



Product Information

CMF-1394 ■ PC•MIP Module IEEE 1394a-2000 OHCI Controller

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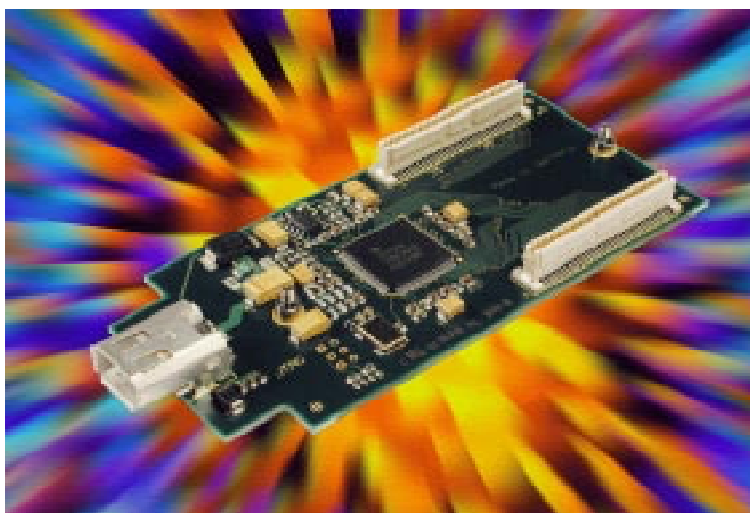
*The **CMF-1394** is a 400Mbps controller (host adapter) for the IEEE 1394 High Performance Serial Bus, also known as FireWire™ (Apple) and i.LINK™ (Sony). The IEEE 1394 defines a high speed next-generation network topology and protocol. Guaranteed bandwidth is provided for mission critical applications, and live connect/disconnect and many other impressive features more make it a fast, reliable, durable and universal interconnection between computers and I/O-devices.*

The CMF-1394 is housed on a PC•MIP mezzanine module. While the PC•MIP electrical characteristics are derived from the popular PCI specification, PC•MIP modules represent a miniaturized successor to the proven PMC- and M-Module technology.

Up to 3 PC•MIP modules e.g. can be mounted on a single 3U **CompactPCI®** carrier board for a maximum of functionality at low cost, thus making system integration easier.

The CMF-1394 is provided with an integrated LLC/PHY chip, being fully compatible to OHCI based software. The data transfer rate is specified at 400Mbps (200/100Mbps). When sourced by the 6-position 1394 connector with integrated power distribution, peripheral devices attached to the CMF-1394 need no separate power supply.

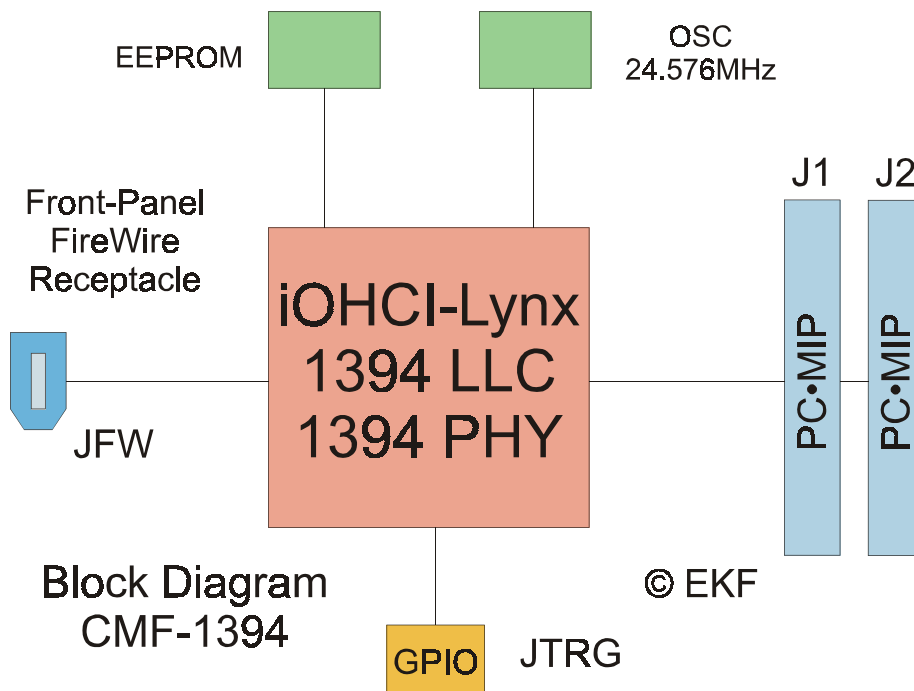
Typical applications for the IEEE 1394 High Performance Serial Bus are digital video and digital audio processing, and high speed data storage systems.



Often compared to the slower USB 1.1 (Universal Serial Bus), the IEEE 1394 High Performance Serial Bus defines data rates up to 3200Mbps (1394b), providing both asynchronous and isochronous data transfers. Isochronous packets are issued on the average of each 125us in support of time-sensitive applications. A high quality video signal e.g. generates an uncompressed continuous data flow of up to 200Mbps, which is passed across the IEEE 1394 bus just-in-time. In industrial applications, high resolution image processing is used for visual inspection systems, as needed for process and quality control. These and many other applications profit from the superior 1394 performance.

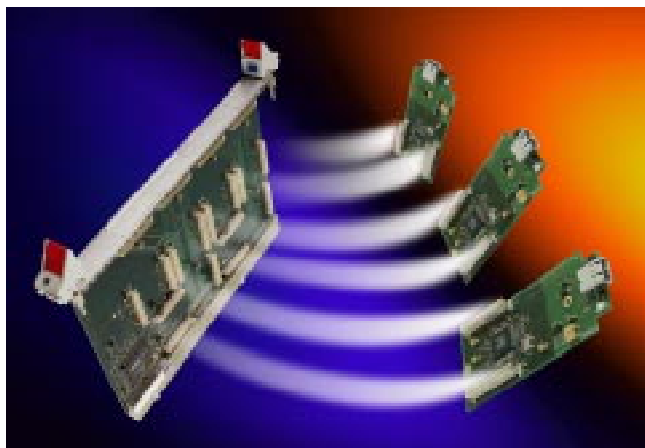
Der CMF-1394 is equipped with the TSB43AA22 iOHCI-Lynx (integrated Link Layer Controller and Physical transceiver), which is compatible to OHCI based software (implicit part of the MS Windows OS since Windows 98SE and Windows 2000). If a single FireWire connector isn't enough, EKF offers the CF2-CYMBAL alternatively, a CPCI Board with three 1394 transceiver ports.

Some industrial applications however, are based on an older, non OHCI compatible standard (Unibrain or TI Lynxsoft). Unibrain software requires the PCILynx-2 Link Layer Controller. With the CF4-HIHAT, a Unibrain compatible CPCI board with three FireWire ports is available. A PC•MIP module providing the PCILynx-2 is also planned.

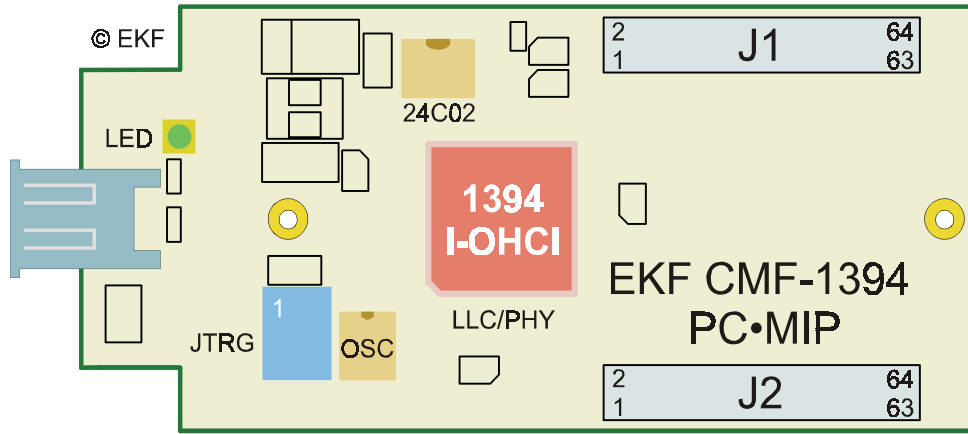


Technical Specifications		
Printed Circuit Board	Dimensions	PC•MIP module type II (single-size 47x99.25mm ²)
IEEE 1394	Connector JFW	Molex connector 6-pos., including power distribution (+12V/1A), fused by Polyswitch resettable fuse
	Cable Type	Shielded, 2 power conductors (power pair), 2x2 signal conductors (twisted pair, each pair individually shielded) Differential A, Differential B
	Data Transfer Rate	100, 200 and 400Mbps
	Controller Chip	TI TSB43AA22 Integrated 1394a-2000 OHCI PHY/Link Layer Controller
	LED	Cable Active (on-board diagnosis LED)
PCI Bus (PC•MIP)	Connector J1/J2	32bit, 33MHz, DMA Bus Master, 133MBps
Power Consumption	Connector J1/J2	+5V ±5% 0.1A max. +3.3V ±0,3V 0.3A max. +12V ±5% 0.1A max. (whithout 1394 cable power charge)
Temperature Humidity	Commercial Grade Version	Operating temperature 0-70 °C Relative humidity 5-90% non condensing

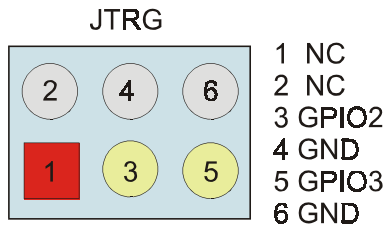
specifications are subject to change without further notification



CM6-SEXTET PC•MIP Module Carrier



Component Assembly CMF-1394



Header JTRG Trigger Pulse (General Purpose I/O, optional)

1	Bus Power
2	GND
3	TP B-
4	TP B+
5	TP A-
6	TP A+
7	Shield
8	Shield

IEEE 1394 Connector JFW

J1				J2			
RSVD	1	2	RSVD	RSVD	1	2	RSVD
RSVD	3	4	RSVD	RSVD	3	4	RSVD
-12V	5	6	TRTS#	+5V	5	6	+5V
TCK	7	8	+12V	+5V	7	8	+5V
GND	9	10	TMS	REQ64#	9	10	ACK64#
TDO ¹	11	12	TDI ¹	+3.3V	11	12	+3.3V
+5V	13	14	+5V	AD00	13	14	AD01
+5V	15	16	INTA#	AD02	15	16	GND
INTB#	17	18	INTC#	GND	17	18	AD03
INTD#	19	20	+5V	AD04	19	20	AD05
PRSNT1#	21	22	RSVD	AD06	21	22	+3.3V
RSVD	23	24	+3.3V	+3.3V	23	24	AD07
PRSNT2#	25	26	RSVD	C/BE0#	25	26	AD08
GND	27	28	GND	GND	27	28	GND
RSVD	29	30	3.3V aux	AD09	29	30	M66EN
GND	31	32	RST#	GND	31	32	AD10
CLK	33	34	+3.3V	AD11	33	34	AD12
GND	35	36	GNT#	AD13	35	36	GND
REQ#	37	38	GND	+3.3V	37	38	AD14
+3.3V	39	40	PME#	AD15	39	40	C/BE1#
AD31	41	42	AD30	PAR	41	42	+3.3V
AD29	43	44	+3.3V	GND	43	44	SERR#
GND	45	46	AD28	RSVD	45	46	+3.3V
AD27	47	48	AD26	RSVD	47	48	PERR#
AD25	49	50	GND	+3.3V	49	50	LOCK#
+3.3V	51	52	AD24	STOP#	51	52	GND
C/BE3#	53	54	IDSEL	GND	53	54	DEVSEL#
AD23	55	56	+3.3V	TRDY#	55	56	+3.3V
GND	57	58	AD22	GND	57	58	IRDY#
AD21	59	60	AD20	FRAME#	59	60	GND
AD19	61	62	GND	+3.3V	61	62	C/BE2#
+3.3V	63	64	AD18	AD16	63	64	AD17

Pin Orientation J1/J2 PC•MIP Interface

Ordering Information

Short Alias	Ordering No.	Short Description
	CMF-1-1394	PC•MIP module, IEEE 1394a-2000 OHCI hostadapter 400Mbps, 1 FireWire port
TRIO	CM5-1-TRIO	3U <i>CompactPCI</i> board, passive PC•MIP module carrier with 3 PC•MIP slots
SEXTET	CM6-1-SEXTET	6U <i>CompactPCI</i> board, passive PC•MIP module carrier with 6 PC•MIP slots
CYMBAL	CF2-1-CYMBAL	3U <i>CompactPCI</i> board, IEEE 1394 OHCI compatible, 400Mbps, 3 FireWire ports
HIHAT	CF4-1-HIHAT	3U <i>CompactPCI</i> Board, IEEE 1394 Unibrain compatible, 400Mbps, 3 FireWire ports

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