



● FV-200 Series Emergency PA System



FV-200 Series Emergency PA System

The FV-200 Series Emergency Public Address System is suitable for small to mid-scale venues, allowing up to 50 speaker lines, for general purpose and/or emergency broadcasts. The system provides automatic playback of messages through EV audio files, delivering broadcasts to all areas and over-riding external attenuators.

Pre-loaded with 4 voice alarm messages, FV-200EV enables emergency broadcasts to be made automatically to all zones through connection to a fire alarm system. It can also be activated manually using the fireman's microphone which has the highest priority, or via it's built-in buttons on the front panel.

For general broadcasts, audio output from the main operation panel FV-200PP can be configured to either a 1-channel output of mixed background music (BGM) and priority broadcast, or a 2-channel output of BGM and priority broadcast separately. Announcements to specific areas can be achieved through the Remote Microphone Receiver Panel FV-200RF and Remote Microphone RM-200M using the zone selector keys on the RM-200M or RM-210. In addition, broadcast areas can also be selected when used with SS-2010, SS-1010 or SS-1010R Speaker Selector.

FV-200 Series system configurations for various applications

Audio Mixer with BGM

General paging

General paging with BGM

Emergency / General Announcement with interrupted BGM

Emergency / General Announcement with non-interrupted BGM

Emergency / General Announcement with BGM + 3-wire attenuator

Emergency / General Announcement with non-interrupted BGM + 4-wire attenuator



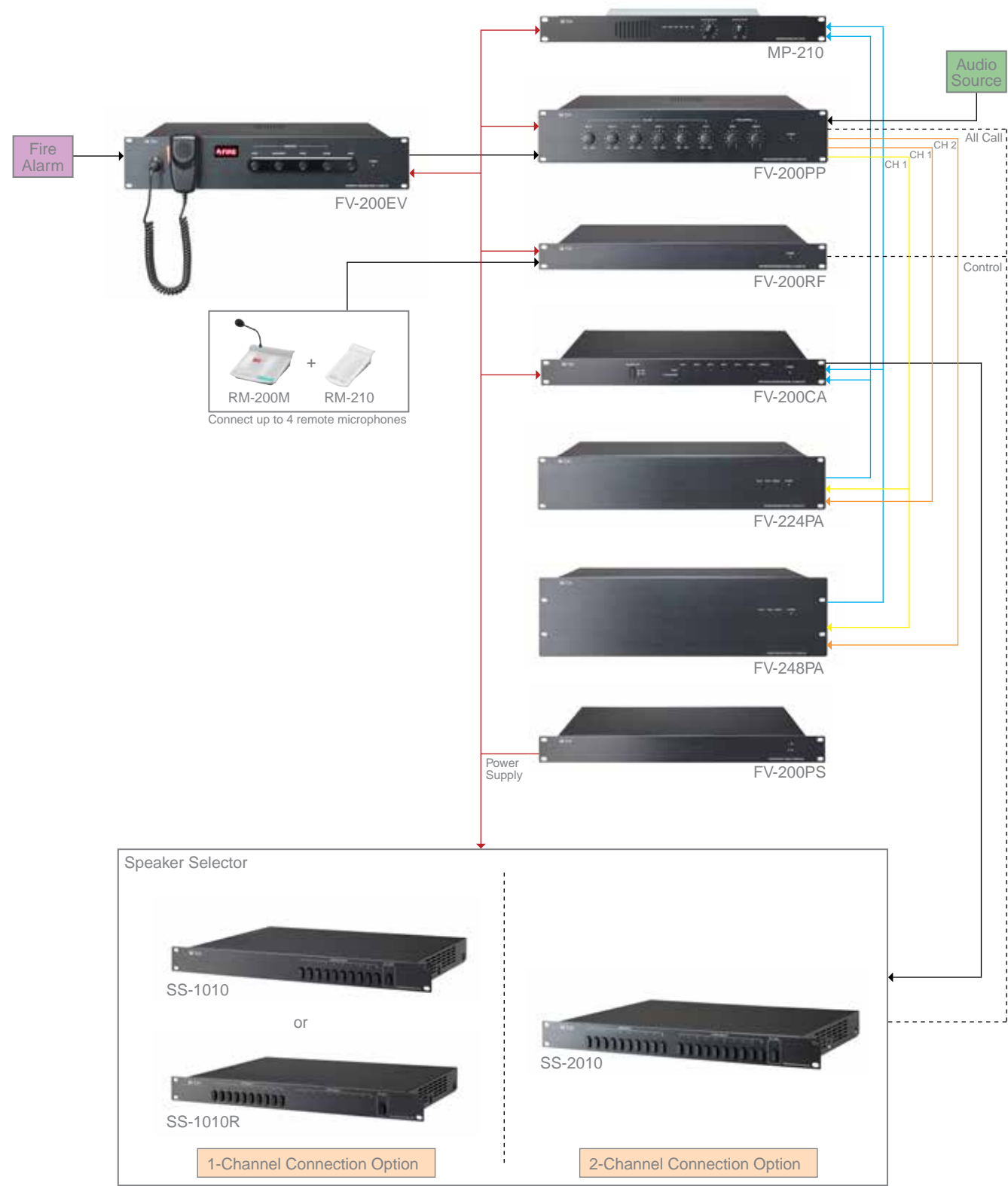
Features

- FV-200EV loaded with pre-recorded voice alarm messages (Alert, Evacuation, False Alarm, Clear) for emergency broadcasts
- Link fire alarm system to FV-200EV to broadcast automatic announcement during emergency
- Highest priority broadcast is given to announcements made via FV-200EV's fireman microphone. Next priority broadcast is given to timer, paging, and remote microphone on FV-200PP.
- 4 additional control output on FV-200EV to connect to external devices (e.g. attenuator, led indicator etc)
- 4 additional Mic/Line and 2 Aux input on FV-200PP
- Select interrupted or non-interrupted BGM with FV-200PP
- Connect up to 4 remote microphones (RM-200M) with FV-200RF. Maximum 4 remote extension units (RM-210) per remote microphone.
- FV-200RF can control up to 50 speaker lines and all-zone calls
- FV-200CA enables automatic changeover to a working standby amplifier when the duty amplifier becomes faulty
- MP-210 is built in with a speaker and LED display, allowing overall operation of an equipment rack.
- Up to 10 amplifier output levels can be selected and monitored with MP-210
- Connect FV-200PS to an emergency power supply (VX-2000DS) for uninterrupted DC power during AC power failure



System Example

(1-Channel or 2-Channel Connection)





FV-200EV Emergency Message Panel	
Power Source	Usable power supply unit : FV-200PS 24 V DC (operating range : 19.5 - 27 V), M3 screw terminal
Current Consumption	250 mA
Emergency Announcement	Alert (repeated continuously), Evacuation (repeated continuously), False (repeated continuously), and Clear (repeated continuously)
Emergency Warning Language	English (default)
Audio Input	Fireman's microphone: -55 dB*, 600 Ω, unbalanced, XLR-3P connector
Audio Output	EV : -20 dB*, unbalanced, Removable terminal block (2 pins)
Control Input	FA Input : No-voltage make contact input, Open voltage : 24 V DC, Short-circuit current: Under 5 mA, Removable terminal block (2pins)
Control Output	Control output : Relay contact output x 4, rated voltage : 24 V DC, Removable terminal block (2 pins)
Frequency Response	20 Hz - 20 kHz, ±3 dB, 1 kHz
Distortion	Under 1% (1 kHz, rated output)
Wave Format	44.1 kHz sampling frequency, 16 bit PCM (monaural)
Recording System	USB data transfer from rear panel
Max. Recording Time	6 minutes (use built in memory)
Operation	Alert announcement button, Evacuation announcement button, False announcement button, Clear announcement button, Stop announcement button
LED Indicator	Power (Green), Fire (Red), Alert announcement (Green), Evacuation announcement (Green), False announcement (Green), Clear announcement (Green), USB (Green)
Operating Temperature	0 °C to +40 °C
Operating Humidity	Under 90% RH (no condensation)
Finish	Front Panel : Aluminum, black, alumite
Dimensions	482 (W) X 100 (H) X 396.7 (D) mm
Weight	4.3 kg (with Microphone)
Accessory	Removable terminal plug (2 pins) x 7, Fireman's Microphone x 1, Instruction Manual x 1

* 0 dB = 1 V
- Specification measured at DC 24 V



FV-200PP Pre-Amplifier Mixer Panel	
Power Source	Usable power supply unit : FV-200PS 24 V DC (operating range : 19.5 - 27 V), M3 screw terminal
Current Consumption	110 mA
Audio Input	EV : -20 dB*, 600 Ω, unbalanced, removable terminal block (2 pins) Timer : -20 dB*, 600 Ω, unbalanced, removable terminal block (2 pins) Paging : -60/-20 dB* (selectable), 600 Ω, balanced, removable terminal block (3 pins) RF Link : 0 dB*, 600 Ω, unbalanced, removable terminal block (2 pins) MIC/LINE 1 - 4 : -60/-20 dB* (selectable), 600 Ω, balanced, removable terminal block (3 pins) AUX 1 - 2 : -20 dB*, 10 kΩ, unbalanced, RCA Jack
Audio Output	Priority output : 0 dB*, balanced, removable terminal block (3 pins) BGM output : 0 dB*, balanced, Removable terminal block (3 pins)
Control Input	Timer : No-voltage make contact input, open voltage : 24 V DC, short-circuit current : Under 5 mA, removable terminal block (2 pins) Paging : No-voltage make contact input, open voltage : 24 V DC, short-circuit current : Under 5 mA, removable terminal block (2 pins) EV : No-voltage make contact input, open voltage : 24 V DC, short-circuit current : Under 5 mA, removable terminal block (2 pins)
Control Output	All Call : Contact Switch (Normally Open), removable terminal block (2 pins)
Frequency Response	50 Hz - 15 kHz, ±3 dB, 1 kHz
Muting	MIC/LINE 1 : Mutes other input signals (Mic/Line 2 - 4, AUX 1 - 2) by 0 - 30 dB attenuation
Phantom Power	MIC/LINE 1 (selectable) (+21 V DC)
Priority Control	Fireman's microphone > EV > Timer > Paging > Remote microphone > Mic / Line 1 > Mic / Line 2 - 4 & AUX 1 - 2
Tone Control	Bass : -10 dB at 100 Hz, +10 dB at 100 Hz (for INPUT BGM) Treble : -10 dB at 10 kHz, +10 dB at 10 kHz (for INPUT BGM)
S/N Ratio	Over 60 dB
Distortion	Under 1% (1 kHz, rated output)
LED Indicator	Power (Green)
Operating Temperature	0 °C to +40 °C
Operating Humidity	Under 90% RH (no condensation)
Finish	Front Panel : Aluminum, black, alumite
Dimensions	482 (W) X 88.4 (H) X 353.3 (D) mm
Weight	4.2 kg
Accessory	Removable terminal plug (2 pins) x 7, removable terminal plug (3 pins) x 8, Instruction Manual x 1

* 0 dB = 1 V
- Specification measured at DC 24 V



FV-224PA Power Amplifier	
Power Source	AC : 220 - 230 V AC, 50/60 Hz DC : 24 V DC (operating range : 19.5 - 27 V) M4 screw terminal, distance between barriers : 12 mm
Power Consumption	AC at rated output : 565 W (condition : AC230V) AC at no signal : 22 W IEC60065 : 245 W
Current Consumption	DC at rated output : 15 A (condition : DC27V) DC at no signal : 0.3 A IEC60065 : 5.8 A
Rated Output	240 W
Input	2 parallel inputs, 0 dB*, 20 kΩ, balanced, removable terminal plug (3 pins) Input module VP-200VX (Option)
Output Impedance	21 Ω (70 V), 42 Ω (100 V)
Speaker Output	M4 screw terminal, distance between barriers : 12 mm
Control Output	Fault output : Make : Normal, Break : Error or Power Off
S/N Ratio	Over 60 dB
Total Harmonic	Under 1% (1 kHz, 1/3 rated output)
Distortion Frequency Response	80 Hz - 15 kHz, ±3 dB, 1 kHz
Ventilation	Fan cooling
Led Indicator	Power (Green), Signal (Green), Peak (Red), Fault (Red)
Operating Temperature	0 °C to + 40 °C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel : Aluminum, black, alumite
Dimensions	482 (W) x 88.4 (H) x 337.2 (D) mm
Weight	13.4 kg
Accessory	Removable terminal plug (3 pins) x 3, Instruction manual x 1
Option	VP-200VX input module

* 0 dB = 1 V
- Specification measured at AC 230V AC, 50Hz



FV-248PA Power Amplifier	
Power Source	AC : 220 - 230 V AC, 50/60 Hz DC : 24 V DC (operating range : 19.5 - 27 V) M4 screw terminal, distance between barriers : 12 mm
Power Consumption	AC at rated output : 1110 W (condition : AC230V) AC at no signal : 44 W IEC60065 : 480 W
Current Consumption	DC at rated output : 30 A (condition : DC27V) DC at no signal : 1.0 A IEC60065 : 10.9 A
Rated Output	480 W
Input	2 parallel inputs, 0 dB*, 20 kΩ, balanced, removable terminal plug (3 pins) Input module VP-200VX (Option)
Output Impedance	10 Ω (70 V), 21 Ω (100 V)
Speaker Output	M4 screw terminal, distance between barriers : 12 mm
Control Output	Fault output : Make : Normal, Break : Error or Power Off
S/N Ratio	Over 60 dB
Total Harmonic	Under 1% (1 kHz, 1/3 rated output)
Distortion Frequency Response	80 Hz - 15 kHz, ±3 dB, 1 kHz
Ventilation	Fan cooling
Led Indicator	Power (Green), Signal (Green), Peak (Red), Fault (Red)
Operating Temperature	0 °C to + 40 °C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel : Aluminum, black, alumite
Dimensions	482 (W) x 132 (H) x 333.2 (D) mm
Weight	18.5 kg
Accessory	Removable terminal plug (3 pins) x 3, Instruction manual x 1
Option	VP-200VX input module

* 0 dB = 1 V
- Specification measured at AC 230V AC, 50Hz



FV-200RF Remote Microphone Receiver Panel	
Power Source	Usable power supply unit : FV-200PS 24 V DC (operating range : 19.5 - 27 V), M3 screw terminal
Current Consumption	230 mA
No. of Zone Groups in Speaker Selector	Max. 10 (SS-2010, SS-1010R, SS-1010)
Priority Control for Remote Microphone	Last-in-1st-out priority / 1st-in-1st-out priority / individual priority / selectable
Control Input	All call : 1 input, No-voltage make contact input, open voltage 24V DC, short-circuit current : Under 5 mA, removable terminal block (2 pins)
Control Output	SS Control : 55 outputs, open collector output, removable terminal block (6 pins)
Chime	Ascending 4-note tone
RF Link Audio Output	0 dB*, unbalanced, removable terminal block (2 pins)
RM Link Usable Remote mic No. of Connectable to Remote Mic Maximum Cable Distance	RM-200M Remote microphone extension unit : RM-210 (Max. 4 units) Max. 4 x RM-200M Total 800 m
S/N Ratio	Over 60 dB
Distortion	Under 1% (1 kHz, rated output)
LED Indicator	Power (Green), Error (Red)
Operating Temperature	0 °C to +40 °C
Operating Humidity	Under 90% RH (no condensation)
Finish	Front Panel : Aluminum, black, alumite
Dimensions	482 (W) X 44 (H) X 320 (D) mm
Weight	2.8 kg
Accessory	Removable terminal plug (2 pins) x 2, removable terminal plug (3 pins) x 1, removable terminal plug (6 pins) x 10, Instruction Manual x 1

* 0 dB = 1 V

- Specification measured at DC 24 V



FV-200PS Power Supply Panel	
Power Source	220 - 230 V AC, 50/60 Hz 24 V DC (operating range : 19.5 - 27 V), M3 screw terminal
Power Consumption	160 W (275 VA) at rated power output (230 V AC operation)
Output	AC Operation : 24 V DC \pm 1, 5A (total) DC Operation : Voltage lowering DC input voltage approx. by 2 V, M4 screw terminal
Display	AC Power (Green), AC Power (Orange)
Operating Temperature	0 °C to +40 °C
Operating Humidity	Under 90% RH (no condensation)
Finish	Front Panel : Aluminum, black, alumite
Dimensions	482 (W) X 44 (H) X 335 (D) mm
Weight	3.2 kg
Accessory	Power cable (YA-301 or YA-313)



FV-200CA Amplifier Changeover Panel	
Power Source	24 V DC (operating range : 21.6 - 26.4 V), M3 screw terminal
Current Consumption	240 mA
No. of Input Channel	6 Duty Amplifier, 1 Standby Amplifier
No. of Output Channel	6 Output
Failure Detection	Fault Buzzer with buzzer control switch
LED Indicator	Power (Green), Changeover (Orange), Fault / Buzzer Control (Red)
Operating Temperature	0 °C to +40 °C
Operating Humidity	Under 90% RH (no condensation)
Finish	Front Panel : Aluminum, black, alumite
Dimensions	482 (W) X 44 (H) X 343.8 (D) mm
Weight	2.6 kg
Accessory	Removable terminal plug (2 pins) x 3, removable terminal plug (8 pins) x 4



RM-200M Remote Microphone	
Power Source	24 V DC (operating range: 14 - 28 V DC) Power input jack : Non-polarity type Usable power input plug ¹ : Outer diameter ϕ 5.5 mm, inner diameter ϕ 2.1 mm, length 9.5 mm
Current Consumption	100 mA or less
Audio Output	0 dB ² , 600 Ω , balanced
Frequency Response	100 Hz - 20 kHz
Distortion	1% or less
S/N Ratio	60 dB or more
Microphone	Unidirectional electret condenser microphone
Function Key	Key numbers : 11 Function : Selecting zone from 1-10 and select "All Call"
Volume Control	Microphone volume control
Connection and Cable Connector	Category 5 Shielded Twisted-Pair straight cable, RJ45 connector
Finish	ABS resin, blueish gray (PANTONE 538 or its equivalent)
Dimensions	190 (w) x 76.5 (h) x 215 (d) mm (Gooseneck microphone excluded)
Weight	750 g
Accessory	Link cable (3 m) x 1
Option	Wall-Mounting Bracket : WB-RM200

¹ Use AC adapter AD-246 or equivalent

² 0 dB = 1 V

RM-210 Remote Microphone Extension	
Current Consumption	20 mA max. (in terms of RM-200M's DC power input)
Connection	Connection to RM-200M by way of dedicated cable
No. of Function Keys	10
Finish	ABS resin, blueish gray (PANTONE 538 or its equivalent)
Dimensions	110 (w) x 76.5 (h) x 215 (d) mm
Weight	350 g
Accessory	Extension cable x 1, Linkage bracket A x 2, Linkage bracket B x 1, Screw for linkage bracket x 12
Option	Wall-Mounting Bracket : WB-RM200

Other System Components

Desktop Sound Repeater
EV-20R



Program Timer
TT-208



Monitor Panel
MP-210



Emergency Power Supply
VX-2000DS



TOA Electronics Pte Ltd
www.toa.com.sg

Specifications are subject to change without notice.
Printed in Singapore (65) 865-0417-02B

