

DATA SHEET

DEVIO™

DEVIO CR-1 CONFERENCE ROOM DEVICE



The Devio CR-1 is the hub that creates a desktop-like experience away from the desk, allowing you to connect to the AV technology in a meeting room simply by connecting your laptop to a USB 3.0 cable. Connecting to the CR-1 gets your laptop connected to the Devio beamforming microphone, the loudspeaker installed in the room, and one or two displays for sharing content locally, and offers multiple USB ports for attaching computer peripherals like a web camera for video conferencing. Acoustic Echo Cancellation and automatic gain control technology ensures everyone participating in the meeting can hear and be heard. With the laptop handling the connection to conferencing systems, Devio works easily with a host of conferencing solutions including Microsoft Skype for Business (Microsoft Lync®) and Microsoft Skype®, Citrix GoToMeeting®, Cisco WebEx®, and Google Hangouts™.

FEATURES

- USB 3.0 input for single-cable audio/video connectivity
- Integrated DisplayLink USB graphics technology enables connecting to two displays over USB (requires installation of DisplayLink driver on laptop)
- Pass-through HDMI connectivity for driverless connection to display
- Acoustic Echo Cancellation
- Automatic room setup
- Automatic gain control
- Speaker connectivity includes built-in 20W amplifier or RCA line-out
- Devio System Administration Utility (SAU) and support for SNMP device management over corporate network
- Includes mounting bracket for under-the-table installation
- Ships with one tabletop or one ceiling beamforming microphone with 360-degree coverage and the ability to add an additional microphone of the same type
- Two-year Biamp Systems warranty

SPECIFICATIONS: CR-1

FRONT PANEL CONNECTORS

Upstream USB 3.0 Port (Type B Male Connector): USB connectivity from computer to Devio CR-1 for audio and video, DisplayLink USB graphics technology enables connection to two displays

2 Downstream USB 3.0 Ports (Type-A Female Connector): Two USB 2.0/3.0 ports for attaching additional peripherals to the computer

HDMI Input Port: Enables driverless, pass-through video connection from computer to one in-room display via Devio CR-1

REAR PANEL CONNECTORS

24V DC Input: Locking connection for Devio CR-1 60W inline power supply

Ethernet (RJ45): 10/100/1000Base-T Ethernet network connection

2-pin Phoenix Connector: 20W powered output speaker connection

4-pin Phoenix Connector: For bridging in-room telephone into audio conferences via headset jack (sidetone must be disabled)

Line Out (RCA): Alternative connection to self-powered speakers (mono signal on both channels, optional balanced audio output)

MIC Out (RJ45): Cat-5/5e/6 cable connection to Devio DTM-1 or DCM-1 microphone

2 HDMI Output Ports: Supports video output to up to two in-room HDMI-equipped displays

Downstream USB 2.0 Port: Additional USB 2.0 peripheral connection (ideal for USB Camera)

LINE OUTPUT

Full Scale Level: +8.5 dBu
Freq. Response (20 Hz-20 kHz @ FS): +0/-0.25 dB
Dynamic Range: 95 dB A-Weighted (THD+N < 0.01%)
THD+N (20 Hz-10 kHz, 20 kHz BW) @ FS: <0.011%
Signal to Crosstalk Ratio (20 Hz-20 kHz) @ FS: 85 dB (one channel driven)

POWER AMPLIFIER

Continuous Output Power: 20W into Rated Load Impedance < 0.025% THD+N
Rated Impedance: 8 Ω to 4 Ω (short circuit protection)
Freq. Response (20 Hz-20 kHz @ 20W): +0.2/-0.5 dB
THD+N @ 1 kHz, 1W (20 kHz BW): <0.02%
Dynamic Range: 97 dB A-Weighted (THD+N < 0.025%)

HEADSET I/O

Full Scale Level: +1 dBu
Freq. Response (200 Hz-20 kHz @ FS): +0.5/-0.5 dB
THD+N (1 kHz-10 kHz, 20 kHz BW) @ FS: < 0.05%
Dynamic Range: 80dB A-Weighted (THD+N < 0.05%)

USB Audio sampling rate and bit rate: 48 kHz, 16 bit

System Administration Utility Capabilities: Remote/networked-based CR-1 device access and management, install firmware updates, perform Auto Setup

Supported video resolutions: 640 x 480p / 60Hz 4:3
 720 x 480p / 60Hz 4:3
 1280 x 720p / 60Hz 16:9
 1920 x 1080p / 60Hz 16:9
 720 x 576p / 50Hz 4:3
 1280 x 720p / 50Hz 16:9
 1920 x 1080p / 50Hz 16:9

USB Device Charging: Up to 5W, requires USB connection to computer

SNMP CAPABILITIES

Read: Devio Firmware Version, USB Connection Status, Call In Progress, Microphone Audio Present, Far End Audio Present, Auto Setup Status Device Operational

Notification: USB Connection Notification, Microphone Connected Notification, Line Fault Notification, Auto Setup Status Notification, Call In Progress Notification

OVERALL DIMENSIONS

Height: 1-13/16 inches (46 mm)
Width: 11-3/16 inches (284 mm)
Depth: 6-7/8 inches (175 mm)
Weight: 2.05 lbs (0.93 kg)

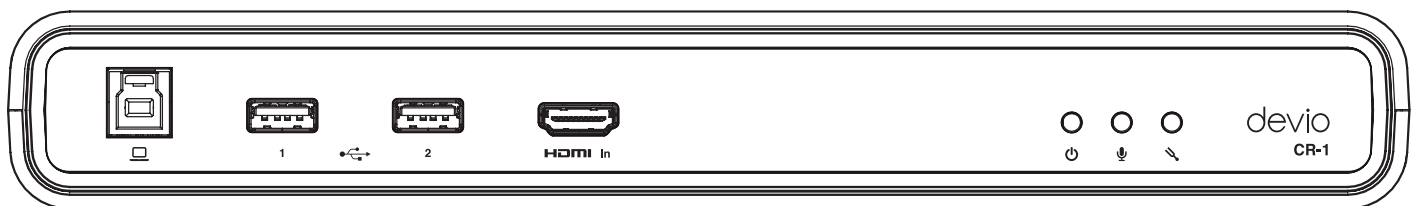
ENVIRONMENTAL

Operating Temperature: 0° to 45° C / 32° to 113° F
Humidity Range: 0% to 95% RH non-condensing
Altitude: 0-10,000 Feet MSL (0-3000 Meters MSL)
Front Panel Indicators: Power, Mic Status, Auto Setup Status

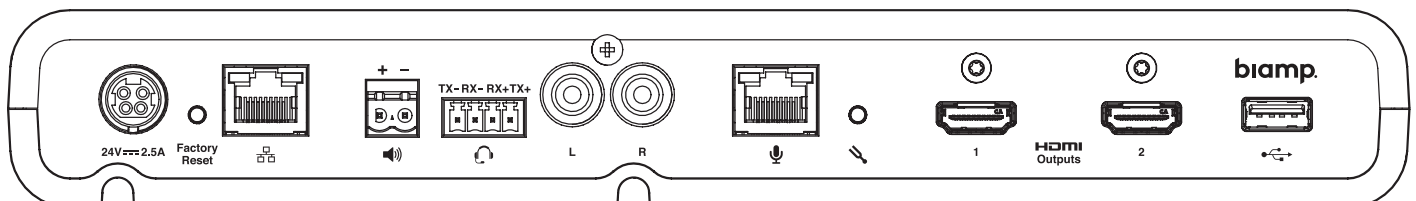
Compliance:

UL and C-UL listed (USA & Canada)
 FCC Part 15, Class A (USA)
 FCC Part 68 (USA)
 Industry Canada CS-03 (Canada)
 CE Marked (Europe)
 RCM (Australia)
 EAC (Eurasian Customs Union)
 RoHS Directive (Europe)
 NOM (Mexico)
 CCC (China)
 KCC (Korea)

DEVIO CR-1 FRONT PANEL



DEVIO CR-1 BACK PANEL



DEVIO™ BEAMFORMING MICROPHONES



DEVIO DTM-1 DESKTOP MICROPHONE



DEVIO DCM-1 CEILING MICROPHONE

Devio gives you choices when it comes to microphones for the meeting space. Biamp offers two beamforming microphone form factors - the DTM-1 tabletop microphone and the DCM-1 ceiling microphone, allowing you to place the microphone in the location that best suits your needs. Each microphone has active beamforming technology with three 120-degree zones, providing full 360-degree coverage of the meeting space. These microphones track and intelligently mix conversations from around the table, allowing far-end conference participants to experience the conversation as it unfolds, providing a real-time, collaborative experience. The DCM-1 includes all the necessary items for a clean, safe, and professional installation. The DTM-1 ships with a mounting plate for securing it to a table for perfect coverage every time. A second microphone can be added to the meeting room if needed.

FEATURES

- Eight-element microphones
- Active beamforming technology
- Three 120-degree zones for 360 degrees of coverage
- Automatic voice tracking
- LED mute status indicator
- Two selectable directivity modes (DTM-1)
- Four selectable elevation angle modes (DCM-1)
- Capacitive touch mute button (DTM-1)
- Mounting plate for secure installation (DTM-1)
- Simple installation process includes quick microphone height adjustment (DCM-1)
- Additional RJ-45 for daisy-chained connection to an additional microphone
- Covered by the Devio CR-1 two-year Biamp Systems warranty

NOTE: TABLETOP MICROPHONES AND CEILING MOUNTED MICROPHONES CANNOT BE COMBINED INTO ONE MEETING SPACE.

SPECIFICATIONS DTM-1:

Microphone Technology:	8-Element Digital Array
Frequency Response:	150 Hz - 16kHz (+3dB/-3dB)
Polar Pattern:	Active Beamformed
Sensitivity:	> 70 dB @ 1kHz (94 dB SPL, A-weighted)
Maximum SPL @ .5% THD:	106dB SPL
Dynamic Range:	92 dB A-Weighted (THD+N < 10%)
Automatic Noise Suppression:	4 modes: Off, Low (Default), Medium, High
Selectable Directivity Modes:	2 modes: Middle of Table (360°) or End of Table (120°)
Power Requirements:	<1W, Phantom Powered from CR-1
Mute Switching:	3 Capacitive Touch Mute Buttons
Indicators:	Mute Indicator (Green/Red LED)
Digital Interface:	Custom/Proprietary
Connector:	RJ-45 to CR-1 and to second DTM-1 (daisychained)
Required Cable:	Standard 4-pairs UTP (minimum CAT-5)
Node to Node Max Distance:	49.2 feet (15 meters) from CR-1 to DTM-1, and for daisychained connection from first to second DTM-1

OVERALL DIMENSIONS

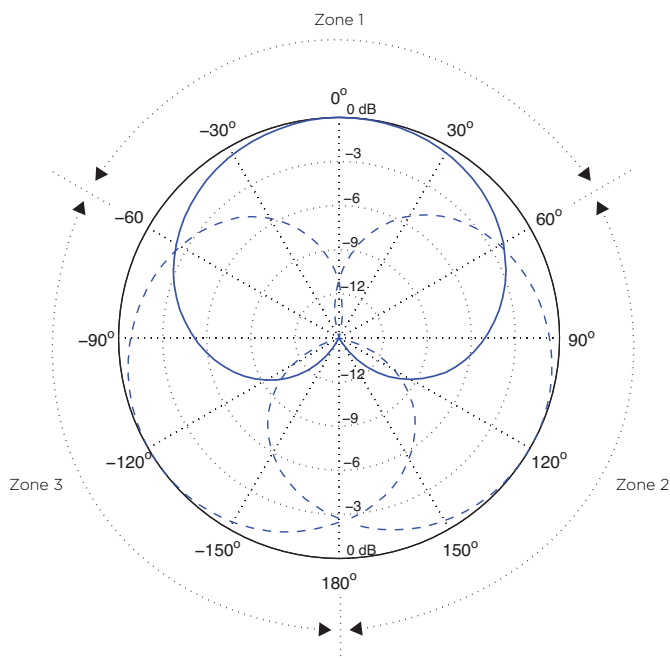
Height:	2-3/16 inches (56 mm)
Width:	5-1/8 inches (130 mm)
Depth:	4-3/4 inches (121 mm)
Weight:	0.6 lbs (0.27 kg)

ENVIRONMENTAL

Operating Temperature:	0° to 45° C / 32° to 113° F
Humidity Range:	0% to 95% RH non-condensing
Altitude:	0-10,000 Feet MSL (0-3000 Meters MSL)

BEAMFORMING RANGE

Polar pattern shown at 1kHz



DCM-1:

PENDANT MICROPHONE:

Microphone Technology:	8-Element Digital Array
Frequency Response:	150 Hz - 16kHz (+3dB/-3dB)
Polar Pattern:	Active Beamformed
Sensitivity:	> 70 dB @ 1kHz (94 dB SPL, A-weighted)
Maximum SPL @ .5% THD:	106dB SPL
Dynamic Range:	92 dB A-Weighted (THD+N < 10%)
Automatic Noise Suppression:	4 modes: Off, Low (Default), Medium, High
Selectable Elevation Modes:	4 modes: multiple 30° selections
Power Requirements:	<1W, Phantom Powered from Plenum Box
Indicators:	Mute Indicator (Green/Red LED)
Digital Interface:	Custom/Proprietary
Connector:	Custom 2-pin cable, Length 4.9 feet (1.5 meters)

OVERALL DIMENSIONS

Height:	2 inches (51 mm)
Width:	2-1/2 inches (63 mm)
Depth:	2-1/2 inches (63 mm)
Weight:	0.38 lbs (0.17 kg)

PLENUM BOX:

Power Requirements:	<1W, Phantom Powered from CR-1
Indicators:	CR-1 Connection indicator (Green LED)
Digital Interface:	Custom/Proprietary
Connectors:	RJ-45 to CR-1 and to second DCM-1 Plenum Box (daisychained), 2-pin 3.5 mm Phoenix to DCM-1 Microphone
Required Cable:	Standard 4-pairs UTP (minimum CAT-5)
Node to Node Max Distance:	49.2 feet (15 meters) from CR-1 to DCM-1 plenum box, and for daisychained connection from first to second DCM-1 plenum box

OVERALL DIMENSIONS

Height:	2 inches (51 mm)
Width:	4 inches (102 mm)
Depth:	5-3/8 inches (137 mm)
Weight:	0.86 lb (0.39 kg)

ENVIRONMENTAL

Operating Temperature:	0° to 45° C / 32° to 113° F
Humidity Range:	0% to 95% RH non-condensing
Altitude:	0-10,000 feet MSL (0-3000 meters MSL)

ARCHITECTS & ENGINEERS SPECIFICATIONS

DEVIO CR-1T

The unified communication (UC) system shall be designed to connect soft-codec conferencing systems with audio and video equipment. The UC system shall connect to a PC running Windows or Mac OS X (the “computer”) via a single Universal Serial Bus (USB) USB type B connector for both audio and video, reception and transmission. The UC system shall provide a single audio channel of power amplification up to 20W. The UC system shall receive input from up to two tabletop microphones. Each tabletop microphone shall offer multidirectional beamforming, automatic beam steering, and automatic voice tracking capabilities. The UC system shall include acoustic echo cancellation and automatic gain control capabilities. Audio transmission/reception from the computer shall be via a USB Class 1 Audio device. The UC system shall feature an automated audio setup process that confirms audio device connections and optimizes audio output levels after physical installation is complete. The UC system will provide two USB 3.0 type A ports and one USB 2.0 type A port. The UC system shall connect to up to two displays via High-Definition Multimedia Interface (HDMI) connections. The UC system shall connect to a camera via USB 2.0 or 3.0 connection. The UC system shall be able to bridge a call from a connected telephony headset interface via 4-pin Phoenix connector. The UC system shall be able to be monitored, configured and controlled via built-in Ethernet port using Simple Network Management Protocol (SNMP) version 2 procedures. The warranty shall offer two years of replacement or repair coverage. The UC system shall be the Devio CR-1T.

DEVIO CR-1C

The unified communication (UC) system shall be designed to connect soft-codec conferencing systems with audio and video equipment. The UC system shall connect to a PC running Windows or Mac OS X (the “computer”) via a single Universal Serial Bus (USB) USB type B connector for both audio and video, reception and transmission. The UC system shall provide a single audio channel of power amplification up to 20W. The UC system shall receive input from up to two ceiling microphones. Each ceiling microphone shall offer multidirectional beamforming, automatic beam steering, and automatic voice tracking capabilities. The ceiling microphone shall offer simple installation and microphone height adjustment, and be mountable on ceiling tile or in open-ceiling environments. The UC system shall include acoustic echo cancellation and automatic gain control capabilities. Audio transmission/reception from the computer shall be via a USB Class 1 Audio device. The UC system shall feature an automated audio setup process that confirms audio device connections and optimizes audio output levels after physical installation is complete. The UC system will provide two USB 3.0 type A ports and one USB 2.0 type A port. The UC system shall connect to up to two displays via High-Definition Multimedia Interface (HDMI) connections. The UC system shall connect to a camera via USB 2.0 or 3.0 connection. The UC system shall be able to bridge a call from a connected telephony headset interface via 4-pin Phoenix connector. The UC system shall be able to be monitored, configured and controlled via built-in Ethernet port using Simple Network Management Protocol (SNMP) version 2 procedures. The warranty shall offer two years of replacement or repair coverage. The UC system shall be the Devio CR-1C.

WHAT'S IN THE BOX

DEVIO CR-1T	DEVIO CR-1C
Devio CR-1 small room conferencing appliance	Devio CR-1 small room conferencing appliance
Mounting bracket and screws	Mounting bracket and screws
24V / 2.5 A power supply with country specific connector	24V / 2.5 A power supply with country specific connector
6-foot USB 3.0 Type-A to Type-B connection cable	6-foot USB 3.0 Type-A to Type-B connection cable
2- and 4-pin PHOENIX connectors	2- and 4-pin PHOENIX connectors
Devio DTM-1 microphone kit includes: <ul style="list-style-type: none">• Beamforming tabletop microphone• Microphone mounting plate	Devio DCM-1 microphone kit includes: <ul style="list-style-type: none">• Beamforming pendant microphone with 4.9-foot (1.5-meter) cable and strain relief tie• Plenum box with adjustable pendant mic connector port• Safety cable

SYSTEM ADMINISTRATION UTILITY (SAU) EXAMPLE SCREEN:

The screenshot displays the System Administration Utility (SAU) interface for Devio. The main window shows a table of devices with columns for Device Name, Location, IP Address, Version, Connected, Auto Setup, Mic Status, USB Status, and Progress. The 'HawthorneDevio' device is selected. A secondary window titled 'Devio CR1 - 172.16.8.100' is open, showing audio settings for Soft Codec, Headset, Output, and Microphone 1 and 2. A Properties panel on the right lists various system settings like Device Name, IP Address, and network configurations.

Device Name	Location	IP Address	Version	Connected	Auto Setup	Mic Status	USB Status	Progress
BurnsideDevio	Gemini - 1st Floor	172.16.8.192	1.1.0.14	●	●	●	●	
HawthorneDevio	Gemini - 1st Floor	172.16.8.100	1.1.0.14	●	●	●	●	

Devio CR1 - 172.16.8.100

General | AEC | AGC | Mic EQ | Auto Setup

Soft Codec

Input: -100.0 | Output: -100.0 | Input Gain: 0.0

Headset

Input: -100.0 | Output: -100.0 | Input Gain: 0.0

Output

Amp Impedance: 8 ohm
 RCA Balanced Mode

Amp: -100.0 | RCA: -100.0

Microphone 1

General | Azimuth Angle

Location: Middle of the Table
 Elevation Angle: 15 to 45 degrees
 Tracking

Input: -49.1

Microphone 2

General | Azimuth Angle

Location: Middle of the Table
 Elevation Angle: 15 to 45 degrees
 Tracking

Input: -100.0

Properties

Property	Value
Device Name	HawthorneDevio
Device Location	Gemini - 1st Floor
Enable DHCP	✓
IP Address	172.16.8.100
Network	255.255.255.0
Gateway	172.16.8.1
System Date and Time	2016-07-14 09:06:39
Enable USB Video	
Enable Headset Interface	
Specify Listen Port for SSH	22
Enable Plaintext DTP	✓
Enable Web Interface	✓
Enable Secure Web Interface	
Enable SNMP Interface	✓
SNMP Read-Only Community	DevioRO
SNMP Read-Write Community	Devio
SNMP Trap Destination	0.0.0.0
SNMP Trap Port	162
SNMP Trap Community	Devio

The System Administration Utility for Devio provides network-based CR-1 device access and management, ability to install firmware updates and perform the Auto Setup.

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