



Sistem Tata Suara

Ruang Lingkup Sekolah



Pentingnya pengaturan dan pemilihan sistem tata suara sekolah yang tepat membantu proses belajar mengajar berjalan lebih baik, serta tepat guna. Mendukung pelajar dalam belajar merupakan tujuan utama dari kami.

Sistem komunikasi yang baik akan mendukung proses belajar di sekolah. Berikut ini beberapa sistem tata suara TOA untuk ruang lingkup sekolah.



1 Ruang kontrol peralatan sound sistem sekolah

School Digital Amplifier SA-60D-AS 1



Model	SA-60D-AS 1
Power Source	220-240V AC, 50/60 Hz
Rated Output	60W
Power Consumption	100 W (rated output), 18 W (EN60065)
Frequency Response	20 Hz – 20 kHz
Input	MIC 1, 2: -52 dB*, 600 Ω, unbalanced, φ6.3 phone jack (2P) AUX 1, 2: -20 dB*, 10 kΩ, unbalanced, RCA pin jack
Output	Speaker out: Low impedance (2 x 8 Ω or 1 x 4 Ω), Push-in terminal
S/N Ratio	MIC 1, 2: 60 dB or more ; AUX 1, 2: 70 dB or more
Indicator	Power LED (Blue)
Finish	Case: Steel plate, off-white, paint / Knob: ABS resin, black
Dimensions	210(W) x 70.6(H) x 180(D) in mm
Weight	1.6kg

(*1)0dB=1V

Digital Mixer Amplifier ZA-3224D-AS 1



Digital Mixer Amplifier with MP3 and Zones ZA-3224DMZ-AS 1 ZA-3248DMZ-AS 1



Model	ZA-3224D-AS 1	ZA-3224DMZ-AS 1	ZA-3248DMZ-AS 1
Power Source	100-240V AC, 50/60Hz or 24V DC		
Power Consumption (EN60065)	62W		99W
Rated Output	240W		480W
Input	MIC 1: 1mV (-60dB*), 600Ω, Balanced, Phone Jack, selectable to RJ45 with echo function MIC 2 - 3: 1mV (-60dB*), 600Ω, Balanced, phone jack MIC 4: 1mV (-60dB*), 600Ω, Balanced, phone jack, selectable to AUX 1 AUX 1: 100mV (-20dB*), 10kΩ, Unbalanced, RCA pin jack, selectable to MIC 4 AUX 2: 100mV (-20dB*), 10kΩ, Unbalanced, RCA pin jack	MIC 1: 1mV (-60dB*), 600Ω, Balanced, phone jack, selectable to RJ45 MIC 2 - 3: 1mV (-60dB*), 600Ω, Balanced, phone jack MIC 4: 1mV (-60dB*), 600Ω, Balanced, phone jack, selectable to AUX 1 AUX 1: 100mV (-20dB*), 10kΩ, Unbalanced, RCA pin jack, selectable to MIC 4 AUX 2: 100mV (-20dB*), 10kΩ, Unbalanced, RCA pin jack MP3: LED Display, Support USB, SD / MMC card (up to 32GB), Bluetooth, Radio FM, Record	
Output	Speaker output in screw type terminal		
Speaker Out:	Speaker output in screw type terminal		
Direct Line(Selectable):	42Ω (100 V) or 4 Ω		21Ω (100V) or 4Ω
Rec Out:	0dB*, 600Ω, Unbalanced, RCA pin jack		
Zone Selection:	5 zones selector (all zones simultaneously selectable)		
Phantom Power	DC +21V (MIC 1)		
Frequency Response	50Hz – 20000Hz		
Tone Control	Bass: ±10dB at 100Hz / Treble: ±10dB at 10000Hz		
Dimensions	420(W) x 100.9(H) x 357(D)in mm		
Weight	5.1kg	5kg	

(*1)0dB=1V

Chime Microphone ZM-380C-AS



Model	ZM-380C-AS
Element	Condenser Microphone (with 4-Tones Chime (Up/Down))
Polar Pattern	Cardioid
Rated Impedance	600Ω, Balanced
Rated Sensitivity	-41dB ±3dB (1kHz,0dB=1V/Pa)
Power	6V DC (4x*AA Batteries) or DC adapter (9-24V)
Frequency Response	50-18kHz
Dimensions	110(W) x 145(L) x 532(H) in mm
Weight	558g (excludes batteries)

Speaker Selector Z-SS1010R



Model	Z-SS1010R
Voltage Source	24V DC
Current Consumption	0.4A DC
Input	10 Inputs BGM / Paging 1 Link as input / output
Output	10 Outputs with 3 wire R-H-C Each output max 480W
Indicator Led	10 BGM selector LEDs 10 Paging selector LEDs 1 All Call LED
Dimensions	420(W) x 44(H) x 320(D) in mm
Weight	3.2kg



2

Ruangan-ruangan dalam sekolah

Ruang Kelas, Ruang Administrasi, Ruang Kesehatan, Lorong dalam Sekolah

Foreground Music Speaker System

ZS-F1300BM/WM



ZS-F2000BM/WM



Model	ZS-F1300BM/WM	ZS-F2000BM/WM
Rated Input	30W	60W
Rated Impedance	100V Line: 330Ω(30W), 1kΩ(10W), 3.3kΩ(3W), 10kΩ(1W) 70V Line: 170Ω(30W), 330Ω(15W), 1kΩ(5W), 3.3kΩ(1.5W), 10kΩ(0.5W)	100V Line: 170Ω(60W), 330Ω(30W), 670Ω(15W), 3.3kΩ(3W) 70V Line: 83Ω(60W), 170Ω(30W), 330Ω(15W), 670Ω(7.5W), 3.3kΩ(1.5W)
Sound Pressure Level (1W/1m)	90dB	92dB
Frequency Response	80-20.000Hz, -10dB installation in 1/2 free sound field	65-20.000Hz, -10dB installation in 1/2 free sound field
Speaker Component	Low: 13cm cone, High: Balanced dome tweeter	Low: 20cm cone, High: 2.5cm dome tweeter
Dimensions	162(W) x 250(H) x 161(D) in mm	244(W) x 373(H) x 235(D) in mm
Weight	3.6kg (including the supplied brackets)	7.4kg (including the supplied brackets)
Finish	Enclosure: HIPS resin, black or white; Punched net: Surface-treated steel plate, black or white, paint	

Box Speaker

ZS-062



Universal Speaker

ZS-1030B/W



Model	ZS-062
Rated Input (100V line)	6W
Frequency Response	100-12.000Hz
Sound Pressure Level (1W/1m)	90dB
Speaker Component	12cm Dynamic Speaker
External Dimensions	290(W) x 214(H) x 150(D) in mm
Weight	2.1kg
Material	Enclosure: Wood, Grille: Cloth
Color	Enclosure: Light Gray, Grille: Light Gray

Model	ZS-1030B/W
Rated Input	30W
Rated Impedance	8Ω 100V line: 330Ω(30W), 500Ω(20W), 670Ω(15W), 1kΩ(10W), 2kΩ(5W); 70V line: 170Ω(30W), 250Ω(20W), 330Ω(15W), 500Ω(10W), 1kΩ(5W)
Sound Pressure Level	90dB (1W, 1m)
Frequency Response	70Hz-20kHz
Speaker Component	12cm dynamic speaker + 2.5cm dome tweeter
Finish	Enclosure: ABS resin, black or white Grille: Surface treated steel plate, black or white, powder coating
Dimension	196(W) x 290(H) x 150(D) in mm
Weight	2.5kg

Flush Mount Ceiling Speaker
ZS-648R / ZS-658R

NEW



Model	ZS-648R	ZS-658R
Rated Output	6W	
Impedance	100V Line: 1.7kΩ(6W), 3.3kΩ(3W), 10kΩ(1W)	
Frequency Response	100-18.000Hz	65-18.000Hz
Sensitivity	90dB	
Speaker Component	12cm(5") Cone Type	16cm(6") Cone Type
Dimensions for Fixing Hole	Mounting hole: $\phi 145 \pm 5$ mm	Mounting hole: $\phi 170 \pm 5$ mm
	Ceiling thickness: 5 - 25mm (0.2" - 0.98")	
Speaker Mounting Method	Spring Clamp	
Finish	Baffle: Polypropylene resin, white (RAL 9016 equivalent)	
	Grille: Surface-treated steel plate net, white (RAL 9016 equivalent), paint	
Dimensions	$\phi 168 \times 77$ (D) mm	$\phi 192 \times 73$ (D) mm
Weight	470g	500g

Window Intercom System
NF-2S



Model	NF-2S
Power Source	100-240V AC, 50/60Hz (use of the supplied AC adapter)
Rated Output	1.7W
Current Consumption	0.2A
Signal to Noise Ratio	73dB or more (vol: min); 70dB or more (vol: max)
Mic Input	-30dB(*2) $\phi 3.5$ mm mini jack(4P), phantom power supply
Speaker Output	16 Ω $\phi 3.5$ mm mini jack(4P)
Control Input	External mute input: No-voltage make contact inputs, open voltage: 9V DC or less, short-circuit current: 5mA or less, push in terminal block(2 pins)
Finish	Base Unit: Case: ABS resin, white, paint;
	Panel: ABS resin, black, paint Sub Unit: ABS resin, white, paint
Dimensions	Base Unit: 127(W) x 30(H) x 137(D)in mm
	Sub Unit: 60(W) x 60(H) x 22.5(D)in mm
Weight	Base Unit: 225g ; Sub Unit: 65g



3 Auditorium / Aula / Gedung Serbaguna

Subwoofer
Z-120BFB/WFB

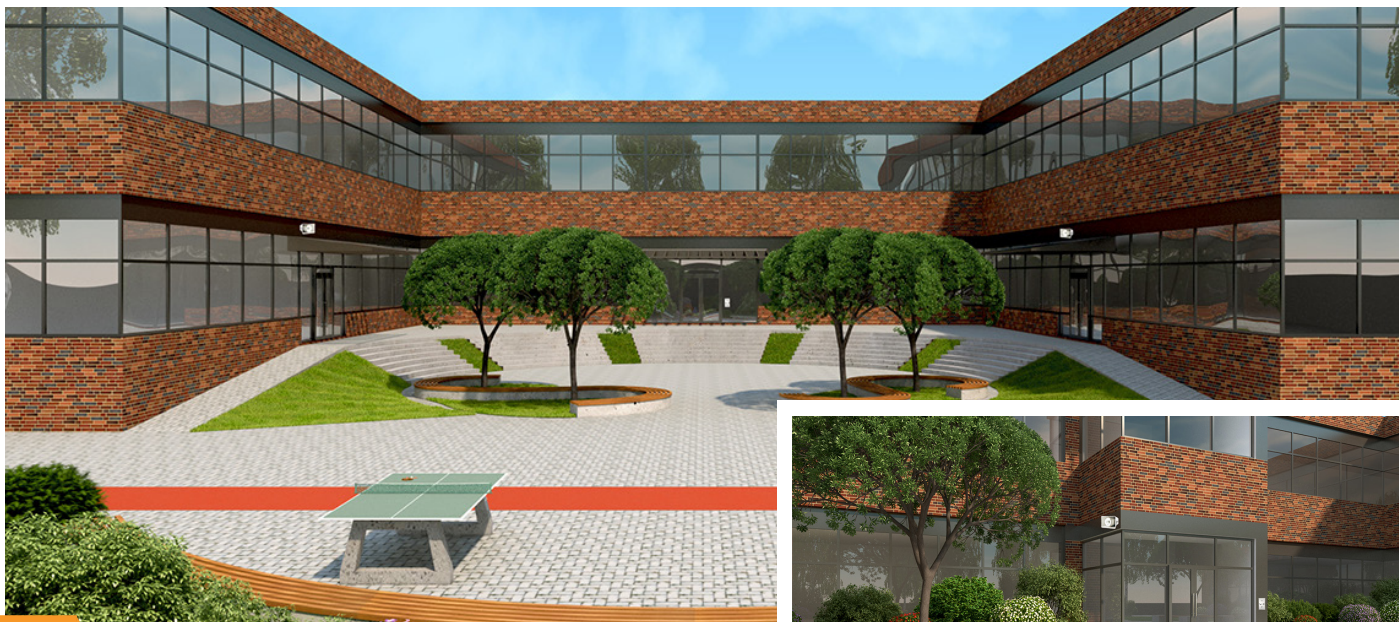


Model	Z-120BFB/WFB
Power Handling Capacity	Continuous pink noise: 200W, Continuous program : 600W
Sound Pressure Level (1W,1m)	90dB
Rated Impedance	8 Ω
Frequency Response	40-1.2kHz (-10dB)
Speaker Component	30cm cone-type
Input Connector	Speakon NL4MP x 2 and M4 screw terminal, distance between barriers: 11mm
Finish	Enclosure: Plywood. Punched Net: Steel plate, black/white, paint
Dimensions	408(W) x 408(H) x 450(D) in mm
Weight	15kg

Variable Dispersion Speaker
Z-5B/W-HX2



Model	Z-5B/W-HX2
Enclosure	Bass-reflex type
Power Handling Capacity	Continuous: 200W, Program: 400W (IEC 60268-5)
Rated Impedance	8 Ω
Sound Pressure Level (1W/1m)	90dB (60°mode), 97dB (45°mode), 98dB ((30°mode), 99dB(15°mode)*
Frequency Response	70Hz-20kHz (-10dB)(60°mode), 75Hz-20kHz (-10dB)(45°mode), 80Hz-20kHz (-10dB)(30°mode), 85Hz-20kHz (-10dB)(15°mode),
Crossover Frequency	4kHz
Directivity Angle	Horizontal: 100° (2kHz or more); Vertical: 60° (800Hz or more), 45° (1.2kHz or more), 30° (1.6kHz or more), 15° (3.2kHz or more)
Speaker Component	Low Frequency: 12cm cone-type x4, High Frequency : Balanced dome type x12
Dimensions	408(W) x 546(H) x 342(D) in mm
Weight	16kg
Finish	Enclosure: Polypropylene, black/white; Punched Net: Surface- treated steel plate, black/white



4 Area Lapangan Sekolah (Luar Ruangan)

Wireless Meeting Amplifier ZW-G10CB-AS



Paging Horn Speaker ZH-615SM



Model	ZW-G10CB-AS
Power Source	AC In: 220-240V, 50/60Hz; DC In: 12V 1A, Max.18V; DC: 12V/2.3Ah (Rechargeable Battery)
Power Consumption	AC: 20W, 0.1A(at Rated Output); DC: 30W, 1.6A (at Output Power Max)
Frequency Response	60Hz-20kHz,±3dB
Input	Mic1&2:-40dB* Unbalanced 5kΩ, 2 Pole-Phone Jack; Aux in : -20dB*, Unbalanced 10kΩ, RCA Pin Jack
Output	Audio Out: -25dB*, Unbalanced 40kΩ, RCA Pin Jack, Speaker Out: 8-16Ω, RCA Pin Jack
Speaker	6" Cone(150mm),4Ω, Full Range
Dimensions	234(W) x 341(H) x 180(D) in mm
Weight	3.8kg

*0dB=1V

Model	ZH-615SM
Rated Input	15W
Rated Impedance	100V Line: 15W,10W,5W,3W
Sound Pressure Level (1W,1m)	≥109dB
Frequency Response	280-12.5kHz
Dimensions	222(W) x 179(L) x 234(H) in mm
Weight	1.3kg

Wireless Tunner ZW-T502H-AS



2-Way Weatherproof Loudspeaker System ZS-760B/W-AS



Model	ZW-T502H-AS
Power Source	AC Adapter: 100-240V AC, 50/60Hz
Power Consumption	200mA (13.5V DC, when operating with two tuner modules)
Receiving Frequency	488MHz - 506MHz
Audio Output	Mixed Audio: 0dB(*1), 5kΩ, unbalanced, phone jack Balance A: 0dB(*1), 10kΩ, balanced, XLR-3-32 type connector Balance B: 0dB(*1), 10kΩ, balanced, XLR-3-32 type connector
Indicator	RF-AF (CH-A), RF-AF (CH-B), LCD-Display
Signal to Noise Ratio	102dB or more (A-weight, balanced output)
Frequency Response	40Hz - 18kHz
Dimensions	200(W) x 44(H) x 184(D) in mm
Weight	380g (without microphone)

(*1)0dB=1V

Model	ZS-760B/W-AS
Rated Input	60W (high impedance)
Rated Impedance	100V Line: 170Ω (60W), 330Ω (30W), 670Ω (15W), 1.3kΩ (7.5W) 70V Line: 83Ω (60W), 170Ω (30W), 330Ω (15W), 670Ω (7.5W)
Sensitivity	100dB
Maximum SPL (60W,1m)	117dB
Frequency Response	100Hz - 20 kHz
Crossover Frequency	2.5 kHz
Directivity Angle	Horizontal: 90°; Vertical : 80°
Speaker Component	Low Frequency: 16 cm (6") cone-type High Frequency: 2.5 cm (1") dome tweeter
Dust/Water Protection	IP66
Connection	Speaker cord (Hot: Black; Com: White)
Finish	Enclosure: ABS, Black or White, Paint Coating Punched Net: Surface-treated Steel Plate, Black or White, Paint Coating Bracket: Stainless Steel, Black or White, Powder Coating
Dimensions	388(W) x 310(H) x 367(D) in mm
Weight	7.4kg

Hand Grip Megaphone with Siren Signal ZR-3215S



Shoulder Megaphones with Siren ZR-2015S



Model	ZR-3215S
Rated Output	15W
Power Source	R14P (C) × 6 batteries (9 V DC)
Audible Range	Voice: Approx. 400m, Siren: Approx.500m
Battery Life	Voice: Approx.9 hours, Siren: Approx 20 minutes
Dimensions	210(W) × 291(H) × 381(D) in mm (when attaching the microphone)
Weight	1.15kg(without batteries and microphone)
Microphone Weight	150g

Model	ZR-2015S
Rated Output	15W
Power Source	9V DC R14P (SUM-2)/"C" Batteries 6pcs
Audible Range	Voice: Approx. 400m, Siren: Approx.500m
Sirene Mode	Pust to Talk, override the sirene signal
Outer Horn Diameter	210mm
Length	310mm
Weight	980g
Microphone Weight	130g (cable excluded)
Color	Off-white

Personal PA System ER-1000A-BK



Model	ER-1000A-BK
Power Source	Alkaline Battery (LR6): 6 pieces (9 V DC) or 4 pieces*1 (6 V DC) Rechargeable nickel metal hydride (Ni-MH) battery (HR15/51): 6 pieces (7.2 V DC) or 4 pieces*1 (4.8V DC)
Output	6 W (rated) and 10 W (max) when 6 AA batteries (9 V DC) are used 3 W (rated) and 4 W (max) when 4 AA batteries*1 (6 V DC) are used
Audible Range *2	Voice operation: Approx. 100m (328.08ft) when 6 alkaline batteries or Ni-MH batteries are used) Approx.80m (262.47ft)(when 4(*1) alkaline batteries or Ni-MH batteries are used)
Battery Life	Voice operation (*3): Approx. 8 hours (when 6 or 4(*1) alkaline batteries are used) Approx. 7 hours (when 6 or 4(*1) Ni-MH batteries are used) AUX stereo input operation (music reproduction) (*4) Approx. 9 hours (when 6 or 4(*1) alkaline batteries are used) Approx. 9 hours (when 6 or 4(*1) Ni-MH batteries are used)
Frequency Response	300 Hz – 14 kHz (deviation: -26 dB)
Headset Microphone	Ear-on type, electret condenser microphone, sensitivity: -47dB(0dB=1V/1Pa, 1 kHz)
Input	MIC : -30 dB(*5), 3 kΩ, φ3.5 monaural mini-jack, phantom power supply. AUX(*6) : -10 dB(*5) , 2 kΩ, φ3.5 stereo mini-jack (supporting monaural applications(*7))
Belt Length	55-120cm (*8)
Finish	Front Case: ABS Resin, black ; Rear Case: ABS Resin, gray; Grille: Surface-treated steel plate, black, paint Belt: Elastic rubber, black
Dimensions	133(W) × 96(H) × 222(D) in mm (belt excluded)
Weight	Main PA unit (belt included, batteries excluded): 480g; Headset microphone: 50g

*1: When the supplied battery spacers are used.

*2: Audible range is measured on a quiet street with the Personal PA System loaded with fresh batteries. Range varies depending on surrounding environmental conditions, such as battery consumption, ambient noise levels, wind direction and obstacles. Reference standard: JEITA (Japan Electronics and Information Technology Industry Association)JT-4501D

*3: Battery life during voice output usage represent the period of time when the Personal PA system is continuously used with the volume control set to a position that does not cause feedback. Reference standard: JEITA (Japan Electronics and Information Technology Industry Association)JT-4501D

*4: Battery life during AUX stereo input represent a value actually measures when music is continuously reproduced with a commercial audio player connected to the auxiliary (AUX) input internal. It varies depending on the connected external equipment's volume output or the type of music source.

*5: 0dB = 1V

*6: Adjust the volume of the auxiliary (AUX) input at the connected external device.

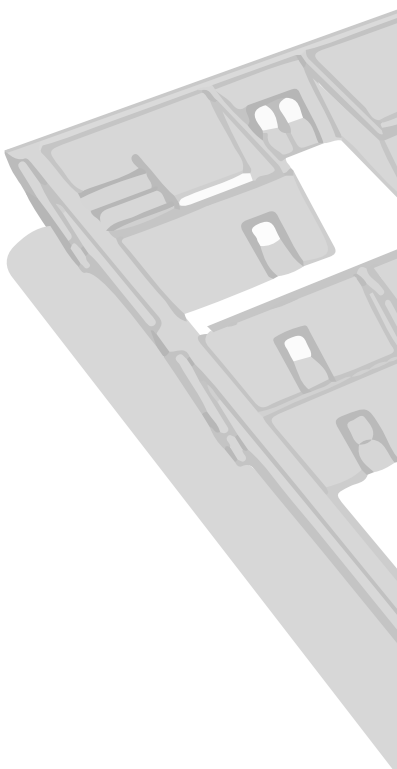
*7: Volume during monaural operation is smaller than during stereo operation.

*8: The 120cm (3.94ft) length is when the belt is stretched out to its maximum extent. When worn, consider a belt length of 100cm (3.28ft) (of waist size when clothes are worn) as a rule-of-thumb standard.

Note: Prepare batteries separately, as they are not supplied with the product.



Scan for more info



TOA
Smiles for the Public

Specifications are subject to change without notice.