



## INFRARED CLASSROOM SYSTEM

IRR-40P RECEIVER • IRN-20 MICROPHONE/TRANSMITTER  
IRR-30 MICROPHONE/TRANSMITTER • IRD-66 SENSOR



***INSTRUCTION MANUAL***

# INTRODUCTION

Thank you for selecting the Azden INFRARED system as your wireless classroom audio solution. We are confident that it will perform beyond your expectations. For over 50 years, Azden Corporation has been creating highest quality, reliable products adapting the most advanced technology available. By taking advantage of the latest CAD design and SMT production techniques, Azden engineers are able to produce products that exceed the published specifications and perform flawlessly for years to come.

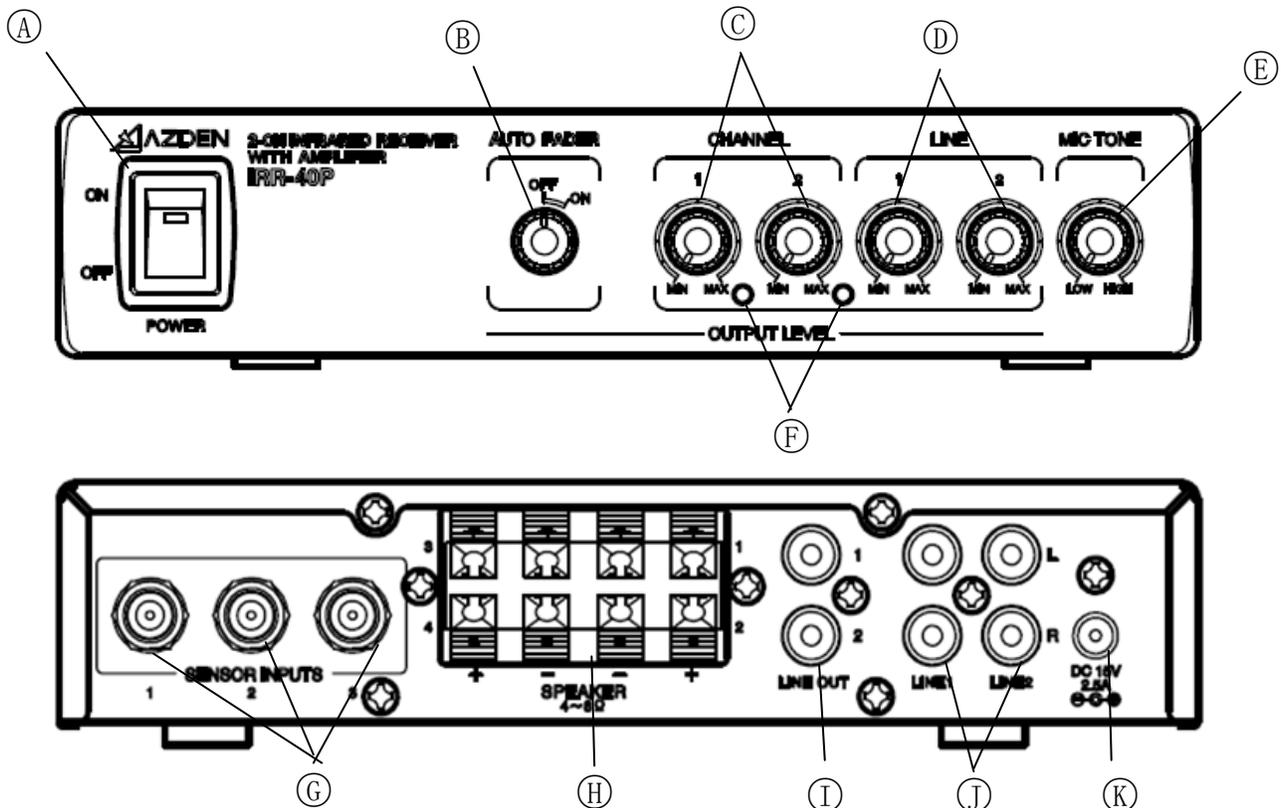
Azden INFRARED represents a breakthrough in wireless. Instead of the normal radio waves that other wireless systems use, Azden INFRARED uses invisible light beams in the infrared range. INFRARED's enhanced performance assures you of the finest in audio clarity and reliability. The specially selected high-frequencies provide you with trouble-free performance, even in the fluorescently lit classroom environment.

Infrared (IR) wireless microphone systems are the best solution for classrooms. In today's RF saturated world, a regular (VHF or UHF) microphone system risks interference from a variety of other devices and sources. Cell phones, radios, TV, PA systems, police and emergency service systems, etc. can all interfere with VHF and UHF—but not with IR. Furthermore, IR is perfect for classroom audio since, unlike other systems, it is short-range and cannot penetrate walls. This means that your school can have as many classrooms as desired with individual audio systems without fear of interference. Since the Azden system is dual-channel, a teacher can have one microphone and a second person can also have a microphone. In addition, since each classroom system is on the same pair of channels, teachers can move from room to room without having to switch microphones.

In the real world, the ability to use multiple systems in the same location without frequency interference will prove to be a tremendous benefit to you. Using IR means that the audio generated in your classroom stays within the classroom. Your discussions cannot be overheard on other systems in other classrooms.

Designed by professionals for professionals—Azden INFRARED will provide you with years of worry-free, high-quality performance.

# IRR-40P RECEIVER



**(A) POWER Switch**

Turns the receiver ON and OFF. When ON, the LED will glow red.

**(B) AUTO FADER Switch**

Turns the AUTO FADER ON and OFF. When ON, speaking into the microphone (either Channel 1 or 2) will mute the sound from LINE IN 1 and/or 2.

**(C) CHANNEL 1/2 Volume**

Adjusts the output volume level for CHANNEL 1 or 2.

**(D) LINE 1/2 Volume**

Adjusts the output volume level for LINE 1 or 2.

**(E) MIC TONE Control**

Adjusts the system's high frequency tone.

**(F) CHANNEL 1/2 Indicator**

Corresponding LED glows green when CHANNEL 1 or 2 is activated.

**(G) SENSOR INPUTS**

Attach the IR sensor(s) IRD-66 and/or IRD-36 here using the RG-59 cable(s) (not included). **IMPORTANT:** Plug the unused inputs using the supplied shorting plugs. Failing to do so will severely reduce the working range of the sensor(s).

**(H) SPEAKER Connectors**

The ceiling or wall-mounted speakers will be connected here. Carefully follow the + and — markings (speaker cables are not included).

Ⓡ **LINE OUT Outputs**

Outputs the sound to other devices. Accepts the RCA plugs.

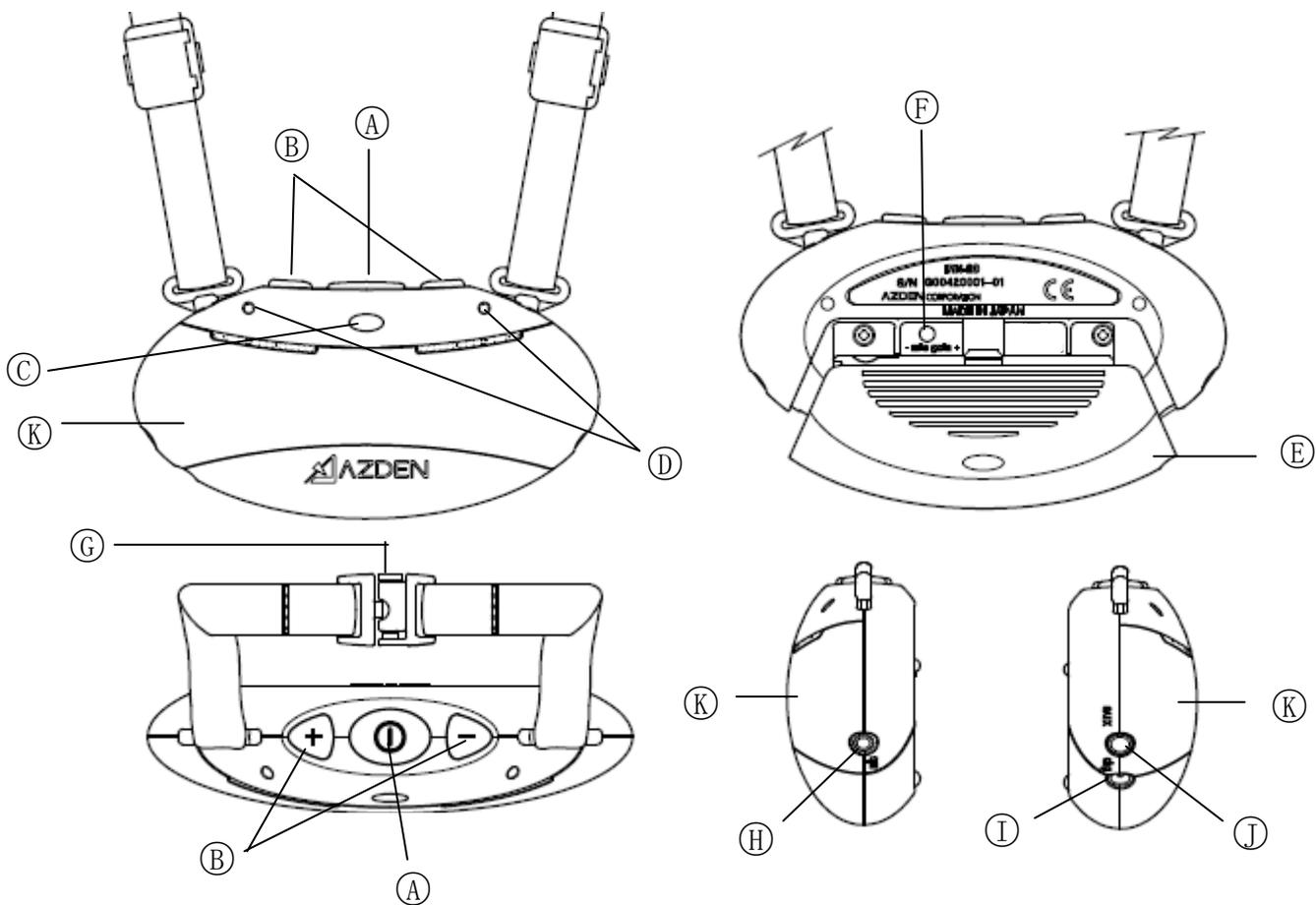
Ⓢ **LINE 1/2 Inputs**

Any external audio source with a standard “Line-Level” output, such as a CD or MP3 player, DVD player, etc. may be attached here.

Ⓣ **Power Supply Jack**

This is the power input. Plug the small, round connector of the supplied AD-DC adaptor (BC-30) into the Power Supply Jack.

## IRN-20 MICROPHONE/TRANSMITTER



Ⓡ **Power Switch**

Turns the microphone/transmitter ON and OFF.

Ⓢ **Remote Volume Control**

Controls the volume level. Press the “+” button to increase the volume and “-” to decrease.

### Ⓒ **Status Indicator**

The indicator LED shows GREEN, RED or ORANGE depending on the status or mode of the IRN-20.

GREEN = on

Alternating RED/GREEN = recharge soon

RED = charging

Orange = charged

### Ⓓ **Dual Directional Microphones**

The IRN-20 uses two separate microphones (left and right) to provide a constant transmitted voice level as the user's head is turned from side to side.

### Ⓔ **Battery Compartment Lid**

To open the battery compartment lid, hold the IRN-20 upside down, the lid facing you, and press the center of the lid with both thumbs and slide the lid upward. Insert an AA rechargeable Ni-MH battery (included in the Azden Classroom Systems IR-CSV and IR-WSV) or an AA Alkaline battery following the polarity marked inside the battery compartment.

### Ⓕ **Microphone Gain Settings**

The IRN-20 microphone gain control is factory set and will not need adjusting. Turning the control by a jeweler's Phillips-head screw driver (not included) will increase/decrease the AF level.

### Ⓖ **Neck Strap**

To separate the clasp, grab the both end of the clasp and firmly pull them apart. To reattach, simply snap the ends back in or slide one end to the other until clicks. The strap length can easily be adjusted by moving the sliders.

### Ⓗ **Microphone Jack**

Plug in an external microphone with 3.5mm mini plug here to override the IRN-20's microphones.

### Ⓘ **Battery Charge Jack**

Plug the BC-31 Battery Charger (included in the Azden Classroom System IR-CSV & WSV) to charge the supplied rechargeable battery (IHR-3U). Connecting the charger will automatically turn off the IRN-20 and start charging (the red LED will be lit). The charge time from flat is typically 10 hours. When charged, the indicator will be lit orange.

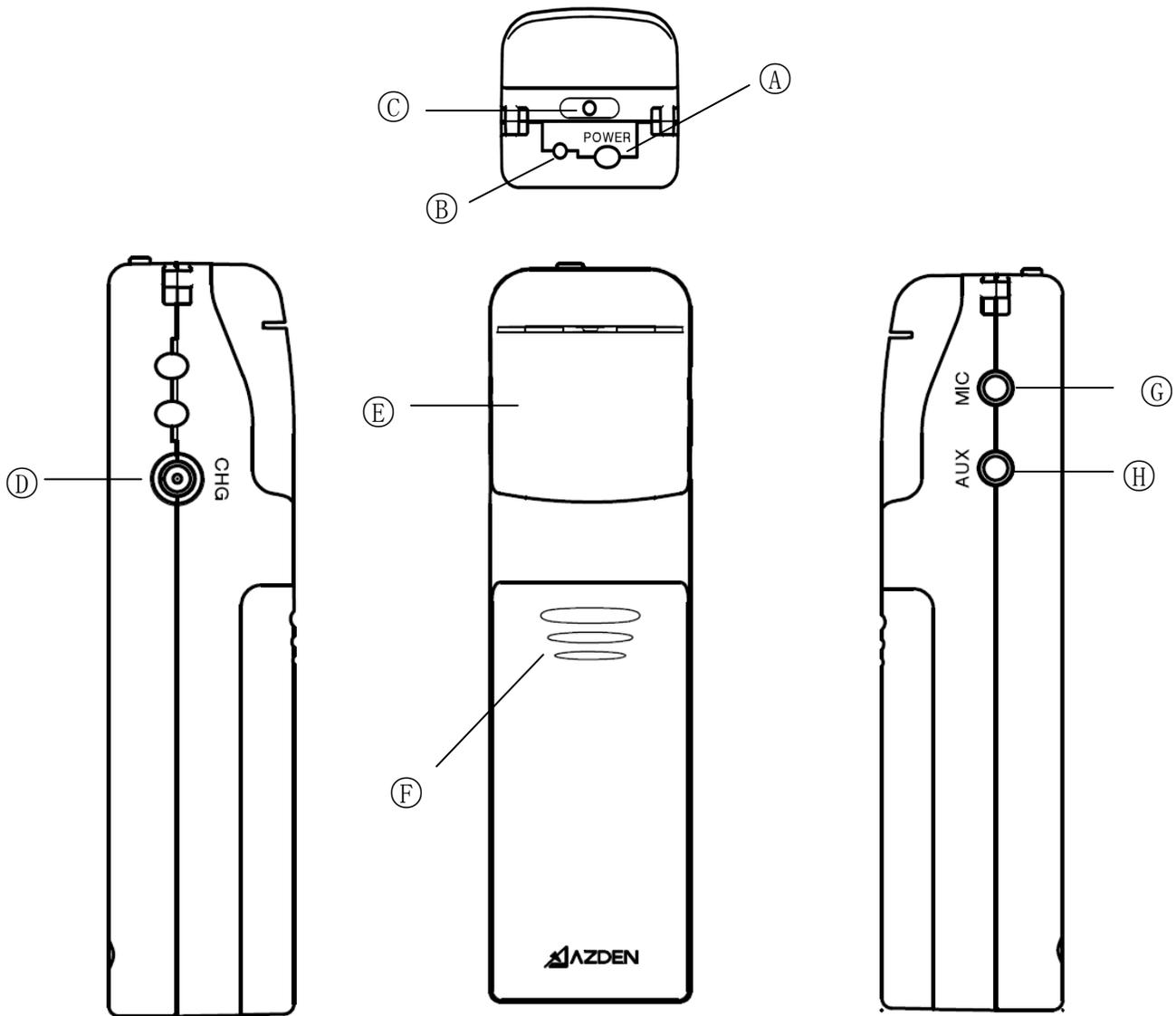
### Ⓙ **Auxiliary Jack**

An external audio source with a mini plug, such as iPod or computer, can be plugged in here. The IRN-20 will then transmit the audio signals to the IRR-40P receiver to play the audio through the system's speakers.

### Ⓚ **Infrared Emitter**

In order for the transmitter to send the infrared signals, the emitter will always have to be exposed. Do not cover the emitter area.

# IRN-30 MICROPHONE/TRANSMITTER



## Ⓐ Power Switch

Turns the microphone/transmitter ON and OFF.

## Ⓑ Status Indicator

The indicator LED shows GREEN, RED or ORANGE depending on the status or mode of the IRN-30.

GREEN = on

Alternating RED/GREEN = recharge soon

RED = charging

Orange = charged

Ⓒ **Microphone**

Uni-directional electret condenser microphone. In order to avoid the wind noise caused by the breath of the user, hold the microphone below and approximately 4" from the chin.

Ⓓ **Battery Charge Jack**

Plug the BC-31 Battery Charger (included in the Azden Classroom System IR-CSV & WSV) to charge the supplied rechargeable battery (IHR-3U). Connecting the charger will automatically turn off the IRN-30 and start charging (the red LED will be lit). The charge time from flat is typically 10 hours. When charged, the indicator will be lit orange.

**WARNING:** Do NOT attempt to charge a non-chargeable Alkaline battery. Doing so is DANGEROUS and may cause fire.

Ⓔ **Infrared Emitter**

In order for the transmitter to send the infrared signals, the emitter will always have to be exposed. Do not cover the emitter area.

Ⓕ **Battery Compartment Lid**

To open the battery compartment lid, hold the IRN-30 upside down, the lid facing you, place the both thumbs on the ribs on the lid and slide the lid upward. Insert an AA rechargeable Ni-MH battery (IHR-3U: included in the Azden Classroom Systems IR-CSV and IR-WSV) or an AA Alkaline battery following the polarity marked inside the battery compartment.

**WARNING:** Do NOT attempt to charge a non-chargeable Alkaline battery. Doing so is DANGEROUS and may cause fire.

Ⓖ **Microphone Jack**

Plug in an external microphone with 3.5mm mini plug here to override the IRN-30's microphones.

Ⓗ **Auxiliary Jack**

An external audio source with a mini plug, such as iPod or computer, can be plugged in here. The IRN-30 will then transmit the audio signals to the IRR-40P receiver to play the audio through the system's speakers.

## SPECIFICATIONS

	IRR-40P (2-ch receiver / built in power amp)
Sub-carrier frequencies	2.06 & 2.53MHz
Type	Super heterodyne - crystal controlled
Modulation	FM
Pilot tone signal	32.768kHz
Frequency response deviation	50-10kHz±3dB / less than 1%
Audio output	RCA Jack Mono x2
Speaker out	5W x4 @4 ohms
Line input	RCA Jack (L & R)
Sensor input	F-connector x3
Power requirement	15VDC @2.7A (use model BC-30)
Size	W 204 x D 233 x H 44 mm
Weight	3.3lb (1.5kg)

	IRN-20 (neck-worn transmitter)	IRN-30 (Handheld transmitter)
Sub-carrier frequencies	2.06MHz	2.53MHz
Modulation	FM	
Microphone element type	Uni-directional ECM x2	Uni-directional ECM x1
Frequency deviation	<±15kHz	
Frequency response deviation	50-10kHz±3dB	100-8kHz±3dB
Ext. Mic input	φ3.5mm mini jack	
Aux. input	φ3.5mm mini jack	
Mic gain adjustment	from +6dB to -10dB	
Battery type	1 "AA" alkaline / 1 "AA" rechargeable NiMH	
Battery life	>8 hours w/alkaline battery	
Size (W x D x H)	95 x 25 x 50 mm	27 x 27 X 90 mm
Weight	74g inc./battery	74g inc./battery

Note: Due to constant improvement, specifications are subject to change without notice.

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