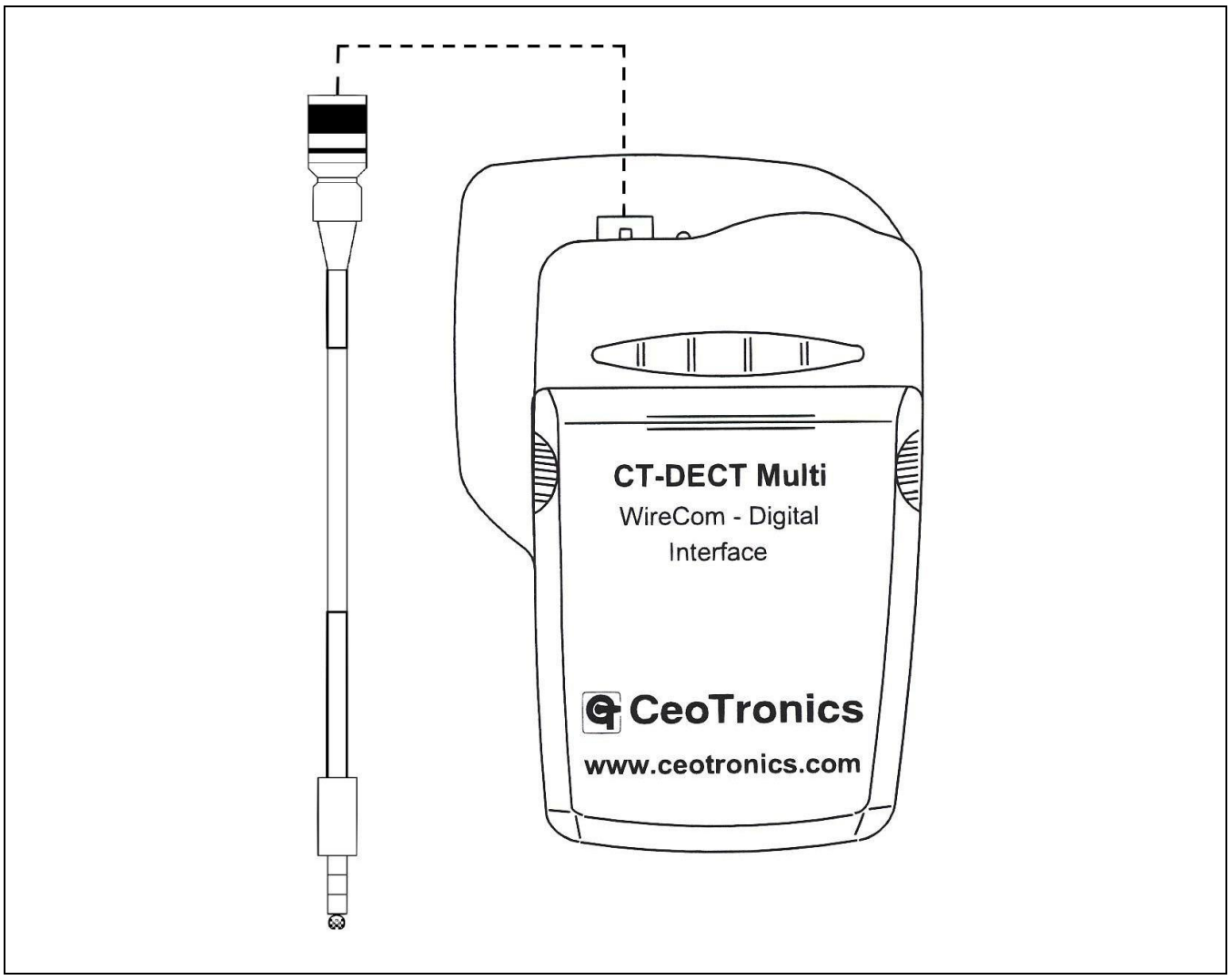
CeoTronics
Audio · Video · Data Communication

CT-DECT Multi
WireCom – Digital Interface Base

Transmitter/Receiver Device CT-DECT Multi WireCom – Digital Interface Base with integrated WireCom electronics and optional encryption

Operating Instructions



English

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1 CeoTronics Operating, Warning, and Safety Instructions

For the use of the device and for prevention of personal injury or property damage, notice the national safety and accident prevention regulations and the following warning and safety instructions in this document.

- *Before using CeoTronics products, read completely the appropriate operating instructions. If in doubt, ask our technical staff.*
- *Keep this document for later use.*
- *Use CeoTronics products only without damage and abrasion.*
- *If repair work of any kind needs to be done to CeoTronics products, arrange for it to be performed only by the company CeoTronics or by a specialized workshop that is authorized by CeoTronics. In all other cases, our warranty and liability for the product shall lapse.*
- *Keep CeoTronics products out of the reach of children and any other persons who are not familiar with the handling and operation thereof.*
- *CeoTronics products may only be used for the specific application envisaged.*
- *Safe operation requires clean devices. Ensure that the devices (microphones, connectors etc.) are clean and in good condition at all times.*
- *Should equipment, supplied by CeoTronics, be definitely put out of service you may return it to CeoTronics. We ensure recycling and / or disposal of outdated equipment in compliance with the applicable environment protection law.*

Product damage!

- *Do not immerse a CeoTronics product into water, unless expressly specified for this purpose.*
- *Connect CeoTronics accessories to a device or disconnect them from a device only after switching the device off, unless otherwise described in the operating instructions.*
- *Let devices that are designed for outdoor use during use outdoors always closed (e.g. CT-DECT Case) and close unused ports with appropriate cover – if available.*
- *Do not store CeoTronics products in the open air or in damp ambient conditions. At all times keep them clean, dry and at normal air humidity. CeoTronics pro- ducts must not be stored in areas with a temperature of over +80° C, e.g. in the summertime on the parcel shelf of a car. If not stated otherwise, the following temperature ranges are acceptable for CeoTronics products:* -10 to +55°C *for operation, -40 to +80° C for storage.*
- *Pay attention that no humidity could penetrate into the device during cleaning. Do not use solvents (e.g. benzene, alcohol, etc.) for cleaning! Safe operation requires clean devices. Ensure that the devices (microphones, connectors etc.) are clean and in good condition at all times.*

Risk of injury by connection leads!

- *When using CeoTronics products that are equipped with connection leads ensure that the leads do not get caught up in operational machinery or wheels!*

Risk of injury by speaker volume!

- *Please, note that in some audio devices (e.g. radios) very loud signaling beeps could be present as the radio is switched on. There are various types of devices generating a series of tones in different loudness levels. It may be necessary to adjust the volumes of the tones separately. These tones could damage your hearing if they are set too high. Therefore, adjust signaling beeps to a convenient level as desired before starting to use CeoTronics accessories. Follow the instructions of the audio device manufacturer's operating manual to adjust the signaling beeps.*
- *For safety reasons reception volumes in excess of 85 dB (A) are possible with a whole series of CeoTronics products. However, these can be regulated by the user. After switching on the communication system, set the reception volume to approx. 1/2 the available loudness volume and then test the speaker volume, e.g. by opening the squelch on the radio set.*
- *Do not set the volume any higher than is necessary. A very high volume setting can lead to damaged hearing, particularly if it is continuous. For high volumes or noise levels, wear additional earplugs. If in doubt, ask your safety officer or company doctor.*

Road traffic hazard!

- *Do not leave CeoTronics products lying around loose in cars, e.g. on the parcel shelf. Stow these products in a suitable, safe place in the car so that they do not present a danger to you or to other occupants of the car, if emergency braking is effected.*
- *When driving a car, do not use the radio because it may distract you from the other traffic. Never use a CeoTronics product (headset, insert earphone, induction receiver etc.) that will impair your hearing.*

Impairment of flight operation!

- *When on board an airplane always keep a transmitter/receiver switched off. Operation of the transmitter / receiver could affect the safety of the aircraft, and it is therefore prohibited. Never operate electronic devices on board an airplane without the express approval of an authorized member of the cabin crew.*
- *The CT-DECT GateCom Compact must always be removed once the intercom communication is completed. Never remove the warning flag „Remove before flight“ from the CT-DECT GateCom Compact.*

Impairment of radio transmission!

- *Transmit only when it is necessary. Unnecessarily occupying a channel can prevent the transmission of vitally important information.*

Risk of explosion!

- *CeoTronics products that are not intrinsically safe (explosion-proof) and there- fore have no special explosion-proof designation must never be operated in potentially explosive environments (e.g. when refueling cars, aircraft etc.). Devices that are not explosion-proof can trigger off explosions in such areas!*

Risk of electric shock!

- *Before opening line voltage operated products (e.g. for service purposes), always disconnect first the mains plug from the mains socket!*
- *Use CeoTronics products only in undamaged condition. In case of any kind of damage, refrain from further using the CeoTronics product and have it repaired.*

Adverse effect on cardiac pacemakers!

- *If you are a cardiac pacemaker carrier, before operating a transmitter / receiver ask the manufacturer of your cardiac pacemaker for information about any impairment that could be caused due to high frequencies.*

Rechargeable batteries and batteries!

- *Observe the environmental regulations when handling storage batteries! Do not throw used (defective) storage batteries into the domestic refuse. Observe the battery ordinance (BattV).*

Risk of injury by Rechargeable batteries and batteries!

- *Insert the rechargeable batteries only after having read and understood all safety instructions. Rechargeable batteries imply potential risks, which could cause physical injury and material damage.*
- *Never intend to open a rechargeable battery and never throw it into open fire. Ensure that contacts and charging sockets of the rechargeable battery do not cause short circuit (risk of fire and injury) by bridging (bent-open paper clip, bunch of keys or similar). In such a case, the guarantee is void.*
- *Transport spare rechargeable batteries in electrically non-conductive packing material in order to avoid shorting the rechargeable batteries.*
- *Keep the rechargeable batteries away from persons who are not familiar with their handling and use (e.g. children).*
- *Charging rechargeable batteries in potentially explosive areas is strictly prohibited (risk of explosion!). Charge and change rechargeable batteries only in areas where no explosive gases, vapours, or dusts could be present in combination with air.*

Damage to charger or rechargeable batteries!

- *Charge rechargeable batteries only using the corresponding appropriate CeoTronics charger. Regard voltage and current data, also on the mains side (e.g. 230 V AC or 115 V AC).*
- *Never use the battery charger for charging non-rechargeable batteries.*
- *Chargers are neither waterproof nor dust-tight and need protection against water, rain, and contamination. Use them only in the appropriate environment, intended for the system. Don´t cover the ventilation openings.*
- *Don‘t charge rechargeable batteries outdoors.*

Radio Software – Risk of malfunction!

Please note that the function of radio accessories is depending on the software settings set up in your radio. Be careful with software updates and / or changes to the software settings. If you update the radio's software, or if you change the software settings, check first on a radio that the radio accessory is still functioning properly after these changes. It is possible that the receiving volume of some radios is not satisfactory. In these cases, we suggest you check if an increase of the receiving volume is possible via the parameters in the audio profile of your radio.
Follow the information of the radio manufacturer!
If you have any further questions in regards to this subject, do not hesitate to contact our sales back office.

Important safety information concerning the use of CT-DECT digital radio systems!

- *Legal note for operation in the European Union*

The transmitter of the CT-DECT device should be used in the European Union only when it is marked as following: CE

- *Legal note for operation in the USA*

The transmitter of the CT-DECT device should be used in the USA only when it is marked as following: FC

- *Legal note for operation in Canada*

The transmitter of the CT-DECT device should be used in Canada only when it is marked as following: IC

Improper use!

The use of CeoTronics products for special applications, such as explosive and hazardous areas, aviation, bomb disposal (EOD / IEED) or other similar applications, is in the sole responsibility of the end user. The end user has to check and decide that the products can be used without risk.

CeoTronics does not take over responsibility for any damage or material losses nor injuries to persons, caused by the use described above or by any other abnormal use of the products.

2. Description

2.1 General

The transmitter/receiver unit CT-DECT Multi WireCom – Digital Interface Base is one element of a short-range communication system for maximum four »mobile« users with CT-DECT Standard headsets and the user of the hard-wired WireCom system. Communication between »mobile« users with CT-DECT headsets is wireless.

The CT-DECT Multi WireCom – Digital Interface Base is the base station for maximum four CT-DECT Standard headsets; the adapter cable, included in the scope of supply, serves for connecting the base station to the ring circuit of the WireCom system. The CT-DECT Multi WireCom – Digital Interface Base contains the electronics, required for adapting the WireCom system to the CT-DECT system.

Generally, CT-DECT Standard headsets are used only in combination with the assigned CT-DECT Multi WireCom – Digital Interface Base unit to which they must be subscribed. The use of a CT-DECT Standard headset in combination with another CT-DECT Multi WireCom – Digital Interface Base is possible only after previously subscribing the CT-DECT Standard headset to that CT-DECT Multi WireCom – Digital Interface Base unit.

➔ NOTE regarding optional encryption

The CT-DECT Multi WireCom – Digital Interface Base (marking: "S-7.5.41") features encryption. This means that only CT-DECT Standard headsets (marking: S.-7.5.42) supporting this encryption are able to communicate with the CT-DECT Multi WireCom – Digital Interface Base unit.

The range between the CT-DECT devices (base/FP and standard/PP) depends on the local circumstances. The longest range is reached at eye contact in a free area. Surrounding conditions as mountains, buildings, trees, weather conditions, obstacles (especially the ones containing metal) and body damping especially with body worn systems may reduce transmitting distance. In the event of exceeding the range limit, the user is informed by an acoustic signal in the headset.

2.2 Power supply and operating time

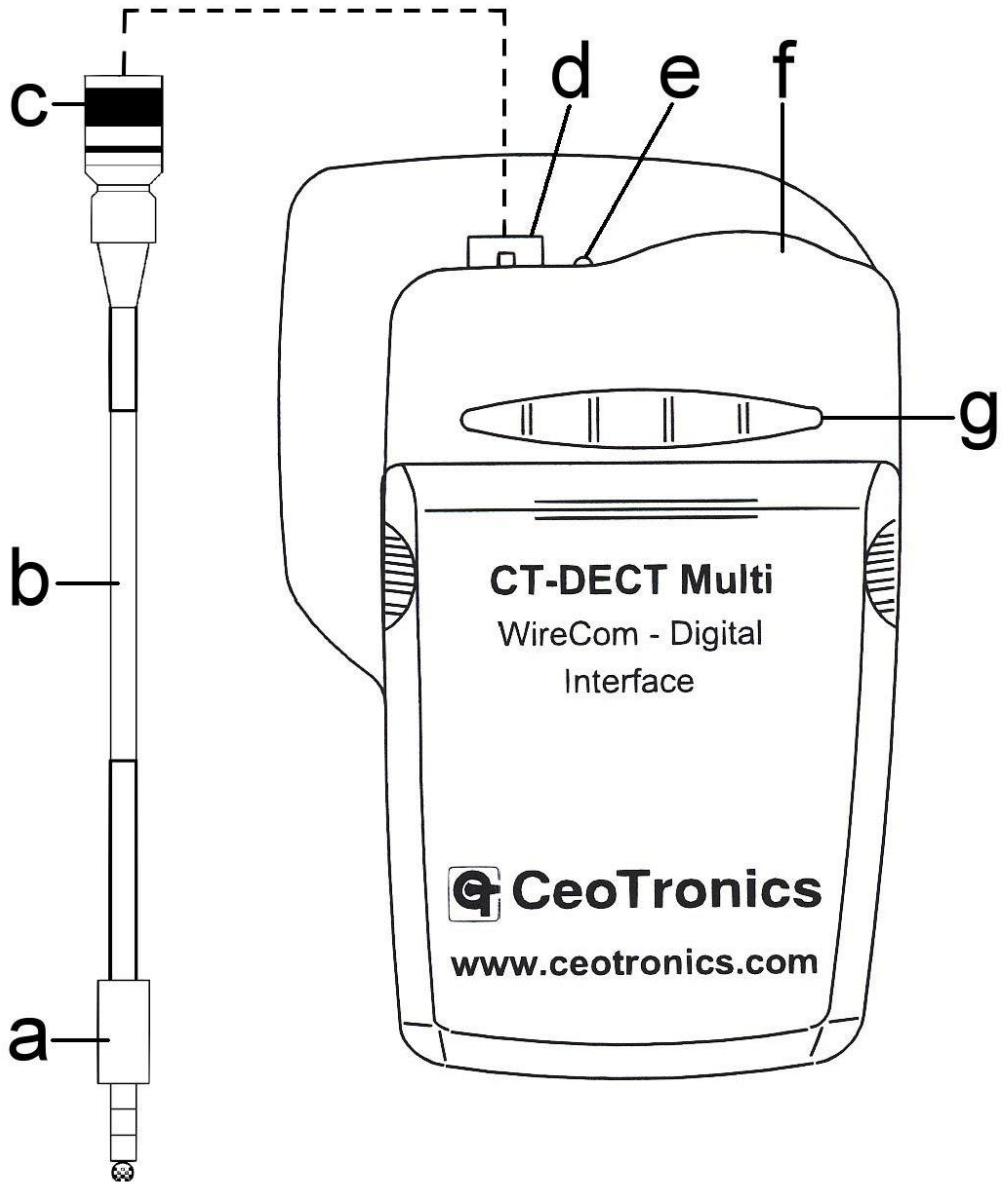
Power for the Multi is supplied either by three rechargeable NiMH batteries 1.2 V type Mignon AA or by 3 alkaline batteries 1.5 V type Mignon AA in the battery compartment.

With fully charged rechargeable NiMH batteries 1.2 V/2300 mAh the operating time for continuous operation is approx. 18 hours. For charging, the batteries have to be removed from the Multi.

2.3 PTT criterion

With the optional PTT button, integrated in the CT-DECT Standard headset, the »mobile« user is able to transmit a PTT criterion (PTT = push to talk) to the CT-DECT Multi WireCom – Digital Interface Base station which is connected to the ring circuit of the WireCom system. With this PTT criterion it is possible to key via telecommand e.g. a radio connected to the WireCom system as long as the PTT button is depressed.

Figure 1 Operation and connection elements



a Jack plug »Nexus TP120« to connect the CT-DECT Multi WireCom – Digital Interface Base to the ring circuit of the WireCom system

b Adapter cable, length approximately 40 cm (with plugs)

c 6-pole plug »Hirose« to connect the adapter cable to the CT-DECT Multi WireCom – Digital Interface Base

d 6-pole socket »Hirose« to connect the adapter cable

e LED to display the status (green – ready for operation / red – subscription process)

f CT-DECT Multi WireCom – Digital Interface Base

g Bank of 5 pushbuttons
All five pushbuttons are used for subscription of the CT-DECT Multi WireCom – Digital Interface Base (see 7…7.4)

3. Commissioning and operation

a. CT-DECT Multi WireCom – Digital Interface Base

If not connected yet, plug the 6-pole connector (figure 1/c) of the adapter cable into the 6-pole socket (figure 1/d) of the CT-DECT Multi WireCom – Digital Interface Base.

Connect the CT-DECT Multi WireCom – Digital Interface Base with the jack plug (figure 1/a) to the ring circuit of the WireCom system.

Now the CT-DECT Multi WireCom – Digital Interface Base is ready for operation, as power is supplied by the ring circuit of the WireCom system. The status LED – figure 1/e – lights up green. The CT-DECT Multi WireCom – Digital Interface Base has no ON/OFF switch.

➔ PLEASE NOTE

Protect the device against humidity.

b. Maximum 4 (four) CT-DECT Standard headsets

Put the headset on and adjust it for a secure and comfortable fit.

For commissioning and operation of the CT-DECT headset, please follow CeoTronics' special instruction manual.

➔ PLEASE NOTE

CT-DECT Standard headsets must be subscribed to the CT-DECT Multi WireCom – Digital Interface Base. (see chapters 7…7.4).

Switch the CT-DECT headsets on.

This starts the automatic connection setup between CT-DECT headsets and the CT-DECT Multi WireCom – Digital Interface Base unit, which could vary in time. After a few seconds a double beep in the CT-DECT headsets signals successful synchronization of CT-DECT headsets and CT-DECT Multi WireCom – Digital Interface Base unit. Once connection setup is completed, you hear a high beep in the CT-DECT headsets. From this moment on CT-DECT headsets and CT-DECT Multi WireCom – Digital Interface Base are ready for duplex communication within the working range between headsets and their base station.

c. Communication

After completion of the automatic connection setup, mobile users with CT-DECT headsets are able to speak permanently with one another. Each user can speak via the microphone of his headset and hear via his speaker what the other user is saying (duplex communication). For speaking the headset microphone must be in switched-on condition. All users can hear announcements incoming via WireCom system and CT-DECT Multi WireCom – Digital Interface Base.

A user who is connected to the WireCom system can always hear what mobile users with CT-DECT headset are speaking and he is able to speak to them at any time.

4. Exceeding the range limit

In case of exceeding the range limit, the connection between CT-DECT headset and CT-DECT Multi WireCom – Digital Interface Base unit is cut. As soon as the user of the CT-DECT headset is back within range of the CT-DECT Multi WireCom – Digital Interface Base, connection is automatically reset. First, a high double beep sounds in the CT-DECT headset followed by a high single beep, signalling that the connection is again in place.

5. Safekeeping – storage

After use, keep the cleaned devices in a clean and dry place at normal room temperature and at normal relative air humidity.

6. Maintenance

6.1 Visual inspections

Examine the devices and in particular the cables and plug connectors regularly for signs of fractures, cracks and wear. Send defective devices to CeoTronics for repair.

➔ PLEASE NOTE

After factory repair of the CT-DECT Multi WireCom – Digital Interface Base, CT-DECT Standard headsets have to be newly subscribed to the CT-DECT Multi WireCom – Digital Interface Base. For more details regarding subscription, refer to chapter 7.

6.2 Cleaning

⚠ CAUTION

Do not immerse the devices in water. No moisture may be allowed to penetrate the devices. Do not use any solvents (benzine, alcohol, etc.) for cleaning purposes!

Remove any loose dust with a soft brush. Clean the outside with a suitable clean cloth that has been slightly moistened with clear water, and rub the parts dry afterwards. If heavily soiled, some dishwashing liquid can be used in addition.
If necessary, clean the contacts of the connection plug with a commonly available contact cleaning agent.

7. On-air subscription of CT-DECT Standard headsets to the CT-DECT Multi WireCom – Digital Interface Base

7.1 General

➔ **INFORMATION**

- ***Subscribing CT-DECT Standard (PP) devices into a CT-DECT Base (FP) device is usually only necessary if a CT-DECT system is put into operation for the first time or if individual CT-DECT devices are replaced, e.g. after repairs.***
- ***A CT-DECT Standard (PP) device can only be subscribed to one CT-DECT base (FP) device, never to two or more simultaneously.***
- ***Depending on the scope of delivery, it is possible that the CT-DECT devices were already subscribed appropriately to one another at the QA final inspection at CeoTronics.***

  In this case you will find a note with the shipment. If there are several CT-DECT Base (FP) devices, the CT-DECT devices are marked in accordance with their assignment to the respective CT-DECT Base (FP) device.
- ***Two CT-DECT Standard (PP) devices can never be subscribed simultaneously to a CT-DECT Base (FP) device but always consecutively only.***

  With several CT-DECT Standard (PP) devices it is advisable to subscribe <u>all</u> devices in a device group directly one after the other to the CT-DECT Base (FP) device, because otherwise a device may be deleted by mistake (see Section 8.1 »Principle of Subscribing «).
- ***Keep to the sequence of operating steps.***
- ***<u>All</u> newly subscribed devices must be switched off again after subscription.***

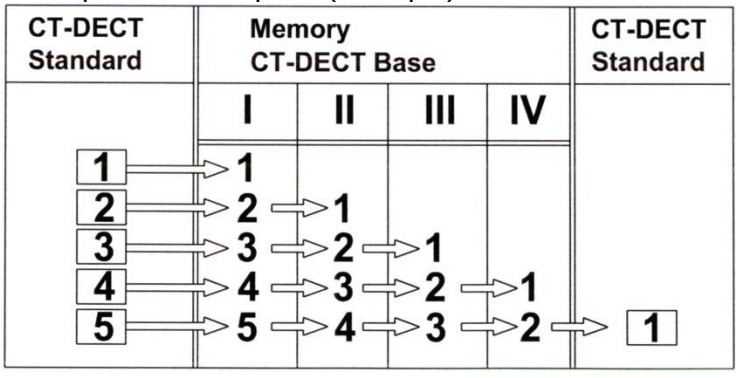
The CT-DECT Multi WireCom – Digital Interface Base is the central device and the CT-DECT Standard headsets have to be subscribed to the CT-DECT Multi WireCom – Digital Interface Base.

7.2 Principle of subscription

Each CT-DECT device is equipped with a CT-DECT module and has its own identification number. First of all an allocation must always take place between the CT-DECT Multi WireCom – Digital Interface Base and the maximum four CT-DECT Standard headsets. This subscription procedure, which has to be performed only <u>once</u>, is performed on the CT-DECT Multi WireCom – Digital Interface Base and the maximum four CT-DECT Standard headsets manually by means of a procedure carried out by the operator.

If a fifth CT-DECT Standard headset would be subscribed to the CT-DECT Multi WireCom – Digital Interface Base, the CT-DECT Standard headset subscribed first would be deleted from the memory of the CT-DECT CT-DECT Multi WireCom – Digital Interface Base. See the following example.

Principle of subscription (example)



A CT-DECT Standard headset that is deleted from the data memory of the CT-DECT Multi WireCom – Digital Interface Base cannot communicate any longer with the CT-DECT system. In this case the

Standard device has to be subscribed again to the CT-DECT Multi WireCom – Digital Interface Base according to the subscription procedure.

Once the subscription procedure has been successfully completed, the identity of the communication participants is stored in the data memory of the device. The CT-DECT Standard headset stores one CT-DECT Multi WireCom – Digital Interface Base. The CT-DECT Multi WireCom – Digital Interface Base stores the last four successful subscribed CT-DECT Standard headsets.

Time Out

If no successful subscription between a CT-DECT Standard headset and the CT-DECT Multi WireCom – Digital Interface Base was achieved after maximum 2 minutes, a »Time Out« occurs. The »Time Out« is signalized by a tone sequence of 4 short deep tones in the communication headset of the CT-DECT device, which repeats itself every 4 seconds.

After a »Time Out« all necessary CT-DECT Standard headsets have to be subscribed again to the CT-DECT Multi WireCom – Digital Interface Base.

7.3 On-air subscription

The following example explains how to subscribe a CT-DECT Standard headset to the CT-DECT Multi WireCom – Digital Interface Base. The subscription of a second, third, and fourth CT-DECT Standard headset to the CT-DECT Multi WireCom – Digital Interface Base is done analogously.

a. The CT-DECT Multi WireCom – Digital Interface Base must not be connected to the ring circuit (power supply) of the WireCom system. Plug the adapter cable (figure 1/b) into the Multi, if not yet connected.

   Make sure the CT-DECT Standard headset to be subscribed is in switched-off condition. Take the cushion off the headset's left ear muff. The subscription button is located inside the ring of the ear muff. Follow the recommendations of the special CeoTronics instruction manual for this headset.

b. On the CT-DECT Multi WireCom – Digital Interface Base, push at least one of the five buttons of the pushbutton bank (figure 1/g) and keep it depressed. While keeping the button depressed, connect the CT-DECT Multi WireCom – Digital Interface Base with the plug connector of the adapter cable to the ring circuit of the WireCom system and after connection keep depressing the button until the status LED (figure 1/e) lights up red. Then continue immediately with step »c«, to avoid a »Time Out«.

c. On the headset, push the subscription button and keep it depressed. While depressing it, activate the headset with the On/Off switch/volume control (rotary control button) and keep this button depressed for at least another two seconds after switch-on. Then let it go.

   The on-air subscription is initiated and you hear in your headset a short high beep intermittently in about 2-second intervals, followed after approx. 30 seconds by a high double beep. This confirms successful completion of the subscription process.

d. **After completion of the subscription process switch the headset, subscribed first, off. Pull the jack plug of the adaptor cable off the WireCom system's ring circuit, in order to disconnect the CT-DECT Multi WireCom – Digital Interface Base from power supply.**

7.4 After subscription

After subscription all newly subscribed CT-DECT Standard headsets must be switched off again and the CT-DECT Multi WireCom – Digital Interface Base disconnected from the ring circuit (power supply), before the communication system can be operated (see chapter 3).

CE

Konformitätsinformation

Hiermit erklärt die CeoTronics AG, dass sich
das Gerät „CT-DECT Multi WireCom – Digital Interface Base“
in Übereinstimmung mit den grundlegenden
Anforderungen und den übrigen einschlägigen
Bestimmungen der Richtlinie 2014/53/EU (RED) befindet.

Weitere Informationen zur Konformitätserklärung
erhalten Sie auf Anfrage von unserem Fachpersonal
bei der CeoTronics AG, Rödermark, Deutschland.

CE

Information of Conformity

Hereby the CeoTronics AG declares, that the
device „CT-DECT Multi WireCom – Digital Interface Base“ is in
compliance with the essential
requirements and the other relevant regulations
of the directive 2014/53/EU (RED).

Further information regarding the Declaration of Conformity
you can receive upon request from our specialized staff at
CeoTronics AG Rödermark Germany.

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Certificate No. 01220004023 (ATEX)

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