

# The Acorn Hardware Conformance Scheme

## Introduction

Acorn relies upon its independent hardware developers to exploit the opportunities for expansion of its computer platforms to meet the needs of its users. Developers have responded by making available a wide range of upgrades for Acorn computers.

The Acorn Hardware Conformance Scheme aims to encourage and support these developers and provide recognition for those upgrades that fully meet Acorn Specifications.

## Acorn Hardware Specification

### Compliant

Developers who design upgrades which conform to Acorn Specifications and to the hardware design Code of Practice will have the right to display the 'Acorn Hardware Specification Compliant' logo on their upgrade, its packaging and on advertising material for it. Furthermore, Acorn will honour warranty on computers fitted with such upgrades, subject to certain conditions.

Customers who choose a 'Specification Compliant' upgrade for their Acorn computer will have the peace of mind of knowing that their upgrade has been designed to meet Acorn's technical quality standards.

In this way, developers can produce consistently good quality upgrades and have them clearly recognised as such in the marketplace, to their own benefit and to the benefit of the Acorn market as a whole.

## How does the Acorn Hardware Conformance Scheme work?

The scheme is, in principle, a 'self certification' scheme.

Acorn will release and maintain current certain specifications detailing the requirements which upgrades have to meet. A developer who creates an upgrade within the scope of a current specification and who adheres to the specification can apply for recognition.

To claim compliance, a developer contacts Acorn Developer Support Department in advance, giving the name of the upgrade(s) (and version if applicable) and from what date the certified upgrade will be available.

Acorn will make a record of the claim, although maintaining such a record does not imply that Acorn shares any responsibility for the validity of the claim. It is entirely the responsibility of developers to ensure that their upgrades meet the requirements of the scheme.

Once the claim has been submitted and developers are confident of compliance, they can use the 'Acorn Hardware Specification Compliant' logo. In so doing they agree to follow the Conditions and Code of Practice overleaf.

## What Specifications do developers have to comply with?

Upgrades should comply with the relevant Acorn Specification listed below, the Technical Reference Manual for the computer, and with the general Acorn hardware design Code of Practice outlined overleaf.

Expansion cards should comply with one or more of the following Acorn Specifications:

- Standard Archimedes expansion cards (podules) : upgrades should comply with the latest issue of the Expansion Card Specification, Part Number 0472,200.
- A3000 series and A4000-type internal expansion cards (mini podules): upgrades should additionally comply with the latest issue of the Mini Expansion Card Specification, Appendix A of the Expansion Card Specification.
- Network interface cards: upgrades should comply with the latest issue of the Acorn A3020 and A4000 Network Interface Specification, Part Number 0472, 206

These Specifications are obtainable from Acorn's Developer Support Department, and others will be made available in the future. It is the responsibility of developers to ensure that they have the latest issue of the Acorn Specification to work to.

New Specifications will be released from time to time and the scheme thereby extended to cover upgrades that meet these new Specifications.

Any upgrade that uses an interface which is not covered by a released Acorn Specification is not eligible to claim compliance. Developers are advised however, to inform our Developer Support Department of the intention to produce such an upgrade, as this will help Acorn to judge the relative priority of future Specifications.

In using the logo or the phrase 'Acorn Hardware Specification Compliant' in relation to their upgrade, developers agree to abide by the Conditions of the Scheme and to follow the Acorn hardware design Code of Practice detailed below

### Conditions of the Scheme

- 1 The upgrade must comply fully with all relevant Acorn Specifications and the relevant computer Technical Reference Manual.
- 2 The developer must keep a technical file on each certified upgrade, showing that all relevant Specification issues and requirements necessary for compliance have been considered and the performance of the upgrade verified as adequate. This technical file should be made available to Acorn for examination on request.
- 3 The following categories of upgrade are not eligible unless a certificate of compliance to an acceptable safety standard, such as IEC 950, can be provided:
  - mains powered
  - an upgrade that uses or generates voltages higher than 42.4 volts peak or 60 volts DC, i.e. non-SELV Safety Extra Low Voltages. The above voltage limits apply under normal operating conditions and under single fault conditions. Developers should refer to the Acorn Guidelines for Safety Testing.
- 4 Acorn does not accept any responsibility for the correct, safe and reliable operation of the developer's upgrade.
- 5 Any changes to the design or production process of a certified upgrade, including changes to components and materials, must be fully considered for possible impact on conformance requirements. Upgrades that fail to meet Specifications after such a change must immediately relinquish use of any claims or symbols signifying compliance.
- 6 The upgrade should normally be easily removable from the base machine in order to facilitate servicing and warranty repairs; but see also 7 and 8 below.
- 7 Where upgrades require modifications to be made to the base machine during installation, either these must be removable and the machine easily returnable to standard without the use of soldering tools, or the upgrade supplier must be or become an Acorn Approved Service Centre and undertake to honour warranty repairs on all machines that have the upgrade fitted, whether the reason for the return is due to a fault with the upgrade or with the base machine.
- 8 In the case where two or more such upgrades are fitted, the responsibility for warranty repairs will lie with the supplier of the last upgrade to be fitted.
- 9 In the interest of overall quality and technical development, Acorn reserves the right to update, improve or cancel its Technical Specifications without prior notice. Registered Developers will be notified of Specification changes via the

Developers' Newsletter II such a change results in previously-compliant upgrades becoming non-compliant. developers will be allowed a six month period to bring their upgrades in line with the amended Specification. By the end of this period, all non-compliant upgrades must have any indications of compliance removed from them.

- 10 When compliance is claimed on packaging, documentation, advertising literature or elsewhere, it must be clearly stated for which base platform(s) it applies. For example, an expansion card may meet requirements on an A400/1, but not necessarily on an A3000, due to the different power and thermal capacities of each platform.
- 11 If Acorn has reason to believe that an upgrade may not comply with Acorn Specifications, Acorn reserves the right to test and verify the upgrade for compliance, either in-house or by an independent test establishment. **If non-compliance is established, the developer will be invoiced for the cost of the evaluation and asked to remove all indication of compliance from the upgrade.** If the developer fails to co-operate within a reasonable period, Acorn reserves the right to take whatever action is deemed necessary to uphold the image of the Conformance Mark. This could include cancellation of Developer status and/or a press statement drawing attention to the non-compliance of the offending upgrade.
- 12 The Acorn Hardware Conformance Scheme is only available to Acorn Registered Developers.

### Acorn hardware design Code of Practice

- 11 Critical signals, both on the upgrade and on the base machine, must have adequate rise and fall times, have correct logic high and low thresholds, be free of excessive ringing or noise and be within correct timing limits when the upgrade is fitted to the base machine and the system is operating under worst-case conditions.
- 2 When fitted to a fully-expanded base machine and operating under worst-case conditions, the zero volt and power supply rails of both the upgrade and the base machine, must remain within acceptable noise limits.
- 3 When fitted to a fully-expanded base machine and operating under worst-case conditions, the upgrade must not cause the base machine to exceed internal temperature limits.
- 4 When fitted to a fully-expanded base machine and operating under worst-case conditions, the upgrade must not cause the base machine to exceed its specified power loading. The maximum and running power consumption of the upgrade should be described on its packaging and documentation.
- 5 When fitted to a fully-expanded base machine and operating under worst-case conditions, the upgrade must not compromise the computer's performance with respect to any safety or EMC standards with which the base machine is specified to comply. Developers should refer to the Acorn EMC Design Guidelines Manual.