

Build Computer System Manager

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Amendment Record

Issue	Date	Description
4	29/10/1999	Converted to Word format by AEA Technology Rail. Same as issue 3, except for the correction to the title of the document.
5	25/01/2000	<p>Modified to include information regarding the use of the MVME172 board as a replacement for all existing boards within a subsystem:</p> <p>Section 1 – references to bold and <u>underlined</u> changed to <i>italics</i> and bold respectively.</p> <p>New section (3) – defines build computer structure.</p> <p>Section 4.2 (old 3.2) – add description of different types of code tools/sites due to two hardware configurations.</p> <p>Section 5 (old 4) – add explanation of different configurations/sites for 123/162- and 172-based subsystems, also include reference to Code Configuration for a ‘172’ processor and change example of code configurations.</p> <p>Section 5.1 (old 4.1) – increase the minimum amount of disc storage in the Code Configuration Owner’s home directory to 20 MegaBytes.</p> <p>Section 6 – explain necessity for two logins for different hardware configurations.</p> <p>Section 6.2 (3) (old 5.2(3)) – Remove “STRT” from and add “TYNC” to the list of ARS site-specific sites.</p> <p>Section 6.3 (3) (old 5.3 (3)) – Add new STAGTYPE (P803).</p> <p>Section 7 (old 6) – add paragraph to clarify differences between software and hardware upgrades.</p> <p>Appendix A.2 – Change “BR Research” to “AEA Technology Rail”.</p> <p>Appendix A.7 – Add reference to EPROM types for MVME172 board.</p> <p>Appendices A.7 to A.9 – add clarification notes.</p> <p>Appendix A.11 – Add reference to software tapes for use with different hardware and software upgrades.</p> <p>Appendix B.4 – Add in reference to IECCTOOL environment variable, remove \${IECCPROD}/TOOLS from PATH.</p>
6	23/05/2001	Amended to cover CD-ROM facility build process. File reference changed from SAO-SSP(BLD)-UG-1 to SAO-IEC-TG-2.

Author	Approved	Date	Authorised	Date
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I Introduction

This document is intended to be used by the *System Manager* of an *IECC Build Computer*. It explains how to set up a Unix-based computer for use as an *IECC Build Computer*. It assumes a moderate familiarity with IECC terms and terminology, with the Unix operating system, Source Code Control System (SCCS), a Unix file editor such as 'vi' and with multi-user computer systems in general.

Terms described in the glossary are shown in *Italics*; commands to be typed are in **Bold**.

2 Overview of The System Manager's Role

The *System Manager* is responsible for the following:

- 1) Preparing a Unix computer for first-time use as an IECC *Build Computer*. This will involve installing files from an *Installation Tape*.
- 2) Creating *Code Configuration Owner* login IDs.
- 3) Copying some of the Installation Tape files to a TOOLS directory owned by the *Code Configuration Owner*, and editing certain files in order to customise them for a given site.
- 4) Loading IECC subsystem files from a *Subsystem Software Tape*.
- 5) Creating site login IDs.
- 6) Customising a site's '.profile' file.
- 7) Keeping a record of what tapes have been loaded onto the computer.
- 8) Ensuring that compatible *Subsystem Software Tapes* are loaded into the same *Code Configuration*.
- 9) Maintaining user logins and passwords on the CD-ROM writer PC.

3 Build Computer Structure

There are now three hardware configurations for the IECC, namely:

- That making use of the original hardware board set, namely combinations of bus arbitration, processor and memory. The main applications processor board for each *subsystem* is either an MVME123 or MVME162 board.
- That making use of MVME172 boards only. In this case, a number of daughter (Industry Pack) boards are installed on some of the MVME172 boards, mainly providing serial and parallel communications.
- That making use of boards fitted with the *CD-ROM* facility. This facility uses *flash memory* to store programs and data downloaded from *CD-ROM*, instead of storing programs and data in *EPROM*.

Because of the substantial differences in architecture between the first two of these hardware configurations, it is necessary to have two distinct versions of the IECC code and hence two versions of the tool set used to build IECC code and data. The third configuration requires different build procedures to create a code and data file suitable for transfer to *CD-ROM*.

Consequently, if a single IECC makes use of all three hardware configurations, there will be a need to set up three sites for the same IECC, one for each hardware configuration.

4 Using The Installation Tape

The Installation Tape is a 1/4 inch magnetic tape containing Unix command files and other important files which must be installed on the Unix computer before it can be used as an IECC *Build Computer*. These files are common to all subsystems and all sites, and most are installed in the *Common TOOLS* directory.

4.1 FIRST USE

If the computer has never yet been used as an IECC *Build Computer*, the *System Manager* must set up a new login ID, known as the *Tools Owner*. In addition, certain Motorola/Unix utilities must be set up on the computer; this only needs to be done once. It is suggested that assistance from the *Code Custodian* is sought at this point.

- 1) Log in as 'root'
- 2) Run 'sysadm' to create a login ID for the *Tools Owner*
- 3) Install Motorola/Unix utilities; usually in a directory /mot; these can be obtained from the *Code Custodian* on a separate tape, NOT to be confused with the *Installation Tape*. A licence to run this software is required; this can be obtained, free of charge, from Motorola UK
- 4) Copy the IECC-variant C-compiler, Assembler, and Link-editor into the directory /bin

4.2 INSTALLING THE TOOLS

This section is performed either on first-use, or when a new issue of the *Installation Tape* is received.

All the files on the tape are copied into a structure located beneath the **Tools Owner's** home directory, and are owned by the *Tools Owner*. The *Tools Owner's* home directory is referred to by an Environment Variable `${IECCTOOL}`.

To install the files from this tape follow the following steps:

- 1) Log in as the Tools Owner
- 2) Insert the Installation Tape into the tape drive
- 3) Type **rm -fr ***
- 4) Type **cpio -iacmvdB < /dev/tape-device**

Where *tape-device* is the tape-device name of the 1/4 inch tape drive on the Build Computer computer.

This will transfer files from the tape into the *Tools Owner's* directory structure. This will occupy approximately 2 Mbytes of disk space.