

**AUTOMATE**MATRIX

# InSyncTalk

A wireless duplex intercom system developed  
to meet the intercom needs of various industries



Command and Coordination,  
Efficient and Simple

[www.automatematrix.com](http://www.automatematrix.com)

INSYNCTALK

# InSyncTalk

## Command and Coordination, Efficient and Simple

Automate Matrix InSyncTalk products provide advanced solutions for all kinds of intercom scenarios. Adopting self-developed WD1 technology and specific frequency bands to ensure the privacy and security of calls. Equipped with 360° background noise reduction technology to realize high call quality. Supports free and convenient customized grouping function to meet diversified communication needs. Supports wireless transmission, IP networking and cascade expansion. Flexibly adapts to different scale scenarios, creating an efficient, safe and high-quality internal call experience.



Relying on in-house developed WD1 communication technology, InSyncTalk features active sideband interference filtering, effectively guaranteeing communication purity.



Supports the expansion of 10-way slave, realizing full-duplex calls to meet diversified communication needs.



The host is equipped with group call function up to 3 groups. No interference exists between groups. Groups can be freely switched to optimize the communication order.



Supports multi-host cascade expansion and remote IP networking. Breaking the limits of geographical distance and application boundaries.



With selective call function, the host can accurately control the hearing authority by the extension number, and control the call situation with flexibility.

## STAR NETWORK TOPOLOGY

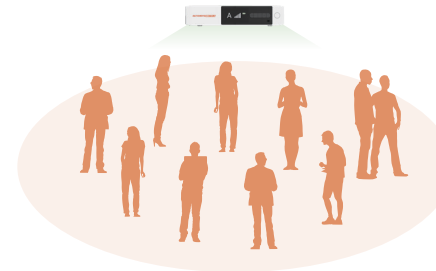
### Monobloc

- Fixed base station: 10 users
- Portable base station: 10+1 users
- Up to 3 audio groups can be created
- Users can join one or more established groups

### Multi-body

- Two or more fixed base stations for greater geographic coverage
- Each base station supports up to 10 users simultaneously (full-duplex audio)
- Up to 3 audio groups can be established in all base stations
- Users can join one or more established groups in all base stations

### Monobloc Fixed Installation

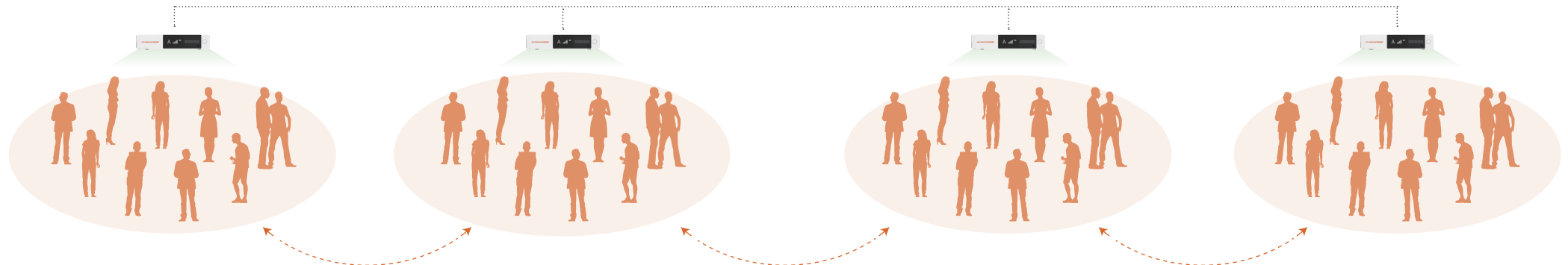


### Monobloc Portable Mounting

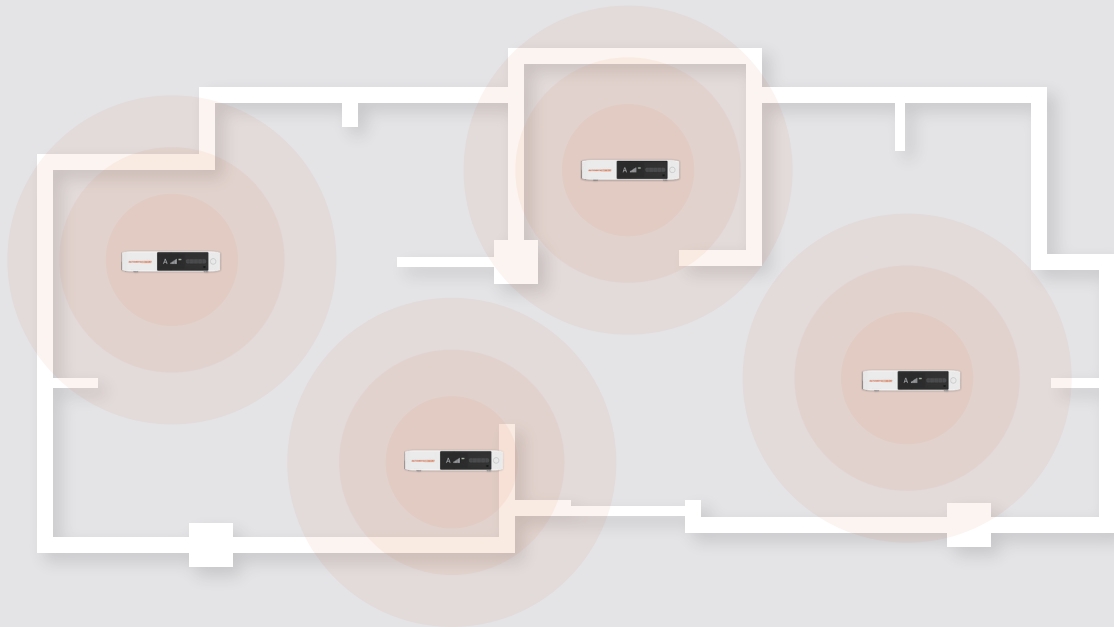


Portable units can be paired with multiple units (base stations). Synchronization can be done via wired backhaul.

### Multi-body Fixed Installation



SYSTEM COVERAGE MAP - MULTI-BODY DEPLOYMENT



COMMUNICATION MODE - AUDIO GROUP

| Portable unit | Module 1 | Module 2 | Module 3 | Module 4 | Module 5 | Module 6 | Module 7 | Module 8 | Module 9 | Module 10 |
|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Group 1       | ✓        | ✓        |          | ✓        |          | ✓        |          |          | ✓        |           |
| Group 2       |          | ✓        | ✓        |          | ✓        |          | ✓        |          | ✓        | ✓         |
| Group 3       | ✓        |          | ✓        | ✓        | ✓        |          |          | ✓        | ✓        |           |

- Each portable device is equipped with the required electronics for receiving and transmitting audio as well as signal routing to provide full-duplex audio communications between users if they remain within radio range of the base station.
- Users may join one or more audio groups across base stations.

WD1 COMMUNICATION TECHNOLOGY ADVANTAGES

Vs

Comparison with Bluetooth/Wi-Fi



WD1 offers 30 times the coverage of Bluetooth

Bluetooth/WiFi operates in the 2.4GHz ISM radio spectrum, while the WD1 operates in the 1.9 GHz reserved band, ensuring minimal interference.

Vs

Comparison with Two-way radios



WD1 provides full-duplex communications

Two-way radio equipment can be expensive to purchase and license

The FCC mandates “narrowbanding”, which means fewer frequencies are available to talk and be understood

Connectivity between two-way radios in multiple locations can be problematic and sometimes disruptive

No need to learn new commands, such as “end”

Vs

Comparison with Cellular Networks



Cell phones are only one-to-one communications, not one-to-many

Cell phone coverage is not always reliable, especially in emergencies or in dead-end areas

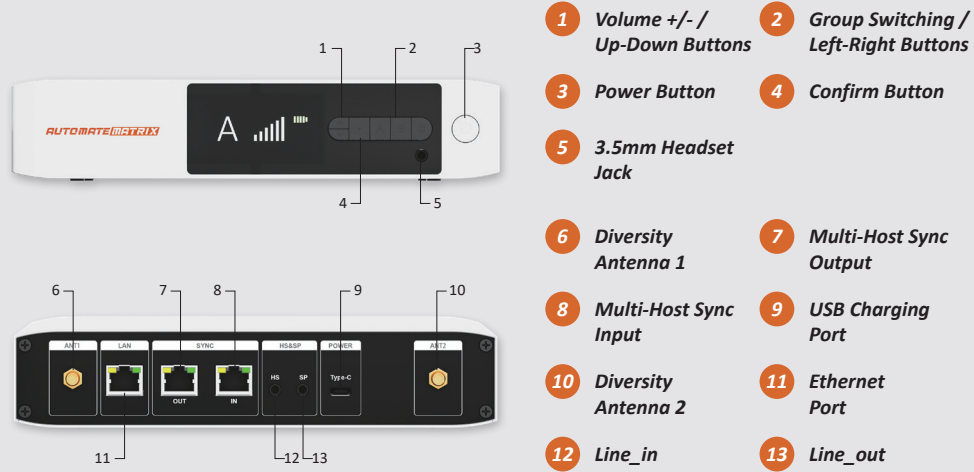
Cell phones use public networks and are vulnerable to security threats

Cell phone subscriptions and data plans can be expensive

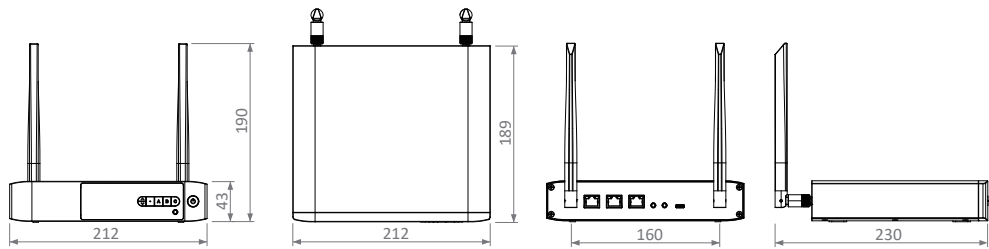
The average lifespan of a smartphone is about two years, which means more frequent and expensive upgrades

Cell phones lack durability

AU-M850



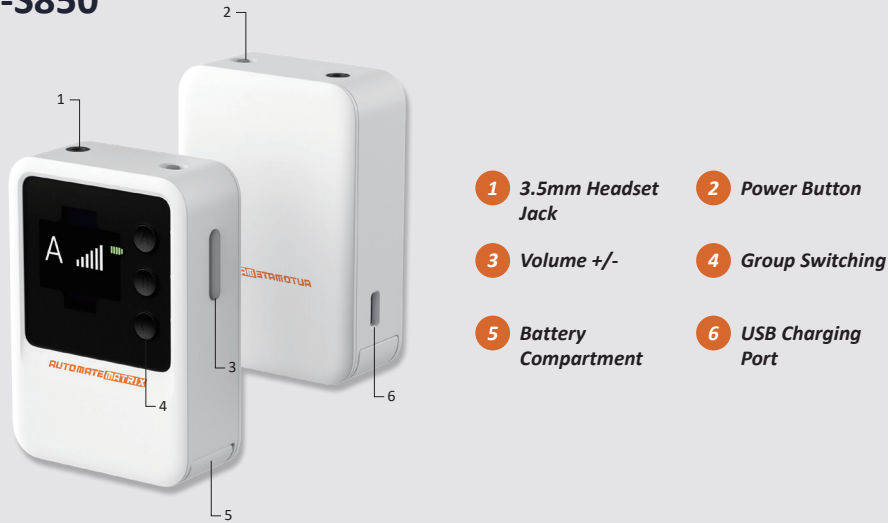
DIMENSIONS (Unit: mm)



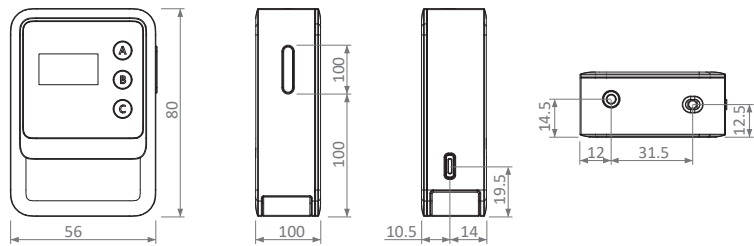
SPECIFICATIONS

| AU-M850               |                                                                                  |
|-----------------------|----------------------------------------------------------------------------------|
| Communication Range   | Communication Range: >300 m (line of sight), 50–100 m (indoor with obstructions) |
| Audio Characteristics | Voice codec 50 - 7000Hz                                                          |
| Audio Delay           | Typically less than 50ms                                                         |
| Quality of Service    | Dual Antenna (Antenna Diversity)                                                 |
| Encryption            | AES-256                                                                          |
| Calling Methods       | Full-duplex Calls                                                                |
| Extension Expansion   | Supports expansion of 10 full-duplex calls                                       |
| Group Calling         | Supports 3 groups, unlimited number of units per group                           |
| Transmission Power    | 10 mW                                                                            |
| Weight                | 650g                                                                             |

AU-S850



DIMENSIONS (Unit: mm)



SPECIFICATIONS

| AU-S850               |                                                                                  |
|-----------------------|----------------------------------------------------------------------------------|
| Communication Range   | Communication Range: >300 m (line of sight), 50–100 m (indoor with obstructions) |
| Audio Characteristics | Voice codec 50 - 7000Hz                                                          |
| Audio Delay           | Typically less than 50ms                                                         |
| Encryption            | AES-256                                                                          |
| Talk mode             | Full-duplex Talk                                                                 |
| Transmit Power        | 10 mW                                                                            |
| Battery               | 1800 mAh, 8h continuous talk time, 10+ days standby                              |
| Weight                | 100g                                                                             |

# APPLICATION SCENARIOS

## Industry and Construction

In scenarios such as construction sites, renovation cleaning, and warehouse management, personnel are widely distributed in complex and noisy environments. The intercom system enables instant communication among construction workers, cleaning staff, and warehouse employees, ensuring rapid instruction delivery, timely issue resolution, enhanced collaboration efficiency, and safe, orderly workflow execution.



## Institutional Security

For front/back-office operations, retail security, and safety personnel, seamless information flow is critical. The intercom system facilitates uninterrupted communication across roles: security teams can report anomalies promptly, office staff can issue instructions efficiently, and all parties collaborate to address security incidents effectively, safeguarding premises and personnel.



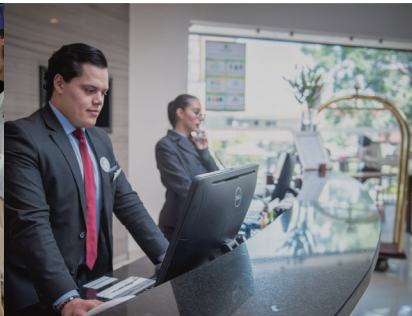
## Sports & Education

In contexts like referee operations, team sports, driving school training, and educational lectures, timely and accurate information delivery is paramount. The intercom system empowers referees to exchange officiating decisions instantly, sports teams to coordinate dynamically, driving instructors to communicate clearly with trainees, and educators to engage audiences interactively, ensuring smooth execution of activities.



## Service & Hospitality

In retail, hotels, restaurants, and tour guide services, delivering high-quality customer experiences is essential. The intercom system allows staff to relay customer requests swiftly, coordinate service processes, and resolve issues proactively, enhancing customer satisfaction and elevating service quality and industry competitiveness.



## **ABOUT** **AUTOMATEMATRIX**

*Welcome to Automate Matrix, where we're engineering  
the future of intelligent sensing and automation.*

*We're passionate about developing cutting-edge  
technologies that empower businesses to operate more  
efficiently, safely, and intelligently.*

*FOR MORE INFORMATION, PLEASE VISIT:*

**[www.automatematrix.com](http://www.automatematrix.com)**



# ADVANCED INNOVATION RELIABLE IMPLEMENTATION

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\* This manual is created based on existing information. Due to product upgrades or other reasons, its contents may be changed.