

# iSound NL200

NearLink Microphone Systems

*Datasheet V1.0*



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# 1. INTRODUCTION

## 1.1 APPEARANCE



## 1.2 OVERVIEW

The iSound NL200 wireless microphone solution, mainly oriented to the education/meeting projects, is used for sound reinforcement or recording and broadcasting scenarios when teachers or lecturer are speaking.

Based on 2.4G NearLink wireless transmission technology, it creates an interference-free lecture environment for teachers, and the device has high performance and stability. Built-in intelligent algorithms such as Acoustic Feedback Cancellation, Automatic Gain Control, Adaptive Noise Suppression, and Room Acoustic Calibration allow teachers/lecturer to deliver every word clearly to every student/audience without having to worry about the sound being loud or soft.



The iSound NL200T microphone is very small and light to wear; compared to traditional handheld microphones, the microphone allows teachers to free their hands and give full play to body language; compared to far-field microphones, the microphone has better sound quality and allows teachers to move around and pick up a wider range of sound.

A set of iSound NL200 solution includes a charging compartment, a transmitter and a receiver. The charging case can quickly recharge the transmitter, and the receiver supports both UAC digital output and two analog outputs.

## 1.3 FEATURES

### **Transmitter features:** (iSound NL200T, NL200H)

- Adopts NearLink 2.4G wireless technology.
- Adopts the advanced RISC-V chipset.
- Zero range anxiety, 4 hours of Lithium battery life.
- With a fast-charging case, continuously charge the microphone more than three times.
- Compact design, with a diameter of 32mm and a thickness of 13.8mm.
- Ultra-lightweight design, only 10.5g.
- Two wearing styles (lavalier and headwear with magnetic accessories) can be freely switched; interaction is easier.
- Multi-room use eliminates crosstalk (any microphone can be paired with any receiver).
- One teacher/ lecturer equipped with one microphone, clean and hygienic.
- Simple operation, only one Power-ON button.
- Optional accessories include magnetic headwear and an external antenna.

### **Receiver features:** (iSound NL200R)

- 86 type (UK) box design, easy to install.
- DSP audio processing with built-in Acoustic Feedback Cancellation, Automatic Gain Control, Adaptive Noise Suppression, and Room Acoustic Calibration algorithms.
- Automatic frequency pairing via NFC automatically disconnects after powering off.
- Supports UAC digital and analog output.

## 2. SCENARIOS

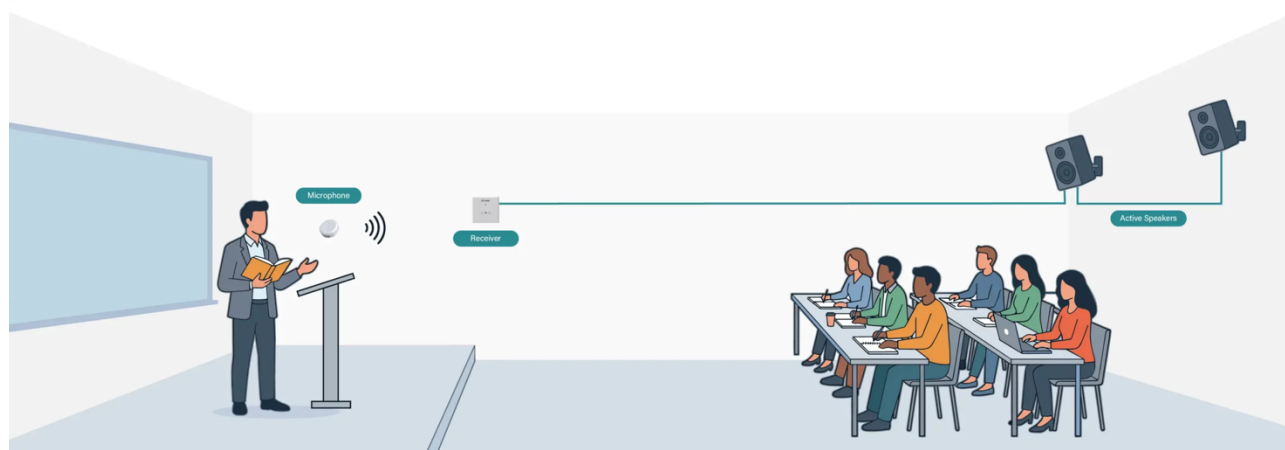
### 2.1 EDUCATION

#### CLASSROOM SOUND REINFORCEMENT

General purpose classrooms are usually small enough to allow the receiver to be connected directly to the active speakers.

For easy storage and management, a charging case can be placed on the lectern.

The receiver (**iSound NL200R**) has two analog outputs (1x 3-pin Euro-block balanced, 1x 3.5mm TRS un-balanced), one for audio playback and the other can be used for recorded playback.



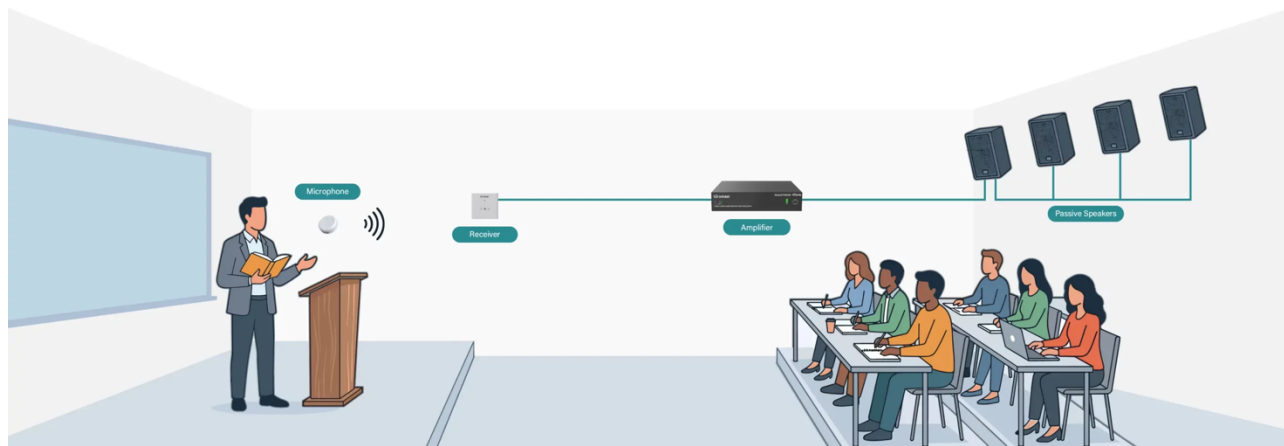
### 2.2 CONFERENCE/ MEETING

#### LECTURE THEATRE SOUND REINFORCEMENT

Lecture theatres are usually large enough to allow the receiver to be connected to a professional power amplifier and further to passive speakers.

For easy storage and management, the charging case can be placed on the lectern.

The receiver (**iSound NL200R**) has two analog outputs (1x 3-pin Euro-block balanced, 1x 3.5mm TRS un-balanced), one for audio playback and the other can be used for recorded playback.



## 3. OPERATING INSTRUCTIONS

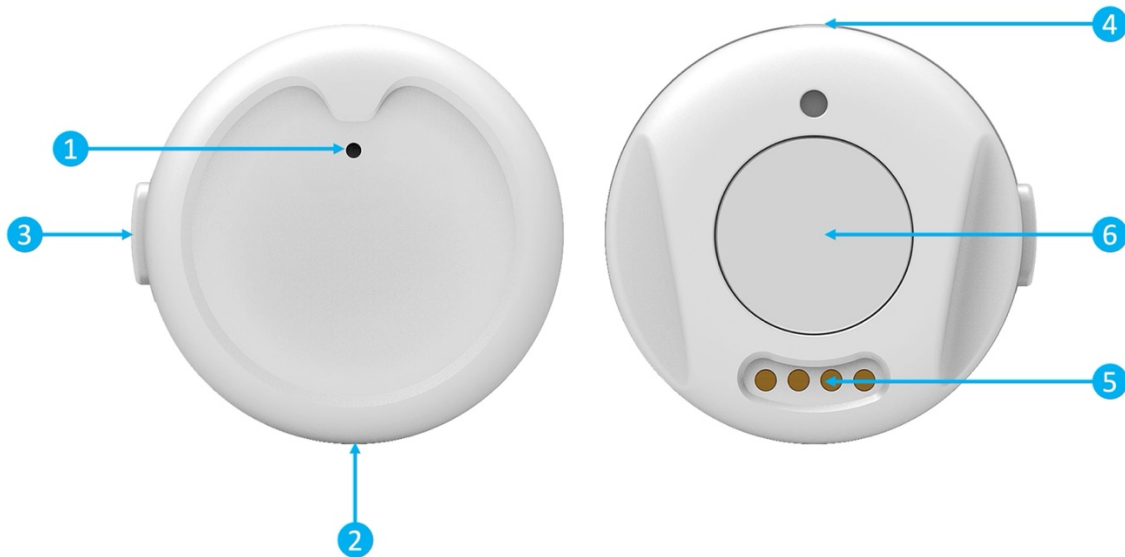
### 3.1 PROCEDURES

1. **POWER ON:** Long press the transmitter button for **2 seconds**, the green light of the transmitter blinks to indicate that it is powered on and not paired.
2. **PAIRING:** Bring the **front** side of the transmitter close to the NFC sensing area of the receiver, the receiver beeps after successful pairing with a voice prompt and both the transmitter and receiver show a green light always on.

**Note:**

- 1) *After the transmitter is disconnected, you need to approach the NFC sensor area of the receiver again to re-pair.*
  - 2) *The receiver does not receive NFC sensing when the green light is always on, but only when the green light is flashing.*
3. **MUTE:** Short press the transmitter button once, the speaker will emit a "beep" sound with a voice prompt, the red light of the transmitter is always on, which means it is muted; short press the transmitter button once more, simultaneously play voice prompts, the green light of the transmitter is always on, which means it is un-muted.
  4. **POWER OFF:** Long press the transmitter button for 2 seconds to power off; or directly put into the charging case, automatic power off.
  5. **TRANSMITTER CHARGING:** Type-C interface charging; or put it into the charging case for charging.

## 3.2 TRANSMITTER OPERATION



### ① LED Light:

Green light flashing means not connected with the receiver.

Green light always on means successfully connected with the receiver and can work normally.

Red light always on means mute.

Yellow light always on means low power.

Yellow light flashing means charging when charging via Type-C, yellow light off means full power.

The LED light is off when charging case is working.

### ② USB Type-C: Charge the transmitter.

**Note:** It needs to be charged by a 5V charger, or a charger that supports the 5V voltage standard, otherwise the transmitter will be damaged.

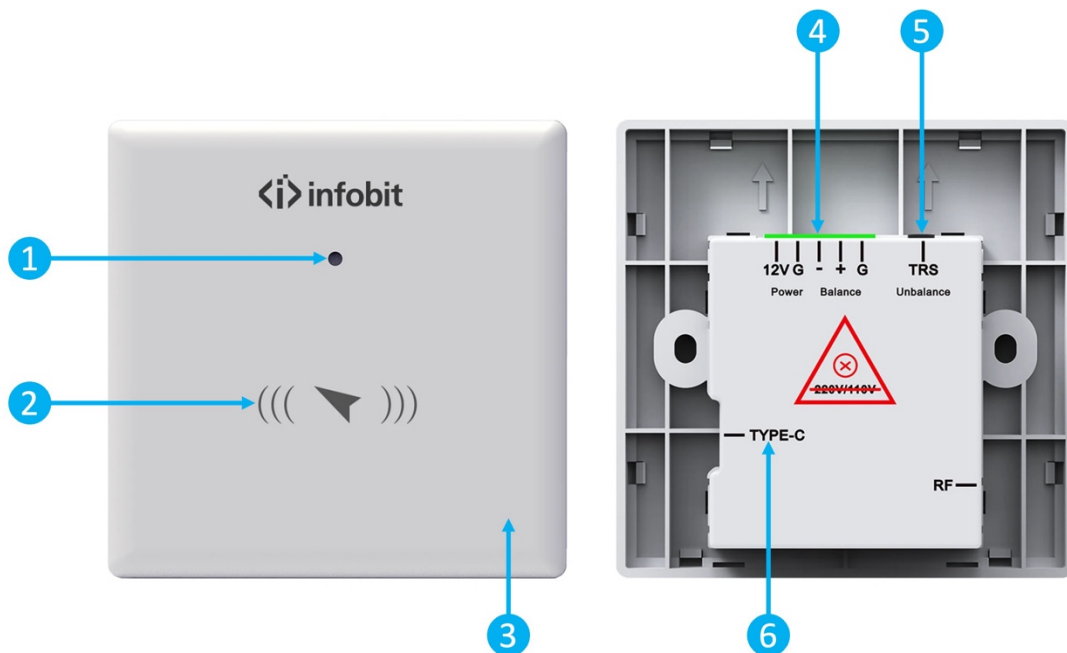
### ③ Button:

- 1) **Power On/Off:** Press and hold the button to turn the device ON or OFF.
- 2) **Mute:** Short press the button to switch to mute mode or un-mute, followed with a voice prompt.
- 3) **Acoustic Calibration:** When transmitter and receiver are connected, rapidly press the button four times consecutively to trigger Acoustic Calibration. The system will automatically calibrate based on acoustic characteristics (including speaker and room environment), with voice

prompts before and after calibration. Rapidly press the button six times consecutively to toggle Room Acoustic Calibration ON/OFF, followed with a voice prompt.

- ④ **Microphone Pickup:** To ensure a better sound pickup effect, the pickup hole should be aligned with the sound emitting part when wearing it.
- ⑤ **Charging Pins:** Charging in the charging case.
- ⑥ **Magnetic Area:** Support magnetic headwear accessories, magnetic collar clip accessories, magnetic gasket accessories.

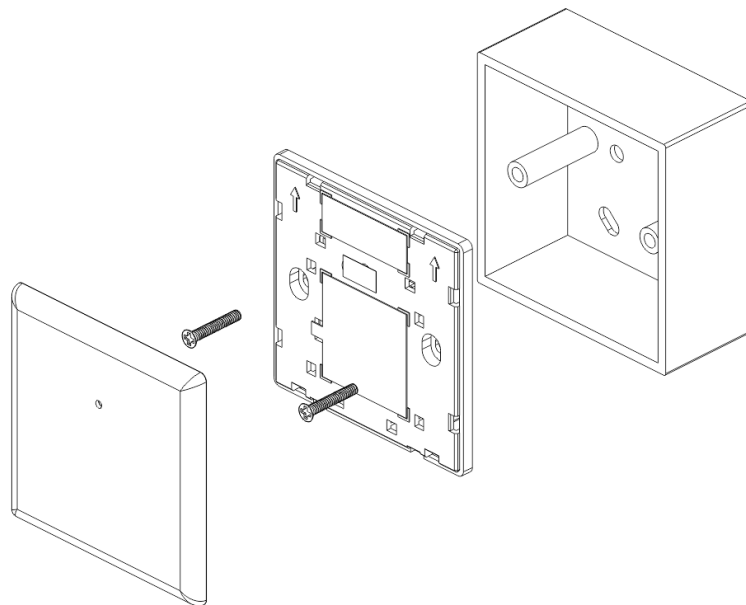
### 3.3 RECEIVER OPERATION



- ① **LED Light:**  
Green light flashing means not connected with the transmitter.  
Green light always on means successfully connected with the transmitter and can work normally.
- ② **NFC:** Support NFC induction pairing function, tap the **front** of the transmitter here for pairing.
- ③ **Buzzer:** Beeps when the transmitter and receiver are paired successfully.
- ④ **Balanced Signal and 12V Power Interface:** 5-Pin Phoenix terminal, of which 3-Pin ("-", "+", "G") output balanced signal, 2-Pin ("12V", "G") connect to DC 12V power supply.

- ⑤ **3.5mm TRS:** Output stereo single-ended analog audio signal to active speakers or recording device.
- ⑥ **USB Type-C:** For power supply, also supports digital audio output of UAC protocol.

## 3.4 RECEIVER INSTALLATION



- ① Wiring the audio cable and power cord well to the 86 (UK) wall box.
- ② Remove the cover plate.
- ③ Connect the audio cable and power cord to the receiver ports.
- ④ Align the receiver with the 86 (UK) wall box, then fasten with two screws.
- ⑤ Install the receiver cover plate.

## 3.5 CHARGING CASE OPERATION



- ① **White LEDs:** 4x white LEDs indicate different power levels of the charging case, when opening/closing the cover, the white LEDs flash 2 times and light up for 5 seconds and then go out. When the transmitter is put into the charging case for successful charging, the white LED light flashes 2 times for 5 seconds and then go out.
- ② **Charging Area:** The charging case has a magnetic feature, which supports magnetic suction charging.

**Note:** If the transmitter is put into the charging case and the 4 white LEDs don't flash, it means that the transmitter's charging contacts are not aligned with the charging case contacts, you need to re-adjust the position so that all charging pin are contacted well.

## 4. PACKAGE LIST

NO.	Name	Quantities
1	Microphone Transmitter (iSound NL200T)	1
2	Charging Case	1
3	Receiver (iSound NL200R)	1
4	Magnetic Lavalier accessories.	1
5	Magnetic Spacer	1
6	USB Type-C Cable	1
7	Storage Bag	1
8	Quick Guide	1
9	Magnetic Headwear accessories (iSound NL200H)	1

## 5. SPECIFICATION

<b>Transmitter (iSound NL200T)</b>	
Transmission Mode	2.4G NearLink SLE protocol
Polarity Mode	Omnidirectional
Operating distance (without obstacles)	30 meters
RF Output Power	10dBm
Frequency Response	100Hz ~ 20kHz
Sample Rate	48KHz
Bit Depth	16-bit

Signal-to-noise ratio	≥80dB
Built-in Battery Capacity	97mAh
Power supply mode	Built-in lithium battery power supply; Or USB-C charging.
Battery life	About 4 hours
Charging time	About 1 hour
Weight	10.5g
Dimension	32mm×32mm×13.8mm
Operating Temperature and Humidity	0°C ~ 50°C, 10% ~ 90%RH, No condensation
<b>Charging Case</b>	
Battery Capacity	300mAh
Power Supply Method	Power supply via charging contacts
Power Supply Times to TX	>3 times
Charging Time	About 1 hour
Weight	39g
Dimensions	60.3mm×50.1mm×28.4mm
Operating Temperature and Humidity	0°C ~ 50°C, 10% ~ 90%RH, No condensation
<b>Receiver Parameters</b>	
Transmission Mode	2.4G NearLink SLE protocol
Operating Distance (without obstacles)	30 Meters
RF Output Power	10dBm
Frequency Response	100Hz ~ 20kHz
Sample Rate	48KHz
Bit Depth	16-bit
Signal-to-Noise Ratio	≥80dB

Audio Output	UAC digital; Balanced analog (Phoenix terminal); Unbalanced analog (3.5mm TRS)
Power Supply	DC 12V or USB Type-C Powered
Weight	30g
Dimension	86.1mm×86.1mm×27.3mm
Operating Temperature and Humidity	0°C ~ 50°C, 10% ~ 90%RH, No condensation
Storage Temperature	-10°C ~ 50°C
Package Dimensions (L×W×H)	280mm×210mm×70mm
Package Weight	0.5kg
<b>NearLink SLE Spec</b>	
Version	SLE 1.0
Bandwidth	Max. 4Mbps
Operating Frequency	2.4GHz ISM (2402 ~ 2480MHz)
Transmission Rate	Max. 12Mbps, 6x times of Bluetooth (2Mbps)
Delay	0.25ms, 1/20 to 1/28 of Bluetooth 5.3.
Band Code	Polar
Anti-interference capability	Utilizes Adaptive Frequency Hopping (AFH) technology to enhance anti-interference performance.
Security	AES-128

# 6. DIAGRAM

