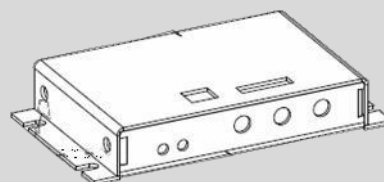


## Hearing loop amplifier



## Kit- Proximity amplifier

EN

Installation and usermanual  
**DCL20-K1**



## Manual

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## 1. Introduction

### 1.1 Purpose

The Installation and Operation Manual provides the necessary information for installing, configuring and using an DCL10-K1 kit.

### 1.2 Targeted audience

The Installation and Operation Manual is intended for installers and users of the DCL20-K1 kit.

### 1.3 Alerts

This manual discusses four types of alerts.

The type of alert is closely related to the effect that may occur if the alert is not observed. These alerts, ranked in ascending order of severity, are the following:

- **Note**

Additional information. Generally, the non-observance of a Note type alert does not result in any material or bodily injury.

- **Attention**

Failure to observe a caution alert may result in property damage.

- **Warning**

Non-compliance with a type alert Warning may result in serious personal injury and property damage.

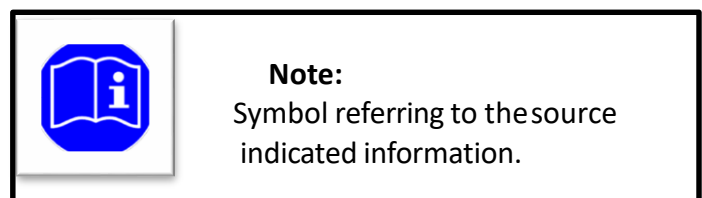
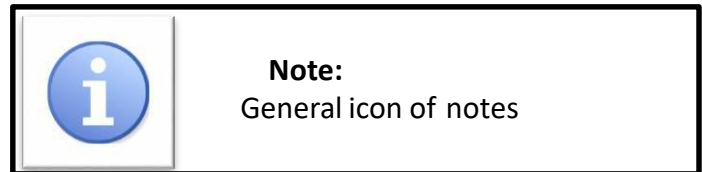
- **Danger**

Failure to observe a danger alert may result in death.

## 1.4 Icons

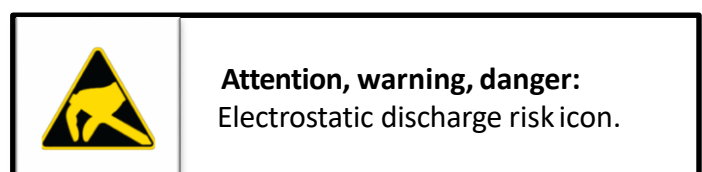
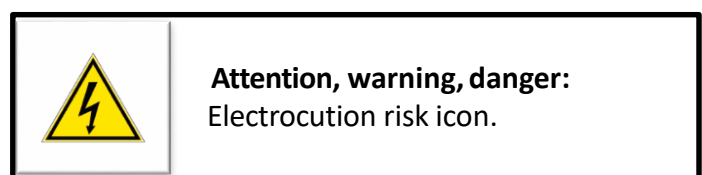
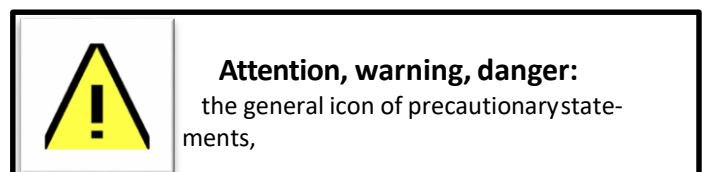
### 1.4.1 Icons and notes

Icons used with notes provide additional information about it. See the following examples:



### 1.4.2 Attention, warning and danger icons

The icons used in combination with Attention, Warning and Danger indicate the type of risk present. See the following examples:



## 1.5 Conversion tables

In this manual, SI units are used to express lengths, masses, temperatures etc. These can be converted to non-metric units using the following information.

Table 1: length units conversion

25,40 mm = 25,4 mm	1 mm = 1,00000
25,40 mm = 2,54 cm	1 cm = 0,3937 po
30,48 cm = 0,3048 m	1 m = 3,281 pd
1 ml = 1,609 km	1 km = 0,622 ml

Table 2: Mass units conversion

1 lb = 0,4536 kg	1 kg = 2,2046 lb
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Table 3: Pressure units conversion

1 psi = 68,95 hPa	1 hPa = 0,0145 psi
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Table 4: temperature units conversion

$^{\circ}F = 9/5. (^{\circ}C + 32)$	$^{\circ}C = 5/9. (^{\circ}F - 32)$
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**Note:**  
1 hPa = 1 mbar

## 2. Description

The DCL20-K1 kit is the ideal equipment for counters or reception desks allowing audio accessibility for people with hearing loss. This product is for all Public-facing establishment. It has the advantage of being one of the most compact and discreet of the market allowing optimal integration results. It offers especially a perennial installation.

### 2.1 The range

We are pleased to introduce our new brand Opus Technologies designed and manufactured in France. We propose innovative products offering maximum comfort for the users.

### 2.2 Contents

This kit includes:

- A DCL20 amplifier
- A power supply
- A power cord
- A gooseneck micro
- A 1,80m loop cable
- Three 2-point connectors
- One 3-point connectors
- A set of 2 stickers « space adapted for hearing impaired ».



### 2.3 DCL20-K1

The DCL20-K1 is an induction loop kit that can be used to equip counters or reception desks. The system allows to meet the restrictions of the law of european equal treatment directives while respecting the requirements of EN60118-4. The set is designed to offer accessibility to hearing-impaired equipped with a T-position on their hearing aid.

The amplifier is designed to be discreetly attached under a desk or counter. It is equipped with two inputs, settings and LEDs indicating the presence of power supply and loopcurrent.

The device incorporates an audio processing to have an automatic control of the sound levels, avoiding loud and sudden noises.



### 3. Installation



**Note:**

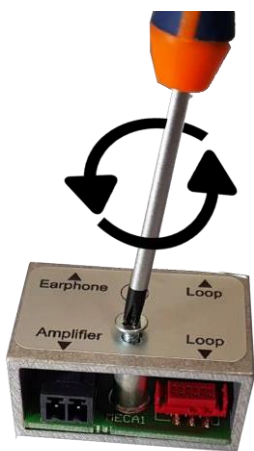
The wire supplied in the DLC20-K1 kit ensures the quick installation of a magnetic loop system in a reception desk, counter or cash desk. In order to optimize the radiation of the magnetic field and to guarantee a better result, the wire should be placed close to the customer.

#### 3.1 Composition and assembly of the loop

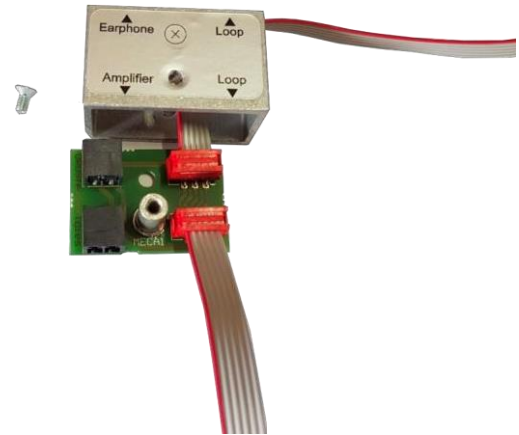
The loop consists on the following 3 elements: a loop cable, a loop adapter and a connecting cable.

The loop is ready but it is possible to disassemble it to adapt it to the reception desk. See below.

To disassemble the loop that will equip the counter, first unscrew the support of the electronic card.



Connect the beginning and the end of the loop cable to the circuit board (red connector).



Then plug the 50-70 cm connecting cable supplied to the "amplifier" connector of the adapter and to the "Loop" terminal block of the amplifier.

Your loop is now created and connected.

#### 3.2 Installation of the loop in the counter

**1.** There are 2 possibilities to place a loop in a counter as described below, however we strongly advise you to use the first version: Place the loop on the vertical and horizontal portion of the counter as shown in figure 1. This type of installation ensures better coverage in front of the counter.

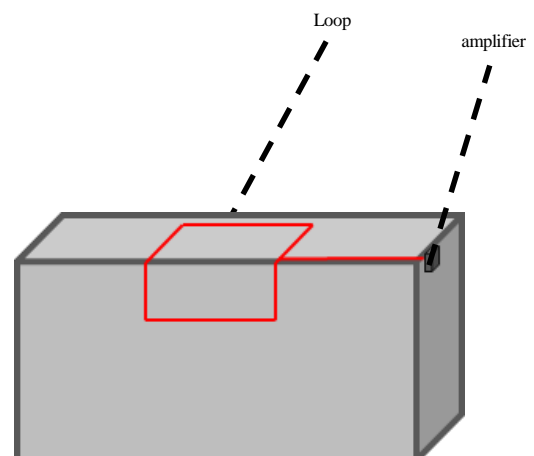


Figure1.

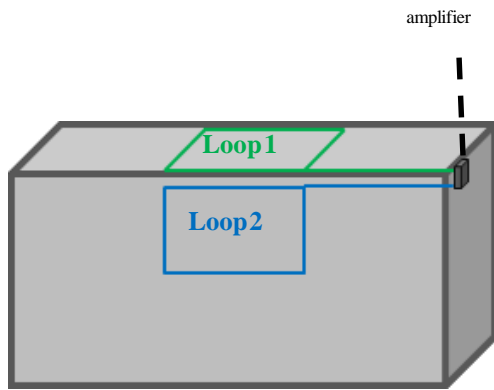


Figure2.

2. Position the loop on the horizontal counter- top by positioning the cable closest to the customer.

3. Install the loop on the vertical countertop by positioning the cable closest to the customer.

Set the loop using the binding clips supplied for this purpose. For better durability, it may be appropriate to install the loop in a plastic chute.

Then connect the connecting cable to the terminal block "amplifier" of the connector on the terminal block "loop" of the amplifier. Screw the connector on the cross.

For greater coverage around the counter, it is possible to install a cable on the floor. The loop can be placed in the slab (over the wire mesh), under a coating (parquet, carpet, ... etc) using a copper tape or glued under a carpet as shown in figure 3 .

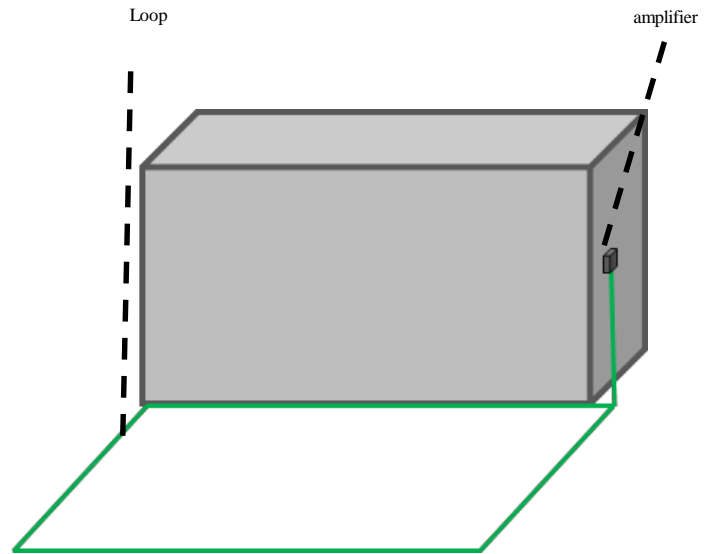
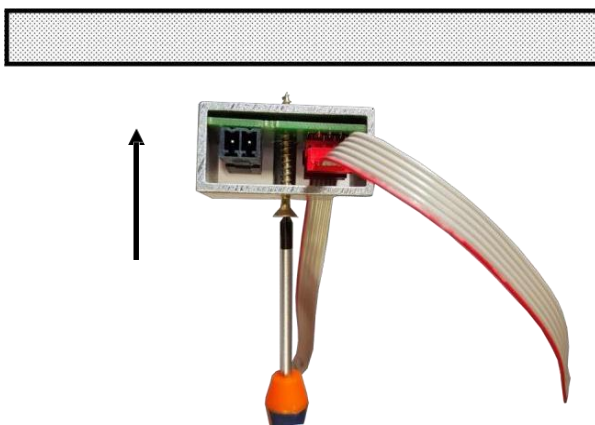


Figure3.

The wire supplied in the DCL20-K1 kit produces a magnetic field radiating on a perimeter of 1.2m which allows a people to receive the signal comfortably.

The pictogram with an integrated loop can be fixed on the desk and turned to the customer's side to avoid disturbances due to metal (see Figure 4).



**Attention, warning, danger:**



The loop must not be positioned under a metal structure. The magnetic field would be absorbed by the metal mass and would not equip the counter properly. There are

other solutions for installing a loop in a metal counter (see figure 3)

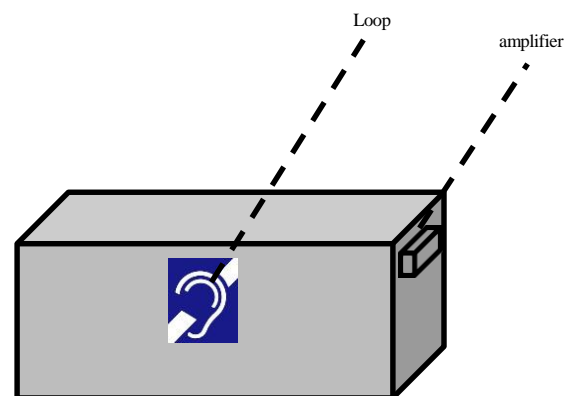
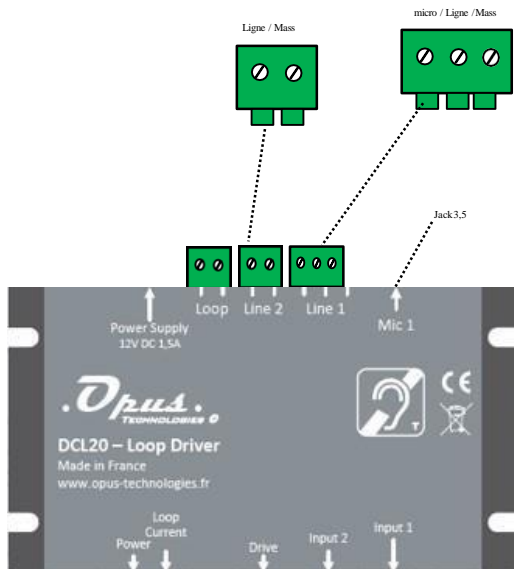


Figure4.

## 4. Connections and settings

### 4.1 audio connection



To connect the supplied microphone with the kit, insert the 3.5 jack into the microphone input 1.

Connecting to an intercom or specific source: Connect your source to input 2 of the DCL20. This input supports the following sources: line, low impedance and 100V with an adapter.

#### Micro input 1:

Type : Jack 3,5

Feature: phantom power

#### Input ligne 1:

Type: Terminal Block

Input type: Line or microphone, screw connection.

#### Input 2:

Type: Terminal Block

Input type: Line /low impedance/ 100V with an adapter.

### 4.2 Loop and power connection

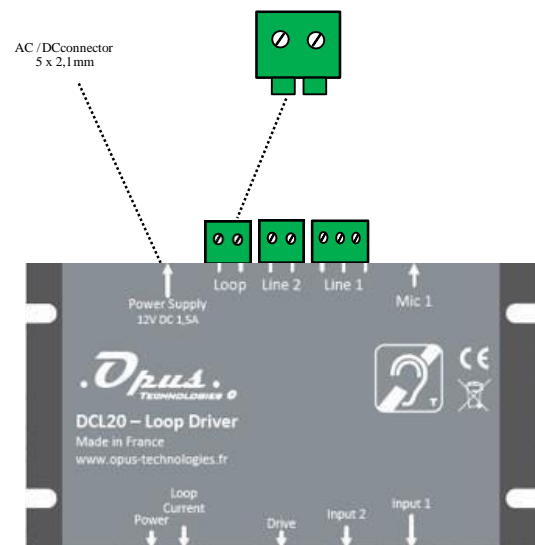
Connect the loop cable to the "Loop" input on the DCL20.



#### **Note:**

Loop input does not impose any sense of connection

Power supply: Connect the power supply from the kit to the "Power supply" input.





## 5. Explication

The wire forming the loop are connected to an audio amplifier. The hearing aid often called "T" or "T-coil" which is placed inside spirale wire. The magnetic field generated by the large loop will cross the coil and, by the induction process, the electrical signal present in the large loop will be found in the one small. The signal of the audio amplifier is transmitted to the hearing aids, which will then restore it to the ear of the impaired ones.

The loop can be installed in the floor or at the roof level, more precisely between 1.10m and 2.20m from the listening height (ears).

The presence of an hearing loop is often indicated by a blue logo representing a crossed out ear and a letter T. Generally, a hearing aid has two major positions, the M and the T. The position M makes it possible to perceive the sound thanks to sound pressure as a microphone, while the position T (T for telephone) directly receives the audio signals transmitted by induction via the integrated coil. Some aids combine these two modes of operation with the MT position. It allows the hearing impaired to perceive both ambient noise and inductively transmitted signals.



## 6. Safety notes

The majority of problems with the hearing loop happens when the installation has not been properly reflected so let's take a while before starting the installation to better results and time saving.

Ideally, the loop amplifier should be placed near the area to be covered. This may involve placing the amplifier on a panel, under a desk or under a table.

The pickup microphone should be as close as possible to the input of the amplifier.

To position the loop in the space to be equipped, it is important to take into account the final users of the system.

For example, if the place is planned for a conversation between a speaker and a client, a loop around the desk may be a better solution rather than a loop around the perimeter of the room. It will limit radiation and increase confidentiality.

## 7. Specifications

Inputs	
Audio inputs	2 (1 microphone or line input and 1 line input)
Type	Micro Jack 3.5, Phoenix terminal block
Phantom	4,5V 1mA

Dimensions and weight (in mm)	
DCL20	92 x 52 x 18 (L x H x P)
Packaging	190 x 190 x 50
Weight	0.350g

Power supply	
Characteristics	12V DC 1,5A
Type	Separate power box
Voltage	230V 50/60 Hz
Power	20W max
Fuse	Thermal

Audio Processor	
Compressor	Variable 1: 1 to 20: 1
Attack	10mS
Descent	Automatic 500mS ou 1500mS
Noise reduction	Bandwidth Limits for 8 KHz at Total Gain, 16KHz to -6dB
Dynamic	> 60dB
THD	THD+N<0,5% à 1KHz

Output	
Type	Current
Loop resistance	0,5 Ohm à 1 Ohm
Peak current	4A
Current RMS	2A à 1 KHz
Protection	Thermal, short circuit and start



Document information is subject to change

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| installation and user manual | DCL20-K

For any questions, contact us.

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