



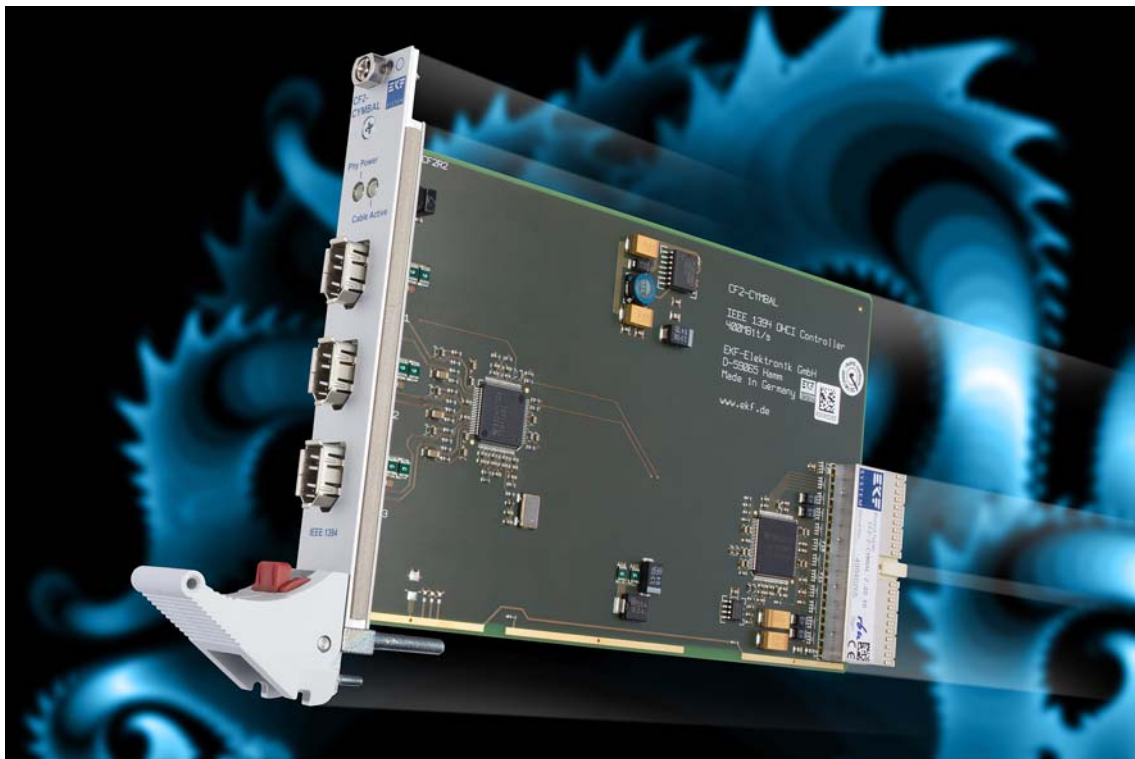
Product Information

CF2-CYMBAL • *CompactPCI*® IEEE 1394 Hostadapter

Document Nr. 2002 • Edition 26 November 2010

The EKF *CF2-CYMBAL* is a *CompactPCI*® hostadapter for the 400Mbps IEEE 1394a-2000 High Performance Serial Bus - also known as FireWire™ (Apple) or i.LINK™ (Sony). The *CF2-CYMBAL* is based on the OHCI standard (Open Host Controller Interface), supported by all popular operating systems such as Linux und Windows®. The hostadapter provides connectors for up to three 1394 peripheral devices or bus segments.

Isochronous data packets are issued on the average of each 125us in support of time-sensitive applications, which makes the IEEE 1394 High Performance Serial Bus very popular in vision systems (digital video). A high quality video signal e.g. generates an uncompressed continuous data flow of up to 200Mbps, which is passed across the *CF2-CYMBAL* just-in-time to the *CompactPCI* system.



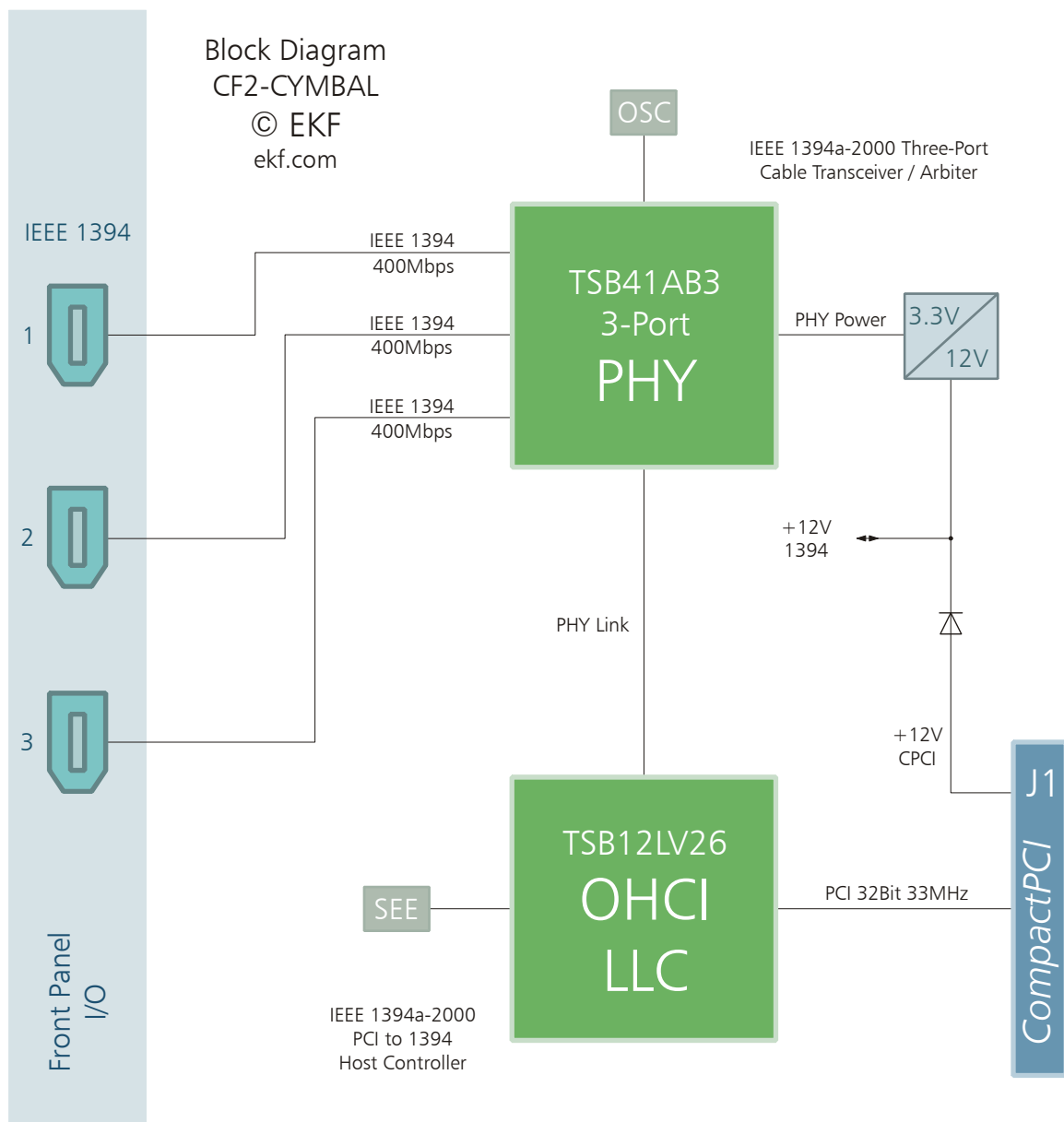
CF2-CYMBAL

The CF2-CYMBAL is housed on a 3U (single size) Eurocard. With its triple 1394 cable port, the board can be operated as a controller (master) and transceiver. For 6U systems, EKF offers a mechanical adapter kit to expand the front panel of the CF2-CYMBAL to the full 6U height.

The board is based on a Texas Instruments OHCI-Lynx link layer controller and PHY, which operate at data transfer rates up to 400Mbps, compliant to IEEE 1394a-2000. All three ports use 6-lead Molex connectors with cable power distribution.

The CF2-CYMBAL requires no proprietary software but OHCI compliant drivers, which are integral and reliable part of all popular operating systems.

Hence the IEEE 1394 CompactPCI hostadapter CF2-CYMBAL is suitable for a wide range of industrial applications, typically image based control systems with real-time demand, such as vision- and inspection systems, e.g. AOI (automated optical inspection), production control, or traffic monitoring (toll recording).

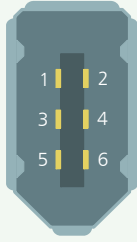


Block Diagram CF2-CYMBAL

Summary of Technical Features	
Printed Circuit Board	3U Eurocard (100x160mm ²), front panel 4HP (20.3mm)
Front Panel Elements	<ul style="list-style-type: none"> ▶ Three Molex receptacles, 6-leads with 12V power distribution, individually current protected by 1.5A resettable fuses ▶ Dual-LED, indicating PHY power present and cable active status
IEEE 1394 Chipset	<ul style="list-style-type: none"> ▶ Texas Instruments OHCI Link Layer Controller 100, 200 und 400Mbps, IEEE 1394a-2000 ▶ Texas Instruments PHY 100, 200 und 400Mbps, IEEE 1394a-2000, Triple-Cable Transceiver/Arbiter, Cable Port Monitor, Cable Power Monitor, transceiver disabled when cable not active, short reset, switching regulator powers PHY from cable when board is switched off (1394 hub function maintained when CPCI system is powered down)
CompactPCI [®] Bus	32-Bit, 33MHz (133MB/s), 3.3V or 5V interface, peripheral slot CPCI connector J1
Power Requirements	<ul style="list-style-type: none"> ▶ +5V ±5% 0.1A max. ▶ +3.3V ±0.3V 0.3A max. ▶ +12V ±5% 0.1A max. (w/o 1394 cable power charge) ▶ +12V ±5% 1.6A max. (with 1394 cable power at max. load) ▶ V_{IO} +3.3V or +5V compliant, max. 0.1A
Thermal Conditions	<ul style="list-style-type: none"> ▶ Operating temperature 0°C ... +70°C (industrial temperature range available on request) ▶ Storage temperature -40°C ... +85°C, max. gradient 5°C/min
Environmental Conditions	<ul style="list-style-type: none"> ▶ Humidity 5% ... 95% relative humidity, non condensing ▶ Altitude -300m ... +3000m ▶ Shock 15g 0.33ms, 6g 6ms ▶ Vibration 1g 5-2000Hz
Regulations	<ul style="list-style-type: none"> ▶ EN55022, EN55024, EN60950-1 (UL60950-1/IEC60950-1) ▶ 2002/95/EC (RoHS)
MTBF	0.3 x 10 ⁶ h

specifications are subject to technical changes

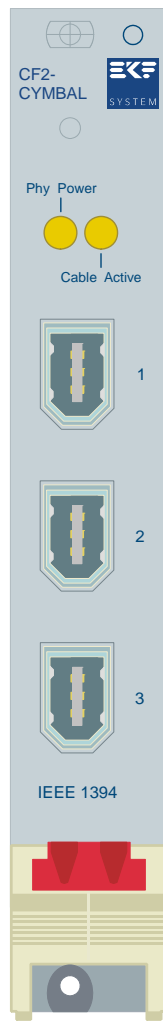
1394a Receptacles



1394a FireWire Receptacle
© EKF ekf.com
Part No. 270.30.06.0

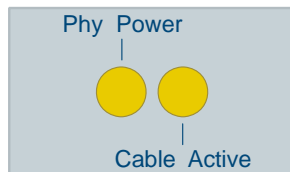
1	+ 12V 1394 Bus Power
2	GND
3	TP B-
4	TP B+
5	TP A-
6	TP A+

The CF2-CYMBAL delivers +12V derived from the CompactPCI backplane (J1) to the 1394 receptacles across a Schottky diode (which reduces slightly the externally available voltage). The maximum load at a particular receptacle is 1.5A (short circuit protected by self resetting fuses). The maximum total load for all three receptacles is also 1.5A. If the CPCI system is powered down, the 1394 PHY on the CF2-CYMBAL will be nevertheless functional if there is cable power present from an external source. This allows to maintain the 1394 hub function, which is signalled by the LED PHY Power.



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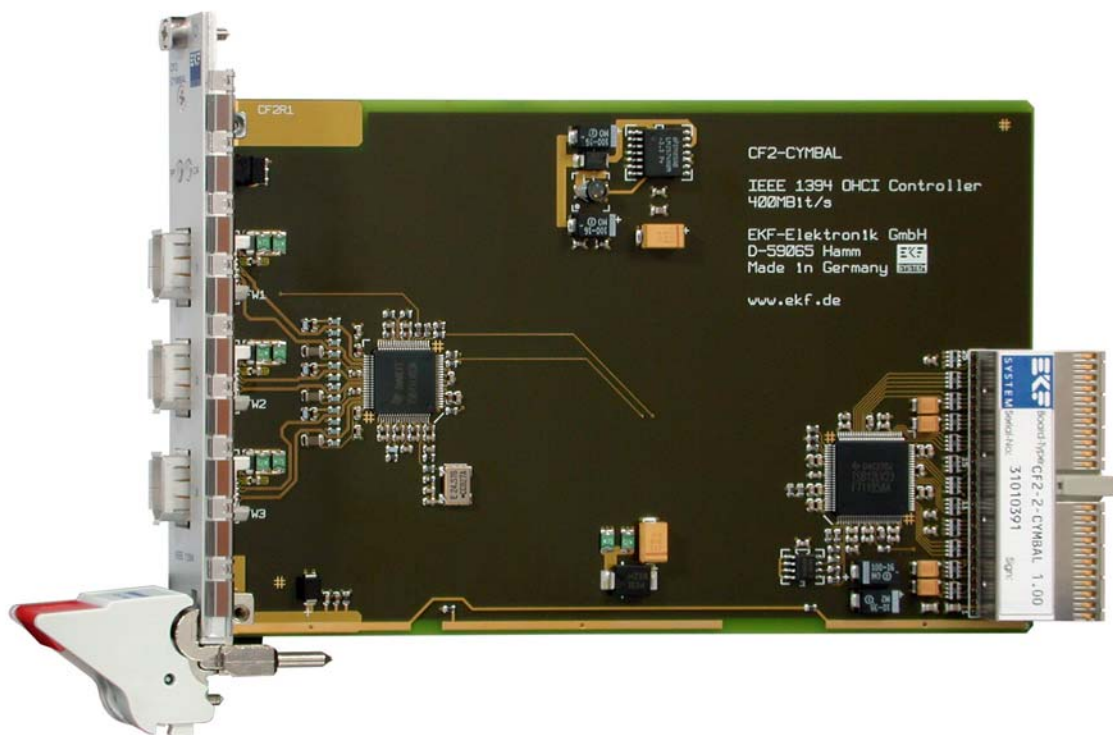
CF2-CYMBAL
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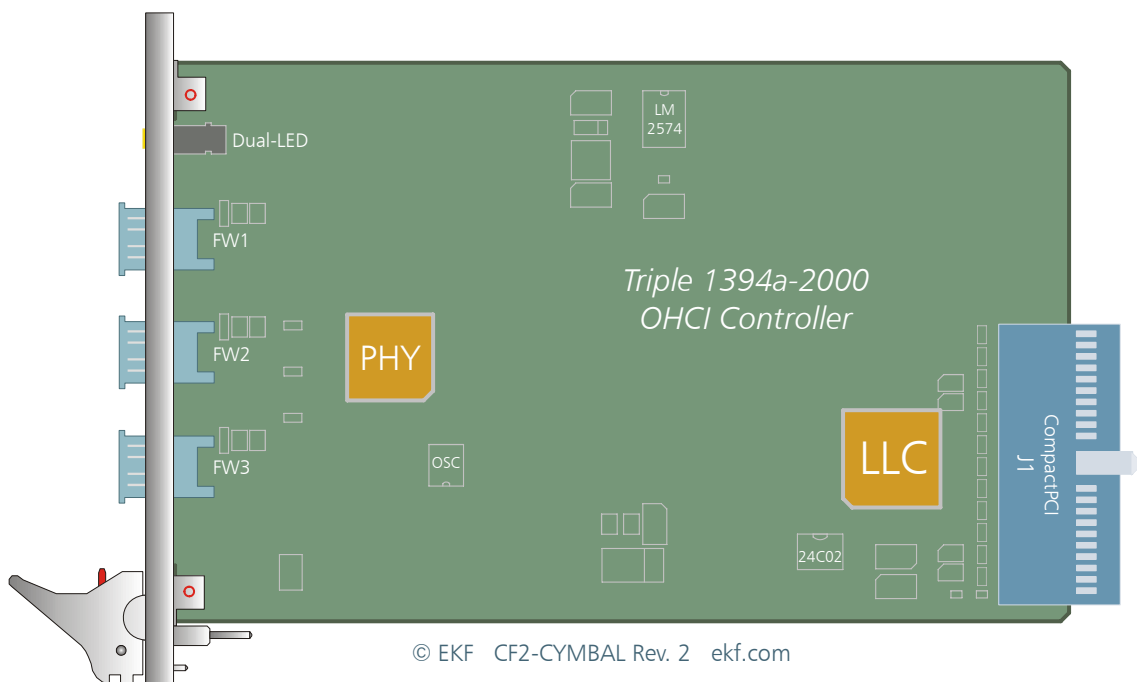
CF2-CYMBAL
Dual Front Panel LED
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CF2-CYMBAL Front View



CF2-CYMBAL



Ordering Information

Ordering No.	Short Description
CF2-2-CYMBAL	CompactPCI® IEEE 1394 3-Port host adapter 400Mbps, OHCI-Lynx LLC (OHCI compliant) • www.ekf.com/c/cfiw/cf2/cf2.html
CR9-5-ADAPT	Mechanical kit, expands front panel to 6U • www.ekf.com/c/csyst/cr9/cr9_e.html

Please refer also to
www.ekf.com/liste/liste_20.html#CF2



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