ECO CREW

DYNAMIC MESH COMMUNICATION

Powered by cardo

CREW HEADSET

MARKETING DATA SHEET

THE ULTIMATE SOLUTION FOR GROUP COMMUNICATION IN HAZARDOUS AND NOISY ENVIRONMENTS

The Crew Headset is a communication device that redefines the boundaries of short-range critical communications. Ergonomically designed, it is powered by both Bluetooth® and Dynamic Mesh Communications (DMC™) technologies and equipped with the best hearing protection capabilities, making it the ideal solution for teamwork in hazardous or challenging industries.

KEY BENEFITS

Intercom System, Dynamic Mesh Communications (DMC™) - Meet the **CREW HEADSET**, a uniquely dynamic intercom system with self-healing capabilities that connects up to 15 randomly moving team members. The always-on, full-duplex, hands-free communication technology is a 100% autonomous network (no need for any base station), designed to perform under the toughest environments.

Full-Duplex Communication Technology
Multiple intercom networks can operate in the same terrain allowing several teams to speak simultaneously without interruption.

Hands-Free Operation
Natural Voice Operation and Always on Communication allow hands free operation – no need to press buttons or turn dials. The always-on communication technology provides the utmost in safety. Team members can operate/activate the system simply by voice commands such as "Radio On," allowing team members to keep their hands free and focus on their tasks.

100% Autonomous Network
With the PRO-1, no additional base station is necessary, so it works anywhere without the need for additional equipment. Autonomous networks allow team communication where standard systems are blocked or are non-operational.

Level Dependent / Listen Through - Reduces impulse noises and allows ambient noise including amplification of the human voice.

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CREW HELMET

INTERCOM SYSTEM - DYNAMIC MESH COMMUNICATION (DMC™)

- Connects a group of up to 15 participants in full-duplex, multi-party conference mode
- Auto-adaptive mesh algorithm for robust communication
- Optional 1:1 private chat among group members
- Optional muting of group conversation
- Emergency notifications
- Optional merging of external audio sources (e.g. 2-way radio, cellphone) into ongoing group conversation

BLUETOOTH®

- Bluetooth version: BT4.2 (Dual Mode)
- Bluetooth class: 2
- Music streaming (A2DP and AVRCP)

CHANNEL SUPPORT AND CHANNEL SELECTION

- 8 channels for coexistence of multiple intercom networks
- Channel selection by mobile application or at a click of a button

LEVEL DEPENDENT / LISTEN THROUGH

- Hear your surroundings for situational awareness
- Allow ambient noise including human voice amplification
- Automatically limits high impulse noises

NATURAL VOICE OPERATION

- Activate main functions using natural voice operation
- Hands-free operation - no need to push any buttons
- Multilingual voice operation

FM RADIO

- Automatic FM radio station identification (RDS)
- User can set 6 radio stations
- Station frequency announcement
- Fast scan of radio stations

AUDIO FEATURES AND HIGH QUALITY SOUND

- Self hearing / Sidetone
- DSP (Digital Signal Processor) for high-end audio quality
- Status announcements for easy set-up and operation

2-WAY RADIO SUPPORT

- Seamless connectivity with 2-way radio devices
- Optional PTT button support

RANGE

- Designed to support communication of up to 10,000 ft / 3000 m with multiple participants (*)

POWER MANAGEMENT

- 1,000 mAh Li-Ion rechargeable battery for long operating time

MOBILE APPLICATION

- Android and iOS App support for device configuration and operation

PC TOOLS

- Off-line creation of intercom groups
- On-line software updates
- Device configuration

REGULATORY

- FCC (Title 47 CFR Part 15), North America
- IC (RSS-210), Canada
- CE (RED), Europe
- AUS/NZ comm. - Australia/NZ

Additional Information

- Operating Tempurature: -10deg to +55deg
- Weight: Headband - 420grams, Helmet Mount - 440 grams

* Estimate only and solely intended for illustrative purposes. Actual range is subject to several external parameters and the number of participants in the group. The larger the group, the wider the range. ** Available also as helmet mount

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CREW HEADSET

PPE Certifications (personal Protection Equipment)

- **EN352 Europe -** Comply, certification planned H1 2022
  - **EN352-1:** Hearing protectors - Earmuffs
  - **EN352-3:** Hearing protectors - Earmuffs attached to a safety helmet
  - **EN352-4:** Hearing protectors - Level Dependent Earmuffs
  - **EN352-6:** Hearing protectors - Earmuffs with Electrical Audio Input
  - **EN352-8:** Hearing protectors - Entertainment Radio/Audio Earmuffs
- **ANSI S3. 19-1974 - USA**
- **CSA- Canada**
- **AS/NZS1270:2002** – Australia /NZ - Comply, certification planned H1 2022

Communication Certifications

- **CE** (RED) - Europe
- **FCC** (part 15) - USA
- **IC** – Canada
- **AUS/NZ comm.** – Australia/NZ

Other Certifications

- US/EU Safety - UL/EN 62368-1
- BQB (Bluetooth) – Global
- UN38.3 (battery air shipment) – Global

Attenuation data (high level)

HEADBAND
- SNR Europe : 32 dB
- NRR USA : 26 dB
- CSA (Canada) : CLASS AL
- AS/NZS1270:2002 (Australia/NZ) : SLC(80) = 32dB, Class 5

HARD HAT
- SNR Europe : 29 dB
- NRR USA : 23 dB
- CSA (Canada) : CLASS AL
- AS/NZS1270:2002 (Australia/NZ) : SLC(80) = 26 dB, Class 5

CE Certification

- RED (Radio Equipment Directive)
  - EN 62368-1:2014 + AC:2015
  - EN 300 328 V2.2.2:2019
  - EN 301 489-1 V2.2.0:2017
  - EN 301 489-17 V3.2.0:2017
  - IEC 62479:2010
  - EN 55032: 2015 / AC (2016-07), class B
  - EN 61000-4-3 (2006)/A1(2008)/A2(2010)
  - EN 61000-4-2 (2009)
- RoHS
  - ICE 63000:2016
- CE EMC
  - EN55032:2015 Class B
  - EN55032:2015/A11:2020 Class B
  - EN55035:2017
  - EN55035:2017/A11: 2020
  - ETSI EN 301 489-1 V2.2.3(2019-11)
  - ETSI EN 301 489-17 V3.2.4(2020-09)
- CE Safety
  - IEC 62368-1:2018 (third edition) and/or
  - IEC 62368-1:2020+A11:2020

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ATTENUATION DATA

USA

Headband

Tested according to ANSI S3.19-1974

Frequencies (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	NRR
Mean Attenuation (dB)	24.2	25.2	32.2	34.9	33	34.2	38.5	39.4	37.5	26dB
Standard Deviation (dB)	2.6	2.3	2.1	3.0	2.5	3.1	4.0	2.1	2.6	

Headband Force = 2.8lbs

Helmet Mount

Tested according to ANSI S3.19-1974

Frequencies (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	NRR
Mean Attenuation (dB)	20.8	23.3	29.5	34.0	33.2	35.5	39.8	40.1	38.5	23dB
Standard Deviation (dB)	3.6	4.1	4.2	3.3	2.6	4.1	4.5	3.8	3.0	

Headband Force = 2.8lbs

CANADA

Headband and Helmet Mount

Tested according to ANSI S3.19-1974CSA level AL

EUROPE

Headband - Tested according to EN352-1:2020

Attenuation data – please see the enclosed instruction insert

SNR=32 dB	H=32 dB	M=31 dB	L=25 dB

Size Range: Small/Medium/Large

Headband Force: Small = 10.4N / Medium = 10.8N / Large = 11.0N

Helmet Mount - Tested according to EN352-3:2020

Attenuation data – please see the enclosed instruction insert

SNR=29 dB	H=31 dB	M=27 dB	L=20 dB

Headband Force: Small = 10.4N / Medium = 10.8N / Large = 11.0N

AUS/NZ

Tested according to AS/NZS 1270:2002 - Headband

Frequencies (Hz)	125	250	500	1000	2000	4000	8000	SLC80
Mean Attenuation (dB)	22.6	22.8	28.7	34.4	31.5	36.3	37.2	30dB
Standard Deviation (dB)	4.0	3.4	3.0	2.8	2.7	2.2	2.1	
Mean-Minus-Std, Deviation dB	18.6	19.4	25.7	31.6	28.8	34.1	25.1	

Clamping Force = 12.0N

Class Classification: Class 5

Tested according to AS/NZS 1270:2002 - Helmet Mount

Frequencies (Hz)	125	250	500	1000	2000	4000	8000	SLC80
Mean Attenuation (dB)	17.1	18.2	25.3	31.4	29.6	35.1	36.2	26dB
Standard Deviation (dB)	6.9	6.9	4.0	2.6	1.9	2.4	4.8	
Mean-Minus-Std, Deviation dB	10.2	11.3	21.3	28.8	27.7	32.7	31.4	

Clamping Force = 12.0N

Class Classification: Class 5