



Electronic Links International, Inc.

Interconnecting Components and Systems.

Data Sheet

IEEE 1394b Series Dongle

Publish May, 2010

Version: 1.0

Overview

The full IEEE 1394b specification supports data rates up to 3200 Mb/s (i.e. 400 megabytes/s) over beta-mode or optical connections up to 100 meters (110 yd) in length.

IEEE 1394b introduced FireWire 800 (Apple's name for the 9-circuit "S800 bilingual" version of the IEEE 1394b standard) This specification and corresponding products allow a transfer rate of 786.432 Mbit/s full-duplex via a new encoding scheme termed beta mode. It is backwards compatible to the slower rates and 6-circuit alpha connectors of FireWire 400. However, while the IEEE 1394a and IEEE 1394b standards are compatible, FireWire 800's connector, referred to as a beta connector, is different from FireWire 400's alpha connectors, making legacy cables incompatible. A bilingual cable allows the connection of older devices to the newer port. In 2003, Apple was the first to introduce commercial products with the new connector.



ElectronicLinks
international inc

Electronic Links International, Inc.
123 Court Street • Binghamton, NY 13901 USA
P. +1.607.778.6940 • M. +1.607.761.9952

Key Features

1. BNC for 75 Ohm

- A. Full-duplex bidirectional communication over a single coax supporting: Fast- and Gigabit Ethernet, LVDS, IEEE1394b (S800 and lower data rates) and MOST Automotive.
- B. Developed for Low Emissions and High Immunity (automotive applications).
- C. Cable extension due to internal equalization e.g.:
 - IEEE1394/S800 @ 1Gbps, 70 m over RG6 coax.
 - Fast Ethernet @ 125 Mbps, 100 m over RG6 coax.

2. SMA for 50 Ohm

- A. Full-duplex bidirectional communication over a single coax supporting: Fast- and Gigabit Ethernet, LVDS, IEEE1394b (S800 and lower data rates) and MOST (150 Mbps, automotive) protocols.
- B. Developed for Low Emissions and High Immunity (automotive applications).

3. Cable extension due to internal equalization e.g.:

- Fast Ethernet @ 125 Mbps, 60 m over RTK coax cable (3.2 mm diameter).
- IEEE1394/S800@ 1Gbps, 25m over RTK coax cable.

Applications

Aircraft

IEEE 1394b is used in military aircraft. Developed for use as the data bus on the F-22 Raptor, it is also used on the F-35 Lightning II. NASA's Space Shuttle also uses IEEE 1394b to monitor debris (foam, ice) which may hit the vehicle during launch.

Automobiles

IDB-1394 Customer Convenience Port (CCP) is the automotive version of the 1394 standard.

Cable TV

Cable TV system supported. Cable TV providers (in the U.S., with digital systems) must, upon request of a customer, provide a high-definition capable cable box with a functional FireWire interface. This applies only to customers leasing high-definition capable cable boxes from said cable provider after April 1, 2004. The relevant law is 47 CFR 76.640 Section 4 Subsections i and ii. The interface can be used to display or record Cable TV, including HDTV programming.

Networking over FireWire

FireWire can be used for ad-hoc (terminals only, no routers except where a FireWire hub is used) computer networks. Specifically, RFC 2734 specifies how to run IPv4 over the FireWire interface, and RFC 3146 specifies how to run IPv6.

Mac OS X, Linux, and FreeBSD include support for networking over FireWire. Windows XP and Windows Server 2003 include native support for IEEE 1394 networking. Windows Me and Windows 2000 do not have native support but may work with third party drivers. A network can be set up between two computers using a single standard FireWire cable, or by multiple computers through use of a hub. This is similar to Ethernet networks with the major differences being transfer speed, circuit length, and the fact that standard FireWire cables can be used for point-to-point communication.

Order Information

1394F - 9BS X XXX 00

(1) (2) (3)

(1) Converter Type :

- ✱ S : SMA Interface.
- ✱ B : BNC Interface.

(2) Cable Length (meter) :

- ✱ 10 : 10M
- ✱ 20 : 20M
- ✱ 30 : 30M
- ✱ 40 : 40M
- ✱ 50 : 50M
- ✱ 60 : 60M
- ✱ 70 : 70M

(3) ELII Standard.