

CONVERGENT TECHNOLOGIES

RELEASE NOTICE FOR  
11.3 / 11.4 Standard Software  
(SAA-3100)

Revised January 30, 1989

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NOTE

This Release Notice is for Standard Software. Detailed Operating System information is contained in a separate Release Notice for the CTOS/VM and CTOS/SRP Operating Systems.

**Read the entire contents of this release notice before you begin installation.**

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This specification assumes prior knowledge of the following documents:

11.2 Standard Software Release Notice

Executive Manual, Fourth Edition

CTOS System Administrator's Guide

CTOS/VM Concepts Manual

CTOS/VM Reference Manual, Volumes 1 & 2

## 1.0 CHANGES FROM PRIOR VERSIONS

### 1.1 DESCRIPTION OF PROGRAMS

This Release Notice describes Standard Software version 11.3 / 11.4. This section and the sections that follow provide a description of the product, a list of the contents of the Distribution Diskettes, installation procedures, and other information pertinent to this release of Standard Software.

Standard Software version 11.3 / 11.4 is intended for use with CTOS/VM version 2.0 or later and CTOS/SRP. However, Standard Software version 11.3 / 11.4 is backward compatible for use on all workstations (NGEN's, IWS's, and AWS's). To work correctly in these environments, the system must be running the following minimum versions of CTOS:

IWS	9.1
AWS	9.11
NGEN Series 186	9.1 or later
NGEN Series 286	9.7 or VM 2.0 or later
NGEN Series 286i	VM 2.0 or later
NGEN Series 386	9.8 or VM 2.0 or later
NGEN Series 386i	VM 2.2 or later
SRP	CTOS/SRP 1.0 or later (also known as CTOS II)

Standard Software 11.3 / 11.4 must be used on workstations on which you intend to run CTOS/VM.

The release chronology of Standard Software numbering is as follows:

10.x	(with CTOS 9.4 thru 9.x)
II 1.0	(with CTOS II 1.0)
11.0	(with CTOS/VM 2.0)
11.1	(with CTOS/SRP 1.4)
11.2	(with CTOS/VM 2.2)
11.3/11.4	(with CTOS/VM 2.3)

Version 11.3 / 11.4 Standard Software distribution package consists of:

- o 5 NGEN Initialization diskettes
- o 6 Workstation Utilities diskettes
- o 2 Software Development diskettes
- o 1 Master Workstation Utilities diskette
- o 1 Standard Software Update diskette
- o 3 Tape Utilities diskettes
- o 3 SRP Utilities diskettes
- o 1 SRP Initialization QIC tape

Version 11.3 / 11.4 Standard Software consists of the following programs.

An asterisk (\*) designates those run files that have functions provided in the Executive. They are provided only so the user can execute them on the SRP boards using MCLI or MCDTIO.

Append.run	*Appends files together
Assembler.run	Assembles source programs
ATE.run	Emulates an Asynchronous Terminal
BackupVolume.run	Archives disk volumes
BadSpotReport.run	Reports bad spots on a disk
Batch.run	Processes batch files
Bootstrap.run	Bootstraps a workstation
CdtIO.run	Allows you to talk to any CPU board on an SRP

ChgVolName.run	Changes the name of a volume
ChgVolNamei.run	Changes the name of a volume (used on SRP boot tapes only)
CLI.run	Interprets system commands for the SRP
ClusterStatus.run	Shows information about the workstations on the cluster
CmdFileEditor.run	Edits a command file
Command.run	Adds and removes commands
Copy.run	*Copies files
CreateConfig.run	Creates serial and parallel port configuration files
CreateDirectory.run	*Creates directories
CreateMsgFile.run	Converts text message files into binary message files
CreatePartition.run	Creates SRP memory partitions
DeInstallQicServer.run	Deinstalls the NGEN QIC system service
DeInstallQMgr.run	Deinstalls the Queue Manager
Delete.run	*Deletes files
DeviceName.run	Allows multiple installations of servers on SRP boards
DisableCluster.run	Disables cluster operations
DisplayConfig.run	Displays the NGEN configuration

Dump.run	Dumps a file in hexadecimal
Editor.run	Edits text
Exec.run	Interprets interactive system commands
ExtCrashDump.run	Dumps high memory (above 1 MB) after a system crash
Files.run	Lists files
FloppyCopy.run	Copies floppy disks
Format.run	Formats files for printing
InstallQMgr.run	Installs the Queue Manager
InstallSpl.run	Spools files for printing on the workstation
InstallVDM.run	Installs system video at boot-time
IVolume.run	Initializes volumes
LCopy.run	Copies files
Librarian.run	Creates libraries of object modules
Linker.run	Links object files and libraries into run files
LInstall.run	Installs software
ListRqSet.run	Creates a text file for loadable requests (used later by MakeRqSet)
LoadPrimaryTask.run	Loads a run file into memory (SRP)

MakeBootTape.run	Creates a tape from which an SRP can be booted
MakeRqSet.run	Creates loadable request files (e.g. Request.sys)
MaintainFile.run	Deletes corrupt records from RSAM files
Menu.run	Interprets commands for SRP bootable tapes
MfAdminAgent.run	Communicates with the workstation WsAdminAgent
MHisto.run	Reports histogramming information for the SRP
MHistProc.run	Supplies histogramming information to mHisto.run
MInstallSecondary.run	Installs system services into a secondary partition on an SRP
MInstallServer.run	Loads system services written for the SRP which do not issue a call to ConvertToSys
MIVolume.run	Initializes volumes (SRP)
MIVolumei.run	Initializes volumes (used on SRP boot tapes only)
MPartitionStatus.run	Reports information about memory on the SRP
MQicServer.run	Serves tape requests for quarter inch tape on the SRP

MSpoolerMgr.run	Spools files for printing on the SRP
MTapeServer.run	Serves tape requests for half inch tape on the SRP
NGenQicServer.run	Serves tape requests for quarter inch tape on the workstation
NLSServer.run	Provides Native Language Support for CTOS 9.x
PartitionStatus.run	Reports information about memory on workstations
PLog.run	Reports system error/status log
PMake.run	Creates CTOS/VM image files
Print.run	Prints files to a queue
QicErase.run	Erases a QIC tape
QicErasei.run	Erases a QIC tape (used on SRP boot tapes only)
QueueMgr.run	Provides queueing services
RemoveDirectory.run	*Removes directories
RemovePartition.run	Removes partitions from memory on the SRP
Rename.run	*Renames files
Restore.run	Restores previously archived files
ResumeCluster.run	Resumes cluster operations

SelectiveBackup.run	Selectively archives files
SetDirectoryProtection.run	Sets the protection level of a directory
SetFileProtection.run	*Sets the protection level of a file
SetTime.run	Sets the time
SignOn.run	Allows the user to log in to the system
SpoolerStatus.run	Reports status of the Spooler
SubCmd.run	Processes submit files as commands
Submit.run	Processes submit files
Sync.run	Allows an SRP JCL file to be synchronized on different boards
SyncStatus.run	Allows monitoring the synchronization of the boards on an SRP
SysInit.run	Provides for the automatic running of program(s) at system initialization
TapeBackupVolumei.run	Archives an entire disk to tape (for SRP bootable tapes only)
TapeBackupVolume.run	Archives an entire disk to tape
TapeCopy.run	Copies tapes
TapeInstall.run	Provides tape services for IWS workstations
TapeRestore.run	Restores archived files from tape to disk

TapeRestorei.run	Restores archived files from tape to disk (for SRP boot tapes only)
TapeSelectiveBackup.run	Selectively archives files to tape
UserFileEditor.run	Edits user files
VacatePartition.run	Removes a task image from a partition (SRP)
VDM_BM.run	Drives the video for a bit-mapped monitor
VDM_CH.run	Drives the video for a character-mapped monitor
Version.run	Displays/modifies run file information
VolumeStatus.run	Displays information about a disk
Wrap.run	Wraps data into an object file
WsAdminAgent.run	Gets information from a workstation user and passes it to the MfAdminAgent on the SRP
XBif.run	Serves the NGEN X-Bus
XC002Server.run	Serves the NGEN port expander communications module

## 1.2 SPRs CLOSED IN THIS RELEASE

### 1.3 Problems closed in Standard Software 11.4

The Restore command reverted to internal English messages when restoring FileUtilMsg.Bin and the parameter [Overwrite Ok?] was set to No.

New Command returned Erc 219 on a password protected volume even if the password was entered at SignOn.

The Files command returned Erc 219 if Mfd.Sys was protected.

The Queue Manager would GP Fault if two simultaneous AddQueueEntry calls were made.

Make Request Set did not set the protection level of Request. Sys to the previous protection level.

Disable Cluster and Resume Cluster have been modified to function correctly on 2.3 CTOS/VM.

### 1.4 SPRs Closed in Standard Software 11.3

Disk byte streams: Executing a writebyte after the bytestream was closed caused a crash erc 28.

ListRqSet: Constants (e.g the 100 in c(100,22)) were truncated to two digits.

Queue Manager: Caching was broken.

Spooler Status: Selecting a parallel printer on another node crashed with erc 3.

12428 ATE: The "WaitFor" function used in script files cased ATE to hang.

- 12737 Floppy Copy: when the target floppy is bad (erc 301), attempting to retry with a good floppy exits with erc 400 or 402.
- 12745 Ctos.lib: FillBufferAsyncC faults under VM when either a remote system or modem is powered off.
- 12831 Ctos.lib: Comm Byte Stream routine OpenByteStreamC, would return an erc 60 when accessing the 8251 ports on an SRP.
- 12915, 12917, 12918  
Ctos.lib: GetServerMsg, OpenServerMsgFile, and CloseServerMsgFile always returned erc 13505, 'Message file corrupt', for any error condition. They have been modified to return the same errors as the related Ctos.lib routines OpenMsgFile, GetMsg, and CloseMsgFile.
- 12916 Ctos.lib: If NlsVerifySignatures was supplied with a string of signatures which was longer than the number of tables to verify against, it returned ercOK. It now returns ercNoSuchTable.
- 12919 Ctos.lib: If you supplied invalid input to GetNlsKey (for example key values of 0 or 25), the routine would not return an error message and sometimes caused a GP fault.
- 12920 Assembler: could not assemble German>Nls.asm correctly.
- 12967 OpenByteStreamTape: This internal Byte Stream routine dealt with the size of its buffers in paragraphs. This has now been changed to deal with the size in bytes so as to be compatible with all other byte streams.
- 13001 Ctos.lib: GetMsg caused a GP fault if you asked to expand a %Kn macro where K was greater than 22.
- 13002 Ctos.lib: GetMsg expanded a numeric macro which had a double-word value (sd.cb=4) as if it were a word value (sd.cb = 2).

- 13047 SignOn: If you set the SignOnChainFile to be the PC Emulator, and the SignOnExitFile to SignOn.run, after exiting the PC Emulator, the SignOn screen would not have visible characters.
- 13084 Create Configuration File: A 'CR/LF' entry for newline mapping mode wrote a ' CR' value to the config file. The only way to specify 'CR/LF' was to blank the field and have the utility write it as the default.
- 13096 ATE: when three or more lines were cut and pasted (using CM) into an ATE session with [phone]1 specified as the Communications Channel, the workstation would crash with an erc 80.
- 13106 Queue Manager: Now allows Queue Manager requests sent from a Queue Manager on one node to be handled by a Queue Manager on a different node.
- 13114 Files: specifying a password on a print file returned erc 219, access denied.
- 13122 ATE: sending a file over the RS-232 port (using f7), if the CTS protocol is used, can crash the system with an erc 1431 or 1557.
- 13277 Create Configuration File: Responding "odd" to the Parity prompt produced an invalid error message "Invalid parameter".
- 13338 Files: File names with umlauts sometimes sorted before and sometimes sorted after corresponding equivalent character sequences.
- 13339 Ctos.lib: NlsCollate would always return with bprioResRet equal to bColResRet. It would not use the secondary priority table.
- 13343 Version: When details were requested and output was sent to a file, the 'Mode' field was not sent to the file.

- 13442 Append: if you attempted to append Word Processor or Document Designer files, you would not receive a warning that the formatting would be lost.
- 13470 Exec: would not report errors (returned `erc's`) over 8000h correctly.
- 13623 ATE: would not accept the parameter `{master}[phone]2`.
- 13751 QueueMgr: Garbage was written to the system log when `queue.index` was absent.

## 1.5 CHANGES FROM STANDARD SOFTWARE 11.0

See the 11.2 Standard Software Release Notice.

## 1.6 CHANGES FROM STANDARD SOFTWARE 11.2

`CTOSToolKit.lib`: A new library has been added. The linker automatically looks for this library in `[Sys]<Sys>`, as it does for `CTOS.lib`. `CTOS.lib` was exceeding the limits for the librarian. In future releases, certain "non-OSish" routines will migrate from `CTOS.lib` into `CTOSToolkit.lib`. New routines will be placed in the appropriate library.

- A. The following files are being re-released to close SPR's: `ATE.run`, `Files.run`, and `FloppyCopy.run`.
- B. **Assembler**: A serious bug was fixed which prevented the assembler from assembling the file `Nls.asm`.

Note: The 'Structure Macro' mentioned in the Assembler is not supported.

- C. **Bootstrap** and **ExtCrashDump**: have been modified to work correctly on the 386i.

- D. **Create Configuration File:** the following parameter has been added to the parallel printer form:

[Receive timeout (number of seconds,  
default - wait forever)]

to support future scanner projects.

- E. **Ctos.lib:** Minor bugs have been fixed, e.g. not allowing multiple GPS byte streams.

There are two new related routines, AtFileInit and AtFileNext which allow you to expand the contents of an 'at' file. See the CTOS/VM Reference Manual for details.

- F. **Nls:** Additional Native Language Support tables have been added. See Nls. asm for details.

- G. **DisplayConfig:** has been modified to recognize module id's on the XBus as different from module id's on the IBus. See DisplayConfigMsg.txt for details.

- H. **Exec:** The Video and Screen Setup commands both have a new parameter:

[Background color]

which, on the new "EV" modules will allow the user to set the background color. Specifying "none" to the background color parameter turns off (sets to black) the background color.

Also, the parameter

[Color (e.g., Green)]

is now

[Foreground Color (e.g., Green)]

Specifying "none" to the foreground color turns off (sets to black) the foreground color. "None" only works when a background color is active. In other words, it isn't possible to turn off both foreground and background colors (thus blanking the screen.)

- I. **File and Tape Utilities:** Support for the HSD-320 and HDX-320 SCSI disk modules has been added to IVolume. The tape utilities can correctly reference disk files that are on a remote CT-Net node. The tape utilities also may be invoked from a Batch jcl file. IVolume can be configured via the NLS file to allocate a minimum of one contiguous track for CrashDump.sys, regardless of value specified by user.
- J. **Linker:** has been modified to support the following additional run file modes.

1) Conditional Protected Mode.

The "conditional protected mode" options allows a program to execute in protected mode or real mode based on the internal version of CTOS/VM. This feature requires CTOS/VM 2.2 or a higher version.

Use conditional protected mode when an application depends on new CTOS features in order to execute in protected mode.

To select the "conditional protected mode" option, enter a CTOS internal version number in the [Run file mode] field following the run file mode keyword.

The correspondence between CTOS/VM internal and release version numbers is summarized in the following table.

Release Version	Internal Version
2.0	11.0
2.1	11.1
2.2	11.2
2.3	11.3

For example,

[Run file mode] Protected 11.2

selects conditional protected mode. The program would execute in protected mode on CTOS/VM 2.2 and greater versions and in real mode on other versions.

## 2) Code Sharing Servers.

The "code sharing server" option allows multiple installations of the same server on the same processor to share code. This feature requires CTOS/VM 2.2 or a higher version.

The selection of this option implies that the server is LDT-based. CTOS/VM does not support GDT-based code sharing. Consequently, code sharing servers cannot contain system common procedures.

To select the "code sharing server" option, enter

```
CodeSharingServer
```

or

```
HighMemCodeSharingServer
```

in the [Run file mode] field of the Bind command form. (The HighMemCodeSharingServer keyword is explained below.)

For example,

```
[Run file mode] CodeSharingServer
```

selects the "code sharing server" option.

## 3) High Memory.

The "high memory" option asserts that the program can be executed on the NGen Series 386i processor in memory configurations that exceed 16Mb.

The 386i supports up to 24Mb of memory, however, only the first 16Mb is accessible by a type of X-Bus hardware device called a "mode 3 master". If the program communicates with a "mode 3 master", then the program CANNOT use high memory, that is, memory beyond 16Mb.

A program communicates with a "mode 3 master" either by programming the device directly or by issuing a request that causes the "mode 3 master" to transfer data into the program's data area.

On a 386i, CTOS/VM does not load programs beyond 16Mb unless the "high memory" option is asserted. By specifying this option, the programmer is asserting that the program does not communicate with a "mode 3 master", either directly or indirectly.

To select the "high memory" option, enter

```
        HighMemProtected
or
        HighMemGdtProtected
or
        HighMemCodeSharingServer
```

in the [Run file mode] field of the Bind command form. These keywords select the "protected", "gdt protected", and "code sharing server" options respectively, and assert the "high memory" option as well.

For example,

```
[Run file mode] HighMemProtected
```

selects the "high memory" option.

- K. **Partition Status:** Has been updated to handle new memory management requests with CTOS/VM 2.2 or later.
- L. **PLog:** PLog includes enhancements for the HSD-320 and HSX-320 SCSI disk modules as well as support for the 386i processor series.
- M. **Version:** has been modified to report on programs linked as Conditionally protected. Further, Version.run will now display the version number of libraries.

N. **QueueMgr.run:**

a) A serious bug was fixed in termination dealing with repeating entries.

b) Code has been added to allow Queue Managers on different nodes to send requests to each other.

c) The procedural interface to RescheduleMarkedQueueEntry has been corrected.

d) The Queue Manager no longer writes a message to the Plog if it does not find a Queue.index file, it simply installs.

e) If the Queue Manager can not forward a request to a remote Queue Manager, it now returns erc 929, 'ercForwardRqFailed'.

f) Caching now works.

- O. **SignOn:** SignOn now issues a request to a "SignOn Server" before granting access. This server can be written to log signons, to verify access based on user name, etc. If the server is not installed, SignOn operates as before.

Further, SignOn has been modified to accept user name and password parameter for use during SysInit. As the last line of the SysInit.jcl file, you can specify a line such as:

```
$RUN [sys]<sys>SignOn.run,UserName,Pswd
```

SignOn will then run without user interaction.

When logging out on a color machine, SignOn will not reset the color to green.

- P. **Batch:** The Background Batch system (**released as a separate product from Standard Software**) now operates in protected mode.

- Q. **Ctos.lib:** SetAlphaColorDefault also sets the background color to black (the default) on machines capable of background color.

- R. The following files which have previously been distributed with Standard Software are obsoleted: Request.X.sys, MRequest.2.sys, and Request.9.sys. For those users running CTOS 9.8 and below, Request.2.sys has been updated to contain the request codes that used to be in the obsoleted files.
- S. tlSys.font, the standard NGen character map font, has been updated.
- T. CreateBackupFloppy.sub: As before, this submit file will create floppies to do backups and restores from diskette or from tape. However, this submit file now creates three floppies instead of the two created by prior versions. The first floppy is a bootable floppy (See 8 E. below for a workaround to a temporary error.) The second floppy contains the files to do (tape) backups and (tape) restores. The third floppy contains files which allow the disk to be initialized and renamed. The following sequence would normally be followed. 1) Boot from diskette 1. 2) Backup the volume using diskette 2. 3) Verify that the backup media is OK by restoring with "List files only - yes". This is also on diskette 2. 4) Insert floppy 3.  
**\*\*\* Note: Now press ACTION-FINISH; Doing this will load ExecMsg.bin from floppy 3. Failure to ACTION-FINISH will result in the OS crashing with "Cannot load Exit Run File, erc 203".**  
Ivolum the disk. 5) Insert floppy 2. **Press ACTION-FINISH.** Restore the files to disk. 6) Reboot the workstation from it's hard disk.

## 2.0 CONTENTS OF DISTRIBUTION DISKETTES

The Standard Software 11.3 / 11.4 Distribution Diskettes set are your master copy, and have been shipped write-protected. They should not be write-enabled, nor should they be used as a working copy.

### **NGEN INITIALIZATION DISKETTES**

#### **CTOS 9.10 Initialization**

##### **Diskette 1 of 1, <Sys> directory**

ExecMsg.bin	SignOn.run
SignOn.txt	Sys.cmds
tlSys.font	

##### **CTOS/VM Initialization**

##### **Diskette 1 of 1, <Sys> directory**

1024x768_80Sys.font	720x348_80Sys.font
Config.sys	ExecMsg.bin
InstallVDM.run	SignOn.run
SignOn.txt	Sys.cmds
tlSys.font	VDM_BM.run
VDM_Ch.run	

##### **Initialization Continuation**

##### **Diskette 1 of 3, <Sys> directory**

.user	80x23CharSys.font
AllFiles.flS	Config.sys
Continue.run	Continue.txt
Exec.run	ExecMsg.bin
Init.sub	Init.user
Install.sub	InstallRequest.sub
IVolume.run	LptConfig.sys
PtrBConfig.sys	Queue.index
Real>SignOn.txt	Request.sys
SignOn.run	SignOn.txt
SplBConfig.sys	SplCnfg.sys
SplConfig.sys	SubCmd.run
Submit.run	Sys.cmds
SysAllFiles.flS	SysInit.txt
VDM_BM.run	

**Diskette 2 of 3 (2.3 CTOS/VM), <Sys> directory**

1024x768_80Sys.font	720x348_80Sys.font
AllFiles.flc	Exec.run
ExecMsg.bin	InstallVDM.run
LCopy.run	LInstall.run
Next.sub	Request.2.sys
Sys.cmds	tlSys.font
VDM_Ch.run	

**Diskette 3 of 3 (9.10 CTOS), <Sys> directory**

1024x768_80Sys.font	720x348_80Sys.font
AllFiles.flc	Exec.run
ExecMsg.bin	InstallVDM.run
LCopy.run	LInstall.run
Next.sub	Request.2.sys
Sys.cmds	tlSys.font
VDM_Ch.run	

**WORKSTATION UTILITIES DISKETTES**

**Diskette 1 of 6, <Sys> directory**

All.sub	Config.Sys
Delete.flc	HdInstall.sub
InstallConfig.sys	Local.sub
Master.sub	Rest.flc
Submit.flc	

**Diskette 1 of 6, <CT> directory**

Cleanup.sub	Command.run
Config.sys	CreateBackupFloppy.sub
DailyBackup.sub	DisplayConfig.run
DisplayConfigMsg.bin	ErcMsg.bin
ErcMsg.txt	Exec.run
ExecMsg.bin	ExecMsg.txt
FileUtilMsg.bin	Install.sub
InstallNewRequest.sub	InstallRequest.sub
LCopy.run	LInstall.run
Request.Sys-Initial	StdServerMsg.bin
StdSoftMsg.bin	SubCmd.run
Sys.Cmds-Initial	TapeDailyBackup.sub
TapeWeeklyBackup.sub	WeeklyBackup.sub

**Diskette 2 of 6, <Sys> directory**

All.sub	Delete.flS
HdInstall.sub	InstallConfig.sys
Local.sub	Master.sub
Submit.flS	

Workstation Utilities Diskette 2 of 6

**Diskette 2 of 6, <CT> directory**

BatchMsg.bin	BatchMst.txt
DisplayConfigMsg.txt	FileUtilMsg.txt
IVolume.run	MaintainFile.run
PlogMsg.bin	PlogMsg.txt
SignOn.run	StdServerMsg.txt
StdSoftMsg.txt	Student.user
SysInit.run	VolumeStatus.run

**Diskette 3 of 6, <Sys> directory**

All.sub	Delete.flS
HdInstall.sub	InstallConfig.sys
Local.sub	Master.sub
Submit.flS	

Workstation Utilities Diskette 3 of 6

**Diskette 3 of 6, <CT> directory**

ListRqSet.run	MakeRqSet.run
NlsServer.run	PartitionStatus.run
Plog.run	Restore.run
SelectiveBackup.run	SetDirectoryProtection.run

**Diskette 4 of 6, <Sys> directory**

All.sub	Delete.flS
HdInstall.sub	InstallConfig.sys
Local.sub	Master.sub
Submit.flS	

Workstation Utilities Diskette 4 of 6

**Diskette 4 of 6, <CT> directory**

Bootstrap.run	ChgVolName.run
CmdFileEditor.run	FloppyCopy.run
Format.run	UserFileEditor.run
UserFileTemplate.sys	Version.run
Xbif.run	XC002Server.run

**Diskette 5 of 6, <Sys> directory**

All.sub	Delete.flIs
HdInstall.sub	InstallConfig.sys
Local.sub	Master.sub
Submit.flIs	Workstation Utilities Diskette 5 of 6

**Diskette 5 of 6, <CT> directory**

BackupVolume.run	BadSpotReport.run
Batch.run	CreateConfig.run
ExtCrashDump.run	SetTime.run
Submit.run	

**Diskette 6 of 6, <Sys> directory**

All.sub	Cleanup.flIs
Delete.flIs	HdInstall.sub
InstallConfig.sys	Local.sub
Master.sub	RemDir.sub
Request.2.sys.	Request.sys.

**Diskette 6 of 6, <CT> directory**

Ate.run	CreateMsgFile.run
Editor.run	Files.run
Print.run	

**MASTER WORKSTATION UTILITIES DISKETTE**

**Diskette 1 of 1, <Sys> directory**

HdInstall.sub	MasterUtilitiesCmds.sub
---------------	-------------------------

**Diskette 1 of 1, <CT> directory**

ClusterStatus.run	DelInstallQMGr.run
DisableCluster.run	InstallQMGr.run
InstallSpl.run	QueueMgr.run
ResumeCluster.run	SpoolerStatus.run

**Diskette 1 of 1, <RelNote> directory**

ReleaseNotice

**SOFTWARE DEVELOPMENT UTILITIES DISKETTES**

**Diskette 1 of 2, <Sys> directory**

All.sub	Delete.flS
HdInstall.sub	InstallConfig.sys
InSys.flS	Local.sub
Master.sub	Rest.flS
Submit.flS	

**Diskette 1 of 2, <CT> directory**

Ctos.lib	CtosToolKit.lib
LinkCTOS.sub	LinkCTOSVM.sub
Linker.run	LinkFileSystem.sub
RequestTemplate.txt	

**Diskette 2 of 2, <Sys> directory**

All.sub	Cleanup.flS
Delete.flS	HdInstall.sub
InstallConfig.sys	InSys.flS
Local.sub	Master.sub
Rest.flS	
SoftwareDevelopmentCmds.sub	
Submit.flS	
Software Development Diskette 2 of 2	

**Diskette 2 of 2, <CT> directory**

Assembler.run	CommNub_pre10.obj
CommStatus_pre10.obj	Dump.run
German>Nls.asm	InitComm_pre10.obj
Librarian.run	Nls.asm
Nls.mdf	OsSub.mdf
PMake.run	RqLabl.mdf
SamGen.mdf	SamGenAll.asm
SamGenAll.obj	UserRqLabel.asm
UserSysCommonLabel.asm	Wrap.run

**SHARED RESOURCE PROCESSOR UTILITIES DISKETTES**

**Diskette 1 of 3, <Sys> directory**

All.sub	Cleanup.flS
Delete.flS	HdInstall.sub
InstallConfig.sys	LocalSRPUtilitiesCmds.sub
Submit.flS	

**Diskette 1 of 3, <CT> directory**

Append.run	Copy.run
CreateDirectory.run	CreatePartition.run
Delete.run	LoadPrimaryTask.run
MfAdminAgent.run	RemoveDirectory.run
Rename.run	SetFileProtection.run

**Diskette 2 of 3, <Sys> directory**

All.sub	HdInstall.sub
---------	---------------

SRP Utilities Diskette 2 of 3

**Diskette 2 of 3, <CT> directory**

CdtIO.run	ChgVolNamei.run
CLI.run	MakeBootTape.run
m1Volume.run	m1Volumei.run
RemovePartition.run	VacatePartition.run

**Diskette 3 of 3, <Sys> directory**

All.sub	HdInstall.sub
---------	---------------

SRP Utilities Diskette 3 of 3  
SRPUtilitiesCmds.sub

**Diskette 3 of 3, <CT> directory**

DeviceName.run	Menu.run
mHisto.run	mHistProc.run
mInstallSecondary.run	mInstallServer.run
mPartitionStatus.run	mSpoolerMgr.run
QicTable.txt	Sync.run
SyncStatus.run	TapeTable.txt
WsAdminAgent.run	

**TAPE UTILITIES DISKETTES**

**Diskette 1 of 3, <Sys> directory**

All.sub	AllFiles.flS
Cleanup.flS	Delete.flS
HdInstall.sub	InstallConfig.sys
Local.sub	Master.sub
Submit.flS	WsTapeCmds.sub

**Diskette 1 of 3, <CT> directory**

NGenQicServer.run	QicErase.run
-------------------	--------------

TapeBackupVolume.run

**Diskette 2 of 3, <Sys> directory**

All.sub	AllFiles.flc
Cleanup.flc	Delete.flc
HdInstall.sub	InstallConfig.sys
Local.sub	Master.sub
Submit.flc	

Tape Utilities Diskette 2 of 3

**Diskette 2 of 3, <CT> directory**

DelInstallQicServer.run	TapeCopy.run
TapeRestore.run	TapeSelectiveBackup.run

**Diskette 3 of 3, <Sys> directory**

All.sub	AllFiles.flc
Cleanup.flc	Delete.flc
HdInstall.sub	InstallConfig.sys
Local.sub	LocalSRPTapeCmds.sub
Master.sub	SRPTapeCmds.sub
SRPTapeCmdsOnly.sub	Submit.flc

Tape Utilities Diskette 3 of 3

**Diskette 3 of 3, <CT> directory**

LocalSRPTapeCmds.sub	mQicServer.run
mTapeServer.run	QicErasei.run
SRPTapeCmds.sub	TapeBackupi.run
TapeConfig.sys	TapeRestorei.run

**11.4 STANDARD SOFTWARE UPDATE DISKETTE**

**Diskette 1 of 1, <Sys> directory**

All.sub	Local.sub
Master.sub	Delete.flc
Submit.flc	HdInstall.sub

InstallConfig.sys

**Diskette 1 of 1, <CT> directory**

Command.Run	MakeRqSet.Run
Restore.Run	Files.Run

**SHARED RESOURCE PROCESSOR INITIALIZATION QIC TAPE**

SRPCp.sys  
SRPFp.sys  
SRPTp.sys

SRPDp.sys  
SRPSp.sys  
SysImage.sys

Bootstrap.run  
CLI.run  
Delete.run  
CreateDirectory.run  
MfAdminAgent.run  
mIvolumei.run  
Restore.run  
TapeRestorei.run

ChgVolNamei.run  
Copy.run  
RemoveDirectory.run  
Menu.run  
mIvolume.run  
QicErasei.run  
TapeBackupi.run  
WsAdminAgent.run

CP00.cnf  
FP00.cnf  
Ivball100.cnf  
Ivcdc340.cnf  
Ivfujitsu80.cnf  
Ivhitachi85.cnf  
Ivmaxtor53.cnf  
IvMicropolis85.cnf  
Master.cnf

DP00.cnf  
IVATASI46.cnf  
IvCDC300.cnf  
Ivcdc675.cnf  
IvHitachi51.cnf  
IvMaxtor143.cnf  
IvMICR052.cnf  
IVSyQuest6.cnf  
TapeConfig.sys

### 3.0 SYSTEM SOFTWARE COMPATIBILITY

#### 3.1 WORKSTATION ENVIRONMENT

- A. Standard Software 11.3 / 11.4 is intended for use with CTOS/VM 2.2 or later. However, Standard Software 11.3 / 11.4 is backward compatible for use on all workstations (NGEN's, IWS's, and AWS's). To work correctly in these environments, the workstation must be running the following minimum versions of CTOS:

IWS	9.1
AWS	9.11
NGEN Series 186	9.1 or later
NGEN Series 286	9.7 or VM 2.0 or later
NGEN Series 286i	VM 2.0 or later
NGEN Series 386	9.8 or VM 2.0 or later
NGEN Series 386i	VM 2.2 or later

- B. If you attempt to run 11.3 / 11.4 Standard Software on a version of CTOS prior to 9.1, a status code 247 (incorrect OS version) will be returned.
- C. The compatible version of Design Verification Source Build Tools is 12.2.

## 4.0 HARDWARE INFORMATION

### 4.1 HARDWARE CONFIGURATIONS SUPPORTED

Version 11.3 / 11.4 Standard Software supports the following NGEN hardware modules:

#### CWS Workstations

CM-002	512 Kb
CM-003	1024 Kb

#### NGEN Modules

CP-001/8	8 Mhz 80186 processor
CP-001/9	8 Mhz 80186 processor
CP-002	8 Mhz 80286 processor
CP-002/287	8 Mhz 80286 processor with 80287 numerical processor
CP-003	16 Mhz 80386 processor
CP-003/287	16 Mhz 80386 processor with 80287 numerical processor
CP-002EV/CP-003EV	CP-002 and CP003 processors with internal GC-102 alphanumeric color functionality
PHD-010	8 Mhz 80286 processor
PHD-011	8 Mhz 80286 processor
PHD-140	20 or 25 Mhz 386i w/140Mb SCSI
PHD-320	20 or 25 Mhz 386i w/320Mb SCSI
VM-001	12" monochrome monitor
VM-002	14" monochrome monitor
VM-003	14" monochrome bitmap monitor
VC-001	15" color monitor
GC-001	graphics controller
GC-003	graphics controller
GC-102	alphanumeric color controller
KM-001	keyboard
TM-001	voice processor (with modem)
VP-002	voice processor (without modem)
XC-002	RS-232 port expander
XE-001	Ethernet module
PC-001	PC compatibility module
HB-001	quarter-inch tape module
FD-001	dual floppy disk
FD-0A1	dual floppy disk
HD-002	10 Mb floppy/hard disk
HD-003	20 Mb floppy/hard disk
HD-0A3	20 Mb floppy/hard disk
HD-006	20 Mb hard disk upgrade

HD-011	32 Mb	hard disk upgrade
HD-020	85 MB	hard disk upgrade
HD-0A1	20 Mb	floppy/hard disk
HX-002	10 Mb	hard disk expansion
HX-003	20 Mb	hard disk expansion
HX-011	32 Mb	hard disk expansion
HX-020	85 Mb	hard disk expansion
HSD-040	40 Mb	SCSI/floppy
HSD-140	140 Mb	SCSI disk upgrade
HSX-140	140 Mb	SCSI disk expansion
HSD-320	320 Mb	SCSI disk upgrade
HSX-320	320 Mb	SCSI disk expansion

## **5.0 SOFTWARE INSTALLATION**

---

### INSTALLATION PRE-REQUISITES:

If you have a system that is already running some version of CTOS, be sure that no system services are installed and that the Context Manager is not installed.

If you plan to install Standard Software 11.3 / 11.4 and a new version of CTOS (e.g. CTOS/VM), you must install Standard Software before installing the OS.

## **5.1 REQUIRED HARDWARE**

---

### \*\*\* IMPORTANT NOTE \*\*\*

A minimum of a 20 megabyte hard disk is recommended for installation of Standard Software.

---

Installation of 11.3 / 11.4 Standard Software on an SRP master requires a workstation with a hard disk and a floppy drive.

## **5.2 THEORY OF INSTALLATION**

For the purposes of this section, three categories of system disks exist:

- o A new, uninitialized disk. In the following sections, installing Standard Software on this type of disk is referred to as Initializing.

- o A system disk that is already running some version of CTOS on which you wish to run CTOS/VM or CTOS/SRP and Standard Software 11.3 / 11.4. This applies to Series 286, Series 286i, Series 386i, and Series 386 NGen's and SRP's . CTOS/VM requires a minimum of 640 sectors for SysImage.sys. In this case, perform a Files command as follows:

**Command Files**

Files

```
File list [sys]<sys>SysImage.sys
[Details?] y <GO>
```

Look at the number of sectors. If the number is less than 640, you must re-initialize the hard disk. In the following sections, installing Standard Software on this type of disk is referred to as Re-Initializing.

If you have an SRP running some old version of CTOS (e.g. 3.2 or 3.3.1), you **must** Re-initialize since Standard Software 11.3 / 11.4 will not run on these versions of CTOS.

- o A system disk onto which you wish only to install Standard Software 11.3 / 11.4. This could apply to any system. On Series 186 NGEN's, AWS's, IWS's, and SRP's systems, the operating system does not change. In the following sections, installing Standard Software on this type of disk is referred to as Upgrading.

There are four basic steps to properly installing Standard Software 11.3 / 11.4. The steps that are required depend on which type of installation you are performing. See the table below:

---

Upgrade   Initialize   Reinitialize

1. Back Up [Sys] Volume			x
2. IVolume*		x	x
3. Install Standard Software	x	x	x
4. Restore Old Files			x

---

The details of each of these steps are described in the following sections.

\* IVolume refers to initializing the hard disk. See below for details.

Standard Software 11.3 / 11.4 consists of the following six functional packages plus an update diskette. Different packages apply to different configurations. The details of their installation are discussed in section 4.3 below.

**Initialization** 5 Diskettes  
These diskettes are bootable. They contain enough files to allow you to initialize your system volume.

**Workstation Utilities** 6 diskettes  
These diskettes contain the base of required system software.

**Master Utilities** 1 diskette  
This diskette contain files intended to be used on a master.

**Tape Utilities** 3 diskettes  
These diskettes contain files needed for tape.

**Software Development Utilities** 2 diskettes  
These diskettes contain files needed for software development.

**Standard Software Update Utilities** 1 Diskette  
This diskette contains files that have been updated since the 11.3 Standard Software release.

**SRP Utilities** 3 diskettes  
These diskettes contain utilities designed specifically for the SRP.

### 5.3 INSTALLATION PROCEDURES

This section describes the steps to take to install Standard Software 11.3 / 11.4. The installation depends upon the category into which your system disk fits. Please read this section carefully.

Installation may display error messages while creating directories, copying files, deleting files, or renaming files. You may disregard these error messages.

---

#### NOTE

Standard Software 11.3 / 11.4 requires a minimum of a 20 megabyte hard disk for the System volume.

---

Characters that you must type are shown in **bold-face**. Special keys, such as RETURN and GO, are shown in uppercase.

#### 5.3.1 BACK UP (Re-Initialization only)

- A. Delete all unneeded files before proceeding with the installation. This should be done to clear as much disk space as possible to allow the installation to run through to completion. For example, you can delete all files in the temporary directories (<\$\*>\*), all old files (\*-old), all temporary files (\*.tmp), and any other files that you do not use.

- B. Back up the hard disk to floppies or tape using the **Backup Volume**, **Tape Backup Volume** or **MTape Backup Volume** commands. On a separate floppy, save away an additional copy of your command file(s) (Sys.cmds and/or WsAdminagent.txt), SignOn.txt, and any specially modified configuration files.

**5.3.2 IVOLUME (Initialization and Re-Initialization)**

This is the only category where the procedure differs depending on whether the target system is a workstation or an SRP.

**WORKSTATION:**

- A. If the workstation is not already on, turn the power on.
- B. Insert one of the two diskettes labelled "CTOS Initialization diskette 1 of 1" into the floppy drive [f0].

The diskette you choose depends on which processor you have, and, if the processor supports it, whether you choose to run in protected mode or real mode. As the following table shows, for Series 186 workstations use the 9.10 diskette, and for Series 286i workstations use the VM 2.3 diskette. For Series 286 and Series 386 workstations either can be used. If you plan to have only 1 megabyte of memory use the 9.10 diskette since 9.10 requires less memory than CTOS/VM 2.3. If you plan to have more than 1 megabyte of memory (therefore requiring protected mode), use the VM 2.3 diskette.

	Series 186	286	286i	386
9.10	x	x		x
VM 2.3		x	x	x

Only run CTOS/VM on a Series 286i and 386i

- C. Press the small RESET button located on the upper rear of the processor module toward the same side as the on/off switch. If your processor is a PHD-010 without a RESET button, turn it off then on again.
- D. After a short time, the following SignOn form appears:

User Name (e.g. Eric)  
Password  
Date/Time (e.g., Tue Sep 9, 1986 8:00 AM)

Fill in the SignOn form as follows:

**User Name:** enter the name **Init**.

**Password:** a password is optional.

Enter a password if you are going to password protect your hard disk during initialization.

---

**NOTE:**

If you wish to use the operating system's file system security, a volume password is required.

---

**Date/Time:** if you have just turned the workstation on, the date/time that is displayed is incorrect. An incorrect date/time is signified by a flashing dim display of the time in the upper right-hand corner of the screen.

You may correct the date/time by entering it in the format "Mon Feb 9 1987 8:00 am". You can enter any part of this field that is incorrect, and in any order.

- E. Remove the diskette and insert the diskette labeled "11.3 Initialization Continuation diskette 1 of 3" Press GO to continue.

- F. Drive d0 is selected as the system volume. To use a different volume, modify the volume field of the Path command that is shown on the screen.

---

**CAUTION:**

Initializing the hard disk erases all existing files.

**NOTE:**

If you wish to designate hard disk drives [d1], [d2], or [d3] as the system drive, all preceding drives must be nonbootable drives. For example, if you wish [d1] to be your bootable system volume, then [d0] must be nonbootable - that is, contain no operating system in SysImage.sys.

You can make an NGEN hard disk nonbootable by overwriting its SysImage.sys with a nonexecutable file, such as a text file.

---

Press **GO** to continue.

G. The IVolume form appears on the screen, as shown below.

Certain fields have been filled in for you.

```
IVolume
Device name                d0
[Device password]         ##
Volume name                Win
[Volume password]
[System Image (0)]        640
[Log file (0)]            32
[Crash file (0)]          3000
[Max. dirs]
[Max. files on vol]
[Primary file headers only?]
[Max. files in Sys Dir]
[Sys Directory password]
[Write protect Sys Dir?]
[Suppress format of medium?]
[Surface tests]
[Debug=d, Password Encrypt=p]
[Log file]
[Extended floppy tracks?]
[NGEN hard disk type code]
[Bad spots]
[Bad spots]
[Bad spots]
```

You are not required to enter any additional information. However, consider optionally changing the following fields.

**Volume Name.** Enter a volume name of your choice (up to 12 characters). Volume names **must be chosen to be unique** within a workstation and between a workstation and the master.

**[Volume password].** To enable file system security, enter the password that you wish to be associated with the volume being initialized.

**[Crash file (default = 0)].** This parameter determines the size of the file CrashDump.sys. This file is used by the Context Manager (CTOS 9.x) or the Operating System (CTOS/VM) to be the default swap file. The recommended size is 3000 sectors. If this is to be your swap file and you enter less than 3000, you will later need to edit the file [Sys]<Sys>Config.sys and modify the entry :SwapFileSize: to indicate the size you pick. See the CTOS System Administrator's Guide for details.

**[Sys Directory password].** You may enter a Sys directory password of your choice. This password is used only if a response is supplied to the [Volume password] prompt.

**[NGEN hard disk type code].** A disk type code is a letter (for example, A, B, C) that designates a particular disk drive. It is located on the bad spot report, which is attached to the bottom of the disk module.

IVolume uses the disk type code to determine drive parameters such as number of cylinders, number of heads, and number of sectors per track.

If the hard disk has previously been initialized, IVolume obtains the hard disk type code from the hard disk. If the disk has not been initialized you must enter the hard disk type code here, or optionally when prompted by IVolume.

The supported disk type codes are summarized in the table below. Note that the Size field is unformatted/formatted capacity. When only one size is given that is the formatted capacity. Also, the "S" in the last column means sectors.

<u>Code</u>	<u>Vendor</u>	<u>Size</u>	<u>Cyl</u>	<u>Heads</u>	<u>S</u>
A	Tandon	12.7/10 Mb	306	4	16
B	Seagate	12.7/10 Mb	306	4	16
C	reserved				
D	Atasi	46.5/37 Mb	645	7	16
E	Quantum	42.7/32 Mb	512	8	16
F	MiniScribe	26/20 Mb	612	4	16
G	Seagate	26/20 Mb	612	4	16
H	reserved				
J	reserved				
K	Micropolis	85/67 Mb	1024	8	16
L	reserved				
M	reserved				
Q	Quantum SCSI	80 Mb	823	5	38
R	Quantum SCSI	50 Mb	823	6	21
S	Seagate SCSI	20 Mb	613	4	17
T	Micropo SCSI	140 Mb	1016	8	34
U	Micropo SCSI	326 Mb	1217	15	35
V	Quantum SCSI	40 Mb	834	3	32
W	Seagate SCSI	40 Mb	613	6	25

If your disk drive is not supported by a disk type code, you may enter the actual drive parameters when prompted to enter the code. Enter the parameter data as cylinders/heads/sectors.

For example, if your drive parameters are 1024 cylinders, 4 heads, and 16 sectors per track, enter the parameter data as follows:

1024/4/16

[Bad Spots] If the hard disk has previously been initialized, IVolume obtains the bad spot information from the hard disk. If the disk has not been initialized, enter the bad spots here, or optionally enter bad spot information when prompted to do so by the IVolume utility. Separate entries with spaces. An entry must be contained entirely on a line; there are three lines available. If there are many bad spots, an at-file can be created through the Editor. See the Executive Manual for details.

On NGEN hard disks, a report showing the drive type code and bad spots is attached to the bottom of the disk module. After a disk has been initialized and Standard Software has been installed, you can give the Bad Spot Report command to obtain a listing of the bad spots on the disk.

---

#### NOTE

If your disk drive contains bad spots, you MUST enter bad spot information in order for your disk to function correctly.

---

Depending on the manufacturer of the disk drive, bad spot information is in one of the four formats below. (Note: the byte offset notation, if specified, may differ depending on the format of the drive manufacturer's defect list. This value may be designated by the label BFI, BFIND, or OFFSET. In any case the value is used as in format 1 below. If the byte offset and a sector number both appear, the byte offset should be used. Also note that the '#' character is used to designate a defective sector. If no '#' appears, the value is assumed to be a byte offset.)

Format 1

---

CYLINDER	HEAD	BFI/#	SECTOR
84	1	#4	
241	2	#13	

---

For units with bad spot information as in the example above, enter a bad spot entry as:

**84/1/#4**

If there is no sector number, but there is a BFI (bytes from index), then enter the bad spot entry as:

**84/1/4** (leave the pound sign off)

Format 2

---

TRK	HD	BYTE COUNT	LENGTH (BITS)
-----		-----	-----
084	1	02646	04
241	2	08130	39

---

or

Format 3

---

CYLINDER	HEAD	DISPLACEMENT IN BYTES	LENGTH IN BITS
84/ 54	1	2646/ A56	4/ 4
241/ F1	2	8130/1FC2	39/27

---

For units with bad spot information as in the two examples above, enter a bad spot entry as:

**84/1/2646/4**

Format 4

---

CYLINDER	HEAD	BYTE OFFSET	DEGREE
84/ 54	1	2646/ A56	81
241/ F1	2	8130/1FC2	263

---

For units with bad spot information as in the last example above, enter a bad spot entry as:

**84/1/2646**

Volume initialization may take up to 45 minutes depending on the number of surface tests. It is strongly recommended that you run eight surface tests when initializing for the first time. If the disk is already initialized you should run at least one surface test.

Press **GO** to continue.

- H. After Initialization Continuation Diskette 1 of 3 is complete, you will be prompted to insert the next diskette. The diskette to be inserted in the floppy drive is determined by the diskette you used to boot your system. If you used the 2.3 CTOS/VM Initialization diskette, insert Initialization Continuation Diskette 2 of 3. If you used the 9.10 CTOS Initialization diskette, insert Initialization Continuation Diskette 3 of 3.

Press **GO** when you have inserted the correct diskette.

- I. Reboot when prompted. This makes the hard disk the system volume.
- J. When you see the SignOn screen asking you to enter a user name, press **GO** to log on.
- K. Continue with installation of the Standard Software packages (Section 5.3.3).

### **5.3.3 SRP - INITIALIZATION FROM QIC TAPE**

The equipment required for SRP initialization is an SRP (which is defined as a system with a master processor, either a File Processor or Data Processor, and at least one Cluster Processor) and an NGEN workstation with a hard disk and at least one floppy drive.

- A. Upgrade the workstation with Standard Software 11.3 / 11.4.

- B. Connect an RS-232 crossed cable from channel 3 of CP00 of the SRP to port B of the workstation. Connect an RS-422 cable from line 1 of CP00 to the workstation. Place a terminator on the free cluster connector of the workstation. Also, place a terminator on the other port of Line 1 of the SRP.
- C. Invoke ATE from the workstation using the default parameters. The screen will clear and the ATE banner will be displayed. The third line contains a double bar running the width of the screen. The screen underneath the double bar will remain empty until step F.
- D. Load the "1.4 CTOS/SRP Initialization" QIC tape in the drive.
- E. Power up the SRP if it is not on already. Turn the key on the front panel of the SRP to the "stop" position, then to the "manual" position. This initiates the booting process. Wait until the number 20 is displayed on the front panel of the SRP. Now check the lights on CP00 (to do this you must walk around to the rear of the SRP and open the rear door of the enclosure which contains CP00.) The lights should appear as follows:

TOP: Off  
On  
Off  
On  
Off  
Off  
Off  
Blinking

- F. A menu will appear on the screen of the workstation after 3 to 5 minutes. Type the numeral "1" to initialize the system volume.

You need to answer the prompts presented. Press **RETURN** after answering each. Mistakes can be corrected by pressing the **BACKSPACE** key. If you notice that you have made a mistake in a previous field, you can simply press the **RETURN** key enough times such that the entire menu cycles through again.

If you are booting from QIC tape (your primary enclosure is called a "C" box), the device name and device password are the two characters "d1".

Although this installation is not packaged for it, if you were booting from Half-Inch tape your primary enclosure is called an "E" box, the device name and device password would be the two characters "s0".

If this is the first time you are initializing a hard disk, you should read the discussion of initializing volumes in the CTOS System Administrator's Guide. The values given below as answers to the "Maximum number of ..." prompts, are appropriate for a forty megabyte disk. You may wish to alter them if you have a larger disk. For the rest of the prompts, the recommended values are as follows:

```
System Image Sectors: 640
Log File Sectors: 32
Crash File Sectors: 1536
Maximum number of directories on volume: 50
Maximum number of files on volume: 4000
Maximum number of files in SYS directory:
    400
Surface tests: 8
Bad Spots:
    For information on bad spot formats, see
    the discussion of [Bad Spots] in section
    G of the workstation subsection earlier.
```

After you have filled out the form, press the **GO** key on the workstation.

When you specify many surface tests, the initialization of the volume can take a long time. For example, a forty megabyte drive running eight surface tests can take up to 45 minutes. It is strongly recommended that you run eight surface tests when initializing for the first time. If the disk is already initialized you should run at least one surface test.

After completion of the volume initialization, press the **RETURN** key to reload the menu program.

After the menu reappears, type the numeral "2" to restore files to the volume. Then answer the prompts as follows (for any prompt not specifically listed here, respond by just pressing **RETURN**):

```
Archive file:      [qic]6
File list from:   <*>*
To File list:    <Sys>*
Overwrite OK?:   yes
Confirm each?:   GO
```

After completion of file restoration, press the **RETURN** key to reload the menu program. The "6" above refers to file number 6 archived on the tape.

- H. After the menu reappears, type the numeral "2", again, to restore another file to the volume. Then answer the prompts as follows (for any prompt not specifically listed here, respond by just pressing **RETURN**):

```
Archive file:      [qic]7
File list from:   <*>*
To File list:    <Cmd>*
Overwrite OK?:   yes
```

- I. After completion of file restoration, unload the tape from the drive.
- J. Turn the reset key on the front panel of the SRP to the "stop" position, then to the "manual" position. The SRP will bootstrap from the hard disk.

**5.3.4 INSTALLATION OF STANDARD SOFTWARE PACKAGES  
(Upgrading, Initializing, and Re-initializing)**

The Standard Software packages you install are dependent on the type of operating system you intend to run. There are five different types of operating systems. The types are:

ClstrLfs - used for a cluster workstation with a local file system (local disk)

Clstr - used for a diskless workstation booted from a master

Stnd - used for a stand-alone workstation (no cluster)

Mstr - used for a master workstation within a cluster

SRP - used for the Shared Resource Processor

The Standard Software packages which must be installed for each of the five types of operating systems are shown in the table below ("o" means optional):

	ClstrLfs	Clstr	Stnd	Mstr	SRP
Workstation Utilities	x		x	x	x
Master Utilities			x	x	x
SRP Utilities					x
Tape Utilities	o		o	o	o
Software Development Utilities	o		o	o	o

The details of each of these packages are described in the following sections.

Workstation Utilities (1-6) must be installed before any of the other installation packages.

Each package is re-startable from any diskette within the package. If you need to interrupt the installation for any reason, (e.g., media failure, etc.), you can re-start from the current diskette.

### **Installation configurations.**

When each of these packages is installed, a menu is presented. It asks you to choose from a number of different installation configurations. The configuration selects the volume to which files are copied, and the way command files are updated. Different configurations are available for the different packages, which you will see when you install. The meaning of these options is as follows:

**Local** - This configuration copies files to the system volume and updates Sys.cmds on the system volume.

**Master, Master Workstation, Master SRP** - These are configurations which copy files to the master and update the Sys.cmds on the master. You may use the applicable option from anywhere in the cluster. The term master is generic - it doesn't matter whether the master is a workstation or an SRP. Note that when you choose the Master SRP option, Sys.cmds files at both the SRP and the local workstation are updated with the MCommands.

**MCommands Only** - use this configuration to update Sys.cmds on the system volume with the MCommands for the utilities on that packages of diskettes. No files are copied.

**NOTE: Updating a master:**

If you are updating an NGEN master, the installation is performed at the master. Give the Disable Cluster command. Then perform the installation at the master. From the master workstation, select the Local configuration.

If you are updating an SRP master, the installation is performed over the cluster from a workstation that is booted locally. From that workstation give the Disable Cluster command. This disables all cluster lines other than the one from which you give the command. Power off all other workstations which are booted from or are accessing files at the SRP on this line. From the menu, select the Master configuration.

**WORKSTATION UTILITIES (mandatory)**

These diskettes contains files intended to be run on all workstations and SRP's. The files included are: Volume Status, Files, LCopy, the Executive, etc.

- A. Insert diskette 1 of 6 and type the following:

```
Command Submit
Submit
File list           [fx]<Sys>HdInstall.sub
[Parameters]       [fx]
[Force expansion?]
[Show expansion?]
```

or for update installations you may type the following:

```
Command Install
Install
[Floppy (default - [f0]) [fx]
```

where x is the number of the floppy drive into which you inserted the diskette. If the installation is done from [f0], you do not need to enter [f0] on the [Parameters] line.

The installation of this package is done this way since it creates the Install command and copies the appropriate submit files onto the hard disk. After this package is installed, you must use the Install command to install all other Standard Software and application packages.

- B. After required files are copied to the [Sys]<Sys> directory and some required commands are created, a form containing the supported software configurations appears. Use the cursor keys, the **RETURN** key, or the **NEXT** key to select the appropriate configuration.

The supported configurations are Local and Master.

Press **GO** to continue.

- C. Insert diskettes 2 through 6 when prompted.
- D. On diskette 6, the installation procedure will attempt to merge, all loadable request files into Request, sys. This is done by using List Request Set to convert all existing loadable request files, along with the version of Request.sys on disk 6 of 6, into one text file, [Scr]<\$>Request.txt. Then, Make Request Set is used to convert the text file into the single loadable request file.

This process attempts to merge the contents (the actual definitions) of the loadable requests. If a loadable request is defined in more than one of the original loadable request files, and the definitions do not agree, then Make Request Set cannot merge the files. Instead, an error message is displayed for each request definition which has duplicate and/or conflicting definitions. See the CTOS System Administrator's Guide for details on the List Request Set and Make Request Set commands.

---

## NOTE

If this step completes with no errors, or if only warning messages are displayed, then the merge was successful. If this is the case, press GO to continue the installation, and proceed to the next step.

---

If Make Request Set reported an error message stating that overlapping and differing requests were found, press **ACTION-FINISH** to abort the installation. To correct the problem, the conflicting definitions should be resolved in the following manner:

1. Write down the numbers of the request code(s) for which you receive error messages.
2. Edit the text file, [Scr] <\$>Request. txt. Within this file, locate the multiple definitions of all offending requests. When you find the definition, look backwards in the file to a line which says something like:

```
    ;*** "Request.n.sys"
```

This entry tells you the original loadable request file that defined that request. A full list of current Convergent-supplied loadable request files appears in section 9 of this Release Notice.

3. If you can determine which definition is in error, delete the incorrect definition. If you cannot determine which is in error, call Technical Support.
4. Use Make Request Set to convert the text file into the single loadable request file, Request.sys.

## STANDARD SOFTWARE UPDATE UTILITIES

This diskette contains files that have been updated since the 11.3 Standard

Software release. You should install this diskette after the installation of the Workstation Utilities.

- A. Insert the 11.4 Standard Software Update Utilities diskette 1 of 1 and invoke the **Install** command.
- B. Use the cursor keys, the **RETURN** key, or the **NEXT** key to select the appropriate configuration.

The supported configurations are Local and Master.

Press **GO** to continue.

#### **SOFTWARE DEVELOPMENT UTILITIES**

These diskettes contain run files needed for software development. You need to install these diskettes if you want to do any software development, including building a custom CTOS operating system. The files included are: the Linker, the Librarian, the Assembler, CTOS.lib, etc.

- A. Insert the Software Development Utilities diskette 1 of 2 and invoke the **Install** command.
- B. Use the cursor keys, the **RETURN** key, or the **NEXT** key to select the appropriate configuration.

The supported configurations are Local and Master.

Press **GO** to continue.

- C. Insert diskette 2 of 2 when prompted and press **GO** to continue.

#### **MASTER UTILITIES**

This diskette contains files intended to be run on the master. The files included are: the Queue Manager, Cluster Status, etc.

Insert the Master Utilities diskette 1 of 1 and invoke the **Install** command.

This diskette should be installed regardless of whether your master is a workstation or an SRP. You can install this diskette from anywhere in the cluster.

#### **TAPE UTILITIES**

These diskettes contains files associated with Tape. The files included are: the Tape system services, Tape Backup Volume, Tape Restore, etc.

- A. Insert the diskette Tape Utilities diskette 1 of 3 and invoke the **Install** command.
- B. Use the cursor keys, the **RETURN** key, or the **NEXT** key to select the appropriate configuration.

The supported configurations are Local and Master.

Press **GO** to continue.

- C. Insert diskette 2 of 3 when prompted and press **GO** to continue.
- D. If your master is an SRP, insert diskette 3 of 3 when prompted.

The supported configurations are Master SRP and MCommands Only.

Press **GO** to continue.

#### **SRP UTILITIES**

These diskettes contains files intended to be run on the SRP. The files included are: the Command Line Interpreter, the Administrative Agents, mIvolume, etc. Note that SRP operating systems and associated configuration files are not provided with this release.

- A. Insert the SRP Utilities 1 of 3 diskette and invoke the **Install** command.

- B. Insert diskette 2 of 3 and 3 of 3 when prompted and press GO to continue.

### 5.3.5 RESTORE (Re-Initialization only)

- A. After all desired packages have been installed, perform a **Restore**, **Tape Restore** or **MTape Restore** specifying "no" for the parameter [Overwrite OK?]. Copy back the files that you had previously saved on a separate floppy (e.g., SignOn.txt, Sys.cmds, configuration files, etc.)
- B. Since the saved copy of the command file lacks the new commands supplied in Standard Software 11.3 / 11.4, you **must** update your command file to get the new commands and the proper updated forms for older commands. For each package you have installed, invoke the appropriate submit file to update your command file:

Workstation Utilities Diskette 6:  
WSUtilitiesCmds.sub\*

SRP Utilities Diskette 3:  
LocalSRPUtilitiesCmds.sub\*  
SRPUtilitiesCmds.sub

Master Utilities Diskette 1:  
MasterUtilitiesCmds.sub

Software Development Utilities Diskette 2:  
SoftwareDevelopmentCmds.sub\*

Tape Utilities Diskette 2:  
WSTapeCmds.sub\* and/or  
LocalSRPTapeCmds.sub\*  
SRPTapeCmds.sub

All submit files listed above with an asterisk take two parameters. Parameter 1 is the [vol]<dir> of where to get the run file. Parameter 2 is the [vol]<dir> of where to find the sys.cmd file to update.

For example, if you wish to update your Workstation utilities commands, do the following:

```
Submit
  File list   WsUtilitiesCmds.sub
  Parameters  [Sys]<Sys> [Sys]<Sys> <GO>
```

- C. On the SRP, the process of installation renames your old command file, <Cmd>WSAdminAgent.txt, to <Cmd>Save>WsAdminAgent.txt. The new file reflects the merged workstation and SRP utilities. For example, the MCopy command now invokes Copy.run instead of MCopy.run.

Edit <Cmd>WsAdminAgent.txt adding any custom commands which are in the saved version.

- D. During installation, existing message text (\*msg.txt) files are copied to save>\*msg.txt. If the old files contain modified messages, you must integrate the modified messages into the new file.

#### 5.4 OPERATING SYSTEM INSTALLATION

If you performed an initialization installation, the operating system that is copied from the initialization diskettes is for a cluster workstation with local disk. If you wish to change this to be either a master or stand-alone operating system, you must install that type of operating system. Refer to the Operating System Release Notice for instructions on how to do this.

If you did not initialize your system volume and want to update your OS, do so at this time. Refer to the Operating System Release Notice for instructions on how to do this.

Reboot the workstation now, or after installation of the operating system.

## 6.0 SUPPLEMENTARY INFORMATION

### 6.1 Internationalization

For full internationalization information, see the 11.2 Standard Software release notice.

## 7.0 DOCUMENTATION UPDATES

The following update notices document changes to 11.3 / 11.4 Standard Software:

Executive Reference, Fourth Edition, Update Notice 2 (DAA-122).

CTOS System Administrator's Guide, First Edition, Update Notice 1 (DAA-116).

Status Codes Manual, Third Edition, Supplement (DAA-107).

CTOS/VM Reference Manual, Volumes 1 & 2, First Edition, Update Notice 2 (DAA-113).

The following procedure, LoadBackgroundPalette, was added after Update Notice 2 to the CTOS/VM Reference Manual had gone to press. Therefore, it is documented below in this release notice.

---

LoadBackgroundPalette

---

LoadBackgroundPalette (pbPalette, cbPalette):  
ercType

**DESCRIPTION**

LoadBackgroundPalette sets the background color. This call returns ercNotImplemented (erc 7) if the internal OS version is less than 11.2 or if the hardware does not support background color. It returns erc 7656 if cbPalette is greater than 8.

**PROCEDURAL INTERFACE**

LoadBackgroundPalette (pbPalette, cbPalette):  
ercType

where

pbPalette describe a string of 8 bytes,  
cbPalette each byte being a structure of  
attributes and colors as  
documented in Appendix F,  
Using Color, of the CTOS/VM  
Reference Manual.

**REQUEST BLOCK**

LoadBackgroundPalette is an object module procedure.

## 8.0 KNOWN ERRORS AND OMISSIONS

- A. **Editor:** The cursor is always placed 'to the right' of the last character entered. When you use the editor to create new file, the cursor appears on the trailing End Of File marker (a dashed line). The cursor will remain there as you enter characters since it continues to be to the right of the last character entered. Be assured that characters are being entered normally and that this is a normal function.

A similar thing happens when a carriage return is the last character in the file. In this case the cursor does not wrap to the next line, but instead stays on the same line. However, the next character entered will cause line wrap and will appear on the next line.

- B. **Exec:** The Exec can copy a file over its own message file ExecMsg.bin. However, it will always overwrite an existing file. That is, it will ignore any answers to the [Overwrite] and [Confirm each?] prompts when copying over the message file.
- C. **MakeRqSet:** message number 157 in the message file StdSoftMsg.txt, is as follows:  
:157: "none"  
Unfortunately, this message is not used by MakeRqSet. For international customers the workaround is to not translate this message. The word none is never seen by the end user anyway.
- D. **Command File Editor:** if you attempt to create a new command file you will receive the error message, "too many command names".

E. **CreateBackupFloppy.sub:** Due to space problems on the first diskette, a small customized file, CBF>ExecMsg.bin must exist on [Sys]<Sys> when you start this submit file. It is created by copying messages 32907-32957 (inclusive) from ExecMsg.txt into CBF>ExecMsg.txt. Create CBF>ExecMsg.bin by executing the command "Create Message File" on this new text file.

F. **Linker:** (SPR 12605) The 11.3 Linker does not handle as many public symbols as the II-1.0 Linker.

G. **Restore/Tape Restore:** The following scenarios do not work correctly:

1) Backup a password protected (no encryption) volume. Restore to a password encrypted volume.

2) Backup a password encrypted volume. Restore to a password protected (no encryption) volume.

Scenario 1 will be fixed in a future release. Scenario 2 will never work because the encryption algorithm prevents decryption.