

USER'S MANUAL  
BEDIENUNGSANLEITUNG  
MANUEL D'UTILISATION  
MANUAL DE USUARIO  
INSTRUKCJA OBSŁUGI  
MANUALE D' USO



# U 500 CS4

**4 CHANNEL WIRELESS CONFERENCE SYSTEM**  
LDU500CS4 SERIES

# CONTENTS / INHALTSVERZEICHNIS / CONTENU / CONTENIDO / TREŚĆ / CONTENUTO

## ENGLISH

PREVENTIVE MEASURES	4-4
INTRODUCTION	4-5
CONNECTIONS, CONTROLS AND INDICATORS	5
RECEIVER	5-7
MICROPHONE STATION	7
OPERATION	8-14
ERROR DETECTION	14
TECHNICAL SPECIFICATIONS	15-16
MANUFACTURER INFORMATION	16

## DEUTSCH

SICHERHEITSHINWEISE	17-18
EINFÜHRUNG	18-19
ANSCHLÜSSE, BEDIENEN- UND ANZEIGEELEMENTE	19
EMPFÄNGER	19-20
SPRECHSTELLE	21
BEDIENUNG	22-28
FEHLERSUCHE	28
TECHNISCHE DATEN	29-30
HERSTELLERERKLÄRUNGEN	30

## FRANCAIS

MESURES PRÉVENTIVES	31-32
INTRODUCTION	32-33
CONNECTEURS, CONTRÔLES ET INDICATEURS	33
RÉCEPTEUR HF	33-34
PUPITRE	35
UTILISATION	36-42
EN CAS DE PROBLÈME	42
CARACTÉRISTIQUES TECHNIQUES	43-44
DÉCLARATIONS FABRICANT	44

## ESPAÑOL

MEDIDAS DE SEGURIDAD	45-46
INTRODUCCIÓN	46-47
CONEXIONES, CONTROLES E INDICADORES	47
RECEPTOR	47-48
UNIDAD DE CONFERENCIA	49
OPERACIÓN	50-56
SOLUCIÓN DE PROBLEMAS	56
CARACTERÍSTICAS TÉCNICAS	57-58
DECLARACIÓN DEL FABRICANTE	58

## POLSKI

ŚRODKI OSTROŻNOŚCI	59-60
WPROWADZENIE	60-61
ZŁĄCZA, ELEMENTY OBSŁUGI I WSKAŹNIKI	61
ODBIORNIK	61-62
TERMINAL	63
OBSŁUGA	64-70
ROZWIĄZYWANIE PROBLEMÓW	70
DANE TECHNICZNE	71-72
DEKLARACJE PRODUCENTA	72

## ITALIANO

MISURE PRECAUZIONALI	73-74
INTRODUZIONE	74-75
CONNESSIONI, ELEMENTI DI COMANDO E DI VISUALIZZAZIONE	75
RICEVITORE	75-76
POSTAZIONE MICROFONICA	77
UTILIZZO	78-84
RICERCA ERRORI	84
DATI TECNICI	85-86
DICHIARAZIONI DEL FABBRICANTE	86

**YOU'VE MADE THE RIGHT CHOICE!**

We have designed this product to operate reliably over many years. LD Systems stands for this with its name and many years of experience as a manufacturer of high-quality audio products. Please read this User's Manual carefully, so that you can begin making optimum use of your LD Systems product quickly.

You can find more information about **LD-SYSTEMS** at our Internet site [WWW.LD-SYSTEMS.COM](http://WWW.LD-SYSTEMS.COM)

**PREVENTIVE MEASURES**

1. Please read these instructions carefully.
2. Keep all information and instructions in a safe place.
3. Follow the instructions.
4. Observe all safety warnings. Never remove safety warnings or other information from the equipment.
5. Use the equipment only in the intended manner and for the intended purpose.
6. Use only sufficiently stable and compatible stands and/or mounts (for fixed installations). Make certain that wall mounts are properly installed and secured. Make certain that the equipment is installed securely and cannot fall down.
7. During installation, observe the applicable safety regulations for your country.
8. Never install and operate the equipment near radiators, heat registers, ovens or other sources of heat. Make certain that the equipment is always installed so that it is cooled sufficiently and cannot overheat.
9. Never place sources of ignition, e.g., burning candles, on the equipment.
10. Ventilation slits must not be blocked.
11. Do not use this equipment in the immediate vicinity of water (does not apply to special outdoor equipment - in this case, observe the special instructions noted below. Do not expose this equipment to flammable materials, fluids or gases. Avoid direct sunlight!
12. Make certain that dripping or splashed water cannot enter the equipment. Do not place containers filled with liquids, such as vases or drinking vessels, on the equipment.
13. Make certain that objects cannot fall into the device.
14. Use this equipment only with the accessories recommended and intended by the manufacturer.
15. Do not open or modify this equipment.
16. After connecting the equipment, check all cables in order to prevent damage or accidents, e.g., due to tripping hazards.
17. During transport, make certain that the equipment cannot fall down and possibly cause property damage and personal injuries.
18. If your equipment is no longer functioning properly, if fluids or objects have gotten inside the equipment or if it has been damaged in any way, switch it off immediately and unplug it from the mains outlet (if it is a powered device). This equipment may only be repaired by authorized, qualified personnel.
19. Clean the equipment using a dry cloth.
20. Comply with all applicable disposal laws in your country. During disposal of packaging, please separate plastic and paper/cardboard.
21. Plastic bags must be kept out of reach of children.

**FOR EQUIPMENT THAT CONNECTS TO THE POWER MAINS**

22. CAUTION: If the power cord of the device is equipped with an earthing contact, then it must be connected to an outlet with a protective ground. Never deactivate the protective ground of a power cord.
23. If the equipment has been exposed to strong fluctuations in temperature (for example, after transport), do not switch it on immediately. Moisture and condensation could damage the equipment. Do not switch on the equipment until it has reached room temperature.
24. Before connecting the equipment to the power outlet, first verify that the mains voltage and frequency match the values specified on the equipment. If the equipment has a voltage selection switch, connect the equipment to the power outlet only if the equipment values and the mains power values match. If the included power cord or power adapter does not fit in your wall outlet, contact your electrician.
25. Do not step on the power cord. Make certain that the power cable does not become kinked, especially at the mains outlet and/or power adapter and the equipment connector.
26. When connecting the equipment, make certain that the power cord or power adapter is always freely accessible. Always disconnect the equipment from the power supply if the equipment is not in use or if you want to clean the equipment. Always unplug the power cord and power adapter from the power outlet at the plug or adapter and not by pulling on the cord. Never touch the power cord and power adapter with wet hands.
27. Whenever possible, avoid switching the equipment on and off in quick succession because otherwise this can shorten the useful life of the equipment.
28. IMPORTANT INFORMATION: Replace fuses only with fuses of the same type and rating. If a fuse blows repeatedly, please contact an authorised service centre.
29. To disconnect the equipment from the power mains completely, unplug the power cord or power adapter from the power outlet.
30. If your device is equipped with a Volex power connector, the mating Volex equipment connector must be unlocked before it can be removed. However, this also means that the equipment can slide and fall down if the power cable is pulled, which can lead to personal injuries and/or other damage. For this reason, always be careful when laying cables.
31. Unplug the power cord and power adapter from the power outlet if there is a risk of a lightning strike or before extended periods of disuse.

**CAUTION:**

To reduce the risk of electric shock, do not remove cover (or back). There are no user serviceable parts inside. Maintenance and repairs should be exclusively carried out by qualified service personnel.



The warning triangle with lightning symbol indicates dangerous uninsulated voltage inside the unit, which may cause an electrical shock.



The warning triangle with exclamation mark indicates important operating and maintenance instructions.



The housing surface of the spotlight can heat up to temperatures as high as 70 °C in regular use. Ensure that it is not possible to come into contact with the housing unintentionally. Always allow sufficient time for the lamp to cool down before dismantling, carrying out maintenance work or charging etc.



Warning! This device is designed for use below 2000 metres in altitude.



Warning! This product is not intended for use in tropical climates.

**CAUTION! HIGH VOLUMES IN AUDIO PRODUCTS!**

This device is meant for professional use. Therefore, commercial use of this equipment is subject to the respectively applicable national accident prevention rules and regulations. As a manufacturer, Adam Hall is obligated to notify you formally about the existence of potential health risks. Hearing damage due to high volume and prolonged exposure: When in use, this product is capable of producing high sound-pressure levels (SPL) that can lead to irreversible hearing damage in performers, employees, and audience members. For this reason, avoid prolonged exposure to volumes in excess of 90 dB.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**INTRODUCTION****LD Systems U500 CS 4 - 4-channel wireless conference system**

The U500®microphone stations feature a gooseneck condenser microphone with a cardioid pattern. The heavy table base has a button to turn on, off and mute, as well as an attenuation control and a switchable 130 Hz high-pass filter, which effectively reduces the proximity effect and structure-borne sound in addition to the XLR microphone connector with 28 V phantom power. The high-contrast OLED display shows the radio frequency, battery status, microphone station number, group and channel. The transmission range is 60 Hz - 16 kHz.

For fast and comfortable setting up of the system, the 4-channel receiver of the U500® conference system boasts an automatic frequency and channel search, infrared synchronisation, a digital encoder and 4 buttons for direct access to the individual channels. The high-contrast OLED display provides a complete overview of all functions and settings, such as the strength of the audio and radio signal or priority and battery status of the microphone stations. To suppress crosstalk, feedback and comb filter effects, the number of microphones used at the same time can be adjusted. The choice of automatic or manual gate setting and a pilot tone ensures top-notch sound quality and noise immunity of the U500® conference system. In addition to individual channel outputs, the receiver has a sum output; an access lock prevents unauthorised changing of the settings, and the RS-232 interface allows integration into external control systems.

For system expansion, up to five U500® receivers can be daisy-chained and operated in MAIN-FOLLOWER mode: thus, up to 20 microphone stations are available. The U500® conference system is available in three versions in the radio frequency ranges of 554 - 586 MHz, 662 - 694 MHz or 823 - 832 MHz + 863 - 865 MHz.

Wireless True Diversity UHF conference system  
 Automatic channel search  
 Automatic frequency search  
 Infrared frequency synchronisation of the receiver and microphone unit  
 Pilot tone  
 Priority circuit  
 Automatic and manual gate modes  
 Security lock  
 RS-232 interface for external control

The pilot tone feature protects a wireless microphone system against interference from unwanted signals, for example from other radio equipment. The transmitter adds a second inaudible signal, the pilot tone, to the signal to be transmitted. The receiver identifies this as the matching pilot tone and frees the corresponding signal. Signals without pilot tone remain muted.

#### Overview of the frequency ranges

LDU505CS4 - Wireless Conference System 554 - 586 MHz

LDU506CS4 - Wireless Conference System 662 - 694 MHz

LDU508CS4 - Wireless Conference System 823 - 832 MHz + 863 - 865 MHz

**NOTE:** The use of wireless microphone systems may require a license (depending on the frequency range and country). For more detailed information, please contact the competent authority in your country.

#### Scope of delivery:

LDU50xCS4: Quad receiver plus 4 x microphone stations with gooseneck microphone, power supply, 2 x BNC antennae, 8 x AA batteries, rack kit, Mini- DIN cable, data-link cable, instructions.

An extensive selection of suitable LD U500CS4 single components and accessories can be found at [WWW.LD-SYSTEMS.COM](http://WWW.LD-SYSTEMS.COM)

## CONNECTIONS, CONTROLS AND INDICATORS

### RECEIVER



#### 1 POWER

On / Off switch with LED display. The power LED lights up once the system is properly connected to the power mains and is switched on.

#### 2 DISPLAY

Multi-functional OLED graphics display for displaying information such as active microphone, radio frequency and audio signal level. Also indicates the menu items in order to adjust system settings as desired.

#### 3 MIC RX1 - RX4

Illuminated switch to select the receiving channels 1 to 4.

#### 4 PUSH TO ENTER

Combined pressure rotary encoder to access the Edit menu and to select and edit individual menu items.



Infrared interface for synchronising the relevant system settings of the transmitter with the receiver (e.g. transmission frequency).

6 Device for attaching the antennae for rack installation. Remove the covers, attach the BNC adapter to the front panel and connect the BNC antenna connectors on the back to the BNC adapters on the front panel (short antenna cable and BNC adapter included). Now, the antennae can be attached to the front of the receiver.

7 Screw holes for 19" rack mounting.



### 8 DC SOCKET

Low-voltage socket for the power supply of the device. (DC 12 V Plus inside, 1000 mA) Please only use the power adapter included.

9 Attachment eyelet for the low-voltage power cable (e.g. with a cable tie).

### 10 ANTENNA A / B

BNC antenna connector A and B. For optimal reception, please connect the supplied antenna to their respective connectors A and B and point them upward in "V" formation.

### 11 MIX OUT

Balanced audio output with 3-pin XLR socket (mix of signals from channels 1 to 4).

### 12 OUTPUT 1 - 4

Balanced individual inputs of channels 1 to 4 with 3-pin XLR sockets.

### 13 AUDIO LINK IN / OUT

Mini DIN connectors to daisy-chain the audio outputs of up to five U500CS4 receivers (1 mini DIN connection cable per device included). The microphone channels of all FOLLOWER units of the receivers in the system will be routed to the audio outputs MIX OUT of the MAIN unit. Connect the audio link OUT socket of the last FOLLOWER unit in the device chain to the audio link IN socket of the penultimate FOLLOWER unit etc.. Use the audio link IN socket of the MAIN unit at the beginning of the device chain.

### 14 DATA LINK IN / OUT

Connectors to daisy-chain up to five U500CS4 receivers (1 data cable per device included). Make sure that the receiver is configured as a MAIN or FOLLOWER unit BEFORE the wiring is done, and that the wiring of the devices forms a "circle", i.e., both data link sockets of all receivers must be used (example: left socket MAIN -> right socket FOLLOWER 1, left socket FOLLOWER 1 -> right socket FOLLOWER 2, left socket FOLLOWER 2 -> right socket MAIN). When daisy-chaining the receivers, the microphone station numbers are assigned automatically (MAIN = MIC 1 - 4, FOLLOWER 1 = MIC 5 - 8, FOLLOWER 2 = MIC 9 - 12, etc.). MAIN VOLUME, PRIORITY, MODE, THRESHOLD and HOLD TIME are now centrally set on the MAIN unit.

### 15 RS-232

The RS-232 interface allows for controlling the receiver via an external control unit. The command list can be found in the download area of the product on [WWW.LD-SYSTEMS.COM](http://WWW.LD-SYSTEMS.COM)

## MICROPHONE STATION



### 16 MICROPHONE INPUT

Microphone input with lockable 3-pin XLR socket and 28 V phantom power. A gooseneck microphone is included in the delivery. Insert the gooseneck microphone and point it at a distance of approximately 10 to 20 cm towards the signal source.

### 17 DISPLAY

Multi-functional OLED graphics display for displaying the radio frequency, the frequency group and channel, the microphone number (= microphone station number) and battery status. After switching on the microphone station, "WELCOME" appears as a welcome message for a short time. As soon as the mute button on the transmitter is activated, the information appears in the display as "MUTE", at the same time the symbol of a crossed-out microphone appears in the microphone station status display of the receiver. When disabling mute, the display is switched back to the main screen. As soon as the charge status of the batteries is low, the display shows "LOW BATTERY"; after switching off the receiver, "POWER OFF" is displayed for a short period of time.



Infrared interface for synchronising the relevant system settings of the transmitter with the receiver (e.g. transmission frequency).

### 19 POWER / MUTE

Dual function switch:

1. To turn the transmitter on, press the switch briefly, to turn it off, press and hold for approx. 3 seconds.
2. When turned on, press the switch briefly to activate or deactivate the mute function. The illuminated microphone symbol in the switch changes its colour to orange when muted, when deactivating the mute function, it turns green.

### 20 ATTN (Attenuator)

Attenuation of the microphone level. Turning it to the right increases the attenuation and the microphone volume is lowered. Turning it to the left decreases the attenuation and the microphone volume is increased. Upon delivery, the potentiometer is set to the default setting in the latch point (centre position).

### 21 LOW CUT

Low-cut filter for the microphone signal (frequency 130 Hz, switch in position  = low-cut filter is activated).

### 22 BATTERY COMPARTMENT

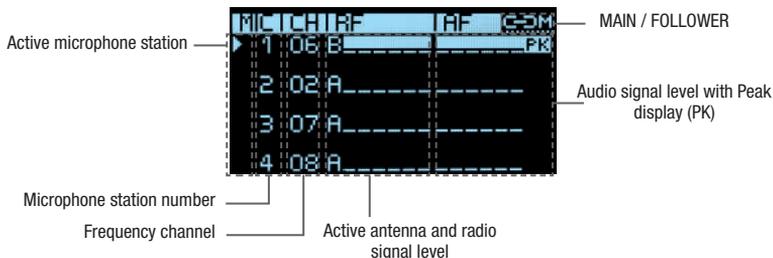
To replace the batteries, open the battery compartment by pressing the lock lever of the cover towards the battery compartment and pulling it upwards. Remove the used batteries and insert new batteries (AA, Mignon) as shown on the illustration inside the battery compartment. Now, replace the battery compartment cover onto the battery compartment and push it downwards until the lock lever clicks into place. If the microphone station is not in use for a long period of time, remove the batteries to avoid damage caused by leaking batteries.

## OPERATION

When operating the wireless transmission system, be sure to place the receiver in the direct line of sight of the microphone stations. For optimal reception, perform the automatic frequency search after switching on the receiver. For the operating steps, see **FREQ AUTO RUN**.

### MAIN DISPLAY

After switching on the receiver, "WELCOME" appears for a short time, then the main screen displays the following information: microphone station number (MIC), radio signal level (RF), active antenna (A / B), level of the audio signal (AF), frequency channel (CH) and if two or more units are daisy-chained, also the designation as MAIN (M) or FOLLOWER (F). After switching off the microphone station, "POWER OFF" appears for a short time.



### MAIN VOLUME

Pressing the pressure rotary encoder **PUSH TO ENTER** will take you to the selection menu for system settings. To adjust the volume of the sum output **MIX OUT**, select the menu item **MIX OUT** by rotating the encoder (light background). Now press 2x on the encoder to adjust the volume as desired by rotating the encoder from 00 to 25. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. This setting can only be carried out on a device that is configured as a **MAIN** unit, if two to five units are daisy-chained.

To return to the main display, select **EXIT** by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



### GROUP

Pressing the pressure rotary encoder **PUSH TO ENTER** will take you to the selection menu for system settings. To adjust the frequency group of the receiver, select the menu item **GROUP** by rotating the encoder (light background). Now press 2x on the encoder to select one of the available frequency groups as desired by rotating the encoder. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select **EXIT** by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## PRIORITY

Microphone stations which have priority are always active and are transmitted to the connected audio system (as soon as the signal exceeds the threshold). When several units are connected in daisy chain (up to five units maximum), this setting can only be made on a device that is configured as a MAIN unit.

Pressing the pressure rotary encoder PUSH TO ENTER will take you to the selection menu for system settings. Now select the PRIORITY menu item by rotating the encoder (light background) and press the encoder to access the submenu. Now by rotating the encoder, select the microphone station whose priority you want to change (light background), press the encoder and select the desired priority setting (ON / OFF) by rotating the encoder once again. Confirm the entry by pressing the encoder. To exit the submenu, select the arrow symbol by rotating the encoder (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



If two to five units are daisy-chained, the microphone stations 1 to 4 (MIC 1 - 4) are those of the MAIN unit, the microphone stations 5 to 8 (MIC 5 - 8) are those of the first FOLLOWER unit, and so on. To access the microphone stations of the FOLLOWER units, select the arrow symbol pointing right by rotating the encoder (light background) and confirm by pressing the encoder.



## NOM (Number of Open Microphones)

Menu item to set the maximum number of simultaneous open microphone stations (1 to 4) per receiver unit. When several units are connected in daisy chain (up to five units maximum), this setting can only be made from a device configured as a MAIN unit, and it is applied to all receivers. This setting only affects non-priority microphone stations.

Pressing the pressure rotary encoder PUSH TO ENTER will take you to the selection menu for system settings. Now select the NOM menu item by rotating the encoder (light background) and press the encoder 2x to set the maximum number of simultaneously open microphone stations as desired from 1 to 4 by rotating the encoder. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## MODE (AUTO / MANUAL / OFF)

Automatic, manually adjustable and switchable gate function. When the signal levels of microphone stations drop below a certain threshold, these will be muted by this feature if it is enabled. This means that for the transmission of a microphone station, background noise, feedback and unwanted comb-filter effects from other open channels are effectively suppressed and the speech intelligibility is thus enhanced. When the levels of input channels rise above a certain threshold, these will be automatically activated. This setting applies to all devices and can only be carried out on a device that is configured as a MAIN unit, if two to five units are daisy-chained. Setting the threshold value (THRESHOLD) and the hold time (HOLD TIME) is disabled during the automatic operation. The threshold value is automatically adapted to the volume of ambient sounds. The manual adjustment of the threshold and holding time for the activation of the microphone station is done in the menu items THRESHOLD and HOLD TIME.

Pressing the pressure rotary encoder PUSH TO ENTER will take you to the selection menu for system settings. Now select the MODE menu item by rotating the encoder (light background) and press the encoder 2x to set the gate mode as desired by rotating the encoder to AUTO (automatic), MANUAL (manual) or OFF (disabled). Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



### THRESHOLD

Manual adjustment of the threshold for the gate function (see menu item MODE). Adjust the threshold so that ambient noise does not automatically activate a microphone station, and so that the activation of a microphone station by a speaker remains possible. This setting applies to all devices and can only be carried out on a device that is configured as a MAIN unit, if two to five units are daisy-chained.

Pressing the pressure rotary encoder PUSH TO ENTER will take you to the selection menu for system settings. Now select the THRESHOLD menu item by rotating the encoder (light background) and press the encoder 2x to set the threshold level as desired from 01 to 10 by rotating the encoder (1 = lowest threshold, 10 = highest threshold). Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



### HOLD TIME

Manual adjustment of the hold time for the gate function (see menu item MODE). Set the hold time as desired (0.1 - 1s). The microphone station remains active for the duration of the set hold time, even after muting the audio signal. This setting applies to all devices and can only be carried out on a device that is configured as a MAIN unit, if two to five units are daisy-chained.

Pressing the pressure rotary encoder PUSH TO ENTER will take you to the selection menu for system settings. Now select the HOLD TIME menu item by rotating the encoder (light background) and press the encoder 2x to set the hold time as desired from 0.1 to 1s by rotating the encoder. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## SETUP

Menu item to configure a receiver as a MAIN or FOLLOWER unit if two to five devices are daisy-chained. When daisy-chaining the receivers, the microphone numbers are assigned automatically (MAIN = MIC 1 - 4, FOLLOWER 1 = MIC 5 - 8, FOLLOWER 2 = MIC 9 - 12, etc.). MAIN VOLUME, PRIORITY, MODE, THRESHOLD and HOLD TIME are now centrally set on the MAIN unit. Pressing the pressure rotary encoder PUSH TO ENTER will take you to the selection menu for system settings. Now select the SETUP menu item by rotating the encoder (light background) and press the encoder 2x to set up the receiver as MAIN or FOLLOWER unit as desired by rotating the encoder. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## BRIGHTNESS

Menu item to adjust the display brightness. Pressing the pressure rotary encoder PUSH TO ENTER will take you to the selection menu for system settings. Now select the BRIGHTNESS menu item by rotating the encoder (light background) and press the encoder 2x to adjust the brightness level as desired from 01 to 10 by rotating the encoder. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



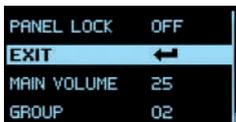
## PANEL LOCK

To protect the system settings against accidental manipulation, the editing functionality of the menu items can be blocked. Pressing the pressure rotary encoder PUSH TO ENTER will take you to the selection menu for system settings. Now select the PANEL LOCK menu item by rotating the encoder (light background) and press the encoder 2x to lock (PANEL LOCK ON) or reopen (PANEL LOCK OFF) the editing function by rotating the encoder. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen. If the editing function is locked, "DISPLAY IS LOCKED" appears briefly in the display when attempting to make changes in the menu. To enable the editing function, retrieve the PANEL LOCK menu item and proceed as described above.



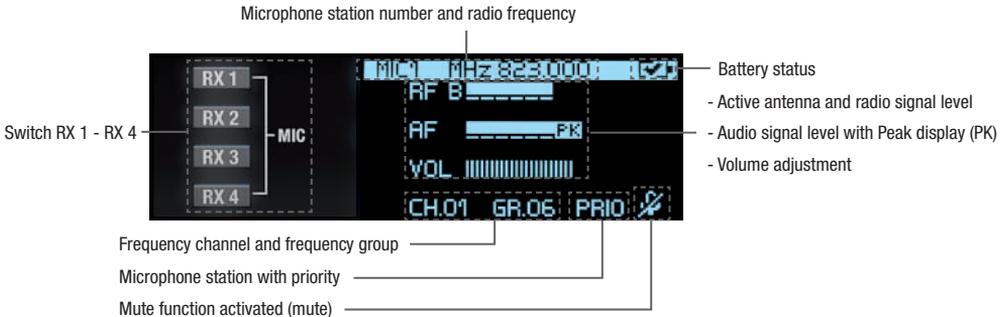
## EXIT

To return to the main display, select EXIT by rotating the encoder (light background) and confirm by pressing the encoder. After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## MICROPHONE STATION STATUS DISPLAY

To view the status information of individual microphone stations, adjust the individual volume and in order to make changes in the microphone station menu, press the switch corresponding to the desired microphone station (in this example RX1 = MIC 1). To adjust the volume, use the pressure rotary encoder PUSH TO ENTER (rotate right = increase volume, rotate left = lower volume). In order to make changes in the microphone station menu, press on the pressure rotary encoder.



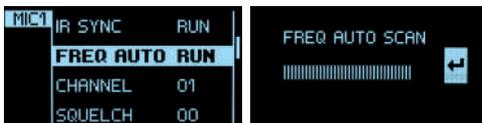
## IR SYNC RUN

To synchronise the microphone station with the radio channel set in the receiver, bring the infrared port of the microphone station in direct visual contact with the infrared port of the receiver (distance approx. 10 cm) and turn on the microphone station. Press the switch corresponding to the desired microphone station (in this example RX 1 = MIC 1) and then press the pressure rotary encoder PUSH TO ENTER. Now select the IR SYNC RUN menu item by rotating the encoder (light background) and press the encoder once more to launch the synchronisation process. After a few seconds, the process is completed and the display of the microphone station switches for a short time to "IR SYNC✓", confirming successful synchronisation. When daisy-chaining the receivers, the microphone station numbers are assigned automatically (MAIN = MIC 1 - 4, FOLLOWER 1 = MIC 5 - 8, FOLLOWER 2 = MIC 9 - 12, FOLLOWER 3 = MIC 13 - 16, FOLLOWER 4 = MIC 17 - 20). The microphone station numbers are automatically transmitted to the microphone station during the synchronisation process and are shown on the display. To cancel the operation, press the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. Then press the switch corresponding to the desired microphone station (RX 1 - 4). After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## FREQ AUTO RUN

Automatic frequency search (frequency scan) to determine an interference-free radio frequency in the current environment and to allow for optimal reception. For this purpose, leave the corresponding transmitter off, but other radio systems turned on, if necessary. To start the automatic frequency search, press the switch corresponding to the desired microphone station (in this example RX 1 = MIC 1) and press the pressure rotary encoder PUSH TO ENTER. Now select the FREQ AUTO RUN menu item by rotating the encoder (light background). To confirm the operation, press the encoder. Progress is now indicated on the display by an animation and the scanning process is completed after a few seconds (to cancel, press the encoder). The resulting frequency is automatically enabled and, as in "IR SYNC RUN", you can now switch on the transmitter and synchronise it with the receiver. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. Then press the switch corresponding to the desired microphone station (RX 1 - 4). After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## CHANNEL

Menu item to manually adjust the frequency channel. Press the switch corresponding to the desired microphone station (in this example RX 1 = MIC 1) and then press the pressure rotary encoder PUSH TO ENTER. Now select the CHANNEL menu item by rotating the encoder (light background) and press the encoder 2x to adjust the frequency channel as desired by rotating the encoder. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. Then press the switch corresponding to the desired microphone station (RX 1 - 4). After approximately 10 seconds of inactivity, the display will automatically return to the main screen. Synchronise the microphone station with the radio frequency set in the receiver as described in IR SYNC RUN.



**Note:** Only frequency channels which are not already used by another microphone station can be set.

## SQUELCH

The squelch control prevents unwanted background noise when the transmitter is turned off. In addition, sudden background noises are suppressed when the signal transmitted from the transmitter to the receiver is not strong enough (for instance because of excessive distance) Set the squelch control (with the transmitter switched off) to the lowest setting, which still effectively suppresses background noises. With an increased squelch level and in unfavourable conditions, the transmission range may decrease. Press the switch corresponding to the desired microphone station (in this example RX 1 = MIC 1) and then press the pressure rotary encoder PUSH TO ENTER. Now select the SQUELCH menu item by rotating the encoder (light background) and press the encoder 2x to adjust the squelch level as desired (00 - 50 dB) by rotating the encoder. Confirm the entry by pressing the encoder. If you press the encoder only 1x, you can exit this menu item without changes by rotating the encoder and selecting the arrow symbol (light background) and confirm by pressing the encoder. To return to the main display, select EXIT now by rotating the encoder (light background) and confirm by pressing the encoder. Then press the switch corresponding to the desired microphone station (RX 1 - 4). After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## EXIT (in the microphone station menu)

To return to the main display, select EXIT on the encoder by rotating the encoder (light background) and confirm by pressing the encoder. Then press the switch corresponding to the desired microphone station (RX 1 - 4). After approximately 10 seconds of inactivity, the display will automatically return to the main screen.



## BATTERY STATUS

The battery status of the microphone station will appear in the display and is constantly updated. When the batteries are fully charged, the symbol ( = approx. 70%, = approx. 30%) will appear. As soon as the charge of the batteries is low, the display on the transmitter will show "LOW BATTERY" and the display on the receiver "LOW BATTERY" approximately every 4 seconds, and the number of the microphone station with low batteries will be displayed. Replace the batteries immediately.



## DAISY-CHAINING

The combination of multiple receivers when daisy-chaining is not freely possible for reasons of intermodulation.

The maximum number of U508CS4 receivers is 1.

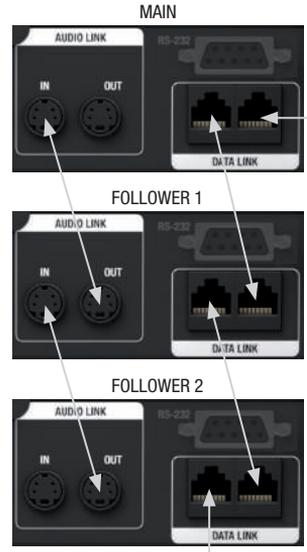
The maximum number of U505CS4 receivers is 2.

The maximum number of U506CS4 receivers is 2.

For example: To combine 5 receivers intermodulation-free, you will need 1 x U508CS4, 2 x U505CS4 and 2 x U506CS4.

Make sure that the receiver is configured as a MAIN or FOLLOWER unit BEFORE the wiring is done, and that the wiring of the devices forms a "circle", i.e., both data link sockets of all receivers must be used (example: left socket MAIN -> right socket FOLLOWER 1, left socket FOLLOWER 1 -> right socket FOLLOWER 2, left socket FOLLOWER 2 -> right socket MAIN).

## WIRING EXAMPLE



## ERROR DETECTION

PROBLEM	DISPLAY	SOLUTION
No audio signal or low level	Receiver: Reception is not displayed on antenna A or B.	Check if the microphone station is turned on. Check the batteries in the microphone station.
	Receiver: Display light is off	Check the power supply in the transmitter.
	Receiver: Reception is not displayed on antenna A or B. Microphone Station: Device is turned on. Charge status of the batteries is ok.	Check whether the radio frequency of transmitter and receiver match. Reduce the distance between transmitter and receiver. Make sure that there is a direct line of sight between the transmitter and receiver. Make sure that the antennae of the receiver are pointing upwards and in a V-shape. Reduce the amount of noise reduction (SQUELCH)
	Receiver: Antenna A or antenna B is displayed.	Check the ATTN setting on the microphone station.
Distortion and interference	Receiver: Radio signal is displayed	Remove possible sources of interference (digital devices, other wireless systems). Increase the level of noise reduction (MUTE level) on the receiver.
Distorted sound	Transmitter and receiver: "LOW BATTERY" is displayed.	Replace the batteries in the microphone station.
	Receiver: AF PK peak indicator is displayed on the receiver display.	Increase the level attenuation ATTN in the microphone station.

## TECHNICAL SPECIFICATIONS

Receiver			
Model name:	LDU508CS4	LDU505CS4	LDU506CS4
Receiver type:	true diversity	true diversity	true diversity
Modulation:	FM, PLL synthesized	FM, PLL synthesized	FM, PLL synthesized
Frequency range:	823 - 832 MHz & 863 - 865 MHz	554 - 586 MHz	662 - 694 MHz
Channels:	60 (6 x 10)	150 (10 x 15)	180 (10 x 18)
Groups:	6	10	10
Antenna connectors:	2 x BNC	2 x BNC	2 x BNC
Frequency response:	60 - 16.000 Hz	60 - 16.000 Hz	60 - 16.000 Hz
Noise Reduction:	adjustable squelch (10 steps)	adjustable squelch (10 steps)	adjustable squelch (10 steps)
THD:	<0.2% @ 1kHz	<0.2% @ 1kHz	<0.2% @ 1kHz
Signal-to-noise ratio:	>100dB	>100dB	>100dB
Balanced output:	4 x XLR	4 x XLR	4 x XLR
Balanced mix output:	XLR	XLR	XLR
Audio output level (balanced):	+12dBu	+12dBu	+12dBu
Other outputs:	Data link (2x RJ11), Audio link IN / OUT (MiniDIN4-F), Serial RS-232 connector (9-Pole D-Sub Female)	Data link (2x RJ11), Audio link IN / OUT (MiniDIN4-F), Serial RS-232 connector (9-Pole D-Sub Female)	Data link (2x RJ11), Audio link IN / OUT (MiniDIN4-F), Serial RS-232 connector (9-Pole D-Sub Female)
Controls:	POWER on/off, digital encoder, RX 1 - 4 quick access buttons	POWER on/off, digital encoder, RX 1 - 4 quick access buttons	POWER on/off, digital encoder, RX 1 - 4 quick access buttons
Indicators:	OLED-graphic display	OLED-graphic display	OLED-graphic display
Operating voltage:	12V DC, 1000 mA	12V DC, 1000 mA	12V DC, 1000 mA
Operating temperature range:	5°C ... 40°C	5°C ... 40°C	5°C ... 40°C
Relative humidity in operation:	20% ... 80% (non condensing)	20% ... 80% (non condensing)	20% ... 80% (non condensing)
Dimensions (W x H x D):	484 x 44 x 243mm	484 x 44 x 243mm	484 x 44 x 243mm
Weight:	2,45kg	2,45kg	2,45kg
Accessories included:	power adapter, 2 x antenna, data cable, audio link cable	power adapter, 2 x antenna, data cable, audio link cable	power adapter, 2 x antenna, data cable, audio link cable
Features:	Channel scan function, Infrared frequency synchronisation, Pilot tone, Mic priority, Auto / manual gate mode, Panel control lock, RS-232 control, Receiver cascading, 8V phantom powered antenna output (150mA)	Channel scan function, Infrared frequency synchronisation, Pilot tone, Mic priority, Auto / manual gate mode, Panel control lock, RS-232 control, Receiver cascading, 8V phantom powered antenna output (150mA)	Channel scan function, Infrared frequency synchronisation, Pilot tone, Mic priority, Auto / manual gate mode, Panel control lock, RS-232 control, Receiver cascading, 8V phantom powered antenna output (150mA)

Mic Base Transmitter			
Model name:	LDU508CST	LDU505CST	LDU506CST
Modulation:	FM, PLL Synthesized	FM, PLL Synthesized	FM, PLL Synthesized
Frequency range:	823 - 832 MHz & 863 - 865 MHz	554 - 586 MHz	662 - 694 MHz
Channels:	60 (6 x 10)	150 (10 x 15)	180 (10 x 18)
Groups:	6	10	10
Microphone connection:	XLR Balanced	XLR Balanced	XLR Balanced
Microphone phantom power:	28V	28V	28V
Frequency response:	60 - 16.000 Hz	60 - 16.000 Hz	60 - 16.000 Hz
Mic Input Sensitivity/max. Level:	100mV/1V, depending on attenuation potentiometer	100mV/1V, depending on attenuation potentiometer	100mV/1V, depending on attenuation potentiometer
THD:	<0.2% @ 1kHz	<0.2% @ 1kHz	<0.2% @ 1kHz

Signal-to-noise ratio:	>100 dB	>100 dB	>100 dB
RF output power:	10mW	10mW	10mW
Controls:	Power /mute, ATTN (attenuation), Low cut	Power /mute, ATTN, Low cut	Power /mute, ATTN, Low cut
Indicators:	OLED-graphic display, LED illuminated button (Green/Amber)	OLED-graphic display, LED illuminated button (Green/Amber)	OLED-graphic display, LED illuminated button (Green/Amber)
Power supply:	2 x AA battery	2 x AA battery	2 x AA battery
Operating time:	up to 8 h (depending on batteries)	up to 8 h (depending on batteries)	up to 8 h (depending on batteries)
Operating temperature range:	5°C ... 40°C	5°C ... 40°C	5°C ... 40°C
Relative humidity range in operation:	20% ... 80% (non condensing)	20% ... 80% (non condensing)	20% ... 80% (non condensing)
Dimensions (W x H x L):	115 x 54 x 135mm	115 x 54 x 135mm	115 x 54 x 135mm
Weight (without batteries):	0,72 kg	0,72 kg	0,72 kg
Features:	Infrared frequency synchronisation, Adjustable attenuation, Low cut 130 Hz, Rugged enclosure	Infrared frequency synchronisation, Adjustable attenuation, Low cut 130 Hz, Rugged enclosure	Infrared frequency synchronisation, Adjustable attenuation, Low cut 130 Hz, Rugged enclosure

## MANUFACTURER'S DECLARATIONS

### MANUFACTURER'S WARRANTY & LIMITATIONS OF LIABILITY

You can find our current warranty conditions and limitations of liability at: [https://cdn-shop.adamhall.com/media/pdf/Manufacturers-Declarations-LDSYSTEMS\\_DE\\_EN\\_ES\\_FR.pdf](https://cdn-shop.adamhall.com/media/pdf/Manufacturers-Declarations-LDSYSTEMS_DE_EN_ES_FR.pdf). To request warranty service for a product, please contact Adam Hall GmbH, Adam-Hall-Str. 1, 61267 Neu Anspach / Email: [Info@adamhall.com](mailto:Info@adamhall.com) / +49 (0)6081 / 9419-0.



### CORRECT DISPOSAL OF THIS PRODUCT

(valid in the European Union and other European countries with a differentiated waste collection system)

■ This symbol on the product, or on its documents indicates that the device may not be treated as household waste. This is to avoid environmental damage or personal injury due to uncontrolled waste disposal. Please dispose of this product separately from other waste and have it recycled to promote sustainable economic activity. Household users should contact either the retailer where they purchased this product, or their local government office, for details on where and how they can recycle this item in an environmentally friendly manner. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial waste for disposal.

### FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation

### CE Compliance

Adam Hall GmbH states that this product meets the following guidelines (where applicable):

R&TTE (1999/5/EC) or RED (2014/53/EU) from June 2017

Low voltage directive (2014/35/EU)

EMV directive (2014/30/EU)

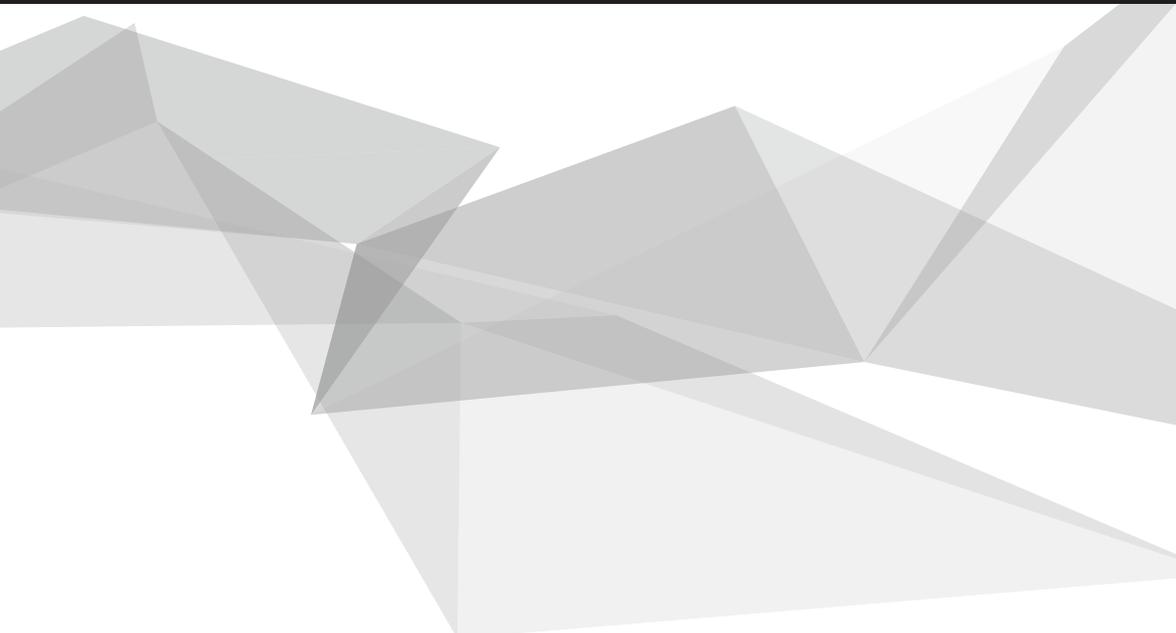
RoHS (2011/65/EU)

The complete declaration of conformity can be found at [www.adamhall.com](http://www.adamhall.com).

Furthermore, you may also direct your enquiry to [info@adamhall.com](mailto:info@adamhall.com).



WWW.LD-SYSTEMS.COM



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