EN

Communication systems for Special Rescue from Heights and Depths

- Digital full-duplex communication
- Certified hearing protection
- CT-ComLink®-Technology

WHEN IT COUNTS

CeoTronics
Audio · Video · Data Communication

Special Rescue from Heights and Depths

Communications systems for supporting high-angle rescue without operational latency

Working together with rescue teams using specialized high- and low-angle rescue (SHLR) techniques requires a considerable degree of professionalism and proximity to the end user. Not least because missions aimed at providing people with rescue services and / or emergency medical help – or performing evacuations at great heights or depths – depend heavily on reliable communications. For such missions, rescue personnel have neither time nor resources to spare. With both hands busy, push-operated PTTs can‘t be used to make contact with other team members. That is why CeoTronics developed the CT-DECT communications system for this kind of scenario. The benefits are unmistakable: CT-DECT technology provides wireless duplex communications to a rescue team of up to 8 people. This means personnel can speak and listen simultaneously, even with the kinds of extreme ambient noise that apply in common mission scenarios. Calm, precise communication also has a very positive effect on the individuals being rescued.

Which is why SHLR rescue teams put their trust in dependable, easy-to-use CeoTronics communications systems not just for emergency missions but also for competitive events such as „Grimpday“.

But don’t take our word for it!

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CeoTronics AG

CeoTronics –
More than headsets.

CeoTronics has established itself as a leading systems provider for mobile digital short-range radio networks and terminal equipment, as well as high-quality professional communications headsets and systems.

Performance leader in the premium segment
Ever since its formation in 1985, CeoTronics has been leading the industry in quality and performance. First-class consultancy and customer services, superb product quality in terms of features and workmanship, the use of cutting-edge technology and a flexible approach to developing custom systems have all played their part.

Pioneering technology and innovations
Our ability to handle the highly diverse technical requirements specified by our customers stems from our continuous investment in our in-house R&D work. Our customers also value the easy access to our engineering know-how, especially where custom orders are involved. This know-how draws on the technical expertise of our 23 design engineers, several of whom possess doctoral degrees.

Expert partnerships
The best-known premium manufacturers of protective headgear, radios, specialized vehicles and aircraft rely on the high-end products from CeoTronics and CT-Video GmbH. All individual products and systems complement one another perfectly, thus fulfilling the most stringent customer demands for all-in-one solutions.

System compatibility
CeoTronics communications accessories are available for digital terminals supporting the TETRA and TETRAPOL standards, and for all standard analog radios. Where required, even the mobile CeoTronics digital radio networks and terminals for local operations (CT-DECT) can be integrated into the above-mentioned wide-area radio networks as extensions.

Superlative quality management
The economic viability of an investment is derived from its usage and the costs associated with a product over its entire useful life. Product costs stem not only from the purchase price itself, but are crucially influenced by product quality. No customer can afford long-term or frequent product failures or costs for repeated repairs, to say nothing of accidents caused by malfunctioning communications systems. Accordingly, demanding customers value the functional stability, durability and superior economic viability of CeoTronics products: never cheap, but always representing excellent value.

Certified and guaranteed
CeoTronics was the first company in its communications sector to be certified according to ISO 9001:2015 back in 2016. This was followed in 2018 by successful certification in accordance with the PPE Regulation (EU) 2016/425. Since 2019, CeoTronics has been certified in accordance with the current ATEX Directive 2014/34/EU.

In February 2023, the company was certified in accordance with the international ISO 14001 standard for environmental management and sustainability – as the first EU company in the industry. The certificate confirms CeoTronics forward-looking thinking and actions, its consistent focus on sustainable business practices, and its wide-ranging commitment to protecting the environment. All CeoTronics products have a 3-year warranty*.

For more information, go to: www.ceotronics.com

* please see back side

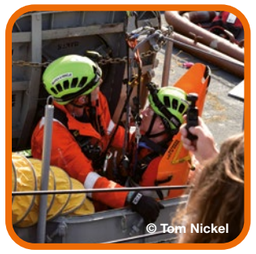
CT-MultiPTT 3C

Made in Germany

IP

MIL-Specs

CT-ComLink® Technology



For complex applications: CT-MultiPTT 3C

Three communication networks incl. Bluetooth® technology.

Complex mission situations require innovative and flexible communication systems. With the CT-MultiPTT 3C, police and military special forces now have access to a central operating and control unit that is able to simultaneously coordinate three independent communication lines. Simultaneous „radio traffic“ is possible on all channels. Alternatively, a connection via Bluetooth® is possible, e.g. to a mobile phone.

Intelligent controls
The design of the CT-MultiPTT 3C controls is unique: it was developed in close cooperation with leading police and military experts, and has been designed for complex mission scenarios. The universal control unit is compact and combines cutting-edge technology with user-friendly real-world fitness for purpose. Great importance was placed on simple and intuitive operation in an emergency situation. This is reflected, for example, in the logical design of the CT-ComLink® connection points, whereby headsets only connect at the top and communication media, such as radios, connect at the bottom. Another advantage is the easy-to-use volume control for all channels via two robust two-finger control dials, which do not obstruct other operating functions when in use.

The new technology: CT-ComLink®
The CT-MultiPTT 3C is equipped with the new CT-ComLink® technology, which offers all users maximum flexibility and future-proofing when selecting the needed headsets and preferred radios. The combination of an extremely rugged, break-away connector (emergency unlock function), which is triggered at a defined drag force in an emergency, and CT-ComLink® technology allows connected headsets or radios to be detected and the optimal audio configuration to be set for perfect voice transmission.

CT-Powermanagement
Power management is also handled by CT-ComLink®. The CT-MultiPTT 3C consumes very low energy, drawing all the power it needs from connected radio equipment. CT-Powermanagement therefore guarantees an optimized and long-lasting system runtime for all of its connected components.

Operating conditions and environmental factors
The new CT-MultiPTT 3C is not only waterproof and dust-tight, with classification to IP66 and IP67, but is also proof against sweat and saliva according to DIN 53160-1/2, and resistant to weak bases, lubricating oils and greases. The housing is made of an impact- and UV-resistant material, which has in turn been tested for resistance against chemical substances based on ETSI EN 300 019. The CT-MultiPTT 3C has also passed tough environmental testing, including climate, shock, vibration and drop tests according to MIL-STD-810G, as well as a salt spray test according to EN 60068-2-52.

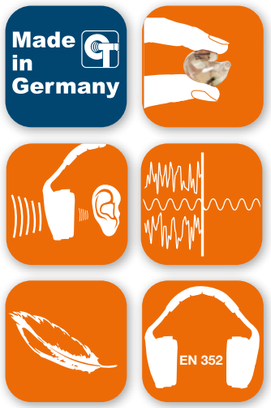
Expansion option: CT-WirelessPTT MIL
To extend the range of keys offered and enable remote control of the CT-MultiPTT 3C, the wireless transmission key CT-WirelessPTT MIL can be used. The PTT meets the high demands of protection modes IP66 and IP67 as well as MIL-STD-810G. In addition, different fastening systems are available for the CT-WirelessPTT MIL - Single Holder, Double Holder and mounting to a Picatinny rail.

CT-WirelessPTT MIL (optional)

ZIM Zentrales Innovationsprogramm Mittelstand

Supported by: Federal Ministry for Economic Affairs and Energy on the basis of a decision by the German Bundestag

CT-ClipCom Digital



CT-ClipCom Digital BM

CT-ClipCom Digital EM

ZIM Zentrales Innovationsprogramm Mittelstand

Supported by: Federal Ministry for Economic Affairs and Energy on the basis of a decision by the German Bundestag

NEW and suitable for heights:
CT-ClipCom Digital.

Even in rescue scenarios, ambient noise can exceed the maximum permitted values and make clear communication more difficult. In this case, in-ear headsets which provide both, ambient sound reception and ear protection are ideal.

Natural perception of ambient sounds
The digital signal processor of the new in-ear communication system CT-ClipCom Digital processes and optimizes all incoming audio signals. The first-class ambient sound reception (CT-ASR = ambient sound reception) can be set to one of four levels of sensitivity and enables natural ambient sound.

Built-in safety
If the noise level of ambient sounds is too high, the system regulates the threshold value down to 85 dB(A) for active hearing protection. Impulse sounds are reduced to a safe level, as is any interference noise. The advanced development of the CT-ClipCom Digital is available as flexible boom mike or ear mike variants.

Both versions fulfill the requirements of the new EU Regulation 2016/425 with test basis EN 352 and may be used as personal protective equipment (PPE).

Requires no special equipment
CT-ClipCom Digital is not permanently attached to other protective equipment or headgear and doesn't hinder their use. For use with heavy respiratory equipment, the ear microphone variant of the CT-ClipCom Digital is an outstanding choice. The ear microphone picks up speech directly in the ear canal and is less sensitive to interfering noises from the environment.

Personnel-independent
If personnel change, only the ear mold needs to be replaced in the CT-ClipCom Digital (also relevant in terms of good hygiene). This means that it is not necessary to purchase a complete personal system for each team member.

The new technology:
CT-ComLink®.

Many new CeoTronics products come with the new CT-ComLink® technology, which provides users with a range of interfaces or connectors to ensure they have maximum flexibility in their choice of headsets and radio equipment.

CT-ClipCom Digtal

The in-ear headset with ambient sound reception and individual ear molds sets standards in wearing comfort.

CT-HR PTT

The CT-HR PTT is a robust inline PTT that can resist external environmental influences in a professional use without any problem. The large PTT button has an overload protection and is designed for extreme durability.

CT-MultiPTT 3C

Radio communication can take place on all three channels simultaneously. In addition, a connection via Bluetooth®, e.g. to a mobile phone, is possible.

© Tom Nickel

CT-Earpieces

Made in Germany

Soft ear adapters to personalize communications products

During the use of communication systems, protecting the wearer‘s hearing is just as important as the quality of voice transmission. And with in-ear communications systems, wearer comfort is a critical factor. For decades, CeoTronics has enjoyed an enviable reputation in the three key areas (transmission quality, hearing protection and wearer comfort) and offers certified, soft ear adapters not just for its own communication systems, but also for those from other suppliers.

Optimum wearer comfort: Shore hardness of 40
All individual ear adapters from CeoTronics are manufactured from soft, medical-grade silicone with a Shore hardness of 40. This degree of hardness – named after Albert Shore – has proven its worth, since it offers superior durability, excellent wearer comfort and user-friendly cleaning options. As another advantage, it also prevents uncomfortable hardening of auditory canal cartilage, unlike ear adapters made from hard plastic materials.
Anti-bacterial nano silver coating

CeoTronics ear adapters are coated with an ultrafine, high-quality surface sealant, offering users of the send/receive system protection against bacteria and mold in the auditory canal to a level unmatched by other coatings.

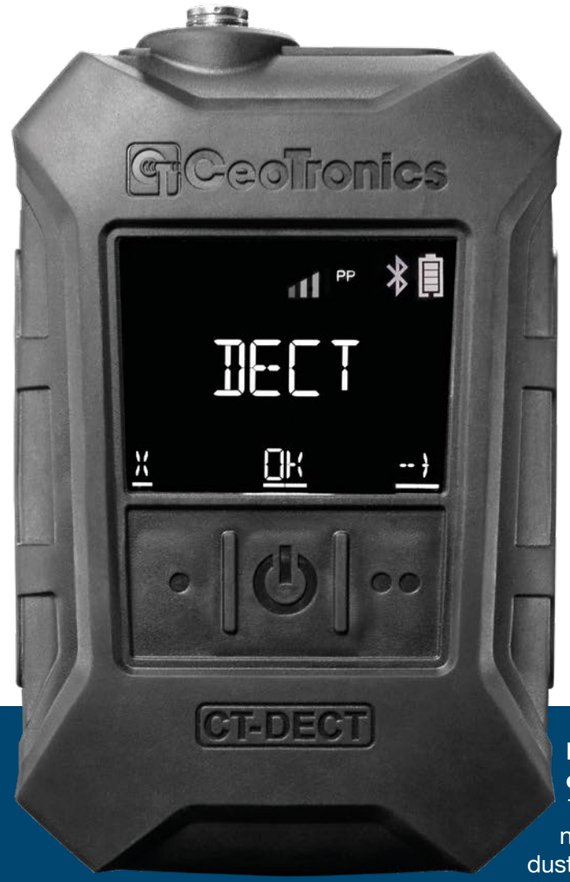
Optional:
Earpieces with PPE certificate

Tri flange tips **3M Peltor Eartips**

CT-DECT Multi

Made in Germany

dect forum Award Winner



Radio: Full duplex vs. simplex

In Simplex radio mode, only one person can speak at a time. As soon as the PTT button is pressed, the radio channel is blocked.

The advantage of full duplex communication is that all communication participants can speak and hear at any time. All are connected to each other and important information can be transmitted into the radio circuit at any time.

CT-DECT Multi: Mobile. Digital. With display.

The digital, latency-free, communication network.

To date, re-development of the CT-DECT Multi has been the largest R&D project in the history of CeoTronics AG. The result is an award winning mobile, digital, full-duplex communications system for local applications that has been designed with the very latest technologies to ensure it offers universal use for any user group. From industry and fire services to military or police: all mission personnel benefit equally from the performance of a CT-DECT system, which is in a class of its own.

Close your eyes and count to 10
That's about how long it takes for the digital CT-DECT radio network to be ready for use, enabling wireless and full-duplex communications within a group of up to 5 users. For practical purposes, this means simultaneous audio transmit and receive is possible without any infrastructure, and without the need to press a PTT button.

Bluetooth® functionality
Thanks to the built-in Bluetooth® module, the CT-DECT Multis can be coupled with suitable mobile phones. Group communication is then ensured via the mobile phone network available worldwide and can thus be carried out over greater distances.

The new technology: CT-ComLink®
The CT-DECT Multi is equipped with the new CT-ComLink® technology which offers all users maximum flexibility and future-proofing when selecting headsets. The combination of an extremely robust connector with emergency break-away function, which detaches at a defined pull force, and CT-ComLink® technology allows connected headsets to be recognised and the optimal audio configuration for perfect voice transmission to be configured.

Housing ergonomics
After an extensive analysis of usability and components, a housing with a display was implemented that introduces a completely new and intuitive operation concept. The outer surface provides a secure grip and features excellent mechanical and thermal properties. Each button has a precision switching mechanism that can also be operated reliably when wearing gloves.

Multi-resistant against environmental factors
The new CT-DECT Multi is not only waterproof and dust-tight, with classification to IP66 and IP67, but is also proof against sweat and saliva according to DIN 53160-1/2, and resistant to weak bases, lubricating oils and greases. The housing is made of an impact- and UV-resistant material, which has in turn been tested for resistance against chemical substances based on ETSI EN 300 019. The CT-DECT Multi has also passed tough environmental testing, including climate, shock, vibration and drop tests according to MIL-STD-810G, as well as a salt spray test according to EN 60068-2-52.

The display: impact-resistant and scratch-proof
Developed for professional applications, the integrated display offers an ultra-high-contrast image with optimum readability, even in strong, direct sunlight. Protected by an impact- and scratch-proof polycarbonate panel, it works reliably across a large temperature range of -32 °C to +69 °C. Optimized for viewing from three sides, the display is clearly readable even from a very flat viewing angle.

Superior technical characteristics
Outstanding RF properties and immunity to high-frequency interference are key factors in the clear and distinct voice transmission offered by the new CT-DECT Multi.

ZIM Zentrales Innovationsprogramm Mittelstand

Supported by: Federal Ministry for Economic Affairs and Energy on the basis of a decision by the German Bundestag

CT-Neckband Headset binaural

The new CT-Neckband Headset binaural is a helmet independent communication system. Due to its stereo capability, it can communicate via two separate radio circuits, depending on which multifunctional PTT is connected.

CT-ComLink® Technology

CT-Neckband Headset

Made in Germany

IP

CT-Neckband Headset:
binaural.

The new CT-Neckband Headset binaural is the „stereo version“ of the well-established CT-Neckband Headset. Weighing in at just 32 grams, the neckband headset offers optimum operational communication in a helmet-independent communication system.

Parallel: two communication channels
With this stereo-ready device, the operator can communicate over two separate radio networks, depending on the multifunctional PTT button that is connected. The CT-Neckband Headset has the same protection against dust and splashed water as the monaural version, and also scores high in wearer comfort. Speech is picked up using a noise-compensating flexible boom microphone. The loudspeaker signal is routed directly into the ear canal with a sound tube (use of an earbud optional).

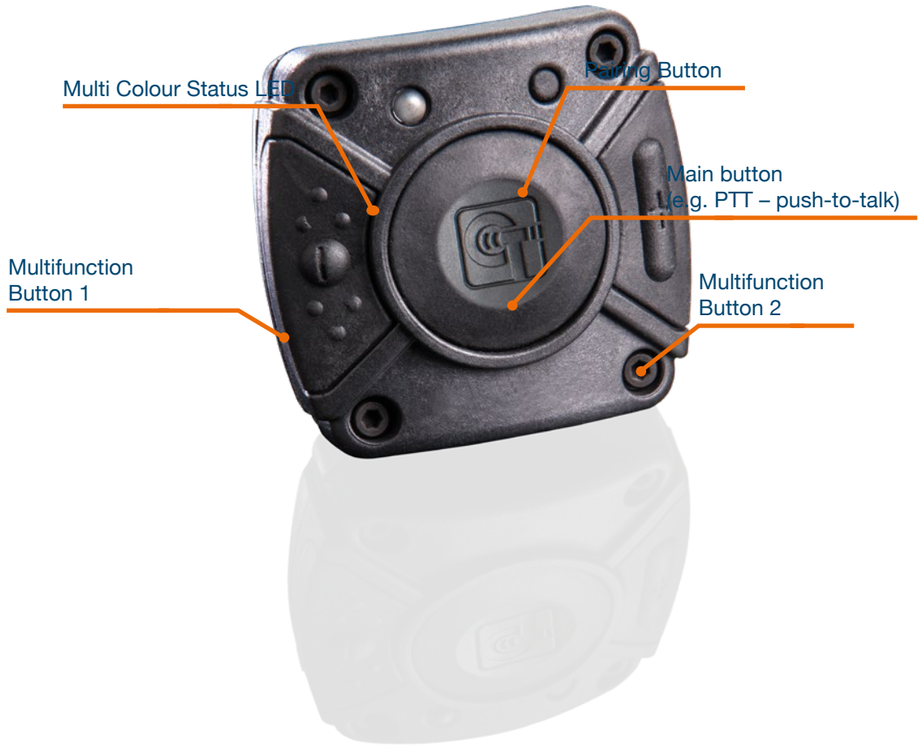
Compatible with helmets and masks
With its extremely flat speaker casing and special wire holder, the headset can be individually adjusted to any head shape, preventing painful or uncomfortable pressure points even during long operations. This drastically improves wearer comfort, especially when wearing close-fitting helmets.

CT-WirelessPTT MIL

Made in Germany

IP

MIL-Specs



CT-WirelessPTT MIL :

Remote control via Bluetooth® remote technology.

The CT-WirelessPTT MIL is the ideal companion for the control hubs CT-MultiPTT 1C / 1C Plus / 2C and 3C. With the device the user is able to control the attached communication devices remotely in mission critical applications. The user can stay focused on his mission without distraction.

The device provides a large button for push-to-talk function and smaller multifunction buttons which can be used to trigger alternate functions, e.g. volume up / down, on the connected communication devices. The buttons provide clear tactile feedback.

Mounting options for the CT-WirelessPTT MIL include wristband and Picatinny rail adapters.

The rugged remote control is designed for harsh environments and tested according to different methods of the MIL-STD 810G.

It comes with high protection against water and dust with IP ratings IP66 (strong jet water) and IP67 (immersion).

Convex:

CT-WirelessPTT MIL
(convex / curved outward)

The CT-WirelessPTT MIL is available with two different keypads (convex / concave). When using multiple CT-WirelessPTT MILs, this allows a quick and easy identification.

Conkave:

CT-WirelessPTT MIL
(concave / curved inward)

Single- / Double-Holder

Single- / Double-Picatinny-Adapter

CT-HR PTT

Made in Germany

MIL-Specs

IP

CT-HR PTT:
Flame-resistant. Waterproof. Dustproof.

The PTT often forms the decisive link to personnel on the ground and can be a life-saver in worse-case scenarios. Accordingly, communications equipment needs to “hold up” even under atrocious conditions and continue to function even if fire service personnel are working in extremely hazardous environments.

HR = High Resistant
With its new CT-HR PTT, CeoTronics has developed a new, rugged in-line PTT that holds up against external factors in professional fire service missions. The in-line PTT housing is made from glass fiber-reinforced, shock-resistant material. The large PTT key is fitted with an overload cut-out and is designed for superlative durability. It is supplied with two ring guards for individual configuration. The flat ring guard permits keypresses with e.g. the forearm, while the raised edge of the tall ring guard stops accidental activation in emergencies. Both variants feature bayonet connectors and are thus very easy to swap and snap securely into place. This means the CT-HR PTT can be custom configured to suit the conditions in the field.

Always in the correct position
Two separate fixing brackets are available for personnel to attach the PTT onto or underneath mission clothing. Each can be rotated 360° and locked into place at a total of 16 positions. This ensures that the PTT is always at hand for the mission in question.

Option: Wireless control with CT-WirelessPTT MIL
The optional use of the CT-WirelessPTT MIL offers even more flexibility. It allows remote control of the CT-HR PTT. It has three function keys that can be used for PTT and to control the volume.

The new CT-HR PTT offers even more equipment features, which have been achieved through a series of tests and certifications or classifications:

- IP66 and IP67: zero dust ingression and resistant to strong water jets plus protection against immersion
- Flame resistant according to EN 443
- UL 94/V0: Classified as not dripping flaming particles
- Color-coded plug connection: IP67

Binder socket and connector

PTT protection rings

CT-MultiCom

Made in Germany

IP

CT-MultiCom:
more than just a hand mike.

The CT-MultiCom communications device represents a new and compact addition to the CeoTronics family of remote units. Housed in an impact- and flame-resistant case, the CT-MultiCom67 is well-shielded from environment influences with its IP65 and IP67 protection class. Both dust-tight and waterproof the unit offers plenty of useful functions for the teams.

In addition to a 3.5 mm jack socket for connecting a CT earphone with sound tube, users can also connect a variety of professional CT send/receive systems via the ruggedized Nexus jack socket.

As an especially user-friendly feature, the CT-MultiCom comes with dual PTT buttons that are easy to operate even when wearing gloves. Loudspeaker volume can be adjusted using two separately housed keys to one of three levels to suit user preferences – or muted as required. To ensure the safety of mission personnel, an emergency call button rounds off the unit‘s features.

The CT-MultiCom is factory-fitted with a 12-pin Hirose jack and 230 mm coiled line. Customers can choose from a wide range of other 12-pin adapters for connection to radio equipment.

Headsets for CT-MultiCom or CT-HR PTT

CT-ClipCom BoomMike

CT-HN Headset

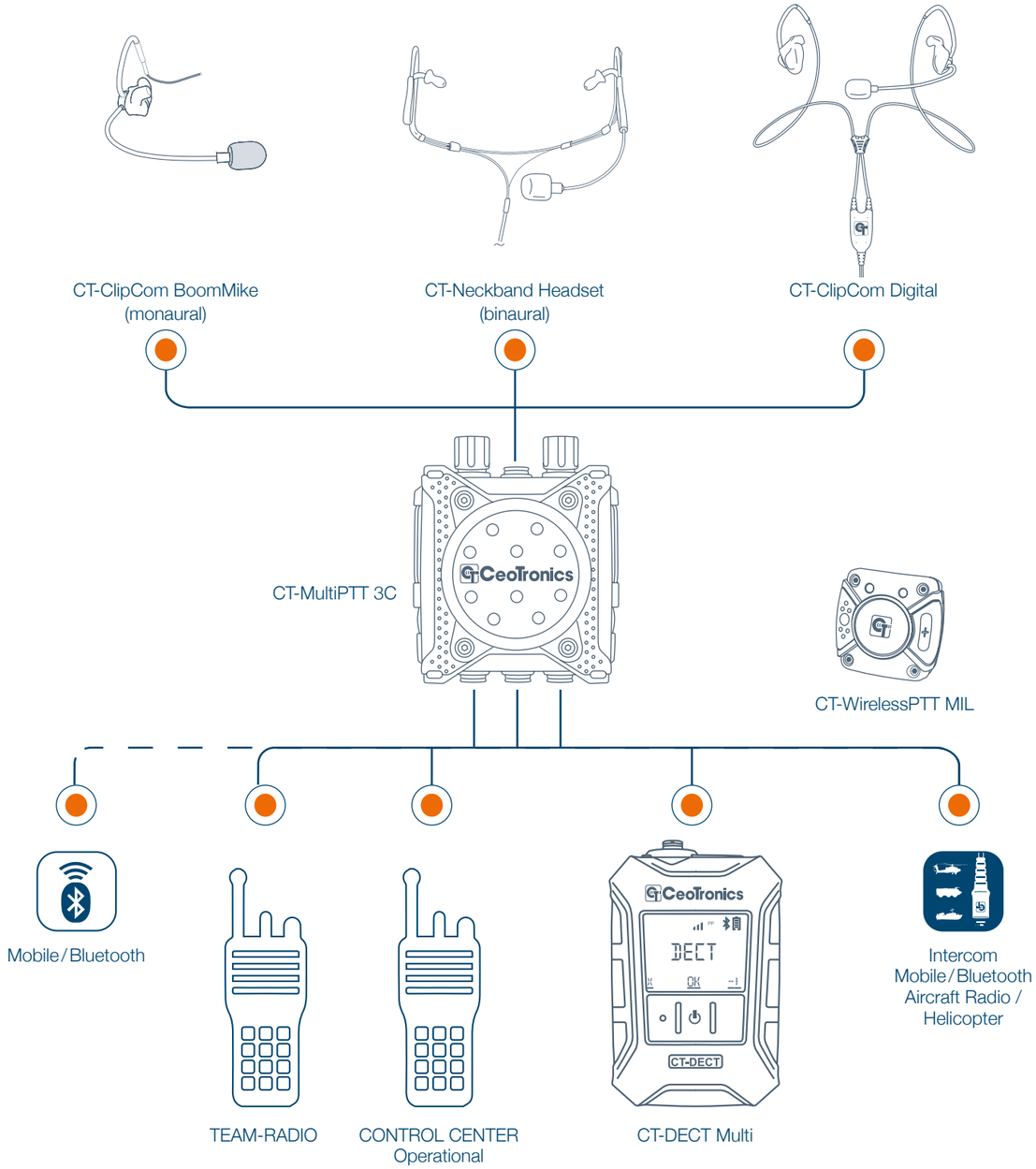
CT-Neckband Headset (monaural)

CT-SkullMike
Headset for helmet installation

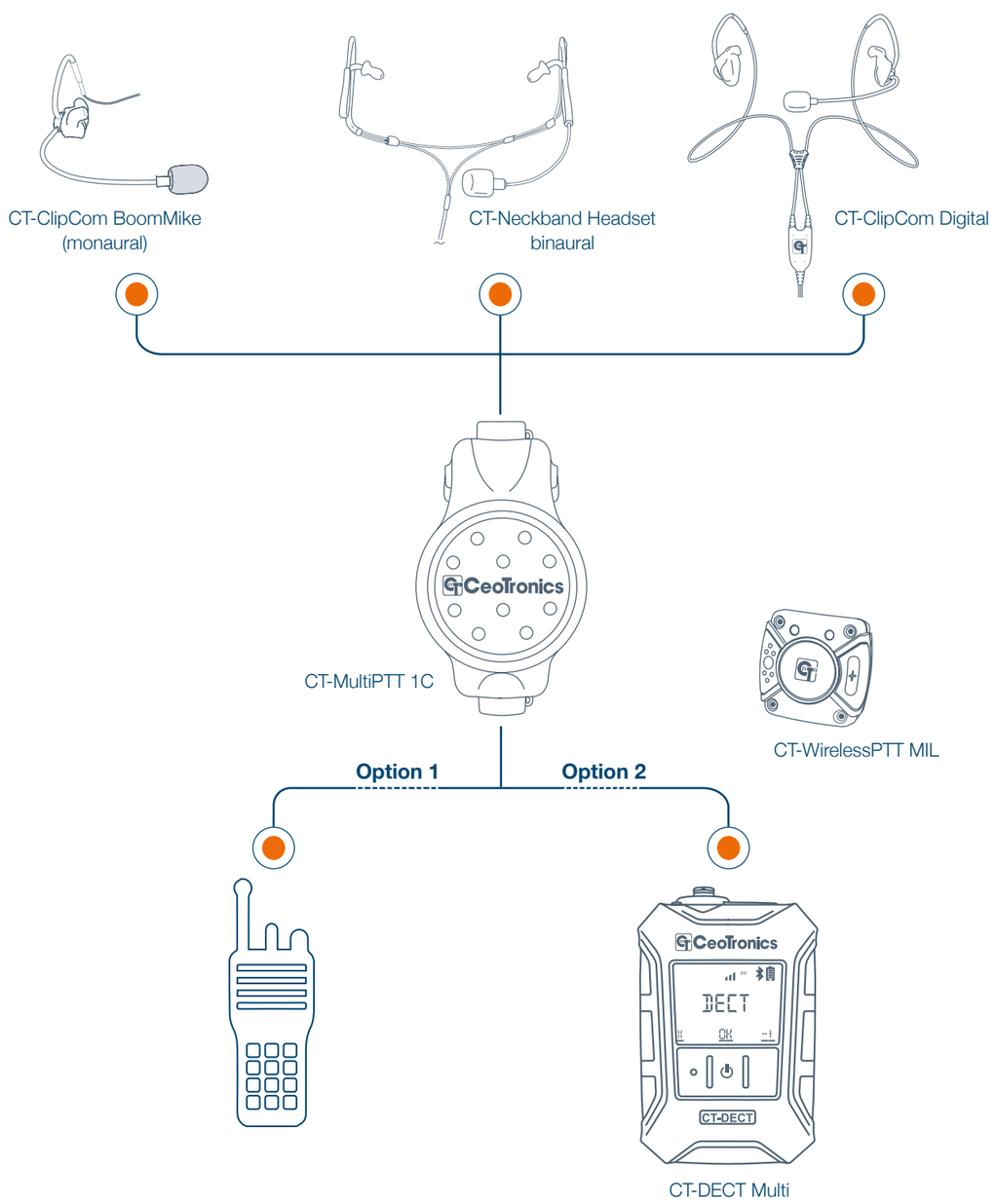
CT-Earphones with sound tube

Case studies

Teamleader

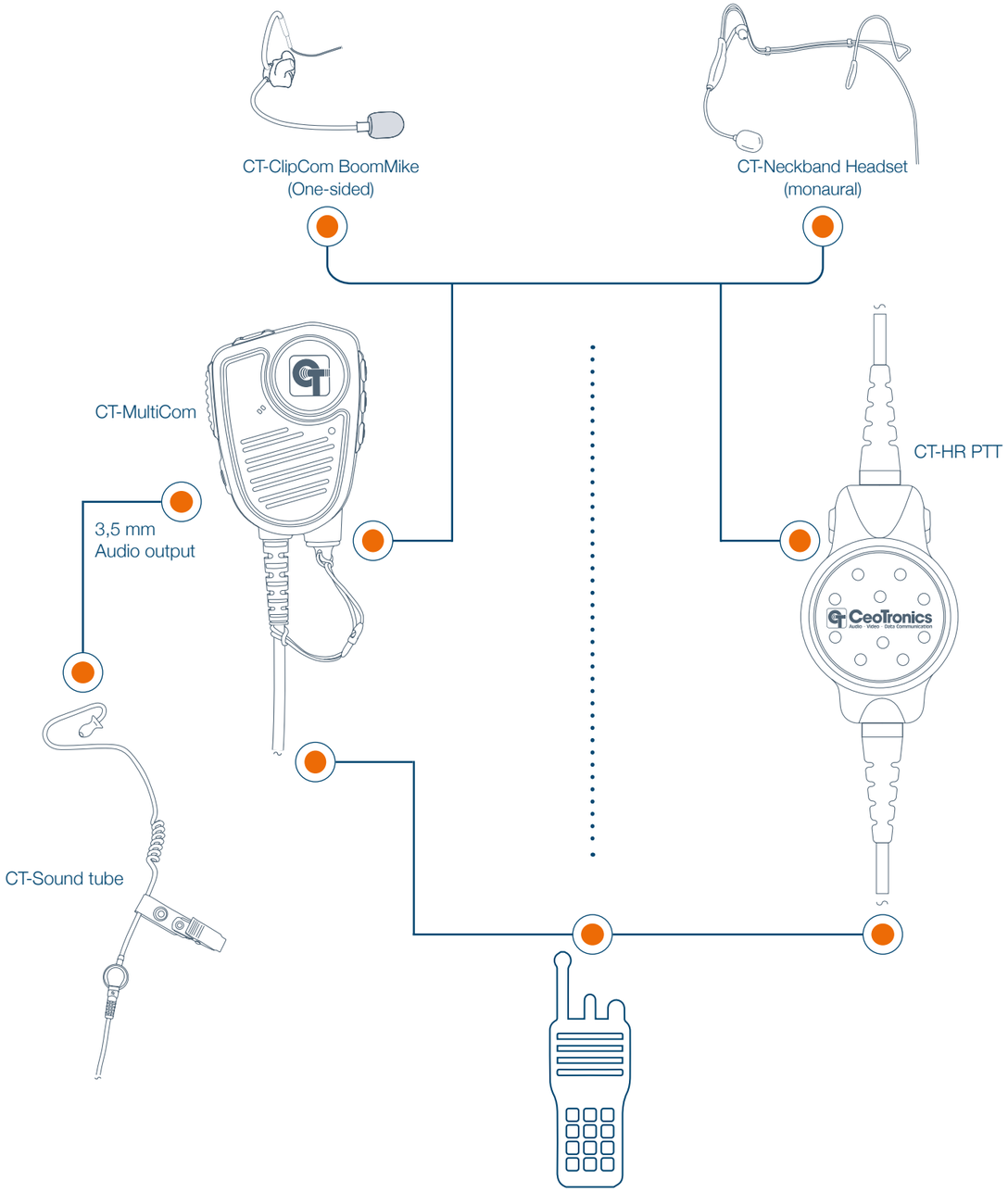


Rescue Staff Communication

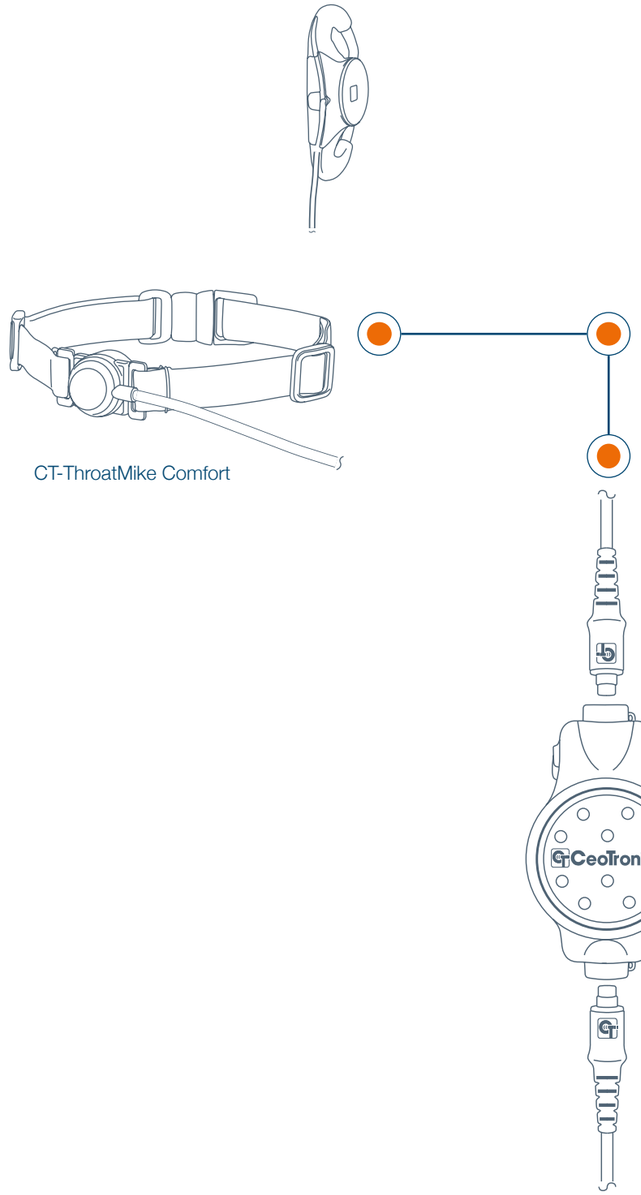


Case studies

CT-MultiCom and CT-HR PTT for connection to existing radios



CT-ThroatMike Comfort with CT-MultiPTT 1C or 1C Plus for use under respirator masks

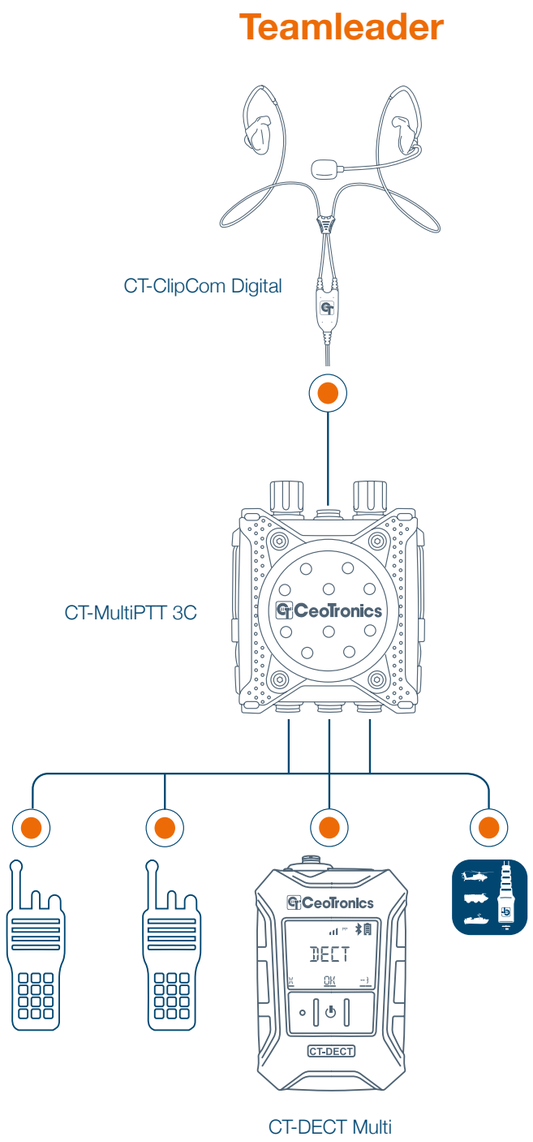


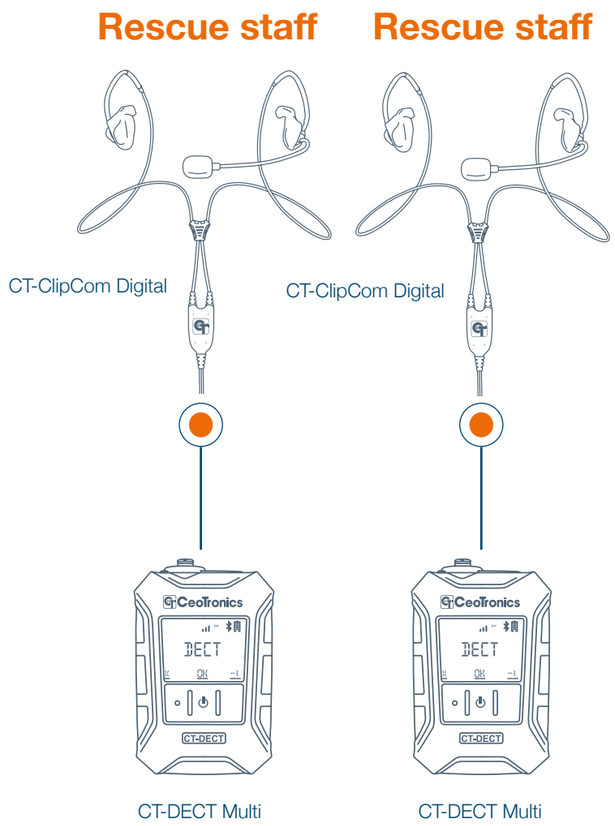
Case studies

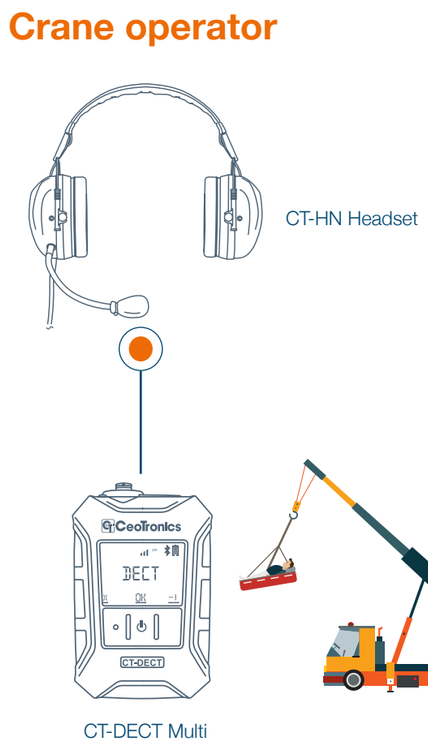
Latency-free, full-duplex communication for up to twelve users

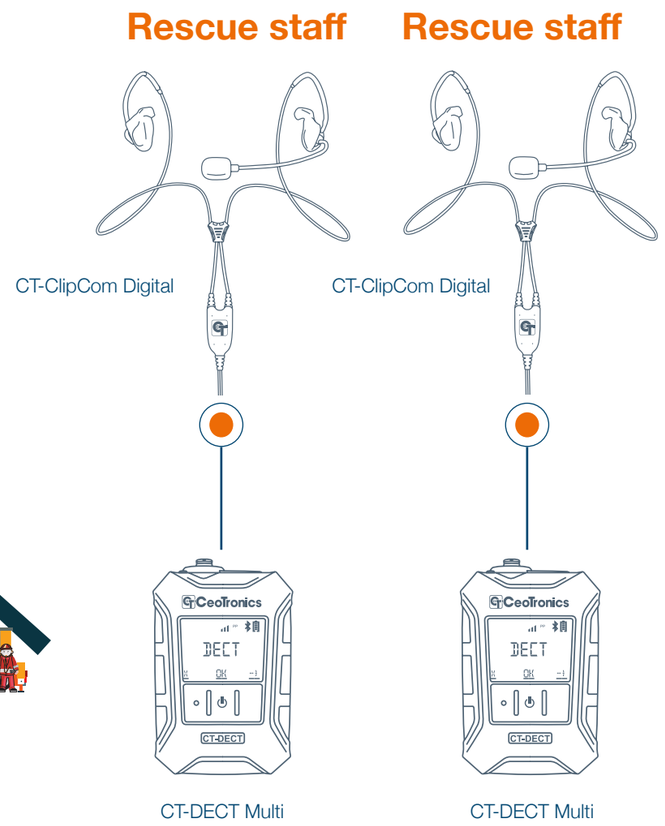
The CT-DECT Case in conjunction with the CT-DECT Multis enables deployment at different locations in the toughest surrounding conditions. The CT-DECT communication system is installed in a mobile, extremely sturdy and weatherproof housing.

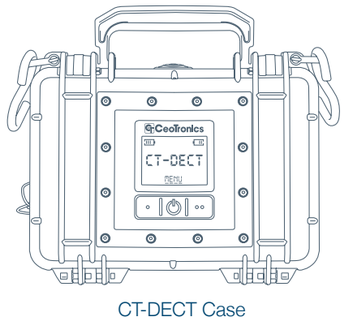
System extension
If required, further communication systems can be integrated in the CT-DECT network via the existing audio interface.

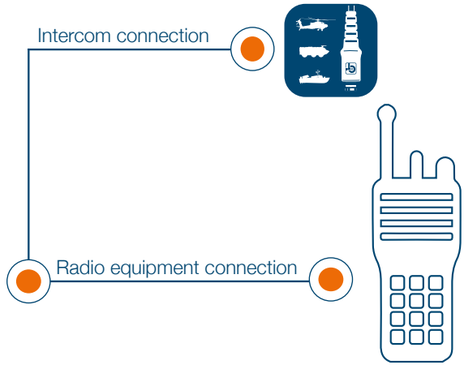






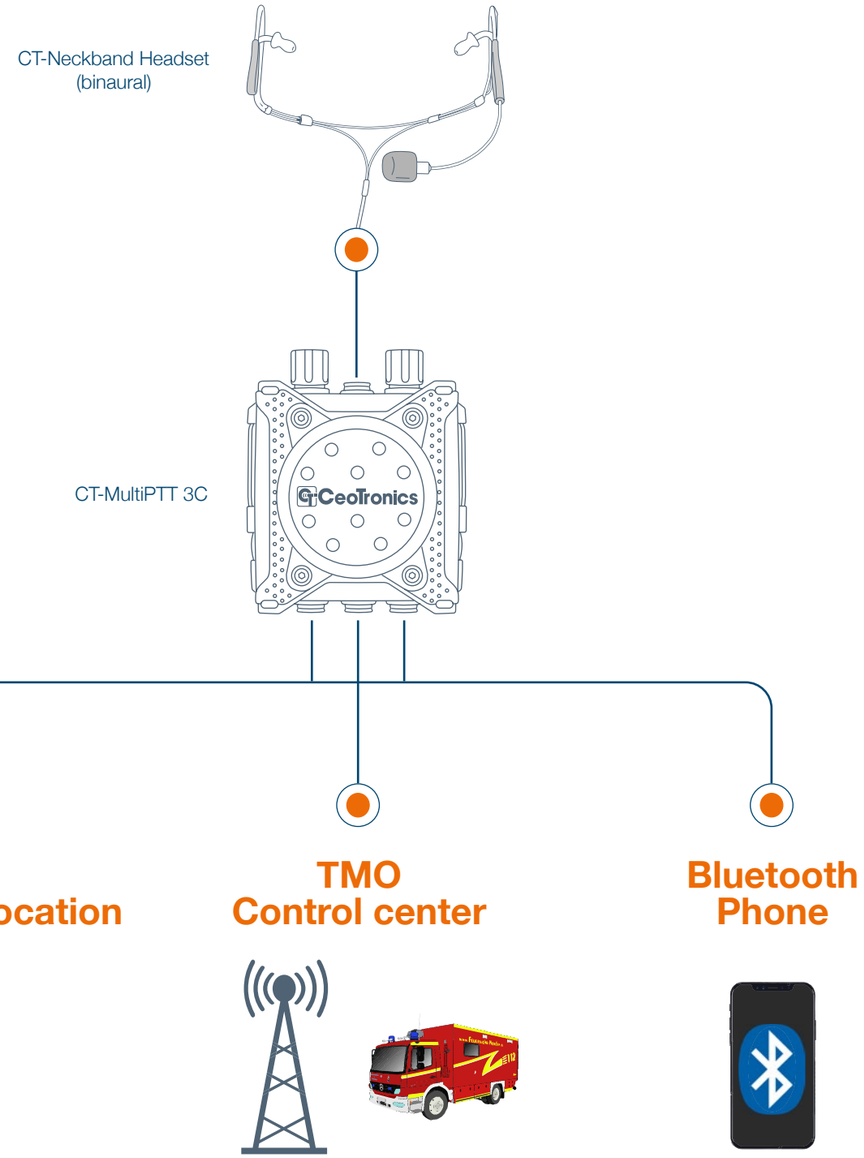






Case studies

Firefighters platoon leader



Services

The holistic service from CeoTronics:
For the best price-/performance ratio.

CT-Analytics

Expertise means safety
Preliminary examinations and feasibility analyses

CT-Training

Increase in efficiency
Product training and system commissioning

CT-EarGuard

Occupational safety for employees according to PPE Regualtions:
Safety for companies

CT-Engineering

Customer-specific product developments

CT-Product Guarantee

Additional warranty period –
lower repair costs

Delivery Guarantee

Ready to ship in 48 hours

CT-Software Service

Individual like the fields of application-
Programming and up-to-date service

CT-Maintenance

For employers and employees
Increase occupational safety, reduce risks of failure

CT-Measurement and Testing Facilities

IP, EMC pre-checks accourding to DIN, EN and IEC standards and cable tests

CT-Obsolescence Management

Fit/Form/Function offers security
For your procurement period

Explanations

Made in Germany

Products with this label are developed or designed and produced in Germany by CeoTronics.

Products with this label offer active noise cancellation and thus significantly reduce disturbing environmental noise.

IP

The abbreviation “**IP**” stands for “**I**nternational **P**rotection” or “**I**ngress **P**rotection”. The IP codes provide information on how protected electrical equipment is against various environmental influences such as dust or water.

CT-DECT M7

The CT-DECT M7 technology is a further development of the well-known CT-DECT technology and raises DECT communication to a new level with its robustness and stability.

MIL-Specs

CeoTronics products with this label have been tested according to military standards.

Products with this label are equipped with a Bluetooth® module and support this technology.

Products with this label are equipped with **a Bluetooth® remote function**.

The CT-DECT systems enable full duplex communication, which means delay-free, simultaneous listening and speaking at any time without having to press a PTT button.

This product offers full duplex communication for up to 5 participants.

CeoTronics products with this marking meet the requirements of the PPE Regulation (EU) 2016/425 with the test specification EN 352 and may be used as personal protective equipment (PPE).

Explanations

The product housing is made of anti-reflective material.

Products with a noise-compensating microphone screen out disturbing ambient noise and thus transmit speech particularly clearly.

CT-Headsets with this label are characterized by their particularly low weight.

Ear pieces made of soft silicone are very comfortable to wear, even when worn for long periods of time. They are very durable, easy to clean and thanks to the antibacterial nanosilver coating they offer also protection against bacteria and fungi in the ear canal.

The material used for these products is flame-retardant.

This products can be controlled by a detached wireless PTT button.

In addition to the radio signal, ambient noises are also transmitted. This allows unrestricted directional hearing.

For this product, individually molded ear pieces made of soft silicone are optionally available. These offer a very high wearing comfort even when worn for a long time. Furthermore, the material is very durable, easy to clean and has an antibacterial coating.

Products with this marking are equipped with a robust Nexus jack socket.

Products with this icon are compatible with intercom systems.

ISO Certified DIN EN ISO 14001:2015

ISO Certified DIN EN ISO 9001:2015

ATEX Certified ATEX Directive 2014/34/EU Annex IV

PPE Certified PPE Regulation (EU) 2016/425, Annex VIII (Module D)

CeoTronics was the first company in its communications sector to be certified according to ISO 9001:2015 back in 2016. This was followed in 2018 by successful certification in accordance with the PPE Regulation (EU) 2016/425. Since 2019, CeoTronics has been certified in accordance with the current ATEX Directive 2014/34/EU.

In February 2023, the company was certified in accordance with the international ISO 14001 standard for environmental management and sustainability – as the first EU company in the industry. The certificate confirms CeoTronics’ forward-looking thinking and actions, its consistent focus on sustainable business practices, and its wide-ranging commitment to protecting the environment.

Notes

*If not otherwise stated in the offer, CeoTronics grants a 3-year warranty for material and manufacturing defects for CeoTronics products. The precise scope of the warranty can be found in the warranty terms and conditions (also available for download at www.ceotronics.com).

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