

In-Circuit Emulator for 90CL301

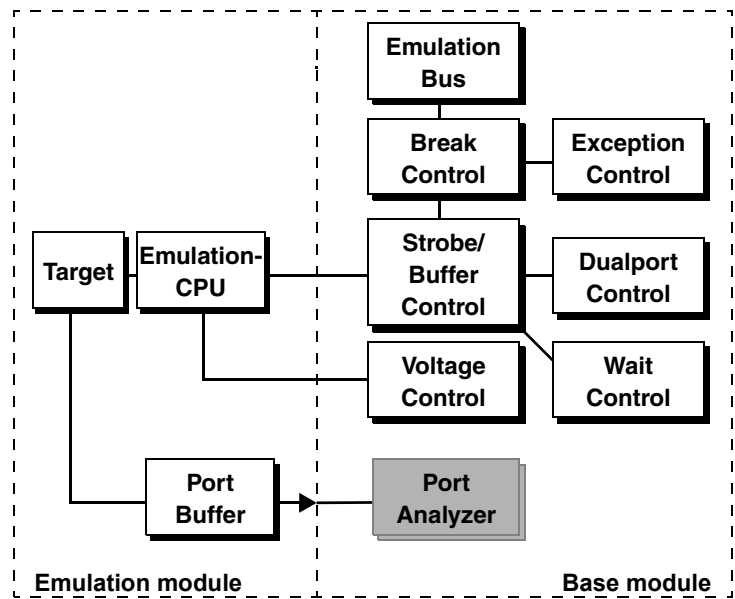
90CL301
90CL302
90CL303

- 3.3 and 5 Volt Support
- Dual-Port Memory Access
- Interface with all compilers
- C++ support
- CASE tools interface
- RTOS support
- Windows9x, NT and Motif interface

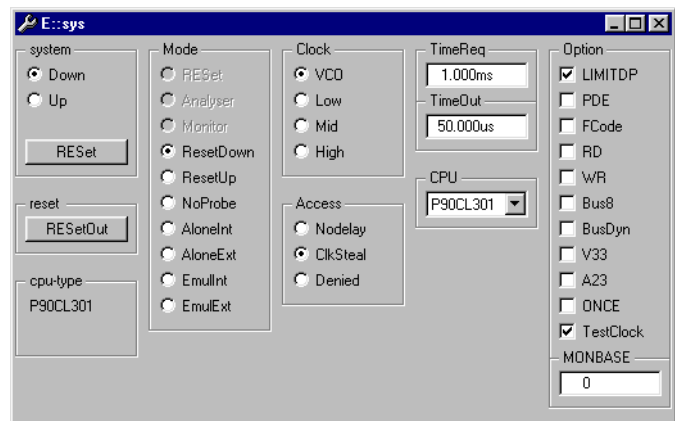
The TRACE32-ICE90301 supports all members of the Philips 90CL300 family. Its modular and open technology allows the fast integration of new chip designs. A software compatible ROM Monitor is also available.

Features

Basics of Operation



Operating Modes



- Reset Down
- Reset Up
- Alone Internal
- Alone External
- Emulation Internal
- Emulation External

Dual-Port Access

- No Delay
- Clock steal
- Denied

System Clock

- Operation with external or internal clock
- Internal clock 1.5 to 70 MHz (XTAL1)
- Max. operation frequency 40 MHz (XTAL1)

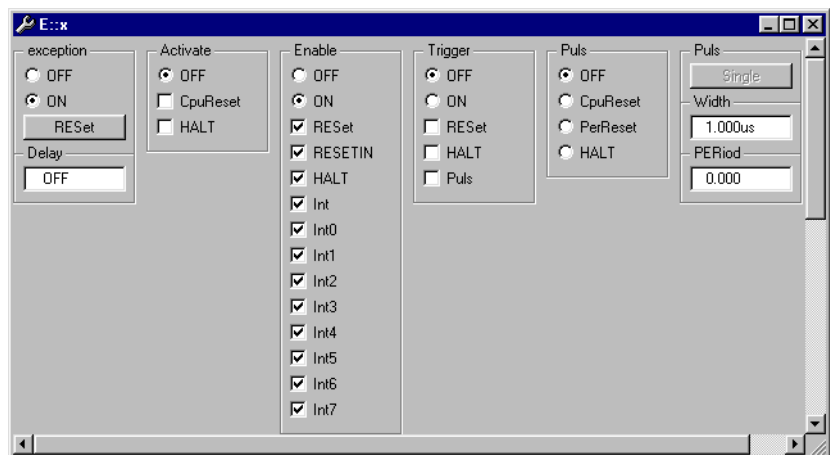
Multitask Debugging

- 10 tasks
- 1 foreground task
- 1 background task

Voltage and Clock Monitors for the Target System

- 3.3...5 V operation

Exception Control



- Static Exception Setting
- CPU Reset
- Peripheral Reset
 - Halt
 - Bus Request
- Target Exception Control
 - Reset
 - Halt
 - Int0..Int6
 - NMI
- Exception Trigger
 - Reset
 - Halt
 - CPU Reset

- Exception Simulation
 - CPU Reset

Power Consumption

- 10 W

Emulation Modules

Modules Overview

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Debug Interfaces

TRACE32-PowerView supports most compilers, realtime operation systems and debuggers.

New integrations are mostly done on customers request. If your compiler or RTOS is not supported now, please ask us !

Compiler Support

CPU	Language	Compier	Compan y	Option
68K	ADA	ALSYS-ADA		IEEE
68K	ADA	TELESOFT-ADA	Telesoft	IEEE
68K	ASM	RTOS	IEP GmbH	SYM/LOC
68K	ASM	ASM68K	Mentor Graphics Corporation	IEEE
68K	ASM	VERSADOS-ASM	NXP Semicon ductors	VERSADOS
68K	ASM	OS-9-ASSEMBLER	Radisys Inc.	ROF
68K	ASM	AS68	TASKING	IEEE
68K	C	HP-64000-C		HP
68K	C	ORGANON	CAD-UL Electronic Services GmbH	BOUND
68K	C	C68K	Cosmic Software	COSMIC
68K	C	GNU-C	Free Software Foundation, Inc.	ELF/DWARF
68K	C	GNU-C	Free Software Foundation, Inc.	COFF
68K	C	GNU-C	Free Software Foundation, Inc.	ELF/DWARF

CPU	Language	Compiers	Company	Option
68K	C	GREEN-HILLS-C	Greenhills Software Inc.	COFF
68K	C	ICC68K	Introl Corporation	ICOFF
68K	C	MCC	Mentor Graphics Corporation	IEEE
68K	C	HT-68K	Microchip Technology Inc.	HITECH
68K	C	HICROSS-68K	NXP Semiconductors	HICROSS
68K	C	CC68K	NXP Semiconductors	COFF
68K	C	ULTRA-C	Radisys Inc.	ROF
68K	C	OS/9-C	Radisys Inc.	ROF
68K	C	CROSSCODE-C	SDSI	SDS
68K	C	SCC68K	Sierra	COFF
68K	C	SUN3-CC	Oracle Corporation	DBX
68K	C	ICC68K	TASKING	COFF
68K	C	ICC68K	TASKING	IEEE
68K	C	TT-68K	TASKING	IEEE
68K	C	TCC68K	TASKING	AOUT
68K	C	TEKTRONIX-C	Tektronix	COMFOR
68K	C	D-CC	Wind River Systems	IEEE
68K	C	D-CC	Wind River Systems	ELF/DWARF

CPU	Language	Compiler	Company	Option
68K	C++	ORGANON-C++	CAD-UL Electronic Services GmbH	BOUND
68K	C++	GNU-C++	Free Software Foundati on, Inc.	DBX
68K	C++	GNU-C++	Free Software Foundati on, Inc.	ELF/DWARF
68K	C++	CCC68K	Mentor Graphics Corporati on	IEEE
68K	C++	HICROSS- 68K	NXP Semicon ductors	HICROSS
68K	C++	CODEWAR RIOR	NXP Semicon ductors	ELF/DWARF
68K	C++	CROSSCO DE-C++	SDSI	SDS
68K	C++	D-C++	Wind River Systems	ELF/DWARF
68K	MODULA	MOD68K	Introl Corporati on	ICOFF
68K	MODULA	MCS2	Multicha nnelsyst ems GmbH	COFF
68K	MODULA	MCDS	NXP Semicon ductors	MCDS
68K	PASCAL	MPC	Mentor Graphics Corporati on	IEEE
68K	PEARL	RTOS	IEP GmbH	SYM/LOC

RTOS Support

Company	Product	Comment
Atego Ltd.	AdaWorld ARTK	
KadakProducts Ltd.	AMX	
Oracle Corporation	ChorusOS	
CMX Systems Inc.	CMX-RTX	
Synopsys, Inc	MQX	2.40 and 2.50, 3.6
	MTOS-UX	
Mentor Graphics Corporation	Nucleus PLUS	
Radisys Inc.	OS-9	
Enea OSE Systems	OSE Classic	(OS68)
Enea OSE Systems	OSE Delta	4.x and 5.x
	RealTime Craft	(XEC68k)
Quadros Systems Inc.	RTXC 3.2	
IBM Corp.	SDT-Cmicro	
-	uCLinux	Kernel Version 2.4 and 2.6, 3.x
Mentor Graphics Corporation	VRTX32	
Mentor Graphics Corporation	VRTXmc	
Mentor Graphics Corporation	VRTXsa	
Wind River Systems	VxWorks	5.x and 6.x

Debugger Support

CPU	Debugger	Company
	WINDOWS CE PLATF. BUILDER	-
	CODE::BLOC KS	-
	C++TEST	-
	ADENEO	-
	X-TOOLS / X32	blue river software GmbH
	CODEWRIGH T	Borland Software Corporation
	CODE CONFIDENC E TOOLS	Code Confidence Ltd
	CODE CONFIDENC E TOOLS	Code Confidence Ltd
	EASYCODE	EASYCODE GmbH
	ECLIPSE	Eclipse Foundation, Inc
	CHRONVIEW	Inchron GmbH
	LDRA TOOL SUITE	LDRA Technology, Inc.
	UML DEBUGGER	LieberLieber Software GmbH
	SIMULINK	The MathWorks Inc.
	ATTOL TOOLS	MicroMax Inc.
	VISUAL BASIC INTERFACE	Microsoft Corporation
	LABVIEW	NATIONAL INSTRUMENT S Corporation
	RAPITIME	Rapita Systems Ltd.
	RHAPSODY IN MICROC	IBM Corp.

CPU	Debugger	Company
	RHAPSODY IN C++	IBM Corp.
	DA-C	RistanCASE
	TRACEANALY ZER	Symtavigation GmbH
	TA INSPECTOR	Timing Architects GmbH
	UNDODB	Undo Software
	VECTORCAS T UNIT TESTING	Vector Software
	VECTORCAS T CODE COVERAGE	Vector Software
68K	OS68 DEBUGGER	Enea OSE Systems
68K	SDT CMICRO	IBM Corp.
68K	DIAB RTA SUITE	Wind River Systems

Operation Voltage and Frequency

The maximum operation frequency of TRACE32-ICE depends on:

- The max. frequency of the CPU
- The access time of the overlay memory (15ns or 35ns)
- The mapper mode (**S**low or **F**ast)
- The number of waitstates (W0 = 0 waitstates
W1 = 1 waitstate)
- The dual-port access mode

Denied and Clocksteal Access

Nodelay Access

Operation Voltage

This list contains information on probes available for other voltage ranges.

Probes not noted here supply an operation voltage range from 4.5V to 5.5V. tbd

Dimensions

Module Dimensions

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Connectors

On each emulation module there are half-size connectors to:

- ❑ Connect the emulation module directly to the target by providing the corresponding connectors also on the target hardware

- ❑ Connect a standard adapter from Emulation Technology, YAMAICHI, AMP, TOKYO ELETECH etc.

The following table lists the physical dimensions of these connectors.

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Adapter

The adapters connect in different ways

- With Clip-Over Adapters the CPU can stay on the target board.
- With Solder-ON adapters the CPU must be removed

- YAMAICHI and AMP adapters fit to the CPU socket

The following table lists the physical dimensions of these adapters.

Not necessary.

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.

tbd

Order Information

Module Description

Detailed Order Information

Contact

International Representative

Argentina

Anacom Eletronica Ltda.
Mr. Rafael Sorice
Rua Nazareth, 807, Barcelona
BR-09551-200 São Caetano do Sul, SP
Phone: +55 11 3422 4200
FAX: +55 11 3422 4242
EMAIL: rsorice@anacom.com.br

Australia

Embedded Logic Solutions P/L
Mr. Ramzi Kaffan
Suite 2, Level 3
144 Marsden Street
Parramatta NSW 2150
Phone: +61 2 9687 1880
FAX: +61 2 9687 1881
EMAIL: sales@emlogic.com.au

Austria

Lauterbach GmbH
Altlaufstr. 40
D-85635 Höhenkirchen-Siegertsbrunn
Phone: +49 8102 9876 0
FAX: +49 8102 9876 999
EMAIL: info@lauterbach.com

Belgium

Tritec Benelux B.V.
Mr. Robbert de Voogt
Stationspark 550
NL-3364 DA Slidrecht
Phone: +31 184 41 41 31
FAX: +31 184 42 36 11
EMAIL: software@tritec.nl

Brazil

Anacom Eletronica Ltda.
Mr. Rafael Sorice
Rua Nazareth, 807, Barcelona
BR-09551-200 São Caetano do Sul, SP
Phone: +55 11 3422 4200
FAX: +55 11 3422 4242
EMAIL: rsorice@anacom.com.br

Canada

Lauterbach Inc.
Mr. Udo Zoettler
4 Mount Royal Ave.
USA-Marlborough, MA 01752
Phone: +1 508 303 6812
FAX: +1 508 303 6813
EMAIL: info_us@lauterbach.com

China Beijing

Lauterbach Technologies Co., Ltd
Mr. Linglin He
Beijing Office
A3, South Lishi Road, XiCheng District
Beijing 100037, P.R. China
Phone: +86 10 68023502
FAX: +86 10 68023523
EMAIL: linglin.he@lauterbach.com

China Shenzhen

Lauterbach Technologies Co., Ltd
1406/E Xihaimingzhu Building
No.1 Taoyuan Road, Nanshan District
Shenzhen 518052, P.R. China
Phone: +86 755 8621 0671
FAX: +86 755 8621 0675
EMAIL: emily.zhang@lauterbach.com

China Suzhou

Lauterbach Technologies Co., Ltd
Mr. Linglin He
Hengyu Square, Rm 709
No. 188, Xing Hai Street
Suzhou, 215021 P.R. of China
Phone: +86 512 6265 8030
FAX: +86 512 6265 8032
EMAIL: info_cn@lauterbach.com

Czech. Republic

Lauterbach GmbH
Altlaufstr. 40
D-85635 Höhenkirchen-Siegertsbrunn
Phone: +49 8102 9876 0
FAX: +49 8102 9876 999
EMAIL: info@lauterbach.com

Denmark

Nohau Danmark A/S
Mr. Flemming Jensen
Klausdalsbrovej 493
DK-2730 Herlev
Phone: +45 44 52 16 50
FAX: +45 44 52 26 55
EMAIL: info@nohau.dk

Egypt

Wantech Egypt
Mr. Wagih A. Nawara
5 Shafik Ghalie St., Suite 2
Off Pyramids Road, Giza
Cairo 12111
Phone: +20 100 1251955
FAX: +20 100 1250349
EMAIL: sales@wantech.net.com

Finland

Nohau Solutions Finland
Mr. Martti Viljainen
Teknobulevardi 3-5
FI-01531 Vantaa
Phone: +358 40 546 1469
FAX: +358 9 2517 8101
EMAIL: sales@nohau.fi

France

Lauterbach S.A.R.L.
Mr. Jean-Pierre Paradiso
Europarc - Le Hameau B
135 Chemin Des Bassins
F-94035 Créteil Cedex
Phone: +33 1 49 56 20 30
FAX: +33 1 49 56 20 39
EMAIL: info_fr@lauterbach.com

Germany

Lauterbach GmbH
Altlaufstr. 40
D-85635 Höhenkirchen-Siegertsbrunn
Phone: +49 8102 9876 0
FAX: +49 8102 9876 999
EMAIL: info@lauterbach.com

Germany North

Lauterbach GmbH
Mr. Klaus Hommann
Leonhardring 5
D-31319 Sehnde
Phone: +49 8102 9876 174
FAX: +49 5138 6185 3
EMAIL: klaus.hommann@lauterbach.com

Germany South

Lauterbach GmbH
 Andreas Grimm
 Altlaufstr. 40
 D-85635 Höhenkirchen-Siegertsbrunn
 Phone: +49 8102 9876 190
 FAX: +49 8102 9876 187
 EMAIL: andreas.grimm@lauterbach.com

Greece

Lauterbach GmbH
 Altlaufstr. 40
 D-85635 Höhenkirchen-Siegertsbrunn
 Phone: +49 8102 9876 0
 FAX: +49 8102 9876 999
 EMAIL: info@lauterbach.com

Hungary

Lauterbach GmbH
 Altlaufstr. 40
 D-85635 Höhenkirchen-Siegertsbrunn
 Phone: +49 8102 9876 0
 FAX: +49 8102 9876 999
 EMAIL: info@lauterbach.com

India-Bangalore

Electro Systems Associates Pvt. Ltd.
 Mr. G. V. Gurunatham
 S-606, World Trade Center
 Malleswaram West, No.26/1, Dr. Rajkumar
 Road
 India - Bangalore 560055
 Phone: +91 80 67648888
 FAX: +91 80 23475615
 EMAIL: Trace32sales@esaindia.com

India-Chennai

Electro Systems Associates Pvt. Ltd.
 Mr. D. Kannan
 No.109/59A, Ground Floor
 IV Avenue, Ashok Nagar
 India - Chennai - 600 083 Tamilnadu
 Phone: +91 044-24715750
 FAX: +91 44 24715750
 EMAIL: chennai@esaindia.com

India-Delhi

Electro Systems Associates Pvt. Ltd.
 Mr. R.K. Bhandari
 No. 705, 7th Floor, Laxmi Deep
 Shivajinagar
 India - Delhi - 110 092
 Phone: +91 11-22549351
 FAX:
 EMAIL: delhi@esaindia.com

India-Hyderabad

Electro Systems Associates Pvt. Ltd.
 Mr. C.V.M. Sri Ram Murthy
 Shop No. 14, "Global Enclave"
 Bhagyanagar Colony, Kukat pally
 India - Hyderabad 500 072
 Phone: +91 40-23063346
 FAX: +91 40-23063346
 EMAIL: hyderabad@esaindia.com

India-Pune

Electro Systems Associates Pvt. Ltd.
 Mr. R K Bhandari
 Shriram Complex, 1126/1, Model Colony
 Shivajinagar
 India - Pune - 411 016
 Phone: +91 20 - 30462035 / 25663
 FAX: +91 20-25677202
 EMAIL: pune@esaindia.com

Ireland

Lauterbach Ltd.
 Mr. Barry Lock
 11 Basepoint Enterprise Centre
 Stroudley Road
 Basingstoke, Hants RG24 8UP
 Phone: +44-1256-333-690
 FAX: +44-1256-336-661
 EMAIL: info_uk@lauterbach.com

Israel

Itec Ltd.
 Mr. Mauri Gottlieb
 P.O. Box 10002
 IL-Tel Aviv 61100
 Phone: +972 3 6491202
 FAX: +972 3 6497661
 EMAIL: general@itec.co.il

Italy

Lauterbach Srl
 Mr. Maurizio Menegotto
 Via Enzo Ferrieri 12
 I-20153 Milano
 Phone: +39 02 45490282
 FAX: +39 02 45490428
 EMAIL: info_it@lauterbach.com

Japan

Lauterbach Japan, Ltd.
 Mr. Kenji Furukawa
 3-8-8 Shinyokohama
 Kouhoku-ku, Nisso 16th Building
 Yokohama-shi, Japan 222-0033
 Phone: +81 45 477 4511
 FAX: +81 45 477 4519
 EMAIL: info@lauterbach.co.jp

Luxembourg

Tritec Benelux B.V.
 Mr. Robbert de Voogt
 Stationspark 550
 NL-3364 DA Sliedrecht
 Phone: +31 184 41 41 31
 FAX: +31 184 42 36 11
 EMAIL: software@tritec.nl

Malaysia

Flash Technology
 Mr. Teo Kian Hock
 No 61, # 04-15 Kaki Bukit Av 1
 Shun Li Industrial Park
 SGP-Singapore 417943
 Phone: +65 6749 6168
 FAX: +65 6749 6138
 EMAIL: teokh@flashtech.com.sg

Mexico

Lauterbach Inc.
 Mr. Udo Zoettler
 4 Mount Royal Ave.
 USA-Marlborough, MA 01752
 Phone: +1 508 303 6812
 FAX: +1 508 303 6813
 EMAIL: info_us@lauterbach.com

Netherlands

Tritec Benelux B.V.
 Mr. Robbert de Voogt
 Stationspark 550
 NL-3364 DA Sliedrecht
 Phone: +31 184 41 41 31
 FAX: +31 184 42 36 11
 EMAIL: software@tritec.nl

New Zealand

Embedded Logic Solutions P/L
 Mr. Ramzi Kattan
 Suite 2, Level 3
 144 Marsden Street
 Parramatta NSW 2150
 Phone: +61 2 9687 1880
 FAX: +61 2 9687 1881
 EMAIL: sales@emlogic.com.au

Norway

Nohau Solutions AB
 Mr. Jörgen Nilsson
 Derbyvägen 4
 SE-21235 Malmö
 Phone: +46 40 592 206
 FAX: +46 40 592 229
 EMAIL: sales@nohau.se

Poland

QUANTUM Sp. z o.o.
 Mr. Aleksander Bil
 ul. Jeleniogorska 6
 54-056 Wrocław
 Phone: +48 71 362 6356
 FAX: +48 71 362 6357
 EMAIL: info@quantum.com.pl

Portugal

Captura Electronica, SCCL
Mr. Juan Martinez
c/Duero, 40
E-08031 Barcelona
Phone: +34 93 429 5730
FAX: +34 93 407 0778
EMAIL: info@captura-el.com

Romania

Lauterbach GmbH
Altlaufstr. 40
D-85635 Höhenkirchen-Siegersbrunn
Phone: +49 8102 9876 0
FAX: +49 8102 9876 999
EMAIL: info@lauterbach.com

Russia

RTSoft
Mr. Alexey Isaev
Nikitinskaya 3
RUS-105037 Moscow
Phone: +7 495 742 6828
FAX: +7 495 742 6829
EMAIL: sales@rtsoft.msk.ru

Singapore

Flash Technology
Mr. Teo Kian Hock
No 61, # 04-15 Kaki Bukit Av 1
Shun Li Industrial Park
SGP-Singapore 417943
Phone: +65 6749 6168
FAX: +65 6749 6138
EMAIL: teokh@flashtech.com.sg

South Korea, Pangyo

MDS Technology Co., Ltd.
Mr. Sangheon Lee
3FL, Hancom Tower
49, Daewangpangyo-ro 644, Bundang-gu
Seongnam-si, Gyeonggi-do, 463-400, ROK
Phone: +82-31-627-3000
FAX: +82-31-627-3100
EMAIL: trace32@mdstec.com

Spain

Captura Electronica, SCCL
Mr. Juan Martinez
c/Duero, 40
E-08031 Barcelona
Phone: +34 93 429 5730
FAX: +34 93 407 0778
EMAIL: info@captura-el.com

Sweden

Nohau Solutions AB
Mr. Jörgen Nilsson
Derbyvägen 4
SE-21235 Malmö
Phone: +46 40 592 206
FAX: +46 40 592 229
EMAIL: sales@nohau.se

Switzerland

JDT Jberg DatenTechnik
Mr. Andreas Jberg
Zimmereistrasse 2
CH-5734 Reinach AG
Phone: +41 62 7710 886
FAX:
EMAIL: Andreas.Jberg@jdt.ch

Taiwan

Superlink Technology Corp.
Mr. Sulin Huang
3F-8, No. 77, Sec. 1, Xintaiwu Rd., Xizhi District,
New Taipei City 22101, Taiwan, R.O.C.
Phone: +886 2 26983456
FAX: +886 2 26983535
EMAIL: info.stc@superlink.com.tw

Tunisia

Lauterbach Consulting S.A.R.L.
Mr. Khaled Jmal
Route El Ain Km 3.5
TN-3062 Sfax
Phone: +216-74611730
FAX: +216-74611723
EMAIL: info_tn@lauterbach.com

Turkey-1

Tektronik Muh. ve Tic. A.S.
Mr. Hakan Yavuz
CyberPlaza B-Blok, 702B
Bilkent
06800 Ankara
Phone: +90 312 437 3000
FAX: +90 312 437 1616
EMAIL: info@tektronik.com.tr

Turkey-2

G3TEK Embedded Technologies Ltd.
Mr. Celal Aygun
Ilkyerlesim Mah. 445.
Sok. No: 48
06370 Batikent/Ankara
Phone: +90 312 3324769
FAX: +90 312 3324769
EMAIL: info@g3tek.com

UK

Lauterbach Ltd.
Mr. Barry Lock
11 Basepoint Enterprise Centre
Stroudley Rd
Basingstoke, Hants RG24 8UP
Phone: +44 1256 333 690
FAX: +44 1256 350 301
EMAIL: info_uk@lauterbach.com

USA East

Lauterbach Inc.
Mr. Udo Zoettler
4 Mount Royal Ave.
USA-Marlborough, MA 01752
Phone: +1 508 303 6812
FAX: +1 508 303 6813
EMAIL: info_us@lauterbach.com

USA West

Lauterbach Inc.
Mr. Bob Kupyn
1111 Main Street, Suite 620
USA-Vancouver, WA, 98660
Phone: +1 503 524 2222
FAX: +1 503 524 2223
EMAIL: bob.kupyn@lauterbach.com

Additional Information

<http://www.lauterbach.com>

Lauterbach GmbH

Altlaufstr. 40
D-85635 Höhenkirchen-Siegertsbrunn
Tel. ++49 8102 9876-0 FAX -999
info@lauterbach.com
http://www.lauterbach.de

Lauterbach Inc.

4 Mount Royal Ave.
Marlboro MA 01752
Phone (508) 303 6812 FAX (508) 303 6813
info_us@lauterbach.com
http://www.us.lauterbach.com

Lauterbach Ltd.

11 Basepoint Enterprise Ctre Stroudley Road
Basingstoke, Hants RG24 8UP
Phone ++44-1256-333-690 FAX -661
info_uk@lauterbach.com
http://www.lauterbach.co.uk

Lauterbach S.A.R.L.

135 Chemin Des Bassins
F-94035 Créteil Cedex
Phone ++33-149-562-030
FAX ++33-149-562-039
info_fr@lauterbach.com
http://www.lauterbach.fr

Lauterbach Japan, Ltd.

3-9-5 Shinyokohama Kouhoku-ku
Yokohama-shi Japan 222-0033
Phone ++81-45-477-4511 FAX -4519
info_j@lauterbach.com
http://www.lauterbach.co.jp

Lauterbach s.r.l.

Lauterbach s.r.l.
Via Enzo Ferrieri 12
I-20153 Milano
Phone ++39 02 45490282
FAX ++39 02 45490428
info_it@lauterbach.it
http://www.lauterbach.it

Suzhou Lauterbach Consulting Co.,Ltd.

Room 1605, Xing Hai International Square
No.200, Xing Hai Street
Suzhou, 215021 PR of China
Phone: 0086-512 6265 8030
FAX: 0086-512 6265 8032
info_cn@lauterbach.cn
http://www.lauterbach.cn

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