



LWL4CBAL

USER MANUAL

4-Channel Un-Balanced Audio over Fiber



Import, Manufacturing and Distribution by
vuetec.tv UG (haftungsbeschränkt)
Hasselbusch 124a | Henstedt-Ulzburg | Germany
+49 - 4193 - 880 3405 | www.vuetec.tv

LWL4CBAL Quad Audio over Fiber uni-directional

The **DIVAR** LWL4CBAL fiber extender kit sends 4-channel, uni-directional, un-balanced line level audio over a single fiber. The system consists of a transmitter and receiver that support 16-bit digitally encoded broadcast audio for use on multimode or singlemode optical fiber. This extender transmits a broadcast quality audio signal up to 1600 feet on multimode fiber and up to 12.5 miles on singlemode fiber.

Includes

- 1 Transmitter
- 1 Receiver
- 2 Power Supplies, 5VDC/2A

Features

- 4-channel, unidirectional audio on Phoenix connectors
- No adjustments; pure digital processing and transmission
- Line level, un-balanced audio operation
- Indicator LEDs monitor audio signals and power
- Standalone chassis with surface mounting bracket
- Multimode fiber transmission up to 1600 feet without attenuation
- Singlemode fiber transmission up to 12.5 miles without attenuation
- Complete Transmitter and Receiver System

Specifications

Optical:

Wavelength	1310 nm & 1470 nm~1610 nm
Output Power	-14~-8 dBm / -5~0 dBm
Optic fiber	50/125u multimode, 62.5/125u multimode, 9/125u single mode
Rx sensitivity	-30 dBm
Optical connector	FC or ST or SC (optional on request)
Distance	0~2 km (MM) / 0~20 km (SM)

Balanced Audio

Number of Channels	4 Input + 4 Output
Input Connector	Phoenix (male)
Output Connector	Phoenix (male)
Input / Output Impedance	10 kOhm
Input capacitance LINE inputs	10 pF
Max input/output voltage	3.0 Vp-p
Frequency Response	10 Hz~24 kHz @ ± 3 dB
Sample Rates From	48 kHz
SNR	> 80 dB

Electrical & Mechanical

Input Power Requirements:	DC 5 V @ 2 A
Power Adapter:	AC 90 V~240 V
Power Consumption:	< 5 W
Dimensions:	168 mm × 154 mm × 45 mm
Weight:	650 g Transmitter & Receiver each

Environmental

Operating Temperature:	-20°C ~ +75°C
Storage Temperature:	-40°C ~ +85°C
Relative Humidity:	0% ~ 95% (non-condensing)
MTBF:	> 100,000 hours

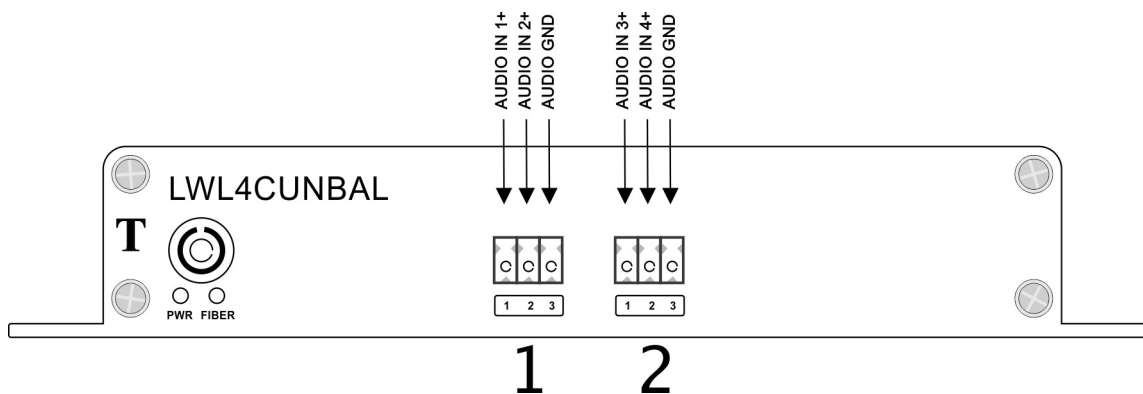
NOT FOR USE WITH IFB SYSTEMS WHERE AUDIO IS MODULATED WITH VOLTAGE

NOT FOR USE WITH PHANTOM POWERED DEVICES

Interfacing the LWL4CBAL

Transmitter

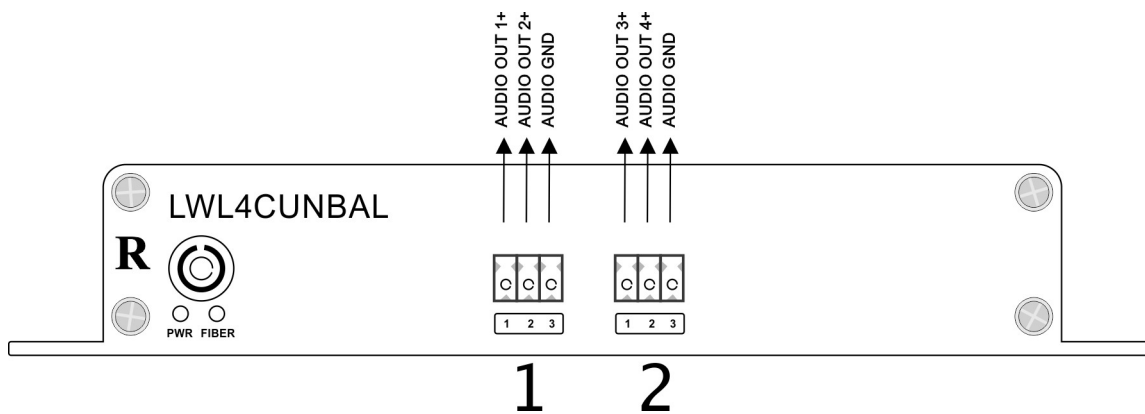
The transmitter unit have following I/O ports and connections:



Front	
T	Fiber I/OT
LED POWER	Status Indicator Power; lit constant when OK
LED Fiber	Status Indicator Fiber; lit constant when OK; flash when broken
Phoenix 1	Audio Input 1+2 to Receiver Output 1+2
Phoenix 2	Audio Input 3+4 to Receiver Output 3+4
Back	
DC Power Jack	5 V DC input
Chassis Ground Srew	Ground

Receiver

The receiver unit have following I/O ports and connections:



Front	
R	Fiber I/OT
LED POWER	Status Indicator Power; lit constant when OK
LED Fiber	Status Indicator Fiber; lit constant when OK; flash when broken
Phoenix 1	Audio Output 1+2 from Receiver Input 1+2
Phoenix 2	Audio Output 3+4 from Receiver Input 3+4
Back	
DC Power Jack	5 V DC input
Chassis Ground Srew	Ground

Power Supply



The Tx and Rx units are powered by the 5 V DC 2 Amp universal voltage [100 V - 240 V AC 50/60 Hz input range] AC power adapters, similar to the shown above power supply above.

Note:

The LWL4CBAL features environmentally conscious packaging material to protect the LWL22CBAL system during transportation and can be used for temporary storage when better forms of storage are not available.

SET UP INSTRUCTIONS

1. Secure the units in a safe location, where they will not be bumped or dropped or fall and where there is room around the unit so nothing will interfere with the fiber optic cabling causing it to bend in a tight radius or bend sharply in any way as this can severely affect the signal transfer.
2. Carefully connect your source(s) to the transmitters input(s) and the receiver units output(s) to your receiving devices input(s) using the female XLR inputs on the transmitter and male XLR output connectors on the receiver unit,
3. Please note that all audio on the transmitter (Tx) and receiver (Rx) must be line level.
4. **CLEAN*** the ST fiber optical cable contacts that will be used for connecting the Tx and Rx units and insert the fiber into the ST connections and secure like you would secure a bayonet BNC: while pressing lightly in on the connector twist it in a clockwise direction about 1/8 to 1/4 of a turn and then release, the connector should stay inserted and have backwards spring pressure holding the bayonet in place.
5. Connect the included power supplies to the transmitter & receiver units, and plug them both into an AC power source (100v-240v AC 50/60Hz).

**ALL FIBER OPTICAL CABLE CONTACTS [THE ENDS ARE CALLED CONTACTS: THE PART THAT IS INSERTED AND MAKES CONTACT TO ENABLE THE TRANSMISSION OF THE LIGHTWAVES THROUGH THE FIBER] REQUIRE CLEANING EVERYTIME BEFORE INSERTING INTO A DEVICES OUTPUTS OR INPUTS. FAILURE TO CLEAN THE CONTACTS CAN NOT ONLY DAMAGE THE UNITS OPTICS OVER TIME BUT CAN RENDER THE CABLE AND THE DEVICE USELESS PERMANENTLY. FURTHERMORE CLEANING WITH CLEANING METHODS OTHER THAN CLEANING KITS SPECIFICALLY FOR FIBER OPTICS ARE UNACCEPTBLE AND MAY EVEN ADD CONTAMINANTS THAT CANNOT BE SEEN BY THE NAKED EYE TO THE FIBER AGAIN RENDERING THE SYSTEM USELESS, PLEASE CLEAN THE FIBER OPTICAL CONTACTS EVERYTIME PRIOR TO INSERTING THE CONNECTOR INTO THE JACK ON THE UNITS*

!!! FIBER OPTIC CLEANING KITS ARE AVAILABLE FROM YOUR DEALER/SUPPLIER !!!



SAFETY PRECAUTIONS

- To prevent fire or shock hazard, do not expose this equipment to an environment of high humidity and/or dust. Do not use in an unprotected outdoor installation or any area classified as overly damp or wet.
- The temperature for installation should be kept between 0°C - 60°C. Avoid direct sunlight exposure or extreme changes of temperature over a short period of time.
- Do not disassemble the unit or put it on an unstable base.
- Do not drop it and avoid heavy impact.
- Ventilation: Any openings in the enclosure are provided for ventilation and to ensure reliable operation of the unit and to protect it from overheating. These openings, if any, must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided.
- Cleaning: Unplug the unit from the mains outlet before cleaning. Do not use liquid cleaners or aerosol cleaners, only use a damp cloth.
- **Do not overload outlets and extension cords as this may result in a risk of fire or electric shock.**
- Enclosure Entry of any kind is dangerous. Never push objects of any kind, including liquids, into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.
- Service: Do not attempt to open or service this unit yourself as opening or removing covers may expose you to dangerous voltage of other hazards.
- There are no user-serviceable parts inside the unit. If the unit requires service please contact your authorized dealer, or an authorized repair service company.

Conformity Declaration

to EMV guideline (89/336/EC) and to low-voltage guideline (73/23/EC chapter 10)

The importer/manufacturer:

vuotec.tv UG, Hasselbusch 124a, 24558 Henstedt-Ulzburg

declares hereby, that the product:

Product name: Audio Over Fiber Extender

Model number: LWL4CBAL

Year of construction: 2016

corresponds to the regulations of the guidelines described above:

The following harmonized norms were used:

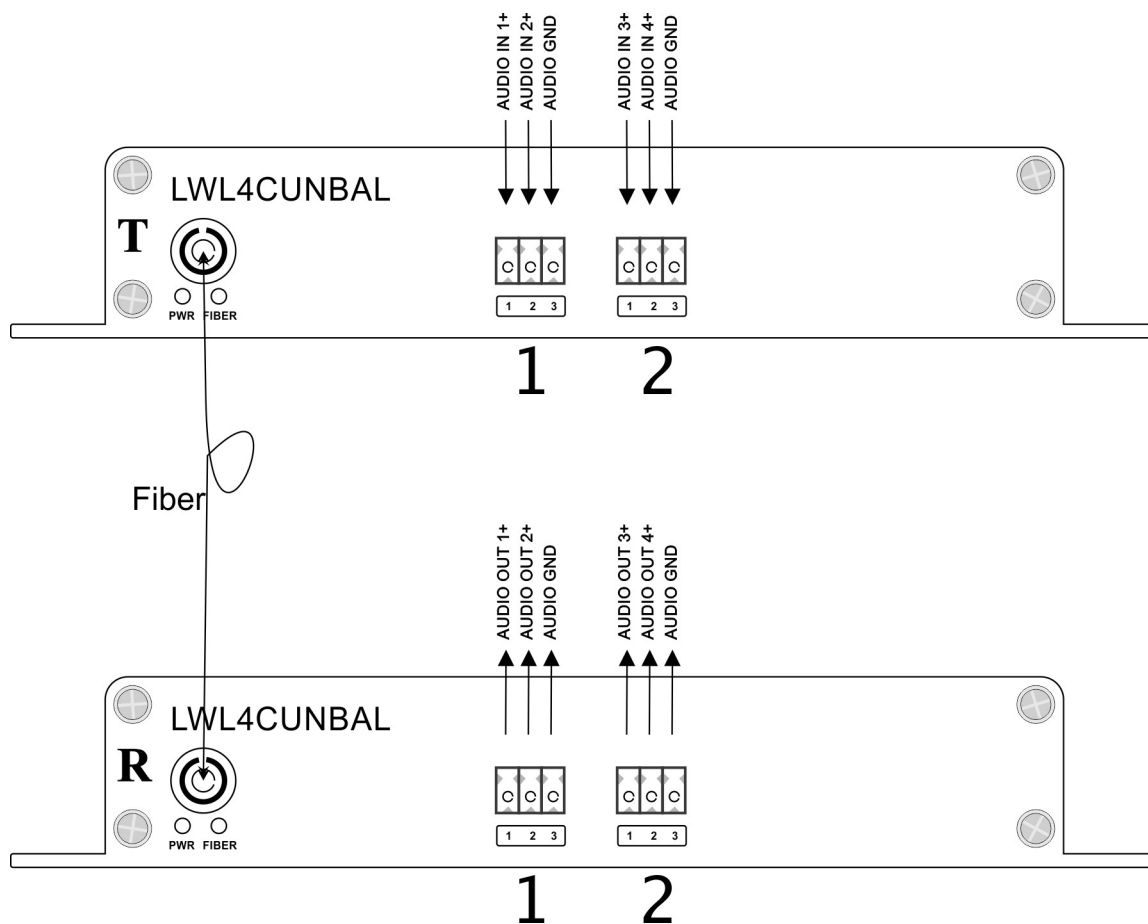
- **EN 55011** ISM Equipment, Group 1, Class A
- **EN 55022** Conducted Emissions, Class B
- **EN 50081-2** Generic standard interference transmission, industry area
- **EN 50082-2** Generic standard interference immunity, industry area
- **prEN55103-1** EMV product family norm for Audio-, Video and audio-visual facilities as well as for studio light control facilities for the professional usage, -Part 1: Limiting values and measurement procedure for disturbing emissions
- **prEN55103-2** EMV product family norm for Audio-, Video and audio-visual facilities as well as for studio light control facilities for the professional usage, -Part 2: Requirements on the interference immunity
- **EN 61000-3-2** Power Factor Harmonic Correction
- **EN 61000-3-3** Flicker & Voltage Fluctuation Limits
- **EN 61000-4-2** Electrostatic Discharge Immunity
- **EN 61000-4-3** Radiated Electromagnetic Fields
- **EN 61000-4-4** Fast Transients-Burst Immunity
- **EN 61000-4-5** Input Surge Immunity
- **EM 61000-4-6** Conducted RFI
- **EN 61000-4-11** Voltage Dips

The following national or international norms (or parts/clauses from this) and specifications were used:

- **DIN EN 6099** Verbindungsmaterial für Niederspannungsstromkreise für Haushalt und ähnliche Zwecke; Teil 1: Allgemeine Anforderungen
- **IEC 127-6** Geräteschutzsicherungen

Henstedt-Ulzburg, 29.06.2016

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VIDEO + ELECTRONIC TECHNOLOGY
Dipl. Ing. Erwin W. Lissy
vuotec.tv UG (haftungsbeschränkt)
Hasselbusch 124a | 24558 Henstedt-Ulzburg | Germany
Telefon: +49 - (0)4193 - 997 80 | Telefax: +49 - (0)4193 - 997 820
eMail: info@vuotec.tv | web: www.vuotec.tv



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