display on either a console or an OS node. If the user would like to send these messages to a specific unit they should define a new TLL\_MESSAGE using a msg\_no of 0 (zero). This new message should be added to the end of a currently defined TLL\_MESSAGE templet or can be added to a new templet. This addition can be incrementally added to the database.

### **1.4.3 Analog Output Runtime Diagnostics for Controller I/O:**

Implemented in 10.0/4: The diagnostic descriptions for an analog output channel needed to contain more data. When a block fails to pass either calibration or resolution checks, the diagnostics now contain both the expected output value and the actual output value (the wrap value). Also, better descriptions of the diagnostics under “text” and “operator” now appear. These diagnostics describe when a channel is out of calibration, has been correctly recalibrated, and when a channel fails to determine a circuit is open (i.e., a channel fails a wrap value test).

### **1.4.4 Serial I/O Templets**

Special Instructions if the System was *NOT* at the Following Level or Above:

#### **10.0/4 - SMR101615 in Patch (87), or Base Version 12.0**

The serial port setup compiler operation was modified to eliminate the check of data bits, stop bits, and parity bits for controller (type B and SC) serial ports, but disallowed 1.5 stop bits. This will have no effect on existing configurations and will provide a wider range of serial port configurations.

On multibus serial ports, the check of data bits, stop bit, and parity bits should be changed to the following:

number of data bits + number of stop bits + number of parity bits <= 10

Except for the case of 1.5 stop bits, the test will remain the same. (1.5 stop bits is only allowed for word length of 5 data bits). This will have no effect on existing configurations and allow some valid configurations which are currently invalid.

Controllers that require 8 bits, no parity, and two stop bits will need to have their serial port templet reconfigured. Upon recompiling, installing, and rebooting the node, the 8, none, 2 configuration will be implemented.

## 1.4.5 Device Loops

Special Instructions if the System was *NOT* at the Following Level or Above:

### **10.0/5 - SMR102111 in Patch (113), or 12.0/1 - Patch (58)**

When using contact outputs with direct I/O, there will be no outputs occurring when channel 0 is selected. There will still be momentary outputs IF they are configured. Attempts to use channel 0 as a valid output channel will result in no contact outputs going out.

## 1.4.6 Multiple CDPs Only

Special Instructions if the System was *NOT* at the Following Level or Above:

### **10.0/4 - SMR105834 in Patch (108), or 12.0/1 - Patch (57)**

It is important that 14.4/0 software be loaded to all CDP nodes prior to connecting the CDPs together on line.

### **10.0/4 -in Patch (77), or Base Version 12.0 - Update 12.0 - 70**

Implementation of SMR103440 on a Running System:

It is important to determine if this is a problem in a given Multiple CDP system. To do so, a qualified individual should examine the EXDEV RTE.x file in the database catalog of the installed DB, [50.DB#]. In the event that only a handful of templets of the above types have been deleted since the database was first compiled, the records in the EXDEV RTE.x file that reference deleted templets can be deleted individually from a maintenance terminal using BUGS. This procedure can also be used to correct problems as they arise.

For instance:

The system started with two CDPs, 0100 and 0200: A REPORT templet was created on CDP 0100 and used on CDP 0100. At a later date, a third CDP was introduced and all the report functions were routed to that cdp

REPORT was deleted from cdp 0100 and added to cdp 0300. After exporting from CDP 0300 to all others, the REPORT references on CDP 0200 were incorrectly resolved to the reference of REPORT on 100

(Given two references of the same name, the first is kept and subsequent are discarded)

To solve this problem, the REPORT key from the [50.DB#]EXDEV RTE.x in CDP 0100 should be deleted and export all should be requeued from CDP 0100. Once the export is complete, reinstalling the node(s) that were resolving REPORT from CDP 0100 will now get the reference from CDP 0300. Implementation of this patch in this manner will limit the number of node(s) to be reinstalled, and rebooted, to only those, in this case, that reference REPORT.

For systems that allow rebooting of all nodes, 100% implementation of this patch can be realized in one of two ways:

1. If Saving Lrefs are not necessary, set the Save DB references option to NO on the service page in the configurator and recompile the database. This must be done for All CDPs at the same time. Recompiling with SAVE DB REFS set to NO will bump the database serial number on each CDP, thus changing the System ID of each CDP. Once the compile operations are complete, each CDP database must reexport to all other CDPs.(run EXPORT ALL from each CDP) After each CDP has received all its imports, each CDP must be reinstalled from the top and the entire system rebooted. All environments will have to be recompiled due to the changes in SYSTEMID numbers.
2. If it is preferred to save lrefs, Save DB References set to YES, to prevent recompiling environments, the following procedure can be run to update the EXDEV RTE.x file. This can be done on one CDP at a time.
  - a. Go to the Database directory, FMS [50.DB#]
  - b. DEL [50.DB#]EXDEV RTE.\*
  - c. Recompile the database
  - d. Export to all other CDPs

The next install will have to be a top down install. The first database install should occur after the all imports are received from ALL other CDPs on the ring. This procedure should preserve all systemid numbers.

#### **10.0/4 - SMR104901 in Patch (111), or 12.0/1 - Patch (54)**

When connecting a new ring to a ring with 2 CDP's, two tasks COMMONUP.DP and SYSIDUPD.DP hang waiting on the same DBMS request, using a common mailbox 257. Must use different mailboxes.

If the user experiences a problem with System Status page with nodes being in the unknown state, refer to the following

A problem unrelated to this problem but related to the issue of connecting two previously unconnected rings together is that the SYSTEMSTATE records are not updated by SSE properly after connecting the two rings. This occurs because SSE checks for changes in the node population table, and when this occurs, updates the SYSTEMSTATE relation with new information. However, at this point in time, the new SYSTEMSTATE records have not been downloaded. In the case of connecting two rings, each CDP must exchange common database information, store it in files, and then create the new SYSTEMSTATE records in each node of its domain. By the time this occurs, changes in the node population tables have stopped and SSE will not update the new SYSTEMSTATE records. The suggested work around is to temporarily remove a node from the DCN, or reboot a node.

#### 10.0/4 - SMR200036 in Patch (89), or Base Version 12.0 - Patch (31)

A compile, install, and download is required (for this fix to take place) of only nodes containing Unit master templets with the Report i.d. items filled in. Thus an on-line controller upgrade (Section 1.8 Special Instructions for Controller Subsystems) of these nodes *cannot be performed*, which results in TCL entering an abnormal state after attempting to send information to the remote report.

### 1.4.7 TCL/Batch

Special Instructions if the System was *NOT* at the Following Level or Above:

#### 10.0/8 or Patch 14R0 (0021) in Base Version 14.0

TCL in controllers will not initialize unless it is able to do a one-time additional allocation of 74 bytes of BACKMEM. This includes warmstart after the first switchover to the new version.

#### 14.1/1

1. During a software upgrade, if a Unit is being booked and the CDP has been upgraded to 14.4/0, while the SC\_Controller is still at 14.1, Batch I. D. on the *Unit Detail* and *Unit Overview* pages will not be displayed, nor will Batch I. D be available for Reports. Upgrade the SC\_Controllers to 14.4/0 before re-activating the Batch Manager.

#### NOTE

Before upgrading to this version, if there are any Batch 300 units that are in a partially loaded condition due to phase loading errors, etc. they should be unloaded due to sequence handling changes. Any normally loaded units that may be running are fully compatible.

#### NOTE

Enhanced capabilities have been added to Batch 300 as noted in this document. Please review *before updating your system* with 14.1/1 or later. Depending on your use of the system, the SP88 name change may require that you do the following:

If you have recipes that have been created by using source, they need to be edited. At the first line of the recipe, MASTER\_RECIPe must be changed to SITE\_RECIPe. Recipes currently compiled and operating will still function. The compiler will not allow a recipe to be compiled if this change is not made. This can be accomplished by simply editing the recipes, or by removing source and decompiling. If all recipe work has been done in the direct mode, no application changes will be required with regard to this name change.

Any reports that referenced the Job's recipe name (now the Master Recipe) such as the Job Report, will now reference the new variable id MASTER\_RECIP instead of CTRL\_RECIPe. Batch data previously stored will not be converted. Existing reports should be saved (those that referenced the CTRL\_RECIPe) if you plan to produce reports using batch files created before the upgrade.

2. Enhancements

The version 14.1/1 release includes enhancements to the Batch 300 application package:

FS-248401: As an enhancement to Batch 300 the new feature will allow the user to define processing for a unit which may be used intermittently throughout the batch. The user will be able to define a point on the grid where phase processing should be interrupted. The unit can be unbooked so that other batches may use the unit. At some later time the unit can be rebooked and grid execution continue.

FS-248402:

- a. SP88 names: The naming convention of the recipe hierarchy has been changed to reflect the current draft of SP88. The previous names of Master, Control, and Working have been changed to Site, Master and Control.
- b. Batch Manager Pause: The ability to pause the batch manager has been implemented. This will enable the normal backup utility to be used on the batch node; on reboot of the batch node, the batch manager will come up PAUSED. This will allow the user to simply ACTIVATE the batch manager to continue processing jobs. It will no longer be required to change the state of each job on the Production Schedule.
- c. \_TCLACCESS: This TCL extension will allow the users of TCL to perform Batch 300 functions that are currently available through the CI interface.

## 1.4.8 Report Generator

Special Instructions if the System was *NOT* at the Following Level or Above:

### 10.07 or Base Version 14.0 - Patch (0016)

A new message has been added to the report builder. When a user enters a report that is being built by another user, the message "ANOTHER USER IS EDITING THIS REPORT" will appear. The changes that the other user has made, since his last save, will not be included in the new users version of the report, unless the journal file is included. When either user saves, his version of the report is the one that will be saved. All modifications by the other user will be lost. Also the other user will get an error when trying to save his copy of the report.

## 1.4.9 Configurator

Special Instructions if the System was *NOT* at the Following Level or Above:

### Base Version 14.0 - Patch (0019)

Incremental download now creates a report file. View the report file via the Sys\_Doc page.

### 14.1/1 - Patch (0044)

#### WARNING

It is important *not* to view any CCF templets until the 14.1/1 conversion program has been run in Section 1.5.9 Running Conversion Tasks. If CCF templets are displayed *before* the 14.1/1 conversion program has been run, the result will be unpredictable program crashes.

### 14.2/3 - Patch 14.2 (2074), SMR108305

Even though a DPL file has changed, users may need to reboot the Configurator DP, Engineering Station, or Operator Station/Engineering Station in order to make this change effective. This overlay is only released and re-loaded if the task is inactive for over one minute - something which does not happen if there is a node requesting a boot but not installed anywhere.

### 14.2/5 - Patch 14.2 (3127) or Base Version 14.3/0 - Update 14.3-038

New diagnostics for duplicate Device Descriptor and Unit Relative Name Relation were created and are shown below:

#### DEVICE DESCRIPTOR

Definition:

AP code (hex): 0724

Symbol: CF + CF\_DUP\_DEV\_DESC

Text: DUP DEVICE\_DESC IN COMMON DB: CDPS %04x %04x

Usage information:

Module name: CFBCDEVDSCTask id: CFINSTAL  
COMMONDB

Fixed code (hex): 0000

Type (F/E/W/S): W

Operator Flag? NO

Debug flag? NO

AP code 1 meaning: CDP device address

AP code 2 meaning: CDP device address

Cause: Probably device defined on two different CDP's with the same device address.

Effect: Unpredictable - one duplicate will be eliminated.

User action: Eliminate all but one of the duplicate devices.

#### UREL\_NAMES

Definition:

AP code (hex): 0723

Symbol: CF + CF\_DUP\_UREL\_NAMES

Text: DUP U\_REL\_NAMES IN COMMON DB

Usage information:

Module name: CFBACKDUPTask id: CFINSTAL

## COMMONDB

Fixed code (hex): 0000

Type (F/E/W/S): W

Operator Flag? NO

Debug flag? NO

AP code 1 meaning: NONE

AP code 2 meaning: NONE

Cause: Probably device defined on two different CDP's with the same unit relative device name.

Effect: Unpredictable - one duplicate will be eliminated. User action: Eliminate all but one of the duplicate devices.

### Base Version 14.3/0 - Update 14.3-058

This software marks CC\_CHANP records as unused in the run-time database.

## 1.4.10 Console Configurator

Special Instructions if the System was *NOT* at the Following Level or Above:

### 14.1/1 - Patch 14R0 (0035)

Releases the Multiple Alarm Group/AO enhancements *for Analogs only* into 14.1/1. These enhancements are *SINGLE- USER* only. Also, during MAG/AO configuration, tags for either type of group must be defined before cutout sources, attributes, or composite statuses are input.

After node bootup, the initial use of MAG/AO may cause a red diagnostic to occur - "STATIC RAM SECTION 07 HAS BEEN MODIFIED". This diagnostic should be disregarded.

Refer to 3BUR000237R0001 (IB-28B120), Section 2.13 for detailed information of MAG/AO enhancement.

## 1.4.11 Controllers

Special Instructions if the System was *NOT* at the Following Level or Above:

### 10.0/7 Patch 10.0 (166) or 14.0/1 Patch 14R0 (0027)

#### Special Instructions for SC Controller Cards ONLY

1. The new modules in DGSCCT.X actively "search" for **Parity Errors** in memory. This means that any parity error that occurs in memory will be detected within a short time, rather than remaining hidden until the memory location is accessed by the running of the system. A Controller card experiencing a parity error will rely on redundancy to fail it over and should be replaced when the parity error occurs.  
(See step "2" on how to determine a card has experienced a parity error).

2. The SC Controller Card will indicate a parity error by continually displaying a message:  
PARITY ERROR !!! PARITY LATCH = x MODE = y.  
For more detailed information, refer to Field Notices FN08\_132 and FN08\_143/Re-Issued.
3. The terminal should be powered on and set to the correct baud rate (4800 baud) before connecting it to the failed controller.

**10.0/8 or 14.1/1 - Patch 14R1 (0004)**

If a single controller (model A, B or SC) in a controller subsystem satisfies one of the conditions in the table below, then the card has a faulty relay and should be replaced. If the card is not replaced, no communications will occur with this card.

Controller Type	State	Halt/Run	FBUS	State of Local CS
Primary Redundant	Active -> Down	Red/Off	Yellow	-
Backup Controller	Active -> Down	Red/Off	Yellow	-
Primary Nonredun.	Active -> Down	Off/Green	Yellow	A local CS task is not running. (i.e. bus error) DMA FBUS XMT Active Flag is set.
Controller Type	State of D/F	State of FBUS	Reset Lock	FBUS Fade Ctr.
Primary Redundant	-	-	-	-
Backup Controller	-	-	-	-
Primary Nonredun.	Active	O.K.	True	0

NOTE“-” means don't care.

**14.1/1 - Patch 14R1 (0062) for SMR106617 ONLY**

**WARNING: Removing BOTH D/F's and/or BOTH f-bus relay cards WILL CAUSE CONTROLLERS TO FAILOVER.**

If a non-redundant primary controller has lost communications, check the yellow f-bus LED and green run LED. If the run LED is on and the f-bus LED is off, then the card cannot communicate on the f-bus. To help determine the fault pull the active f-bus relay card. This will cause a f-bus reset and a switch to the other bus. If the f-bus LED is now on, there is a fault in the relay card and it should be replaced. If it does not turn on, then the fault is probably on the CPU card and it should be replaced. If the replacement card does not go on the f-bus then both relay cards should be checked.

If a redundant primary controller has lost communications, it will try to failover to a backup. The BUM will send a diagnostic “CONTROLLER XXXX FAILOVER BY REQUEST” APCODE=06D6. If there are no other diagnostics that states the reason for the failover then perform the following tests. Reset the failed card. After the run LED has been turned on, note

the state of the f-bus LED and pull the active f-bus relay card. If the f-bus LED was not turned on in either case then the CPU board is at fault and should be replaced. If the f-bus LED was on for one of the relay cards but not the other, then the relay card that did not allow the CPU to be on the f-bus is at fault and should be replaced. If the f-bus LED was on for both of the f-buses then the problem may be intermittent and should be noted if further problems occur.

If a backup or replacement controller has lost communications, the card will fail. If it is suspected that it might be a similar problem as stated above, run the test as if it was a redundant primary controller.

#### **14.2/5 - Patch 14.2 (4137) or 14.3/0 - Update 14.3-052 New Diagnostics for SC\_Controllers**

Definition:

AP code (hex): 1374

Symbol: SE + SE\_PTY\_FAILOVER

Text: SYSTEM REQUEST TO FAIL OVER CONTROLLER

Usage information: [8-char name as entered in diagnostic message]

Module name: SEMSGENT Task id: SEMSGENT

Fixed code (hex): 0000 [0000 = NO\_FIXED\_ERROR]

Type (F/E/W/S): W [DG\_FAILURE/ERROR/WARNING/SUCCESS]

Operator flag? Yes [DG\_OPER or not]

Debug flag? No [DG\_DEBUG or not - see dgglobal.h]

AP code 1 meaning: none

AP code 2 meaning: none

Cause: [what happened in system to cause it]

The diagnostic system has found an error in the system that would require a failover to correct.

Effect: [what happens in system because of it]

The controller will attempt to failover to the backup controller.

User action: [what user should do as a result]

Note preceding diagnostics that highlight a specific problem and report to ABB.

---

Definition:

AP code (hex): 1375

Symbol: SE + SE\_PTY\_SWITCHBACK

Text: SYSTEM REQUEST TO SWITCH BACK CONTROLLER

Usage information: [8-char name as entered in diagnostic message]

Module name: SEMSGENT Task id: SEMSGENT  
Fixed code (hex): 0000 [0000 = NO\_FIXED\_ERROR]  
Type (F/E/W/S): W [DG\_FAILURE/ERROR/WARNING/SUCCESS]  
Operator flag? Yes [DG\_OPER or not]  
Debug flag? No [DG\_DEBUG or not - see dgglobal.h]  
AP code 1 meaning: none  
AP code 2 meaning: none

Cause: [what happened in system to cause it]

The diagnostic system has found an error in the system that would require a switchback to the primary controller to correct.

Effect: [what happens in system because of it]

The emulating backup controller will attempt to switch back to the replacement primary controller.

User action: [what user should do as a result]

Note preceding diagnostics that highlight a specific problem and report to ABB.

#### **14.2/4 -Patch 14.2 (3109)**

Model A and B controllers work fine, but to implement the fixes in this patch, new Controller Proms would be required.

## **1.4.12 Consoles**

Special Instructions if the System was *NOT* at the Following Level or Above:

#### **14.1/1 - Patch 14R1 (0017)**

Granting a user access to HISTORY via the Historical runtime-authority selection will also allow that user access to SPC displays. Users can be prevented from accessing HISTORY, however, while still being allowed access to SPC via the flashing SPC msg button.

The following runtime-authority selections appear on the runtime authority display, but have not yet been implemented:

1. Recipedet [access to recipe detail items is governed by the Tclrecitem selection]
2. Unitmsg [access to unit msgs is governed by the Tclrepmsg selection]
3. Spcalarm [access to SPC is governed by the Spcchart selection]
4. Controller [access to the Controller subsystem status display is governed by the Systemstatus selection]

The options for the Opcbillboard, Historymsg, and Unitoverview selections are valid, but meaningless.

#### 14.1/1 - Patch 14R1 (0031)

The release of the MAG/AO enhancements for Analogs only *is single user only*. Also, during MAG/AO configuration, tags for either type of group must be defined before cutout sources, attributes, or composite statuses are input. After node bootup, the initial use of MAG/AO may cause a red diagnostic to occur - "STATIC RAM SECTION 07 BEEN MODIFIED". This diagnostic should be disregarded.

#### 10.0/8 or 14.1/1 - Patch 14R1 (0041) SMR 109337

User must be aware that if a device id is given as the first parameter of a pagelink to a ladderlogic display, the second parameter must contain a specific record existing under that display. If an invalid record is specified, the user will get a "RECORD IS UNAVAILABLE OR IS NON-EXISTANT" yellow banner message AT RUNTIME. If the second parameter is left blank, the results will be unpredictable.

#### 10.0/9 or 14.1/1 - Patch 14R1 (0064)

Ladder logic rungs with MORE THAN 60 branches will not be immediately displayed when the SCROLL DOWN key is pressed. However, the full rung and all of its branches WILL be displayed if the user presses the SCROLL DOWN key from 1 to 5 times. This problem occurs because of the way the ladder logic rungs are loaded into memory. The workaround for the problem is to repeatedly press the SCROLL DOWN key until the rung and its branches are displayed.

#### 14.2/4 - Patch 14.2 (3108)

This patch requires a Full Environment compile after installation.

#### 14.2/5 - Patch 14.2 (4138) or 14.3/2 - Patch 14.3 (0009)

This fix is a change to The Pagebuilder IB, not the Console Configurator or Overview link configurations. Users are REQUIRED to construct pagelinks on User Defined Graphics to ACCURAY RDPs as follows:

Display ID	Parameter 1	Parameter 2
ACCURAY	%RDP	Node address where ACCURAY RDP is to be run; ACCURAY RDP display number; ACCURAY gateway number

The arguments in parameter 2 must be separated by commas--*without any spaces*. The maximum length of all the arguments and commas in parameter 2 is 12 characters.

### 1.4.13 Pagebuilder

Special Instructions if the System was *NOT* at the Following Level or Above:

### 10.0/10 or 14.2/6 - Patch 14.2 (5224)

Patch 10R0 (252) or Patch 14.2 (5224) contains a NEW Page Builder utility which should be run on all customer systems which have been upgraded from MOD300 version 9.0 or *earlier*. The utility is PBREMLIB.DP and specifically involves Group Moves of Library symbols inserted in Page Builder Graphics. Field Notice FN10\_062 describes the specifics as follows:

#### **Problem:**

Doing a 'GROUP BY BOX' and MOVE does not move all the selected symbols to their new, correct location. Some symbols are moved to random places on the graphic.

#### **Explanation:**

AFFECTS ONLY PAGEBUILDER GRAPHICS WHICH WERE CONVERTED FROM VERSION 9.0 AND EARLIER TO VERSION 9.1 AND LATER.

New installations at Version 9.1 or later are not affected.

Page Builder graphic files which have been converted from Version 9.0 and earlier contain records which are no longer required or needed. The records, Start and End Library Symbol Markers (SLIB, ELIB), were used to define user-defined library symbols positioning and contents in Page graphics.

In Version 9.1 and later, the overall format of the graphic files and symbols changed causing a conversion (CONV9TO1) to be performed which would upgrade the pre-version 9.1 graphics to the new format. These SLIB and ELIB symbols ceased to be of value and were no longer used or required on new graphics. Code to support SLIB and ELIB symbols, however, was left intact in the Page Builder itself, and the existence of these markers in the data files did not cause any runtime problems.

These markers should have been removed because they did not allow the user to edit the Library symbol or any of its components unless the user knew the actual symbol number of the component they wished to change. The reason was that the library symbol itself was unselectable (i.e. no target) for editing purposes. Making Library symbols editable was a new feature in Version 9.1.

Aside from being not editable, the only problem with keeping these markers in the data files is that (we now know) they will cause a problem with a GROUP MOVE. Furthermore, this only affects GROUP MOVES which contain Process symbols embedded in a Library symbol and only in PAGE MODE. The result of such a move causes the embedded Process symbol to be moved twice, resulting in unpredictable positioning on the graphic.

#### **Work Around/Solution:**

Any customer whose upgrade path has taken them through Version 9.1 should run the new utility located at

[170.CONV]PBREMLIB.DP (MOD 300 Multibus) or

[170.CONVERT]PBREMLIB.DP (PU510 - Advant ES)

This utility will scan ALL graphics on the customer's System Disk or Floppy and remove ALL SLIB and ELIB marker records from ALL graphics. This is a comprehensive utility. The customer may NOT individually select graphics to scan. This will make modifications to ONLY affected graphics. This will 1) reduce of the number of records in a graphic file and, 2) make all

symbols on a graphic page editable. It should be noted that although graphics files may be modified, an environment compile will NOT be required.

It is **STRONGLY RECOMMENDED / ADVISED** that the customer make backup copies of ALL graphics in [170.PAGEDATA] BEFORE running the utility. When the utility is run, the user can specify the drive where the graphic files are located and whether or not to generate a log file of the results of the conversion (Results are also displayed on the VT).

#### **NOTE**

This utility is not available, nor will it work on, MOD Multibus graphics which have been converted to MOD/Advant OS Graphics.

### **1.4.14 Ethernet**

Special Instructions if the System was *NOT* at the Following Level or Above:

#### **14.2/5 - Patch 14.2 (4144) or 14.3/2 - Patch 14.3 (0010)**

This Update is for the release of the Intel552 Ethernet Board (6013BZ10000C) that **REQUIRES** the use of a 33Mhz CPU BOARD!

The INTEL552 Board *will not show up in the CIT table on system boot.*

### **1.4.15 Alarm Event Logger**

Special Instructions if the System was *NOT* at the Following Level or Above:

#### **14.2/3 - Patch 14.2 (1045), SMR107776**

The Diagnostic informing the user that there has been a problem resolving a cutout source, now describes which tag had the problem or what error code occurred as follows:

AP=0100 W  
Module AEGCUTLO Task AEEVILID  
FIX = DB\_VGET, AP = AE+AEAP\_CUTOUTSRC  
AP1 = Top word of devlpnum  
AP2 = Bottom word of devlpnum  
TEXT: LOOP %8.8s: CANT FIND CUTOUT SOURCE, %4X  
CAUSE: Failed getting RESULT/DATAQUALITY (for CCF loop) or AC/DQ (for Ladder Logic tag) for a cutout source  
EFFECT: No alarm cutout will occur  
ACTION: Determine if there is a problem with the cutout source used by this loop

For reference on the above diagnostic change, see future edition of 3BUR000261R0001 (IB-280112)

#### **14.3/2 - Patch 14.3 (0015)**

SMR111333:

This fix increases the number of color choices available for Logger configuration. The default choices have not changed.

For printers using PRIMARY color ribbons (red, green, blue and black):

- use the default configuration or any choice that includes the colors listed above.

For printers using PROCESS color ribbons (magenta, cyan, yellow and black):

- instead of red use magenta
- instead of blue use cyan.

Although you can configure yellow, it is not recommended because it is difficult to read.

You can use any color for any ribbon but you need to keep in mind that if the color is not ON the ribbon it will be created by doing a double strike of the print head. Doing double strikes will slow down the speed of the printer and may affect the performance of the logger.

The reason this change occurred is that the currently supported printers do not have primary ribbons available for them.

SMR111450:

This fix cleans up the customize and decustomize files so that the logger code can now be run on all Advant stations. The AL.updt fileset should now be available on ES and IMS stations as well as the current release station which is the OS.

## 1.4.16 PLC

Instruction book 3BUR000254Rnnnn - Programmable Controller User's Guide (IB-28C130), describes all version 14 features of the PLC interface.

Special Instructions if the System was *NOT* at the Following Level or Above:

### 10.0/2 - Patch 10R0(025)

If you are upgrading a system at a level greater than Patch 10R0(025), you can perform any PLC modifications after the new software has been loaded into your system.

If you are upgrading a system at a version earlier than Patch 10R0(025), read the following information and perform the described procedure before loading the version 14 software.

Early versions of the PLC scanner processed communication commands at a 1 second fixed rate for all configured PLC commands. This update allows for that rate now to be variable at 200 ms. increments.

This variable rate is designated using the SCAN RATE entry on the command line in the PLC configurator. The rate entered must be identical for all commands!

The entry is now made in integer multiples of 200 ms., e.g., entering 1 results in 200 ms., 3 results in 600 ms., etc. If you want to retain a 1 second scan rate, enter 5. The scan rate for PLC's with redundant ports cannot exceed 5 seconds, or a value of 25.

1. Enter the desired scan rate for all PLC commands in the node prior to installing Version 12.0 Software.

2. Re-compile PLC configuration
3. Install new software upgrade.
4. Re-boot node.

The old default value of 1 is resident in most user data bases. If you upgrade and experience a severe performance degradation, it could be due to a failure to update a SCAN RATE entry field to '5' (causing the PLC scanner to initialize at 200 ms. instead of 1 sec.). For debugging purposes a diagnostic is printed to the VT terminal on node bootup identifying the rate established by the PLC scanner.

GE Series 1/3 (supported only in the multibus node) will not operate in a redundant mode but will run in a non-redundant mode. This PLC type does not support momentary outputs, and Group writes must be turned on.

Primary Port Status - For hiways which do not have a redundant port or the redundant port is DOWN, the port status will be the status of communications with the last PLC alphabetically by PLC name on the port. For Allen Bradley, if the PLC's on a hiway are DOWN but the backup port is ACTIVE, and a manual swap is performed the status of the "new" primary will stay that of the "old" backup, ACTIVE, although all points associated with the PLC's will be BAD.

Backup Port Status - For a TIWAY interface this is the status of the communications with the alphabetically first PLC on the port. For an Allen Bradley interface it is the status of communications with the KE/KF or KF2 module.

#### **Impact on System Resources - Memory Allocation:**

More memory will be allocated at start-up by the PLC Interface than before. This memory is allocated from BACKMEM and is used to hold messages waiting to be sent to the PLC. The memory is allocated at initialization. No memory is allocated by the PLC Interface at runtime. The equation for determining the amount of memory that will be allocated for the message pool is:

$((\text{num\_digital\_out\_devices} + \text{num\_analog\_out\_devices} + \text{num\_pc\_commands}) * 1.1) * 70$   
bytes.

num\_digital\_out\_devices = every device loop capable of doing outputs + number of DOUT FCM'S configured for PLC I/O.

num\_analog\_out\_devices = number of AOUT FCM's configured for PLC I/O.

num\_pc\_commands = total number of commands configured for all plc's in that node.

A new diagnostic message indicates when the interface has used all of the available output request blocks from this message pool. The message appears in red on the operator page and reads as follows:

**PLC OUTPUT REQUEST FAILED - MEMORY UNAVAILABLE**

If this message does appear, CCF outputs and/or read requests are discarded until some output request buffers become available. This implies that the interface is being overloaded by CCF outputs. To alleviate this problem, some of the outputs to the PLC need to be generated less frequently. (Configuring more Backmem does not help, since buffer space has become unavailable, not memory space.)

Once the interface has detected that ten percent of the message pool is now free, the following diagnostic will appear (green) on the operator page:

MEMORY NOW AVAILABLE FOR PLC OUTPUT REQUESTS

#### **Serial I/O Dual RAM Port**

There is a limited amount of dual port RAM available for communication with the serial I/O board. If a TIWAY interface is configured, significantly more dual port memory is needed to communicate to the TIWAY. Previously, only 1408 bytes were reserved per port. If TIWAY and other devices were running on Serial I/O, but will not after updating to 8.2.R2 or above, this would be the first place to look.

Now 2304 bytes are required per port.

#### **Impact on PLC Interface Resources**

There are now two less driver tasks available, reducing the total to six. This means that a maximum of 6 highways or 5 highways and some point to point PLCs can be run at a time. It is not believed that there are any systems running 7 or 8 drivers, so upgrading systems with the redesigned PLC Interface should not cause problems.

Since each General Electric Series1/3 configured requires its own driver, it should be considered a highway. Redundant ports also need drivers, one for each highway and/or one for point to point PLCs. Redundant GE Series 1/3 are not supported.

Triconex PLC

TRICONEX (model number 8100-6) acts the same way and has the same commands as the MODICON 984 with two exceptions:

- Digital output blocks size is limited to 128 bits or 8 words of data.
- For redundant port configurations, if both ports are down and the backup port becomes ACTIVE first, an automatic swap to this port is performed. If you do not wish the automatic swap of the backup port, configure the PLC as a MODICON 784 and either turn group writes off or limit the size of the write blocks to 8 words in the configuration.

#### **12.0/2 - Patch 12R0 (066)**

Added the following: If a MODBUS protocol PLC returns a datalength mismatch, the following text diagnostic will appear:

“PLC <station> has returned a command mismatch <7F7F>

“The 7F7F AP code indicates a datalength mismatch.

#### **10.0/6 or 12.0/3**

Every diagnostic referring to a PLC number implies a four digit code. The first two digits are the PLC station number, the second two digits are the port number.

If a momentary output is seen to be stuck in the “on” position in excess of 50 seconds more than normal operation, the output bit will be sent an “off” command and the channel released from the PLC que function. This will allow further commands to be (re)sent to a PLC momentary output point.

There is a limit of 6 drivers for a multibus node, and 2 drivers for an SC controller. If these limits are exceeded, then a Diagnostic message Max number of PLC drivers exceeded %d DRIVERS is output, and the PLC code terminates itself.

#### **14.2/6 - Patch 14.2 (5200) or 14.3/2 - Patch 14.3 (1060)**

New configurable options are now available for the MOD300 PLC Interface. They can be used by modifying the CRT field on the SERIAL\_PORT\_SETUP templet for primary and backup PLC ports. A node level compile, install, and hard reset will be required.

There are four options:

1. Blank or 'ONE' --> If one PLC on a Data Highway loses communications, a port swap will be attempted if this feature is configured. If this swap is unsuccessful in re-establishing communications a failover of the SC Controller will be attempted. This is how the interface currently functions.  
If a point to point PLC is configured a failover is attempted upon loss of communications.
2. 'ALL' --> If all PLCs on a Data Highway lose communications, a port swap will be attempted if this feature has been configured. If this swap is unsuccessful in re-establishing communications a failover of the SC Controller will be attempted.  
If a point to point PLC is configured a failover is attempted upon loss of communications.
3. '1NO' --> If one PLC on a Data Highway loses communications, a port swap will be attempted if this feature is configured. A communications loss will NOT cause a failover of the SC Controller.  
If a point to point PLC is configured, port swapping will occur upon loss of communications but no failover will be attempted.
4. 'ANO' --> If all PLCs on a Data Highway lose communications, a port swap will be attempted if this feature has been configured. A communications loss will NOT cause a failover of the SC Controller.  
If a point to point PLC is configured, port swapping will occur upon loss of communications but no failover will be attempted.

#### **14.2/6 - Patch 14.2 (5217)**

A Compile, Install and Reboot of all SC Controller and TURBO subsystems with PLCs is required. The remaining TURBO and SC Controller nodes should be rebooted.

## **1.4.17 SCSI Technology**

Special Instructions if the System was *NOT* at the Following Level or Above:

#### **10.0/9 or 14.2/3**

See Field Notice FN10-056 for description and ordering information for the SCSI technology feature.

Revision 10.0/9 or 14.2/3 contains the SCSI Patches required to enable format utilities for the new SCSI hard disk and 3.5" floppy.

Revision 14.2/3 also contains Patch 1062 to enable tape-to-tape transfers as part of the BACKUP utility.

The Utility Patch Diskette now also contains the files to enable formatting both types of hard disks and floppies *off-line*. Once the system is booted from the Utility Patch Diskette (see Section 1.5.2 Booting Base System, steps 1-4), the following commands are entered to format a disk off-line:

```
ID L532 FD00 : [ 220 .FORMAT ]FORMAT .DP
FMT
```

### 14.2/6

The following patches were important SCSI fixes released in 14.2/6:

1. Patch 14.2 (5195) - When booting a history node with a 2G history disk, history will bus error. When rebooting a history node with 2 540M history disks, and the current history file is > 127, history will bus error.
2. Patch 14.2 (5208) - The FMS Init command fails on FMS disks larger than 1 Gig. It hangs and/or crashes the system.
3. Patch 14.2 (5215) - On a 2g SCSI hard drive, the du (disk usage) command can take up to 2 minutes to complete. In several cases, the Report Package makes use of the du command, to determine if there is enough room to create a file on the disk. This happens when:

A report is scheduled for archive.

An archive report is copied.

A report format is copied.

The user accesses the report archive display.

## 1.4.18 Special Instructions for Version 14.4/0

### 1.4.18.1 Console

#### Update 14.4-017

The select page key will now be cleared when any user logs off. Thus, if there are multiple users logged on, and the mark page and select page have been used, the select page will be reset to go to the LIBRARY page (which is the default page when the environment is downloaded) when ANY users logs off.

### 1.4.18.2 Configurator

#### Update 14.4-028

Users who compiled ll\_message (Ladder Logic) templets with the previous version of cfp005, must install the nodes which those templets reside in. This will fix the re-boot problem.

### 1.4.18.3 Alarm/ Event

#### Update 14.4-029

4. See DCN Node Upgrade Sequence for Alarm Burst Handling in Installation Instructions below.

## 1.5 Installation Instructions

### 1.5.1 DCN Node Upgrade Sequence for Alarm Burst Handling

This software update provides a new Alarm/Event handling capability that required a change to existing Alarm/Event messages formats (as they exist on the MOD system).

For this reason, if a site is upgrading to this software 'on-line', it is IMPORTANT to upgrade the nodes on the DCN in a certain sequence. If the upgrade is not done in this sequence, Process Alarms may be MISSED by Mod Consoles, CDP's, Advant Operator Stations, Advant Engineering Stations, and Advant IMS nodes during the time of upgrade.

The correct node upgrade sequence MUST be as follows:

1. Upgrade and restart ALL nodes that can be the RECEIVERS of Alarm/Event Messages first. This means all Mod Consoles, CDP's, and Advant OS, ES, and IMS nodes.
2. Upgrade and restart any Multibus nodes which have both Console and CCF functionality. This would include Turbo nodes functioning as Bulk I/O or PLC Gateways. This represents a special class of node which is both a receiver and a sender.
3. Upgrade ALL nodes that can be the ORIGINATORS of Alarm/Event Messages last. This means Model A/B, SC, and Advant Controllers. On-line upgrade capability can be used to upgrade Controller software.

### 1.5.2 Booting Base System

The following Software Update Procedure must be performed to each CDP (Configurator Dataprocessor) Node separately.

User response/inputs are in boldfaced Courier font:

1. Attach your System Disk (to be updated) as WC00.
2. Use the System Maintenance Terminal to power up the DPSS being sure to abort the automatic BOOT procedure with the Delete key, before the procedure counts down from 7 to 0.
3. Insert the supplied Utility Diskette into the floppy drive. Use FD00 only.
4. Boot the system from the Utility Diskette. (Follow all commands with a carriage return.)

**XX 2[0.BOOT]OFFLBOOT.PK** (This is an Offline Boot File)

**G43D54**

The terminal is now in "bugs". At the prompt "WHAT'S UP DOC?">>

Enter date in the format: **STIM mm/dd/yy**  
**DIR** (Initializes FMS)

## 1.5.3 Preparing the System Disk

This procedure depends upon what software version the system to be upgraded is at.

### 1.5.3.1 Preparing an Empty System Disk or a Disk at Version 9 or Below Software

In this procedure, either an empty System Disk, or a Disk containing Version 8, or 9 System Software may be upgraded. The 14.4/0 Utility Diskette is used to do the necessary file copies and “clean up” the System Disk before upgrading the software. The upgrade procedure deletes any customized memory pool sizes that may have been previously configured, and replaces them with default sizes. A default data base is installed at node 0100 when the new software is loaded.

1. Run the Update File on the Utility Diskette as follows.

```
@FD00:[0.UPD]NEWUPD.CM
```

```
PROMPT: "WHAT'S UP DOC?" >
```

Appears after “UPDATE COMPLETE”

A default data base is installed at the configurator data processor node.

2. For updating an empty System Disk only:

```
COPY FD00:[50.DB2]*.* WC00:[50.DB2]
```

```
COPY FD00:[50.INDEX]*.* WC00:[50.INDEX];REP
```

### 1.5.3.2 Preparing a System Disk Already at Version 10 or Above Software

In the following procedure, the 14.4/0 Utility Diskette is used to “clean up” the System Disk before updating software.

Run the update file on the 14.4/0 Utility Diskette as follows. The installed data base will be left intact:

```
TYPE: @FD00:[0.UPD]UPD.CM
```

Ignore any copy errors for DPOOLS.PL, GPOOLS, and TPOOLS.PL, since a copy/replace was not used to prevent deleting any user created POOLS files. These are “first time files” for updating older software versions.

PROMPT: “WHAT'S UP DOC?” > appears after “UPDATE COMPLETE”

## 1.5.4 Loading Software to the System Disk

1. Insert the streaming tape into the Tape Drive (TP00), and load the 14.4/0 Software onto the system Disk (WC00) as follows, using the filebackup utility:

```
RT OFF
C 355 (Starts DPL Scheduler)
ID L700 FD00:[0.BOOT]FBACKUP.DP
DP L700
EX
```

2. Enter Source Device:  
TP00
3. Enter Destination Device:  
WC00
4. Enter option to "Restore Winchester Files from Tape" -Enter Option number:  
3  
Do a Carriage Return  
Restore files on disk WC00 from streaming tape TP00:
5. Enter  
C (to continue)  
Check label and date before continuing  
C (to continue)  
(Update or File Checksum Verification takes about 20 minutes).  
A message states that 819 files were copied. (If number is different, upgrade was not successful).  
Read another save set from this tape?  
Q (to Quit)  
\*\*\* COMPLETED SUCCESSFULLY \*\*\*

## 1.5.5 Checksum Verification

At this point, the loaded software should be verified against the Tape:

1. **To Verify:**  
C (to continue)  
C (for "Verify Checksums on Destination Files")  
PROMPT: Verify Checksums on Destination WC00  
PROMPT: Enter up to 4 file specs ([.\*]\*.\* for all files):  
@[0.UPD]UPD14R4.CM (Command File List for all System Software on tape)  
(do 4 CARRIAGE RETURNS)

If “all files” was chosen, user files would be reported as having no checksums.

**C** (to continue)

\*\*\*CHECKSUM VERIFICATION IN PROGRESS\*\*\*

Examined Checksums on 819 files

If more than 819 Files were examined, the destination System Disk contains extra UNECESSARY Files without checksums or system files not in the revision. The message “WARNING: XX FILES HAD NO STORED CHECKSUMS” appears and can be ignored. See note below.

Ignore Message COULD NOT EXAMINE CHECKSUM ON [0.UPD]UPD14R4.CM”, since this command file was in use at the time of the verify. Also, the file [230.DIAG]FBACKMSG.00 will contain an invalid checksum, since it is open during the verification, to collect the Checksum Messages on verification.

**(Resolve any errors for bad checksums).**

\*\*\* COMPLETED SUCCESSFULLY \*\*\*

**Q** (to Quit)

End of Backup Utility

(Hit “ESC” key to return to BUGS).

#### NOTE

The extra files without checksums can be deleted from WC00 to save space. TSG (Technical Services Group) in Rochester should be consulted before deleting any files. The File [230.DIAG]FBACKMSG.00 can be viewed, which contains a list of any files that did not contain checksums, or any errors encountered. To read this File, TYPE:

**VI WC00:[230.DIAG]FBACKMSG.00;R**

Use CARRIAGE RETURNS to proceed through list, and “.”(period) to exit.

## 1.5.6 Creating Boot Files

In this procedure a boot file must be chosen and copied for the System Disk to boot.

Release 14.4/0 has 3 boot files in [0.BOOT]:

TUBOOT.PK for configurator nodes with full Turbo capability.

DPBOOT.PK for DPSS functionality only.

GWBOOT.PK for Gateway Turbo

You must copy one of these files over to the BOOT.PK file based on your configuration. For example to copy TUBOOT, the entries are:

**FMS WC00:[0.BOOT]**

**COPY TUBOOT.PK BOOT.PK**

BOOT.PK has been consciously left off the master disk/tape, since your disk could also be used as a remote full function turbo node if no BOOT.PK is created.

Each boot file in [ 0.BOOT ] uses a different memory pool;

[ 50.MOD300S ] POOLS.PK, [ 50.DPSS ] POOLS.PK, or  
[ 50.TURBOGW ] POOLS.PK. See Version 8 Technical Update Manual, Sect. 8, for details on Memory Pool Allocation.

CF Print flag for node 1 is D3E78.

## 1.5.7 Special Instructions for Non - English Systems

1. Special Instructions for Russian, German, or French Systems:

For Russian Systems, there is a TUBOOT.RS, DPBOOT.RS, or GWBOOT.RS, along with a different SOFTCON.RS that would be loaded as follows.

```
FMS WC00:[ 0.BOOT ]
COPY TUBOOT.RS BOOT.PK;REP
FMS WC00:[ 50.INDEX ]
COPY SOFTCON.CF .US;REP
COPY SOFTCON.RS .CF;REP
```

For German or French systems, use files ending with “.GE” or “.FR” respectively, in place of “.RS” files, e.g. TUBOOT.GE, SOFTCON.FR, etc.)

2. To convert a Russian System to a U.S. System, the procedure is:

```
FMS WC00:[ 0.BOOT ]
COPY TUBOOT.PK BOOT.PK;REP
FMS WC00:[ 50.INDEX ]
COPY SOFTCON.CF .RS;REP
COPY SOFTCON.US .CF;REP
```

## 1.5.8 Installing Default Data Base for Nodes Other Than 0100

**If the system was at Version 10, 12 or 14, the installed database was left intact. If the system was at Version 9 or earlier, a default data base was installed** by the upgrade procedure, with Node 0100 containing the CDP (Configurator Data Processor), and Node 0200 containing the Console if a TURBODP (or 0100 if a TURBO).

The following procedure must be used if the Default CDP is desired on a node other than 0100. Up to 16 CDPs may be configured in the system.

If the D/M Address does not match the Starter CDP Node, or there is no Installed data base, the following error message is displayed on the System Maintenance Terminal:

```
SEGETCDP: ERROR 0X20 ON INFORM
```

Install a different default data base as follows:

```
FMS WC00:[50.INDEX]
DEL CUR*.*
DEL DEVDISC.*
DEL SYSNODES.*
1DEL *.IM
1DEL [50.INRECOVR]*.*
COPY [50.STARTER#]*.* [50.INRECOVR] ;REP
```

where # is the CDP number 0 through F (for the CDP on Nodes 0100, 1100, 2100... F100, with equivalent or adjacent Console numbers).

```
COPY [50.INRECOVR]*.* [50.INDEX] ;REP
```

<sup>1</sup>Ignore this step if updating an empty System Disk, since these files do not exist.

## 1.5.9 Running Conversion Tasks

In the following procedures, various conversion tasks are required for the software upgrade, dependent upon upgrade level.

### NOTE

**It is mandatory that the CDP being upgraded be removed from the DCN by disconnecting the ribbon cable on the DCN Interface Board. (DO NOT disconnect the DCN cable.)**

This is necessary to ensure that the installed database files being modified by the upgrade program are not simultaneously accessed for some other reason.

### 1.5.9.1 Memory Pool Utility

If your system was at 14.2 or 14.3, it is not necessary to run the Memory Pool Utility, since pool sizes did not change between 14.2, 14.3, and 14.4.

**It is necessary to run the Memory Pool Utility, if any one of the following conditions are true:**

- Converting from 9.1 and *earlier* or an empty System Disk to 14.4/0
- For Version 10.0, a small amount of memory (18K =1%) was removed from the largest (multibus only) pool, which requires running the Memory Pool Utility *if this pool was fully utilized in the particular 10.0 application*
- If your system was at 14.0 or 14.1, use the following table as a guideline to determine when to run the Memory Pool Utility, *if a pool was fully utilized*:

Table 1-1. Total Memory Pool Size Changes for MOD300S and Console

	Change from 14.0 to 14.3	Change from 14.1 to 14.3
TURBO Pools	-23K (-0.5%)	-1K (-0.02%)
TURBO_DP Pools	-64K (-1.5%)	-39K (-0.9%)
TURBO_GW Pools	-70K (-2.0%)	-39K (-1.1%)
CONSOLE Pools	-10K (-0.5%)	no change
GATEWAY GATE Pools	-21K (-.9%)	-2K (-0.1%)
GATEWAY PNGATE Pools	-54K (-1.7%)	-36K (-1.1%)

Run the following conversion task: This creates the proper POOLS.PL files for 14.4/0.

**Execute MPUTIL:**

**ID L700 WC00:[50.CF]MPUTIL.DP**

**DP L700**

**EX**

**U-** Execute update option of MPUTIL.

(do a CARRIAGE RETURN)

**Q -Quit MPUTIL**

(Hit "ESC" key to return to BUGS).

**NOTE**

If an empty Disk was updated, no more conversions are required, and the data processor subsystem and console only should be rebooted. The Databases, Environments, etc. should be built. Then proceed to Section 1.6 Final Disk Configuration and Software Loading for Systems Upgraded from Version 9 and EARLIER Software or an Empty Disk.

### 1.5.9.2 Configurator

- **Boot the CDP Subsystem only within the current CDP's domain. Make sure the system has stabilized before continuing (it may take 5 - 10 minutes before configurator data files are finished and disk activity (light) ceases).**
- **Enter RT OFF**

Enter the following commands via bugs for the *APPLICABLE* conversion tasks:

### WARNING

It is important not to view any CCF templets until the 14.1/1 conversion program has been run. If CCF templets are displayed *before* the 14.1/1 conversion program has been run (step 9 below), the result will be unpredictable program crashes.

**To convert from 8.2 R1 to 14.4/0, do Steps 1-11:**

1. ID L700 WC00:[50.CF]CFCV81.DP (Adds new items to Pulsed Input templets.)  
DP L700  
EX
2. ID L700 WC00:[50.CF]CFCV82.DP (Converts data bases to 8.2, and adds templet fields for TRIO CS (Current Source) Analog Templets).

DP L700

EX

**To convert from 8.2.R# to 14.4/0, do Steps 3-11:**

3. ID L700 WC00:[50.CF]CFCV90.DP (Converts 8.2 to 9.0)

DP L700

EX

**To convert from 9.0 to 14.4/0, do Steps 4-11:**

4. ID L700 WC00:[50.CF]CFCV91.DP (Converts 9.0 to 9.1)

DP L700

EX

**To convert from 9.1 to 14.4/0, do Steps 5-11:**

5. ID L700 WC00:[50.CF]CFCV92.DP (Converts 9.1 to 9.2)

DP L700

EX

6. ID L700 WC00:[50.CF]CFCV10.DP (Converts 9.2 to 10)

DP L700

EX

**To convert from 10.0 to 14.4/0, do Steps 7-11:**

7. ID L700 WC00:[50.CF]CFCV12.DP (Converts 10 to 12)

DP L700

EX

**To convert from 12.0 to 14.4/0, do Steps 8-11:**

8. ID L700 WC00:[50.CF]CFCV14.DP (Converts 12 to 14)

DP L700

EX

To convert from 14.0/0 to 14.4/0, do Steps 9-11:

9. ID L700 WC00:[50.CF]CFCV14R1.DP (Converts 14 to 14.1)  
DP L700

EX

To convert from 14.1 to 14.4/0, do Step 10-11:

10. ID L700 WC00:[50.CF]CFCV14R2.DP (Converts 14.1 to 14.2)  
DP L700

EX

To convert from 14.2 to 14.4/0, do Step 11:

11. ID L700 WC00:[50.CF]CFCV14R3.DP (Converts 14.2 to 14.3)  
DP L700

EX

Press <ESC> to return to bugs.

- Put the Configurator Data Processor (CDP) back on the DCN by reconnecting the ribbon cable on the DCN Interface Board.
- If console node (turbo) was not booted as part of the CDP reboot at the beginning of this section, reboot one Console node now. Do not boot other nodes at this point. (Other consoles/environments may be needed for plant operation, and may not be ready for download until later).

### 1.5.9.3 Page Builder/ Console Configurator

To convert from 8.2.R2 to 14.4/0, do Steps 1-4:

1. ID L700 WC00:[170.CONV]PBCONV82.DP (Incremental Environment Compiler changes).  
DP L700

EX

To convert from 8.2.R3, 8.2.R4, or 9 to 14.4/0, do Steps 2-4:

2. ID L700 WC00:[170.CONV]CONV9TO1.DP  
DP L700

EX

At this point, a message about being in "CONV9TO1" appears, as well as a prompt for which Drive to convert the files on.

**NOTE:** Ignore any error message

3. ID L700 WC00:[170.CONV]PBPCENV9.DP

DP L700

EX

4. ID L700 WC00:[170.CONV]PC2SETUP.DP (Env. conv.for TCL msg. colors.)

DP L700

EX

After conversion completes, press <ESC> to return to bugs:

#### 1.5.9.4 Report Generator

**For all systems, run the following conversion:**

1. ID L700 WC00:[190.OVERLAY]RPCONV.DP (Report Def'n File Version update; Plot symbols, etc.)

DP L700

EX

After conversion completes, press <ESC> to return to bugs:

RT ON

#### NOTE

Since Version 10.0, if History Field Type = MESSAGE, and they are going to be used in Reports, the Report Package should be called up; Node addresses which are defaulted to "node 1" should be changed to the proper History node number by manual edit or "Search all" command.

#### 1.5.9.5 Programmable Logic Controllers

**Converting from 9.0 and earlier to 14.4/0:**

RT OFF

ID L700 WC00:[260.CONFIG]LCCV91.DP

DP L700

EX

After conversion completes, press <ESC> to return to bugs:

RT ON

## 1.6 Final Disk Configuration and Software Loading for Systems Upgraded from Version 9 and *EARLIER* Software or an Empty Disk

### WARNING

For Pre-10.0 Systems or new software on an empty Disk, Compile the Database WITHOUT SAVING LREF'S (this option is under the "SERVICE" SOFTKEY). Default is Compile WITH SAVING LREF'S, which could cause havoc with data bases!

Install the Database.

The correct node upgrade sequence MUST be as follows:

1. Upgrade and restart ALL nodes that can be the RECEIVERS of Alarm/Event Messages first. This means all Mod Consoles, CDP's, and Advant OS, ES, and IMS nodes.
2. Compile and link TCL Programs.
3. Upgrade and restart any Multibus nodes which have both Console and CCF functionality. This would include Turbo nodes functioning as Bulk I/O or PLC Gateways. This represents a special class of node which is both a receiver and a sender.
4. Upgrade and restart ALL nodes that can be the ORIGINATORS of Alarm/Event Messages last. This means Model A/B, SC, and Advant Controllers.
5. Use the Console Configurator to edit each Environment and press the RUNTIME AUTH softkey. This initializes the new runtime authorities for version 12.0.
6. **A full Environment Compile is required**, which updates the files that get downloaded to console nodes. Failure to do this step will cause the Environment Download to Bus Error.
7. The default environment field for Automatic Environment Download can now be filled in, which may have been disabled per the warning in Section 1.2 Preconditions.
8. Environments may now be downloaded.
9. For Existing Library Symbols in the Page Builder, the following changes must be made:
  - a. Press the TAG EDIT Softkey in the Page Builder.
  - b. Set the "Page Type" on the top right of the page to "LIBRARY", "All pages" to "YES", and "Replace" to "ON".
  - c. Select the Large Window at the Bottom of the Screen, and enter these 2 lines:  

```
!L.      '!L'.      B  
!L-      '!L'-      B
```
  - d. Select the RUN EDIT Softkey, then select the YES Softkey.
10. Go to Section 1.9 Multifunction Console/History Nodes.

## 1.7 Final Disk Configuration and Software Loading for Systems Upgraded from Version 10.0 and *ABOVE*

If your system was at version 10, 12, or 14, follow the instructions in this section.

It is not necessary to do a Database Compile from the top. If a top down compile is ever done in the data base configurator, use the default COMPILE WITH SAVING LREFS (this option is under the “SERVICE” SOFTKEY). If a COMPILE WITHOUT SAVING LREFS is done and there are multiple CDPs, the System ID will change and the other databases will be rendered incompatible. The databases will then have to be recompiled, exported, installed, and rebooted.

**NOTE**

If System was *not* at 14.2 or 14.3, All GENERIC\_DPSS templets should be compiled, installed and rebooted (or as a minimum, all GENERIC\_DPSS templets with U\_REL\_NAMES templets).

**NOTE**

If Patch (5217) in Revision 14.2/6 or Patch (1077) in 14.3/2 was not previously installed, a Compile, Install and Reboot of all TURBO and SC Controller subsystems with PLCs is required. Follow software loading sequence below.

## 1.7.1 Software Loading

At this point, the Configurator Data Processor and one console have been downloaded. During the following steps you load software into the rest of the subsystems according to the following:

The correct node upgrade sequence **MUST** be as follows:

1. Upgrade and restart ALL nodes that can be the RECEIVERS of Alarm/Event Messages first. This means all Mod Consoles, CDP's, and Advant OS, ES, and IMS nodes.
  2. Upgrade and restart any Multibus nodes which have both Console and CCF functionality. This would include Turbo nodes functioning as Bulk I/O or PLC Gateways. This represents a special class of node which is both a receiver and a sender.
  3. Upgrade ALL nodes that can be the ORIGINATORS of Alarm/Event Messages last. This means Model A/B, SC, and Advant Controllers. On-line upgrade capability can be used to upgrade Controller software.
- If system date and time is incorrect, set the time on the DPSS or Console.
  - **If Revision 14.2/4 or Version 14.3/0 was not previously installed, A full Environment compile is required before downloading.**

### Controllers

The procedure depends on:

- Whether the controllers can be taken off-line and rebooted
- Whether Redundancy Patch Set Kits which included Backup Memory Proms were previously installed (see Section 1.2 Preconditions)
- Whether Model A or B Controller PROMs are being installed (see Section 1.2 Preconditions).

- a. **If *all* the Controllers can be rebooted, and new Backup Memory Proms or Controller Proms are *not* being installed, reboot them now, then proceed to step 4.**
  - b. **If *all* the Controllers can be rebooted, and Backup Memory Proms and/or Controller Proms *are* being installed, power down the Controller Subsystem:**
    - Remove the Backup Memory Boards and/or Controller and Backup Controller Boards.
    - Install the Backup Memory Proms and/or the new Controller Proms per Table 1 in Chapter 5 Prom Checksums.
    - Reinsert the Backup Memory Boards and/or Controller and Backup Controller Boards.
    - Power up the Controller Subsystem.
    - Go to step 4.
  - c. **If *any* Controllers *cannot* be re-booted, use the instructions in Section 1.8 Special Instructions for Controller Subsystems to upgrade the controllers on-line. Go to step 4.**
4. If upgrading from 10.0, use the Console Configurator to edit each Environment and press the RUNTIME AUTH softkey. This initializes the new runtime authorities for version 12.0. Failure to do this step may preclude use of fail-over and switchback functions for performing an on-line upgrade in Section 1.8 Special Instructions for Controller Subsystems.
  5. You may have disabled the Default Environment field for Automatic Environment Download on the Generic\_DPSS according to the instructions in Section 1.2 Preconditions. You can now re-enter the desired value.
  6. Download the Environments.

## 1.8 Special Instructions for Controller Subsystems

Section 1.8.1 is performed ***ONLY IF 10.0/3 or Base 12.0 was not previously installed.***

If 10.0/3 or Base 12.0 *was previously installed*, go to Section 1.8.2 Loading 14.4/0 Software into Model A/B and SC Controllers.

### 1.8.1 Loading Software into SC Controllers if 10.0/3 or Base 12.0 was not Previously Installed

Case 1:

If ***every*** controller in an SC controller subsystem ***can*** be rebooted, reboot the subsystem. The software load for that subsystem is then complete, and Section 1.8.1 Loading Software into SC Controllers if 10.0/3 or Base 12.0 was not Previously Installed is not required. Section 1.8.2 Loading 14.4/0 Software into Model A/B and SC Controllers is not required either, (unless Model A/B controllers need updating).

Case 2:

If *any* SC controller in a controller subsystem *cannot* be rebooted, perform steps 1 - 10 on *every* SC controller in the subsystem.

1. This program installs software for SMR102690 directly into the memory of operating SC controllers.

At the prompt WHAT'S UP DOC?, enter

```
ID L700 WC00:[50.MOD300S]FBPTCH01.DP
```

2. At the prompt, WHAT'S UP DOC?, enter

```
DP L700
```

3. At the prompt WHAT'S UP DOC? enter

```
EX
```

The patch installer program now begins to run.

4. A warning message appears, informing you that the program is about to install patches, and asking if you want to continue.

Enter Y.

5. The program now asks for the node ID of an SC controller subsystem that has not been patched. Enter the node ID, in hexadecimal, as it appears on your System Status display. If there are any controllers in this subsystem which are currently booting up, wait until they complete booting before you continue.

6. The Program now begins asking you for the controller numbers within the specified SC Controller subsystem. Enter only one controller number at a time, in decimal, at each prompt. The program responds with a message indicating its success or failure in installing the patch. If the program reports problems with accessing the node, or verifying the patch, try the same controller again. There is no danger in trying the same controller as many times as you want. If the program finds that the patch has already been installed, it informs you so.

Before installing the patch, the program first checks that the node has the correct PROM and software versions. The patch is not installed if these version checks fail. This prevents the patch from being installed if you accidentally enter the node ID of a model A or B controller subsystem.

If the program informs you that the controller is not running the correct PROM or software version, or that an unknown error has occurred, notify the MOD 300 support group in Rochester, NY.

7. After you have installed the patch on each SC\_controller in the subsystem, press only RETURN at the next prompt. The program then tries to see if you have missed any controllers which are currently active in the subsystem. If it finds another controller which needs the patch, it informs you so, and ask if you want the patch installed. If you do, enter Y.
8. After the program has checked the entire subsystem, it displays a summary of the patch status of all 12 possible controllers. Note that the program always attempts to access all 12 possible controllers, even though the subsystem may not contain all 12 controllers. At this

point, it is a good idea to carefully check over this display to insure that all controllers have been patched.

9. The program then prompts for another SC Controller subsystem node ID. Continue with each SC Controller subsystem in your entire system. It does no harm if you attempt to re-install the patch on a subsystem you have already patched. The program merely tells you that the patch has already been installed. When you have installed the patch on all your SC Controller subsystems, press only RETURN at the node ID prompt. The program ends with no further output.
10. Next, use the procedure in Section 1.8.2 Loading 14.4/0 Software into Model A/B and SC Controllers.

## 1.8.2 Loading 14.4/0 Software into Model A/B and SC Controllers

The procedure depends on whether Redundancy Patch Set Kits which included Backup Memory Proms or SC Backup Memory Proms were previously installed, and whether Model A or B Controller Proms are being installed. See Section 1.2 Preconditions.

### 1.8.2.1 On-line Upgrade of Controllers Using Existing PROMS

1. Software should already be upgraded with Version 14.4/0 per Section 1.5 Installation Instructions.
2. Reboot the Backup Controller, and wait until its Node Status goes Ready.
  - For any model A/B or SC controllers that *can* be rebooted, terminate redundancy, and do a hard reset on the controller.
  - For the remaining controllers that *cannot* be rebooted, the following steps must then be performed.
3. The Redundancy Status of Controller #n should be “ACTIVE”. If it is not, Manually establish Redundancy.
4. Fail Over Controller #n from the Console.
5. Verify that the Redundancy Status of the Backup Controller is “EMULATING”.
6. After controller #n reboots and its redundancy status goes to “READY”, wait 20 seconds.
7. Switch back to controller #n.
8. Wait until Backup Controller reboots and its redundancy status goes to “READY”.
9. Wait 20 seconds, then go to step #3, and repeat for the next controller.

### 1.8.2.2 Loading Revision Software onto Systems that Need Backup Memory PROMS and/or Model A or B Controller PROMS

#### CAUTION

Follow instructions carefully, and do not terminate redundancy until told to do so.

See *Section 1.4.11 Controllers* for special notes concerning SC\_Controllers and parity errors.

1. Software should already be updated with Version 14.4/0 per instructions in *Section 1.5 Installation Instructions*.
2. Verify that the process is not running off the Backup Controller.
3. If installing Backup Memory (or SC Backup Memory) PROMS:
  - a. Reset the Backup Memory (or SC Backup Memory) board, and **BEFORE**, it finishes rebooting, remove the Backup Memory (or SC Backup Memory) board.
  - b. Install the new Backup Memory (or SC Backup Memory) PROMs. By this time, all controllers should have “terminated” redundancy automatically.
  - c. Reinsert the Backup Memory board, and wait for the green light.
4. If **not** installing Model A or B Controller PROMs, Reboot the Backup Controller.
5. If installing Model A or B Controller PROMs:
  - a. Remove the Backup Controller board.
  - b. Install the Controller Proms per Chapter 5 Prom Checksums.
  - c. Re-install the Backup Controller board.
6. If Backup Memory PROMS were installed, wait five minutes to assure that no parity errors have occurred, and its Node Status goes “READY.”
7. For any model A/B or SC controllers that **can be rebooted**, terminate redundancy (if not already terminated), and perform steps a - d.
  - a. If **not** installing Model A or B Controller PROMs, do a hard reset on Controller #n.
  - b. If installing Model A or B Controller PROMs:
    - i. Remove Primary Controller board #n.
    - ii. Install the Controller Proms per Chapter 5 Prom Checksums.
    - iii. Re-install the Controller board.
  - c. Once Controller #n re-boots, the Redundancy Status of Controller #n should be “ACTIVE”. If it is not, Manually establish Redundancy.
  - d. Go to step 7 and repeat for the next controller.
8. For the remaining controllers that **cannot be rebooted**, the following steps must then be performed.
  - a. Verify that the Redundancy Status of the Backup Controller is “READY”.
  - b. The Redundancy Status of Controller #n should be “ACTIVE”. If it is not, Manually establish Redundancy.
  - c. Wait 20 seconds, then Fail Over Controller #n from the Console.
  - d. Verify that the Redundancy Status of the Backup Controller is “EMULATING”.
  - e. If installing Model A or B Controller PROMs:
    - i. Remove Primary Controller board #n.
    - ii. Install the Controller Proms per Chapter 5 Prom Checksums.

- iii. Re-install the Controller board.
  - f. After controller #n reboots and its redundancy status goes to “READY”, wait 20 seconds. If Backup Memory PROMs were installed, wait five minutes to assure that no parity errors have occurred.
  - g. Switch back to controller #n.
  - h. If Backup Memory PROMs were *not* installed, go to step 8 and repeat for the next controller.
  - i. If Backup Memory PROMs *were installed*, wait until the Backup Controller boots up and its redundancy status goes to “READY”.
  - j. Terminate redundancy on Controller #n.
  - k. Reboot Backup Memory (or SC Backup Memory) board.
  - l. Go to step 8 and repeat for the *NEXT* controller.
  - m. Only *after* all controllers are completed, establish redundancy on all controllers.
9. ***Special Instructions for TRIO Isolated blocks if 10.0/4 or Base Version 12.0 was not Previously Installed:***

The SMR102757 fix is loaded by failover/ switchback, but will not become effective until the ISOLATED block either logs in or its config is saved.

Go to Remote I/O Config Display and SAVE CONFIG on the controller (no changes need to be made to the configuration).

## 1.9 Multifunction Console/History Nodes

The Software name TURBO should be used for Multifunction Console/History Nodes.

Depending upon the number of Historized Tags, Memory Pools 1 & 4 might have to be modified. This is necessary because MP1 is used to create the History tag list when the Recorders are activated and MP4 is used to buffer historical data during the archiving of data to Streaming Tape. In this case, the Software name should be TURBO-%%%; where %%% is the name of the Memory Pool file (use the MPUTIL.DP utility to create the new Memory Pool file). The Software name TURBOGW (without console functionality) was added to Software versions 6.3.7.R2 and above to reduce the amount of memory required in the node.

## 1.10 Multiple CDP's and Remote Data Processors

### NOTE

**Repeat Sections 1.4 through 1.9 for each Configurator Domain (CDP) and Remote Data Processor Subsystem.**

## 1.11 Tape Creation

Once a Disk contains Version 14.4/0 Software, the following procedure can be used to make Filebackup tapes *off-line*. (The on-line File Backup Utility could also be used. It is accessed via the Disk Utility RDP display).

This section describes procedures for creating two types of file backup tapes:

1. Version 14.4/0 System software only.
2. Full System backup.

Attach your Disk as WC00 containing the Version 14.4/0 Software. Using the System Maintenance Terminal, power up the DPSS, being sure to use the Delete Key to abort the automatic BOOT procedure before it counts down from 7 to 0.

1. Boot from Disk WC00; (All commands are followed by a Carriage return.):

**XX 0 [ 0 .BOOT ]OFFLBOOT .PK** (This is an Offline Boot File)

**G43D54**

Operation is now in "bugs" - PROMPT:"WHAT'S UP DOC?" >

Enter date in the format:

**STIM mm/dd/yy**

**DIR** (Initializes FMS)

2. Insert a streaming tape into the Tape Drive (TP00), and load the Software from the System Disk (WC00) to tape as follows, using the File Backup Utility:

**FBAC**

Enter Source Device: **WC00**

Enter Destination Device: **TP00**

3. Enter option to "Backup Winchester Files to Tape" -

Enter Option Number: (options described below)

**2**

(do a CARRIAGE RETURN)

Back up files on disk WC00 to streaming tape TP00

### 1.11.1 Option 1 - Making a Tape of 14.4/0 System Software Only

This is a duplicate of the 14.4/0 tape supplied.

1. At the PROMPT: Enter up to 4 file specs ([.\*]\*.\* for full copy):

Enter **@ [ 0 .UPD ]UPD14R4 .CM** (Cmd. File List for 14.4/0 files on Disk)

(do 4 CARRIAGE RETURNS)

(Takes about 6 minutes to make tape).

2. Enter backup label (up to 4 lines of 20 chars) e.g.:

VER. 14.4/0

Thru Update/ Patch 14.4 (00nn) etc.

date, etc.

C(to continue)

Copied 819 files

If more than 819 Files were copied, the Source System Disk contains extra unnecessary Files, which can be cleaned up in the Tape Verification Section below.

Q (to quit)

\*\*\*COMPLETED SUCCESSFULLY\*\*\*

3. At this point, the loaded software should be verified against the tape:

**To Verify**, Type **C** to continue, and Enter option **C** for “Verify Checksums on Destination Files”.

“Verify Checksums on Destination TP00”

C (to continue)

Check label and date before continuing

C (to continue)

\*\*\*CHECKSUM VERIFICATION IN PROGRESS\*\*\*

Examined Checksums on 819 files

If more than 819 Files were examined, the System Disk and tape contain extra unnecessary files without checksums. The message “WARNING: XX Files had no stored checksums” will appear, and can be ignored.

- Ignore Message “Could not examine Checksum on [0.UPD]UPD14R4.CM”, since this command file was in use at the time of the verify. Also, the file [230.DIAG]FBACKMSG.00 will contain an invalid checksum, since it is open during verify, to collect the “Checksum Messages” on verification.

(Resolve any errors for BAD CHECKSUMS).

\*\*\* COMPLETED SUCCESSFULLY \*\*\*

Q (to Quit)

End of Backup Utility

(Hit “ESC” key to return to BUGS).

#### NOTE

The extra files without checksums can be deleted from WC00 to save space. TSG (Technical Services Group) in Rochester should be consulted before deleting any files. The File [230.DIAG]FBACKMSG.00 can be viewed, which contains a list of any files that did not contain checksums, or any errors encountered. To read this File, TYPE:

**VI WC00:[230.DIAG]FBACKMSG.00;R**

Do CARRIAGE RETURNS to proceed through list, and “.”(period) to exit.

## 1.11.2 Option 2 - Making a Full System File Backup Tape

- This tape will include DATABASES, ENVIRONMENTS, etc. *Tape is for updating blank disks only. Only System software will contain checksums.*

### NOTE

This operation may take hours depending on number of files and System Disk size.

1. At the PROMPT: Enter up to 4 file specs ([.\*]\*.\* for full copy):

ENTER: [.\*]\*.\*

(do 4 CARRIAGE RETURNS)

2. Enter backup label (up to 4 lines of 20 chars) e.g.:

VER 14.4/0 Backup Tape

Thru Update/ Patch 14.4 (00nn) etc.

date,etc.

C(to continue)

Copied nnn files

Q (to quit)

\*\*\*COMPLETED SUCCESSFULLY\*\*\*

### Checksum Verification

At this point, the loaded software should be verified against the tape:

To assure complete verification of ALL files on the tape, TWO verification passes on the tape are required:

**1st Pass** - Verify Checksum Pass (to prevent proliferation of bad System file)

**2nd Pass** - Verify Source/Destination Pass (to check that all Source/Destination files match, although a non-system (user) source file(s) could have been bad from the start!)

1. **1st Pass:**

To Verify, Type C to continue, and Enter option C for "Verify Checksums on Destination Files".

"Verify Checksums on Destination TP00"

C (to continue)

Check label and date before continuing

C (to continue)

\*\*\*CHKSUM VERIFICATION IN PROGRESS\*\*\*

Examined Checksums on XXX files

“WARNING: XX Files had no stored checksums” will appear, and can be ignored.\*

Checksums examined minus Files without checksums = Files with valid checksums.  
This should equal XXX system files (minus File [230.DIAG]FBACKMSG.00 will contain an invalid checksum, since it is open during verify, to collect the “Checksum Messages” on verification.)

(Resolve any errors for BAD checksums).

\*\*\* COMPLETED SUCCESSFULLY \*\*\*

Q (to Quit)

2. **2nd Pass:**

At this point, the loaded software should be verified against the Tape:

To Verify, Type **C** to continue, and Enter **D** for “Compare Source/ Destination Files”

(To check ALL files on tape, not just system files with checksums!)

C (to continue)

Check label and date before continuing

C (to continue) (Update or File Comparison takes the same amount of time).

Copied NNN files.

3. Read another save set from this tape?

Q (to Quit)

\*\*\* COMPLETED SUCCESSFULLY \*\*\*

End of Backup Utility

(Hit “ESC” key to return to BUGS).

## Chapter 2 Interfaces and I/O Release Notes

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### 2.1 ABB PC Release Notes

#### 2.1.1 PC Interface

The version 14 ABB PC Computer Interface software package is documented in 3BUR000250Rnnnn - ABB PC Interface User's Guide (IB-28C110). If you are installing or upgrading the interface on your system, you should check the instructions in the manual, and the information in file RELNOTES.DOC which is supplied with the interface software.

#### 2.1.2 PC Templet Generator

The version 14 PC Templet Generator software package is documented in 3BUR000251Rnnnn - PC Templet Generator (IB-28C112). If you are installing the software for the first time, or upgrading or patching the interface on your system, you should check the instructions in the manual, and the information in file RELNOTES.DOC which is supplied with the interface software.

#### 2.1.3 PC Data Analysis

The version 14 PC Data Analysis software package is documented in 3BUR000252Rnnnn - PC Data Analysis Package (IB-28C114). If you are installing or upgrading the interface on your system, you should check the instructions in the manual, and the information in file RELNOTES.DOC which is supplied with the interface software.

### 2.2 ABB MOD 300™ Plant Network Gateway

The GCOM communications protocol was implemented in Version 12.0 to support the IEEE 802.3 standard. Use of this protocol allows a MOD 300 GATEWAY node to become an active member of an ABB Plant Network. Information about this interface appears in instruction book 3BUR000257R1 - ABB MOD 300™ Plant Network Gateway (IB-28C170).

### 2.3 VAX Interface

If upgrading from version 8 interface software to series 14, delete the global section files SYS\$SYSTEM:CIGLDB.SEC before invoking the new start-up command procedure.

Read the accompanying installation and configuration and documentation prior to installing the Interface software.

Re-link the Communication software.

All application software must be relinked, to incorporate the new data base tables and to incorporate all the code modifications.

The version 14 VAX interface is described in 3BUR000249Rnnnn (IB-28C100).

The VAX/VMS Ethernet Interface distribution media contains the following three files in runoff format which provide a user with a convenient way to produce a hardcopy.

00INSTALL.RNOVAX/VMS Ethernet Interface Installation

00CONFIG.RNOVAX/VMS Ethernet Interface Configuration

00NOTES.RNOVAX/VMS Ethernet Interface Release Notes

For the VAX/VMS Ethernet Interface Series 14:

Refer to the 3BUR000249R1 document in your MOD 300 Instruction Book Set for information on implementing the VAX/VMS Ethernet Interface Software on your system. If 3BUR000249R1 is unavailable, the VAX/VMS Ethernet Interface Software can be copied from the distribution media to a VAX computer using the VAX/VMS BACKUP Utility as follows.

1. Mount the distribution media as described in your VAX/VMS Reference Manual Set.
2. Copy the files from the distribution media using the VAX/VMS BACKUP Utility.  
\$BACKUP/VERIFY ddu:MOD3505.A/SAVE\_SET []
3. Dismount the distribution media as described in your VAX/VMS Reference Manual Set.

Once the VAX/VMS Ethernet Interface software is copied to your VAX computer, examine the runoff form at files 00INSTALL.RNO, 00CONFIG.RNO and 00NOTES.RNO files for further instructions on starting up the Interface. Refer to the VAX/VMS Digital Standard Runoff (DSR) manual for information on interpreting runoff format files.

## 2.4 Accuray Notes

The following two templets were modified in base Version 12.0 to support new Accuray functions:

- The AR\_INDEX templet's edit window now contains a column for priority. Also, in adding this column, it was necessary to decrease the edit window size by one line.  
For the 1180M interface, the priority must be configured with the same value for each index of a datatype.
- The AR\_INSTANCE templet's edit window has been modified to accommodate three new columns. Columns for direction, frequency, and priority have been added. Also, the INSTANCE column has been renamed to INST to allow more room for edit window header information. Finally, because of the addition of three new edit window columns, it was necessary to decrease the window size by 9 lines.

The values of priority, direction, and frequency must be the same for each instance of a datatype for the 1180M interface.

Under some conditions, the conversion programs may create new AR\_INDEX and AR\_INSTANCE templets.

When upgrading to version 12.0 or above, the configurator conversion program automatically takes the values of priority, direction, and frequency for relative data types and puts them on the AR\_INSTANCE templet. For absolute datatypes, the priority value on the AR\_DATATYPE

templet is put into the AR\_INDEX templet priority field. The same priority is set for every index of the datatype. There should be no need for other configuration changes.

The new fields on the AR\_INSTANCE and AR\_INDEX templets are to be used for new features in future releases of the software. For systems interfacing with the 1180, the values are still taken for the AR\_DATATYPE templet. You can leave the new fields alone on the existing templets. However, if you create new templets, you fill in the new fields.

## 2.4.1 1180M and 1190 DIU Accuray Interface Procedures

This package allows the 1190 DIU or 1180M Accuray products to communicate with the MOD300 on a TURBO or TURBOGW node. Only one type of interface is allowed per node, but different nodes can have different types of Accuray interfaces.

The 1180M Accuray Interface functionality remains the same. However users of both the 1190 DIU or 1180M Accuray interfaces must have the following configuration in their databases. It will specify the unit name that is needed by the interface software. If a unit name is not specified, no communications will be allowed to start, (for both 1190 DIU and 1180M interfaces). This configuration was also used for data type 20 alarm messages in the 1180M interface. If a data type 20 unit name is already specified, the below configuration is not necessary. If data type 36 and 20 both specify unit names, the data type 36 name will be used.

1. A UNIT\_MASTER templet must be configured on the same node as the interface.
2. Configure an AR\_DATATYPE templet with a data type number 36. Make no other entries on the templet.
3. Configure an AR\_INDEX templet as a child of the previous templet. Make one index entry (index 1 can be used) that will contain a loop with a string FCM called *NAM*. The fields of CHG, FREQ, DIR, LABEL, and PRIOR can be left blank since they will not be used.
4. Configure the CCF loop with the *NAM* FCM to contain the string name of the UNIT\_MASTER templet.

## 2.4.2 Accuray Procedures When Upgrading from Version 8

For version 10, the MOD 300 software had a change in the method for calling up RDP (Remote Display Protocol) displays, both from overview pages and from the bottom line (display request button). This change involved passing the DCN address of the Data Processor node that will run the RDP display as the first parameter.

This affects the call-up of the special Accuray RDP displays. Any customers who have the Accuray RDP displays configured on their Overview pages must change the passed parameters to include the DP node address as the first parameter and move the old parameters to the second parameter. For example:

	Version 8	Version 10
NAME:	ACCURAY	ACCURAY
PARAMETER 1	111	100 (Node address of DP)
PARAMETER 2	8	111,8

Note how both parameters for Version 8 have been incorporated into parameter 2 for Version 10 and that the data processor node number is now parameter 1.

### 2.4.3 Accuray Notes from Revision 14.2/3

With Patch 14.2 (2075), SMR107872, the following Accuray Displays have not been tested with the new Message Formats due to hardware limitations:

Insight Profile Display/Entry RDP

Color Trend Display/Entry RDP

## 2.5 Smart Platform Interface Notes

User must copy appropriate boot file to BOOT.PK in order to use Smart Platform Interface Functionality:

- TUBOOTSP.PK Turbo functionality with SP Interface.
- GWBOOTSP.PK Gateway functionality with SP Interface.

There are also corresponding foreign language boot files.

For example, to use the SP Interface with TURBO functionality:

- What's Up Doc?> **FMS WC00 : [ 0 .BOOT ]**
- What's Up Doc?> **COPY TUBOOTSP.PK BOOT.PK; REP**

-New Software Names were added to SOFTCON.CF. These Names must be used on the GENERIC\_DPSS templet in order to use the SP Interface.

- TURBO\_SPTurbo functionality with SP Interface,
- TURBOGW\_SPTurbo Gateway functionality with SP Interface

***NO OTHER GATEWAY PRODUCTS WHICH USE SERIAL INTERFACE ARE ALLOWED TO BE USED IN THE SAME NODE AS THE SMART PLATFORM INTERFACE.***

The Smart Platform Interface replaces/overwrites the AccuRay 1180/90 Interface Software when the appropriate Software Name and/or boot file is in use.

## 2.6 MOD 30 Instrument Interface

The following MOD30 changes were added in version 10.0/3 and base version 12.0: The faceplate of MOD30 1700 and 1700 XL controllers contained a button labeled COMP. Pushing this button allows the instrument to be put into computer lock mode. It will be illuminated on the faceplate as LOK. When in this mode the MOD 300 is not able to take control and change any values in the instrument.

If you try to take control of a MOD 30 loop whose corresponding instrument is in computer lock mode several things occur. At the MOD300 console a yellow message stating either CONTROL REQUEST FAILED or UNABLE TO TAKE CONTROL is generated depending upon the

graphic used to display the loop. Also an operator warning (yellow) diagnostic is generated stating MOD 30 COMPUTER LOCK ON LINK %d ICN/INST %d.

If you already have control of a MOD 30 loop and the instrument is put into computer lock mode the following occurs when a write is attempted. A yellow console message stating either CONTROL HAS BEEN TAKEN BY A USER OF HIGHER PRIORITY or YOU HAVE BEEN BUMPED BY A USER OF HIGHER PRIORITY is generated depending on the graphic used to display the loop. An operator error (red) diagnostic DATA WRITE FAILED TO LINK %d, ICN/INST %d and a non-operator warning (yellow) diagnostic MOD30 COMPUTER LOCK ON LINK %d ICN/INST %d is generated, MOD30 foreground values are refreshed and control of the loop is dropped.

When using TCL, the red DATA WRITE FAILED... operator diagnostic and yellow MOD 30 COMPUTER LOCK ON... non-operator diagnostic is displayed each time a write is attempted to a MOD 30 instrument in computer lock mode. Also MOD30 foreground values are refreshed after each attempt.

In the release of 12.0 and above, the Messages are in Hex, not decimal, e.g. ON LINK %X ICN/INST %2X”.

## 2.7 Smart I/O Interface

The SMART I/O functionality was added in base version 12.0, to support the smart transmitters using HART protocol interface. Listed below are the modifications made to support this enhancement. Information about this interface appears in instruction book 3BUR000256R1 - Smart Device Interface User's Guide (28C160).

1. The Maximum number of SHIM networks allowable on a RS 485 serial port is dependent upon the baud rate that is configured for the port. The limits are as follows:

Baud Rate	Scan Rate	Max SHIMs
19200	10 sec.	31
9600	10 sec.	31
4800	21 sec.	31
2400	25 sec.	25
1200	24 sec.	18

The scanrate is chosen based on the number of SHIM networks configured for the port, with the “worst case port” being used for the entire node. The scanrate shown in the above table is based on the maximum number of SHIM devices connected. If less SHIM networks are present on the port, the scanrate will be faster.

2. When using baud rates, be aware that the input timeout value configured on the serial I/O templet must be set large enough to allow for the entire message being returned by the SHIM device to be received. For example, 1200 baud must allow for an input timeout larger than 1 second to receive the reply. If the input timeout is set to 1 second, the port will remain DOWN.

3. A controller failover will occur when all SHIM devices connected to a serial port are declared DOWN. When the last SHIM on a RS 485 serial line is declared to be DOWN, the port status will be declared DOWN also. At this time, the failover request to the backup controller will be initiated. On a RS 422 serial line, when the single SHIM connected goes DOWN, the failover request is initiated. In either case, the data quality for all transmitter's connected to the effected SHIM devices will be set to BAD.

If a single transmitter on a SHIM goes DOWN, a fail-over request will NOT be initiated. The data quality for the input variables (PV, SV, TV and 4V) for this transmitter will be set to BAD.

## Chapter 3 Remote Data Processors

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### 3.1 Introduction

This section has not changed since the version 12.0 Instruction book, and describes the steps to upgrade Remote Data Processors, which are Data Processors that do not contain the Data Base Configurator package.

### 3.2 Application Packages

The following packages can be executed from a remote data processor:

<b>Mnemonic</b>	<b>Package</b>
TCLCATALOG	TCL Catalog
TCLRECIPE	TCL Recipe
REPORTBUILD	Report Services Builder Display
REPORTSCHED	Report Services Scheduler Display
DISKFORMAT	Disk Formatting Services
LADDERLOGIC	Taylor Ladder Logic
ACCURAY	AccuRay Interface

### 3.3 Creating or Upgrading a Remote Data Processor

To create a remote data processor, load the system software onto the remote disk using the instructions in Section 1.5.2 Booting Base System, Section 1.5.3.1 Preparing an Empty System Disk or a Disk at Version 9 or Below Software

- step 1, Section 1.5.4 Loading Software to the System Disk, and Section 1.5.5 Checksum Verification of this manual. Do not create a BOOT.PK file.

If you are upgrading an existing remote data processor, you should also run the conversion tasks listed in *Section 1.5.9 Running Conversion Tasks*. It is a good idea to run conversion tasks for all application packages, even if you are not currently using that package in the remote data processor.

### 3.4 Configuration Considerations

When creating a remote data processor, consider the following:

- The Catalog/File [0.BOOT]BOOT.PK should not be on the remote data processor.
- Software Name Entry for the Generic\_DPSS data base templet:
  - A data base compile, install, and download are required for the node if you change the software name.
  - The software name DATA\_PROCESS is no longer valid. If it is currently in the system, it has to be changed.

- The Software name TURBODP can be used if the node is to perform data processing functions only.
- For expanded functionality, but more limited use, the software name TURBOGW can be used to add Ladder Logic, the AccuRay Interface, and their respective catalogs to the remote winchester:
- If you require console functionality on the remote data processor, use the software name TURBO. (Use TURBO only when console functionality is used, as turbo requires more system overhead than other software names).
- Chapter 7 Boot Files has a list of the boot files associated with each of these software names.
- A Console Library Configurator Templet is required if the node has console functionality.
  - Change the Device Name on the Console Library Configurator Templet, from CONFIGURATOR to the Templet Name of the remote data processor for each specific application package you want to run.
  - The display IDs for the packages should be different from display IDs used in other nodes.
  - The TCL catalog entry must start with TCLC.
  - To run the Ladder Logic editor on a remote data processor, you need a Console Library Configurator Templet with Ladder Logic defined on it.
- A Serial Port Setup Templet is required if the node has either console functionality or a printer/logger.
- REPORT BUILDER - Catalogs [180.BATDATA] and [190.REPSCH] are created on boot-up because RPCHKUP.DP tries to make certain back-up files in those Catalogs. Catalog [180.REPTDATA] is created when a report is built and Catalog [190.ARCHIVE] is created when a report is archived.
- If you load a patch on the configurator data processor, you should also load it on the remote data processor.

## Chapter 4 Version 14.4/0 File Listing

### 4.1 Version 14.4/0 File Listing

Version 14.4/0 contains the following updates: Update 14.4- 003 through 005, 009 through 017, 020 through 024, 027 through 029, 031, 032, 034, 035, 039, 041, 045, 046, 047, 050, and Patches 14.4 (0004), (0010), (0014), and (0023).

### 4.2 File Listing for 14.4/0

Files carried over from Version 14.3, e.g. [STARTERn], [50.INDEX], [50.INRECOVR], [50.DB2], etc. are not listed.

Table 4-1. 14.4/0 File List

Update/ Patch Number	Catalog/ File	File Date
UD14_4-003, 035	[50.SC_CTLR]SALNK_SC.PK	10/29/97
UD14_4-003	[50.MOD300S]M30300S.PK	5/15/97
UD14_4-003	[50.MOD300S]SPI.PK	5/15/97
UD14_4-003	[50.CODE]LCP.PK	5/15/97
UD14_4-003	[50.MOD300S]LCP.PK	5/15/97
UD14_4-003, 035	[50.SC_CTLR]LCP_SC.PK	10/29/97
UD14_4-003	[170.OVERLAY]*.DP (65 Files)	3/17 or 5/15/97
UD14_4-003	[170.BUILDENT]*.DP (6 Files)	3/17 or 5/15/97
UD14_4-003	[50.MOD300S]PBBASE.PK	3/17/97
UD14_4-003	[170.CONV]*.DP (7 Files)	3/17/97
UD14_4-003	[170.CONV]*.DP (6 Files)	5/15/97
UD14_4-003	[170.CONVERT]*.DP (3 files)	3/17/97
UD14_4- 013, 016, 029, 035, 039	[50.GATEWAY]CCFGWAY.PK	10/30/97
UD14_4-003, 029	[50.CODE]CCFGLOBAL.PK	9/12/97
UD14_4- 013, 016, 029, 035, 039	[50.CODE]CTLSS.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.CODE]RUSS_CTLSS.PK	10/30/97
UD14_4-013	[50.CODE]RUSS_TC.PK	3/29/94
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]CCF300S.PK	10/30/97

Update/ Patch Number	(Continued)Catalog/ File	File Date
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]AT300S.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]MSTRIO.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.SC_CTLR]CCF_SC.PK	11/10/97
UD14_4- 013, 016, 029, 035, 039	[50.SC_CTLR]AT_SC.PK	11/10/97
UD14_4- 013, 016, 029, 035, 039	[50.SC_CTLR]MSTRIO.PK	11/10/97
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]CCNORLNK.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]SOEDRV.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]SP_COOPMN.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.GATEWAY]BESVX.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.GATEWAY]BESPN.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]BESTU.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]BESTDP.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.MOD300S]BESTGW.PK	10/30/97
UD14_4- 013, 016, 029, 035, 039	[50.SC_CTLR]BESSC.PK	11/10/97
UD14_4- 013, 016, 029, 035, 039	[50.CODE]BES300.PK	10/30/97
UD14_4-017, 024	[50.CONSOLE]CONSOLE.PK	9/16/97
UD14_4-003	[50.CONSOLE]RCVCNTRL.PK	5/14/97
UD14_4-017, 024	[50.CONSOLE]RDPIP.PK	9/16/97
UD14_4-003	[50.GATEWAY]GWCNTRL.PK	5/14/97
UD14_4-003	[50.CODE]CCCNTRL.PK	5/14/97
UD14_4-003, 035	[50.SC_CTLR]SCCNTRL.Pk	10/29/97
UD14_4-017, 024	[50.MOD300S]CONSOLE.PK	9/16/97
UD14_4-003, 029	[50.MOD300S]JRCNTRL.PK	9/12/97
UD14_4-003	[50.MOD300S]RCVCNTRL.PK	5/14/97
UD14_4-017, 024	[50.MOD300S]RDPIP.PK	9/16/97
UD14_4-003	[50.MOD300S]HISTBASE.PK	5/14/97
UD14_4-003	[50.MOD300S]HIST_REM.PK	5/14/97
UD14_4-003	[50.CONSOLE]HIST_REM.PK	5/14/97
UD14_4-003	[50.GATEWAY]HIST_REM.PK	5/14/97
UD14_4-003	[50.CODE]MD300DRV.PK	5/14/97

Update/ Patch Number	(Continued)Catalog/ File	File Date
UD14_4-003, 032, 039, 045	[50.D2D]DGD2D.PK	11/17/97
UD14_4-003, 029	[50.CONSOLE]DGCONS.PK	9/12/97
UD14_4-003, 032	[50.GATEWAY]DGGATE.PK	10/8/97
UD14_4-003, 032	[50.CODE]DGCTLR.PK	10/8/97
UD14_4-003, 032	[50.MOD300S]DG300S.PK	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGBIDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGBXDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGCIDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGCTDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGCXDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGDBDSP.DP	10/8/97
UD14_4-003, 032	[230.DPL]DGDPL.DP	10/8/97
UD14_4-003, 032	[50.MOD300S]DGDUMP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGMBDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGMSDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGOSDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGPCDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGRBDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGRCDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGRIDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGSMDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGSMODSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGSMTDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGSPDSP.DP	10/8/97
UD14_4-003, 032	[230.OVERLAY]DGXXDSP.DP	10/8/97
UD14_4-003	[230.DPL]DGTEST.DP	5/12/97
UD14_4-003, 032, 035	[50.SC_CTLR]DGSCCT.PK	10/29/97
UD14_4-003	[50.SC_CTLR]DGTEST.PK	5/12/97
UD14_4-003	[0.BOOT]SYSPATCH.PK	5/12/97
UD14_4-004, 020, 027, 031, 043	[230.DIAG]MESGTXT.IS	11/16/97

Update/ Patch Number	(Continued)Catalog/ File	File Date
UD14_4-003, 022, 029	[50.CONSOLE]DBCS.PK	9/26/97
UD14_4-003, 022, 029	[50.GATEWAY]DBCS.PK	9/26/97
UD14_4-003, 022, 029	[50.CODE]DBCS.PK	9/26/97
UD14_4-003, 022, 029	[50.MOD300S]DBCS.PK	9/26/97
UD14_4-003, 022	[50.MOD300S]DBDUMP.DP	9/2/97
UD14_4-003	[50.MOD300S]RAARCACT.PK	5/14/97
UD14_4-003	[50.MOD300S]RBBASE.PK	5/14/97
UD14_4-003	[50.MOD300S]RSBCOL.PK	5/14/97
UD14_4-003	[50.MOD300S]RSDSP.PK	5/14/97
UD14_4-003	[50.MOD300S]RSPRNT.PK	5/14/97
UD14_4-003	[180.OVERLAY]*.DP (15 Files)	5/14/97
UD14_4-012	[190.OVERLAY]RGEXQ.DP	8/18/97
UD14_4-003	[190.OVERLAY]*.DP (15 Files)	5/14/97
UD14_4-003, 009, 046	[50.CODE]TCL.PK	11/18/97
UD14_4-003, 009, 035, 046	[50.SC_CTLR]TCL_SC.PK	11/18/97
UD14_4-003, 009, 046	[50.GATEWAY]TCLGAT.PK	11/18/97
UD14_4-003, 009, 046	[50.MOD300S]TCLELS.PK	11/18/97
UD14_4-003, 031, 046	[210.COMPILER]BC_SCHED.DP	11/18/97
UD14_4-003	[210.DISPLAY]DPLCTL.DP	5/14/97
UD14_4-003	[210.DISPLAY]DPLRCP.DP	5/14/97
UD14_4-003	[210.DISPLAY]DPLRED.DP	5/14/97
UD14_4-003	[210.DISPLAY]DPLREQ.DP	5/14/97
UD14_4-003	[210.DISPLAY]DPLRPRO.DP	5/14/97
UD14_4-003	[210.DISPLAY]DPLBMGMT.DP	5/14/97
UD14_4-003	[210.DISPLAY]DPLCUST.DP	5/14/97
UD14_4-003	[210.COMPILER]RCPCOMP.DP	5/14/97
UD14_4-003	[210.DISPLAY]DPLEXC.DP	5/14/97
UD14_4-003	[210.DISPLAY]DPLMOD.DP	5/14/97
UD14_4-003	[210.COMPILER]COMPILER.DP	5/14/97
UD14_4-003	[210.COMPILER]TL_TRANS.DP	5/14/97

Update/ Patch Number	(Continued)Catalog/ File	File Date
UD14_4-003	[210.DISPLAY]TLINK.DP	5/14/97
UD14_4-003, 009	[210.COMPILER]TLRECORD.DP	6/24/97
UD14_4-003, 046	[210.DISPLAY]TLDISPLY.DP	11/18/97
UD14_4-003	[50.MOD300S]CIGATE.PK	5/15/97
UD14_4-003	[50.GATEWAY]CIGATE.PK	5/15/97
UD14_4-003	[50.MOD300S]CIDPSS.PK	5/16/97
UD14_4-003	[50.MOD300S]JENTPATCH.PK	5/23/97
UD14_4-003	[50.GATEWAY]JENTTEST.PK	4/3/97
UD14_4-003	[50.MODCOMP]CIGATE.PK	4/3/97
UD14_4-003	[50.GATEWAY]PNGATE.PK	5/16/97
UD14_4-003	[50.MOD300S]LLTURBO.PK	5/14/97
UD14_4-003	[0.PLC]PLCEXEC.DP	5/14/97
UD14_4-003	[0.PLC]PLCOMPILE.DP	5/14/97
UD14_4-003	[0.PLC]PLLADRED.DP	5/14/97
UD14_4-003	[0.PLC]PLLIBDIR.DP	5/14/97
UD14_4-003	[0.PLC]PLLOADLIST.DP	5/14/97
UD14_4-003	[0.PLC]PLSEGLIB.DP	5/14/97
UD14_4-003, 035	[50.SC_CTLR]LLCONTSC.PK	10/29/97
UD14_4-003	[50.MOD300S]BACKRES.PK	5/13/97
UD14_4-003	[50.MOD300S]CFDE.PK	5/13/97
UD14_4-003	[50.MOD300S]CFEXE.PK	5/13/97
UD14_4-003	[50.MOD300S]CFXPRCVR.PK	5/13/97
UD14_4-003	[50.MOD300S]FMTINMEM.PK	5/13/97
UD14_4-003	[50.MOD300S]MERGE.PK	4/11/97
UD14_4-003	[50.MOD300S]PTP.PK	5/13/97
UD14_4-003	[50.MOD300S]RES.PK	5/13/97
UD14_4-003	[50.MOD300S]UPD.PK	5/13/97
UD14_4-003	[50.CF]*.DP (58 Files)	3/28 or 5/13 or 4/11/97
UD14_4-028	[50.CF]INSTALL.PK	9/19/97
UD14_4-021	[50.CF]DBASE.DP	8/29/97

Update/ Patch Number	(Continued)Catalog/ File	File Date
UD14_4-021	[50.CF]TRANITEM.DP	9/5/97
UD14_4-021	[50.CF]ITEMRULE.DP	8/29/97
	[50.CF]CFCV14R2.DP	10/5/95
UD14_4-015, 047	[50.CF]CFCV14R3.DP	11/20/97
UD14_4-005, 010, 023	[50.CF]CFTCLINK.DP	7/18/97
UD14_4-003	[220.FORMAT]SCHEDBAK.DP	5/13/97
UD14_4-003	[220.FORMAT]FMTCONCT.DP	5/13/97
UD14_4-003	[220.FORMAT]FMTDISK.DP	5/13/97
UD14_4-003	[220.FORMAT]FORMATUI.DP	5/13/97
UD14_4-003	[50.CF]DNLD.OV	5/13/97
UD14_4-003	[50.IDD]DLIDDS.DP	5/13/97
UD14_4-003	[50.CFINSTAL]*.FN (46 Files)	5/13/97
UD14_4-014	[50.COMPOPER]CFOP005.FN	8/8/97
UD14_4-011	[50.COMPOPER]CFOP214.FN	6/24/97
UD14_4-003	[50.COMPOPER]*.FN (129 Files)	5/13/97
UD14_4-041	[50.COMPOPER]CFOP240.FN	11/5/97
UD14_4-041	[50.COMPOPER]CFOP068.FN	11/5/97
UD14_4-003, 034	[50.MOD300S]LDBASE.PK	10/13/97
UD14_4-003, 034	[240.DISPLAY]LDDSPY.DP	10/13/97
UD14_4-003, 034	[240.DISPLAY]LDOVLAY.DP	10/13/97
UD14_4-003, 034	[240.DISPLAY]LDRECV.DP	10/13/97
UD14_4-003	[50.CODE]CCR.PK	5/14/97
UD14_4-003	[50.CODE]SE3T1RED.PK	5/5/97
UD14_4-003	[50.CODE]SESTDRED.PK	5/5/97
UD14_4-003, 035	[50.SC_CTLR]CCR_SC.PK	10/29/97
UD14_4-003, 035	[50.SC_CTLR]SE3T1RED.PK	10/29/97
UD14_4-003, 035	[50.SC_CTLR]SESTDRED.PK	10/29/97
UD14_4-003	[50.MOD300S]SENONRED.PK	5/13/97
UD14_4-003	[50.REDPLC]SEREDGAT.PK	5/13/97
UD14_4-003	[50.MOD300S]SESTAJRS.PK	5/13/97

Update/ Patch Number	(Continued)Catalog/ File	File Date
UD14_4-003	[50.REDPLC]SESTARPI.PK	5/13/97
UD14_4-003	[50.CONSOLE]SESTACON.PK	5/13/97
UD14_4-003	[50.GATEWAY]SESTACI.PK	5/13/97
UD14_4-003, 035	[50.SC_CTLR]PMMSC.PK	10/29/97
UD14_4-003, 035	[50.SC_CTLR]PMSETTL.PK	10/29/97
UD14_4-003	[50.MOD300S]ACCURAY.PK	5/19/97
UD14_4-003	[50.ACCURAY]ARCHDATA.DP	5/19/97
UD14_4-003	[50.ACCURAY]ARCLRTRN.DP	5/19/97
UD14_4-003	[50.ACCURAY]ARCMCF.DP	5/19/97
UD14_4-003	[50.ACCURAY]ARDISMGR.DP	5/19/97
UD14_4-003	[50.ACCURAY]ARDISTSK.DP	5/19/97
UD14_4-003	[50.ACCURAY]ARINSITE.DP	5/19/97
UD14_4-003	[50.ACCURAY]ARPMGR.DP	5/19/97
UD14_4-003	[260.OVERLAY]LCCFGENT.DP	5/15/97
UD14_4-003	[260.OVERLAY]LCCON.DP	5/15/97
UD14_4-003	[260.OVERLAY]LCCOPY.DP	5/15/97
UD14_4-003	[260.OVERLAY]LCExc.DP	5/15/97
UD14_4-003	[50.MOD300S]LCINIT.PK	5/15/97
UD14_4-003	[260.OVERLAY]LCMAC.DP	5/15/97
UD14_4-003	[260.OVERLAY]LCPCDEFF.DP	5/15/97
UD14_4-003, 011	[50.MOD300S]PCDRVR.PK	6/24/97
UD14_4-003, 011, 035	[50.SC_CTLR]PCDRVR.PK	10/30/97
UD14_4-003	[260.OVERLAY]SDI.PK	5/15/97
UD14_4-003	[50.MOD300S]FMSLIB.PK	3/12/97
UD14_4-003, 039, 045	[50.D2D]SED2D.PK	11/17/97
Patch 14.4 (0004)	[50.MOD300S]AE_GERMAN.PK	1/12/98
Patch 14.4 (0004)	[50.MOD300S]AE_FRENCH.PK	1/12/98
Patch 14.4 (0004)	[50.MOD300S]AE_RUSSIAN.PK	1/12/98

Update/ Patch Number	(Continued)Catalog/ File	File Date
UD14_4-003, 029, 035, 050, Patch 14.4 (0004), (0014)	[50.MOD300S]AEELS.PK	2/24/98
UD14_4-003, 029, 035, 039, 050, Patch 14.4 (0014)	[50.CONSOLE]AECONSS.PK	2/24/98
UD14_4-003, 029, 035, 039, 050, Patch 14.4 (0014)	[50.GATEWAY]AEGATESS.PK	2/24/98
UD14_4-003, 029, 035, 050, Patch 14.4 (0014)	[50.CODE]AERCONTR.PK	2/24/98
UD14_4-003, 029, 035, 039, 050, Patch 14.4 (0010), (0014), (0023)	[50.SC_CTLR]AERCONTR.PK	4/1/98
UD14_4-003, 022, 029, 035, 039, Patch 14.4 (0023)	[50.SC_CTLR]DBCS.PK	4/1/98
UD14_4-003, 022, 035, Patch 14.4 (0023)	[50.SC_CTLR]DBDUMP.PK	4/1/98
Patch 14.4 (0023)	[50.SC_CTLR]MD300DRV.PK	3/31/98

### 4.3 Remaining Files from Version 14.3/0

Table 4-2. 14.3/0 File List

Update/ Patch Number	Catalog/ File	File Date
UD14_3-004, 017, 029	[50.CONSOLE]AE_GERMAN.PK	9/12/97
UD14_3-004, 017, 029	[50.CONSOLE]AE_RUSSI.PK	9/12/97
UD14_3-004, 017, 029	[50.CONSOLE]AE_FRENCH.PK	9/12/97
UD14_3-004, 017	[50.CONSOLE]RSPRNTSKS.PK	1/5/96
UD14_3-016, 017	[50.CODE]SALINK.PK	12/19/95
UD14_3-004	[50.CONSOLE]FRENCH.PK	8/15/95
UD14_3-004	[50.CONSOLE]GERMAN.PK	8/15/95
UD14_3-004	[50.CONSOLE]RUSSIAN.PK	8/15/95
14.2-028A	[50.MOD300S]FRENCH.PK	12/16/94
14.2-028A	[50.MOD300S]GERMAN.PK	12/16/94
14.2-028A	[50.MOD300S]RUSSIAN.PK	12/16/94
***	[210.TCL]_TCLACC_.SR	4/12/95
***	[210.TCL]FILESYS_.SR	3/21/91

Update/ Patch Number	(Continued)Catalog/ File	File Date
UD14_3-004, 014, 017	[220.FORMAT]FORMAT.DP	12/14/95
UD14_3-004	[50.GATEWAY]ENTPATCH.PK	12/18/95
	[0.BOOT]FSCK.DP	9/23/94
14.2-028A	[50.MOD300S]POOLS.PK	11/29/94
14.2-028A	[50.TURBOGW]POOLS.PK	11/29/94
	[50.DPSS]POOLS.PK	9/07/94
	[50.INDEX]SOFTCON.FR	1/5/96
	[50.INDEX]SOFTCON.GE	1/5/96
	[50.INDEX]SOFTCON.RS	1/5/96
	[50.INDEX]SOFTCON.CF	2/18/94
UD14_3-004	[0.BOOT]BACKUP.DP	9/26/95
UD14_3-004	[0.BOOT]FBACKUP.DP	9/26/95
UD14_3-016	[50.CONSOLE]PRIORITY.PK	11/29/95
UD14_3-016	[50.GATEWAY]PRIORITY.PK	11/29/95
UD14_3-016	[50.MOD300S]PRIORITY.PK	11/29/95
	[260.CONFIG]LCCV91.DP	6/20/91
UD14_4-039, 045	[50.D2D]D2D.PK	11/17/97
	[0.BOOT] (24 FILES)	VARIOUS DATES
UD14_4-035	[50.SC_CTLR]SSSTP.PK	10/29/97
	[50.MOD300S]FBTCH01.DP	5/18/92
	[50.MOD300S]PMM300S.PK	11/20/90
	[50.MOD300S]PMSETTL.PK	11/20/90
	[50.MOD300S]ENTTEST.PK	9/18/92
UD14_3-006, 052	[50.SC_CTLR]SYSPATCH.PK	4/11/96
UD14_4-035	[50.SC_CTLR]SIOPATCH.PK	10/30/97
	[50.SC_CTLR]BASE.PK	11/12/90
	[180.CHARSETS]*. (3 FILES)	11/30/90
	[50.MOD300S]ENTTEST.DP	9/18/92
	[230.DPL]DGTEXT.DP	4/13/94



## Chapter 5 Prom Checksums

### 10.0/n and 14.n PROM CHECKSUMS - (15 Jan 1998)

**MULTIBUS, D/D**      Cat #6006PZ00032B  
 Change 9/6/95 #P195606

Pacific <b>68000</b>	Pacific <b>68020</b>	Synergy <b>68020</b>		
U110	U122	U111	90H	\$790E
U113	U153	U115	90L	\$2803
U310	U207	U311	98H	\$DDCF
U313	U170	U315	98L	\$8BF6

**SERIAL I/O**      Cat #6007PZ000010A  
 Change 5/20/94 #P194604

U19      \$BA11

<b><u>D/M 128K PROM</u></b> -	Cat #6009PZ00023A Change 7/15/97 #P197605	<b>512K PROM</b> - Cat #6009PZ00023B Change 7/15/97 #P197605
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U44      \$1AA0      \$1AA0

**NOTE:** 512K PROM is used on 125S2206-10 for 6009B - Model L; 6005B - Model S; 6205B - Model J.

**D/F**<sup>1</sup> (512-2)      Cat #6005PZ00033B  
 (68000 uP. only!)      Change 1/15/98 #P197048

TO USE 512K PROMS:

Mod. E Req's. Daughter Bd. - 125S2800-1 and 256K RAM; NDA 1698E3;

    PAL U101 - \$1730 - 129S1078-22

Mod G,J -Contains no Daughter Bd.;

Includes PAL U101 - \$1748 - 129S1078-26

U75, U751, SCU78	20H	\$4885
U76, U761, SCU79	20L	\$0AB7
U77, U771, SCU80	0H	\$9E10
U78, U781, SCU81	0L	\$A386

**MULTIBUS** (2M)      Cat #6026PZ00004A  
**(33MHz only)**      Change 9/6/95 #P195606

Taylor  
**68020**

U5	0H	\$0CBC
U6	0L	\$2820

**VIDEO MOD** (256-2) Cat #6008P\_00\_06A

Mod. C and above Bds. **only!**

Change 4/24/91 #1900331

U3	(Z - English)	\$54AC
	(A - Russian)	\$5BA5
	(B - Serbo-Croatian)	\$5AA6
U9	(006A Standard Color)	\$F982
	(106A Option #1)	\$C228
	(206A Option #2; On Mod D Video	\$2E0F

Module **only**, on which PAL U7 is 129S1190-4)

<sup>1</sup>NOTE: Same D/F PROMS for SC and Models A/B/C Controller Subsystems.  
Remove W2 Memory Jumper, when going to Version 8 or 10 Software.  
Mod E Board with Daughter Board, and PAL becomes Mod F.- Important if Board is  
ever serviced.

**MOD A CTLR**<sup>2</sup> (256-2) Cat #6004PZ00031A  
Change 3/96 #P196600

U99	30H	\$828C
U100	30L	\$E863
U101	20H	\$2EBB
U102	20L	\$2E7E
U103	10H	\$95C1
U104	10L	\$7114
U105	0H	\$E634
U106	0L	\$7431

**MOD B,C,D** (512-2) Cat #6004PZ00031B  
**CTLR**<sup>2</sup> Change 3/96 #P196600

U128, U112	20H	\$B147
U129, U113	20L	\$16E1
U130, U114	0H	\$7BF5
U131, U115	0L	\$E545

**SC CTLR** (512-2) Cat #6204PZ00030A  
Change 5/1/91 #P191032

U14	P3	\$7F05
U15	P2	\$A352
U16	P1	\$368A
U17	P0	\$DE46

<sup>2</sup>NOTE: Watchdog Timer Jumper must be off.

**BMC**<sup>2,3</sup> (512-2)      Cat #6014PZ00027B  
Change 7/1/93 #P193608

**TO USE 512K PROMS:**

Mod. A,B **Req's.** Daughter Bd.- 125S2794-1  
PAL U124 - \$14A6 - 129S1078-23

Mod. C and above - No Daughter Bd.:  
**Requires** PAL U176 - \$14BE - 129S1078-24

U95, U201, U148, U101	20H	\$60BE
U96, U202, U149, U102	20L	\$8537
U97, U203, U150, U103	0H	\$F28C
U98, U204, U151, U104	0L	\$0554

**SC BMC** (512-2)      Cat #6214PZ00005A  
Change 7/1/93 #P192615

U6	P3	\$62B5
U7	P2	\$E14C
U8	P1	\$4F58
U9	P0	\$6637

<sup>2</sup>NOTE: Watchdog Timer Jumper must be off.

<sup>3</sup>NOTE: Mod C,D Boards with PAL become Mod E.- Important if Board is ever serviced.

## Chapter 6 MOD 300™ Version 14.4/0 Fixes

### 6.1 Description of Updates Included in 14.4/0

The following is a list of the changes that have been included in the Version 14.4/0 Software.

Table 6-1. Version 14.4/0 Fixes

Update/ Patch Number	AP	SMR/ PMR	Description
UD14.4-003	PN	110038	The MODGATE node is generating diagnostics for Invalid System Event message that is not a subscription request. This message is from the MASTER OS stations every 10 min.
		111402	Not all Data Sets that are configured to be Autostarted will be started upon boot up of the MODGATE node.
		111403	The MODGATE node is generating diagnostics for Invalid Dest_Ch_Id for incoming message from the MASTER OS station.
	Smart Platform	111993	The 'ARINDXMPxxxx' loop is used to define port and ARINDEX mapping assignments for Smart platform applications. It is required and critical to the success of the application. If the loop is missing or misnamed, the SP software will not start, AND there is no diagnostic indicating the source of the problem. In addition, if an on-line-upgrade was performed on a controller in this condition, a bus-error would occur on the primary controller after the switchover.
	CS	108293	An Advant Station (OS, ES, IMS, or combinations) may not come back on the DCN after a DCN or TK531 cable is broken, then reconnected.
	SSE	109622	The Alarm Process on an Operator Station may see a node up caused by a manual failover/switchback due to a READY-ACTIVE state change of the failing controller. This does not effect hard failures.
		111745	System diagnostic messages generated whenever on-line upgrade commands are issued to AC460 controllers are "hidden" (not operator level).
		111747	A software function used to identify the source of an MIB interrupt returns the carrier module number/submodule number. These parameters are returned in the wrong order (as per reference documentation).
		111863	Tape to tape copy for transporting history files from Archive Corps Viper 6150 to 4 mm DAT. At the end of copy from source to destination, an errors on the source tape. Test code for handling the end of data/end of tape eliminated the error.

Update/ Patch Number	AP	SMR/ PMR	Description
	OS	111326	If a color printer is not configured with carriage return on line feed or if that option does not exist on the printer, the first logger message printed after the page head will be skewed towards the right side of the page.
		111419	The software for SC controllers should support Error Correcting Memory.
		111865	The FMS Init command fails on FMS disks larger than 1 Gig. It hangs and/or crashes the system.
		112081	The CPU utilization of the CDP suffers a step increase when using a SCSI disk. In this case it went from 8-10-12% to 55-60%. This has been seen after a CDP reboot followed by another node download when using 20MHz CPUs.
	AE	111333	The new generation of logger color printers uses different color ribbons from our original printers. To prevent the overhead of double striking to achieve the old colors, the new colors are now available in the logger templet.
		111450	Update the Custom scripts to support the Remote printing function.
		111497	Because of a link problem Advant stations using e14r3+ software may try to use more transport records than are available causing message routing problems in that node.
		111781	Diagnostic was created as an operator diagnostic instead of a debug.
	DG	110652	The customer does not understand what CS: AP ERROR 05 IN CSDOC means.
	PL	111498	Might have problems loading TCL sequences if a Ladder Logic load error has occurred on the same node. This problem will only occur on PM510 nodes in versions of e14r2_patches or e14r3_patches that contain SDR110194.
	DBCS	108748	Customers occasionally see bad data quality on a loop that gets data from a loop in another node; this does not go away until a loop is redownloaded, forcing Cn to rebuild its DBMS lists.
		110015	It is not possible to customize the memory pool sizes on the RTAB(PU510) in Operator or Engineering stations. As a consequence, for example, the size of the data base or the number of batch procedures may be limited.
		111414	The AE rewrite can send notifies faster and therefore can run out of transport
		111478	When several OSs simultaneously get a large amount of data from a controller, one or more of the displays may lose data. This was fixed by SDR109825, but the patch has failed.

Update/ Patch Number	AP	SMR/ PMR	Description
	DBCS	111485	There will be a fatal diagnostic from the node that says that DBMS (db loc) has bus errored. DBMS data will be unavailable from that node (therefore x's will show up on displays).
		111486	Pulling a DCN MIB (CS512) on an AC410 or AC460 (PU520) will cause an unrecoverable fatal bus error.
		111604	A CS statistics task may cause an overwrite if an invalid message is received.
		111623	Several problems recently have been caused by the unreliability of the DBMS communication interface for large messages. These include the Ladder Logic Segment display getting incomplete data for large ladders (because some of a series of Get UTLs failed), and the Ladder Logic Element displays getting no data from nodes with a huge number of elements of the same type (because the response to a Query UTL was too large to get through).
		111645	When a CDP is installed, the U_REL_NAMES relation (Unit-relative tag table) is updated in every Advant Station in the domain. If the table is large (more than about 1000 names), the download fails.  The resulting time-outs cause it to take about 7 minutes per node, one node at a time in reverse order of DCN address; during the 7 minutes it is trying to update a node (and for several minutes after the CDP has moved on to the next node) DBMS is very busy, and it is unable to process requests (OS displays do not refresh, history does not get data, etc.)
		111683	An Advant workstation should become that master timekeeper if the current master timekeeper is not an Advant workstation.
		111710	Several bus errors have been observed in or near dbcctl or dbsokvb in the DBLOC task, associated with a diagnostic  DBMS: DUPLICATE KEY/TAG - NODE 0, RELN 0  which indicates (contrary to its wording, because node 0 has a special meaning in this message) that a request had been made for a record using an incorrect key set for a relation, or for an FCM that does not exist in the loop with a specified tag, or for a "non-golden" FCM attribute in a loop.
		111744	An MVI board was compiled/installed and subsequently deleted. It was then re-added/compiled/installed. It should have run smart platform S/W, but it failed to load.
		111871	When the Ladder Logic Segment Display for a device on a controller was called up from a Turbo node which itself contains a TLL device, the display timed out and brought up the device on the Turbo instead.

Update/ Patch Number	AP	SMR/ PMR	Description
		111991	On a controller heavily loaded with lists, undergoing CS testing that caused frequent retries due to temporarily inaccessible nodes, the (new) DBXMT task had a bus error deallocating a bad address.
	AR	109685	Periodically on an 1180 DIU gateway a diagnostic message “UNKNOWN BLOCK 0 COMMAND %x RECEIVED” is generated. This may result in the loss of data being written to the MOD300 database.
		109785	A particular Accuray configuration can cause an incorrect block definition to be sent to the Accuray 1180 during start-up configuration.
		109892	The time and date of the 1180 is not updated from the MOD300. Also the 1180 start up flag, (warm start or cold start), is not being sent to the 1180.
		111538	The 1180 channel code display can show incorrect values for the channel code entered.
		MOD 30	109866
	111429		MOD30 Interface code released in 14.2/3, as part of patch 2086, could show inconsistent data values and alarm conditions on instrument loops when the loop is turned off.
	111709		The MOD 30 driver does not properly handle changes in device command (ADEV_CMND) and device state (ADEV_STAT) properly when these changes are initiated from outside a MOD300 node (i.e. an LCP connected to the ICN on the MOD30 link side).
	PLC	110295	Within the PC Configurator, it will not accept Allen Bradley addressed less than 10.
		110901	After implementing the choice ALL/ONE in the CRTNUM field of the serial port templet, a diagnostic will be continuously generated upon loss of communications.
		111550	Upon loss of communications with a PLC the SC Controller will failover to the backup. The only way to avoid the failover is to terminate redundancy before the communications loss occurs.
		111603	PC Configurator command display does not show up on printers very well. They are not easy to read due to the edit widows background color and text color.
		111784	PC Configurator Index file does not always accurately reflect the current status of the configuration files that exist in [260.CONFIG].

Update/ Patch Number	AP	SMR/ PMR	Description
		112064	An Allen Bradley PLC interface on an SC Controller has a backup port configured along with three PLCs on the primary port. All of the PLCs and backup KF-2 are disconnected. The only device communicating is the primary KF-2. Within three minutes of boot up the SC controller will 'red light'.
		112074	A MOD300 SLC504 PLC Interface can write analog/digital values to the wrong word offset in a PLC file.
	HR	111729	When booting a history node with a 2G history disk, history will bus error. When rebooting a history node with 2 540M history disks, and the current history file is > 127, history will bus error.
		200313	Selecting a Channel in the History Channel Display page should highlight the channel that is selected for a new channel assignment. If the Channel selected is labeled DATA NOT AVAILABLE, then garbage characters will be written to the screen.
	RG	109774	Allow configuration of the maximum number of batch files on a node.
		110715	A report is copied to the hard drive, replacing the copy that already exists. The next time the report is scheduled, a error occurs, or a different report is executed. The scheduler entry needs to be automatically deleted for the report when the report is copied to the hard drive.
		111870	On a 2g SCSI hard drive, the du (disk usage) command can take up to 2 minutes to complete. In several cases, the Report Package makes use of the du command, to determine if there is enough room to create a file on the disk. This happens when: A report is scheduled for archive. An archive report is copied. A report format is copied. The user accesses the report archive display.
	CO	110728	Edges of control target symbols are not selectable.
		111470	System times for years after 2000 can't be input on console set-up or history trend pages.
		111539	Pagelinks to ACCURAY RDPs don't work for any nodes other than the primary.
	TCL/Batch	108521	If a string (TCL) recipe item is entered to the full edit window size=40 characters, on recipe save the last character is deleted. Subsequence edits show 39 characters.

Update/ Patch Number	AP	SMR/ PMR	Description
		110009	When using the Parameter Trace option in the recording section of the Batch recipe, the phase parameters retrieved using the standard sample batch report supplied with AdvInForm Reports are formatted as follows: VALUE001      10.00 GAL VALUE002 .....etc. Batch300 should store either the Phase parameter description (preferred) or the TCL sequence variable name so that the report can be made more meaningful. Please note that Batch300 on a Multibus records the phase parameter description: Feed Flow Setpoint    10.00 GAL Temp Setpoint.....
		110010	1.) When using the Indirect tracing option in the recording section of the Batch recipe, the ResultValue field does not equal the value of the referenced Formula parameter at the end of the phase as described in the documentation. A value is stored to ResultValue; however, it does not match expected results (i.e. Formula variable=200.00, PDL ResultValue field has something like 169101.00). 2.) Also, the VariableValue field is stored as the Formula variable name rather than the value of the referenced Formula variable at the start of the phase. Preferably the report should be able to retrieve both the Formula variable name and the value when using Indirect tracing.
		110611	If a Batch is shutdown, and a phase ends “normally” by going through the ABNORM11 subroutine, any dependencies on that phase will not be updated. If the batch is then resumed, a phase depending on the phase that completed will not start, because its dependency remains false.
		111453	When a TCL load fails, TCL may try to resend the same utl structure. This will force an F0 error to be returned from FMS (utl structure too small). This may mask other problems, as true error codes may be overwritten by the F0.

Update/ Patch Number	AP	SMR/ PMR	Description
		111570	<p>There are 2 Decompiler Problems, 2 Compiler Problems and 1 Runtime Problem:</p> <p>D1.) Batch300 Recipe Decompiler will not generate the (RESET) syntax for a phase's dependency condition if a dependency label is also generated for that phase.</p> <p>D2.) Batch300 Recipe Decompiler will not generate the (RESET) syntax for a branch's or label's dependency condition.</p> <p>C1.) Batch300 Recipe Compiler will not accept the dependency (RESET) syntax after the dependency condition if it is before a dependency label as shown in Users Guide Figure 3-89. It only accepts it after the label, which puts it further away from the item it really applies to.</p> <p>(4) (RESET) 3: Phase3; /* From Users Guide: Does Not Work! */  (4) 3: (RESET) Phase3; /* This way works, but RESET applies to (4)*/</p> <p>C2.) Batch300 Recipe Compiler will not accept a dependency (RESET) syntax for a branch's dependency condition, although it accepts is on a label.</p> <p>R1.) Batch300 Runtime resets dependency conditions on branches and labels, but the dependencies are no satisfied when conditions become true after the first pass. The batch will halt on these branches/labels as if the dependency condition is not met on the second (and all later) passes.</p>
		111947	<p>1.) There is a problem with using a compound expression in a REPEAT..UNTIL statement (in the UNTIL part). If more than 19 comparisons are used, the compile fails.</p> <p>2.) MMS Fails because include files aren't found.</p>
		112077	<p>The RECORD(*BATCH('ITEMID').VALUE, VAL) statement still does not work correctly.</p> <p>If the record is not done on the batch node, the sequence will go ABNORM1 when it hits the RECORD statement, and the values will not be recorded.</p>
		200189	Bogus Diagnostics on start-up of diskless Turbo node.
	CCF	108398	<p>On MOD30 Instrument Loops, the measure value will show with backlit yellow (in alarm, not cleared) at node boot up time. Depending on how alarms for these loops are configured, the value may never enter normal (i.e. alarm cleared) state. The values themselves will be correct and control of these MOD30 instrument loops are unaffected.</p>

Update/ Patch Number	AP	SMR/ PMR	Description
		110043	This is a device loop problem. When an interlock source is enabled the device loop is locked and only the permitted command can be issued to the device command. If the valve is locked when DEV_CMND is different than PERMITTED COMMAND then a continuous alarm (on & off) is generated (environment alarm) as "VALVE COMMAND IS LOCKED". The device has a processing rate of 1 as it has an input source (in place of channel #). The expectation is that a valve can be locked any time irrespective of DEV_CMND and PERMITTED COMMAND. Once locked, only the PERMITTED COMMAND can be issued. It works fine on a demand scan loop.
		110060	Current Source Analog block has an output that has locked at 16 mA. The TRIO output was found to be locked because a value is set into this outputs 'link list' value. This value must be set to "FF FF" in order for the output to be sent. After setting the outputs 'link list' to "FF FF", the output could again be changed from the MOD.
		110279	The controller 1701 (1 to 1 redundancy) fails with CCLPR task each time it is booted. We suspect that the database was large and not enough memory was available. System should not react with a bus error.
		111559	The TRIO output block reported an internal failed circuit. The ABB documentation reports that this diagnostic is a critical and RED diagnostic. However this was reported in the system as non-critical in yellow.
		111606	There are references to a diagnostic structure ccsyserr that do not fill in all of the data. This then causes a non-fatal diagnostic to be sent as FATAL, which causes a controller to fail. There are also places where the data is filled in incorrectly causing CCF diags to appear as other AP's diags. In this case CCGUBPARM sent the following diag. Fix=0311, AP 0811, FATAL, MODNAME=CCGUBPAR VAR=0, APDATA1=0 APDATA2=0. The text is misleading because it shows up as CI:UNRECOGNIZED gateway service request.
		111874	TRIO HSC download problem. Need to increase packet retries so high speed counter blocks will activate.
		111878	The trio diagnostic "LAN WATCHDOG HAS TIMED OUT FOR LAN x" was periodically being issued on an sc controller. communication to the i/o blocks was lost. only after a failover was requested by the user did the blocks log back in and communication become possible again.
	CCR	112043	A memory deallocation diagnostic from Task 12(SESTAENT) results when a back-up Model B controller is booted. The diagnostic is generated after data base download. No adverse effects are seen on the controller

Update/ Patch Number	AP	SMR/ PMR	Description
	PB/CO - File Transfer Utility	109168	Doing a "Group By Box" MOVE may cause the selected symbols to be moved disproportionately or to invalid locations.
		111410	Page Builder and Console Environment source (user) data files built on a Multibus MOD300 node can not be transferred to an Advant Engineering Station for use with Page Builder and ConsConfig on the Advant ES.
		111948	A target for a symbol can be in an ambiguous location for a DISPLAY or TEXT symbol.
	CI	111325	There are no Ethernet boards available from Columbus. (3COM or Interlan).
		111411	With a PC Interface defined in a node, but no serial board present, and the node is booted, a large amount of diagnostics will be produced. This could cause diagnostics and a CS to experience resource overflows.
		111989	The problem is that doing serial communications with the CI Gateway the task CIXMT could enter an infinite loop if a TIMEOUT occurs on the PIO call.
	LoopFCM	109870	Loopfcm displays a "?" for device type SPECIAL and USER DEFINED.
	CF	109637	Imported Device loops with no output defined, and present in the environment and graphics, as control blocks, and control targets, are compiled by the environment "full compile" as indicate only. "Dummy" outputs must be configured to regain access as a control block/target.
		109876	After export receive and local node install, the following diagnostic was noticed: L688 Fix=4 AP=1683 Mod_Name=\$504A54 Type=W Var=0 AP1=0050 AP2=789C This diagnostic indicates an end over run error from the ADVUPDAT.DP task.
110166		A top down compile of a CDP produced a warning message for the tag 85HA85027&28.DO1: "A REMOTE I/O BLOCK TEMPLAT HAS NOT BEEN CONFIGURED FOR BLOCK #30 ON LAN #3 USING ITEMS 'LAN NUMBER', 'BLOCK NUMBER', AND 'CHANNEL NUMBER' FROM FCM TEMPLAT TO CONFIGURE PROPER CHANNEL. ALL VALUES ENTERED FOR THESE ITEMS ARE ASSUMED TO BE CORRECTED!" After fixing this error, a second top down compile produced the same warning message for the same block but different tag.	

Update/ Patch Number	AP	SMR/ PMR	Description
		110249	Install on single node of local CDP to move import files from remote CDP hangs up. The install task stays active forever and the system must be rebooted. The open files in catalogs 50.INDEX and 50.IMPORT must be closed and then an install will work.
		110266	A customer will use large number (over 10 digits) in Math Block constant fields. When saving a transition file these number are truncated. Please correct or modify documentation.
		110291	After compiling Device Descriptor sets, install warning appears in system document report: "CFINDEVVSC...deleting WC00:[50.INDEX]DEVVSC.0 failed installed 0 out of 0. Install completed.
		110394	Export Failure: An export from CDP 3 to CDP 2 failed. From that point CDP 2 was locked up for all but operation functions. Typing DIR at the Bugs prompt gave message: \$D No units.
		110736	The following message in a decompile report should be changed for better understanding: "ERROR UPDATING RELATION :RELATION ID...,INSTANCE ID... ERROR:0X1D" Change the warning message so it can tell the user that there is a missing templet, and the relation name and instance id of that templet.
		111002	Linking TCL sequences sometimes fails with the following diagnostics issued: CF: TCL linker interface error 0x1010 CFTCLNOT L108 AP=0779 (1010,0002) Also for errors 0x1000 and 0x1001 for modules CFTCLREC and CFTCLREQ respectively. A further attempt to link the same sequence will usually succeed.
		111336	For the four LOGGER (LOG_DETL) templet fields - EVENT COLOR, STD ALARM COLOR, HP ALARM COLOR, and MED ALARM COLOR, the following new colors have been added: Discrete Choice of MGNTA, CYAN, and YELLO will have Compiler Decimal Values of 4,5, & 6.
		111514	If the templet ID exceeds 0xFFFF, compiles will fail.

Update/ Patch Number	AP	SMR/ PMR	Description
		111364	Decompiling a database produced several errors and questionable values. These included: 1. Incorrect base scan rate in PLC templet (16128, should have been 1) 2. Incorrect protocol name in PLC_PORT (15, should have been ALLENBRADLEY) 3. Incorrect scan rate in PLC_COM templet, causing oracle error 4. Oracle errors attempting to update LL_FILE templet changes. These changes were "genuine" and expected, but could not be decompiled.
		111605	The MOD300 TURBO node memory pool utility (MPUTIL) incorrectly assumes the size of a block of FMSMEM to always be 128 bytes. FMSMEM block size is only 16 bytes.
		111656	(System Configurator) Loop Installer fails to run when there are more than 100 reports, and leaves no report nor termination message explaining the problem. Loop Installer, with print flag on, terminates with error -94.
		111675	1. The install operation for console library configurator templets does not find devices configured on another CDP. The devices are in the IMSEURT.IM file (module cfingnt.dv). 2. The urel name install operation does not resolve units configured on another CDP. Units are in the IMUNIT.IM file.
		111681	An OS/ES station would not boot. A problem with the database downloader was discovered when the Configurator Print flag was turned on: 6 cfdlsend: node: 1 Dev: 0100 Table Problem 0x71 113 6 cfdlsend: node: 1 Dev: 0100 Transaction Error: 0XA2 162 DATABASE DOWNLOAD: DUPLICATE RECORD IN NODE: 0100 This database download problem is a potential problem for any Advant Station, OS/ES, OS or ES.
		111718	The compiler does not allow the low limit field to be less than the high limit field on the inverse normalize FCM (INV_NORM), even though such a situation is permissible (and even necessary) sometimes. The analogous fields in the normalize FCM and in the scale input FCM do not have this restriction.
		111728	When trying to install a database, the Installer bus errors in cfinfrpt. Cause: There are three places in cfinient which calls cfinfrpt with an incorrect 3rd parameter. Also, there is no third parameter in the first three calls to cfinfrpt in module cfiiient.
		111808	On the Multibus history, a recorder has a limit of 512 data points. When more are added, no message is given that the maximum has been exceeded, and the recorder shows 'Error' only!

Update/ Patch Number	AP	SMR/ PMR	Description
		111839	Customer is doing a decompile, resulting in reporting the following messages in the decompile documentation report: UNABLE TO UPDATE ATTRIBUTE ITEM: 'LOG STATE CHANGES' OF TEMPLAT:'PA_62AJ01' RUNTIME SUPPORT OF THE ITEM NOT YET SUPPORTED Templet PA_62AJ01 IS A DEVICE LOOP. In the system, there are many DEVICE LOOPS. This makes the decompile report very large and makes it difficult to track down the real decompile problems (if present).
		111877	TCL Link errors on imported unit relative tag.measure statement.
		111945	Slow TCL message routing.
		112005	Incremental Installer crashes for Ladder Logic templets in CFIILLTAGS.CW:format_fms_error.
UD14.4-005	CF	111877	TCL Link errors on imported unit relative tag.measure statement.
UD14.4-009	TCL/ Batch 300	112120	The TCL Unit Master Templates have both REPORT ID fields defined. Prior to adding the second Report Node, at any time the Report Node went down, the TCL programs would go ABNORMAL 1 and the program would continue with no problem. Now that there are two Report ID's defined, if one node is unavailable, the TCL programs do not get an ABNORMAL 1. The system seems to create enough DCN traffic attempting to write the batch data to the failed node that TCL timing is affected to the extent that production can be negatively impacted.
		970655	Changes made by SDR112077 cause TCL RECORDS to fail when done in units that don't contain Batch information. The statements that fail have the syntax: RECORD(*recipe, 'ItemID', UNIT);
		970656	RECORD(*BATCH, ('ItemID') records all itemid's, not just the specified one. It is as if RECORD(*BATCH, _ALL) has been called.
UD14.4-010	CF	970658	For device loops configured in the Advant DP with unit relative names template of the Advant DP and descriptor set templates in the MOD DP, TCL compiled in the MOD DP gives the following link error: UNRESOLVED DISCRETE VALUE *DEVICE LOOP NAME #STATE NAME. If the #state ref is replaced with the decimal value the link is fine.
UD14.4-011	PLC	970616	The new PLC Redundancy options are not on-line upgradeable. (Ref. SDR111550)
UD14.4-012	RG	970692	Unit Relative tags from remote CDPs cannot be used in a report.
UD14.4-013	CCF	970538	CCF & TCL square root functions can return anomalous values for specific arguments.

Update/ Patch Number	AP	SMR/ PMR	Description
UD14.4-014	CF	112091	The ll_message relation instances are reversed if a single ll_message templet is compiled and installed. Only the instances produced by the templet being compiled are reversed. After download the wrong messages will be outputted by the ll segment referencing those messages.
UD14.4-015	CF	970866	If the E14R3 conversion program is run on an already converted database, the conversion program appears to go into an infinite loop. Also corrupts the SOURCE.R file of the database being converted.
UD14.4-016	CCF	970773	When using the AO820 and configuring a CCF loop for warmstart, if the output value is negative, the value fed back to the fcm is wrong. This wrong value then drives the channel output value. (it goes to a high, positive value.)
UD14.4-017	CO	111740	The "WARNING: COMPILED SEQUENCE DOES NOT MATCH LOADED SEQUENCE" message needs to be added to the Unit Detail page.
		111897	The select-page key needs to be cleared when a user logs off. This will prevent a user with lower-level access from being able to select a page that was marked by a user with higher authority after that user has logged off.
UD14.4-020	DG	970910	Diagnostics messages do not contain messages from unix applications.
UD14.4-021	CF	970774	The range for the S800 AO820 templet, items OSP VALUE 01, OSP VALUE 02, OSP VALUE 03, and OSP VALUE 04 must be changed from 0..65535 to -32767..32767. The field size must be changed from 5 to 6 characters. This is presumably a late breaking change from Sweden, or whoever is responsible for designing the AO820 devices.
UD14.4-022	DBMS	112128	Memory pool 1 was out of memory for some time, then the DBLOC task had a bus error in DBDIIDX due to corruption of pool 3 which resulted from the out-of-memory condition.
		970938	The PU510 on an OS may die in random ways, including DBMS bus errors and operating system lockups, in connection with the Control Recipe Detail display in new versions, which make use of the CRCP_DATA array attributes in the TCL_UNIT object. Another symptom of the same error is a QUERY BOOKKEEPING ERROR diagnostic from DBUPDTCO.
UD14.4-023	CF	970719	For unit templates, unit relative names templates configured on the Advant DP and device loops and device descriptor set templates configured on the MOD DP, TCL compiled and linked on the MOD DP gives the following link error: UNRESOLVED DISCRETE VALUE *DEVICE LOOP NAME #STATE NAME. If the #state ref is replaced with the decimal value the link is fine.
UD14.4-024	CO	970696	When the system time is set to a year that is >= 2005, the console refresh task will bus error when the History Mesg display is called up.

Update/ Patch Number	AP	SMR/ PMR	Description
UD14.4-027	DG	951678	New Diagnostics from Advant UPS subsystem.
UD14.4-028	CF	970843	Customer added a unit relative name template under TCL Development on their ES node. The unit ID was for a unit that did not yet exist. They did a compile and install of the node and received a warning stating that the unit did not exist. The problem is that the ADVANT.CF file was incomplete and had no unit relative information for several units. This file is used to populate the unit relative relation that is available in Operator Station nodes, and when OS nodes were rebooted, this relation was incomplete and operators were not able to access unit relative information on certain units. The customer was able to get out of this state by removing the unit relative name template and recompile/reinstall the node.
UD14.4-029	AE	970750	In a process upset (such as a compressor stall in an ethylene plant), a large number of process alarms will generate in a short amount of time. The transmission of these alarms to the various operator stations can cause the DCN communications to fail in such a way that control of the plant cannot be maintained.
	CCF	970961	This problem is on an AC460 with TRIO. It was seen when the customer changed from SC/TRIO to ADVANT/TRIO. A customer had a device loop (1in-2mom_out) with a transition timer set to 10 sec and had a transition override of 'state'. This loop was controlled by another loop having a PUT FCM which put to the dev_cmnd if the device was not in the desired state. The problem seen was when the device loop was executed by itself (not controlled by the 'put' loop) it worked OK. but, when it was controlled by the put loop, it vary often timed out, (transition), then 10 sec later it would go to the correct state.
		971119	This problem is on an AC460 with S800 I/O. Commands to S800 stations fail due to service data time-outs.
UD14.4-031	TCL/ Batch	971152	At the end of a batch, the batch occasionally goes to shutdown, and the equipment remains booked. The batch needs to be manually completed (resumed) for the equipment to be freed up for another batch. There are no diagnostics.
UD14.4-032	DG	970707	When the user tries to invoke the TRIO I/O Overview Display from the Operator Station, the TRIO I/O Overview Display may come up with the wrong Lan number or the TRIO I/O Overview Display may not come up at all.
UD14.4-034	Loop FCM		Internal Fixes.
UD14.4-035	AE		Internal Fixes.
UD14.4-039	CS	111693	DCN Driver on PU510 artificially limits the maximum number of messages per second that can be transmitted on the DCN. The driver will make more efficient use of the bandwidth of the ring by shortening an MTOS timer.

Update/ Patch Number	AP	SMR/ PMR	Description
		111694	Communications system software (CS) manages its own memory pool. The partial deallocation code has been optimized to make more efficient use of the memory pool.
		111695	Receive buffer is too small on the PU520. Under high loads, this node will lose messages and generate numerous CS: Resource Overload diagnostics.
		111696	On large systems with high communications loads, data from controller subsystems may arrive at OSs sporadically, resulting in empty blue boxes on graphics, bad data quality, and/or CS: Communications Overflow diagnostics.
		111697	DCN load information is inaccessible to the customer and ABB field personnel except via the maintenance port on the DCN Interface T-box.
		111698	Advant nodes should not generate CS: Media Noisy diagnostics when another node is rebooted.
		971171	After program download, the C2 (PU520) reboots itself.
		971238	If a DCN was broken or impaired, the controllers would take too long to recognize this state, thereby guaranteeing some loss of data.
		971310	The receive buffer pointers on the DCN interface module (CS512) can get corrupted, causing that PU520 to stop receiving on the DCN. The node looks fine on System Status display, however communication to/from that controller subsystem is highly impaired. This may result in empty blue boxes on graphics, bad data quality, and/or CS: Communications Overflow/ Resource Overload diagnostics.
	AE	970750	In a process upset (such as a compressor stall in an ethylene plant), large number of process alarms will be generated in a short amount of time. The transmission of these alarms to the various operator stations can cause the DCN communications to fail in such a way that control of the plant cannot be maintained.
		971456	Any controller missing the AEPARAMSxxyy loop (added as part of the AE re-design) will bus-error.
UD14.4-041	CF	971267	At a customer site, one or more controllers exist which is probably routing alarms to an ES or IMS node that does not have an Alarm Receiver process. This is why that controller is generating ~250 diagnostics every 10 minutes. These "false" destinations are putting an unnecessary communications load (via retries and the ensuing diagnostics) on the system.
UD14.4-045	CS	971479	DCN/DCN node doesn't run after program download is complete.

Update/ Patch Number	AP	SMR/ PMR	Description
UD14.4-046	TCL/Batch	971281	This problem originally was reported because console displays did not put out the message "WARNING: Compiled Sequence does not match loaded sequence" when the source was modified and downloaded from the TCL Builder. The problem is that there is no mechanism to replace a TCL Sequence when downloading or using remote FMS (CI) functions that allow the TCL Catalog to be updated, which in turn doesn't allow the console to notice changes to the sequence. Also, if the sequence is simply deleted and recreated, the console will not catch this, because the OID will not change.
UD14.4-047	CF	971474	Configurator conversion program CFCV14R3.DP (which upgrades analog and digital input and output FCMs to have S800 CHANNEL PATH items) does not release allocated memory for pool 1.
UD14.4-050	AE	971573	Dynamic routing is the capability of an application to dynamically 'sign up' to receive alarms/events of specified types. IMS applications may use this capability. When an application has been 'set-up' to have alarms/events 'sent to it', the other pre-configured list of applications may NOT get routed to.
		971589	Alarms/Events received by OS's, IMS's appear to be duplicated. In other words, if an alarm is generated, it appears to have been received twice by the application processing the alarms.
Patch 14.4 (0004)	AE	Relink	This problem was caused by TCL overrunning it's memory bounds. Some AE text strings were garbled because of the overwrite.
Patch 14.4 (0010)	AE	980211	During a software upgrade on SC controllers to a version of software containing what is known as the 'alarm burst management software' from a version of software prior to 'alarm burst management software', there is a potential for a bus-error/loss of control to occur if the switch-over to the new software is performed at the same instant in time when an alarm is being handled by the alarm routing software in the controller.
Patch 14.4 (0014)	AE	980278	If the Log State Changes attribute on a Device Loop is set to 'YES' (either through the Configurator template, or the Loop FCM template), the controller WILL bus-error when any state change occurs for that Device Loop. Problem only applies to Canandaigua release since the Device State Change Audit Trail code is not available in previous releases.
Patch 14.4 (0023)	CS	980453	Data from SC Controller subsystem could be lost. This data could be for a graphic, history log, or alarms.
	AE	980476	During large alarm bursts, SC controller experienced mild communications failures. Empirical evidence indicated that a change to the default alarm tuning parameters improved the situation. Therefore a change to the parameters is warranted.

## Chapter 7 Boot Files

This section contains lists of the applications packages and files that get loaded when booting nodes, depending on which BOOT.PK File was chosen in Section 1.5.6 Creating Boot Files. Boot Files are loaded when the configurator node boots, whereas Softcon Files are loaded when the nodes other than the configurator node boot.

APPLICATIONS PACKAGE		TURBO	TURBO-DPSS	TURBO-GW	TURBO for SMART PLATFORM	TURBO-GW for SMART PLATFORM
Ver. 14.2/0 (20 Oct. 1994)		(TUBOOT.PK)	(DPBOOT.PK)	(GWBOOT.PK)	(TUBOOTSP.PK)	(GWBOOTSP.PK)
OPERATING SYSTEM	BASE.PK	*	*	*	*	*
OPERATING SYSTEM PATCH	SYSPATCH.PK	*	*	*	*	*
FMS	FMSLIB.PK	*	*	*	*	*
DBMS	DBCS.PK	*	*	*	*	*
CONFIGURATOR	MERGE.PK	*	*	*	*	*
CONFIGURATOR	RES.PK	*	*	*	*	*
CONFIGURATOR	UPD.PK	*	*	*	*	*
CONFIGURATOR	BACKRES.PK	*	*	*	*	*
CONFIGURATOR	FMTINMEM.PK	*	*	*	*	*
CONFIGURATOR	PTP.PK	*	*	*	*	*
DOWNLOADER	CFDE.PK	*	*	*	*	*
CONFIGURATOR	CFEXE.PK	*	*	*	*	*
CONFIGURATOR	CFXPRCVR.PK	*	*	*	*	*
DIAGNOSTICS	DG300S.PK	*	*	*	*	*
REMOTE FILE HANDLING	CIDPSS.PK	*	*	*	*	*
TCL	TCLELS.PK	*	*	*	*	*
ALARM/EVENT	AEELS.PK	*	*	*	*	*
CCF	CCF300S.PK	*	*	*	*	*
CONSOLE CONTROL	JRCNTRL.PK	*	*	*	*	*
REPORT PKG	RSPRNT.PK	*	*	*	*	*
REPORT PKG	RBBASE.PK	*	*	*	*	*
REPORT PKG	RSDSP.PK	*	*	*	*	*
REPORT PKG	RAARCACT.PK	*	*	*	*	*
REPORT PKG	RSBCOL.PK	*	*	*	*	*
PAGE BUILDER	PBBASE.PK	*	*	*	*	*
LOOP FCM	LDBASE.PK	*	*	*	*	*
PLC CONFIGURATOR	LCINIT.PK	*	*	*	*	*

HISTORY	HIST_REM.PK	*	*	*	*	*
CONSOLE CONTROL	RCVCNTRL.PK	*	*	*	*	*
SSE - NON REDUN. PLC	SENONRED.PK	*	*	*	*	*
SSE	SESTAJRS.PK	*	*	*	*	*
AUTOTUNE	AT300S.PK	*	*	*	*	*
TRIO	MSTRIO.PK	*	*	*	*	*
ACCURAY	ACCURAY.PK	*	N/A	*	N/A	N/A
SMART PLATFORM	SPI.PK	N/A	N/A	N/A*	*	*
MOD30 INTERFACE	M30300S.PK	*	N/A	*	*	*
LCP INTERFACE	LCP.PK	*	N/A	*	*	*
HISTORY	HISTBASE.PK	*	N/A	*	*	*
PLC INTERFACE	PCDRVR.PK	*	N/A	*	*	*
ABB-PC INTERFACE	CIGATE.PK	*	N/A	*	*	*
MODGATE INTERFACE	ENTPATCH.PK	*	N/A	*	*	*
LADDER LOGIC	LLTURBO.PK	*	N/A	*	*	*
CONSOLE	RDPIP.PK	*	N/A	N/A	*	N/A
CONSOLE	CONSOLE.PK	*	N/A	N/A	*	N/A
<b>RUSSIAN, GERMAN, OR FRENCH CONSOLE ONLY</b>	<b>RUSSIAN.PK GERMAN.PK FRENCH.PK</b>	* or N/A	N/A	N/A	* or N/A	N/A
<b>RUSSIAN, GERMAN, OR FRENCH A/E ONLY</b>	<b>AE_RUSSI.PK AE_GERMA.PK AE_FRENC.PK</b>	* or N/A	* or N/A	* or N/A	* or N/A	* or N/A
MEMORY POOLS	POOLS.PK	*	*	*	*	*
MEMORY POOLS	POOLS.PL	*	*	*	*	*
TASK PRIORITIES	PRIORITY.PK	*	*	*	*	*

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Table B-2 Softcon Files

Ver. 14.2/0							
(20 Oct. 1994)							
	FULL TURBO	TURBO DP	TURBO GATEWAY	SEQUENCE OF EVENTS	POLGATE OPTION	FULL TURBO W/ SMART PLTF I/F	TURBO GW W/ SMART PLTF I/F
<b>NODE:</b>	TURBO	TURBO-DPSS	TURBO-GW	TURBO-SOE	POL- MOD300 I/F	SMART TURBO	SMART TURBO GATEWAY
<b>SOFTWARE NAME:</b>	'TURBO'	'TURBODP'	'TURBOGW'	'TURBOSOE'	'POLGATE'	'TURBO_SP'	'TURBOGW_SP'
<b>CATALOGS:</b>	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]
	[0.BOOT]	[50.DPSS]	[50.TURBOGW]	[50.TURBOGW]	[50.POLGATE]	[0.BOOT]	[50.TURBOGW]
		[0.BOOT]	[0.BOOT]	[0.BOOT]	[0.BOOT]		[0.BOOT]
<b>FILES:</b>							
TASK PRIORITIES	PRIORITY.PK	PRIORITY.PK	PRIORITY.PK	PRIORITY.PK	PRIORITY.PK	PRIORITY.PK	PRIORITY.PK
MEMORY POOLS	POOLS.PK	POOLS.PK	POOLS.PK	POOLS.PK	POOLS.PK	POOLS.PK	POOLS.PK
<b>RUSSI.,GERM., OR FRENCH CONSOLE ONLY</b>	<b>RUSSIAN.PK GERMAN.PK FRENCH.PK</b>					<b>RUSSIAN.PK GERMAN.PK FRENCH.PK</b>	
CONSOLE	CONSOLE.PK					CONSOLE.PK	
CONSOLE	RDPIP.PK					RDPIP.PK	
MODGATE INTER-FACE	ENTPATCH.PK		ENTPATCH.PK	ENTPATCH.PK	ENTPATCH.PK	ENTPATCH.PK	ENTPATCH.PK
LADDER LOGIC	LLTURBO.PK		LLTURBO.PK	LLTURBO.PK	LLTURBO.PK	LLTURBO.PK	LLTURBO.PK
ABB PC INTER-FACE	CIGATE.PK		CIGATE.PK	CIGATE.PK	CIGATE.PK	CIGATE.PK	CIGATE.PK
PLC INTERFACE	PCDRVR.PK		PCDRVR.PK	SOEDRV.PK		PCDRVR.PK	PCDRVR.PK
HISTORY	HISTBASE.PK		HISTBASE.PK	HISTBASE.PK	HISTBASE.PK	HISTBASE.PK	HISTBASE.PK
HISTORY	HIST_REM.PK	HIST_REM.PK	HIST_REM.PK	HIST_REM.PK	HIST_REM.PK	HIST_REM.PK	HIST_REM.PK
ACCURAY or SMART PL.	ACCURAY.PK		ACCURAY.PK	ACCURAY.PK	ACCURAY.PK	SPI.PK	SPI.PK
LCP INTERFACE	LCP.PK		LCP.PK	LCP.PK	LCP.PK	LCP.PK	LCP.PK
MOD30 INTER-FACE	M30300S.PK		M30300S.PK	M30300S.PK	M30300S.PK	M30300S.PK	M30300S.PK
TRIO	MSTRIO.PK	MSTRIO.PK	MSTRIO.PK	MSTRIO.PK	MSTRIO.PK	MSTRIO.PK	MSTRIO.PK
AUTOTUNE	AT300S.PK	AT300S.PK	AT300S.PK	AT300S.PK	AT300S.PK	AT300S.PK	AT300S.PK
SSE	SESTAJRS.PK	SESTAJRS.PK	SESTAJRS.PK	SESTAJRS.PK	SESTAJRS.PK	SESTAJRS.PK	SESTAJRS.PK
SSE - NON REDUN. PLC	SENONRED	SENONRED	SENONRED	SENONRED	SENONRED	SENONRED	SENONRED
CONSOLE CONTROL	RCVCNTRL.PK		RCVCNTRL.PK	RCVCNTRL.PK	RCVCNTRL.PK	RCVCNTRL.PK	RCVCNTRL.PK

Table B-2 Softcon Files (Cont'd)

<b>Ver. 14.2/0</b>							
<b>(20 Oct. 1994)</b>							
	FULL TURBO	TURBO DP	TURBO GATEWAY	SEQUENCE OF EVENTS	POLGATE OPTION	FULL TURBO W/ SMART PLTF I/F	TURBO GW W/ SMART PLTF I/F
<b>NODE:</b>	TURBO	TURBO-DPSS	TURBO-GW	TURBO-SOE	POL- MOD300 I/F	SMART TURBO	SMART TURBO GATEWAY
<b>SOFTWARE NAME:</b>	'TURBO'	'TURBODP'	'TURBOGW'	'TURBOSOE'	'POLGATE'	'TURBO_SP'	'TURBOGW_SP'
<b>CATALOGS:</b>	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]	[50.MOD300S]
	[0.BOOT]	[50.DPSS]	[50.TURBOGW]	[50.TURBOGW]	[50.POLGATE]	[0.BOOT]	[50.TURBOGW]
		[0.BOOT]	[0.BOOT]	[0.BOOT]	[0.BOOT]		[0.BOOT]
<b>FILES:</b>							
REPORT PKG	RSBCOL.PK	RSBCOL.PK	RSBCOL.PK	RSBCOL.PK	RSBCOL.PK	RSBCOL.PK	RSBCOL.PK
REPORT PKG	RAARCACT.PK	RAARCACT.PK	RAARCACT.PK	RAARCACT.PK	RAARCACT.PK	RAARCACT.PK	RAARCACT.PK
REPORT PKG	RSDSP.PK	RSDSP.PK	RSDSP.PK	RSDSP.PK	RSDSP.PK	RSDSP.PK	RSDSP.PK
REPORT PKG	RBBASE.PK	RBBASE.PK	RBBASE.PK	RBBASE.PK	RBBASE.PK	RBBASE.PK	RBBASE.PK
REPORT PKG	RSPRNT.PK	RSPRNT.PK	RSPRNT.PK	RSPRNT.PK	RSPRNT.PK	RSPRNT.PK	RSPRNT.PK
CONSOLE CONTROL	JRCNTRL.PK	JRCNTRL.PK	JRCNTRL.PK	JRCNTRL.PK	JRCNTRL.PK	JRCNTRL.PK	JRCNTRL.PK
CCF	CCF300S.PK	CCF300S.PK	CCF300S.PK	CCF300S.PK	CCF300S.PK	CCF300S.PK	CCF300S.PK
<b>RUSSIAN, GERM., OR FRENCH A/E ONLY</b>	AE_RUSSI.PK AE_GERMA.PK AE_FRENC.PK	AE_RUSSI.PK AE_GERMA.PK AE_FRENC.PK	AE_RUSSI.PK AE_GERMA.PK AE_FRENC.PK	AE_RUSSI.PK AE_GERMA.PK AE_FRENC.PK	AE_RUSSI.PK AE_GERMA.PKAE _FRENC.PK	AE_RUSSI.PK AE_GERMA.PK AE_FRENC.PK	AE_RUSSI.PK AE_GERMA.PK AE_FRENC.PK
POL- M300 INTER-FACE					POLGATE.PK		
ALARM/EVENT	AEELS.PK	AEELS.PK	AEELS.PK	AEELS.PK	AEELS.PK	AEELS.PK	AEELS.PK
TCL	TCLELS.PK	TCLELS.PK	TCLELS.PK	TCLELS.PK	TCLELS.PK	TCLELS.PK	TCLELS.PK
REMOTE FILE HANDLING	CIDPSS.PK	CIDPSS.PK	CIDPSS.PK	CIDPSS.PK	CIDPSS.PK	CIDPSS.PK	CIDPSS.PK
DIAGNOSTICS	DG300S.PK	DG300S.PK	DG300S.PK	DG300S.PK	DG300S.PK	DG300S.PK	DG300S.PK
CONFIGURATOR	FMTINMEM.PK	FMTINMEM.PK	FMTINMEM.PK	FMTINMEM.PK	FMTINMEM.PK	FMTINMEM.PK	FMTINMEM.PK
DBMS	DBCS.PK	DBCS.PK	DBCS.PK	DBCS.PK	DBCS.PK	DBCS.PK	DBCS.PK
FMS	FMSLIB.PK	FMSLIB.PK	FMSLIB.PK	FMSLIB.PK	FMSLIB.PK	FMSLIB.PK	FMSLIB.PK
OPERATING SYSTEM PATCH	SYSPATCH.PK	SYSPATCH.PK	SYSPATCH.PK	SYSPATCH.PK	SYSPATCH.PK	SYSPATCH.PK	SYSPATCH.PK
OPERATING SYSTEM	BASE.PK	BASE.PK	BASE.PK	BASE.PK	BASE.PK	BASE.PK	BASE.PK

Table B-2 Softcon Files (Cont'd)

Ver. 14.2/0 - (20-Oct.-1994)							
<b>NODE:</b>	CONSOLE	LCP CTLR	CONTROLLER	3 to 1 CTLR	DCN to DCN	3 to 1 S/A CTLR	S/A CTLR
<b>S'WARE NAME:</b>	'CONSOLE'	'CONTLCP'	'CONTROLLER'	'CTLR3TO1'	'DCN_DCN'	'DIG3TO1'	'DIGITAL'
<b>CATALOGS:</b>	[50.CONSOLE]	[50.CODE]	[50.CODE]	[50.CODE]	[50.D2D]	[50.CODE]	[50.CODE]
	[0.BOOT]				[0.BOOT]		
<b>FILES:</b>							
TASK PRIORITIES	PRIORITY.PK						
SERIAL DRIVER		MD300DRV.PK	MD300DRV.PK	MD300DRV.PK		MD300DRV.PK	MD300DRV.PK
<b>RUSS., GERM., OR FRENCH CONSOLE ONLY</b>	<b>RUSSIAN.PK GERMAN.PK FRENCH.PK</b>						
CONSOLE	CONSOLE.PK						
CONSOLE	RDPIP.PK						
S/A CONTROLLER						SALINK.PK	SALINK.PK
HISTORY	HIST_REM.PK						
LCP INTERFACE		LCP.PK					
CCR		CCR.PK	CCR.PK	CCR.PK		CCR.PK	CCR.PK
SSE	SESTACON.PK	SESTDRED.PK	SESTDRED.PK	SE3T1RED.PK	SED2D.PK	SE3T1RED.PK	SESTDRED.PK
CONSOLE CNTRL.	RCVCNTRL.PK	CCCNTRL.PK	CCCNTRL.PK	CCCNTRL.PK		CCCNTRL.PK	CCCNTRL.PK
REPORT PKG	RSPRNTSK.PK						
CCF		CTLSS.PK	CTLSS.PK or	CTLSS.PK		CTLSS.PK	CTLSS.PK
<b>RUSSIAN CCF</b>			<b>RUSS_CTL .PK</b>				
<b>RUSSIAN T/C</b>			<b>RUSS_TC.PK</b>				
<b>RUSSIAN, GER- MAN OR FRENCH A/E ONLY</b>	<b>AE_RUSSI.PK AE_GERMA.PK AE_FRENC.PK</b>						
ALARM/EVENT	AECONSS.PK	AERCONTR.PK	AERCONTR.PK	AERCONTR.PK		AERCONTR.PK	AERCONTR.PK
TCL		TCL.PK	TCL.PK	TCL.PK		TCL.PK	TCL.PK
DIAGNOSTICS	DGCONS.PK	DGCTLR.PK	DGCTLR.PK	DGCTLR.PK	DGD2D.PK	DGCTLR.PK	DGCTLR.PK
DBMS	DBCS.PK	DBCS.PK	DBCS.PK	DBCS.PK		DBCS.PK	DBCS.PK
OPERATING SYS- TEM PATCH	SYSPATCH.PK				SYSPATCH.PK		
DCN TO DCN					D2D.PK		
OPERATING SYST.	BASE.PK				BASE.PK		

Table B-2 Softcon Files (Cont'd)

Ver. 14.2/0						
(20-Oct.-1994)						
<b>NODE:</b>	VAX GATEWAY	MODCOMP	MODGATE	3 to 1 LCP CTRL	SC CTRL	3 to 1 SC CTRL
<b>S'WARE NAME:</b>	'GATEWAY'	'MODCOMP'	'MODGATE'	'LCP3TO1'	'SC_CTRL'	'SC_CTRL3TO1'
<b>CATALOGS:</b>	[50.GATEWAY]	[50.GATEWAY]	[50.GATEWAY]	[50.CODE]	[50.SC_CTRL]	[50.SC_CTRL]
	[0.BOOT]	[50.MODCOMP]	[0.BOOT]			
		[0.BOOT]				
<b>FILES:</b>						
TASK PRIORITIES	PRIORITY.PK	PRIORITY.PK	PRIORITY.PK			
SERIAL I/O					SIOPATCH.PK	SIOPATCH.PK
SERIAL DRIVER				MD300DRV.PK	MD300DRV.PK	MD300DRV.PK
PLC INTERFACE					PCDRVR.PK	PCDRVR.PK
ACCURAY DEVICE					PMSETTL.PK	PMSETTL.PK
ACCURAY DEVICE					PMMSC.PK	PMMSC.PK
VAX INTERFACE	CIGATE.PK	CIGATE.PK				
MODGATE I/F	ENTTEST.PK	ENTTEST.PK	ENTTEST.PK			
MODGATE I/F	ENTPATCH.PK	ENTPATCH.PK	ENTPATCH.PK			
MODGATE I/F			PNGATE.PK			
LADDER LOGIC					LLCONTSC.PK	LLCONTSC.PK
REMOTE I/O					MSTRIO.PK	MSTRIO.PK
S/A CONTROLLER					SALNK_SC.PK	SALNK_SC.PK
HISTORY	HIST_REM.PK	HIST_REM.PK	HIST_REM.PK			
LCP INTERFACE				LCP.PK	LCP_SC.PK	LCP_SC.PK
CCR				CCR.PK	CCR_SC.PK	CCR_SC.PK
SSE	SESTACI.PK	SESTACI.PK	SESTACI.PK	SE3T1RED.PK	SESTDRED.PK	SE3T1RED.PK
CONSOLE CONTROL	GWCNTRL.PK	GWCNTRL.PK	GWCNTRL.PK	CCCNTRL.PK	SCCNTRL.PK	SCCNTRL.PK
CCF	CCFGWAY.PK	CCFGWAY.PK	CCFGWAY.PK	CTLSS.PK	CCF_SC.PK	CCF_SC.PK
AUTOTUNE					AT_SC.PK	AT_SC.PK
ALARM/EVENT	AEGATESS.PK	AEGATESS.PK	AEGATESS.PK	AERCONTR.PK	AERCONTR.PK	AERCONTR.PK
TCL	TCLGAT.PK	TCLGAT.PK	TCLGAT.PK	TCL.PK	TCL_SC.PK	TCL_SC.PK
DIAGNOSTICS	DGGATE.PK	DGGATE.PK	DGGATE.PK	DGCTLR.PK	DGSCCT.PK	DGSCCT.PK
DBMS	DBCS.PK	DBCS.PK	DBCS.PK	DBCS.PK	DBCS.PK	DBCS.PK

<b>Ver. 14.2/0</b>						
<b>(20-Oct.-1994)</b>						
<b>NODE:</b>	VAX GATEWAY	MODCOMP	MODGATE	3 to 1 LCP CTLR	SC CTLR	3 to 1 SC CTLR
<b>S'WARE NAME:</b>	'GATEWAY'	'MODCOMP '	'MODGATE'	'LCP3TO1'	'SC_CTLR'	'SC_CTLR3TO1'
<b>CATALOGS:</b>	[50.GATEWAY]	[50.GATEWAY]	[50.GATEWAY]	[50.CODE]	[50.SC_CTLR]	[50.SC_CTLR]
	[0.BOOT]	[50.MODCOMP]	[0.BOOT]			
		[0.BOOT]				
<b>FILES:</b>						
SERIAL TEST PROG.					SSSTP.PK	SSSTP.PK
DATA BASE DUMP					DBDUMP.PK	DBDUMP.PK
OPERATING SYS- TEM PATCH	SYSPATCH.PK	SYSPATCH.PK	SYSPATCH.PK		SYSPATCH.PK	SYSPATCH.PK
OPERATING SYST	BASE.PK	BASE.PK	BASE.PK		BASE.PK	BASE.PK



## Chapter 8 COMPUTER INTERFACE/ MOD300 COMPATIBILITY

**NOTE**

Problems fixed by Computer Interface Software updates are reported in MOD 300 Patch Status Report, (Lotus Notes Distribution, and on-line in MOD 300 Product Support Database).

*Table 8-1. Vax/ MOD300 Compatibility*

<b>MOD300 Software Version</b>	<b>MOD 300 CI Interface Software Host (6053S) Update Report</b>	<b>MOD300 Update or Patch Report</b>
14.0	6053SC14100B	*G, T: 14R0 (0012)
14.0	6053SC14101B	G, T: 14R0 (0033)
14.1/1		G, T: 14R1 (0009)
14.1/1	6053SC14102B	D, G, M, T: 14R1 (0017), 14R1 (0031), 14R1 (0032)
14.1/2	6053SC14103B	G, T: 14R1 (1086)
		D, G, T: 14R1 (1099)
14.1/3	6053SC14104B	G, T: 14R1 (2105)
14.2/0		G, T: Updates 14.2-001, 14.2-028
14.2/1		D: 14.2 (0014)
14.2/3	6053SC14105B	G, T: 14.2 (2079), 14.2 (3105)
14.2/4		
14.2/5		D: 14.2 (4146)
14.2/6		G, T: 14.2 (5194)
(14.2/7)		G, T: 14.2 (5212)
14.3	6053SC14106B	D, G, T: Updates 14.3-004, 14.3-010, 14.3-017, 14.3-049.
14.3	6053SC14107B	G, T: 14.3 (0010)
14.3	6053SC14108B	G, T: 14.3 (1072)
14.4		D, G, T: Update 14.4-003.
<b>XXXXXXXXXXXXXXXXXXXXX</b>	<b>XXXXXXXXXXXXXXXXXXXXX</b>	<b>XXXXXXXXXXXXXXXXXXXXX</b>
	<b>DEC Alpha /Open VMS AXP CI Interface Software</b>	
14.1/2	6071SG14100A	14R1 (1086)
14.1/2	6071SG14101A	14R1 (2105)

MOD300 Software Version	MOD 300 CI Interface Software Host (6053S) Update Report	MOD300 Update or Patch Report
14.2	6071SG14102B	14.2 (3105)
14.3	6071SG14103B	Update 14.3-017
14.3	6071SG14104B	14.3 (0010)
14.3	6071SG14105B	14.3 (1072)
14.4		Update 14.4-003
XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
	<b>DEC C VAX Host CI Interface Software</b>	
14.3	6073SG14101	Update 14.3-017
14.3	6073SG14102	14.3 (0010)
14.3	6073SG14103	14.3 (1072)
14.4		Update 14.4-003

**NOTE:** “D”, “G”, “T”, and “M” denote Updates to DP - [50.MOD300S]CIDPSS.PK, Gateway - [50.GATEWAY] CIGATE.PK, Turbo - [50.MOD300S]CIGATE.PK, and Modcomp - [50.MODCOMP]CIGATE.PK respectively.  
**NOTE:** Versions separated by XXXX's are incompatible.

Table 8-2. Vax/ VMS Compatibility

VAX Computer Interface/ MOD300 Software Version	VAX/VMS Version
14.n	4.7 to 5.5-2 and Above <sup>1</sup>
Alpha Software for 14.n	Open VMS AXP Ver. 1.5

<sup>1</sup>**NOTE:** Tested at VAX/VMS Versions listed; Should work on intermediate and newer VAX/VMS versions.

Table 8-3. ABB-PC/MOD300 Compatibility

MOD300 Software Version	ABB PC Host Update Report	MOD300 Software Update Report	ABB PC Templet Gen. Update Report	ABB PC Templet Gen. Source Rev. Level	ABB PC Data Analysis. Update Report
14.0	6059SE14100B	14R0 (0012)	6063SE14100B	36	6065SE14100B
		14R0 (0033)			6065SE14101B
			XXXXXXXXXX	XXXXXXXXXXXXXX	
14.1		14.1(0009), (0017), (0031), (0032), (1086), (1099), (2105)	6063SE14101B	58	6065SE14102B
			XXXXXXXXXX		
None, for ES2.1/1, 2.1/2			6063SE14102B Avail. Beta only	67	
	XXXXXXXXXX		XXXXXXXXXX		
14.2/1-14.2/3	6059SE14110B	14.2 (2079)	6072SE14103B	70	
	6059SE14120B	14.2 (3105)			
14.2/6		14.2 (5194)			
(14.2/7)		14.2 (5212)			
			XXXXXXXXXX		
14.3/0		Updates 14.3-004, 010, 017			
14.3/2		14.3 (0010)	6072SE14104B	92	
		14.3 (1072)			
			XXXXXXXXXX		
14.4/0		Update 14.4-003	6072SE14105B	102	







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3BUR 001 292D0001 Rev A

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