



Product Information

CompactPCI[®] IDE/ATA CompactFlash Controller • CE2-HARMONY

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*Industrial computer systems require compact and robust data mass storage solutions. Due to their high reliability, removable CompactFlash cards are best practice for low to medium data capacity. For higher data volume, 2.5-inch hard-disks became very popular in the embedded market. With its CE2-HARMONY EKF introduces an IDE/ATA controller for *CompactPCI*[®] systems, that combines both storage technologies on a single board.*

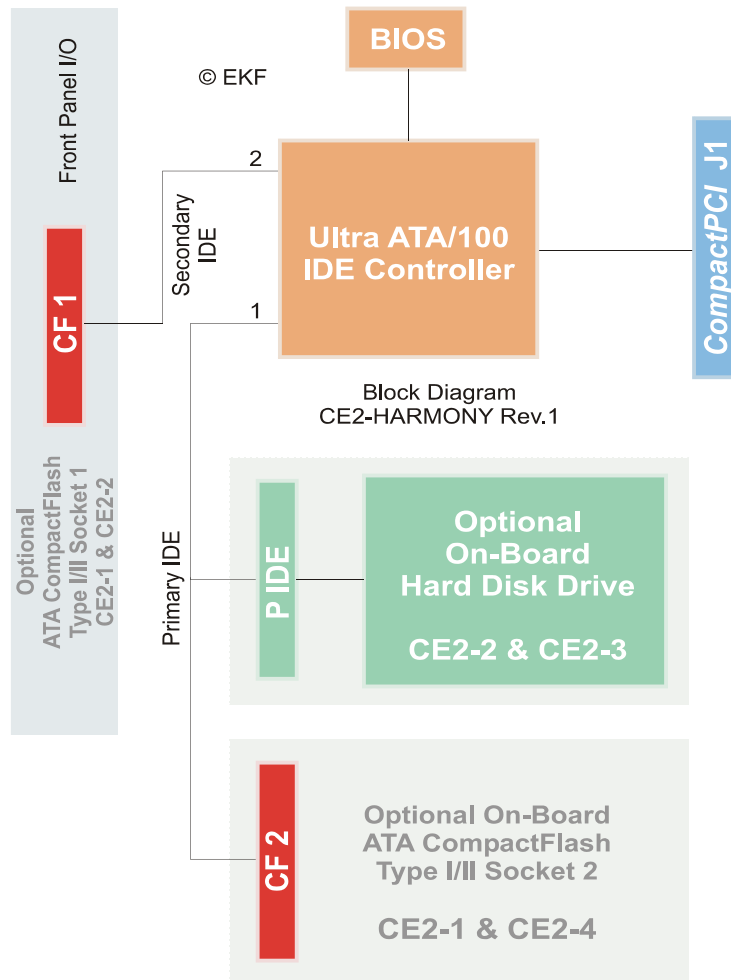
The CE2-HARMONY is a 3U Eurocard. It is provided with two independent CompactFlash sockets for type I or II modules, suitable for ATA True IDE Mode silicon disks and even microdrives. One of the CF card slots is available from the boards front panel (thus allowing usage of removable media), while the other CF slot is situated on-board.

As an option, the CE2-HARMONY can be equipped with an additional 2.5-inch IDE/ATA disk drive. Constructed with portable applications in mind, these hard disks are a proven mass storage solution for rugged environment, offering capacities of 40GB and more.

The CE2-HARMONY host adapter complies to all IDE bus data transfer protocols up to the Ultra ATA/100 standard. Provided with an on-board BIOS, the system can be booted directly from the CompactFlash or HDD. Alternatively, the board can be used in addition to other IDE ports in a system.

The CE2-HARMONY is a compact and versatile industrial storage solution, dealing with fixed and removable media, both available on a single board.





The CE2-HARMONY is based on an integrated Ultra ATA/100 IDE controller. The primary port is routed across the pin header P_IDE, which provides for attachment of an on-board 2.5-inch notebook style hard disk (board versions CE2-2 and CE2-3). The secondary IDE port is wired to the front panel CompactFlash socket CF1, which allows for hot plugging and removing of a CF card. The CompactFlash slot CF2 however requires removing the whole board for a media change, and is available as an alternative to the on-board hard disk only (board versions CE2-1 and CE2-4). The CE2-HARMONY can be used with any popular ATA True IDE Mode CompactFlash type I or II cards, either Flash (silicon disk) or microdrive (rotating disk) modules.

Available by download from the EKF website are drivers for DOS, Windows 95/98/ME, NT4 and Windows 2000. Microsoft native drivers are also compatible to the CE2-HARMONY.

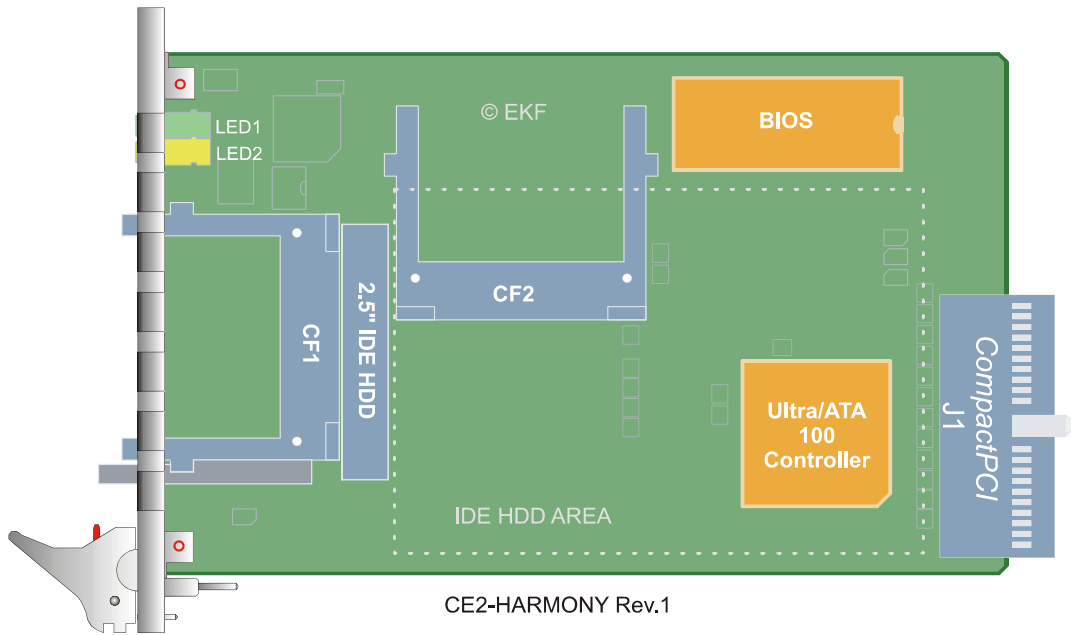
For 6U systems, the front panel of the CE2-HARMONY can be expanded to the full 6U height by a mechanical kit (CR9-ADAPT).



Technical Specifications		
Board	Dimensions	3U Eurocard (100x160mm ²), front panel width 20.3mm (4HP), mechanics constructed with respect to EMC requirements, ejector lever
IDE	General	2 IDE ports, all data transfer modes up to Ultra ATA/66 and Ultra ATA/100 Primary IDE port in use for optional on-board hard-disk, or - alternatively - on-board CompactFlash socket CF2 Secondary IDE Port for front panel CompactFlash socket CF1, hot plugging and removing
	Socket CF1	CompactFlash type I/II socket with ejector, media swap through cutout in the front panel, addressed as secondary IDE Port, +3.3V supply, self resetting electronic fuse 0.5A
	Socket CF2	CompactFlash type I/II socket, fixed media (change requires removing of the board), addressed as primary IDE port, CF2 available as an alternative to the on-board hard disk only, +3.3V supply, self resetting electronic fuse 0.5A
	Connector P_IDE	2x22 position metric pin row 2.00mm, suitable for attachment of an optional on-board hard-disk by micro-ribbon flat cable, +5V supply, self resetting fuse 1.25A, addressed as primary IDE port
	Data Rates Transfer Modes	PIO modes 0-4 (max. 16.6MB/s) MDMA modes 0-2 (max. 16.6MB/s) UDMA modes 0-4 (max. 66.6MB/s) UDMA mode 5 (max. 100MB/s)
<i>CompactPCI</i> [®] Bus	Connector J1	32-Bit, 33MHz, DMA bus master (133MB/s) 3.3V or 5V interface
LED Display	Front Panel	2x2 LED array, power and activity of the on-board HDD, activity CompactFlash socket CF1, activity CompactFlash socket CF2
Drivers	Download	<i>Windows 95/98/ME, NT4, Windows 2000, DOS</i> Compatible to native Windows and native Linux IDE drivers
Power Requirements	Connector J1	+5V ±5% 0.1A max. (consumption of the optional on-board hard-disk drive not included) +3.3V ±0.3V 0.2A max. (consumption of the CompactFlash cards not included)
Temperature Humidity	Commercial Grade Version	Operating temperature 0-70°C (0-55°C option on-board HDD) Humidity 8-90% non condensing
Option on-Board HDD	Connector P_IDE	2.5" HDD, 100MB/s, e.g. IBM Travelstar, typical power consumption 1.3W (5W start, 2.5W read/write), typical immunity against mechanical shock (operational) 175G, 0-55°C environmental temperature

subject to change without further notice

Component Assembly



CE2-3



CE2-1



CE2-2



CE2-3



CE2-4

Ordering Information		
Alias	Ordering No.	Short Description
HARMONY	CE2-1-HARMONY	3U CompactPCI Dual ATA CompactFlash controller, 2 CompactFlash sockets (media not included), 1 slot internal, 1 slot external (front panel)
HARMONY	CE2-2-HARMONY	3U CompactPCI ATA CompactFlash controller, 1 CompactFlash socket available from the front panel, with Ultra ATA/100 hard-disk on-board
HARMONY	CE2-3-HARMONY	3U CompactPCI ATA/IDE controller, with Ultra ATA/100 hard-disk on-board, CompactFlash sockets removed
HARMONY	CE2-4-HARMONY	3U CompactPCI ATA CompactFlash controller, 1 internal CompactFlash socket, closed front panel
	CR9-1-ADAPT	Mechanical kit, expands front panel to 6U



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