

SoCrates II - The Cyclone[®] V SoC Starter Kit

ALTERA[®]

 RocketBoards.org

 BROADCOM

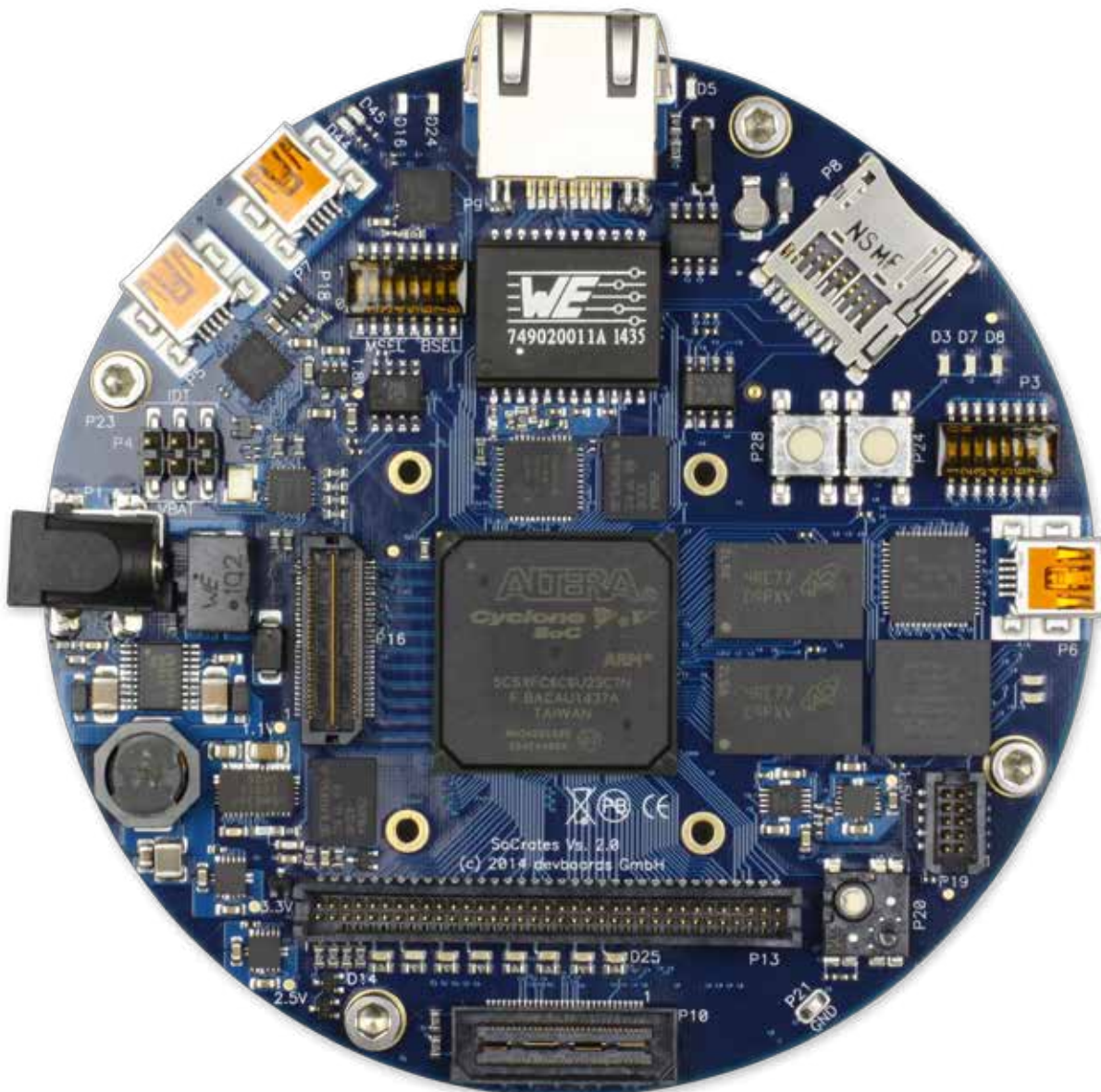
 IDT

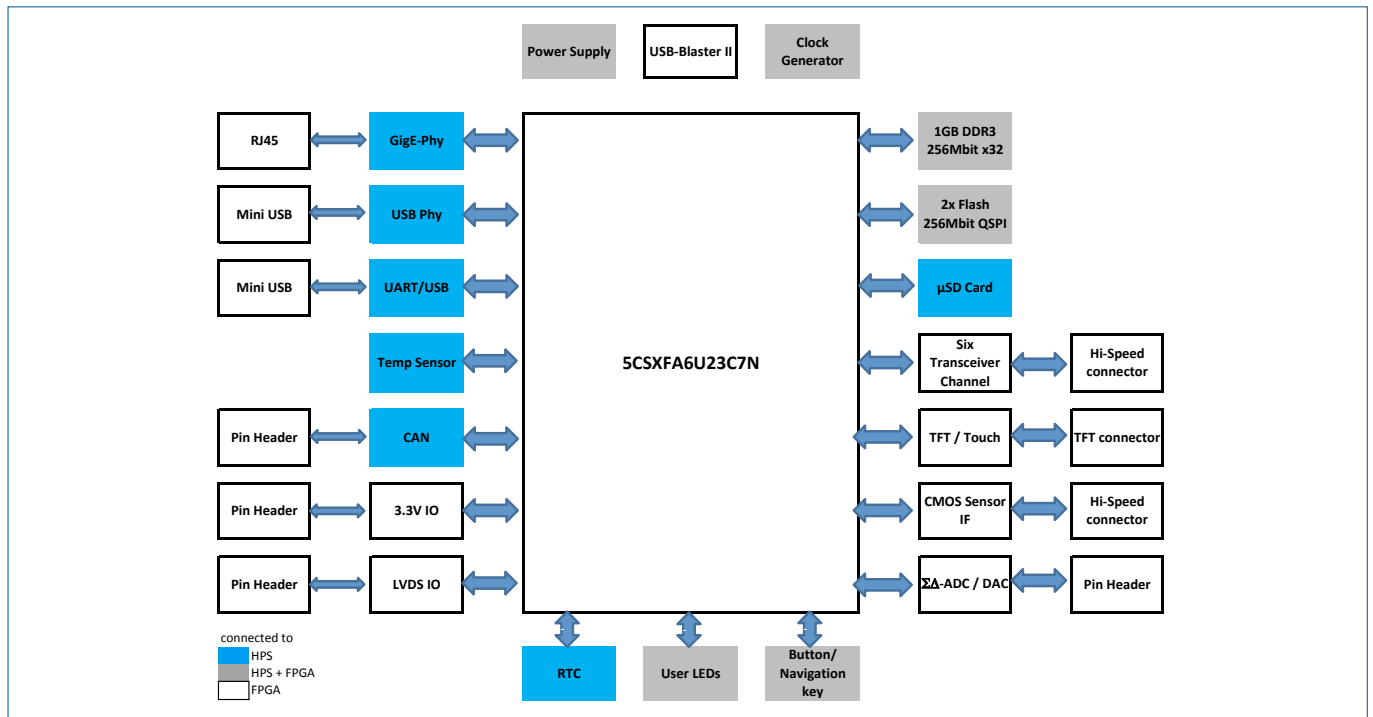
 Micron

SoCrates II - The Cyclone® V SoC Starter Kit

SoCrates II is the second generation of the SoCrates Altera SoC FPGA development board. The SoC FPGA integrates a Cyclone® V FPGA with a dualcore Cortex™-A9 Hard Processor System (HPS). The HPS provides the processor cores and a rich set of peripherals. SoCrates II provides a selected set of the peripherals like Gigabit Ethernet, USB OTG, SPI, I2C, UART, CAN, µSDCard and GPIO. The external memory chips add 1GB DDR3 to HPS dedicated HMC. The processor can be booted from a QSPI Flash, the SD Card interface or through

the FPGA. To configure the FPGA a second QSPI Flash is available, or the HPS can configure the FPGA. The FPGA IO Pins are connected to several connectors, providing 3.3 V and LVDS IO Standard. A special High-Speed LVDS connector is available to add a CMOS Sensor Board to SoCrates II. On the bottom of the board, a LVDS-based TFT-display can be connected directly. SoCrates II provides all six transceiver channels on a high-speed connector allowing protocols like PCIe, USB3 or JESD204.





Ref. Designs:

- Linux BSP / Golden Top
- Qt Reference Design with TFT Controller and Touch Support
- Open-CL BSP
- Bare Metal Example

Features:

- 5CSXFC6C6U23C7N
 - 110 K LEs
 - 112 DSP Blocks
 - 5.4 Mbit RAM
- 6 x 3.125 Gbit Transceiver
- Dual Cortex A9 core + Peripherals (HPS) Hard Processor Subsystem
- 256 Mbit FPGA Configuration Device
- 256 Mbit HPS Boot Device
- 1 GB DDR3 Memory 256 Mbit x32
- μSD Card Slot

- Real-Time Clock
- Temperature Sensor
- Gigabit PHY, RGMII
- USB 2.0 Transceiver
- UART / USB Converter
- CAN Transceiver
- GPIOs 3.3 V
- LVDS Interface
- LVDS TFT interface
- 11 User LEDs
- Button/Navigation Key
- Embedded Altera USB-Blaster II
- On Board Enpirion Power Supply 1.1 V/1.35 V/1.8 V/2.5 V/3.3 V
- Dimension : 100 mm diameter

Find more information at: www.ebv.com/socrates

FLEXIBLE SOLUTIONS

Your Innovative Design Solutions for Different Applications Based on Altera-FPGAs

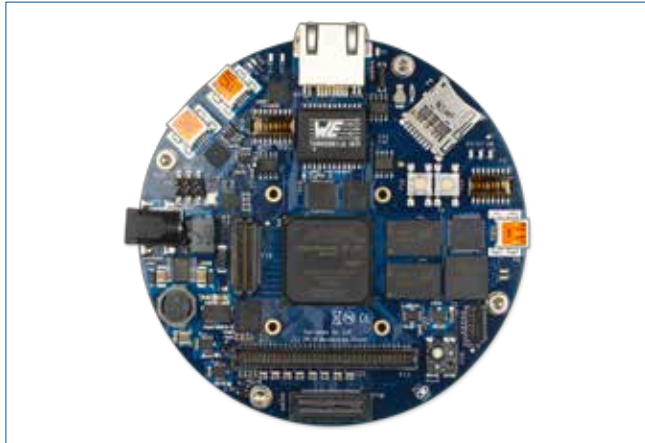


HMI, PLC, Digital Signage



Automotive, ADAS

SoCrates II
EBV Evaluation Platform
for Altera SoC

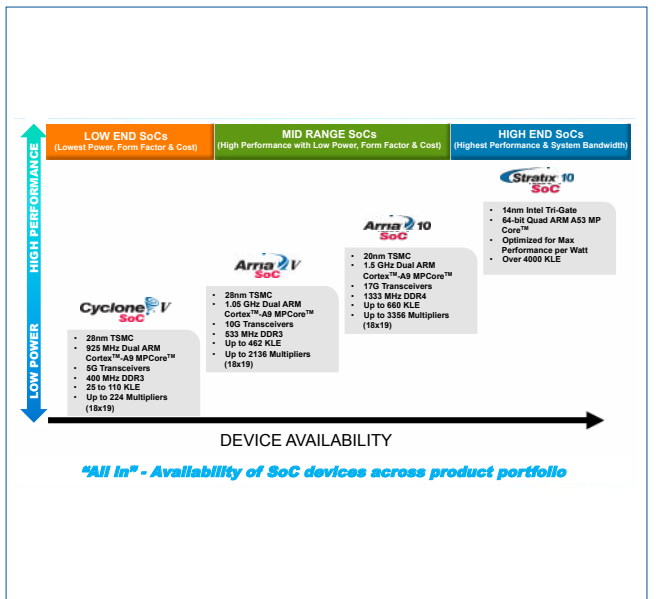


Industrial Communication, Motor Control



Medical, Machine Vision, Surveillance

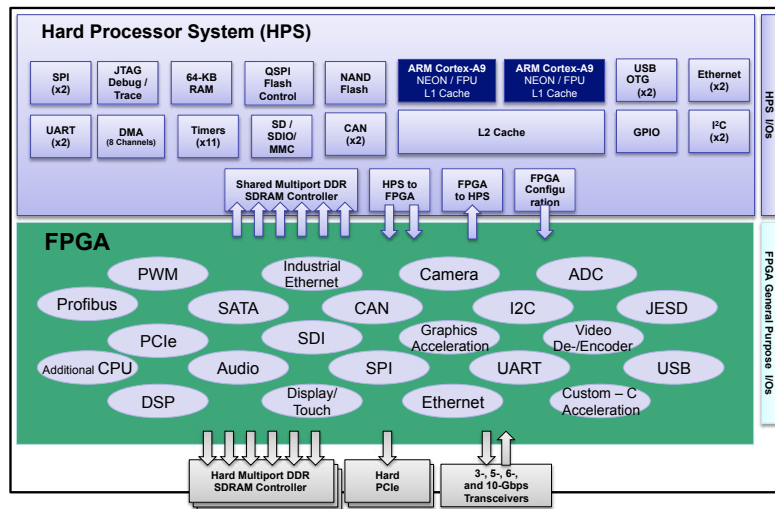
ALTERA SOC – BASICS AND ROADMAP



SOCRATES USE CASES

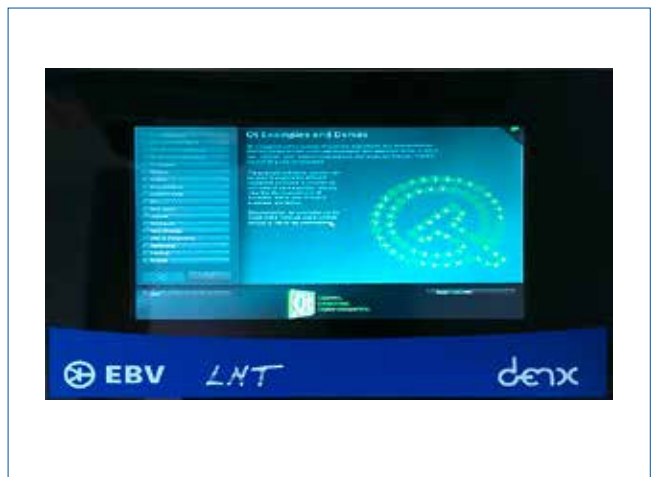
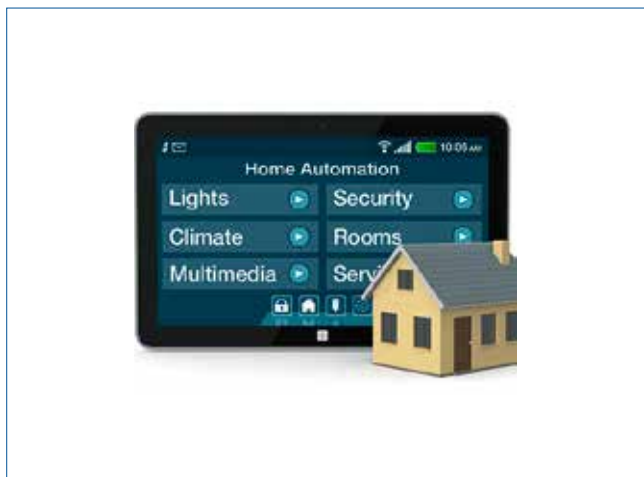
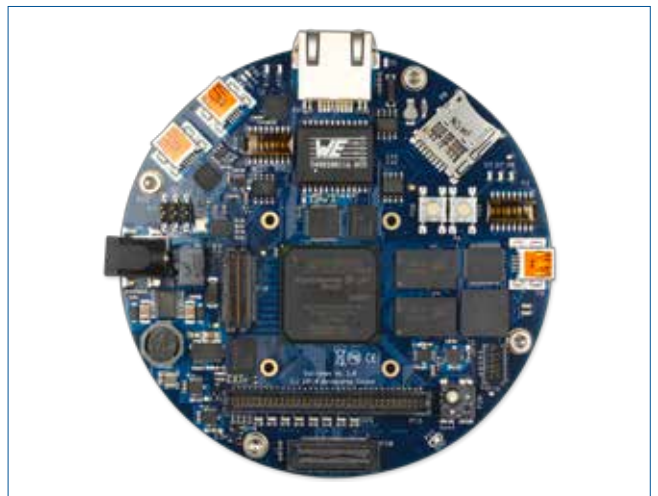
1. Easy Start Reference Board

- HW-Flow
- Baremetal-Programming
- Linux
- Easy Integration FPGA and ARM Cortex A9
 - Reference platform for Flexible Peripheral Extension



2. HMI

- Graphics Controller
 - Free IP
 - Basic Functionality
- Royalty IP
 - High Functionality (OPEN-GL)
- Touch-Control



SOCRATES USE CASES

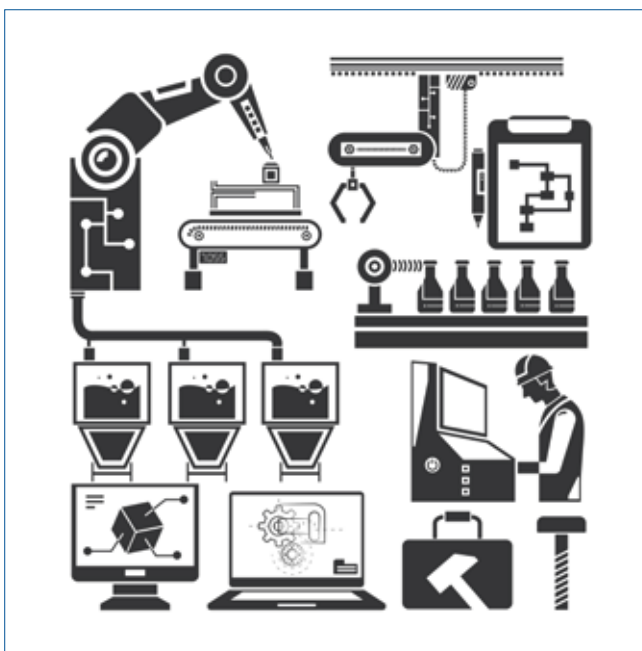
3. Video / Camera

- CMOS Sensor Interface
- Video Surveillance
- IP Camera
- Video-Over-IP
- Video Compression (H.264)

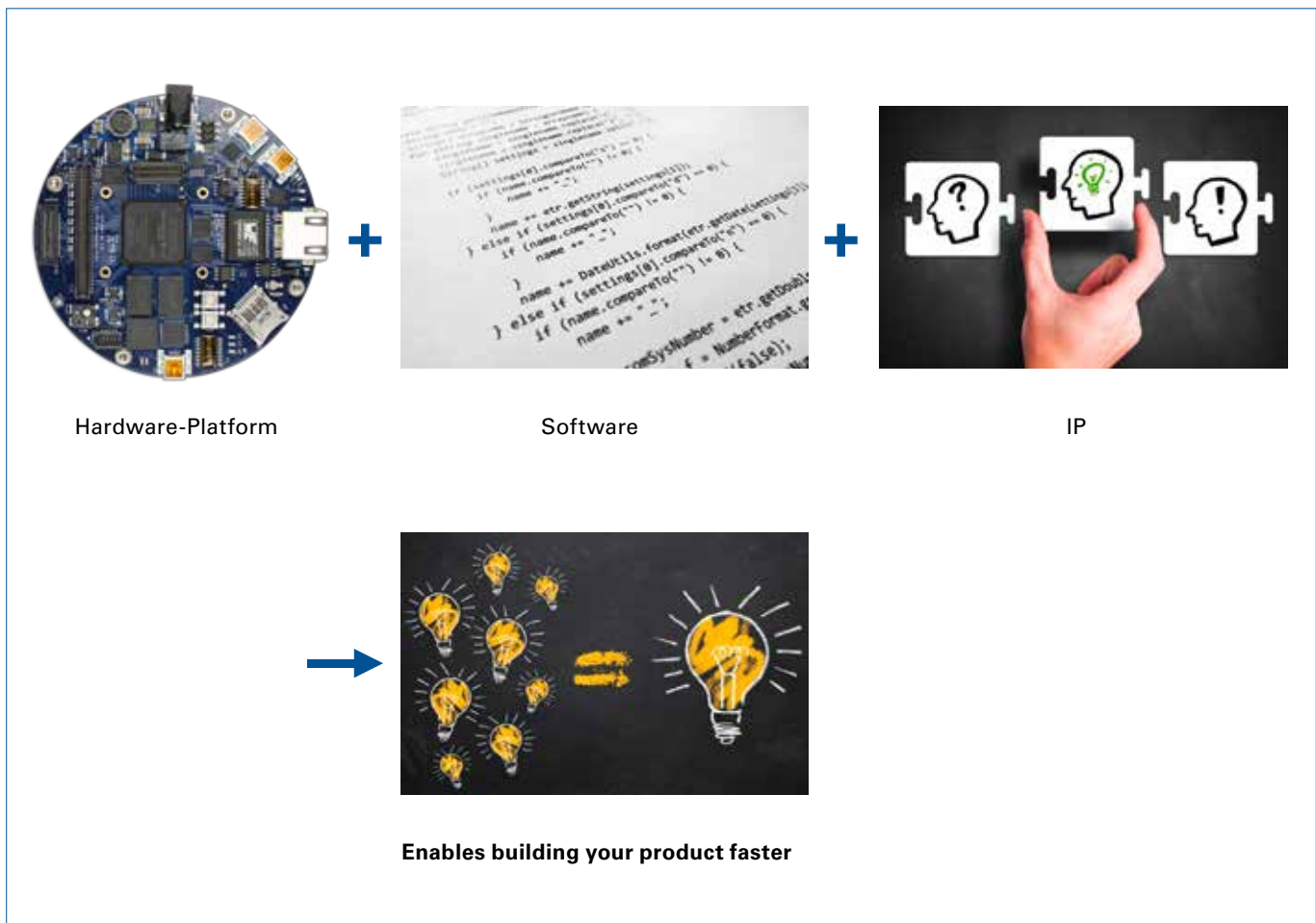


4. Industrial Applications

- PLC
- Industrial Ethernet
- HMI



EBV - ADVANTAGE



DISCLAIMER:

Product information (for example, statement or advice (technical or otherwise) advertisement content, and information related to a Product’s specification, features, uses or conformance with legal or other requirements) is provided by EBV on an “AS IS” basis and does not form a part of the properties of the Product. EBV makes no representation as to the accuracy or completeness of the Product information, and disclaims all representations, warranties and liability under any theory with respect to the Product information. This document shall in no event be regarded as a guarantee or warranty of conditions or specifications. EBV has no influence whatsoever on the given external information and accepts no liability for. EBV recommends Customer to validate any Product Information before using or acting on such information. All Product information is subject to change without notice. EBV is not responsible for typographical or other errors or omissions in Product information. This document shall remain the property of EBV and it’s not allowed to copying, reproducing or distributing it to others, as a whole or in extracts. Exclusively the terms and conditions of EBV, available on the website: www.ebv.com , shall apply.



ABOUT EBV ELEKTRONIK

EBV Elektronik, an Avnet (NYSE:AVT) company, was founded in 1969 and is the leading specialist in European semiconductor distribution. EBV maintains its successful strategy of personal commitment to customers and excellent services. 230 Technical Sales Specialists provide a strong focus on a selected group of long-term manufacturing partners. 110 continuously trained Application Specialists offer extensive application know-how and design expertise. With the EBVchips Program, EBV, together with its customers, defines and develops new semiconductor products. Targeted customers in selected growth markets will be supported by the Vertical Sales Segments. Warehouse operations, complete logistics solutions and value-added services such as programming, taping & reeling and laser marking are fulfilled by Avnet Logistics, EBV’s logistical backbone and Europe’s largest service centre. EBV operates from 62 offices in 28 countries throughout EMEA (Europe – Middle East – Africa). For more information about EBV Elektronik, please visit www.ebv.com. Follow EBV on [Facebook](#), [LinkedIn](#), [Twitter](#) and [YouTube](#).

Interested in more product highlights and market updates from EBV Elektronik? Subscribe for our newsletter at www.ebv.com/newsletter.

EBV EUROPEAN HEADQUARTERS

EBV Elektronik GmbH & Co. KG | D-85586 Poing | Im Technologiepark 2-8 | Phone: +49 (0)8121 774-0 | www.ebv.com

EBV REGIONAL OFFICES | Status April 2013

AUSTRIA

A-1120 Wien
Schönbrunner Str. 297 - 307
Phone: +43 (0)18 91 52-0
Fax: +43 (0)18 91 52-30

BELGIUM

B-1831 Diegem
Kouterveldstraat 20
Phone: +32 (0)27 16 00 10
Fax: +32 (0)27 20 81 52

CZECH REPUBLIC

Amazon Court
Karolinska 661/4
CZ-18600 Prague
Czech Republic
Phone: +420-234 091 011
Fax: +420-234 091 010

DENMARK

DK-8230 Åbyhøj
Ved Lunden 9
Phone: +45 86 25 04 66
Fax: +45 86 25 06 60

ESTONIA

DK-2730 Herlev
Ellekær 9, 2 tv
Phone: +45 39 69 05 11
Fax: +45 39 69 05 04

FINLAND

EE-13157 Tallinn
Ehitajate tee 114
Phone: +372 625 79 90
Fax: +372 625 79 95
Cell: +372 513 22 32

FRANCE

FIN-02240 Espoo
Pihatörmä 1 a
Phone: +358 (0)927 05 27 90
Fax: +358 (0)9 27 09 54 98

GERMANY

FIN-90100 Oulu
Nahkatehtaankatu 2
Phone: +358 (0)85 62 49 10
Fax: +358 (0)85 62 49 15

IRELAND

FR-13854 Aix-en-Provence
115, Rue Nicolas Ledoux
Immeuble Hemiris, Bâtiment A,
Phone: +33 (0)442 39 65 40
Fax: +33 (0)442 39 65 50

ITALY

F-92184 Antony Cedex (Paris)
3, rue de la Renaissance
Phone: +33 (0)140 96 30 00
Fax: +33 (0)140 96 30 30

JAPAN

F-35510 Cesson Sévigné (Rennes)
35, av. des Peupliers
Phone: +33 (0)299 83 00 50
Fax: +33 (0)299 83 00 60

KOREA

F-67400 Illkirch Graffenstaden
35 Rue Gruninger
Phone: +33 (0)3 90 40 05 92
Fax: +33 (0)3 88 65 11 25

NETHERLANDS

F-31670 Labège (Toulouse)
Immeuble Les Berges du Lac
Bat A, 45 Rue du Colombier
Phone: +33 (0)561 00 84 61
Fax: +33 (0)561 00 84 74

NETHERLANDS

F-69693 Venissieux (Lyon)
Parc Club du Moulin à Vent
33, Av. du Dr. Georges Lévy
Phone: +33 (0)472 78 02 78
Fax: +33 (0)478 00 80 81

NETHERLANDS

F-12277 Berlin-Mariendorf
Kitzingstraße 15 - 19
Phone: +49 (0)30 74 70 05-0
Fax: +49 (0)30 74 70 05-55

NETHERLANDS

D-30938 Burgwedel
Burgdörfer Straße 2
Phone: +49 (0)5139 80 87-0
Fax: +49 (0)5139 80 87-70

D-41564 Kaarst
An der Gumpgesbrücke 7
Phone: +49 (0)2131 96 77-0
Fax: +49 (0)2131 96 77-30

D-59439 Holzwickede
Wilhelmstraße 1
Phone: +49 (0)2301 943 90-0
Fax: +49 (0)2301 943 90-30

D-71229 Leonberg
Neue Ramtelstraße 4
Phone: +49 (0)7152 30 09-0
Fax: +49 (0)7152 759 58

D-90471 Nürnberg
Lina-Ammon-Straße 19B
Phone: +49 (0)911 817 669-0
Fax: +49 (0)911 817 669-20

D-85586 Poing
Im Technologiepark 2-8
Phone: +49 (0)8121 774-0
Fax: +49 (0)8121 774-422

D-04435 Schkeuditz
Airport Business Center Leipzig
Frankfurter Straße 2
Phone: +49 (0)34204 4511-0
Fax: +49 (0)34204 4511-99

D-78048 VS-Villingen
Marie-Curie-Straße 14
Phone: +49 (0)7721 998 57-0
Fax: +49 (0)7721 998 57-70

D-65205 Wiesbaden
Borsigstraße 36
Phone: +49 (0)6122 80 88-0
Fax: +49 (0)6122 80 88-99

HUNGARY

H-1117 Budapest
Budafoki út 91-93, West Irodaház
Phone: +36 1 436 72 29
Fax: +36 1 436 72 20

IRELAND

IRL-Dublin 12
Calmount Business Park
Unit 7, Block C
Phone: +353 (0)14 09 78 02
Fax: +353 (0)14 56 85 44

ISRAEL

IL-40600 Tel Mond
Drorrim South Commercial Center
P.O. Box 149
Phone: +972 (0)9 778 02 60
Fax: +972 (0)9 796 68 80

ITALY

I-20092 Cinisello Balsamo (MI)
Via C. Frova, 34
Phone: +39 02 66 09 62 90
Fax: +39 02 66 01 70 20

ITALY

I-50019 Sesto Fiorentino (FI)
EBV Elektronik Srl
Via Lucchese, 84/B
Phone: +39 05 54 36 93 07
Fax: +39 05 54 26 52 40

ITALY

I-41100 Modena (MO)
Via Carlo Cattaneo, 54
Phone: +39 059 29 24 211
Fax: +39 059 29 29 486

ITALY

I-80128 Napoli (NA)
Via G. Capaldo, 10
Phone: +39 081 193 016 03
Fax: +39 081 198 061 24
Cell: +39 335 8 39 05 31

ITALY

I-00155 Roma
Viale Palmiro Togliatti 1639
Phone: +39 064 06 36 65/789
Fax: +39 064 06 37 77

I-35030 Sarreola di Rubano (PD)
Piazza Adelaide Lonigo, 8/11
Phone: +39 049 89 74 701
Fax: +39 049 89 74 726

I-10156 Torino
Corso Vercelli, 348
Phone: +39 011 262 56 90
Fax: +39 011 262 56 91

NETHERLANDS

NL-3606 AK Maarssenbroek
Planetenbaan 116
Phone: +31 (0)346 58 30 10
Fax: +31 (0)346 58 30 25

NORWAY

Norway
Postboks 101, Manglerud
Ryensvingen 3B
N-0681 Oslo
Phone: +47 22 67 17 80
Fax: +47 22 67 17 89

POLAND

PL-02-674 Warszawa
Ul. Marynarska 11
Phone: +48 (0)22 257 47 06

POLAND

PL-50-062 Wrocław
Pl. Solny 16
Phone: +48 (0)71 34-2 29-44
Fax: +48 (0)71 34-2 29-10

PORTUGAL

Unipessoal LDA
Edifício Tower Plaza
Rotunda Eng.º Edgar Cardoso, 23 - 14ºG
4400-676 Vila Nova de Gaia
Phone: +351 220 920 260
Fax: +351 220 920 261

ROMANIA

RO-Constanța
Constanța Business Center
Șos. Pipera-Tunari 4c
Voluntari, Ilfov (Bucharest)
RO - 077190 Romania
Phone: +40 21 529 69 11
Fax: +40 21 529 69 01

RUSSIA

RUS-620028 Ekaterinburg
Tatischeva Street 49A
Phone: +7 495 730 31 70
Fax: +7 343 311 40 46

RUSSIA

RUS-127486 Moscow
Korovinskoye Shosse 10,
Build 2, Off.28
Phone: +7 495 730 31 70
Fax: +7 495 730 31 71

RUSSIA

RUS-195197 St. Petersburg
Polustrovsky Prospect 43,
Office 421
Phone: +7 812 635 70 63
Fax: +7 812 635 70 64

SERBIA

Balkanska 2
SRB-11000 Belgrade
Phone: +381 11 404 9901
Fax: +381 11 404 9900
Mobile: +381 63 204 506
Mobile: +381 62 78 00 12

SLOVAK REPUBLIC

SK-85101 Bratislava
Sevčenkova 34
Phone: +421 2 321 111 41
Fax: +421 2 321 111 40

SLOVENIA

SI-1000 Ljubljana
Dunajska c. 159
Phone: +386 (0)1 56 09 778
Fax: +386 (0)1 56 09 877

SOUTH AFRICA

ZA-8001 Foreshore, Cape Town
1 Mediterranean Street
5th Floor MSC House
Phone: +27 (0)21 402 19 40
Fax: +27 (0)21 419 62 56

SOUTH AFRICA

ZA-3629 Westville
Forest Square, 11 Derby Place
Suite 4, Bauhinia Building
Phone: +27 (0)31 27 92 600
Fax: +27 (0)31 27 92 624

ZA-2157 Woodmead,
Johannesburg
Woodlands Office Park
141 Western Service Road
Building 14-2nd Floor
Phone: +27 (0)11 236 19 00
Fax: +27 (0)11 236 19 13

SPAIN

E-08950 Esplugues de Llobregat
(Barcelona)
Antón Fortuny 14-16 Esc.C 3º 2a
Phone: +34 93 473 32 00
Fax: +34 93 473 63 89

SPAIN

E-39005 Santander (Cantabria)
Racing nº 5 bajo
Phone: +34 94 223 67 55
Phone: +34 94 237 45 81

SPAIN

E-28760 Tres Cantos (Madrid)
Centro Empresarial Euronova
C/Ronda de Poniente, 4
Phone: +34 91 804 32 56
Fax: +34 91 804 41 03

SWEDEN

S-191 62 Sollentuna
Glimmervägen 14, 7 tr
Phone: +46 (0)859 47 02 30
Fax: +46 (0)859 47 02 31

SWITZERLAND

CH-8953 Dietikon
Bernstrasse 394
Phone: +41 (0)44 745 61 61
Fax: +41 (0)44 745 61 00

SWITZERLAND

CH-1010 Lausanne
Av. des Boveresses 52
Phone: +41 (0)216 54 01 01
Fax: +41 (0)216 54 01 00

TURKEY

EBV Elektronik Ticaret Ltd.Sti
Canan Residence
Hendem Cad. No: 54 Ofis A2
Serifali Umraniye Istanbul
34775 Türkiye
Phone: +90 (0)216 52 88 310
Fax: +90 (0)216 52 88 311

UKRAINE

UA-03040 Kiev
Vasilovskaya str. 14
off. 422-423
Phone: +380 44 496 22 26
Fax: +380 44 496 22 27

UNITED KINGDOM

South East
Thames House
17 Marlow Road
Maidenhead
Berkshire, SL6 7AA
Phone: +44 (0)16 28 77 07 07
Fax: +44 (0)16 28 78 38 11

UNITED KINGDOM

South West & Wales
12 Interface Business Park
Bincknoll Lane
Royal Wootton Bassett
Wiltshire, SN4 8SY
Phone: +44 (0)17 93 84 99 33
Fax: +44 (0)17 93 85 95 55

UNITED KINGDOM

North
Manchester International
Office Centre, Suite 3E (MIOC)
Styal Road
Manchester, M22 5WB
Phone: +44 (0)16 14 99 34 34
Fax: +44 (0)16 14 99 34 74

UNITED KINGDOM

Scotland
1st Floor
180 St. Vincent Street
Glasgow, G2 5SG
Phone: +44 (0)141 242 4820
Fax: +44 (0)141 221 1916



EBVElektronik
| An Avnet Company |