AAUI: Pinout Equivalents to AUI

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TOPIC ---

What are the pinout equivalents of the AAUI (Apple Attachment Unit Interface) to the standard AUI (Attachment Unit Interface)?

What pin connections are needed for a cable to connect an Apple AAUI to DB15 connector (vampire clip) coming off of a thicknet cable?

What is the maximum length for this cable?

DISCUSSION ---

Here are the pinouts for the AUI interface per 802.3 and the matching AAUI pin number:

1 - Shield (Control In shield)
    Not mandatory and not implemented on AAUI

2 - Collision Presence (+) (Control In circuit A)
    AAUI pin 5

3 - Transmit (+) (Data Out circuit A)
    AAUI pin 9

4 - Reserved (Data In shield)
    AAUI Shell

5 - Receive (+) (Data In circuit A)
    AAUI pin 2

6 - Power Return (Voltage Common)
    AAUI pin 4

7 - Reserved (Control Out circuit A)
    Not mandatory and not implemented on AAUI

8 - Reserved (Control Out shield)

AAUI Shell

9 - Collision Presence (-) (Control In circuit B)
AAUI pin 6

10 - Transmit (-) (Data Out circuit B)
AAUI pin 10

11 - Reserved (Data Out shield)
AAUI Shell

12 - Receive (-) (Data In circuit B)
AAUI pin 3

13 - Power (Voltage Plus)
AAUI pin 1

14 - Reserved (Voltage shield)
AAUI Shell

15 - Reserved (Control Out circuit B)
Not mandatory and not implemented on AAUI

You can use the same specifications as apply to the AUI cable to compute the maximum length of the AAUI cable when used to interface to a 10BASE-5 network. Hence the AAUI cable could be up to 50 meters long. When attaching to other 802.3 compliant networks, the length of the AAUI cable has different characteristics. When used to attach to a 10BASE-2 network the AAUI cable length should be limited to 1.33 meters.

The biggest problem you're going to face in putting this type of cable together is that all Macintosh computers don't have +12 volts available to drive the AUI transceiver. The transceiver needs an external power supply.

10BASE-2 AAUI Notes

FriendlyNet can support a maximum of 40 nodes per network segment. This is more than the maximum of 30 nodes described in the 10BASE2 specification. This is achieved through use of more stringent design specifications for both the MAU and the Apple Coaxial cables, and by using a fixed, short cable connecting host to drop box. (This doesn't preclude the use of standard RG-58 C/U cables, but reduces the recommended node count to 30.)

General AAUI Interface Notes

Except for the pins that supply power, each AAUI signal has the same description, function, and electrical requirements as the AUI signal of the same name. This is detailed in IEEE Standard 802.3-1988 CSMA/CD, paragraph 7.6.3, P. 105.

To allow connection of Apple AAUI-equipped hosts to standard 802.3 MAUs, possibly accessing different media, an AAUI to AUI converter shall be provided. Because all Apple equipment isn't capable of supplying the +12

VDC @ 500 mA necessary to power a standard AUI as specified in the IEEE 802.3 standard, the converter requires external power.
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