



Univox CLS-5, art nr 212012

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# Introduction

Thank you for having chosen Univox® CLS-5 loop amplifier. We hope that you will be satisfied with the product!

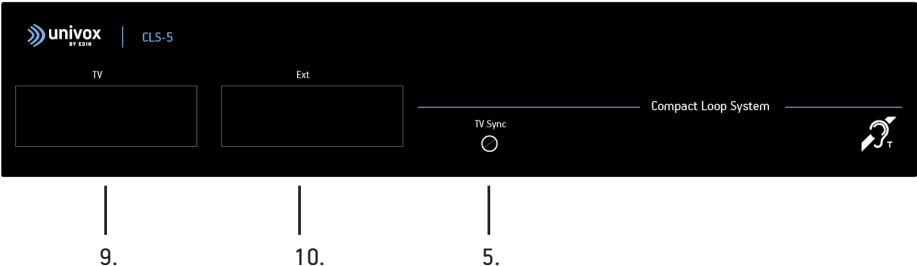
Please read this user guide carefully before installation and use of this product. All Univox® amplifiers have a very high output current capability resulting in powerful and secure products fulfilling existing standards, IEC 60118-4.

Univox CLS-5 is a modern loop amplifier for wireless listening through hearing aids (in T position) with features necessary for connection to modern TV sets. Digital input, correction of time delay between sound and picture (TV Sync) and built-in automatic SCART control are some of the features that enable and facilitate the use together with modern flat screen plasma and LCD TV sets.

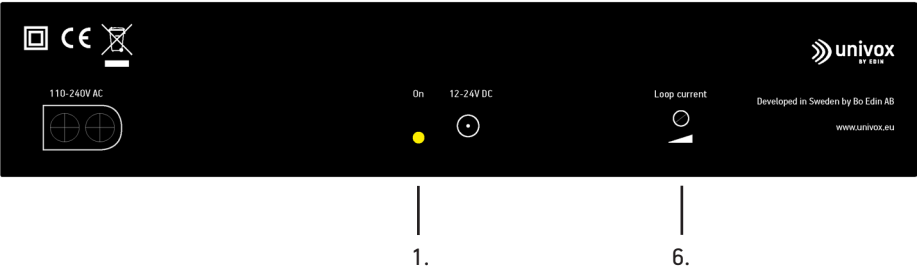
With new components and a new construction the environmental strain has been reduced substantially (half the weight, reduced copper by 90 % and lower power consumption).

# Overview

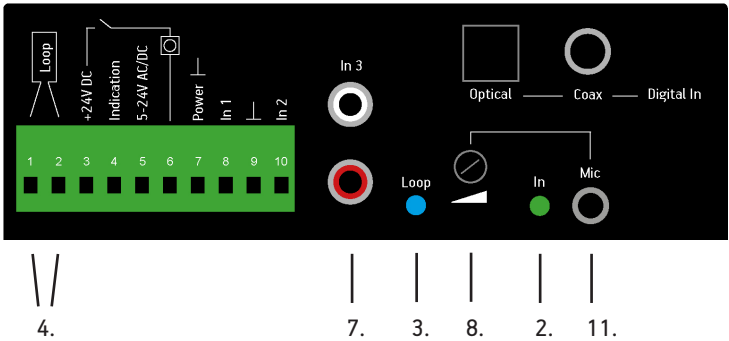
## Front side



## Rear side



## Side



## Overview

1. On/Off. Yellow led shows that the amplifier is connected to the mains power.
2. In. Green led indicates that the amplifier is connected to the mains power and is connected to a signal source (TV, DVD, radio, etc.).
3. Loop. Blue led indicates that the amplifier is transmitting sound to hearing aids, i.e. it is only lit when there is a sound being transmitted from the signal source.
4. Loop. Connections to loop wire, terminal 1 and 2.
5. TV Sync. Adjustment potentiometer to compensate the time difference (sound delay) between the sound from external units and the sound from the TV.
6. Loop current. Adjustment potentiometer for loop current.
7. In 3. RCA/Phono.
8. Adjustment potentiometer for microphone sensitivity.
9. SCART connector for TV.
10. SCART connector Ext, for VHS/DVD player etc.
11. Microphone input.
12. Digital input, optical.
13. Digital input, coax.

## For the user

CLS-5 is adjusted by a technician and no maintenance is normally needed. Don't try to adjust the amplifier yourself as this might make trouble shooting more difficult.

## Function control

1. Check that the amplifier is connected to the mains power (yellow LED lit). Carry on to step 2.  
If not, check that the power cord is correctly connected to the amplifier and to mains.

2. Input signal has to be properly connected (green LED In shall be lit). Carry on to step 3.  
If not, check that the cables between the amplifier and the signal source/s (TV, DVD, radio etc.) are correctly connected.
3. Blue LED is lit whenever the amplifier is transmitting the sound to the hearing aid. This shows that the system is working correctly.  
If you don't hear anything in your hearing aid, check that the hearing aid works and is set in T position.

### **Examples of incorrect connections**

You don't hear anything through your hearing aid:

1. If the blue LED Loop (3.) is lit, the hearing aid is probably not working correctly. Remedy: Check the hearing aid batteries and that the hearing aid is set in T position.
2. If the blue LED Loop (3.) is not lit, check that the loop wires Loop (4.) are properly connected.
3. If the green LED (2.) is not lit, there is no contact with an input signal source (TV, DVD, radio etc.). Perform a function control as described above.

## Mounting and placing

CLS-5 is either wall-mounted, see template for wall mounting at the end of this Installation Guide, or placed on a flat and stable surface. The wire between the loop figuration and the loop amplifier should not exceed 10 meters and the wires should be paired or twisted.

### **Important!**

The amplifier normally runs hot during use and needs free space for cooling through the top and bottom. To avoid possible fire or discolour, the amplifier must be kept at a distance from fragile and easily flammable materials.

# Preparatory connections

1. Connect the loop wire to the amplifier's connector terminal marked Loop (4.).
2. Connect a suitable input signal source.
3. Connect the amplifier to mains or a 12-24V DC power source. Yellow LED (1.) is lit.

# Default settings

1. Check that there is an input signal, green LED In (2.) is lit.
2. If there is a microphone connected to Mic (11.). Adjust the microphone sensitivity (8.) so that the green LED In (2.) is lit during program peaks.
3. Adjust the magnetic field strength by turning the control potentiometer Loop (6.) so that program peaks occasionally reach 400 mA/m. Use only Univox® FSM field strength meter with RMS measurement and 125 ms integration time. Check the sound quality with the loop receiver Univox® Listener. In some cases it might be suitable to increase the treble. The treble control is found inside the CLS-5 (the only control potentiometer inside). When increasing the treble there is an increased risk of self-oscillation and distortion.

# Special settings for TV

- **Digital In** (12-13.)  
Connect with optical or coax cable to TV sets with digital output.
- **RCA/phono** (7.)  
LCD/Plasma TV sets usually have well working RCA/phono connectors. Connect to In 3 (7.).
- **SCART** (9-10.)  
First always check that the present SCART system works, i.e. the TV changes picture automatically when an external unit (DVD etc.) is turned on. Remove the existing SCART cable from the TV and connect it to the output Ext (10.) on the CLS-5. Connect a new SCART cable between the SCART output on the TV and the SCART input TV (9.) on the CLS-5.

- **Sound adjustment/TV Sync (5.)**

Modern flat screen TV's often have a time difference (sound delay) between the sound from external units and the sound from the TV. Use the TV sync adjustment potentiometer to achieve the best sound (no echo effects).

## Connecting an alert signal

The alert signal system can be triggered in three ways:

1. External Doorbell drive: +24VDC Doorbell (terminal 3 - 6)
2. External trig: 5-24V AC/DC (terminal 4 - 5)
3. External switch: Terminal 3-4 and 5-7 are shorted separately. The external switch is connected between 3-4 and 5-7.

The acoustical indication muffles the sound in the loop and starts a wide band harmonic sound that cover most of the frequency non-linear hearing impairments.

## General advice for planning

- Plan for a 2 x 1.5 mm<sup>2</sup> paired wire. First try to connect as a 2-turn loop. If the desired field strength is not reached, parallel the two wires thereby creating a 1-turn loop. As an alternative a flat copper foil can be used if the space to install a standard round wire is limited.
  - Normally reinforced rooms can reduce the coverage area by about 50 %.
  - Never put analog input cables close/parallel to the loop wire.
  - Avoid dynamic microphones to reduce the risk of magnetic feedback.
  - Avoid putting the loop wire close to/on metal constructions or reinforcing structures. This might reduce the field strength substantially.
  - If the smallest side of the looped area is larger than 10 meters, a figure 8 loop figuration should be used.
  - Is the overspill outside of the loop acceptable? If not, plan for a Univox® SLS system with heavily reduced overspill.
  - Plan all other electrical equipment in order not to create disturbing magnetic fields.
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- Do not put the loop wire close to a stage area to avoid feedback from electric instruments and dynamic microphones.
- Always measure and certify the loop installation with Univox® FSM field strength meter according to the IEC 60118-4 standard.

You can fill in the document *Univox® Certificate of Conformity* a measuring protocol using FSM 2.0, for hearing loops (fill-in pdf file) by downloading the form at [www.edin.se/documents](http://www.edin.se/documents), see Support, Documents.

## Technical description

### Electrical power

Built-in switched power supply 110-240 V AC.

12-24V DC as primary power supply or backup. Connection to 12V DC will reduce the effect.

### Loop Output

Max current	16 App, short-circuit driven
Max voltage	24 Vpp (open output)
Frequency range	70-5000 Hz ( $\pm 3$ dB)
Distortion	<1%
Connection	Screw terminal

### Inputs

Digital	Optical/Coax
Mic	3.5 mm, 2-250 mV/5 k $\Omega$ (built-in phantom power)
TV/Ext	SCART, 35 mV-10 V/ 5k $\Omega$
In 1	screw terminal, 35 mV-10 V/5 k $\Omega$
In 2	screw terminal, 25 mV-10 V/5 k $\Omega$
In 3	RCA/phono, 35 mV/5 k $\Omega$

## Indication

External door bell/telephone signal or trigger voltage can activate the built-in alerting system with tone generator in the loop.

## Metal loss correction/treble control

0 - +18dB for correction of high frequency drop due to metal, screw driver control.

## Loop current (6.)

Loop                                      Screw driver control on the side.

## Indicators

Power connection                      Yellow LED (1.)

Loop current                              Blue LED (3.)

Input signal                              Green LED (2.)

# Security and Warranty

Basic knowledge in audio and video installation techniques is required to achieve existing regulations. The installer/planner is responsible for the installation hereby avoiding any risk or cause of fire.

Please (also) note that the warranty is not valid for any damage or defects on the product due to incorrect or incautious installation (or usage) or maintenance.

Bo Edin AB is not responsible for interference from radio or TV equipment, or damage caused by the product to any property or liable for the consequences of such damages.

# Maintenance and care

Under normal circumstances Univox® loop amplifiers do not need any special maintenance. Should the unit become dirty, wipe it with a clean damp cloth. Do not use solvent or strong detergents.

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# Troubleshooting

Verify the control LEDs following the instructions in this installation guide. Use Univox® Listener to check the sound quality and basic level of the loop.

## Service

Should the product/system not work after having made the product test as described above, please contact the local distributor of the product for further instructions.

If the product should be sent to Bo Edin AB, please enclose a filled *Service Form*, which can be downloaded at [www.univox.eu/documents](http://www.univox.eu/documents).

## Technical data



For additional information, please refer to product data sheet/brochure and CE certificate which can be downloaded from [www.univox.eu/products](http://www.univox.eu/products). If required other technical documents can be ordered from [support@edin.se](mailto:support@edin.se).

## Environment



When this product is finished with, please follow existing disposal regulations. Thus if you respect these instructions you ensure human health and environmental protection.

## Measuring devices

### Univox® FSM 2.0, Field Strength Meter

Instrument for professional measurement and control of loop systems according to IEC 60118-4.



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Distributor

## Univox® Listener

Loop receiver for fast and simple check of the sound quality and basic level control of the loop.



## Accessories

Please refer to product brochure (pdf) which can be downloaded at [www.univox.eu/products](http://www.univox.eu/products).

Please also refer to product brochures (pdf) about Wireless Microphone Systems at [www.univox.eu/products](http://www.univox.eu/products).

## Wall mounting template

Please see enclosed appendix.

Univox by edin, the world's leading expert and producer of high quality hearing loop systems, created the very first true loop amplifier 1969. Ever since our mission is to serve the hearing community with the highest degree of service and performance with strong focus on Research and Development for new technical solutions.

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[www.univox.eu](http://www.univox.eu)

Hearing excellence since 1965

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