



Product Information

CS3-FLUTE • **CompactPCI**[®] Ultra2 SCSI Hostadapter

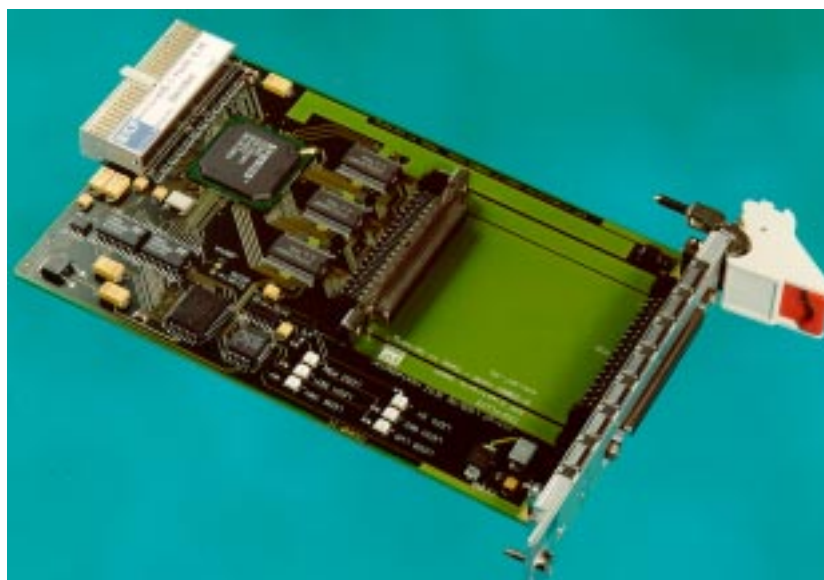
Document No. 1887 • Edition 03/2001

The **CS3-FLUTE** is a **CompactPCI**[®] based **Ultra2 SCSI** hostadapter, suitable for attachment of any LVD/SE 16-Bit peripherals as Raid-systems and streamer tape drives.

LVD (low voltage differential) signaling technology allows an overall cable length of the SCSI bus up to 12m. LVD and SE (single ended) devices are sensed automatically by the **FLUTE**, and the SCSI interface is self-configured to match the peripherals SCSI operating mode.

The **FLUTE** hostadapter is offering a data transfer rate of up to 80MByte/s when operated in the Ultra2 mode. Compatibility is maintained to all previous SCSI standards, e.g. Fast and Ultra SCSI. The board is provided with two HD68 receptacles; so external and internal devices can be connected simultaneously.

SCAM (SCSI Configured AutoMatically) as well as PCI plug&play technology care for effortless installation of the **CS3-FLUTE**.



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The CS3-FLUTE allows for connecting of up to 15 peripherals with 16-Bit (Wide) connector. Internal and/or external mounting of the devices is at the users choice; the active termination of the CS3 follows any configuration automatically.

The jumperless board is built around the LSI Logic (Symbios) SYM53C895 PCI-SCSI I/O processor, a high performance, widely accepted industry standard chip.

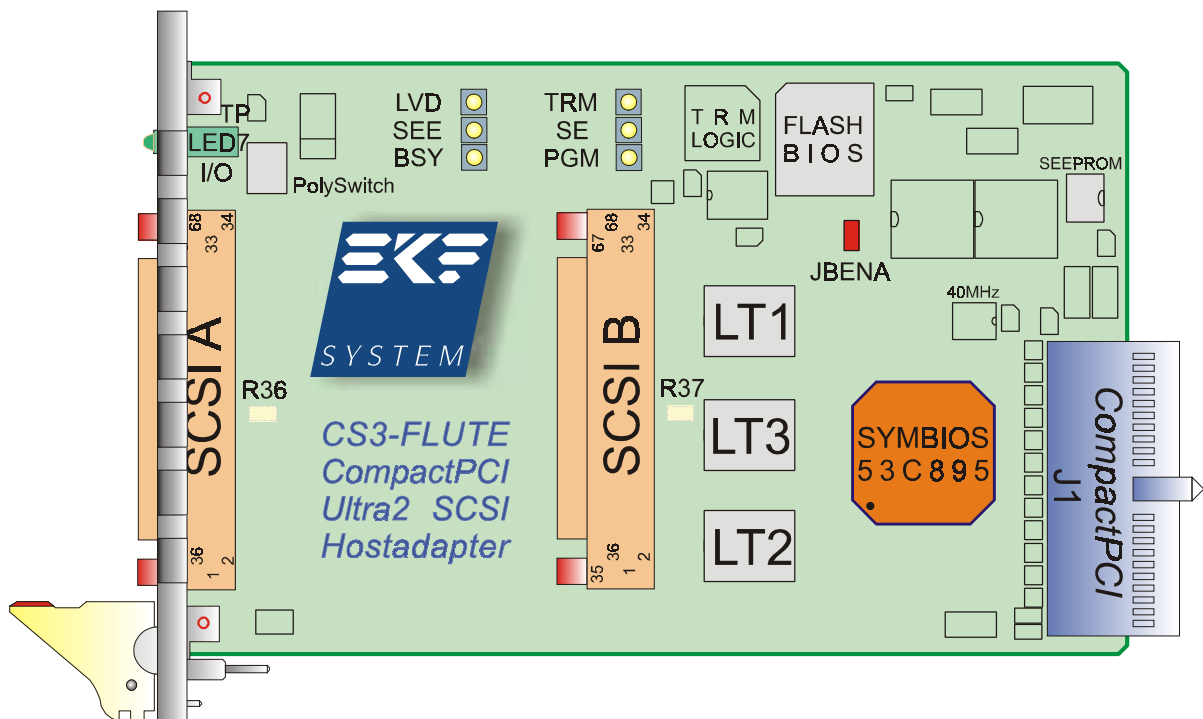
Being also compatible to the popular SYM8951U hostadapter board, the CS3-FLUTE can be used with all LSI Logic (Symbios) software (e.g. the Device Management System SDMS 4.x), and all existing SYM8951U drivers for operating systems as Windows9x/NT or Linux are valid also for the CS3-FLUTE.

For flexible cabling, the CS3 is provided with SCSI receptacles for both internal and external use. Both of the SCSI connectors can be used together at the same time.

The 68-position receptacle SCSI_A is mounted to the front panel of the CS3-FLUTE. External SCSI devices with 16-Bit (Wide) interface can be attached directly here; 8-Bit (Narrow) SCSI peripherals need an adapter (connector or cable) in order to reduce from 68- to 50-pins.

The connector SCSI_B is provided for internal wiring to 16-Bit Wide SCSI devices, mounted within the **CompactPCI®** rack.

Peripherals, attached to any of the SCSI connectors, are sensed by a logic circuitry. If the logic detects the CS3-FLUTE to be one end of the SCSI bus, the local SCSI terminators are activated.



CS3-FLUTE • Component Assembly Drawing

The CS3-FLUTE is equipped with a Flash Extended BIOS, allowing operating system boot from a SCSI drive. The Flash-EEPROM can be updated at any time by means of a utility program. The CS3-FLUTE is additionally provided with a serial EEPROM, acting as a NVRAM, saving configuration parameters of the board (e.g. for SCAM support).

As a help for installation or fault detection, several LED's show interesting board status information.

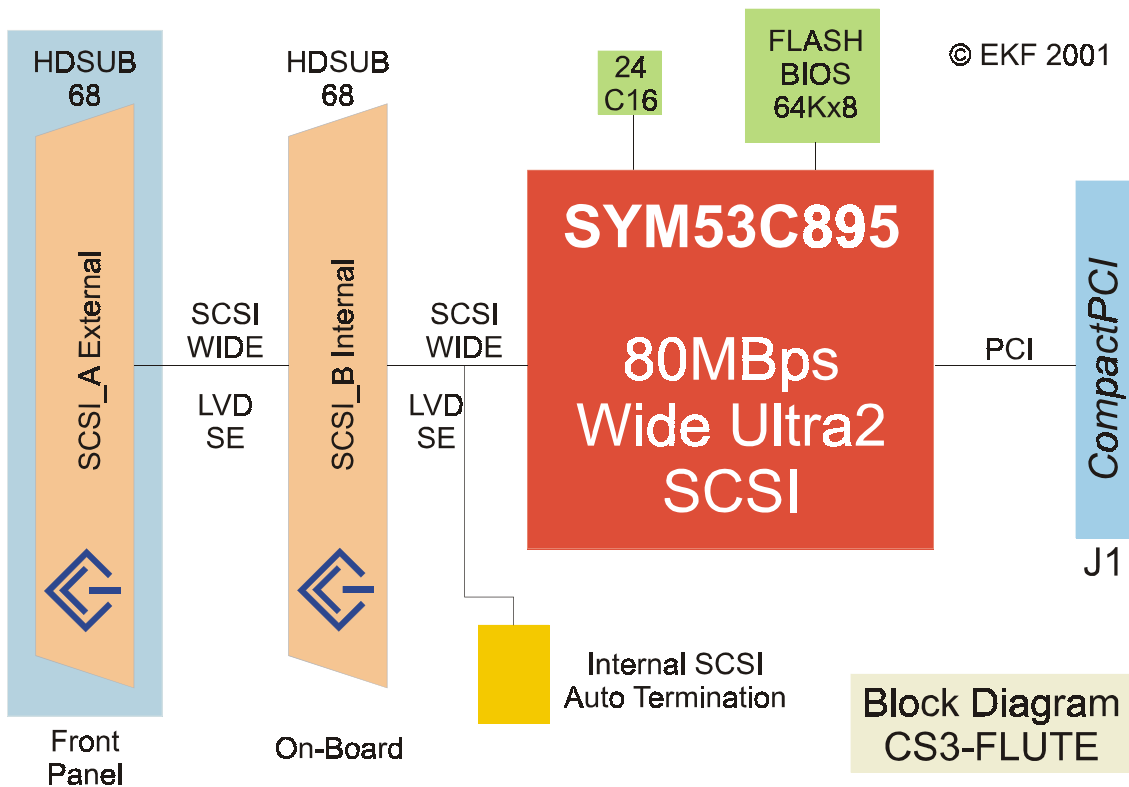
The CS3-FLUTE sources the voltage for the on-board and external SCSI terminators (TERMPOWER), fused by a Polyswitch (reversible fuse). SCSI Bus data and control signal integrity will be improved by the SCSI controller chip using the Symbios Tolerant™ filtering technology, thus minimizing the influence of a critical SCSI cabling (poor cables, mixed cable types, noisy environment).

The CS3-FLUTE is a 3U (single size) Eurocard. For use within 6U **CompactPCI®** systems, there is a mechanical kit available, expanding the front panel to 6U (CR9-ADAPT).

A toolset already mentioned, but worth to be more intensively discussed is the LSI Logic (Symbios) SCSI Device Management Software SDMS, running on the CS3-FLUTE without any modification. SDMS is a package of utilities and drivers, including ASPI, RAID, or removable media support for popular disk operating systems. As a resident part of the SDMS, basic routines are contained within the on-board Flash Extended BIOS. Like any other BIOS routine, this resident software does not depend on an individual OS, but allows standalone operation and diagnostics instead, e.g. low level hard-disk formatting or SCSI bus configuration. In order to obtain actual information or download the latest firmware release, the LSI Logic Internet site <http://www.lsilogic.com> should be visited.

*Needless to discuss the advantages of SCSI, as superior data throughput at minimal CPU load. With the CS3-FLUTE, any **CompactPCI®** system can profit from Ultra2 SCSI performance. The CS3-FLUTE is a high reliability, industrial grade product, available at moderate cost, and - last not least - fast and smoothly to be installed.*





CS3-FLUTE • Block Diagram

LED1	SCSI bus busy signal (BSY)
LED2	Flash EEPROM programming, +12V attached (PGM)
LED3	read/write serial EEPROM (SEE)
LED4	SCSI SE mode (Ultra)
LED5	SCSI LVD mode (Ultra2)
LED6	SCSI on-board line terminators activated (TRM)
LED7 (FP left side)	SCSI bus TERMPower +4.7V (TP)
LED7 (FP right side)	SYM53C895 I/O processor activity (I/O)

Technical Specifications		
Board	Dimensions	3U Eurocard (100x160mm ²), front panel width 20.2mm (4HP), mechanics constructed with respect to EMC requirements, ejector lever
SCSI Bus	Bus Type	ANSI SCSI Parallel Interface-2 (SPI-2) 16-Bit (8-bit by adapter) LVD (low voltage differential signal) max. 15 devices SE (single ended) max. 15 devices (16-bit), 7 devices (8-bit)
	Performance	Ultra2 80MByte/s Wide Ultra 40MByte/s (16-bit), Narrow Ultra 20MByte/s (8-bit) Wide Fast 20MByte/s (16-bit), Narrow Fast 10MByte/s (8-bit)
	Connector SCSI_A	external receptacle (front panel): 68-position HD, screw lock 2-56 UNC
	Connector SCSI_B	internal receptacle: 68-position HD
	total cable length	low voltage differential (LVD) mode: Ultra2 SCSI 12m single ended (SE) mode: Fast SCSI 3m, Ultra SCSI 3m (4 devices), 1,5m (8 devices)
	Termination	active termination, automatically disabled when both SCSI connectors are in use, LVD/SE self configured, termination power fused by Polyswitch 1.25A
	Controller Chip	I/O Prozessor SYM53C895 pre-fetches of 8 SCRIPTS™ dword instructions minimize PCI bus load load and store SCRIPTS™ instruction increases performance includes 4kB internal RAM for SCRIPTS™ instruction storage optimized block transfers at Ultra SCSI clock rates 816-Byte DMA FIFO SCAM (SCSI Configured AutoMatically) level 1 functionality target disconnect/reconnect (interrupt) Symbios TolerANT™ SCSI signal filtering Prefetch von 8 On-chip LVD/SE transceivers, 2kV ESD protection
CompactPCI® Bus	Connector J1	32-bit, 33MHz (133MB/s) 32-bit DMA bus master (133MB/s) PCI burst mode 3.3V or 5V interface
Power Supply	Connector J1	+5V ±5% 1.5A max. (includes termination power) +3.3V ±0.3V 130mA max. +12V ±5% 50mA max. (programming Flash)
Temperature Humidity	Commercial Grade Version	operating temperature 0-70 °C humidity 5-90% non condensing

specifications are subject to change without further notice

Pin Orientation SCSI_A, SCSI_B			
1	GND	SD12#	35
2	GND	SD13#	36
3	GND	SD14#	37
4	GND	SD15#	38
5	GND	SDP1#	39
6	GND	SD0#	40
7	GND	SD1#	41
8	GND	SD2#	42
9	GND	SD3#	43
10	GND	SD45#	44
11	GND	SD5#	45
12	GND	SD6#	46
13	GND	SD7#	47
14	GND	SDP0#	48
15	GND	GND	49
16	GND	CPRSNT_A (B) ¹	50
17	TRMPWR	TRMPWR	51
18	TRMPWR	TRMPWR	52
19	N/C	N/C	53
20	GND	GND	54
21	GND	SATN#	55
22	GND	GND	56
23	GND	SBSY#	57
24	GND	SACK#	58
25	GND	SRST#	59
26	GND	SMSG#	60
27	GND	SSEL#	61
28	GND	SC/D#	62
29	GND	SREQ#	63
30	GND	SI/O#	64
31	GND	SD8#	65
32	GND	SD9#	66
33	GND	SD10#	67
34	GND	SD11#	68

¹ CPRSNT_A (B) is used to sense the connection of a SCSI device by sensing SCSI standard GND on this pin (input signal to the auto termination logic).

Bestellhinweis

Alias Name	Ordering No.	Short Description
FLUTE	CS3-1-FLUTE	3U CompactPCI to Ultra2 SCSI Hostadapter
	CR9-1-ADAPT	6U Front panel expansion kit



CR9-ADAPT

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