MultiConnect® OCG-D

Open Communications Gateways - Device

The MultiConnect® OCG-D open communications gateways with CoreCDP™ comprise an open Linux development environment and a fully certified hardware offering that includes multiple interfaces and internal peripherals in one application-ready end user solution. Applications that require device networking capability can now be embedded directly onto select Multi-Tech hardware, providing a flexible, quick and cost-effective way to bring your solution to market.

Development Hardware

- Application-ready hardware platform
- Includes GPS and cellular modem
- Multiple interfaces available (serial, USB, Ethernet)
- 36-pin GPIO interface
- FCC, IC, UL, PTCRB and R&TTE certified

CoreCDP™ Software

- Custom Linux distribution
- Provides complete Linux build environment
- Cross-compile thousands of open source software packages
- Create custom applications in a short period of time

Support

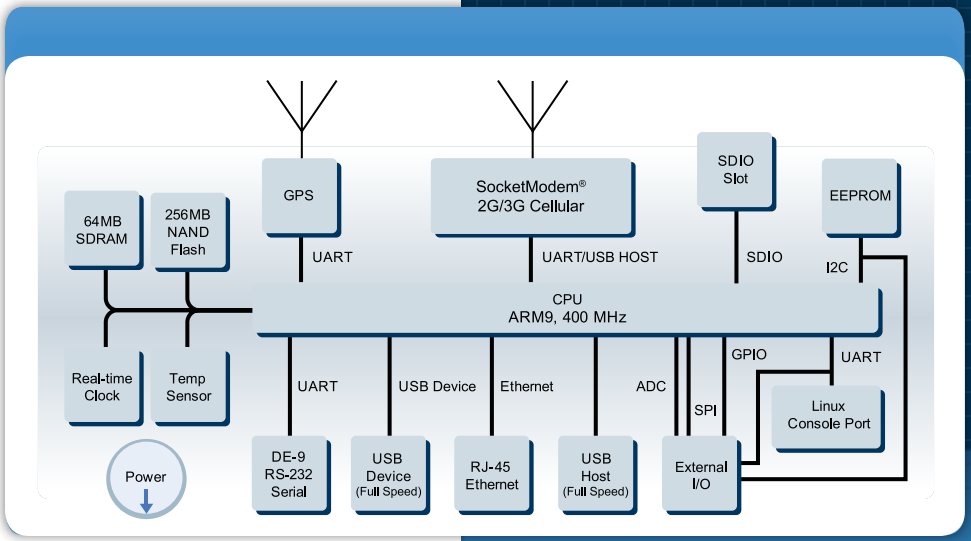
- Advanced developer support available
- Established developer community available at www.multitech.net
- Two-year warranty

Deployment Models

- Non-cellular, cellular-only and cellular/ GPS models available
- Standard and customized deployment models available
- FCC, IC, UL, PTCRB and R&TTE certified

Benefits

- Linux-based open source software
- Proven hardware for the development and deployment of custom applications
- Cost-effective alternative to custom manufacturing
- Comprehensive service and developer support



Specifications

Models	MTCDP-H5	MTCDP-EV2	MTCDP-E1	MTCDP-G2
Performance	HSPA+	CDMA2000 1xRTT EV-DO Rev. A	EDGE: E-GPRS Class 12 GPRS: Class 10	GPRS Class 10
Frequency Bands	Penta-band: 850/900/1700(AWS)/ 1900/2100 MHz Triple-band: 2100/1900/850 MHz with Rx diversity	Dual-band 800/1900 MHz CDMA; 800 MHz & 800/1900 MHz with R-UIM support	Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz	Quad-band GSM 850/900/1800/1900 MHz
Environmental†				
Operating Temperature*	-22° to 140° F (-30° to +60° C)*	-40° to 167° F (-40° to +75° C)*	-31° to 167° F (-35° to +75° C)*	-40° to 185° F (-40° to +85° C)*
	* UL Listed @ 104° F (40° C), limited by power supply. UL Certification does not apply or extend to an ambient above 104° F (40° C) and has not been evaluated by UL for ambient greater than 104° F (40° C).			
Storage Temperature	-40° to +185° F (-40° to +85° C)			
Humidity	20% to 90% RH, noncondensing			
Physical Description				
Dimensions (L x W x H)	2.8" x 7.0" x 1.2" (7.1 cm x 17.8 cm x 3.0 cm)			
Weight	11.5 oz (326 g)			
Certifications				
EMC Compliance†	FCC Part 15, EN55022, EN55024	FCC Part 1	FCC Part 15, EN55022, EN55024	
Radio Compliance	FCC Part 22, 24, RSS132, 133, EN301 489-1, EN489-3 (-GP only), EN301 489-7, EN301 511, AS/ACIF S042.1, S042.3	FCC Part 22, 24, RSS132, 133	FCC Part 22, 24, RSS132,133, EN301 489-1, EN489-3 (-GP only), EN301 489-7, EN301 511, AS/ACIF S042.1, S042.3	
Safety†	UL60950-1, cUL60950-1, IEC60950-1	UL60950-1, cUL60950-1, IEC60950-1	UL60950-1, cUL60950-1, IEC60950-1	UL60950-1, cUL60950-1, IEC60950-1, AS/NZS60950-1
Network	PTCRB	CDG 1&2	PTCRB	

† Specifications for non-cellular versions.

CoreCDP Software Specifications

(Version 2.2.2)

Linux Kernel 2.6.35.14

Utilizes OpenEmbedded framework

Tested with the following Linux OS: Ubuntu 9.10 to 11.04 (recommended), Debian 6 (recommended)

openSUSE 11.4, Fedora Core 12 – 15, CentOS 5.6 & 6

Drivers to support all peripherals included on the platform hardware

Notable Software Versions: Python 2.6.6, JamVM 1.5.4 (Java), Perl 5.10.1. Ruby 1.8.7-p302, PHP 5.3.6

A complete list of software versions is available at www.multitech.net

Networking: PPP, iptables

Web Server: lighttpd

Remote shell: SSH

Database: sqlite3

Network file system: samba

Security: OpenSSL

Software Development Kit: MultiConnect SDK

Hardware Specifications

Processor & Memory

400 MHz ARM9 CPU
256MB NAND flash
64MB SDRAM
2GB industrial grade SD Flash Card (included)

Internal Peripherals

RTC (Real Time Clock)
Dedicated GPS receiver
Cellular modem
Debug 3 pin serial console port
Temperature sensor

Connections

LAN: RJ-45, 10/100BaseT
RS-232 Data: DB-9 female, 921.6K bps max serial speed
GSM/GPS Antenna: 50 ohm SMA female
Power: 2.5mm miniature screw
SIM: Standard 1.8V & 3V SIM receptacle
USB Host: USB 2.0 Full Speed (12 Mbps)
Host connector USB Device: USB 2.0 Full Speed (12 Mbps) mini-B device connector
GPIO: 36-pin Molex connection
SD Memory Flash Card: SD memory card slot

GPIO Functions:*

Pins 1-9: General Purpose Input
Pins 10-14: Analog Input
Pins 15-24: General Purpose Output
Pins 25-29: SPI
Pins 30-31: Debug
Pin 32: GPS PPS
Pins 33-34: I2C
Pin 35: No Connect
Pin 36: Ground (SPI, I2C, Serial)

* For more specifications on GPIO functionality, visit www.multitech.net

Interfaces

General Purpose LEDs: Power, Cellular Link Status, Ethernet Link, & Speed
Programmable LEDs: 5 user-defined, application-specific LEDs
Short Message Services - SMS
Text & PDU
Point-to-Point (MO/MT)

GPS

Position: 2.5 meters
Acquisition: Hot start 1 second; cold start 29 seconds avg.
Sensitivity: Tracking -161 dBm
Protocol: NMEA-0183 V3.01, GGA, GLL, GSA, GSV, RMC, VTG

Power Requirements

Input Power: 9 to 32VDC

Highlights

Custom Application Development and Deployment

The MultiConnect OCG-D offers customers the opportunity to develop and deploy custom applications on the same product platform. Developer kits include all the hardware, cables and accessories required to develop unique applications. Once complete, deployment models are available for the sale and distribution of the solution within a proven and approved hardware platform.

Linux-Based Open Source

The MultiConnect OCG-D uses the OpenEmbedded framework as the base to provide a custom Linux distribution, known as CoreCDP. This allows developers to cross-compile thousands of open source software packages and to create custom applications in a very short period of time. In many cases, existing applications can easily be run with little or no modification.

Carrier Approved

All MultiConnect OCG-D developer kits and deployment models are PTCRB approved, relieving customers the burden and expense of obtaining these approvals independently. This also provides a faster time-to-market and improved return on investment.

Multiple Interface Options

The MultiConnect OCG-D provides the broadest range of interface options, including serial, USB host, and Ethernet, giving customers seamless connectivity to their applications.

GPIO

The 36-pin general purpose input/output connection, which includes SPI, I2C, serial, ADC, and GPS connections, provides multiple ways of interfacing with any application.

Proof of Concept

Customers planning their own internal custom developments can use the MultiConnect OCG-D to create beta units and prototypes for use in voice of customer and proof of concept activities. These models can be generated quickly and with little additional expense. The input from these activities can improve the feature set of the customer's final product.

Ordering Information

Developer Kits

Developer kits include: Modem with GPS receiver, universal power supply, GSM/GPS antenna, GPIO cable, serial debug cable, Ethernet cable, RS-232 cable, compact flash, USB cables, DVD, and screwdriver.

Product	Description	Region
MTCDP-H5-GP-DK-1.0	3G, HSPA+ Developer Kit	Global
MTCDP-EV2-GP-N2-DK-1.0	3G, EV-DO (Sprint) Developer Kit	USA
MTCDP-EV2-GP-N3-DK-1.0	3G, EV-DO (Verizon Wireless) Developer Kit	USA
MTCDP-EV2-GP-N16-DK-1.0	3G, EV-DO (Aeris Communications) Developer Kit	USA
MTCDP-E1-GP-DK-1.0	2.5G, EDGE Developer Kit	Global
MTCDP-G2-GP-DK-1.0	2G, GPRS Developer Kit	Global
MTCDP-GP-DK-1.0	Non-Cellular Developer Kit	Global

Deployment Models (includes GPS receiver)*

Deployment models are modem only. All accessories are sold separately.

Product	Description	Region
MTCDP-H5-GP-1.0	3G, HSPA+ Deployment Model	Global
MTCDP-EV2-GP-N2-1.0	3G, EV-DO (Sprint) Deployment Model	USA
MTCDP-EV2-GP-N3-1.0	3G, EV-DO (Verizon Wireless) Deployment Model	USA
MTCDP-EV2-GP-N16-1.0	3G, EV-DO (Aeris Communications) Deployment Model	USA
MTCDP-E1-GP-1.0	2.5G, EDGE Deployment Model	Global
MTCDP-G2-GP-1.0	2G, GPRS Deployment Model	Global
MTCDP-GP-1.0	Non-Cellular Deployment Model	Global

Deployment Models*

Deployment models are modem only. All accessories are sold separately.

Product	Description	Region
MTCDP-H5-1.0	3G, HSPA+ Deployment Model	Global
MTCDP-EV2-N2-1.0	3G, EV-DO (Sprint) Deployment Model	USA
MTCDP-EV2-N3-1.0	3G, EV-DO (Verizon Wireless) Deployment Model	USA
MTCDP-EV2-N16-1.0	3G, EV-DO (Aeris Communications) Deployment Model	USA
MTCDP-E1-1.0	2.5G, EDGE Deployment Model	Global
MTCDP-G2-1.0	2G, GPRS Deployment Model	Global
MTCDP-1.0	Non-Cellular Deployment Model	Global

Remote Asset Monitor Solution

The Remote Asset Monitor Solution enables customers to instantly visualize remote sensor data, rapidly prototype a solution to demonstrate/prove viability, and move to production. To learn more, visit http://remoteassetmonitor.com/

Product	Description	Region
MTCDP-EV2-GP-N3-DK-1.0-EX	3G EV-DO (Verizon Wireless) Developer Kit	USA
MTCDP-EV2-GP-N3-1.0-EX	3G EV-DO (Verizon Wireless) Deployment Model (includes GPS Receiver)	USA
MTCDP-EV2-N3-1.0-EX	3G EV-DO (Verizon Wireless) Deployment Model	USA

Verizon Advanced M2M Models

These Verizon Advanced M2M models come ready to deliver Verizon Advanced M2M services including Wireless Network Services (WNS), Application Services (AS), Unified Web Services (UWS) and access to the M2M Management Center. Available through Verizon M2M Developers. To learn more, visit http://m2mdeveloper.verizon.com/

Product	Description	Region
MTCDP-EV2-GP-N3-DK-1.0-NP	3G EV-DO (Verizon Advanced M2M) Developer Kit	USA
MTCDP-EV2-GP-N3-1.0-NP	3G EV-DO (Verizon Advanced M2M) Deployment Model (includes GPS Receiver)	USA
MTCDP-EV2-N3-1.0-NP	3G EV-DO (Verizon Advanced M2M) Deployment Model	USA

Accessories

MTOCG-BOB-DK	GPIO Cable and Break-out Board
CA-CDP-GPIO	36-pin, General Purpose Input/Output Cable (open ended)
PS-9VCB-LBC-U-Global	100 - 240V 9V-1.7A changeable blade power supply with three interchangeable blades (U.S., Euro, UK)
ANGSM-GPS-1MM	GSM/GPS Combination Antenna, 9.8 feet (3 meters)
CA-CDP-DEBUG	3-Pin, Serial Debug Cable, 6 feet (1.8 meters)
CA9-9-D	RS-232 Cable, DB9F-DB9M, 6 feet (1.8 meters)
CA-RJ-45	RJ45 (CAT5E, 10/100 Mbps) Cable, 6 feet (1.8 meters)
CA-USB	USB A/B Cable, 4.9 feet (1.5 meters)
CA-USB-A-MINI-B	USB A-to-Mini-B Cable, 3.9 feet (1.2 meters)

* Custom deployment options available. Contact your Multi-Tech Systems representative for details.

Services & Warranty

Multi-Tech's comprehensive Support Services programs offer a full array of options to suit your specific needs. These services are aimed at protecting your investment, extending the life of your solution or product, and reducing total cost of ownership. Our seasoned technical experts, with an average tenure of more than 10 years, can walk you through smooth installations, troubleshoot issues and help you with configurations. Products include a 2-year warranty that can be extended up to 5 years via Multi-Tech's Extended Warranty program, which offers the convenience of Overnight Service* for optimal uptime.

Extended Warranty & Overnight Services

To give you peace-of-mind and protect your investment, our Extended Warranty Service Plans ensure your Multi-Tech products are covered for 1, 2, or 3 years beyond the manufacturer's warranty with an optional Overnight Service plan*.

Installation Support

Multi-Tech's Installation Support Service delivers priority service with the ability to work one-on-one with an experienced Multi-Tech technical support engineer, to guide you through the installation process for our products.

Technical Support Services

At Multi-Tech, we're committed to providing you personalized attention and quality service while providing you a quick response to your product support needs. We have several options of support for you to choose from.

For additional information on Support Services as well as other service offerings, please contact your Multi-Tech representative or visit www.multitech.com/support.go.

* Overnight replacement service is currently available for U.S. customers.

World Headquarters

Multi-Tech Systems, Inc.
2205 Woodale Drive
Mounds View, MN 55112 U.S.A.
Tel: 763-785-3500
Toll-Free: 800-328-9717
Email: sales@multitech.com
www.multitech.com

EMEA Headquarters

Multi-Tech Systems (EMEA)
Unit 1, Thames Court
2 Richfield Avenue
Reading, Berkshire RG1 8EQ
United Kingdom
Tel: +(44) 118 959 7774
Email: sales@multitech.co.uk

8/13 • 86002159 •