

In-Circuit Emulator for PowerPC

MPC821
MPC860

- Support all family members
- 20 MHz zero-waitstate emulation
- 3.3V support
- C, C++ support
- Interface with all compilers
- RTOS support
- TPU debugger
- Software compatible JTAG/BDM Debugger
- Premapper for 32 bit emulation
- Trace on show-cycles
- Cache trace
- CASE tools interface
- Windows95, NT and Xwindows interface

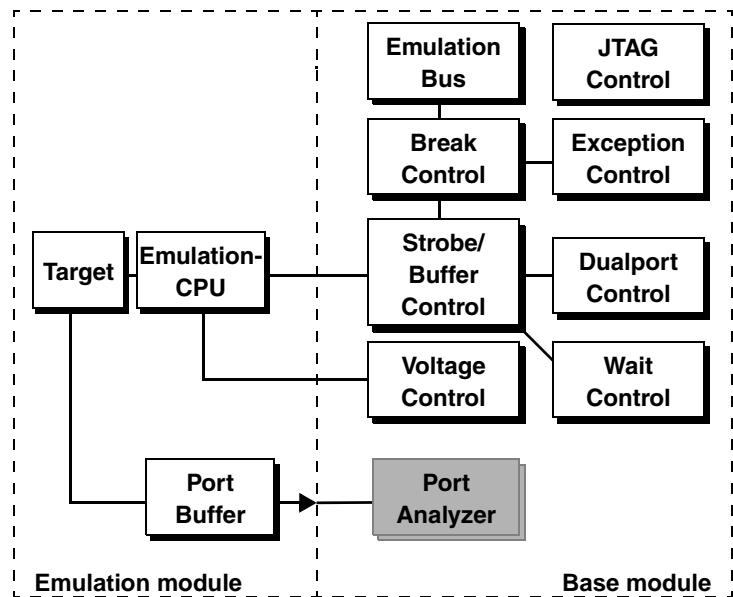
TRACE32-PPC supports most members of the PowerPC family from Motorola and IBM. The modular and open technology of the system allows the fast integration of new chip designs.

TRACE32-ICD for PowerPC is a software compatible highly cost effective debugger via the BDM/JTAG interface.

TRACE32 works with the highest variety of host interfaces. The communication link to the host is done by the printer port, a fibre optic interface or ethernet allowing a high speed transfer.

Features

Basics of Operation



The ICE-PPC is a high-performance emulation system for most PowerPC controllers.

On the emulation base there is an extra slot for the TRACE32 Port Analyzer. Depending on CPU type various signals can be traced. S

Operating Modes

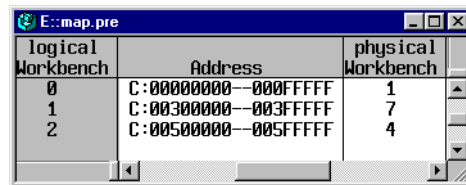
The Emulator can work in stand-alone mode with internal clock or in active mode with internal or the target clock. On power-down of the target system the emulator tristates its output buffers and isolates its internal emulation circuits.

- Reset Down
- Reset Up
- No Probe
- Alone Internal
- Alone External
- Emulation Internal
- Emulation External

Voltage and Clock Monitors for the Target System

This feature prevents failures caused by missing clock or undervoltage.

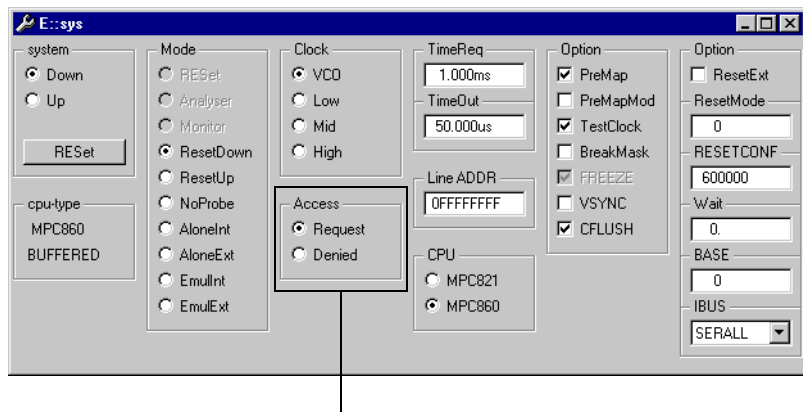
Premapper for 32 Bit Emulation



logical Workbench	Address	physical Workbench
0	C:00000000--00FFFFFF	1
1	C:00300000--003FFFFFF	7
2	C:00500000--005FFFFFF	4

- Normal premapper
- CS premapper for fast mapping

Dual-Port Access



Dual port access mode

All TRACE32 memories are dual-ported. The dual-port access makes it possible to display and modify the contents of the overlay memory, to set or delete breakpoints or use the flag memory while the application is running in real-time.

The following dual-port access mode is implemented:

- Request

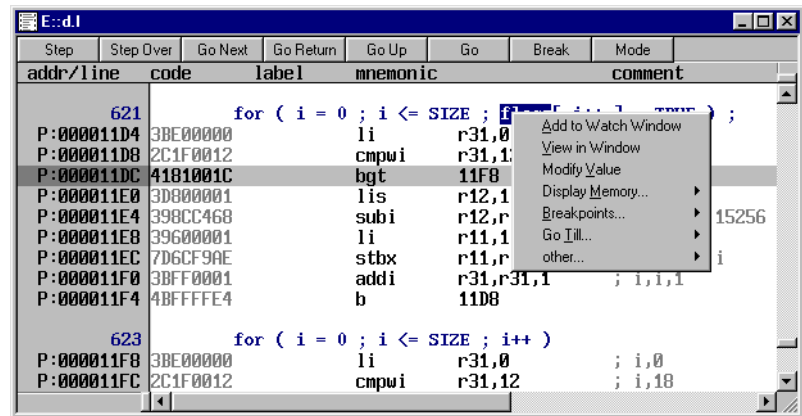
In the **Request mode** the dual port access is always possible.

In the **Denied mode** the dual port access is switched off.

Clock

- Operation with external or internal clock
- 0.75..35 MHz internal clock can be chosen using an VCO.

HLL Debugging

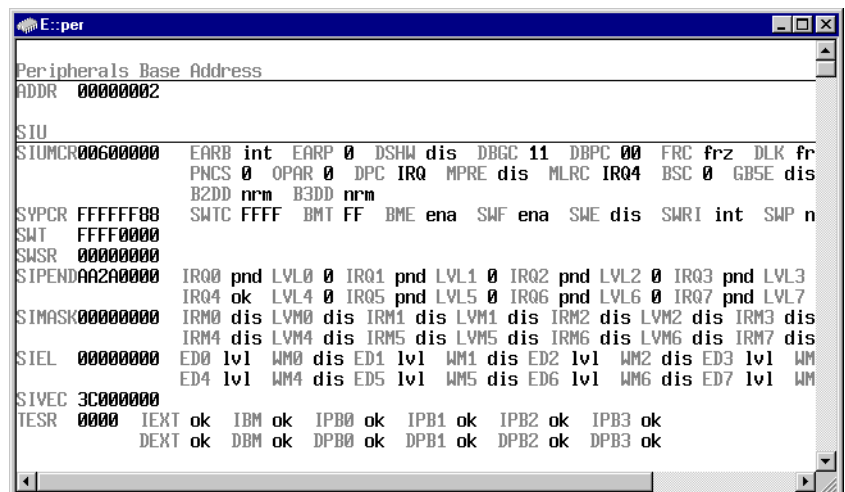


The TRACE32 debugger provides a interface to C and C++ for all standard compilers. For more information on the supported compilers refer to the section "Debug Interfaces".

Full support in real-time for:

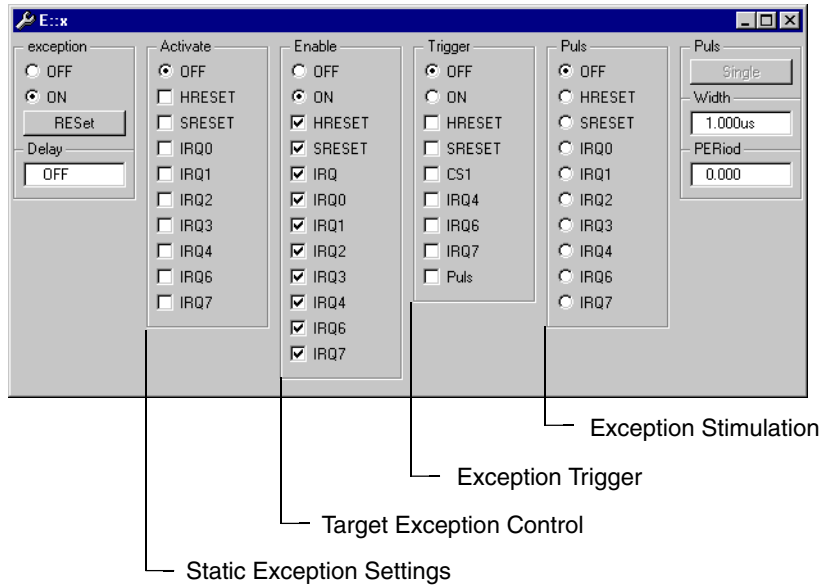
- Break-before-line operation
- HLL single step in real-time
- Trigger and trace on local variables

Peripheral Window



- Display of onchip peripherals
- User definable display of the onchip peripherals
- Definition is done interactive supported by softkeys
- Pull down menus for settings
- Additional description for each field
-

Exception Control



The TRACE32 exception controller allows to permanently activate an exception, to enable or disable specific

exceptions, to trigger on specific exceptions or to stimulate an exception.

On-Circuit Emulation

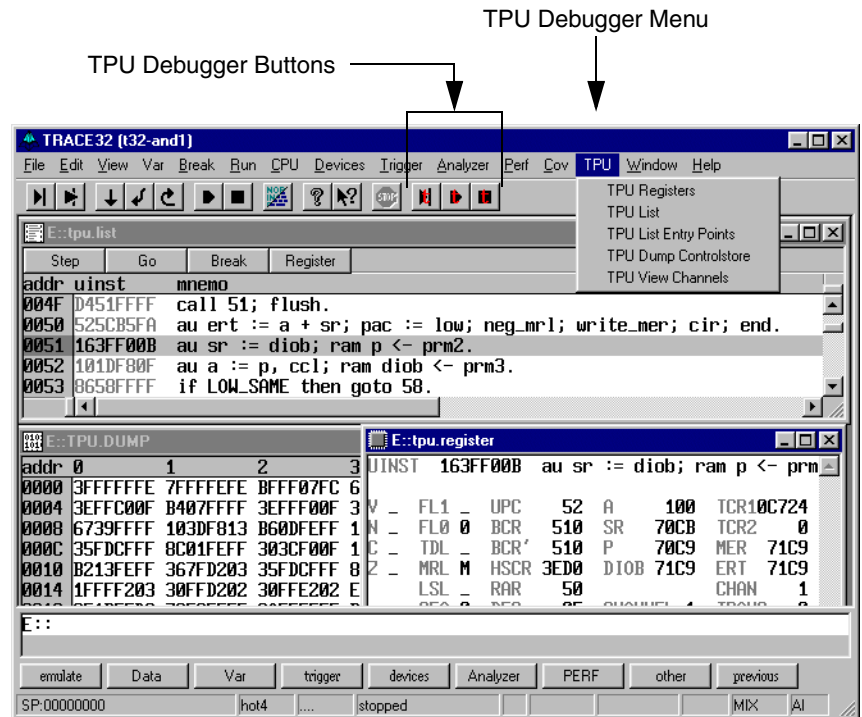
- Support for Clip-Over adapters

Cache Trace

record	run address	cycle	d.l	symbol	ti.back
633					
634				anzahl++;	
000110	f			addi r28,r28,1 ; anzahl,anzahl,1	
		P:00001248	fetch	3BFF0001 \\diabp8\\diabp8\\sieve+94	/
				addi r31,r31,1 ; i,i,1	
000109	f			P:0000124C fetch 4BFFF0B0 \\diabp8\\diabp8\\sieve+98	/
				b 11FC	
000108	f			P:0000124C XXXXXXXX \\diabp8\\diabp8\\sieve+98	/
000107	f			P:000011FC fetch 2C1F0012 \\diabp8\\diabp8\\sieve+48	/
				cmpwi r31,12 ; i,18	
000106	f			P:00001200 XXXXXXXX \\diabp8\\diabp8\\sieve+4C	/
000105	f			P:00001200 fetch 41810050 \\diabp8\\diabp8\\sieve+4C	/
				bgt 1250 ; 1250 (-)	
000104	f			P:00001204 fetch 3D800001 \\diabp8\\diabp8\\sieve+50	/
				{	
624				if (flags[i])	
625				lis r12,1 ; r12,1	

The support for the program flow unit allows a cache flow trace.

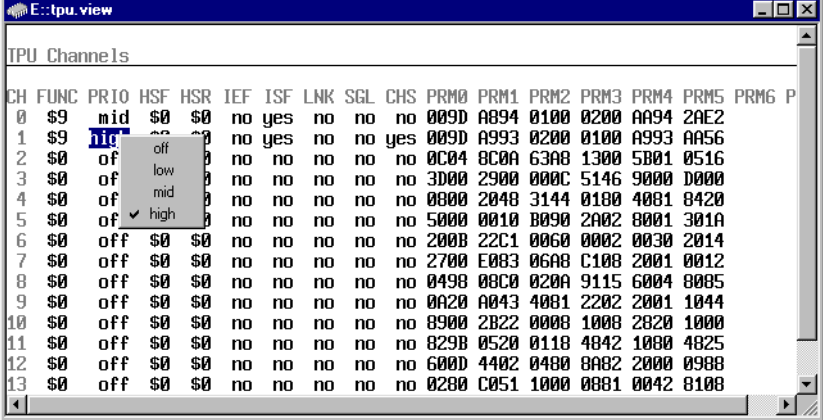
TPU Debugger



The TPU module is a complex free programmable RISC processor. The TRACE32 TPU debugger supports:

- Display and setting of the TPU registers
- Display of the TPU configuration for each channel
- Display of the TPU microcode
- Hexdump of the TPU microcode
- Display of the entry-table in a symbolic format
- Single stepping of the TPU microcode
- Setting breakpoints in the TPU microcode
 - μ PC breakpoints
 - Channel breakpoints
 - State breakpoints

TPU Configuration

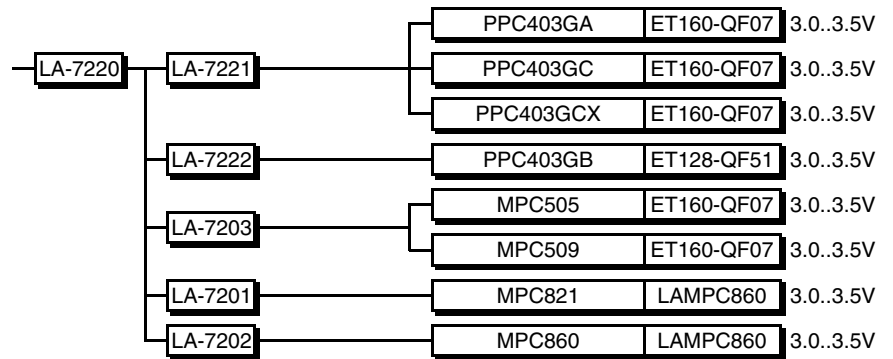


The screenshot shows a window titled 'tpu.view' with a table of 'TPU Channels'. The table has columns: CH, FUNC, PRIO, HSF, HSR, IEF, ISF, LNK, SGL, CHS, PRM0, PRM1, PRM2, PRM3, PRM4, PRM5, PRM6, P. A pull-down menu is open over the PRIO column, showing options: off, low, mid, and high. The 'high' option is selected.

CH	FUNC	PRIO	HSF	HSR	IEF	ISF	LNK	SGL	CHS	PRM0	PRM1	PRM2	PRM3	PRM4	PRM5	PRM6	P
0	\$9	mid	\$0	\$0	no	yes	no	no	no	009D	A894	0100	0200	A894	2AE2		
1	\$9	high	\$0	\$0	no	yes	no	no	yes	009D	A993	0200	0100	A993	AA56		
2	\$0	off	\$0	\$0	no	no	no	no	no	0C04	8C0A	63A8	1300	5B01	0516		
3	\$0	off	\$0	\$0	no	no	no	no	no	3D00	2900	000C	5146	9000	D000		
4	\$0	off	\$0	\$0	no	no	no	no	no	0B00	2048	3144	0180	4081	8420		
5	\$0	off	\$0	\$0	no	no	no	no	no	5000	0010	0090	2A02	8001	301A		
6	\$0	off	\$0	\$0	no	no	no	no	no	200B	22C1	0060	0002	0030	2014		
7	\$0	off	\$0	\$0	no	no	no	no	no	2700	E083	06A8	C108	2001	0012		
8	\$0	off	\$0	\$0	no	no	no	no	no	0498	08C0	020A	9115	6004	8085		
9	\$0	off	\$0	\$0	no	no	no	no	no	0A20	A043	4081	2202	2001	1044		
10	\$0	off	\$0	\$0	no	no	no	no	no	8900	2B22	0008	1008	2820	1000		
11	\$0	off	\$0	\$0	no	no	no	no	no	829B	0520	0118	4042	1000	4025		
12	\$0	off	\$0	\$0	no	no	no	no	no	600D	4402	0480	8A82	2000	0988		
13	\$0	off	\$0	\$0	no	no	no	no	no	0280	C051	1000	0081	0042	8108		

- Display of the configuration for each channel
- Pull down menus for settings
- Display can be reprogrammed to fit to the application's need

Modules Overview



Debug Interfaces

Compiler

Language	Compiler	Company	Option	Comment
C	CARM	ARM Germany GmbH	ELF/ DWARF	
C	ARMCC	ARM Ltd.	AIF	
C	ARMCC	ARM Ltd.	ELF/ DWARF	
C	REALVIEW MDK	ARM Ltd.	ELF/ DWARF2	
C	GCCARM	Free Software Foundation, Inc.	COFF/ STABS	
C	GCCARM	Free Software Foundation, Inc.	ELF/ DWARF2	
C	GREENHILLS C	Greenhills Software Inc.	ELF/ DWARF2	
C	ICCARM	IAR Systems AB	ELF/ DWARF2	
C	ICCV7-ARM	Imagecraft Creations Inc.	ELF/ DWARF	ARM7
C	HIGH-C	Synopsys, Inc	ELF/ DWARF	
C	TI-C	Texas Instruments	COFF	
C	GNU-C	Wind River Systems	COFF	
C	D-CC	Wind River Systems	ELF	
C++	ARM SDT 2.50	ARM Ltd.	ELF/ DWARF2	
C++	REALVIEW MDK	ARM Ltd.	ELF/ DWARF2	
C++	GCCARM	Free Software Foundation, Inc.	COFF/ STABS	

Language	Compiler	Company	Option	Comment
C++	GNU	Free Software Foundation, Inc.	EXE/STABS	
C++	GCCARM	Free Software Foundation, Inc.	ELF/DWARF2	
C++	GREENHILLS C++	Greenhills Software Inc.	ELF/DWARF2	
C++	MSVC	Microsoft Corporation	EXE/CV5	WindowsCE
C++	HIGH-C++	Synopsys, Inc	ELF/DWARF	
C/C++	XCODE	Apple Inc.	Mach-O	
C/C++	VX-ARM	TASKING	ELF/DWARF2	

RTOS Support

Name	Company	Comment
AMX	KadakProducts Ltd.	
ChorusOS	Oracle Corporation	
CMX-RTX	CMX Systems Inc.	
ECOS	eCosCentric Limited	1.3, 2.0 and 3.0
Elektrobit tresos	Elektrobit Automotive GmbH	via ORTI
ERCOSEK	ETAS GmbH	via ORTI
Erika	Evidence	via ORTI
FreeRTOS	Freeware I	v7
Linux	-	Kernel Version 2.4 and 2.6, 3.0
Linux	MontaVista Software, LLC	3.0, 3.1, 4.0, 5.0
Linux SMP	-	Kernel Version 2.4 and 2.6, 3.0
LynxOS	LynuxWorks Inc.	3.1.0, 3.1.0a, 4.0
MQX	Freescale Semiconductor, Inc.	3.x and 4.x
MQX	Synopsys, Inc	2.40 and 2.50
NetBSD	-	
NORTi	MISPO Co. Ltd.	
Nucleus PLUS	Mentor Graphics Corporation	
OS-9	Radisys Inc.	

Name	Company	Comment
OSE Delta	Enea OSE Systems	4.x and 5.x
OSEK	-	via ORTI
OSEKturbo	Freescale Semiconductor, Inc.	via ORTI/former MetrowerksOSEK
PikeOS	Sysgo AG	
ProOSEK	Elektrobit Automotive GmbH	via ORTI
pSOS+	Wind River Systems	2.1 to 2.5, 3.0, with TRACE32
QNX	QNX Software Systems	6.0 to 6.5.0
QNX SMP	QNX Software Systems	6.0 to 6.5.0
RTEMS	RTEMS	4.10
RTXC 3.2	Quadros Systems Inc.	
RTXC Quadros	Quadros Systems Inc.	
SMX	Micro Digital Inc.	3.4 to 4.0
ThreadX	Express Logic Inc.	3.0, 4.0, 5.0
ThreadX SMP	Express Logic Inc.	3.0, 4.0, 5.0
uC/OS-II	Micrium Inc.	2.0 to 2.92
uITRON	-	HI7000, RX4000, NORTi,PrKernel
VRTXsa	Mentor Graphics Corporation	
VxWorks	Wind River Systems	5.x and 6.x
VxWorks SMP	Wind River Systems	5.x and 6.x

Debugger Support

CPU	Debugger	Company	Host
ALL	X-TOOLS / X32	blue river software GmbH	Windows
ALL	CODEWRIGHT	Borland Software Corporation	Windows
ALL	CODE CONFIDENCE TOOLS	Code Confidence Ltd	Windows
ALL	CODE CONFIDENCE TOOLS	Code Confidence Ltd	Linux
ALL	EASYCODE	EASYCODE GmbH	Windows

CPU	Debugger	Company	Host
ALL	ECLIPSE	Eclipse Foundation, Inc	Windows
ALL	RHAPSODY IN MICROC	IBM Corp.	Windows
ALL	RHAPSODY IN C++	IBM Corp.	Windows
ALL	LDRA TOOL SUITE	LDRA Technology, Inc.	Windows
ALL	ATTOL TOOLS	MicroMax Inc.	Windows
ALL	VISUAL BASIC INTERFACE	Microsoft Corporation	Windows
ALL	LABVIEW	NATIONAL INSTRUMENTS Corporation	Windows
ALL	CODE::BLOCKS	Open Source	-
ALL	C++TEST	Parasoft	Windows
ALL	RAPITIME	Rapita Systems Ltd.	Windows
ALL	DA-C	RistanCASE	Windows
ALL	SIMULINK	The MathWorks Inc.	Windows
ALL	WINDOWS CE PLATF. BUILDER	Windows	Windows
POWERPC	GR228X IC-TESTSYSTEME	Battefeld GmbH	Windows
POWERPC	OSE ILLUMINATOR	Enea OSE Systems	Windows
POWERPC	DIAB RTA SUITE	Wind River Systems	Windows

Operation Voltage and Frequency

Denied and Request Access

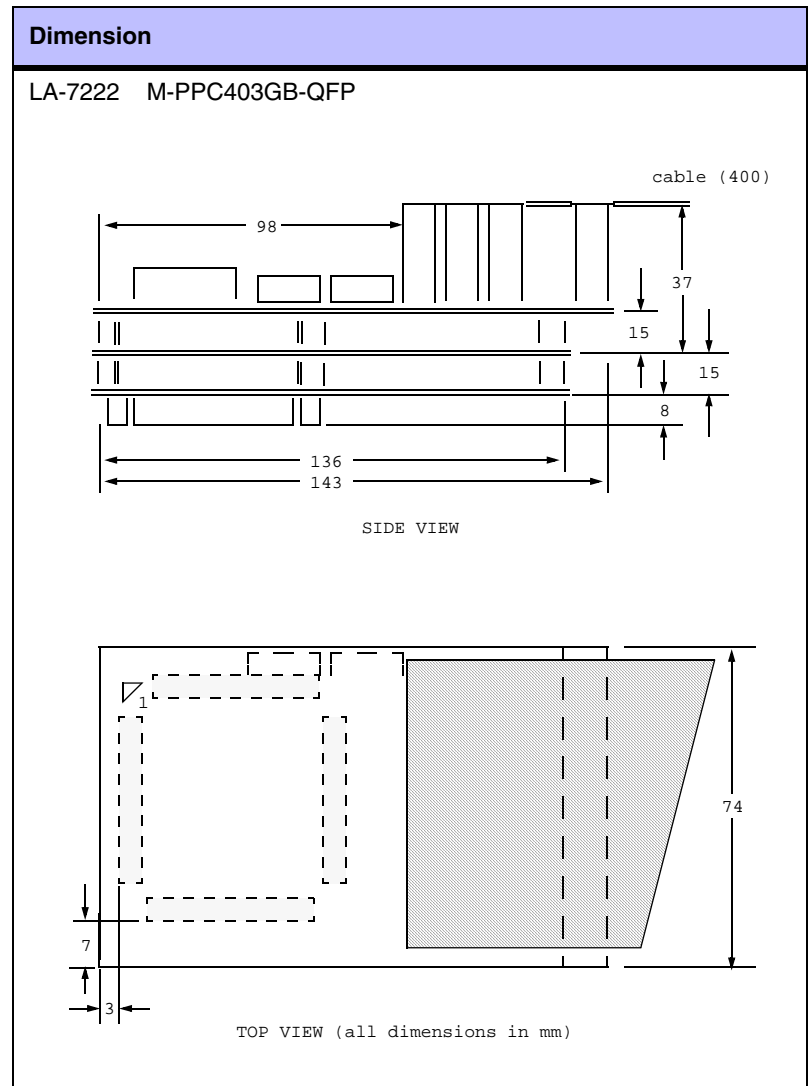
tbd

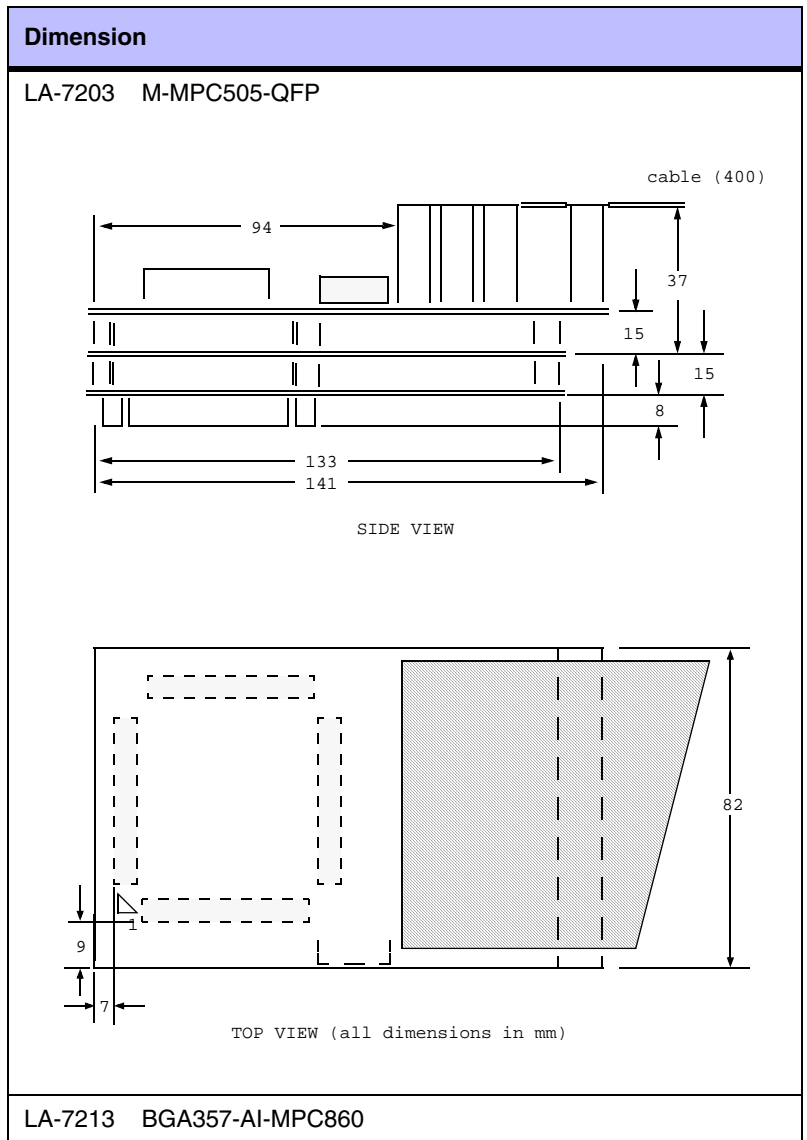
Operating Voltage

tbd

Dimensions

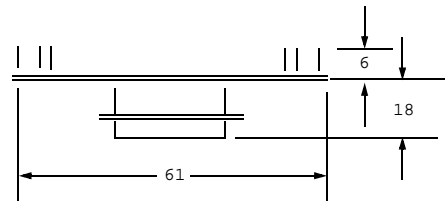
Module Dimensions



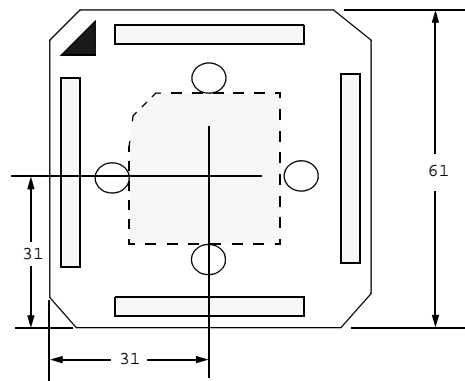


Dimension

LA-7210 BGA357-ETEC-MPC860



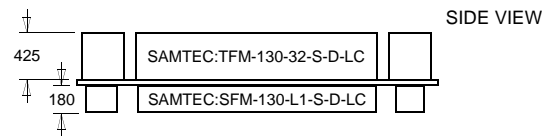
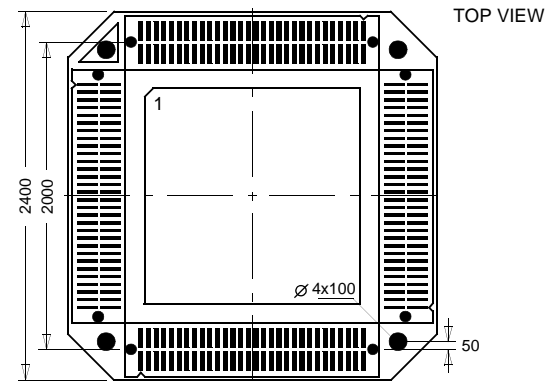
SIDE VIEW



TOP VIEW (all dimensions in mm)

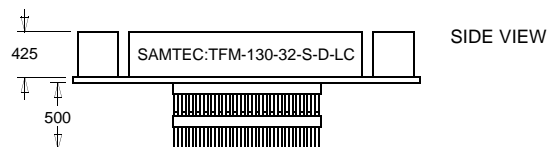
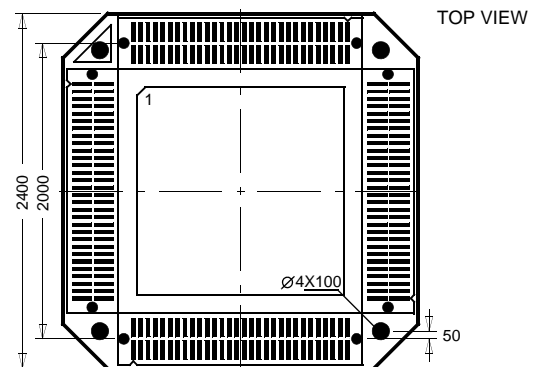
Dimension

LA-9539 BGA272-CPU-ADAPTER

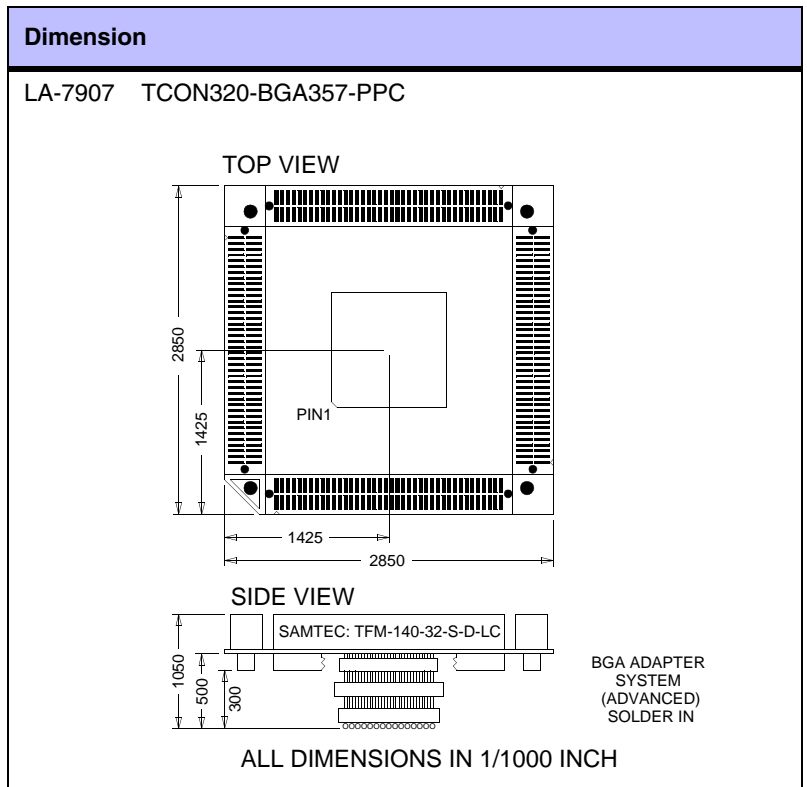


ALL DIMENSIONS IN 1/1000 INCH

LA-9548 BGA272-AI-MPC555



ALL DIMENSIONS IN 1/1000 INCH



Connectors

No adaptations available !

Adapter

Not necessary.

Connection for MPC860 (LAMPC860)

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	VDDH	61	VDDH	121	VDDH	181	VDDH
2	GND	62	GND	122	GND	182	GND
3	A02	63	GPLA4-	123	CLKOUT	183	PA00
4	A05	64	TA-	124	DP2	184	PB14
5	A04	65	TEA-	125	DP3	185	PA01
6	A07	66	BDIP-	126	IPA4	186	PC05
7	A06	67	GPLA5-	127	D29	187	PC04
8	A03	68	BB-	128	DP1	188	PC06
9	A11	69	BG-	129	IPA5	189	PA02
10	A10	70	BI-	130	IPA0	190	PB15
11	A09	71	CS3-	131	D07	191	PD12
12	A08	72	BURST-	132	D28	192	PA04
13	A14	73	IRQ3-	133	D30	193	PB17
14	A13	74	TS-	134	IPA6	194	PA03
15	A12	75	VDDH	135	D06	195	VDDH
16	A27	76	IPB3	136	D24	196	PB19
17	A17	77	IPB4	137	D26	197	PA05
18	A16	78	IRQ6-	138	D31	198	PB18
19	A29	79	BR-	139	D20	199	PB16
20	A21	80	IPB7	140	D21	200	PA07
21	A20	81	IPB0	141	D25	201	PC08
22	A15	82	IRQ2-	142	D05	202	PA06
23	A30	83	SPARE4	143	D18	203	PC07
24	A23	84	ALEB	144	D19	204	PB22
25	A24	85	IPB2	145	D22	205	PC09
26	A19	86	IPB1	146	D03	206	PA08
27	A28	87	IPB5	147	D14	207	PB20
28	A22	88	IRQ4-	148	D16	208	PC10
29	A26	89	ALEA	149	D15	209	PA09
30	A25	90	IPB6	150	D02	210	PB23
31	A31	91	BADDR30	151	D10	211	PB21
32	TSIZ0	92	MODCK1	152	D11	212	PC11
33	TSIZ1	93	OP1	153	D09	213	PB24
34	A18	94	AS	154	D01	214	PA10
35	BSA3-	95	OP0	155	D27	215	PB25
36	BSA1-	96	BADDR29	156	D23	216	SPARE2
37	BSA0-	97	BADDR28	157	D17	217	TDI
38	BSA2-	98	MODCK2	158	D04	218	TCK
39	SPARE1	99	EXTAL	159	D13	219	TRST-
40	WE0-	100	EXTCLK	160	D08	220	TMS
41	GPLA0-	101	TEXP	161	D12	221	TDO
42	WE1-	102	HRESET-	162	D00	222	PA11
43	WE2-	103	XTAL	163	IRQ0-	223	PB26
44	GPLA1-	104	SRESET-	164	IRQ1-	224	PC12
45	WE3-	105	RSTCONF-	165	VDDH	225	PA12
46	GPLA2-	106	VDDH	166	IRQ7-	226	VDDH
47	GPLA3-	107	KAPWR	167	SPARE3	227	PB27
48	CS6-	108	PORESET-	168	PD05	228	PC13
49	CS4-	109	WAIT_A-	169	PD07	229	PA13
50	CS5-	110	WAIT_B-	170	PD03	230	PB29
51	CS7-	111	VDDSYN	171	PD06	231	PB28
52	CS2-	112	XFC	172	PD04	232	PC14
53	CE2A-	113	IPA7	173	PD11	233	PA14
54	CE1A-	114	IPA1	174	PD08	234	PC15
55	CS0-	115	VSSSYN	175	PD09	235	PB30
56	CS1-	116	IPA2	176	PD15	236	PA15
57	WR-	117	VSSSYN1	177	PD10	237	PB31
58	GPLB4-	118	DP0	178	PD13	238	A00
59	GND	119	GND	179	GND	239	GND
60	VDDH	120	IPA3	180	PD14	240	A01

Available Tool Chain

TRACE32 provides a complete set of development tools for this family. This includes:

- The In-Circuit Emulator TRACE32-ICE
- The high speed RISC Emulator TRACE32-FIRE
- The BDM/JTAG/ONCE etc. based In-Circuit Debugger TRACE32-ICD
- The ROM Monitor based In-Circuit Debugger TRACE32-ICD
- The ICD Trace, a trace extension to the BDM/JTAG debuggers or ROM monitors
- Evaluation boards, which can be used until the target hardware is available.
- The Instruction Set Simulator (SIM), a software tool for code test without any hardware

The following list give an overview which development tools are available for the specific derivatives of this family.

CPU	ICE	FIRE	ICD DEBUG	ICD MONITOR	ICD TRACE	POWER INTEGRATOR	INSTRUCTION SIMULATOR
MPC821	YES	YES	YES		YES		YES
MPC860	YES	YES	YES		YES		YES
PPC403GA	YES						YES
PPC403GB	YES						YES
PPC403GC	YES						YES
PPC403GCX	YES						YES

Order Information

Module Description

OrderNo Code	Text
AI-7206 BGA272- EXTENSION	BGA272-Adapter Extension Extension for Advanced Interconnect Socket (Extends vertical clearance by 3.8 mm)
AI-7207 BGA357-AI- MALE	Advanced Interconnect male-male-block for MPC Advanced Interconnect male-male-block BGA357 for MPC860/880 (19 x 19 rows)
AI-7208 BGA357-AI- SOCKET	Advanced Interconnect socket for MPC860/880 Advanced Interconnect socket BGA357 for MPC860/880 (19 x 19 rows)
AI-7209 BGA357- EXTENSION	BGA357-Adapter Extension Extension for Advanced Interconnect Socket (Extends vertical clearance by 3.8 mm) (19 x 19 rows)
AI-9546 BGA256-AI- SOCKET	Advanced Interconnect socket for MPC850 Advanced Interconnect socket BGA256 for MPC850 (16 x 16 rows)
AI-9549 BGA272-AI- SOCKET	Advanced Interconnect socket for MPC555 Advanced Interconnect socket BGA272 for MPC555 (20 x 20 rows)
AI-9664 BGA388-AI- SOCKET	Advanced Interconnect socket for MPC561/563 A Advanced Interconnect socket (Target) BGA388 for MPC561 and MPC563
AI-9667 BGA388- ADAPTER	Advanced Interconnect BGA388 Adapter for CPU Advanced Interconnect BGA388 adapter (CPU-carrier)
AI-9672 BGA388-MALE- MALE-28	BGA388 Male-Male Connector 0.28mm Pin Advanced Interconnect Part Number 1FHA388-735G for Advanced socket
AI-9673 BGA388-MALE- MALE-22	BGA388 Male-Male Connector 0.20mm Pin Advanced Interconnect Part Number SK8611 Kundenspez. for Andon-socket
LA-7210 BGA357-ETEC- MPC860	Emulation adapter for E-TEC socket for MPC860 Adapter for MPC821, MPC860 BGA357 to E-TEC socket E-TEC socket part number: BPW357-1230-19AB01
LA-7211 CONNECTOR- ADS-MPC860	Emulation adapter for ADS board Connector to the ADS board from FREESCALE, standard pin connector to TCON240

OrderNo Code	Text
LA-7213 BGA357-AI-MPC860	Emulation adapter for AI socket for MPC860 Adapter for MPC821, MPC860 to BGA357-Socket Advanced Interconnect socket part number (AI-7208): MGS-357-636GG Testadapter for usage of cpu in BGA357 LA-7216)
LA-7214 BGA357-EETEC-SOCKET	E-TEC socket for MPC860 (SMD) BGA357 ETEC-socket for MPC860 (SMD)
LA-7215 A-MPC860-BOTTOM	Bottom Side Target Adapter for MPC860 Adapter for MPC821, MPC860 to Samtec Connectors (FTE-130-01-G-DV or FTE-130-02-G-DV) on the Bottom Side of the Target (mirrored)
LA-7217 CON.-FADS-MPC860	Emulation adapter for FADS board Connector to the FADS board from FREESCALE, small pin connector to TCON240
LA-7218 BGA357-EETEC-SOCKET-T	E-TEC socket for MPC860 (through hole) BGA357 ETEC-socket for MPC860/MPC880 (through hole)
LA-7907 TCON320-BGA357-PPC	Emulation adap. f. TCON320 to BGA357-MPC880 Adapter for Preprocessor for MPC88x TCON AI-7207 (Advanced Interconnect male-male-block FGA-357-656G) included Adaptation from TCON320 to Advanced Interconnect socket BGA357 MGS-357-636GG (AI-7208) If BGA357-EETEC-SOCKET (LA-7218) used Pod Extender 320 for Samtec Connector necessary (PCB with hole or Pod Extender Set (4x80 pin) Samtec Connector)
LA-9545 BGA256-AI-MPC850/PPC	Emulation adapter for AI socket for MPC850 Adapter for MPC850 (TCON 200) to BGA256-Socket Advanced Interconnect socket part number (AI-9546): 1MGS-256-1-636GG (16 x 16 rows) Testadapter for usage of cpu in BGA256 (LA-9547)
LA-9548 BGA272-AI-MPC555	Emulation adapter for AI socket for MPC555 Adapter for MPC555 to BGA272-Socket Advanced Interconnect socket part number (AI-9549): MGS-272-636GG Testadapter for usage of cpu in BGA272 (LA-9539)
LA-9660 TCON200-MPC823-AMC	Converter TCON 200 to AMC Footprint 823
LA-9661 TCON240-AI-MPC555	Emulation adap. from TCON240 to BGA272-MPC555 Adapter for Preprocessor for MPC555 TCON Adaptation from TCON240 to Advanced Interconnect socket BGA272 Advanced Interconnect socket part number (AI-9549): MGS-272-636GG - includes TCON240 Test Adapter - with ETEC socket to use the original CPU
LA-9666 TCON320-AI-MPC56X	Emulation adap. from TCON320 to BGA388-MPC56x Adapter for Preprocessor for MPC561/MPC563 TCON Adaptation from TCON320 to Advanced Interconnect socket BGA388 Advanced Interconnect socket part number (AI-9664): 1FHS388-717G - with Advanced Interconnect socket to use the original CPU, requires Advanced Interconnect BGA adapter part number: (AI-9667) 1FHA388-715G

Detailed Order Information

Order No.	Code	Text
AI-7206	BGA272-EXTENSION	BGA272-Adapter Extension
AI-7207	BGA357-AI-MALE	Advanced Interconnect male-male-block for MPC
AI-7208	BGA357-AI-SOCKET	Advanced Interconnect socket for MPC860/880
AI-7209	BGA357-EXTENSION	BGA357-Adapter Extension
AI-9546	BGA256-AI-SOCKET	Advanced Interconnect socket for MPC850
AI-9549	BGA272-AI-SOCKET	Advanced Interconnect socket for MPC555
AI-9664	BGA388-AI-SOCKET	Advanced Interconnect socket for MPC561/563 A
AI-9667	BGA388-ADAPTER	Advanced Interconnect BGA388 Adapter for CPU
AI-9672	BGA388-MALE-MALE-28	BGA388 Male-Male Connector 0.28mm Pin
AI-9673	BGA388-MALE-MALE-22	BGA388 Male-Male Connector 0.20mm Pin
LA-7210	BGA357-ETEC-MPC860	Emulation adapter for E-TEC socket for MPC860
LA-7211	CONNECTOR-ADS-MPC860	Emulation adapter for ADS board
LA-7213	BGA357-AI-MPC860	Emulation adapter for AI socket for MPC860
LA-7214	BGA357-ETEC-SOCKET	E-TEC socket for MPC860 (SMD)
LA-7215	A-MPC860-BOTTOM	Bottom Side Target Adapter for MPC860
LA-7217	CON.-FADS-MPC860	Emulation adapter for FADS board
LA-7218	BGA357-ETEC-SOCKET-T	E-TEC socket for MPC860 (through hole)
LA-7907	TCON320-BGA357-PPC	Emulation adap. f. TCON320 to BGA357-MPC880
LA-9545	BGA256-AI-MPC850/PPC	Emulation adapter for AI socket for MPC850
LA-9548	BGA272-AI-MPC555	Emulation adapter for AI socket for MPC555

Order No.	Code	Text
LA-9660	TCON200-MPC823-AMC	Converter TCON 200 to AMC Footprint 823
LA-9661	TCON240-AI-MPC555	Emulation adap. from TCON240 to BGA272-MPC555
LA-9666	TCON320-AI-MPC56X	Emulation adap. from TCON320 to BGA388-MPC56x
Additional Options		
LA-7216	BGA357-CPU-ADAPTER	CPU Test Adapter for BGA357 (MPC860)

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