![TOA]

VS-900
Series
### Voice Security Intercom System

TOA

Creating today's ideal security.

Security in various environments is more essential than ever. From office buildings to shopping malls, airports, car parks and garages to institutional facilities such as schools and college campuses, hospitals and medical centers, industrial and correctional facilities to hotel and high rise residential buildings to senior citizen homes — the list grows daily while the reason stays the same — to ensure security and time-critical communications on a 24/7 basis.

TOA technology can protect lives and property, maintain health and safety as well as enhance organizational efficiency and productivity.

TOA uses its accumulated expertise and knowledge gained over a half century plus in sound and public address, security and surveillance (CCTV) technologies to offer cost-effective and totally dependable solutions that fulfill all your communication and security requirements to always keep you "Safe & Sound."

VS-900 Exchange
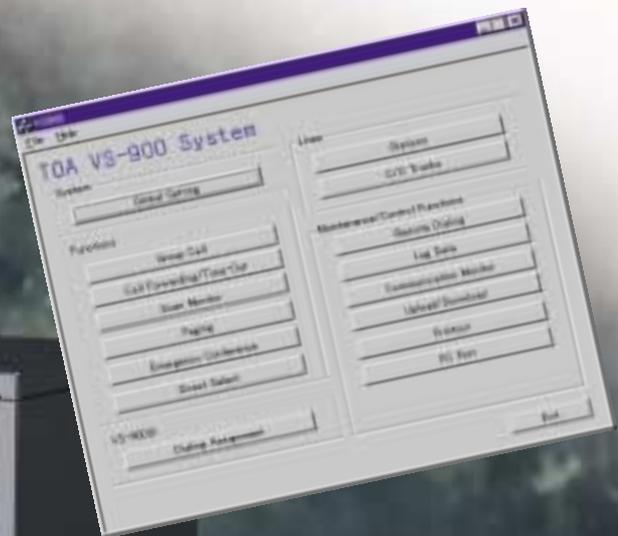
MS-900 Master Station

Meet the TOA VS-900 Voice Security Intercom System.

The VS-900 represents significant value for any security system. Its comprehensive audio capabilities including an advanced voice communications system integrate seamlessly with existing security and video surveillance systems to provide a significantly higher level of security for you.

Voice Evacuation System

Access Control System Security Equipment

VS-900

Video Surveillance System

System features

Manage the system from on- and off-site locations.
Through the built-in industry-standard RS-232C port, the VS-900 can be conveniently programmed and administered from any location, even offsite via modem. System software can also be easily upgraded, increasing the operational and service life of the system and overall functionality.

Useful data logging.
The VS-900 is equipped with a second RS-232C port that connects to a computer so that events can be automatically logged at each exchange.
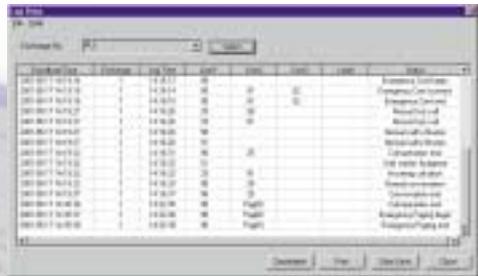
Efficient voice recording.
At each master station, the VS-900 enables automatic recording of calls that provide a useful record for post-event analyses. Each telephone line* can also be assigned for individual recording outputs.

Designed to suit your particular environment.
The VS-900 has been designed with system flexibility in mind. The fully scalable architecture can be precisely tailored to your existing system and expanded right along with your environment's requirements. And because the VS-900 mainframe employs an all-modular construction, it simplifies installation procedures as well as routine maintenance. System expansion options can easily be incorporated using interface and function cards. The fully modular configuration eliminates system obsolescence and ensures you get always the most from your investment. The VS-900 exchange can also be rack or wall-mounted to minimize space requirements.

System expands as required.
Up to four master stations and up to 64 substations can be connected to each VS-900 exchange. An exchange will also accommodate two outside telephone lines* as well as a dedi-cated computer interface. To satisfy system demands for even large institutions, a tie-line capability enables connecting up to 16 exchanges with 64 master stations and up to 1,024 substations.

*use dependent on individual country telephone regulatory codes.

System Applications

Protection and security.
At any site, all controlled-access points such as doors and parking gates benefit from two-way communication features provided by the VS-900. And by interfacing with CCTV systems such as TOA's, video combines with audio to achieve total monitoring. Used together with access control, other functions such as opening doors and gates as well as controlling surveillance cameras are easily performed. For alerting personnel, the VS-900 will also transmit warnings to substations.

Versatile call handling.
The VS-900 receives environment-wide emergency calls from any substation at a central security control room. The VS-900 can forward calls manually or automatically to any master station onsite or offsite telephones. Times can be set for the system to automatically forward calls, useful during personnel shift changes and to maintain good communications during slack times or off-hours security. No-Answer Call Forwarding and Busy Call Forwarding modes are also available. Calls can be also be transmitted to outside telephones and mobile phones as well as pagers for notification. Many more helpful features are offered such as group calling, autodial and redial, call transfer/hold, call priority for normal/emergency calls, automatic call timeout, call queuing, and selective response.
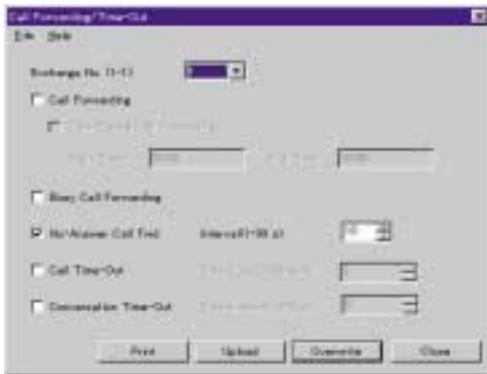
Selective scan monitoring.
This allows any master station to selectively scan a group of substations for realtime audio monitoring. This feature is significantly enhanced when used in combination with CCTV surveillance to assure a higher level of security as it combines audio and visual monitoring capabilities.
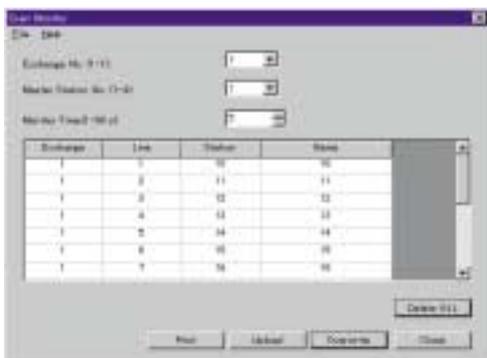
Convenient conference calling.
The VS-900 enables master stations to easily initiate three party conference calls even in the middle of a two party conversation for instance when a consultation is needed with a person on- or offsite. An Emergency Conference feature for up to four parties is also provided.

Multi-functional paging.
The VS-900 system provides four paging methods:
• Zone paging broadcasts to selected zones
• Simultaneous all-zone paging broadcasts
• Emergency paging broadcast to entire areas
• External sound source distribution to individual zones activating a sound source such as a chime.
Each substation's built-in speaker may be used if driven by an external amplifier*.
Up to 19 paging zones can be established by combining multiple substations with external public address system even the most remote areas of a site can be covered efficiently.

*TOA A-1031 or similar amplifier. Matching transformer such as the TOA MT-502U needed. (Part Number 514-04-013-20)

Substations designed for any installation.
TOA offers a range of substations for specific installation conditions. Featuring a rugged design for reliability, each substation provides a speaker and call button. One design includes a call lamp as well. For areas such as parking lots and remote locations, there are tough vandal-proof and weather-resistant substation models. In an emergency, any substation can be instantly activated by a single button — practical as emergency or crisis situations tend to confuse people.
TOA's audio expertise maintains superlative clarity in call quality to eliminate possible misunderstanding.
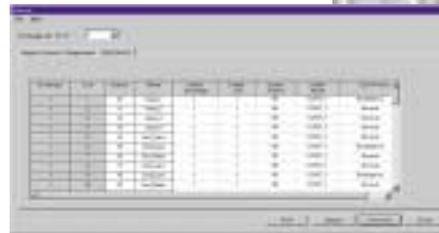
RS-150		Cost-effective Indoor use Dimensions: 120 (W) × 120 (H) × 48.5 (D) mm
RS-160		Vandal-proof* Indoor use Dimensions: 120 (W) × 120 (H) × 57.5 (D) mm
RS-170		Vandal-proof* and weather-resistant Outdoor/Indoor use Dimensions: 120 (W) × 120 (H) × 57.5 (D) mm
RS-180		Vandal-proof* and weather-resistant Outdoor/Indoor use Allows connecting to a remote alarm light or siren. Call lamp Dimensions: 120 (W) × 120 (H) × 58.5 (D) mm

*Vandal-proof versions feature a stainless front panel that is 1.5 times thicker than the RS-150's panel. The internal speaker is protected by a metal plate.

Note: All telephonic and related communications functions use described above dependent on individual country regulatory codes.

Office complex and adjoining plant

Reception

Office
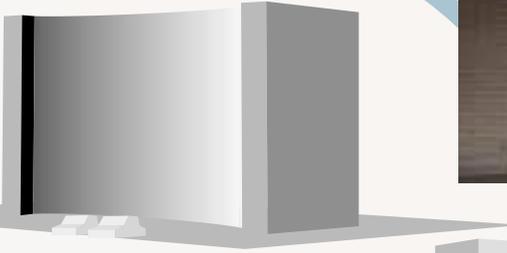
Employees exit

Control room
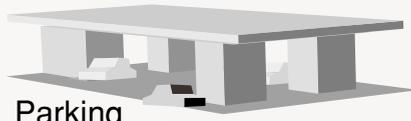
Parking

Factory
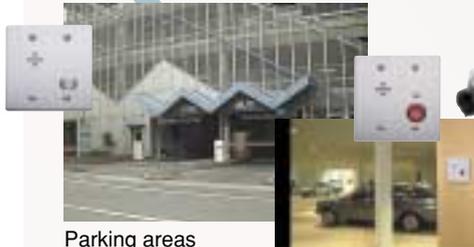
Parking areas

Factory areas

Lounge

Hospital
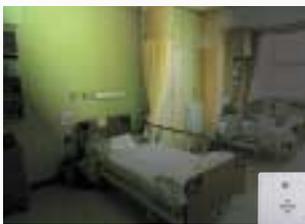
Patient's room (night)

Patient's room (day)

Hospital

Control room

Nurses station

SYSTEM FEATURES

- **System Capacity**
  - Single Exchange
    - 4 Master stations (enlargement unit: 2)
    - 64 Substations (enlargement unit: 16)
  - Up to 16 Exchanges
    - 64 Master stations
    - 1,024 Substations
- **Remote system management via RS-232C port**
  - PC programming and monitoring software
  - Program and maintain multiple exchanges offsite from one PC (via modem)
- **Audio and Data Logging**
  - PC archive of all system activity (RS-232C port)
  - Record individual Master station and telephone audio
- **Master Station Flexibility**
  - TOA master with alphanumeric display and clock
  - Supports single-line telephone equipment with Caller-ID*
- **Outside Line Communication**
  - Supports two C/O trunks
  - Substation to outside telephone line communication
- **Paging Interface**
  - 16 control outputs
  - 1 voice output
- **External Audio Input**
  - 4 activation inputs and 1 audio input for external source distribution

*in compliance with FCC regulation Part 68.

SYSTEM FUNCTIONS

- **Substation to Master Station Call**
  - Call designated Master station
  - Group Call [Master station grouping (16)]
  - Emergency Call up to the priority level
- **Call Forwarding-Related Functions**
  - Call forwarding
  - Time-Based Call forwarding
  - No-Answer Call forwarding
  - Busy Call forwarding
  - Outside Line Call forwarding

- **Paging**
  - Zone paging (19)
  - All-Zone paging
  - Emergency paging
  - External source distribution
- **Scan Monitor**
- **Emergency Conference (up to four parties)**
- **Auto-Dial and Redial**
- **Call Transfer/Hold**
- **Substation Priority (Emergency/Normal)**
- **Automatic Time-Out (Call/Conversation)**
- **Selective Response/Call Queuing (16)**

SYSTEM SPECIFICATIONS

- **Exchange Method:** PCM and space division
- **Control Method:** Common stored program control
- **Maximum Cable Length**
  - Exchange to Master station: 1,500m (22AWG)
  - Exchange to Substation: 800m (22AWG)
  - Exchange to telephone: less than 500Ω (loop impedance)
  - Exchange to Exchange: 1.0km (22AWG)
- **Wiring**
  - Master station: 2 twisted pairs
  - Substation: 2-core shielded
  - Telephone: 1 twisted pair
  - Exchange to Exchange: 1 twisted pair, shielded for Data, 2 twisted pairs for Audio
- **Frequency Response:** 300 – 3,400Hz
- **Conversation Method**
  - Substation to Master station: Voice Switch or PTT-activated talk-back
  - Master station to Master station: Full-duplex handset communication
- **Power Requirements**
  - Exchange: AC mains (PU-200) or 24V DC
  - VS-900DI/VS-910DI: 24V DC
- **Operating Temperature**
  - Exchange and Master station: 0 to 40°C
  - Substation: –10 to 60°C

System Configuration and Equipment Functions

VS-900MF **Main Frame**	Card modules installed here. Includes 2 RS-232C ports. Dimensions: 420(W) × 443.7(H) × 288.3(D)mm
VS-900MS **Master Station Interface Card**	For connecting up to two master stations per card. An external recording device can be connected to each line.
VS-900AL **Telephone Interface Card**	For connecting up to two telephones per card. An external recording device can be connected to each line. Use the telephone which complies with the FCC regulation Part 68.
VS-900RS **Substation Interface Card**	Connects up to 16 substations per card. Equipped with two speech links, one link able to be used as a paging link with the paging input/output connected to an external amplifier.
VS-900CO **Outside Line Interface Card**	Connects up to two outside lines per card. An external recording device can be connected to each line.
VS-900AF **Audio Function Card**	Enables conference, external amplifier paging and external source distribution functions.
VS-900TI **Tie-Line Interface Card**	Interconnects multiple exchanges. Connects up to 4 links using one pair of data lines and two pairs of voice lines.
MS-900 **Master station**	MS-900 can make calls to or receive calls from the substation or the master station (telephone). Dimensions: 216 (W) × 74.5 (H) × 213 (D) mm
RS-150/160/170/180 **Substation**	(see inside center page)

Note: All telephonic and related communications functions use described above dependent on individual country regulatory codes.

Options

PU-200
Power Transformer Unit
Size: 178(W) × 140(H) × 68(D)mm

PN-100B
Rack Mount Panel for PU-200
Size: 483(W) × 177(H) × 10(D)mm

YC-302
Back box (2-gang) for RS-150/160/170/180
Size: 102(W) × 102(H) × 44(D)mm

YC-303
Main Frame Wall Mounting Bracket
Size: 391.4(W) × 440(H) × 58(D)mm
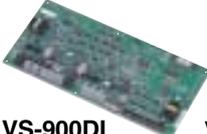
VS-900DI
Direct Select Control Card

VS-910DI
Direct Select I/O Card

The VS-900DI Direct Select Control Card and VS-910DI Direct Select I/O Card are interface cards that connect to the VS-900 Exchange to enable calling-station indication output, direct select input, and external equipment control output functions.

TOA Corporation

URL: www.toa.co.jp/global/