

SIEMENS TRAFFIC CONTROLS

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SYSTEM/PROJECT/PRODUCT: STC UTC SYSTEM

System Management Guide

for an STC UTC System

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1. INTRODUCTION

1.1 Purpose

This document defines the procedures necessary for managing the daily operation of an STC Urban Traffic Control System (UTC), hereafter referred to as the System.

The document is written for System Managers or those required to backup or restore the System.

1.2 Scope

The document is limited to procedures required for saving and restoring information contained on an STC UTC System.

It is recommended that users of this document have attended a UTC Operators' Course and a Data Preparation Course.

The document describes the System management procedures associated with the various configurations of UTC Systems.

1.3 Related documents

Note: In the references below, the characters 'xxx' substitute for the 3 digit number which uniquely identifies a particular UTC System i.e. the customer variant for these documents.

- 1.3.1 666/UH/16940/000 Systems Requirement Specification for an STC UTC System
- 1.3.2 666/UH/16940/xxx Customer Requirements Specification
- 1.3.3 666/HB/16940/000 Operators Handbook for an STC UTC System
- 1.3.4 666/HE/16940/000 System Handbook for an STC UTC System
- 1.3.5 666/HD/16940/000 Data Preparation Handbook for an STC UTC System.

1.4 Definitions

The vagaries of the printing process mean that it is sometimes difficult to decide if a space character is required in a command that is to be typed. In this document, to avoid confusion, the ▼ character is used whenever the space character needs to be typed in a command line.

1.5 Issue state and amendment

Issue 01.00A	First draft
Issue 01.00B	Second draft after review
Issue 01.00	First Issue
Issue 02.00	Inclusion of Stop/Start procedures
Issues 03 to 07	Not issued
Issue 08.00	Minor corrections plus addition of appendices to cover different system configurations. Issue number aligned with software issue number.
Issues 09 to 14	Not issued
Issue 15.00	Changed to Microsoft Word format.
Issue 16	Not issued
Issue 17	Issue number aligned with software issue number 17
Issues 18 to 20	Not issued
Issue 21	Major revision to better reflect current system configurations.
Issues 22	Not issued
Issue 23	Minor revision.
Issues 24 to 27	Not issued
Issue 28	Revised to include PC based version

2. SYSTEM MANAGEMENT OVERVIEW

2.1 General

The procedures for starting and stopping a UTC System are described in this document.

A number of tasks need to be performed on a regular basis to ensure the integrity of the UTC System. These are:

- a) Make periodic backup copies of all source data, to ensure that data lost through hardware or other problems can be restored with the minimum loss of information and as quickly as possible.
- b) Make periodic backup copies of historic data such as traffic detector counts and System log files.
- c) Recover some or all previously stored data for System restoration or for analysing historic data.

In order to be ready for the unlikely event of the UTC System being lost or corrupted it is necessary to create and maintain what is called a System image. This is a complete copy of all the software on the system disk.

Recovering from the total loss or corruption of the UTC System involves a two-stage process:

- a) Restoring the System image
- b) Restoring the latest version of operational source data, such as UTC equipment, plans, timetables, pictures, etc.

The System Manager should also become acquainted with the UTC computer and the operational procedures required for locating and removing the magnetic media.

Appendix A - is intended to list items of data which are specific to each UTC System and which the System manager may find useful. The data should be entered by the STC engineer who installs the System but may be updated as necessary by the System Manager.

In the event of a failure of an Alpha UTC computer's System disk it will be necessary to boot from a "minimum bootable system" on a CD-ROM, or another disk. System Managers should ensure that they are aware of which method is applicable to their System and that they know where the CD-ROM is stored or on which disk the "minimum bootable system" resides.

2.2 THE SAFETY OF BACKUP COPIES

2.2.1 Introduction

As a result of making a backup of the system disk onto a removable media you will be left with a number of small, easily lost and valuable items. These must be stored in such a way as to make them easily identifiable and safe from disasters, such as fires.

2.2.2 Identification of Backup Copies

When each backup has been completed a label should be fixed to the removable media that shows:

- a) The type of backup, that is, either System image or data.
- b) If a system image, which Disk was backed up.
- c) The date and time when the backup was made,
- d) The person who made the backup.

2.2.3 Storage of Backup Copies

The copies need to be kept in a location that will not be affected by any disasters affecting the UTC System, such as a fire. Ideally, they should be kept in a separate building and/or in a fireproof safe. At the very least, ensure that they are separated from the computer by some form of firebreak, such as a wall.

Once the location has been determined, consideration should be given to the way in which they are stored. This should provide room and light to allow each item to be easily identified and then removed without the need to move every other item in the process.

Magnetic media should be write-protected as soon as it is removed from the UTC computer.

3. STARTING AND STOPPING AN ALPHA UTC SYSTEM

3.1 Introduction

It may be necessary to stop the UTC system from running for a number of reasons, which include installation of new system software, shutdown for hardware modification or maintenance, etc. It is recommended that a standard shutdown / start-up procedure be used whenever this becomes necessary.

3.2 Alpha UTC Computer System Start-up

3.2.1 Single Computer System Start-up

When the machine is switched on it will normally go through its start-up sequence automatically.

If the HALT button has been pressed a ">>>" prompt will appear on the console screen. The user should type B <RETURN> to initiate the start-up or 'boot' process.

During the start-up sequence messages are output to the System console screen, which show the progress of the start-up sequence. At one point in the sequence the current values of various parameters are shown and the user is asked if he would like to modify them. The setting of the parameters is normally done by an STC engineer and should not be changed. However, if a maintenance engineer needs to run diagnostic software on the computer system the UTC System software should not be allowed to start. In this case, at the point where the user is asked if he would like to change the settings, he should answer YES. The answer NO should be given to the question "Do you want a traffic system to be started?" The default answers to the other questions should be accepted.

3.2.2 Multiple Computer System Start-up

If a multiple computer system is to be started up it is recommended that the TMC be started first and allowed to fully start up before any TCCs are started up. The procedure described in the previous section should be used to start the individual computers.

3.3 Alpha UTC Computer System Shut Down

3.3.1 Single Computer System Shut Down

In order to take a UTC Traffic System computer off-line in an orderly manner the user should first log in the Traffic System. The user should then ensure that he is able to use DCL commands before going any further.

Open up a DECterm window, either by typing the command DCL in the UTC command entry box or by choosing Applications/DECterm from the Session Manager menu bar

The following command should then be entered in the UTC command entry box:

KILL▼H01000

After the command is accepted, a shutdown message is output on to all the terminals, and the VAX light on the TC12 Instation cabinet(s) will be lit.

When the UTC System shutdown is complete on the computer the user should enter the following command in the DECterm window:

```
$ @UTC_COM:SHUTDOWN_SYSTEM
```

The System will normally respond with message stating:

Identification of created process is nnnnn. Where nnnnn is a number.

After a while the following message should be output:

SYSTEM SHUTDOWN COMPLETE - USE CONSOLE TO HALT SYSTEM

The computer may now be re-started by pressing the RESET button on the computer or switched off at the power switch.

3.3.2 Multiple Computer System Shut Down

In a multiple computer System individual computers may be shut down by following the procedure described in the previous section.

If all the computers in a multiple computer system are to be shut down, it is recommended that this be done in the following order.

- Shut down TCC A (KILL▼H01000)
- Shut down TCC B (KILL▼H02000)
- Shut down the TMC (KILL▼H99000)

4. ALPHA UTC SYSTEM DATA BACKUP AND RESTORE

4.1 Introduction

Periodic backups are necessary to minimise the loss of data and reduce System downtime by allowing the rapid recovery of System data lost through corrupted files or hardware failures. The following must be considered:

- Taking a backup should follow a large amount of traffic data entry. In this way the work will not be lost if a problem occurs with the UTC System.
- Normal operational backups need to be carried out to maintain a continuous record of historic data. The intervals between backups should be related to the data file lifetimes defined during the data preparation phase (System Wide Variants), and a small overlap should be included to guarantee no loss of data. The files that have lifetimes are:
 - Detector archive files. The System stores 5-minute detector data for a defined number of days.
 - Weekly detector summary files. The number of weeks for which the hourly summary files are stored.
 - Log archive file The number of days for which log archives are stored.

4.2 Backup Strategy

It is suggested that the data should be backed up every 28 days, this will ensure that provided the file lifetimes are greater than this value no data will be lost. However consideration should be given to more frequent back-ups if for instance a large amount of data has been added to the system.

Note: This process backs up all UTC data and hence will ensure all types of data are stored.

4.3 Backup and Restore Items

The data items stored and recovered during backup and restore are UTC traffic information, consisting of:

- Configuration Data
 - UTC System Configuration Data (e.g. Data-Prep data, CASTs)
 - Application Configuration Data (e.g. Maps, GDD/TDD files)
- Archive Data:
 - System Log Archive Files
 - Archive Weekly Detector Counts
 - Archive Daily Detector Counts
 - Archive Car park Values
- Upload/Download Data:

- Controller Data Files
- ASTRID (if configured) Data Files

The System will backup and restore the required items.

4.4 UTC Data Backup

Data backup can take place with the UTC System running normally. Before starting, ensure that a suitable magnetic cartridge or tape is available for this purpose. The user should note that **ALL DATA, PREVIOUSLY STORED ON THE MAGNETIC MEDIA, WILL BE OVERWRITTEN AND COMPLETELY DESTROYED.**

Select the **DBAS** (Data Preparation) option from the Manager Menu. After a short delay the data preparation menu will be shown in a window with the following options:

- L - List data source files
- E - Edit menu
- P - Process menu
- B - Backup source files
- F - Finish Data Preparation

Select option B and the **BACKUP** menu will appear:

- B - Backup system data files
- R - Restore system data file
- D - Delete old ASTRID data
- F - Finish Backup Menu (return to Main Menu)

Select option B.

The backup menu will then appear as shown below:

Note: The options that relate to ASTRID, INGRID and ITMC will only appear if the System is configured for those facilities:

```

                                Backup Menu
Select the categories of data to backup. All data in each of the selected
Categories will be saved to tape. Enter 'Y' to select a category and 'N'
or leave blank to deselect. Use the cursor keys or TAB to move between the
fields. Press RETURN, DO, or ENTER when you have made all your selections.

Configuration Data:
  UTC System Configuration Data (eg. Data-Prep data, CASTs)      [_]
  Application Configuration data (eg. Maps, CDD/TDD files)      [_]

Archive Data:
  System Log archive Files                                       [_]
  SCOOT Log Archive Files                                       [_]
  Archived Weekly Detector Counts Files                          [_]
Archived Carpark values Files                                   [_]
Archived Daily Sensor Values Files                             [_]

Upload/Download Data:
  Controller Data Files                                          [_]

ASTRID Data:
  Configuration Data Files                                       [_]
  Monthly Database Archives                                     [_]
  Profiles Files                                                [_]
  Trend Files                                                    [_]

INGRID Data:
  INGRID Configuration Data Files                               [_]

ITMC Data:
  ITMC Configuration Data Files                                 [_]
  ITMC Strategy Data Files                                     [_]
  ITMC Route Data Files                                       [_]
  ITMC Log Data Files                                          [_]
  ITMC Incident Data Files                                     [_]

Miscellaneous:
  UGE MAPS directory (DXF, NTF files &c) Files                 [_]

```

Insert the removable magnetic media into the drive, ensure that the write-protect tab is in the write-enable position. Press <RETURN> to start the backup process.

The following warning message will then appear:

```

Please insert the CORRECT tape into the tape drive.
WARNING - ALL DATA ON THIS TAPE WILL BE OVERWRITTEN.
Press RETURN when ready.

```

```

Do You wish to continue (Enter Y, yes or N, no) [Y]:

```

If you are satisfied that it is the correct tape that has been inserted into the tape drive, press <RETURN> to continue the back-up process.

The following message should appear

```

Initialising tape. Please wait.

```

A number of messages, similar to those shown below, will appear as the backup proceeds.

```

Saving the backup index
%MOUNT-I-MOUNTED, ONLINE mounted on _UTC31$MKA600:
%BACKUP-I-STARTVERIFY, starting verification pass
Starting backup for UTC System Configuration Data (eg. Data-Prep data, CASTs)
%BACKUP-I-STARTVERIFY, starting verification pass
Starting backup for Application Configuration data (eg. Maps, CDD/TDD files)
%BACKUP-I-STARTVERIFY, starting verification pass

```

```
Starting backup for System Log Archive Files
%BACKUP-I-STARTVERIFY, starting verification pass
Starting backup for SCOOT Log Archive Files
%BACKUP-I-STARTVERIFY, starting verification pass
Starting backup for UGE MAPS directory (DXF, NTF files &c)
%BACKUP-I-STARTVERIFY, starting verification pass
```

When the backup has been completed the user will be returned to the backup menu and the tape will be automatically ejected from the tape drive. The tape should be write protected, labelled and stored in a safe place.

4.5 UTC Data Restoration

Before starting the restore process, ensure that the removable magnetic media is write-protected and put it into the tape drive.

Select the **DBAS** (Data Preparation) option from the Manager Menu. After a short delay the data preparation menu will be shown in a window with the following options:

```
L - List data source files
E - Edit menu
P - Process menu
B - Backup source files
F - Finish Data Preparation
```

Select option B and the BACKUP menu will appear:

```
B - Backup system data files
R - Restore system data file
D - Delete old ASTRID data
F - Finish Backup Menu (return to Main Menu)
```

Select option R.

The following message will appear:

```
Restore Data Files
```

```
Please insert the CORRECT tape into the tape drive.
Press RETURN when ready.
```

```
Do you wish to continue (Enter Y,yes or N, no) [Y]
```

If the user enters N <RETURN> he will be returned to the Backup menu.

If the user enters Y <Return> the following messages will appear

```
Mounting tape. Please wait.
%MOUNT-I-MOUNTED, ONLINE mounted on _UTC31:MKA600:
```

```
Restoring data. This will take several minutes.
%MOUNT-I-MOUNTED, ONLINE mounted on _UTC31:MKA600:
```

The user will then be presented with a restore menu. This menu will identify the backup which it is restoring from and will only show those categories of data that had been previously backed up onto that tape. An example of the display which

may be shown to the user to enable him to select which items he wishes to restore is shown below:

```
Restore Menu for Backup made on 21-DEC-1999 16:50:39.20
```

```
Select the categories of data to restore from this backup save set. For each
Category enter Y, N, S. If you enter Y then all files in the specified category
Will be restored. Enter S for a selective restore. Use the cursor keys or TAB to
move between fields.
fields. Press RETURN or DO when you have made all your selections.
```

Configuration Data:

```
UTC System Configuration Data (eg. Data-Prep data, CASTs)      [_]
Application Configuration data (eg. Maps, CDD/TDD files)        [_]
```

Archive Data:

```
System Log Data                                                [_]
SCOOT Log Data                                                  [_]
```

Miscellaneous:

```
UGE MAPS directory (DXF, NTF files &c) Files                    [_]
```

If you enter Y in any of the fields, all the data of that category will be selected for restore. If you enter S, another set of choices of data to restore will be offered. For example, if S is entered in to the UTC Configuration option field the following set of choices will be offered:

```

                                UTC System Data Restore Menu
Select the Items that want to be restored.
Forms-based UTC and SCOOT Data                                  [_]
Customer License file                                         [_]
Plans                                                          [_]
Time of day timetables                                        [_]
Day of week / date of year timetables                        [_]
UTC Messages                                                  [_]
SCOOT messages                                                [_]
Terminal and command level data                               [_]
Car parks averages                                           [_]
SCOOT baseline data                                          [_]
LPU conversion data                                          [_]
CAST data                                                     [_]
CDC Reference Data                                           [_]
```

Having made his selection the user should press <RETURN> to start the restoration process. A warning message, shown below, will remind the user that he about to overwrite his current data.

```
WARNING!!! Your current data will be over written
Are you sure you want to restore the selected data ?
(Enter Y, yes, or N, no) [N]:
```

The user should enter Y or N according to his wishes.

A series of messages will then appear on the user's terminal, which inform him the data that is being restored

If any data used during data preparation has been retrieved the user must prepare the data again and perform an update (using the UPDA command) before the data will be available in the System.

4.6 UTC DATA CHECKPOINTS

The Checkpoint Manager option of DBAS allows the user to create a backup copy of the UTC System's data on the TMC's hard disk. This option should only be used to create copies of the System's configuration data. A description of the use of this, licenceable, facility can be found in the Data Preparation Handbook (1.3.5).

4.7 ALPHA UTC ASTRID DATA MANAGEMENT

Astrid collects a large amount of data during its operation that will eventually fill the ASTRID disk. It is recommended that users back-up and delete old ASTRID data at least every 6 months to reduce the chances of the disk becoming full.

4.7.1 ASTRID Data Back-up

The back-up option of DBAS should be used to back up the old ASTRID data as described in section 4.4.

4.7.2 Deletion of Old ASTRID Data

To delete old ASTRID data the "D - Delete Old ASTRID Data" option should be selected from the "DATA PREPARATION - BACKUP MENU" screen. The following screen should then appear:

`This option will delete ASTRID monthly data from the ASTRID data disk.`

`Only data which has already been made available for off lining and which is more than 6 months old will be offered for deletion.`

`It is recommended that you use the backup options for ASTRID to Off line all previous months' data to tape before deleting any data.`

`You will be asked for confirmation before deletion of each eligible month.`

`Please note that this process may take a long time.`

`Continue (Enter Y, yes or N, no) [N]`

You will then be allowed to select those months whose data you wish to delete. Before starting to delete any particular month's data you will be offered the option of not deleting a particular set of data.

4.7.3 Disk Fragmentation

The nature of the ASTRID data collection process means that over a period of time the ASTRID disk may become badly fragmented. If you think that this is happening you should contact the UTC Support Desk for advice. Alternatively, you can defragment the disk by following the instructions in section 7.6

5. ALPHA UTC SYSTEM IMAGE BACKUP

This process should be repeated when a change is made by STC to the UTC System software or at yearly intervals.

In order to do this it is necessary to stop the VMS Operating System and consequently the UTC System. For most Systems this will involve taking the UTC System off-line for 1 to 2 hours.

The back-up operation should be repeated if any faults, which are not described in this document, are reported during the back-up operation. If, on this second attempt, the faults are again reported, the UTC Support Desk should be asked for advice.

5.1 Booting From A CD-ROM

First shut down the system in the normal way using the KILL command followed by

\$@utc_com:shutdown_system

Put the Binaries CD-ROM which came with the system or the CD labelled "UTC System Emergency Boot Disc" into the CD-ROM drive.

The name of the CD-ROM drive is usually either DKA400 or DQB0.

Assuming that the CD-ROM drive is DKA400 type the following at the chevrons prompt

>>>b▼dka400

Note that there is no colon after the DKA400

If this does not work try the following command instead:

>>>boot▼dka400▼-flags▼e,0

The boot up will take a long time, so be patient!

If you are booting from the binaries CD a menu will appear; choose the DCL command option (usually 4) and a \$\$\$ prompt will appear. If booting from the Emergency Boot CD no menu will appear but the \$\$\$ prompt will.

In the example which follows the system disk is DKA0: and the tape is MKA500:

First of all initialise the tape with the command:

\$\$\$init mka500: system/media=compact

The following command should be typed to start the backup:

\$\$\$mount▼dka0:/over=id

\$\$\$backup/image/rewind/verify▼dka0: ▼mka500:system.bck/save

There is no indication that the backup process has started, other than if your command has been successfully actioned no error messages will be produced. The amount of data on the disk being backed up, will determine the length of time which the back-up takes. After a while, however, the system will produce a set of messages that are similar to the following:

%BACKUP-I-NOBACKUP, DKA0:[SYS0.SYSEXE]PAGEFILE.SYS;1 data not copied, file marked NOBACKUP

```
%BACKUP-I-NOBACKUP, DKA0:[SYS0.SYSEXE]SWAPFILE.SYS;1 data not copied, file marked NOBACKUP
%BACKUP-I-NOBACKUP, DKA0:[SYS0.SYSEXE]SYS$ERRLOG.DMP;1 data not copied, file marked
NOBACKUP
%BACKUP-I-NOBACKUP, DKA0:[SYS0.SYSEXE]SYSDUMP.DMP;1 data not copied, file marked NOBACKUP
```

Some time later the following message will be seen:

```
%BACKUP-I-STARTVERIFY, starting verification pass
```

Finally, the following message will appear:

```
%BACKUP-I-PROCDONE, operation completed. Processing finished at 8-Nov-1999 ...
```

When the back up has finished the disk should be dismounted with the command

```
$$$dismou▼dka0:
```

The tape should be dismounted with the command:

```
$$$dismou▼mka500:
```

If you have other disks to backup, such as an ASTRID disk the sequence of commands, starting with the \$\$\$init ... should be repeated using the appropriate disk identifier and a suitable tape label.

Then, if you used the menu to get to the \$\$\$ prompt, use the \$\$\$logout command to return to the main menu and then choose the shutdown option. Otherwise use the following command to shut the System down:

```
$$$@sys$system:shutdown.com
```

Accept the various default options which are offered to shut the system down; the usual sequence is:

```
SHUTDOWN -- Perform an Orderly System Shutdown
           on node UTC75

How many minutes until final shutdown [0]:
Reason for shutdown [standalone]:
Do you want to spin down the disk volumes [NO]?
Do you want to invoke the site-specific shutdown procedure [YES]?
Should an automatic system reboot be performed [NO]?
When will the system be rebooted [later]:
Shutdown options (enter as a comma separated list)
REBOOT_CHECK      check existence of basic system log
SAVE_FEEDBACK     save AUTOGEN feedback information from this boot
DISABLE_AUTOSTART disableautostart queues
POWER_OFF         request console to power-off the system

shutdown options [NONE]:
```

The system should go through the shut down procedure and finish with the >>> prompt. At the >>> prompt type the following to reboot the system.

```
>>>b▼dka0
```

5.2 Booting From Another Disk

You first need to find out which disk has the minimum boot system on it. To do this, first open up a DECterm window.

Type the following command to determine the names of all the disks. Then use the following command on each of the disks in turn to find out which one has the minimum boot directory SYSE.DIR on it:

```
$sho▼dev▼d
```

\$dir▼<disk>:[000000]

Then shutdown the system in the normal way using the **\$@utc_com:shutdown_system** command.

At the >>> prompt enter the following command to boot from, for example, DKA100:

>>>boot▼dka100▼-flags▼e,0

After the system has booted up you will be presented with a \$ prompt.

Assuming that the tape drive is MKA500: and the disk that you wish to back up is DKA0: the following sequence of commands should be used to perform the backup.

First, put a suitable tape in the drive and then type the following commands at the \$ prompt.

\$init▼mka500:▼system

\$mount▼dka0:/over=id

\$backup/image/rewind/verify▼dka0:▼mka500:system.bck/save

There is no indication that the backup process has started, other than if your command has been successfully actioned no error messages will be produced. The amount of data on the disk being backed up, will determine the length of time which the back-up takes. After a while, however, the system will produce a set of messages that are similar to the following:

%BACKUP-I-NOBACKUP, DKA0:[SYS0.SYSEXE]PAGEFILE.SYS;1 data not copied, file marked NOBACKUP

%BACKUP-I-NOBACKUP, DKA0:[SYS0.SYSEXE]SWAPFILE.SYS;1 data not copied, file marked NOBACKUP

%BACKUP-I-NOBACKUP, DKA0:[SYS0.SYSEXE]SYS\$ERRLOG.DMP;1 data not copied, file marked NOBACKUP

%BACKUP-I-NOBACKUP, DKA0:[SYS0.SYSEXE]SYSDUMP.DMP;1 data not copied, file marked NOBACKUP

Some time later the following message will be seen:

%BACKUP-I-STARTVERIFY, starting verification pass

Finally, the following message will appear:

%BACKUP-I-PROCDONE, operation completed. Processing finished at 8-Nov-1999 ...

When the back up has finished the disk should be dismounted with the command

\$\$\$dismou▼dka0:

The tape should be dismounted with the command:

\$\$\$dismou▼mka500:

If you have other disks to backup, such as an ASTRID disk the sequence of commands, starting with the \$\$\$init ... should be repeated using the appropriate disk identifier and a suitable tape label.

When the backup is complete use the **\$@sys\$system:shutdown** command to shut the system down and the re-boot it in the normal way by typing B DKA0: at the >>> prompt.

6. ALPHA UTC SYSTEM IMAGE RECOVERY

This process is only used when the System disk has been corrupted, typically by a hardware failure. The process, including data restoration, will take several hours during which time the UTC System will be off-line.

If any faults are reported which are not covered by this document then after retrying the operation from the start of this section they should be reported to the maintenance contractor.

6.1 Booting From A CD-ROM

In order to recover an Alpha based system will require the Open VMS Alpha Operating System CD (supplied with the ALPHA computer) or the UTC System Emergency Boot Disk CD, the UTC System Image Backup removable media and the latest UTC System Data removable media.

Put the CD ROM into the CD-ROM drive which may be either DKA400, DQA0 or DQB0 and type the following at the chevrons prompt assuming that the CD-ROM is dka400.

>>>b▼dka400 Note that there is no colon after the DKA400.

The boot up will take a long time, so be patient!

If you are booting from the binaries CD a menu will appear; choose the DCL command option (usually 4) and a \$\$\$ prompt will appear. If booting from the Emergency Boot CD no menu will appear but the \$\$\$ prompt will.

Assuming that the system disk is DKA0: and the tape is MKA500: the following should be typed to start the restore:

Note that the ▼ symbol is used to indicate that a space should be typed.

\$\$\$mount▼dka0:/foreign

\$\$\$backup/image/rewind/verify▼mka500:system.bck/save▼dka0:

When the restore has finished the disk should be dismounted with the command

\$\$\$dismou▼dka0:

Then, if you used the menu to get to the \$\$\$ prompt, use the **\$\$\$logout** command to return to the main menu and then choose the shutdown option. Otherwise use the following command to shut the System down:

\$\$\$@sys\$system:shutdown

At the >>> prompt type B to reboot the system.

7. USEFUL ALPHA UTC SYSTEM MANAGEMENT PROCEDURES

The procedures described in this section are some that users may find helpful when carrying out system management related tasks.

7.1 How do I find out if a User is allowed to use DCL Commands?

The simplest way to find out if a user is able to use DCL commands is to use the INFO command. For example, if the user's name is "FRED", the UTC command INFO▼FRED will display a screen of information, similar to that shown below. From this it can be determined if "FRED" is allowed to use DCL commands.

```
- info FRED
We 14:18:09 20-DEC-00 Equipment list:
                                USER Data
                                Dial Back      NO
User ID                        FRED
Command Level                  16
                                Remote Functions
Colour Printer                 T01002   DCL Commands   YES   UTC Commands   YES
Monochrome Printer            T01002   SCOOT Commands YES   UTC Output     YES
Sub Areas                     ALL      SCOOT Output   YES   RMS Output     NO
                                Urgent Terminal NO   OVRB Allowed   YES
                                Status Line    YES
                                Language           ENGLISH
                                COMMANDS Available
ACAS ACCT ACKD ACSV ARRQ ASLD ASTC ASTD AUDI CANA CARP GDDD CDDD CHAN CHCK CHCP
CHDC CHSI CJNL CLOS CPOC CPOP CSFY DATE DBAS DCAS DCL  DCOU DDFV DEBU DEMA DGUL
DIAL DIMO DIPM DISP DISM DISO DLOT DSSG DUBA EDAV ENDS FALL FLAS FLOW FLTY GENP
GUBA GULP GWAV HELP ICAS IHPC IHRW INFO INGC INHW INTD ISOL KILL LACC LACS LARR
LCAS LIPT LIHR LIST LIVE LJNL LLCF LLNK LMON LOGO LOGM LOTU LSTA LSTD LSTF LSTG
LSTM LSTP LSTS LTEC LUBA LVAL MAIN MESS MONI MONP MWAV NCAS NFTD NODT OFFC OFST
OJNL OPEN OPFD ANAL OUTT OVRB PICT PLAN PPRP PRIN PVAL REIN REMD RFTD RSTA RUBA
SAPS SCOO SEED SEES SFNO SIGN SSTO SIGO SIMU SLOF PART SNSV SNSD SNSS SORT SSGM
SSPC SSRV SSSU STCS STAT SURV SUTT SYNC TAPS TDDD TIDD TROF TEST TIDL TIME TTBP
TUAC TXDF UDAB UPDA UDDL UDFV UDMC UDRH UDSL UDUL VALU VARY VEGA WAVC WEEK WHAT
XACC XACS XAPS XARR XAUD AUTH XCAR XCHC XCHS XCSF XDEM XDIA XDIM XDIS XFAL XFLA
XFLT XGUL XGWA XIHP XIHR XINH XISO XLIV XLLN XLOT XMES XPLA XPRI XSCO XSFN XSIG
XSST XSLO XPAR XSPO XSSG XSUT XTAP XTRO XTES XTID
We 14:18:10 20-DEC-00 End equipment list
```

7.2 How Can I Tell if A DAT Tape is Write-Protected?

There is a small window on the front edge of each DAT tape which has a sliding write protection shutter. If the tape is write-protected the window will show black and if the tape is write enabled the window will show white.

7.3 How Do I Find Out What The Names Of The Hard Disks On A System Are?

At the \$ prompt type **sho▼dev▼d**

If you need more information then type **sho▼dev▼d/full**

7.4 How Do I Find Out What The Name Of The Tape Drive On A System Is?

At the \$ prompt type **SHO▼DEV▼MK**

You will probably get several lines of information; that which you want is probably early in the listing and will be in the form

Device	Device	Error	Volume	Free	Trans	Mnt
Name	Status	Count	Label	Blocks	Count	Cnt
UTC14\$MKA500:	Online	0				

This shows that the tape is MKA500:

7.5 How Do I Find Out What The Name Of The CD Drive On A System Is?

At the \$ prompt type **@UTC_COM:DEVINFO**

You should then see several lines of information, similar to that shown below, from which you should be able to determine the name of the CD drive

```
UTC Machine Information
=====
Name: UTC147
OS Version: V7.3-2
Architecture: Alpha
Hardware: AlphaStation DS15
Memory: 512Mb

Device Information
=====
System Disk: DKA0: (COMPAQ BD03695CC8)
CDROM (best guess): DQA0: (HL-DT-ST RW/DVD GCC-4481B)
Tape: MKA400: (HP C5683A)
```

7.6 Backup And Restore Of ASTRID Disk To Improve Disk Performance

The ASTRID disk structure becomes fragmented with use because of the way ASTRID & INGRID create and delete many small files, but also use large files. 'Fragmented' means files are constructed of many widely distributed blocks on the disk, instead of the same number of blocks physically adjacent. The file handling system can process files faster if all, or the majority, of their blocks are adjacent on the disk. The disk has an amount of free blocks. This area can become fragmented also, slowing down the processing of newly created files.

The best way to reduce disk fragmentation is to backup the disk to tape and immediately restore back to disk. The action of the restore is to recreate all the files with contiguous blocks, and to place all free space in one contiguous set of blocks. After the restore, file handling performance is improved.

The backup and restore can be most quickly done with the Traffic System offline. This is described as 'Method A'.

Because the TCCs try to send files continuously to the ASTRID disk, backup with UTC online and ASTRID offline is more complicated. The problem is to maintain a minimum amount of ASTRID data collection during the backup without overflowing the buffering capacity of the TCCs. Further, there is a risk of overwhelming the TMC with the buffered data after the procedure is completed. This is described as 'Method B'.

7.6.1 Method A

Follow the instructions in section 3.3 and section 5, in order to shut down the TMC and start the Standalone Backup.

Assuming that the ASTRID disk is DKA200: and the system disk is DKA300:

First, backup the ASTRID disk to a blank tape:

```
$$$ init▼MKA500:▼ASTRID
```

```
$$$ mount▼DKA200:/over=id
```

```
$$$ backup/image/verify/ignore=label▼DKA200:▼MKA500:astrid.bck/rew/save
```

When this has completed and if no errors have occurred during the backup, do the reverse action:

```
$$$dismount▼DKA200:
```

```
$$$mount▼DKA200:/foreign
```

```
$$$ backup/image/verify▼MKA500:astrid.bck/rew/save▼DKA200:
```

When this has finished dismount the ASTRID disk:

```
$$$dismount▼DKA200:
```

Now shut down the System with the command:

```
$$$@sys$system:shutdown.com
```

Accept the default options which the shut down procedure presents by pressing the <RETURN> key an appropriate number of times.

When the System has been shut down it should be rebooted from the system disk using the Following command (Note: this assumes that the system disk is DKA0:
:

```
>>> boot▼DKA0
```

Although the backup tape which is produced is only strictly speaking an ephemeral copy of the ASTRID disk, it is still a good idea to write-protect, label and keep it, along with any system image backup of the same vintage.

7.6.2 Method B

As mentioned above, ASTRID data will still be collected while the ASTRID subsystem is offline. To reduce loading, consider whether ASTRID collection can be suspended temporarily (XMES ALL >ASTRID). Alternatively, reduce the data collected to the minimum of M02 and M08, then return to full data collection once this procedure is complete.

On the TMC, login as a user with DCL access. On the Session Manager menu click Applications/DECterm to start a DECterm window. In this window type :

```
$ create /term/det
```

This will create another DECterm, with full access privileges. Type all following DCL commands in this new window.

\$ set▼def▼utc_com

\$ @stopast

\$ @stopping

Wait about 1 minute for ASTRID & INGRID to finish their processing and stop. Put a blank, write-enabled tape in the tape drive.

Before starting the backup the tape should be initialised and given the label "ASTRID" with the command:

\$ init MKA500: ASTRID

\$ dismo▼DKA200:

\$ mou▼DKA200:▼/over=id /nowrite

This will prevent any other program writing to the ASTRID disk. On the UTC system, you will eventually see a message 'ASTRID link failed'. This means that each TCC is buffering ASTRID messages on their system disks.

\$ backup▼DKA200:/im/ver/ig=label▼MKA500:astrid.bck /sav/rew

There may be a message about mounting the tape and overwriting a previous label. About half-way through the backup there will be a message about commencing verification pass. When complete, there will be no announcement, merely the return of the '\$' prompt. Then continue immediately with the restore phase.

\$ dismo▼DKA200:

\$ mou▼DKA200: /foreign

When the disk is mounted the label of the disk will be given; it is usually ASTRID but it may be ASTRID_DISK. Make a note of the name it will be needed later

\$ backup /im/ver ▼MKA500:astrid.bck /sav/rew ▼ DKA200:

Finally, put everything back the way it was.

\$ dismo▼MKA500: (ejects the tape)

\$ dismo ▼DKA200:

\$ mou /system ▼DKA200: ▼ ASTRID ▼ ASTRID\$DISK1

Note: In the above command "ASTRID" is the disk label and must be the same as the one that you noted earlier.

Then restart the subsystem.

\$ @startast

\$ @starting

Log out of the two DECterm windows. Eventually, on the UTC system, you will see a message 'ASTRID link restored' and probably a flurry of 'INGRID functioning' messages. When this has died down restore the full ASTRID data collection (ie., the CAST which calls the 'MESS >ASTRID' commands). As described in Method A, keep the labelled ASTRID backup tape with your current TMC system image backup.

8. PROCEDURES WHICH STC ENGINEERS MAY FIND USEFUL

The procedures described in this section are some that STC Systems engineers may find useful when on site. It is not expected that customers would normally need to use any of the procedures described here.

8.1 How Do I Make A Stand Alone Backup Tape For An Alpha Computer?

You don't!

An Alpha computer cannot be booted from the tape drive. An emergency boot CD-ROM should have been supplied with the UTC System. If it cannot be found it is suggested that you ask the UTC Support Desk to supply another copy. Alternatively, if the Alpha computer has 2 or more disks you can create a minimum bootable system on one of those disks by following the instructions in 8.2.

8.2 How Do I Create A Minimum Bootable System On An Alpha Computer?

With the System running in VMS use the **sho▼dev▼d** command to find out what disks exist on the computer. Choose a disk other than the system disk and one which has plenty of free space. In the example below DKA100: is used.

Dismount DKA100:

dismou▼dka100:

Mount DKA100: privately to your current session

mou▼dka100:/over=id

Type the command **@sys\$update:stabackit**

Follow the instructions

8.3 How Do I Find Out if A Minimum Bootable System Exists On An Alpha Computer?

With the System running in VMS use the **sho▼dev▼d** command to find out what disks exist on the computer. For example, if the computer has both DKA0: and DKA100:, with DKA0: being the system disk and if the following command is entered:

dir▼dka100:[000000]

A list of directories and files which exist in the root directory of DKA100: will be shown. If a directory called **SYSE** exists then a minimum bootable system exists on that disk

8.4 How Do I Boot A Minimum Bootable System On An Alpha Computer?

When you know which disk has the minimum bootable system, for example DKA100:, you should first shut down the normal system by using the command:

@utc_com:shutdown_system

The system will then shut down and eventually will arrive at the >>> prompt.

Boot the system using the command:

BOOT▼dka100▼-FLAGS▼E,0

Note that there is no colon after DKA100.

The system should not boot up and eventually arrive at the \$\$\$ prompt. If during the boot up process you are asked to enter the date and time make sure that you enter the date and time in exactly the required format (otherwise you will be asked again!).

8.5 How Can I Find Out How Much Disk Space There Is on an Alpha Computer?

Use the **sho▼dev▼d** command to determine the number of free blocks on a disk (1 block = 512 bytes)

If you want to know what the size of a disk is, i.e. the total number of blocks on a disk then use the **sho▼dev▼d/full** command

8.6 How Do I Copy Files To Other Alphas?

To copy all the files from the directory you are currently in to, for example, the build directory on another machine (UTC32) use the following command:

\$copy▼*.*▼utc32"traffic password"::sys\$sysdevice:[build]/log

Note: You will need to substitute the password associated with the user traffic for "password" in the previous command.

8.7 How Do I Copy Files From Other Alphas?

To copy files from the build directory on another machine (UTC33) to the directory that you are currently in use the following command:

\$copy▼utc33"traffic password"::sys\$sysdevice:[build]*.* ▼ []/log

Note: You will need to substitute the password associated with the user traffic for "password" in the previous command.

8.8 Can I Do An Alpha UTC Upgrade From Disk Rather Than Tape?

Yes. However, you need to make sure that you have enough space on the system disk to do it.

Put yourself into the "Build" directory on the System Disk

\$set▼def▼sys\$sysdevice:[build]

Clear out any files left over from the previous installation

\$del▼*.*,*

Put the tape in the tape drive and mount it

\$mou▼mka500:/over=id

Copy everything off the tape

\$copy▼mka500:*..*▼[]/log

When the \$ prompt re-appears dismount the tape

\$dismou▼mka500:

After a short while the tape will be ejected from the tape drive.

Start the upgrade as usual with the **\$@sys\$update:vminstal** command. When it asks you where the distribution volumes will be mounted, answer **sys\$sysdevice:[build]**. At the end of the update process you may see a warning message to the effect that it was unable to dismount the distribution volumes but don't worry - it can't dismount the disk at this time.

8.9 Can I Do An Alpha UTC Upgrade From Disk Rather Than CD?

Yes. However, you need to make sure that you have enough space on the system disk to do it.

Put yourself into the "Build" directory on the System Disk

\$set▼def▼sys\$sysdevice:[build]

Clear out any files left over from the previous installation

\$del▼*.*;*

Check to see if the MISC directory exists; if it does not create it with the command

create/dir▼[.misc]

If it does exist move into it and clear out any old files with the following sequence of commands:

\$set▼def▼[.misc]

\$del▼*.*;*

Put the CD in the CD drive (assuming that the CD drive is DQB0:) and mount it with the command:

\$mou▼dqb0:/over=id

Copy the contents of the misc directory to the hard disk:

\$copy▼dqb0:[misc]*.*▼[]/log

When the \$ prompt re-appears move up into the "build" directory

\$set▼def▼[-]

The next operation is to copy the UTC update files from the CD to the hard disk. The exact syntax of the command will depend on the version and variant of the UTC software which is to be installed. In the example shown the SE variant of version 24.4 is to be installed.

\$copy▼dqb0:[v24.4se.alpha]*.*▼[]/log

When the \$ prompt re-appears dismount the CD and remove it from the drive:

\$dismou▼dqb0:

Start the upgrade as usual with the `$_sys$update:vminstal` command. When it asks you where the distribution volumes will be mounted, answer `sys$sysdevice:[build]`. At the end of the update process you may see a warning message to the effect that it was unable to dismount the distribution volumes but don't worry - it can't dismount the disk at this time.

8.10 How do I set up the Export Psuedo Printer?

The Export directory on the TMC can be used as the destination for files transferred using the TXDF command or as the destination for re-directed print outputs.

The Export directory appears to the System as a pseudo printer and must therefore be set up in TUAC before it can be used. The pseudo printer should be set up as shown below:

Item	Value	Comment
SCN	T99010	To be chosen by the user
DESCRIPTION	Export	
PHYSICAL NAME	\$EXPORT	Must be \$EXPORT
BAUD RATE	9600	Not important
LANGUAGE	ENGLISH	
TYPE	HARDCOPY	Must be Hardcopy
FORM_LENGTH	66	Not important
UTC_OUTPUT	NO	Must be set to NO
SCOOT_OUTPUT	NO	Must be set to NO
NARROW_PAPER	NO	Must be set to NO
INHIBIT_INQUIRE	NO	Must be set to NO
LOG_PRINTER	NO	Must be set to NO
FAULT_PRINTER	NO	Must be set to NO

In addition a printer queue will need to be set up on the TMC only. The following set of commands will set up the required printer queue:

\$ SET▼DEF▼SYS\$SYSDEVICE:[SPOOL]

\$ COPY▼EXPORT.COM_EXAMPLE▼EXPORT.COM

The export queue may be started by using the command:

\$ @SYS\$STARTUP:USER_PRINTER_STARTUP

Alternatively, the queue will be started automatically when the System is rebooted.

9. ALPHA UTC SYSTEM UPGRADE PROCEDURE

9.1 Before You Start

- The upgrade process usually takes about one hour per computer. However, the update process can take as long as three hours from start to finish depending upon the amount of data to be prepared, the number of files in the System update, the number of files on the current System, etc. Be prepared to have the Traffic System off-line for up to three hours.
 - ◆ Make absolutely sure that you have an up-to-date backup of the System before starting this process !
 - ◆ See the System Management Guide for a VMS UTC System for details on how to do this.
- Responses enclosed in double quotes. In this installation procedure responses are enclosed in double quotes, for example "yes".
- The console screen should be used for all command input.
- Confirm that all required media are present before starting. In order to install this release of the UTC System Software you should have a either a CD or tape labelled :

V<release number>
- Multi-machine System updates. For multi-machine Systems, it is usual to update the TMC first and then each TCC. In this way as each TCC comes on-line it will be loaded with the correct version of data from the TMC as it comes up.
- If you have problems, or have something you do not understand, contact the UTC Support Desk or the UTC Software Group

9.2 Stop the Traffic System

During the upgrade the contents of the Journal will be deleted. Before stopping the Traffic System make a note of the contents of the Journal so that any necessary commands can be entered again after the UTC System has been re-started.

First you need to identify the type of System you have, use the UTC System to find out all of the computer SCNs in the System by using the **what h00000** command.

This will give a list of all the computers on the System, together with their descriptions. Note the SCNs. This procedure is intended to stop the TCCs first followed by the TMC.

The procedures described in section 3 should be followed to stop the traffic System.

Remember that when re-starting the Traffic System the TMC should be the first computer to be updated and restarted, so that the new data is ready when each TCC is brought on- line.

9.3 Restart the System in VMS

In order to carry out the software update the Traffic System must not be running. Therefore, re-boot the System and answer “NO” to the question “Do you want a traffic system to be started?” when it appears during start-up. When the login prompt appears enter the user name “traffic” with the appropriate password.

9.4 Reset the Accounting Files

The system accounting files files grow to be large during use. The following commands cause new files to be created:

At the DCL prompt (\$) type: **set▼acco/new**

Followed by:

set▼audit/server=new

9.5 Clean-Up Hard Disk

The purpose of this operation is to eliminate any files that have been “marked for delete” and not deleted, so taking up disk space.

At the DCL prompt (\$) type: **show▼dev▼d**

From this determine the disk name(s), e.g. **dka300:**

At the DCL Prompt (\$) type: **analyze/disk/repair▼dka300:**

(Remember to substitute the appropriate disk name for **dka300:** and perform the same operation for all disks)

Multiple copies of some files should now be pur

9.6 Install VMS Patches

If there are any VMS patches, these should be installed before the UTC System upgrade. The method of installing these patches is described in separate instructions, a copy of which may be obtained from the UTC Support Desk.

9.7 Install the UTC System

- The instructions which follow assume that the save sets which are to be installed have been previously copied from the distribution media (tape or CD) into the “build” directory as described in 8.8 (Tape) or 8.9 (CD).
- In this section, an incorrect answer will require the process to be restarted. To exit, respond to the next question by holding the control (CTRL) key down and pressing "Y" at the same time. When the "\$" prompt appears you should restart here.
- The computer’s output is shown in *italics* ,typical responses are shown in **bold** and comments in normal type.

- At the DCL \$ prompt type:

@sys\$update:vminstal

- You will now be asked a series of questions.

OpenVMS AXP Software Product Installation Procedure V7.3-1

It is 17-DEC-2004 at 11:51.

Enter a question mark (?) at any time for help.

%VMSINSTAL-W-NOTSYSTEM, You are not logged in to the SYSTEM account.

%VMSINSTAL-W-ACTIVE, The following processes are still active:

TCPIP\$FTP_1

HTTPd:80

** Do you want to continue anyway [NO]? **yes***

** Are you satisfied with the backup of your system disk [YES]? **yes***

** Where will the distribution volumes be mounted: **sys\$sysdevice:[build]***

Enter the products to be processed from the first distribution volume set.

** Products: **utils245alpha***

** Enter installation options you wish to use (none): **<RETURN>***

The following products will be processed:

UTILS245AL V0.A

Beginning installation of UTILS245AL V0.A at 11:51

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

%VMSINSTAL-I-RESTORE, Restoring product save set B ...

Installation of UTILS245AL V0.A completed at 11:52

Adding history entry in VMI\$ROOT:[SYSUPD]VMSINSTAL.HISTORY

Creating installation data file: VMI\$ROOT:[SYSUPD]UTILS245ALPHA.VMI_DATA

Enter the products to be processed from the next distribution volume set.

** Products: **utc245alpha***

The following products will be processed:

UTC245AL V0.A

Beginning installation of UTC245AL V0.A at 11:52

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

** Do you want to run data preparation immediately after the system is installed
[YES]? **yes***

Answer yes to the above question if the computer is either a stand-alone TMC or a combined TMC/TCC A; otherwise enter no.

%VMSINSTAL-I-RESTORE, Restoring product save set B ...


```

%VMSINSTAL-I-RESTORE, Restoring product save set C ...
%VMSINSTAL-I-RESTORE, Restoring product save set D ...
%VMSINSTAL-I-RESTORE, Restoring product save set E ...
%VMSINSTAL-I-RESTORE, Restoring product save set F ...
%VMSINSTAL-I-RESTORE, Restoring product save set G ...
%UTC245AL-W-UTCNODISM, Unable to dismount SYS$SYSDEVICE:
%POSTINSTALL-I-STARTED, Post installation phase started
%VMSINIT-I-INSTALL, installing UTC SYSTEST (SINGLE MACHINE) traffic system
%VMSINIT-I-TMC, Installing shareable images for Data Prep on TMC
%LANINIT-I-LNG, System Language Slot 0 Configured for ENGLISH
%POSTINSTALL-I-CREATE, Creating TR_INS & TR_UNINS ...
%TRAFINS-I-TSKNOTINS ...DQP will not be installed on this system
%POSTINSTALL-I-DETCONVERT, Converting detector data files
%POSTINSTALL-I-CRPCONVERT, Converting weekly car park data files
%POSTINSTALL-I-SYSGEN, Setting SYSGEN parameters (need a reboot to
establish these) ...
%POSTINSTALL-I-NEWUAF, Creating UAF entries.

%POSTINSTALL-I-DATACLEAN, Deleting old prepared data ...
%POSTINSTALL-I-FINISHED, Post installation phase completed successfully
%VMSINIT-I-INSTALL, installing UTC SYSTEST (SINGLE MACHINE) traffic system
%VMSINIT-I-TMC, Installing shareable images for Data Prep on TMC
%LANINIT-I-LNG, System Language Slot 0 Configured for ENGLISH

```

At this point the installation process will enter the usual data preparation process. All data should be successfully processed before going any further.

```

%UPDATE-I-UPDATE, updating TCCA files
%UPDATE-I-UPDATE, updating GLOBAL files

```

Installation of UTC245AL V0.A completed at 12:09

Adding history entry in VMI\$ROOT:[SYSUPD]VMSINSTAL.HISTORY

Creating installation data file: VMI\$ROOT:[SYSUPD]UTC245ALPHA.VMI_DATA

Enter the products to be processed from the next distribution volume set.

* Products: **ast245alpha**

The following products will be processed:

AST245AL V0.A

Beginning installation of AST245AL V0.A at 12:09

```

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

%VMSINSTAL-I-RESTORE, Restoring product save set B ...
%ASTRID_POST_INSTALL-I-STARTED, Post installation phase started
%ASTRID_POST_INSTALL-I-NEWUAF, Creating ASTRID account
%ASTRID_POST_INSTALL-I-FILACC, Setting file access options
ZIP facility successfully acquired
%ASTRID_POST_INSTALL-I-LOGDIR, Checking for ASTRID batch queue
%ASTRID_POST_INSTALL-I-STARTED, Installing TRG
%ASTRID_POST_INSTALL-I-NEWUAF, Creating TRG account
%ASTRID_POST_INSTALL-I-NEWUAF, Checking configuration files
DECwindows ident is          DW T1.2-6010222
DECwindows server ident is   DW V7.3-030829
DECwindows transport ident is DW V7.3-020718

```

```

DECwindows xlib ident is          DW T1.2-6010222
DECwindows OSF/Motif Toolkit ident is DW T1.2-6010222
DECwindows apps ident is         DW V1.2-6010222
DECwindows programming ident is   DW T1.2-6010222
%ASTRID_POST_INSTALL-I-FINISHED, ASTRID installation succesfully completed

```

Installation of AST245AL V0.A completed at 12:10

Adding history entry in VMI\$ROOT:[SYSUPD]VMSINSTAL.HISTORY

Creating installation data file: VMI\$ROOT:[SYSUPD]AST245ALPHA.VMI_DATA

Enter the products to be processed from the next distribution volume set.

** Products: exit*

Enter exit if there are no more products to install, otherwise enter the name of the next product.

VMSINSTAL procedure done at 12:10

\$

9.8 ASTRID and INGRID Installation

In order to install ASTRID or INGRID follow the same procedures as for a UTC System using the VMSINSTAL utility using the appropriate product names, e.g. AST245Alpha, ING245Alpha

9.9 Manual Data Entry and Update

9.9.1 Recovering from incorrectly answering NO to doing data preparation

If you answered NO to performing data preparation you will need to run the off-line data preparation process. To do this, enter the following command at the \$ prompt:

```
@utc_com:data_prep
```

This will manually enter the data preparation system, and allow you to prepare the data.

9.9.2 Recovering from incorrectly answering NO to updating the data

If you answered NO to doing data preparation you will need to run the off-line data preparation process. To do this, enter the following command at the \$ prompt: If you did this then you need to type the following when data preparation is complete.

```
@utc_com:update
```

9.10 Start the new Traffic System

This step should only be performed after the data has been prepared and updated for the new System. For a TCC on a multi-machine System this will have been done as part of the TMC upgrade.

For Alpha computers the instructions in sections 9.10.1 and 9.10.2 should be followed.

9.10.1 Restart each computer in the System

Each Alpha computer in the System should be restarted in turn the following command on each one in turn, starting with the TMC:

@utc_com:shutdown_system▼0▼y

After a while, each computer will shut down and perform an automatic re-boot.

9.10.2 Check the System Start-up Options

As part of the UTC System start-up process the default start-up options are displayed. To the question "Do you want to change these" answer "yes". Then answer the subsequent questions as follows:

Do you want a traffic System to be started	YES
Would you like a simulated System	NO
Would you like DECnet to be started	YES
Would you like LAT to be started as well	YES
Would you like PATHWORKS to be started as well	YES
Would you like the above state to become the new default	YES
Seconds allowed for the System start-up question	20

If you miss the question or answer incorrectly then switch the UTC System OFF and then ON following the System Management guide for a VMS UTC System. This will restart the computer from scratch and try again.

9.10.3 Check that the System is working correctly

Once the UTC System is operational a useful check is to look at a junction with the MONI command, e.g. "- MONI J01111". If the System is being simulated then the control and reply bit line will be in inverse video, that is the numbers will be "black" on a "white" background, if this happens repeat sections 9.10.1 and 9.10.2. Also check that control bits are being transmitted, if not check that all of the data has been prepared, particularly timetables. Lastly use the LSTS command to check that all equipment is in the expected state, see the Operator Handbook for a VMS UTC System (Reference 1.3.3) for more details of this command.

9.10.4 Multi-Computer Systems

Once all the computers in the system have started up, each one should be checked in turn for correct operation.

9.11 System and Data Backup

You should now back up the new System to ensure that it can recover from a disc failure, should it happen at some time in the future. The procedures described in section 5 should be used for this.

A copy of the UTC data should be made using the procedures described in section 4.4. Usually a blank tape is provided with the upgrade tapes for this purpose. This data tape should be returned, with the upgrade tapes, to the UTC Software Group once the update has been completed. The returning of the UTC data tape to the UTC Software Group allows STC to provide a better service when you are reporting faults and a last ditch backup of your System data.

Appendix A - Site Specific Information

Customer Name: _____

TMC

Computer Type: _____ Serial No: _____

System Disk Name: _____

Extended Logging Disk Name: _____

ASTRID Disk Name: _____

ITMC Disk Name: _____

Removable Magnetic Media Device Name: _____

CD ROM Device Name: _____

TCC A

Computer Type: _____ Serial No: _____

System Disk Name: _____

Removable Magnetic Media Device Name: _____

CD ROM Device Name: _____

TCC B

Computer Type: _____ Serial No: _____

System Disk Name: _____

Removable Magnetic Media Device Name: _____

CD ROM Device Name: _____

TCC C

Computer Type: _____ Serial No: _____

System Disk Name: _____

Removable Magnetic Media Device Name: _____

CD ROM Device Name: _____

TCC D

Computer Type: _____ Serial No: _____

System Disk Name: _____

Removable Magnetic Media Device Name: _____

CD ROM Device Name: _____