Support Group Application Note
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Acorn

Sharing Acorn Monitors and TV Displays on a Single RISC OS Computer

This document describes how an Acorn monitor and a TV with SCART input may be connected to the same computer, to give two copies of the same screen display.

Applicable Hardware :

A5000
A4000
A3020
A3010
A4
Archimedes 540
400/1 series
300 series
R140
R200 series

Related Application Notes: 249

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Introduction

Especially in a classroom environment, it is often desirable that a computer be set up to give demonstrations to groups of people. Large multiscan monitors and projection displays, although now available, may be impractical for these purposes owing to weight and cost.

As the cost of large-screen televisions reduces, and the provision of a SCART connector on these devices becomes more standard, a lower-cost solution to the set-piece display can be achieved by attaching a large-screen TV to the computer, and using a TV-suitable screen mode. A list of the screen modes which can be used with a TV may be found in Appendix D of the RISC OS User Guide. In order for the presenter to be able to face his audience and deliver his presentation while running the demonstration, however, he must also be able to see a display; the monitor supplied with the computer, or another Acorn monitor capable of locking to a 15kHz TV-standard signal, is the ideal solution. For the purposes of this Application Note, a monitor with a SCART connector (such as an AKF11 or AKF12) is treated as a TV.

Cables

The following cable wiring diagrams facilitate simple "passive" splitting, which allows one TV and potentially more than one monitor to be used on a single computer. As an alternative to making the cables up from the wiring diagrams given below, the cables may be purchased from

Eastmond Publishing Ltd
33 West Street
Oundle
Peterborough
PE8 4EJ

Tel: 0832 273444
Fax: 0832 272760

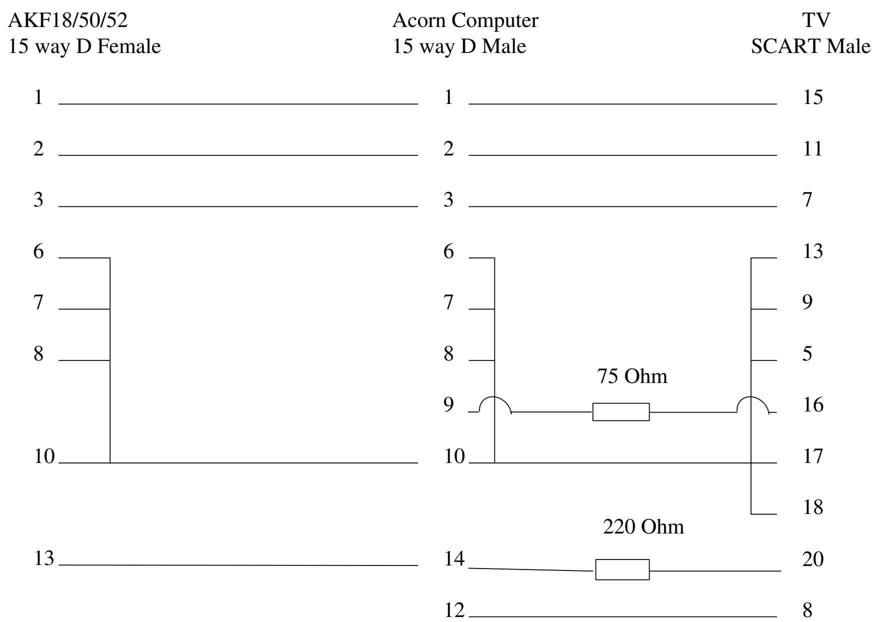

Figure 1: A5000 / A4000 / A3020 / A3010 / A4 to TV and AKF50 / AKF52 / AKF18

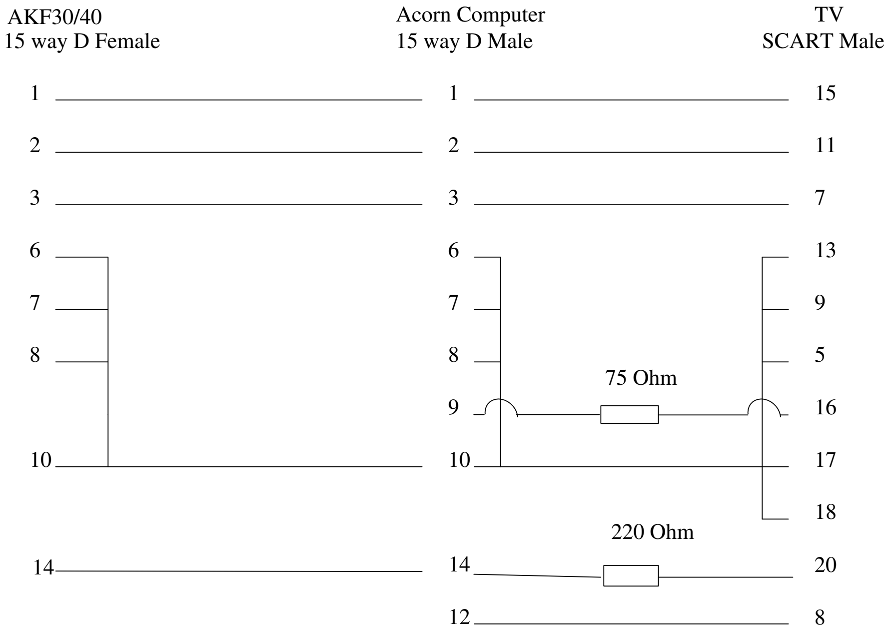

Figure 2: A5000 / A4000 / A3020 / A3010 / A4 to TV and AKF30 / AKF40

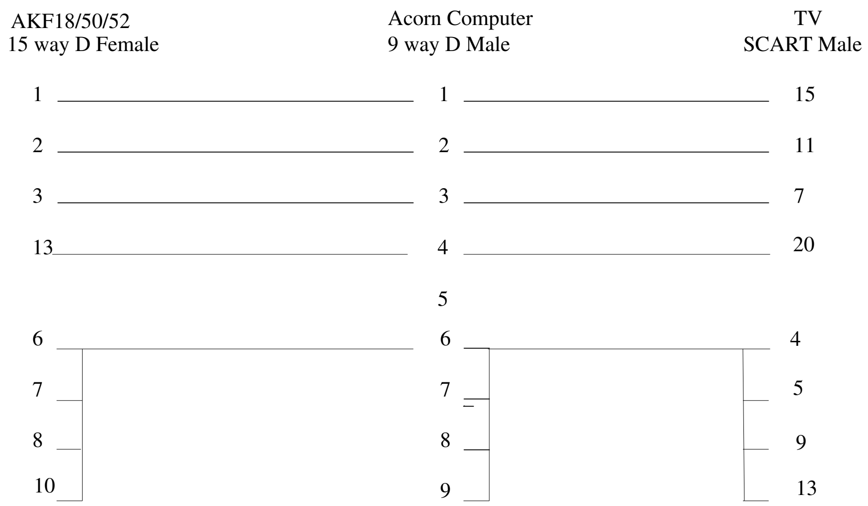

Figure 3: Archimedes 300 / 400 / 540, and R140 / R200 series to TV and AKF50 / AKF52 / AKF18

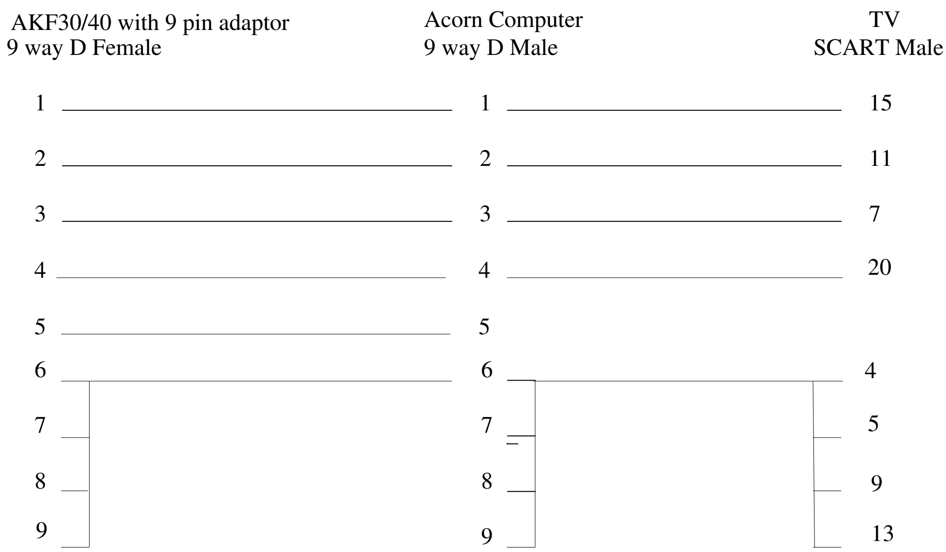

Figure 4: Archimedes 300 / 400 / 540, and R140 / R200 series to TV and AKF30 / AKF40

Please note that in the case of connection to an AKF30 / AKF40, the connection is to be made between the new cable and the cable originally supplied with the monitor, **NOT** directly between the new cable and the socket on the rear of the monitor.

In theory, there is no reason why the left hand side of each of the wiring diagrams (ie between the computer and monitor) cannot be daisychained so that more than one monitor may be used; however in practice, impedance matching and signal reflection may become an issue if large numbers of monitors are thus connected; imperfect impedance matching may also mean that long chains of monitors require the use of an active splitter and signal amplifier, as opposed to the simple split system presented here. Owing to the resistors inserted between the computer and TV, it is not recommended that more than one TV should be driven by a single computer.

Configuration

As Acorn monitors, including the multiscanning AKF50, AKF52 and AKF18 will "lock" to a video signal transmitted at TV scan rate, it is only necessary to configure your computer to output a signal at this scan rate and with composite, as opposed to separate horizontal and vertical, sync. This may be done from the command line (press *F12*) using the commands

```
*CONFIGURE MONITORTYPE 0
*CONFIGURE SYNC 1
```

following this with a *Ctrl-Break* to put the changes into effect.

Earlier Archimedes Computers

In conjunction with a 15 pin to 9 pin adaptor (available from Acorn dealers or Interconnections Ltd), the cable may also be used with most earlier Archimedes computers. In order to produce the +12V signal required by the TV during line flyback, however, it is necessary to ensure that the computer is capable of producing +12V on the video output. As the A3000 has no +12V capability, it may not be suitable for use with this cable and some TV sets.

In order to use an A3000 with a SCART TV set, Acorn sell an "active" SCART lead (product code AKA77) which contains circuitry to pull the +5V output by the A3000 to +12V. This may be used on the right hand side of Figure 1 to help cure the signal level problem.

15 to 9 Way Adaptors (to connect 15 way male to 9 way female)

Available from:

Interconnections Ltd
322 Guildford Road
Bisley
Woking
Surrey GU24 9AD

Tel: 0483 797418

The Interconnections part number for an adaptor to fit a 9 way video output to an AKF50 is 12.01.15.MB.510F