



Product Information

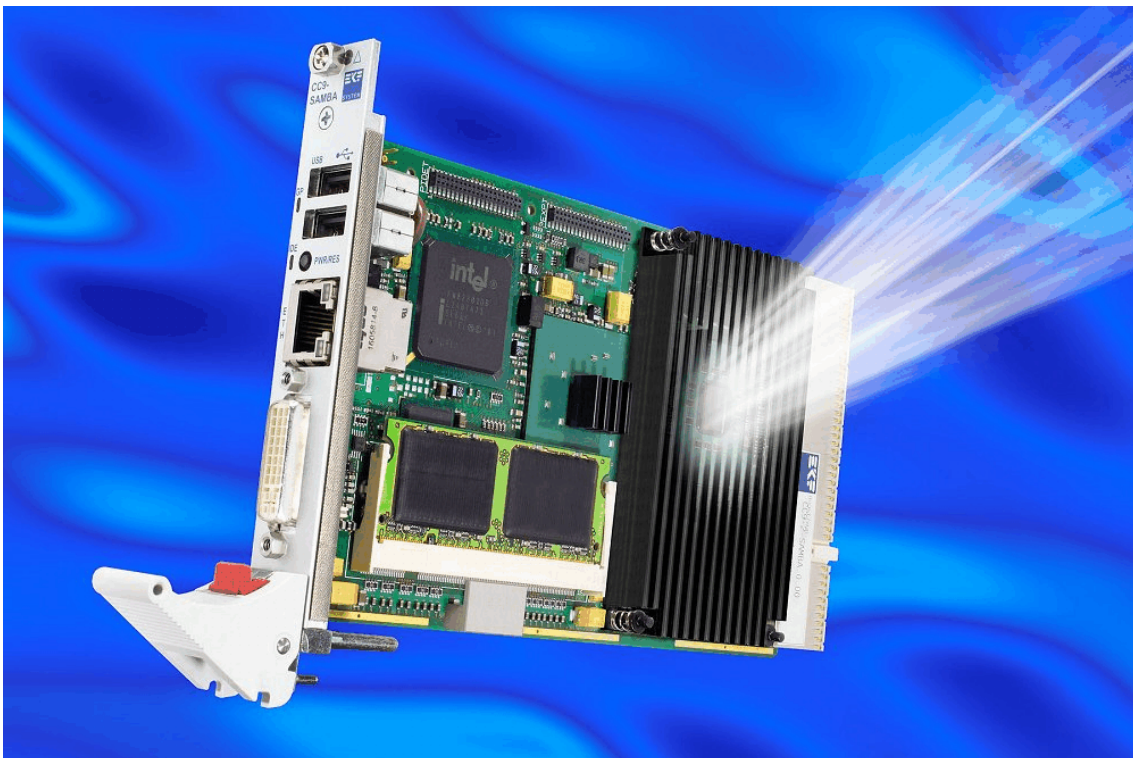
CompactPCI® Pentium® M CPU • CC9-SAMBA

Document No. 3240 • Edition 2009-09

Alternatively equipped with the Intel® series of (LV) Pentium® M and ULV Celeron® M processors and up to 1GB RAM, the CC9-SAMBA is a versatile 4HP/3U (single size Eurocard) CompactPCI® CPU board, designed especially for systems which require low power consumption.

Available with a variety of processors, starting with the ULV 600MHz Celeron® M up to the 2.0GHz Pentium® M Dothan755, the CC9-SAMBA covers a wide range of industrial applications.

The DVI-I video interface allows for attachment of both, advanced (digital) and legacy (analog) flat panel displays and CRT monitors (D-SUB connector optionally). The CC9-SAMBA is provided with a Gigabit Ethernet controller. An on-board socket accommodates either a CompactFlash memory card or Microdrive®, or an 1.8-inch hard disk module (option). The local expansion interface connector may be used to directly attach a mezzanine companion I/O board, which can carry in addition a 2.5-inch hard disk drive. As an option, rear I/O across the J2/P2 connector is available.



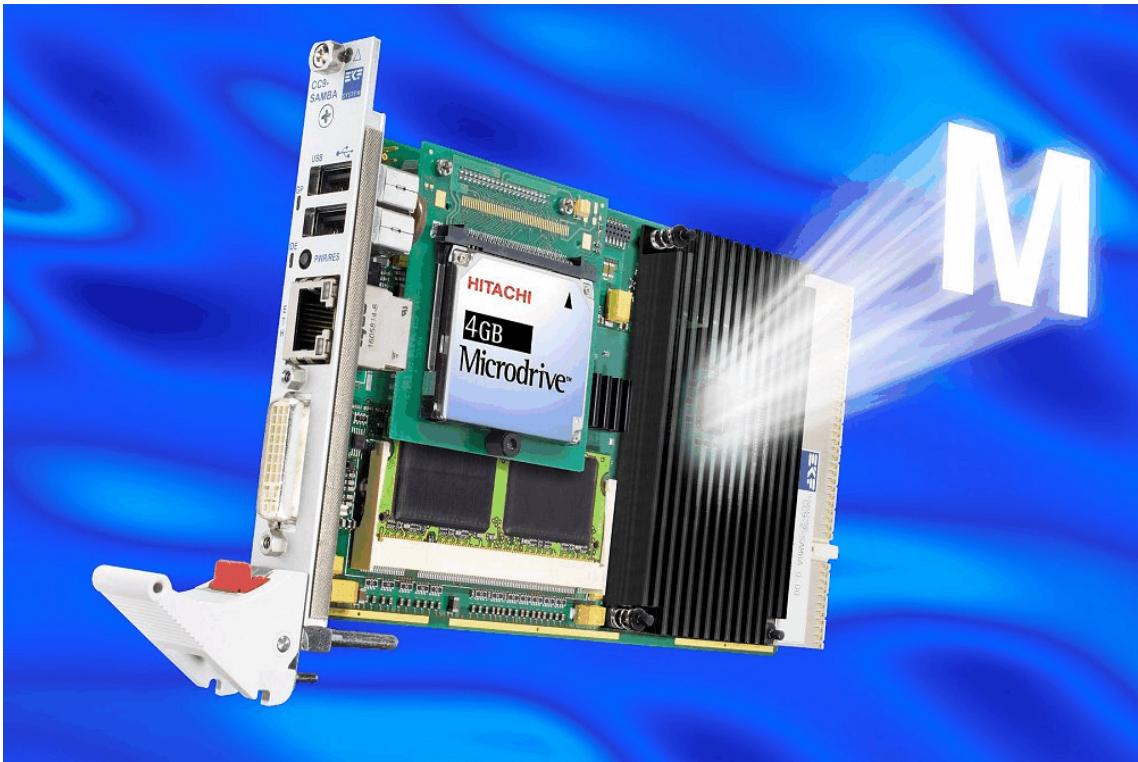
CC9-SAMBA

Feature Summary CC9-SAMBA

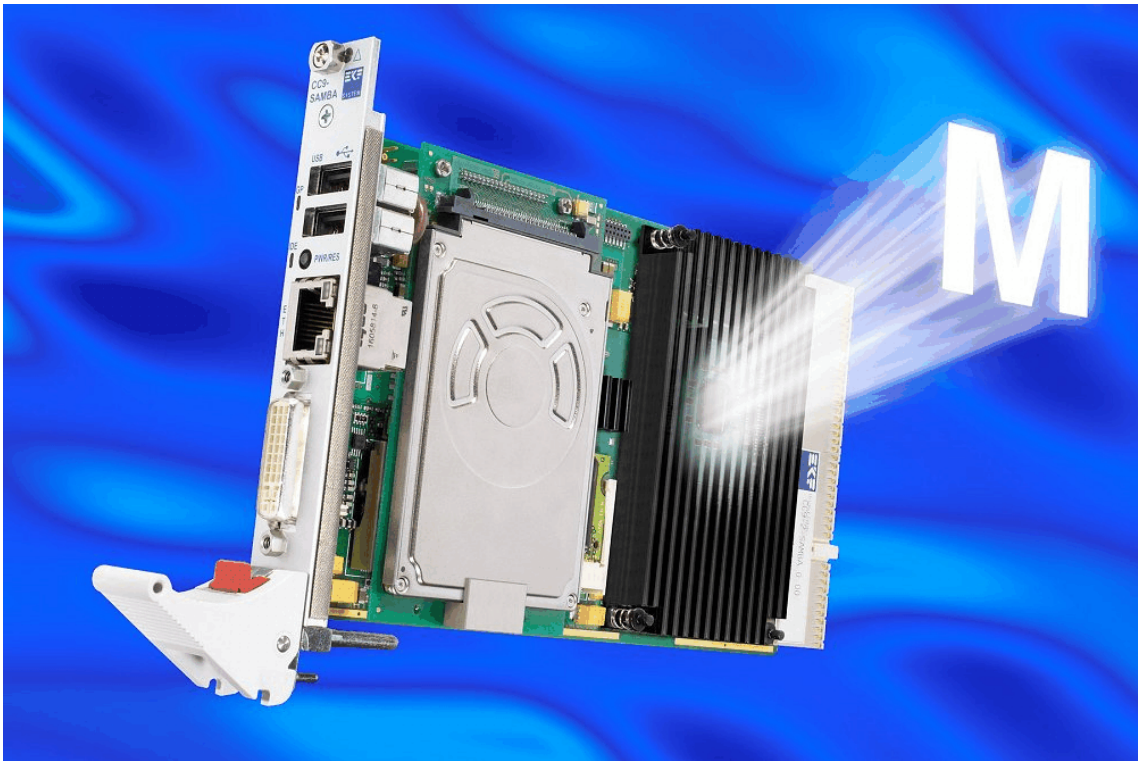
Form Factor	Single size <i>CompactPCI</i> style Eurocard (160x100mm ²), front panel width 4HP (20.3mm)
Processor	Designed for Intel® Pentium® M Micro FC-BGA 479 processors (0.13µ Banias, 0.09µ Dothan), maximum junction temperature 100°C <ul style="list-style-type: none"> • CC9-1: 600MHz ULV Celeron® M, 512KB L2 cache, 7W • CC9-2: 1.0GHz ULV Celeron® M (Dothan 373), 512KB L2 cache, 5W • CC9-3: 1.4GHz LV Pentium® M (Dothan 738), 2MB L2 cache, 10W • CC9-5: 1.8GHz Pentium® M (Dothan 745), 2MB L2 cache, 21W • CC5-6: 2.0GHz Pentium® M (Dothan 755), 2MB L2 cache, 21W
Chipset	Intel® i855 chipset consisting of: <ul style="list-style-type: none"> • 82855GME Graphics/Memory Controller Hub (GMCH) - Montara • 82801D I/O Controller Hub (ICH4) • 82802 Compatible Firmware Hub (FWH)
Memory	200-pin SO-DIMM socket (notebook style module), PC2100/2700 DDR266/333-SDRAM, 1GB maximum
Video I/O	Analog monitor and digital flat-panel display support by DVI-I connector (front panel), up to 2048x1536 pixel 16M colours @75Hz refresh rate (analog), up to 1600 x 1200 pixel 16M colours @60Hz (digital), incorporates Panellink Digital technology (Silicon Image). <ul style="list-style-type: none"> • Front panel option: D-Sub (female HD15) VGA connector available, replaces DVI-I connector • Rear I/O option: Analog video across J2/P2 (CCR-RIO rear I/O transition module)
USB I/O	All ports over-current protected, data transfer rate of up to 480Mbps, conforming to USB2.0 <ul style="list-style-type: none"> • USB port 1: Type A connector (front panel) • USB port 2: Type A connector (front panel) • USB ports 3/5: J2/P2 Rear I/O option (CCR-RIO rear I/O transition module) • USB ports 4/6: Expansion interface option (CCA-LAMBADA/CCB-BOSSANOVA mezzanine companion board)
Ethernet I/O	<ul style="list-style-type: none"> • Standard 10/100/1000Mbps Gigabit Ethernet controller 82541ER, accessible via RJ45 jack from the front panel or as an option across J2/P2 with attached CCR-RIO rear I/O transition module • Jumbo Frame support up to 16KB • Option 82541PI Gigabit Ethernet controller (replaces 82541ER), Virtual LAN support, IEEE 802.1Q VLAN tag insertion and stripping and packet filtering for up to 4096 VLAN tags • Option 10/100 Ethernet (secondary LAN port), accessible via expansion connector LCI (LAN Connect Interface ICH4), requires 82562 PHY on expansion board (CCB-BOSSANOVA)
Mezzanine I/O	<ul style="list-style-type: none"> • On-board LPC/USB/AC97 Super-I/O, USB and audio expansion interface connector • Suitable CCA-LAMBADA/CCB-BOSSANOVA mezzanine companion boards available • On-board LCI (LAN Connect Interface) connector for an additional Ethernet port (suitable mezzanine companion board CCB-BOSSANOVA)
IDE/ATA	<ul style="list-style-type: none"> • Ultra ATA/100 connector (Secondary IDE), handover to CCA-LAMBADA/CCB-BOSSANOVA mezzanine expansion board with optional on-board 2.5-inch hard disk drive or external device • CompactFlash socket for a CFA ATA memory card or Microdrive® (Secondary IDE) • Option 1.8-inch on-board hard disk module (Secondary IDE), replaces CompactFlash facility • J2/P2 Rear I/O option: Primary IDE accessible from CCR-RIO rear I/O transition module CCR-RIO
<i>CompactPCI</i>	32-bit PCI bridge chip PLX PCI 6150 (HB4), 133MBps CPCI master

Feature Summary CC9-SAMBA					
J2/P2 Rear I/O	<ul style="list-style-type: none"> • Primary IDE • GB Ethernet • USB Ports 3, 5 • VGA Analog Video • Keyboard, Mouse • COM1 (TTL Level) • Suitable rear I/O transition module CCR-RIO available 				
BIOS	Phoenix BIOS				
Drivers (All Major OS)	<ul style="list-style-type: none"> ▶ Intel graphics drivers ▶ Intel networking drivers 				
Typical Power Requirements	Board	+3.3V +0.17V/-0.1V		+5V +0.25V/-0.15V	
		MaxPower	WinXP Idle	MaxPower	WinXP Idle
	CC9-1-SAMBA				
	CC9-2-SAMBA	1.9A	1.9A	1.4A	0.7A
	CC9-3-SAMBA				
	CC9-6-SAMBA				
Thermal Conditions Environmental Conditions	<ul style="list-style-type: none"> • Operating temperature: 0°C ... +70°C (CPU dependent) • Storage temperature: -40°C ... +85°C, max. gradient 5°C/min • Humidity 5% ... 95% RH non condensing • Altitude -300m ... +3000m • Shock 15g 0.33ms, 6g 6ms • Vibration 1g 5-2000Hz 				
EC Regulations	EN55022, EN55024, EN60950-1 (UL60950-1/IEC60950-1)				
MTBF	90 x 10 ³ h ~ 10 years (CC9-3 @ 50°C)				
Performance Rating	Board	Processor		CPU/MEM Score	
	CC9-1-SAMBA	600MHz ULV Celeron® M (Banias)		1986/2645	
Measured with PCMark2002 under Windows XP, 512MB PC2700 DDR	CC9-2-SAMBA	1.0GHz ULV Celeron® M (Dothan 373)		3386/3274	
	CC9-3-SAMBA	1.4GHz LV Pentium® M (Dothan 738)		4745/8489	
	CC9-5-SAMBA	1.8GHz Pentium® M (Dothan 745)		6143/10609	
	CC9-6-SAMBA	2.0GHz Pentium® M (Dothan 755)		6773/11398	

subject to changes



CC9-SAMBA with CF Microdrive (or CF Flash Card)



CC9-SAMBA with 1.8-Inch HD Option



CompactFlash Adapter Module for CC9-SAMBA

The CC9-SAMBA comes with a CompactFlash adapter module, which is suitable to hold a silicon memory CF card or Microdrive hard disk. If the CC9-SAMBA is accompanied by a mezzanine expansion module such as the CCA-LAMBADA or CCB-BOSSANOVA, the position of the CompactFlash adapter module changes to the mezzanine card.

Optionally an on-board 1.8-inch hard disk module is available. When ordered, it replaces the CompactFlash adapter module (please request for a special solution which allows to use both the CF slot and the 1.8-inch drive simultaneously, see also lower picture on pg. 7).



1.8-Inch on-Board Hard Disk Module for CC9-SAMBA



CC9-SAMBA & CCR-RIO



CC9-SAMBA & CCR-RIO



CCR-RIO



CC9-SAMBA / CCB-BOSSANOVA with front panel CF Card slot & on-board hard disk

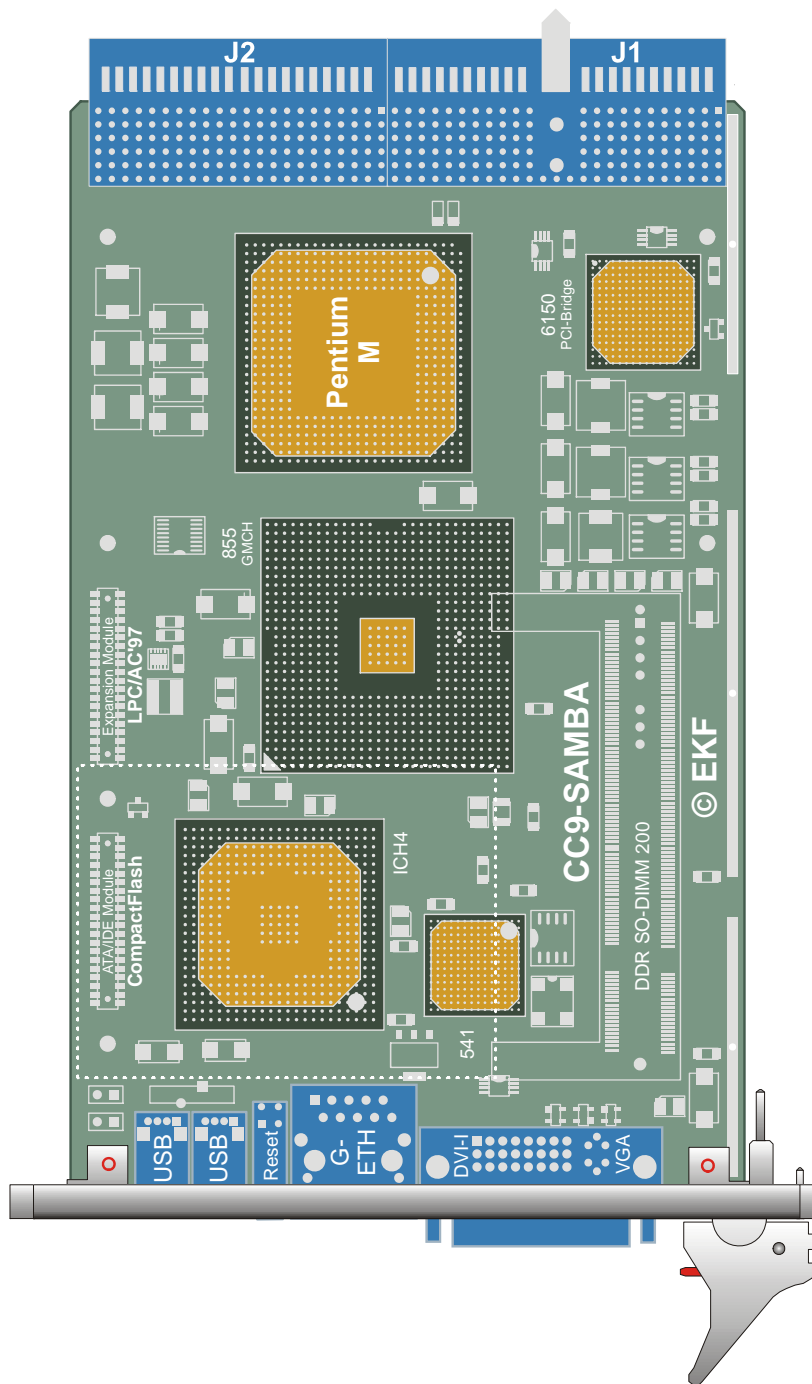


CCA-LAMBADA mounted on top of the CC9-SAMBA, with hard disk option

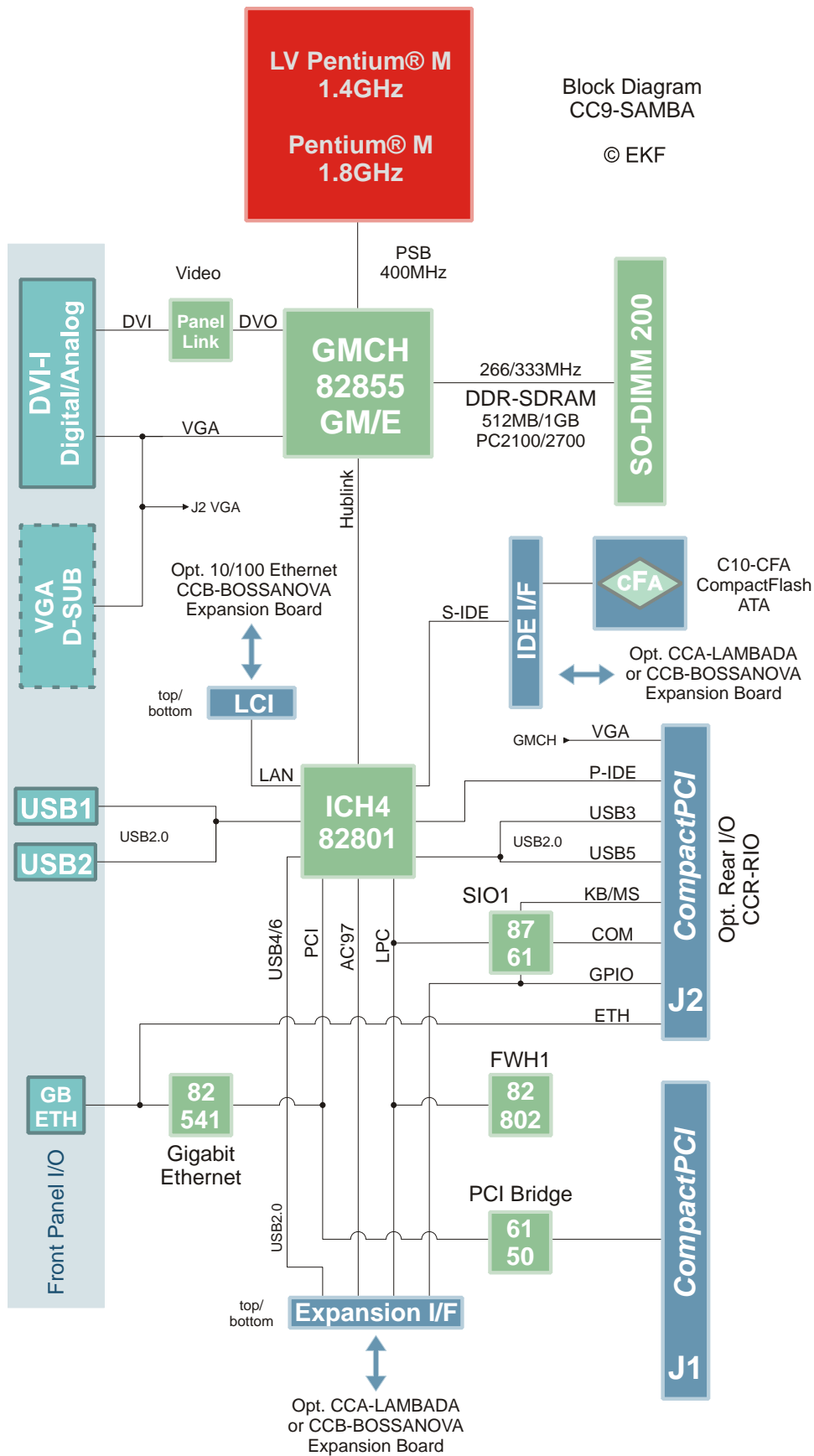


CCA-LAMBADA mounted on bottom of the CC9-SAMBA

Top View Assembly Drawing CC9-SAMBA



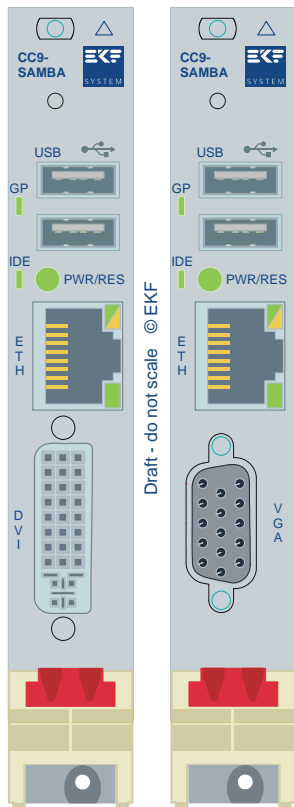
Block Diagram CC9-SAMBA



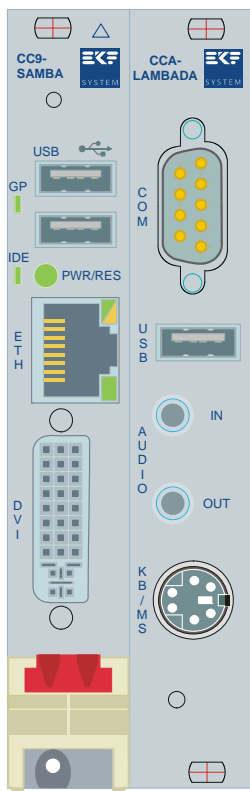
Block Diagram
CC9-SAMBA

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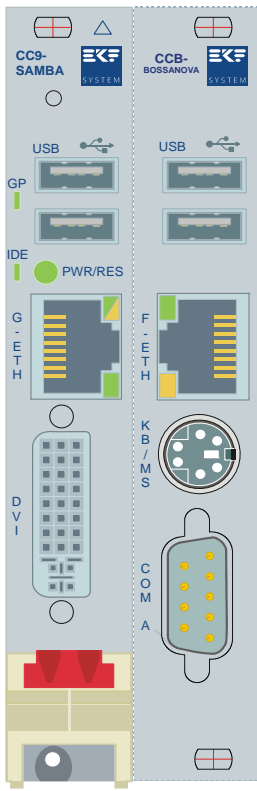
Front Panel Options DVI/VGA CC9-SAMBA



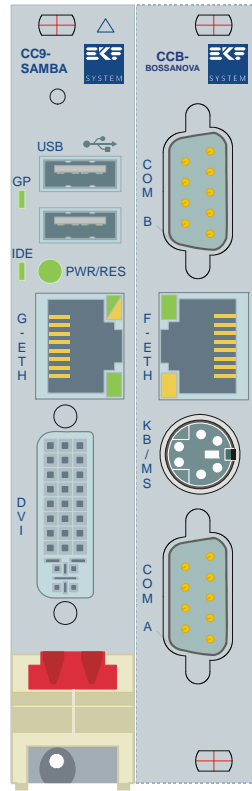
Front Panel CCA-LAMBADA, CCB-BOSSANOVA



CCA-LAMBADA
(Mounting on top of CC9)

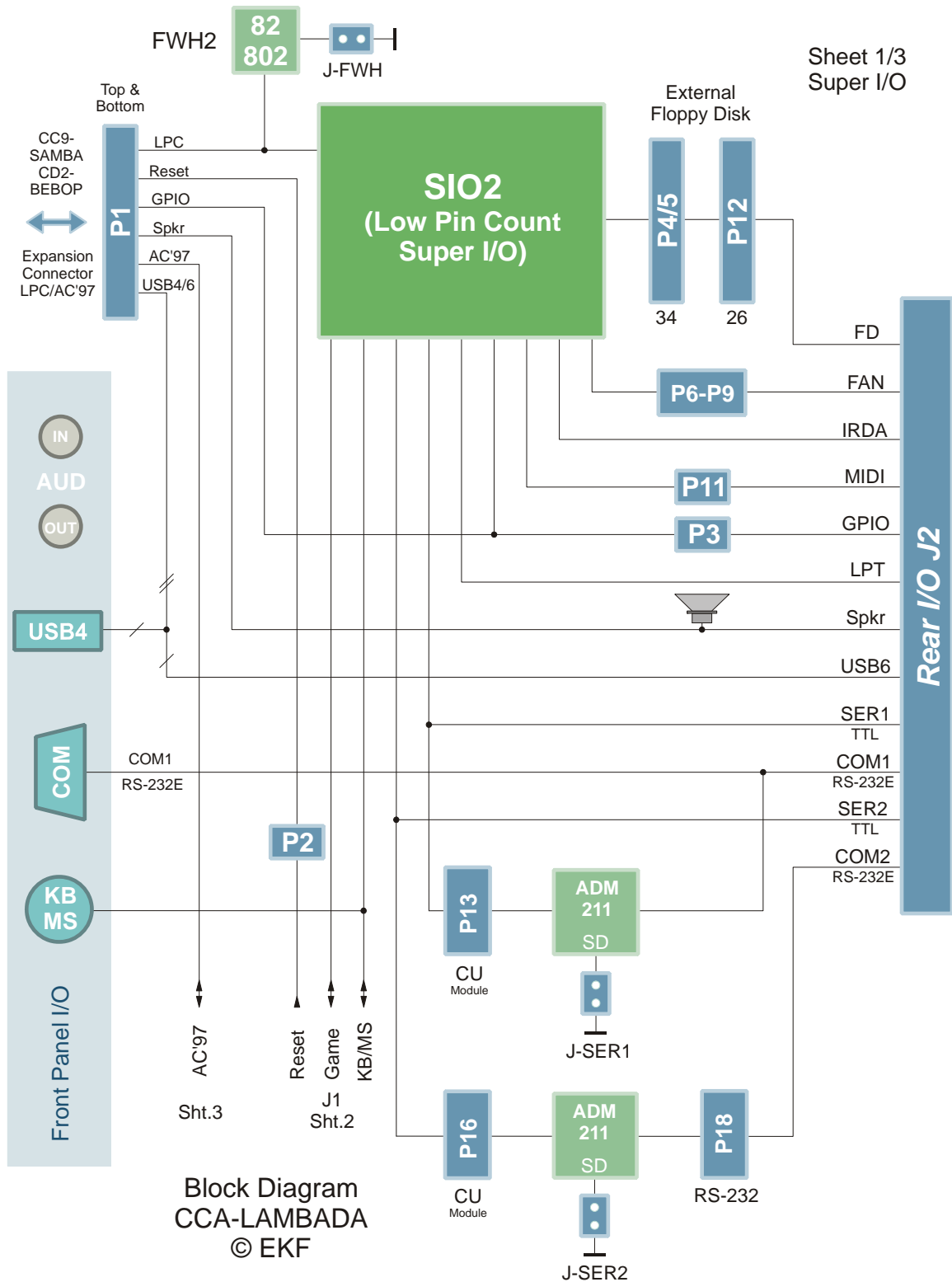


CCB-1-BOSSANOVA
(Top Mounting on CC9)



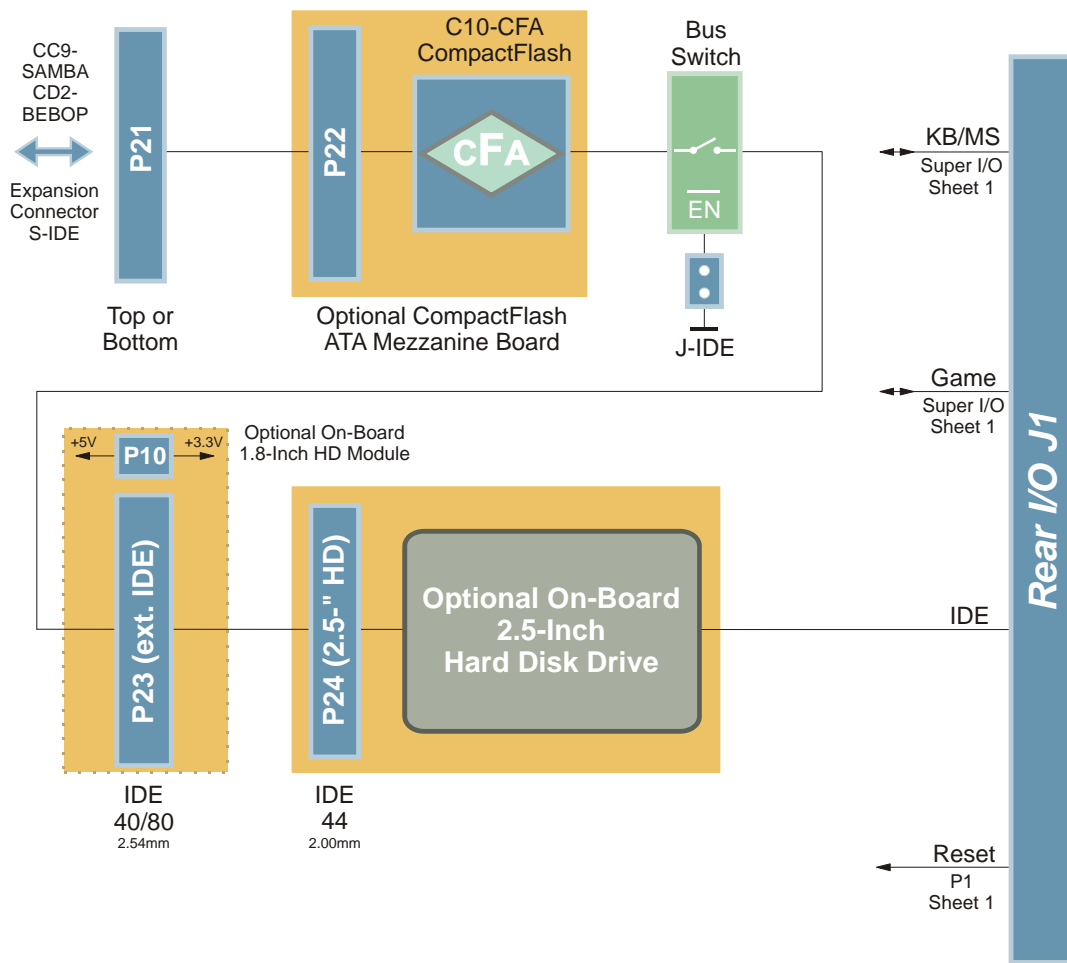
CCB-2-BOSSANOVA
(Top Mounting on CC9)

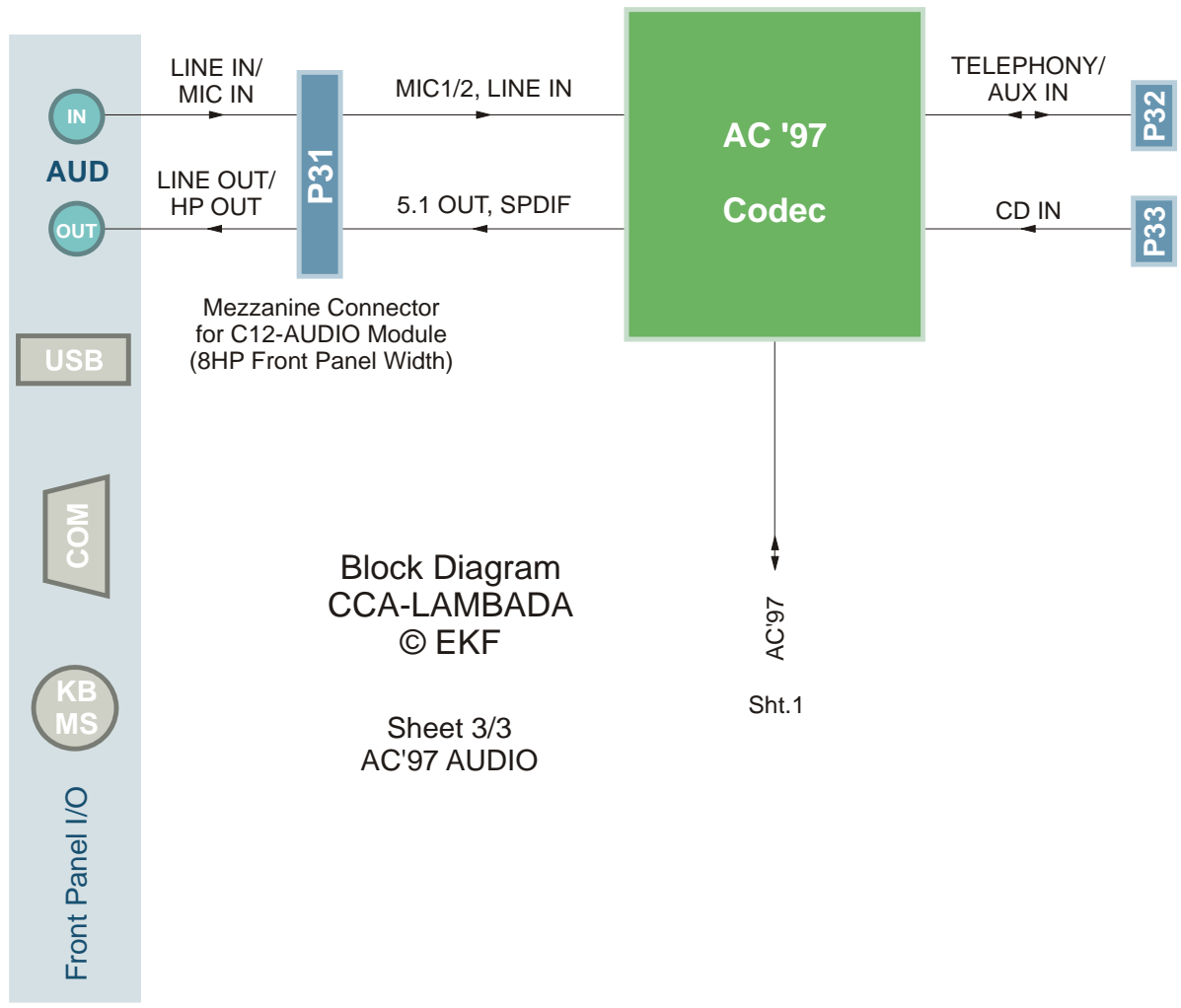
Block Diagram CCA-LAMBADA



Block Diagram
CCA-LAMBADA
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Sheet 2/3
IDE Storage Options

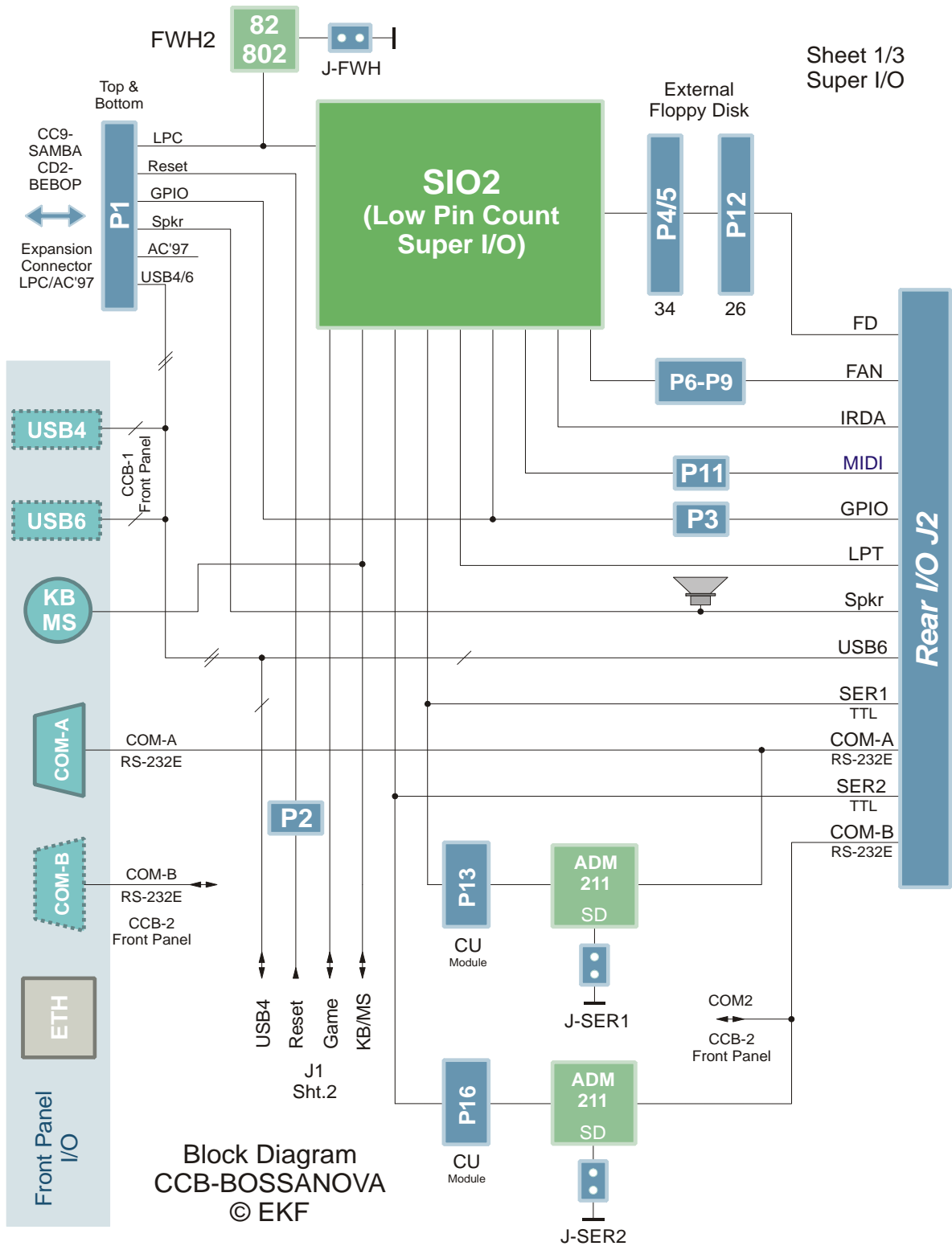




Block Diagram
CCA-LAMBADA
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Sheet 3/3
AC'97 AUDIO

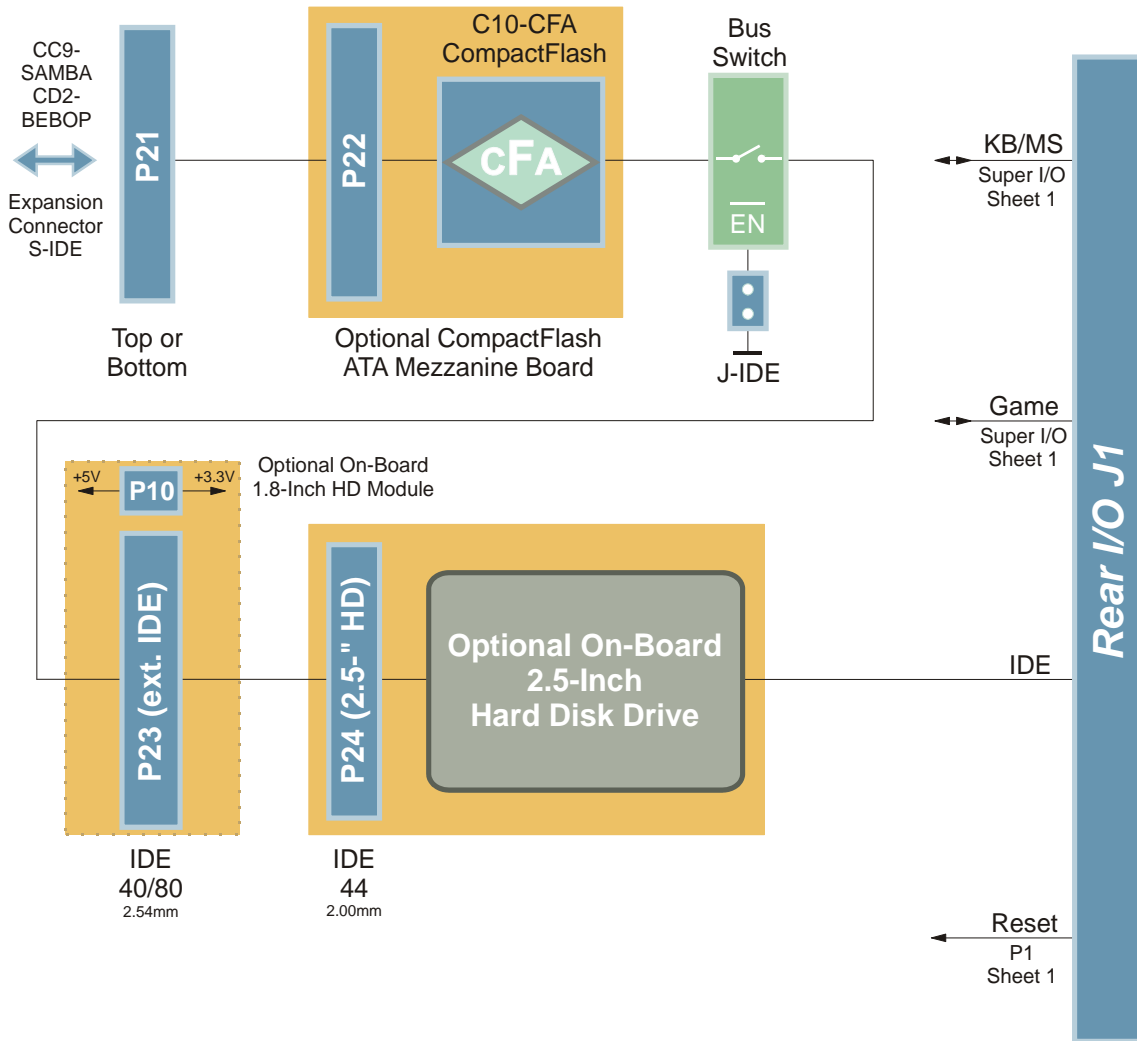
Block Diagram CCB-BOSSANOVA

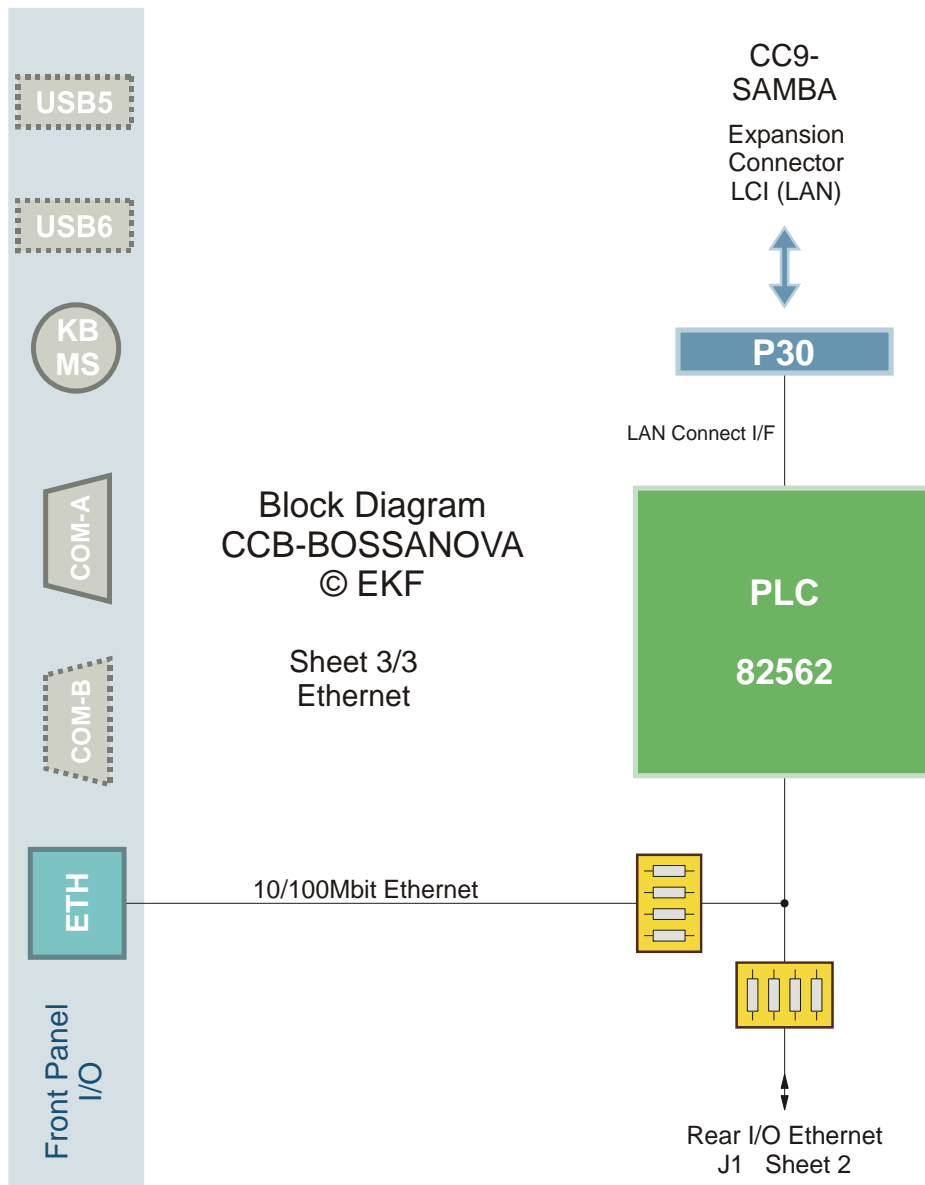


Sheet 1/3
Super I/O

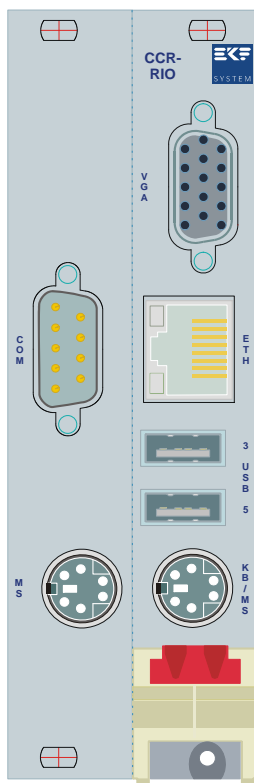
Block Diagram
CCB-BOSSANOVA
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Sheet 2/3
IDE Storage Options

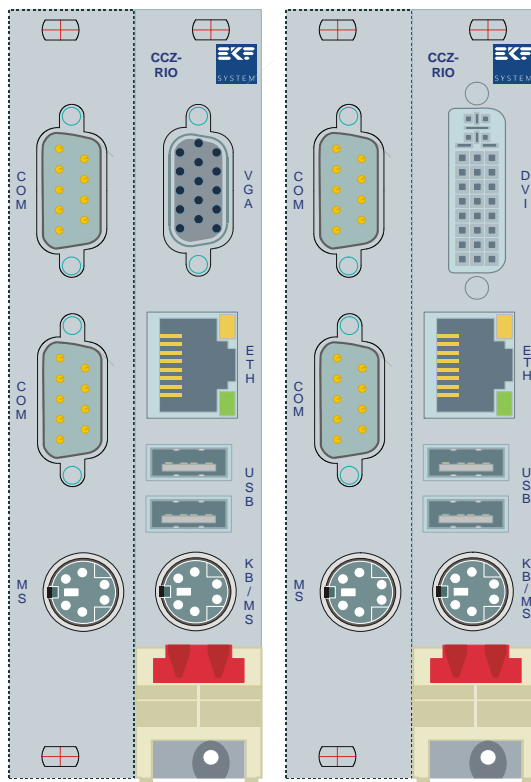




Rear Panel CCR-RIO, CCZ-RIO



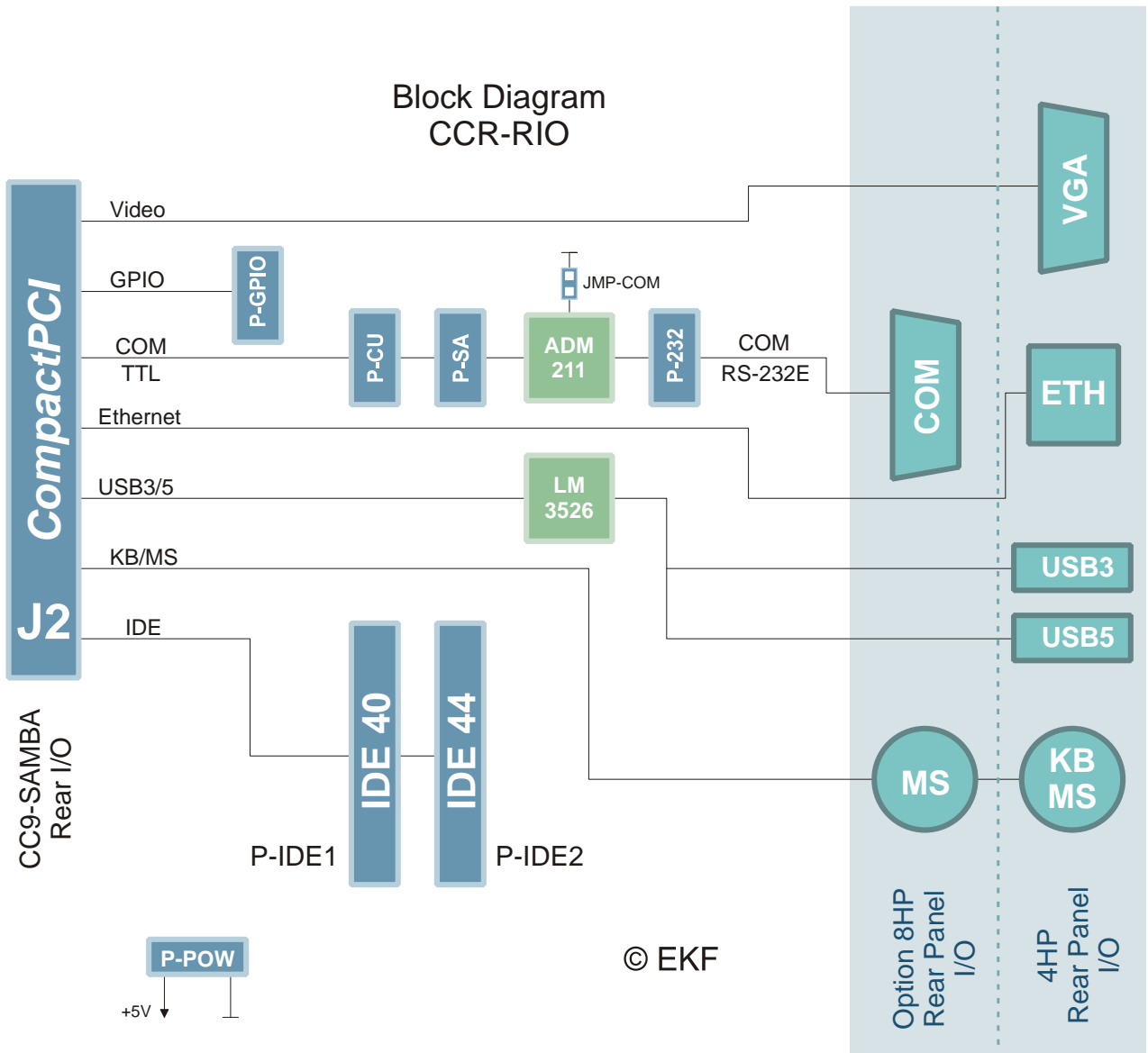
CCR-RIO 4/8HP



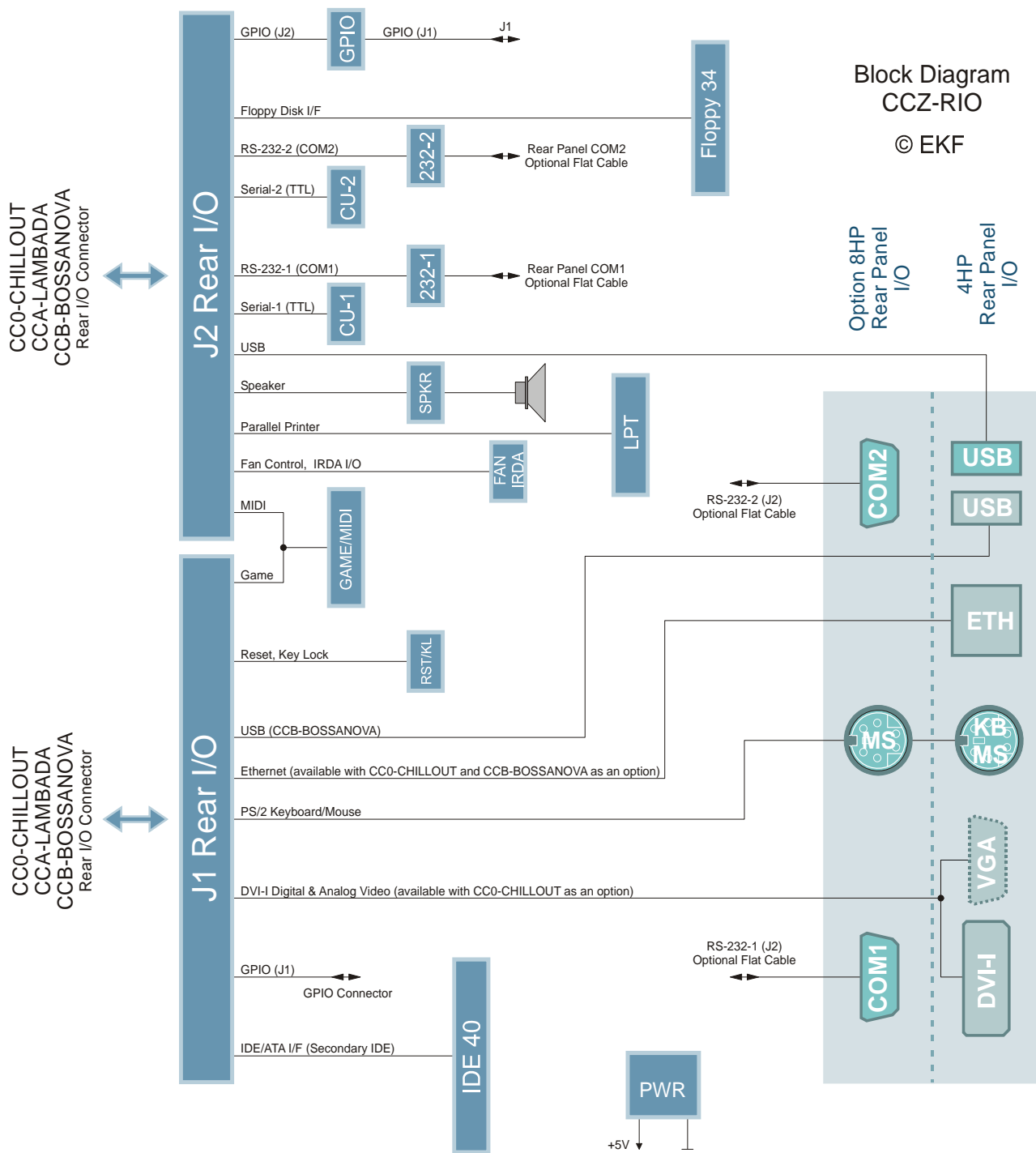
CCZ-RIO 4/8HP
(VGA Video Output)

CCZ-RIO 4/8HP
(DVI-I Video Output)

Block Diagram CCR-RIO



Block Diagram CCZ-RIO

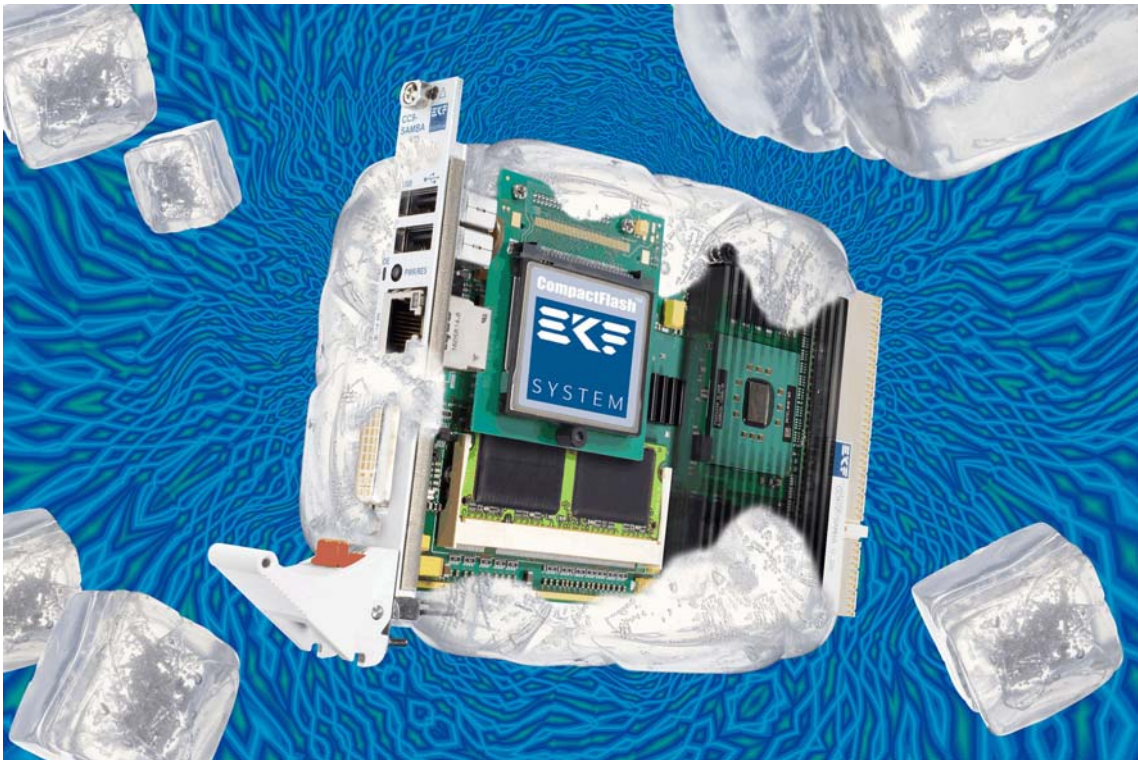


Block Diagram
CCZ-RIO
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Ordering Information	
Ordering No.	Short Description
CC9-1(R)-SAMBA	3U/4HP CPCI CPU Board, 600MHz ULV Celeron® M, 512MB DDR SDRAM, GB Ethernet, DVI-I video, CompactFlash slot
CC9-2(R)-SAMBA	Similar to CC9-1-SAMBA, 1.0GHz ULV Celeron® M Dothan 373
CC9-3(R)-SAMBA	Similar to CC9-1-SAMBA, 1.4GHz LV Pentium® M Dothan 738
CC9-5(R)-SAMBA	Similar to CC9-1-SAMBA, 1.8GHz Pentium® M Dothan 745
CC9-6(R)-SAMBA	Similar to CC9-1-SAMBA, 2.0GHz Pentium® M Dothan 755
CC9-A(R)-SAMBA	Similar to CC9-1-SAMBA, VGA video connector
CC9-B(R)-SAMBA	Similar to CC9-2-SAMBA, VGA video connector
CC9-C(R)-SAMBA	Similar to CC9-3-SAMBA, VGA video connector
CC9-E(R)-SAMBA	Similar to CC9-5-SAMBA, VGA video connector
CC9-F(R)-SAMBA	Similar to CC9-6-SAMBA, VGA video connector
CCA-1-LAMBADA	3U Super-I/O module, local expansion board complementing the CC9-SAMBA, front panel width 4HP, with PS/2 keyboard/mouse, RS-232, optional audio connectors & AC'97 Codec, mounting on top or bottom of the CC9-SAMBA
CCB-1-BOSSANOVA	3U Super-I/O module, local expansion board complementing the CC9-SAMBA, front panel width 4HP, 10/100 Ethernet, 2 x USB, 1 x RS-232, PS/2 keyboard/mouse mounting on top or bottom of the CC9-SAMBA
CCB-2-BOSSANOVA	3U Super-I/O module, local expansion board complementing the CC9-SAMBA, front panel width 4HP, 10/100 Ethernet, 2 x RS-232, PS/2 keyboard/mouse mounting on top or bottom of the CC9-SAMBA
CCR-1-RIO	Rear I/O transition module for CC9-SAMBA
CR9-5-ADAPT	Mechanical kit, expands the CC9 front panel to 6U full height
280.7.400	External keyboard/mouse Y-splitter-cable Mini-DIN male to 2 x Mini-DIN female
908.51.02.01	DVI-D to DVI-D cable assembly, 2m, connects the CC9-SAMBA with DVI-I video connector to DVI monitors (digital way)
908.57.02.01	DVI-I to HD DSUB15 cable assembly, 2m, connects the CC9-SAMBA with DVI-I video connector to VGA monitors (analog way)
908.57.12.01	DVI-I to VGA adapter (plug to receptacle), to be plugged onto the CC9-SAMBA DVI output, with HD DSUB15 socket, suitable especially for analog monitors with firmly attached VGA cable

CC9-*-SAMBA: suitable for 64-bit CPCI J2/P2 backplane

CC9-*R-SAMBA: suitable for rear I/O across J2

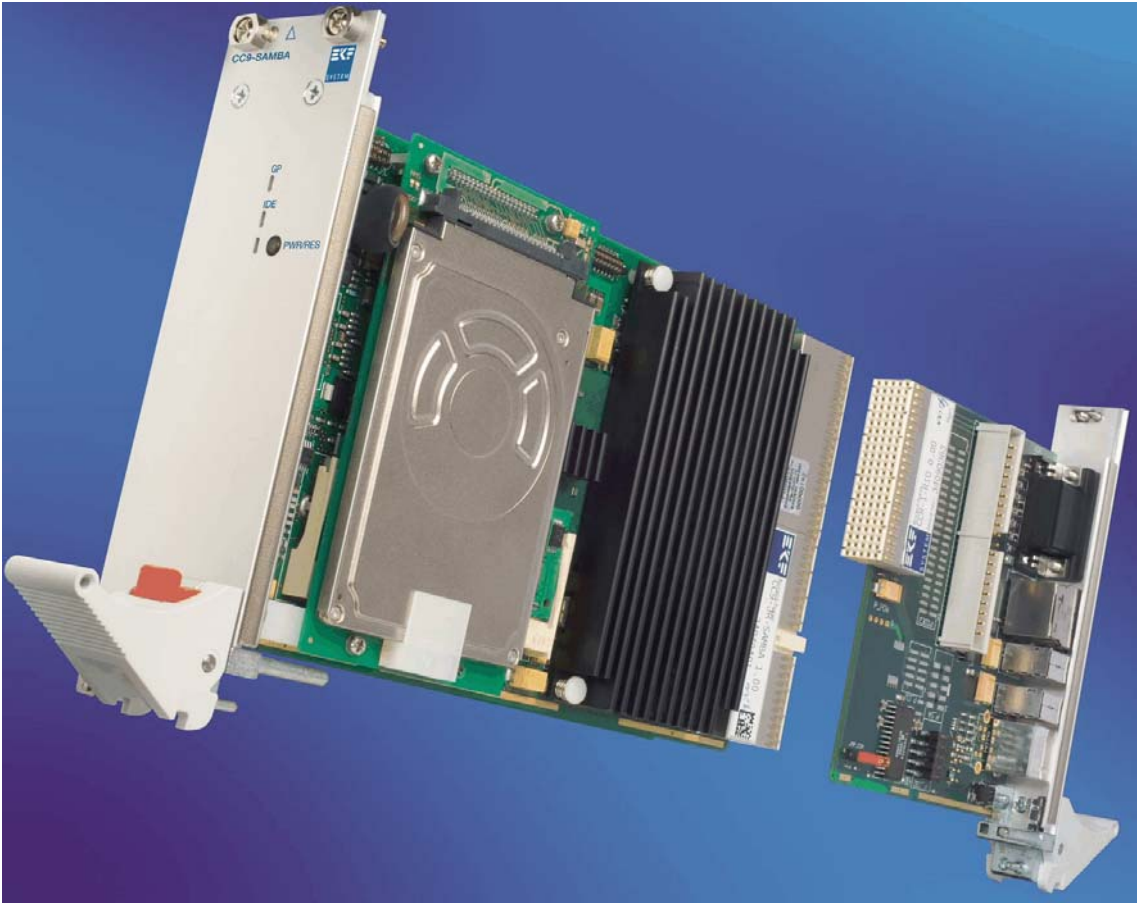


Cool Runnings ... with CC9-SAMBA





CC9-SAMBA w. Custom Specific Front Panel



CC9-SAMBA w. Custom Specific Front Panel & on-Board Hard Disk



C29-RIO (Similar to CCR, Internal I/O Usage)



C29-RIO



CC9-SAMBA with CCB-BOSSANOVA Mounted on Top



boards. systems. solutions.

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