

# IAS Version 3.4 Release Notes

Order Number: AA-HC69D-TC

This document contains information about problem resolution, new software and software enhancements, and known problems for IAS Version 3.4.

**Revision/Update Information:** This is a new manual. It replaces the *IAS V3.3 Installation Guide/Release Notes*, Order No. AA-HC69A-TC.

**Operating System Version:** IAS Version 3.4

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May 1989

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This document was prepared using VAX DOCUMENT, Version 1.2

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# Preface

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## Intended Audience

This manual is intended for system managers, programmers, and anyone else who plans to use IAS Version 3.4.

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## Document Structure

This manual is divided into three chapters:

- Chapter 1—Problems Corrected By Version 3.4
- Chapter 2—New Software and Software Enhancements
- Chapter 3—Known Problems With This Release

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## Documentation Conventions

This manual uses the following conventions:

Convention	Meaning
<code>[RET]</code>	A symbol with a one- to six-character abbreviation indicates that you press a key on the terminal, for example, <code>[RET]</code> .
<code>[Ctrl/x]</code>	The <code>[Ctrl/x]</code> notation indicates that you must press the key labeled Ctrl while you simultaneously press another key, for example, <code>[Ctrl/C]</code> , <code>[Ctrl/Y]</code> , <code>[Ctrl/O]</code> .
<code>PDS&gt;SHOW TIME</code> <code>05-JUN-1986 11:55:22</code>	Command examples show all output lines or prompting characters that the system prints or displays in black letters.
<code>PDS&gt;TYPE MYFILE.DAT</code>  . . .	Vertical series of periods, or ellipsis, mean either that not all the data that the system would display in response to the particular command is shown or that not all the data a user would enter is shown.
<code>file-spec,...</code>	Horizontal ellipsis (...) indicates that additional parameters, values, or information can be entered.
<code>[logical-name]</code>	Square brackets indicate that the enclosed item is optional. (Square brackets are not, however, optional in the syntax of a directory name in a file specification or in the syntax of a substring specification in an assignment statement.)
quotation marks apostrophes	The term quotation marks is used to refer to double quotation marks ("). The term apostrophe (') is used to refer to a single quotation mark.





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# 1 Introduction

IAS Version 3.4 is a cumulative product that incorporates all changes from Version 3.3 and Version 3.2 (and Updates A, B, and C).

Throughout this document, *Version 3.4 kit* or *kit* refers to the magnetic tape, tape cartridge, or RL02 disk containing the automated procedure and replacement files. *Version 3.4 output disk* refers to the volume where the system correction procedure operates.

---

## 1.1 Version 3.4 Media and Support

### 1.1.1 Version 3.4 Kit

The Version 3.4 kit is distributed on 9-track magnetic tape, 9-track magnetic TMSCP tape, TK50 tape cartridge, and RL02 disk.

Before you proceed with Version 3.4 installation, read the online release notes located in [200,200]ONLINE.NTS.

To access the online release notes, you must have a running system, which can be an existing IAS Version 3.3 (and above) or RSX system. If you are using the tape distribution kit and do not have a running IAS system, install the kit as described in the "IAS Installation and System Generation Guide", then access the online release notes.

Use the instructions below to print a copy of the online release notes.

#### For RL02 Disk Kits:

- 1 Boot your copy of the distribution kit.
- 2 Load the disk pack labeled BIN into DL1:, then copy the file to your system printer (LP:) or your terminal (TI:) with the following commands:

```
MOU DL1:/OVR
PIP LP:=[DL1:[200,200]ONLINE.NTS
DMO DL1:
```

#### For Tape Kits:

The storage density of the 9-track tape kits is 800 or 1600 bpi. Verify that the tape drive you plan to use is compatible with the tape kit you received. (You can read the BIN tape included with the TMSCP kit on any 1600 bpi tape drive.)

The following examples use an MM type tape system. Your device and handler will not necessarily be the same. The symbol Dn: represents your output device.

**NOTE: This procedure creates UFD [200,200] and copies files to the target disk.**

## Introduction

### Using IAS Version 3.4:

All commands are MCR mode.

```
INS LB:[11,1]TU16,[11,1]BRU
LOA MM
MOU MMO:/FOR/ATCH
BRU /REW/NOINIT/UFD/NEW_VERSION/BAC:V33UPDATE MMO:ONLINE.NTS Dn:
DMO MMO:
PIP LP:=[200,200]ONLINE.NTS
```

### Using RSX:

All commands are MCR mode.

```
MOU MMO:/FOR
RUN $BRU
bru>/REW/NOINIT/UFD/NEW_VERSION/BAC:V33UPDATE MMO:ONLINE.NTS Dn:
bru>^Z
PIP [200,200]ONLINE.NTS/SP
DMO MMO:
```

---

## 1.1.2 Supported System Devices

You can install Version 3.4 on any of the following supported system devices:

- RP02/03/03A/03B
- RP04/05/05F/06/07
- RK06/07
- RC25/25F
- RM02/03/05
- RL02
- RA60/70/80/81
- RA82, RA90
- RD51/52/53/54
- RD31/32

## 2

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## Problems Corrected By Version 3.4

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### 2.1 Component : Terminal handler

When configured for the DHU-11, DHV-11, or DHQ-11 controller, the terminal handler would initiate a DMA operation to any corresponding port for an immediate character transfer with a transfer length of 177777 (octal). This operation would result in incorrect data being transferred to the port from memory and would often result in that port hanging until the system was rebooted. This problem also occurred during host synchronous operations.

This problem has now been corrected.

---

### 2.2 Component : INIT (Initialize Volume)

The INIT task would hang when encountering a parity or other error on a tape device during a write operation.

This problem has now been corrected.

---

### 2.3 Component : T/MSCP

- The T/MSCP handler would default to 6250 bpi operation regardless of the bpi specified when bringing the device on line.
- Under certain conditions, the T/MSCP handler would crash after processing an *immediate return I/O* request.

These problems have now been corrected.

---

### 2.4 Component : SAV

IAS would allow access to main memory above 3840MB on the PDP-11/70, PDP-11/44, and PDP-11/84 systems. Under certain conditions, access to main memory above 3840MB could cause the system to crash. IAS supports up to 3840MB of main memory for UNIBUS PDP-11s. SAV now enforces this limit for IAS Version 3.4.

---

### 2.5 Component : Shadow Recording

Shadow recording operations failed when attempting to shadow disks whose unit number was greater than 7 (octal).

This problem has now been corrected.

---

## 3 New Software and Software Enhancements

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### 3.1 Q-bus Support

IAS V3.4 supports the following Micro-PDP-11 hardware:

Table 3-1 Micro-PDP-11 Hardware Supported by IAS V3.4

Cabinets	CPU	Controllers	Disks	Tapes	Comm.
BA23	11/73	KDA-50	RD51-54	TK50	DZV
BA123	11/83	KLESI-Q	RD31-32	TU81	DHV
	11/53	TKQ50	RX33/50	TS05	DHQ
	11/53+	RQDX	RC25		DZQ
		TSV05	RA60		DHF
		LPV-11	RA70		
			RA80-82		
			RA90		

IAS supports up to 2044MB of memory for Micro-PDP-11 systems.

**Note: Digital standard Micro-PDP-11 system packages might contain hardware not yet supported by IAS. If you order a Micro-system, be sure that it contains the required hardware.**

---

### 3.2 TU81/TK50 Enhancements:

IAS V3.4 includes a new TMSCP handler (MU....) configured for both single-user (MU.TSK) and multiuser (MUMU.TSK) operation. The multiuser version takes advantage of the IAS UNIBUS/Q-bus port server, resulting in a reduction in image size for the handler and in UMR allocations for TMSCP operations on UNIBUS PDP-11s.

In addition, this new handler supports logging of device-reported errors by passing this information on to the DSA error log server ER\$LOG.

Systems with both DU and MU devices should always use the multiuser handlers to conserve memory and UMRs.

**NOTE: The TMSCP handler filenames have been changed from [11,1]TMSCP.TSK to [11,1]MU.TSK for the single-user and [11,1]MUMU.TSK for the multiuser handlers.**

---

### 3.3 UQSSP Enhancements

UQ\$SSP includes support for initializing T/MSCP controllers.

---

### 3.4 DSA Error Logging Enhancements

The IAS DSA error log server (ER\$LOG) now collects error information for TMSCP devices.

---

### 3.5 DSA Error Logging Report Generator Enhancements

The IAS DSA errors report generator (RPTGEN) has been improved to include extended error information for previously supported devices and new error information for the newly supported T/MSCP devices.

In addition, you can now select a DATE/TIME range to report on only those errors occurring between the range.

---

### 3.6 New RPTGEN Syntax

Version 3.4 contains a new method for using RPTGEN. A description of this new format follows:

---

# RPTGEN

---

## FORMAT

RPTGEN [*outdev*][*outufd*]*outfile name*] = [*indev*][*inufd*][*infile name*][/*switches*]

---

## PARAMETERS

### *outdev*

Any device name and unit number with “.”.

For example:

DU0:, TI:

### *outufd*

The UFD that comprises a group and owner numbers.

For example:

[100,10], [1,6].

### *outfile*

Standard IAS filename in the form name.ext, where the name comprises up to nine alphanumeric characters and the extension comprises up to three alphanumeric characters.

### *indev*

Any device name and unit number with “.”.

For example:

DU0:, DL1:

### *inufd*

The UFD that comprises group and owner numbers.

For example:

[100,10], [1,6].

### *infile*

Standard IAS filename in the form name.ext, where the name comprises up to nine alphanumeric characters and the extension comprises up to three alphanumeric characters.

### *switches*

The following list gives the valid switches.

# RPTGEN

---

Switch	Explanation
/EM	Include end message packets in report.
/BG	Exclude all data with a date earlier than the date in this switch.
/ED	Exclude all data with a date later than the date in this switch.
/TA	Include only T/MSCP (tape) data in report.
/DI	Include only MSCP (disk) data in report.

---

Format for the BG and ED switches is:

```
/xx:hh:mm:ss:dd:mm:yy
```

where:

xx = (BG) beginning date/time  
xx = (EN) ending date/time  
hh = hours (as a decimal number)  
mm = minutes (as a decimal number)  
ss = seconds (as a decimal number)  
dd = day of month (as a decimal number)  
mm = month (as a decimal number)  
yy = year (as a decimal number)

All date/time entries require data in all fields, including the zeros if time is not to be used.

---

## EXAMPLE(S)

### Example 1:

```
RPT> =LB:[1,6]ERRDSA.DAT
```

This command generates a report on the default file (SY:ERRDSA.RPT) in the current UFD that contains all error log events except *end message* events.

### Example 2:

```
RPT> SY:[1,1]ERRLOG.RPT=
```

This command generates a report to the file ERRLOG.RPT in the [1,1] UFD on the system disk using the default input data file (LB:[1,6]ERRDSA.DAT) that contains all error log events except *end message* events.

### Example 3:

```
RPT> =
```

This command generates a report on the default file in the current UFD that uses the default input data file (LB:[1,6]ERRDSA.DAT). The report contains all error log events except *end message* events.

### Example 4:

```
RPT> =/EM/BG:0:0:0:6:1:90/ED:23:59:59:14:2:90
```

This command generates a report on the default file in the current UFD that uses the default input data file (LB:[1,6]ERRDSA.DAT). The report contains all error log events, including *end message* events that occurred between January 6, 1990 through February 14, 1990.

**Example 5:**

```
RPT> SY:[1,6]ERRLOG.RPT=LB:[1,6]RAWDAT.DAT/EM/BG:12:05:00:14:12:89
```

This command generates a report to the file ERRLOG.RPT in the [1,6] UFD on the system disk using the input data file (LB:[1,6]RAWDAT.DAT). The report contains all error log events including end message events that occur between 12:05 on December 14, 1989 to the last one in the data file.

---

### 3.7 RX33 Floppy Diskette Formatting

New functionality has been added to the MSCP handler (DU....) to enable formatting of RX33 floppy disks.

---

### 3.8 Including the T/MSCP Handler (MU....) into Your System:

To include the T/MSCP device handler in your system, edit the system generation command file, [11,17]SYSGEN.COMD, to define all T/MSCP devices using the DEV directive. For example:

```
DEV=MU0,TU81
DEV=MU1,TK50,<vector>,<br level>,<CSR>
```

where : <vector>,<br level>,<CSR> are optional, non-standard values.

Perform a system generation to incorporate the new devices. After Phase 2 of the system generation procedure is complete, install the desired MU.... handler and load the appropriate controllers. Systems with both DU and MU devices should always use the multiuser handlers to conserve memory and UMRs.

For example:

For single-user operations (one T/MSCP controller/drive):

```
MCR>INS [11,1]MU
MCR>LOA MU
```

For multiuser operations (one T/MSCP controller/drive):

```
MCR>INS [11,1]MUMU
MCR>INS [11,1]UQSSP
MCR>LOA MU0
MCR>LOA MU1
```

Loading the the multiuser version of MU.... prompts the UQSSP port server to issue a message to the system console stating the success or failure of the hardware initialization process.

For both the multiuser and single-user versions of MU...., the handler issues a message to the console stating the success or failure of bringing the controller ONLINE and ready for I/O operations.

**NOTE: UQSSP might already be installed on your system if you are using the multiuser DU handler (DUMU.TSK).**



### 3.9 **UMR Requirements Reduced for UNIBUS Operations**

---

IAS Version 3.4 conserves UMRs (UNIBUS Mapping registers). It requires 3 less UMRs than previous versions of IAS running on UNIBUS machines.

This causes the following benefits:

- Improved support for TMSCP devices.
- Reduction in UMR requirements.
- With the return of 3 UMRs to the system and the inclusion of UQSSP support for the TMSCP handler, IAS Version 3.4 sees considerable improvements by reducing the allocation of memory and UMR resources. Table 3-2 shows what the UMR usage is for various versions of IAS. Table 3-2 also shows (in its last column) how many more UMRs are available for each configuration in IAS Version 3.4 than were available in previous versions of IAS.

Table 3-2 UMR Allocation Requirements per Configuration

UNIBUS Configuration	IAS V3.2C	IAS V3.3	IAS V3.4	Reduction of UMR Usage from V3.2C to V3.4
1 MSCP controller	1	1	1	3
2 MSCP controllers	2	1	1	4
3 MSCP controllers	3	1	1	5
4 MSCP controllers	4	1	1	6
1 MSCP controller and 1 TMSCP controller	2	2	1	4
2 MSCP controllers and 1 TMSCP controller	3	2	1	5
2 MSCP controllers and 2 TMSCP controllers	4	3	1	6
3 MSCP controllers and 1 TMSCP controller	4	2	1	6
3 MSCP controllers and 2 TMSCP controllers	5	3	1	7
4 MSCP controllers and 1 TMSCP controller	5	2	1	7
4 MSCP controllers and 2 TMSCP controllers	6	3	1	8

### 3.10 Nonstandard CSR and Vector Installation Support

IAS Version 3.4 enables installation to target disks in nonstandard configurations. The installation procedure still targets unit zero at the specified CSR. To accommodate this new support, the following two statements now appear in the installation process:

Enter Non-Standard CSR address:

Enter Non-Standard VECTOR:

If an installation is targeted for a disk at a nonstandard CSR and the disk is usually assigned a unit number other than zero, execute a target generation that specifies the proper unit number and disk handler (multiuser versions of disk handlers) after the installation is complete.

**NOTE: If you do not enter any values for the two new statements, the installation procedure assumes the standard defaults.**

---

### **3.11 New Documentation Set**

IAS Version 3.4 includes a complete revised and updated documentation set, including a new master index and documentation directory.

---

### **3.12 /NOUNL Switch for DM0**

For tapes, this switch prevents tapes mounted ANSI from being physically unloaded at dismount time.

For disks, this switch leaves MSCP disks online to the controller at dismount time.

---

## **4 Known Problems With This Release**

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### **4.1 Shadow Recording**

Both disk drives in a shadow set must be physically connected to the same controller. Devices on different controllers generate an error if you attempt to issue the `SHA START` command.

---

### **4.2 PDS SHOW TERMINAL command**

The `PDS SHOW TERMINAL` command does not complete when a nonprivileged user specifies a terminal that is not logged in. The user terminal appears to hang. The system manager must abort the user job or stop and restart the CLI on the user terminal to clear the condition.

---

### **4.3 Executive and Supervisor Mode Resident Libraries**

Random corruption of a task stack pointer occurs when user mode routines call supervisor mode libraries.

The user mode stack pointer is occasionally reset with the wrong value during the context switch from the supervisor mode library routine, which causes the user mode program to abort. The wrong value is set when an interrupt occurs while the context switch completion routine is in progress.

You can work around this problem by saving the stack pointer prior to calling the supervisor mode library, then restore it when control returns to the user mode routine. (This has proven to be 100% successful.)

---

### **4.4 Indirect Command File Processing**

The `.READ` directive does not recognize end of file (EOF) condition. The last record in the file is returned when it attempts to read past EOF.

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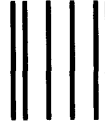
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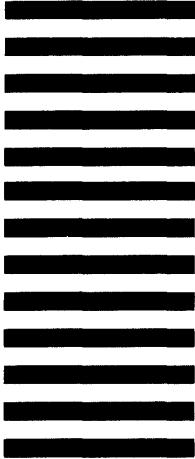


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