univox
BY EDIN

Univox® CLS-5T

Compact Loop System
for vehichles and TV-lounges

Installation Guide

Univox CLS-5T part no 212060

Contents

Introduction 3
Connection and controls 4
Overview 4
Description 5
User information 6
Mounting and placement 6
Installation setup 6
Default settings 7
Special settings for TV connection 7
Connecting an alert signal 7
Loop installation guidance 8
System check/troubleshooting 8
Safety 9
Warranty 9
Measuring devices 10
Maintainance and care 10
Service 10
Environment 10
Technichal specifications 11
Notes 12

Introduction

Thank you for purchasing Univox® CLS-5T loop amplifier. We hope you will be satisfied with the product! Please read this user guide carefully before installation and usage of the product.

Univox CLS-5T is a modern loop amplifier designed for wireless listening through T-coil equipped hearing devices. The high-current output, essential for optimal signal broadcasting and wide range of operating voltages,110-240 VAC and 12-24 VDC, supports its suitability for a number of applications, from on board vehicles to large TV- lounges and meeting rooms.

Audio quality is significantly enhanced, eliminating modulation distortion at high power output. The audio chain incorporates also features such as the Metal Loss Correction, to fine tune for the effects of metal loss, and the unique Dual Action AGC(automatic gain control) that restores the audio instantly after noise suppression.

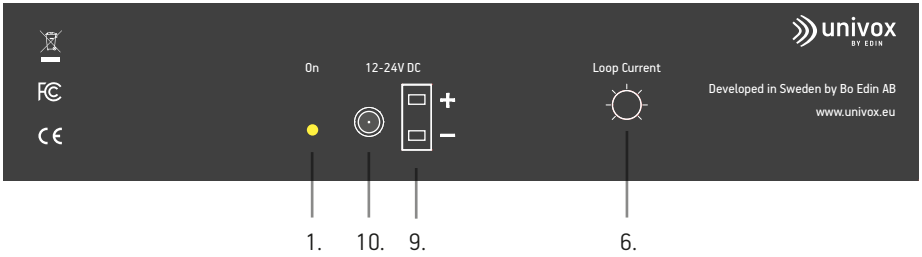
CLS-5T features an alert input which can be activated by vehicles on-board alarm, or - if installed in a TV-lounge - a doorbell or a telephone.

CLS-5T is certified according to the ECE R10 automotive standard, and correctly installed provides compliance with all the requirements of IEC 60118-4

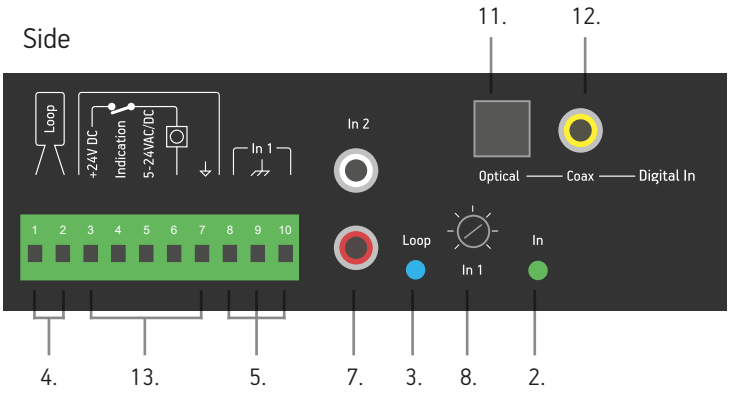
Connections and controls CLS-5T

Front panel

Rear panel



Side



Description

1. On/Off. Yellow LED indicates mains power connection
2. In LED – Green. Input 1 and 2. Indicates signal source connection
3. Loop LED – Blue. Indicates that loop is transmitting
4. Loop connection terminal, pin 1 and 2
5. In 1. Balanced line input, pin 8, 9, 10
6. Loop current adjustment
7. In 2. RCA/Phono
8. In 1, volume control
9. 12-24VDC supply (see polarity below)
10. 110-240VAC, external switching power supply
11. Digital input, optical
12. Digital input, coax
13. Alert signal system, pin 3 through 7 - *see pages 7-8 'Connecting an alert signal'*

User information

CLS-5T should be installed and adjusted by a qualified technician. No maintainance is normally required. In the event of malfunction, do not attemt to repair the amplifier yourself.

Mounting and placement

CLS-5T can be wall-mounted (see template for wall mounting at the end of this Installation Guide) or placed on a flat and stable surface. The wires between the loop figuration and the driver should not exceed 10 meters and should be paired or twisted.

Important! The placement location must provide adequate unit ventilation.

The amplifier normally generates heat during operation and needs free space for plenty of ventialtion on all sides.

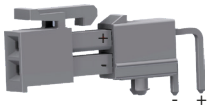
Installation setup

Two power supply options are avaliable:

- 12-24VDC direct power source
- 110-240VAC External switching power supply

⚠ **DC power supply connection**
12 or 24VDC direct power source connection requires a 5-8A external fuse.
When installing Univox CLS-5T in an application with a DC power supply, if Unbalanced In 2 is used, a FGA- 40HQ ground isolator (part.no: 286022) must be installed between the loop amplifier input and the signal source. If the signal source and the amplifier's input are not galvanically isolated, a serious error may occur.

1. Connect the loop wire to the amplifier's loop connection terminal, marked Loop (4.)
2. Connect a suitable input signal source to one of the Inputs, In 1 or In 2
3. Connect the amplifier to mains by using the external power adapter or a 12-24VDC power source (10.) via 2-p Molex connector (9.). Observe polarity. Yellow LED (1.) illuminated



Molex connector polarity

Default settings

1. Check that there is an input signal, green LED In (2.) illuminated during program peaks
2. Adjust the magnetic field strength to 0dB (400mA/m) in the program peaks. Verify the field strength with Univox® FSM field strength meter. Check the sound quality with the loop reciever, Univox® Listener. Some installations require adjustment of treble level. The treble control is located inside the CLS-5T (single control potentiometer inside the unit). When increasing the treble there is an increased risk of self-oscillation and distortion. Please contact Univox support for guidance.

Special settings for TV connection

- **Digital in (11-12.)**
  Connect with optical or coax cable to TV models with digital input
- **RCA/phono (7.)**
  Connect the TV's audio output (AUDIO OUT or AUX OUT) to In 3 RCA/phono (7.)

Connecting an alert signal

An alert signal system can be triggered in three ways:

1. External doorbell drive: +24VDC doorbell. Terminal 3-6 on the terminal block
2. External trigger: 5-24V AC/DC. Terminal 4-5 on the terminal block
3. External switch: Terminal 3-4 and 5-7 are shorted separately. The external switch is connected between 3-4 and 5-7

The acoustic indication supresses the sound in the loop and initiates a broadband harmonic sound that covers most of the non-linear frequency hearing impairments.

Loop installation guidance

- The installation should initially be planned with a 2 x 1.5mm^2 paired wire. Connect the wires in series as a 2-turn loop. If the desired field strength is not achieved, connect the wires in parallel creating a 1-turn loop. In installations where a standard round wire is not suitable e.g. due to limited space, flat copper foil is recommended.
- Venues with reinforced structures can reduce the coverage area significantly.
- Analog signal cables should not be placed closely or in parallel to the loop wire.
- Avoid dynamic microphones to reduce the risk of magnetic feedback.
- The loop should not be installed closely to or directly on metal constructions or reinforced structures. The field strength might be reduced substantially.
- If the shortest side of the loop area is longer than 10 meters, a figure eight loop configuration should be installed.
- Verify that the overspill outside of the loop is acceptable. If not, a Univox® SLS system should be installed.
- Relocate any electrical equipment that could create background magnetic field signals or interference with the loop system.
- In order to avoid feedback from electronic instruments and dynamic microphones, do not install wire near a stage area.
- A completely installed loop system should be tested with Univox® FSM field strength meter and certified according to the IEC 60118-4 standard.
- Univox Certificate of conformity, including a measurement procedure checklist, is avaliable at:
  www.univox.eu/support/consultation-and-support/certify-installation/

System check/Troubleshooting

1. Check that the amplifier is connected to the mains power (yellow LED illuminated). Proceed to step 2.

2. Check the input connections. The cable between the amplifier and the signal source/s (TV, DVD, radio etc.) must be properly connected, (green LED “In” illuminated). Proceed to step 2.
3. Check the loop cable connection, (blue LED). The LED is illuminated only if the amplifier is transmitting sound to the hearing aid and the system is working correctly. If you are not receiving an audio signal in your hearing aid, verify that the hearing aid is functioning properly and is set in T-position.

Safety

The equipment should be installed by an audio visual technician observing 'good electrical and audio practice' at all times and following all the instructions within this document.

> Only use the power adapter supplied with the unit. If the power adapter or cable is damaged, replace with a genuine Univox part.

Power adapter must be connected to a mains outlet close to the amplifier and easily accessible. Connect the power to the amplifier before connecting to the network, otherwise there is a risk of sparking.

The installer is responsible for installing the product in a way that may not cause risk of fire, electrical malfunctions or danger for the user. Do not cover the power adapter or loop driver. Only operate the unit in a well ventilated, dry environment.

> Do not remove any covers as there is a risk of electric shock. There are no user serviceable parts inside. Refer servicing to qualified personnel. Please observe that the product warranty does not include faults caused by tampering with the product, carelessness, incorrect connection/mounting or maintenance.

Bo Edin AB shall not be held responsible or liable for interference to radio or TV equipment, and/or to any direct, incidental or consequential damages or losses to any person or entity, if the equipment has been installed by unqualified personnel and/or if installation instructions stated in the product Installation Guide have not been strictly followed.

Warranty

This loop driver is supplied with a 5-year (return to base) warranty.

Misuse of the product in any way including but not limited to:

- Incorrect installation
- Connection to non-approved power adapter
- Self oscillation resulting from feedback
- Force majeure e.g. lightning strike
- Ingress of liquid
- Mechanical impact

will invalidate the warranty.

Measuring devices

Univox® FSM Basic, Field Strength Meter

Professional instrument for measurement and certification of loop systems in accordance with IEC 60118-4.

Univox® Listener, testing device

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

The installation guide is based on information avaliable at the time of printing and is subject to change without notice.

Maintenance and care

Under normal circumstances the product does not need any special maintenance.

Should the unit become dirty, wipe it with a clean damp cloth. Do not use any solvents or detergents.

Service

If the product / system is not working properly after completing the troubleshooting procedure, please contact your local distributor od Bo Edin directly for further instructions. The appropriate Service form, available at www.univox.eu, should be completed before sending any products back to Bo Edin AB for technical consultation, repair or replacement.

Technical data

For additional information, please refer to product data sheet and CE certificate which can be downloaded from **www.univox.eu/products**. If required, other technical documents can be ordered from **support@edin.se**.

Environment

To prevent possible harm to the environment and human health, please dispose of the product responsibly by following statutory disposal regulations.

Technnical specifications CLS-5T

Induction loop output: RMS 125 ms

Power supply	110-240 VAC, external switching power supply 12-24 VDC as primary power or backup, 12 V will reduce output
Loop output	
Max current	10 Arms
Max voltage	24 Vpp
Frequency range	55 Hz to 9870 Hz @ 1Ω and 100µH
Distortion	<1% @ 1Ω DC and 80µH
Connection	Phoenix screw terminal
Inputs	
Digital	Optical/coax
In 1	Phoenix connector/balanced input/PIN 8/10 8 mV, 1.1 Vrms/5kΩ
In 2	RCA/phono, RCA - unbalanced input: 15 mV, 3,5 Vrms/5kΩ
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 to +18 dB correction of high frequency attenuation – internal control

Loop current	
Loop current (6.)	Screwdriver adjusted
Indicators	
Power connection	Yellow LED (1.)
Input	Green LED (2.)
Loop current	Blue LED (3.)
Size	WxHxD 210 mm x 45 mm x 130 mm
Weight (net/gross)	1.06 kg 1.22 kg
Part No	212060

Product is designed to meet the system requirements of IEC60118-4, when correctly designed, installed, commissioned and maintained. Specification data complied according to IEC62489-1. The installation guide is based on information avaliable at the time of printing and is subject to change without notice.

Notes

(Univox) Bo Edin AB
Stockby Hantverksby 3,
SE-181 75 Lidingö, Sweden

+46 (0)8 767 18 18
info@edin.se
www.univox.eu

Hearing excellence since 1965

univox BY EDIN