

ANNEX 1 (Technical Specifications)

Category 1: Sound Setup for Auditorium (SN-01) Qty: 01

Equipments and Specification of items

1. Hand-held Microphone Set (Qty: 2 sets)

	Minimum Requirements	Your brand and Specifications
Model	Shure SLXD24D/SM58 or equivalent	
Type	Dynamic, Wireless Hand-held Microphone	
Working Range	160 feet (50 meters)	
Battery Type	Rechargeable	
Battery Life	9 hours of continuous use or more	
Input Impedance (@ 1 kHz)	>20 k Ω	
Gain Adjustment Range	-25 to +15 dB (in 1 dB steps)	
Maximum Input Level (Mic gain @ -16 dB)	-9 dBV	
Antenna Type	Dual transmit antennas	
Charge	using an networked charging station	
Charge connector	USB 3.0	
Required	Each set should contain 2 hand-held Microphones and a compatible receiver	
Warranty	1 year hardware warranty	

2. Pin Microphone Set (Qty: 4 sets)

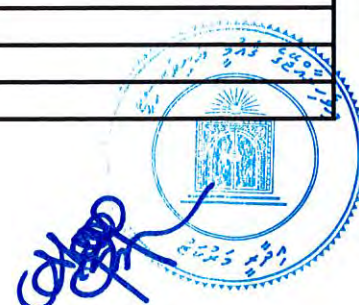
	Minimum Requirements	Your brand and Specifications
Model	Shure SLXD124/85 or equivalent	
Type	Pin microphone	
Working Range	160 feet (50 meters)	
Battery Type	Rechargeable	
Battery Life	9 hours of continuous use or more	
Input Impedance (@ 1 kHz)	>20 k Ω	
Gain Adjustment Range	-25 to +15 dB (in 1 dB steps)	
Maximum Input Level (Mic gain @ -16 dB)	-9 dBV	
Antenna Type	Internal, Spatial Diversity, Linear Polarization	
Charge	using an networked charging station	
Charge connector	USB 3.0	
Required	Each set should contain 2 Pin Microphones, 2 body packs and a compatible receiver	
Warranty	1 year hardware warranty	



3. Head Worn Microphone Set (Qty: 2 sets)		Your brand and Specifications
	Minimum Requirements	
Model	Shure SLXD 14/SM35 or equivalent	
Mic Type	Headworn (Headset)	
Frequency response	40 - 20 000 Hz	
Sensitivity	approximately -59 dBV/Pa	
Polar pattern	Omnidirectional	
Features	Adjustable to all head size Twist-proof microphone boom, can be attached to the left or right side should include a detachable cap as integral wind/popshield	
Power Requirements	Battery	
USB/Lightning Connectivity	1 X Micro-USB (Charging)	
Display & Indicators	1 X LED (Battery Status, Sync)	
Required	Each set should contain 2 Head worn Microphones, 2 body packs and a compatible receiver	
Warranty	1 year hardware warranty	

4. Microphone Charging Station (Qty: 2 sets)		Your brand and Specifications
	Minimum Requirements	
Model	Shure MXWNCS8 Networked Charging Station or equivalent	
Charge Time	2-3 hours	
Network Interface	10/100 Mbps Ethernet	
number of ports	8 or above	
Power Requirement	15 V DC @ 3.3 A maximum, supplied by external power supply (tip positive), rechargeable battery	
Other features	Overcharge protection, charge status indication	
Warranty	1 year hardware warranty	

5. 12-Channel Analog Mixer (Qty: 1)		Your brand and Specifications
	Minimum Requirements	
Model	Yamaha MG12XUK 12-Channel Analog Mixer or equivalent	
Format		
Analog/digital:	Analog	
Number of channels:	12	
Busses/groups:	1 Stereo Bus	
Aux sends:	1	
Powered:	No	



Inputs		
Total inputs:		12
Mic preamps:		6
XLR/TRS combo jacks:		6
XLR only jacks:		0
1/4" only jacks:	3 Stereo	
S/PDIF in:		0
ADAT/optical in:		0
RCA in:	2 Stereo	
AES/EBU:		0
Outputs		
Total outputs:		5
XLR out:	1 Stereo	
1/4" out:	2 Stereo/1 Send/1 Stereo Monitor/1 Phones	
S/PDIF out:		0
ADAT/optical out:		0
RCA out:		0
AES / EBU:		0
Other Connectivity		
Connections:	USB	
MIDI I/O:	No	
Headphone output(s):		1
Wi-Fi:	No	
Word-clock I/O:	No	
I/O expansion:	Not Specified	
Onboard effects		
Compression:	Yes	
Reverb:	Yes	
Delay:	Yes	
Chorus/flange:	Yes	
Equalization		
Type:	Physical	
EQ bands:		3
Master graphic:	No	
Other		
Width:	12.4"	
Height:	3.6"	
Depth:	11.7"	
Weight:	6.62 lb.	
Automation:	No	
Fader type:	Rotary	
Motorized faders:	No	
Bundled software:	Yes	
Rackmountable:	Yes	
Warranty		
	1 year hardware warranty	



6. Dual Channel Power Amplifier (Qty: 1)		Your brand and Specifications
	Minimum Requirements	
Model	Yamaha PX5 Dual Channel 2x800W Lightweight Power Amplifier (220V-240V MODEL) or equivalent	
Output Power	1kHz non-clip, 20ms burst, both channels driven	
8 Ohms	500W x 2	
4 Ohms	800W x 2	
2 Ohms	500W x 2	
8 Ohms - Power Boost Mode	800W x 1	
4 Ohms - Power Boost Mode	1400W x 1	
Sampling Frequency Rate	48kHz	
A/D D/A Converters	24-bit linear, 128 times over sampling	
Total Harmonic Distortion		
1kHz, 10W	0.1-percent	
1kHz, Half Power	0.3-percent	
Frequency Response	20Hz - 20kHz (+/-1.0dB, 1W, 8 Ohms)	
S/N Ratio	100dB (A-weighted, 8 Ohms, Gain set to +14dBu)	
Crosstalk	<-60dB (half power, 8 Ohms, 1kHz, Vol. max. input, 150 Ohm shunt)	
Voltage Gain/Sensitivity	8 Ohm, Volume max.	
Gain Setting - 32dB	32.0dB/+6.3dBu	
Gain Setting - 26dB	26.0dB/+12.3dBu	
Gain Setting - +4dBu	34.3dB/+4dBu	
Gain Setting - +14dBu	26.3dB/+14dBu	
Voltage Gain/Sensitivity	8 Ohm, Volume max., Power Boost mode	
Gain Setting - 32dB	34.0dB/+6.3dBu	
Gain Setting - 26dB	28.0dB/+12.3dBu	
Gain Setting - +4dBu	36.3dB/+4dBu	
Gain Setting - +14dBu	26.3dB/+14dBu	
Maximum Input Voltage	+24dBu	
Input Impedance		
Balanced	20 k Ohms	
Unbalanced	10 k Ohms	
I/O Connectors		
Speaker Output Ports	Neutrik SpeakON NL4 x 2, Binding Post x 2 pairs, 1/4" TS Jack x 2	
Line Input	XLR-3-31 x 2, 1/4" TRS Jack x 2	
Others	USB 2.0 Standard-A Connector (Female) (for Save/Load, Speaker Preset update, Firmware update with USB memory), AC Inlet x 1 (with AC cord clamp)	



Indicators	POWER x 1 (Green), ALERT x 1 (Red), USB x 1 (Green), PROTECT x 2 (Red), CLIP/LIMIT x 2 (Red), SIGNAL x 2 (Green) (Auto LED OFF feature)	
Processors	Input Summing	
	D-CONTOUR (FOH, MAIN, MONITOR, OFF)	
	Delay (0 - 74ms)	
	HPF/LPF (cutoff frequency 20Hz - 20kHz with polarity control)	
	Speaker Processor (6-band PEQ + limiter + delay)	
Latency	1.5ms (analog input to speakers)	
Presets	8 x user amplifier presets (factory speaker presets for Yamaha passive speakers)	
Protection		
<i>Load Protection</i>		
Power Switch ON/OFF	Output Mute	
Output Voltage Protection	Over Voltage Limiter, user-configurable by wattage and speaker preset	
DC-Fault	Power Supply Shutdown (NOT restored automatically)	
<i>Amplifier Protection</i>		
Thermal	Output Limiter (restored automatically), Output Mute (restored automatically)	
Over Current	Output Mute (restored automatically)	
Over Voltage	Output Limiter (restored automatically)	
Integrated Power Limit	Output Limiter (restored automatically)	
<i>Power Supply Protection</i>		
Thermal	Output Limiter (restored automatically), Power Supply Shutdown	
Over Voltage	Power Supply Shutdown	
Over Current	Power Supply Shutdown	
Amplifier Class	Class-D, balanced output circuit (BTL)	
Cooling	16-step variable speed fan x 2, front to rear airflow	
Power Requirements	220V-240V, 50/60Hz	
Power Consumption		
<i>1/8 Max. Power, 4 Ohms</i>	230W (pink noise at all channels)	
<i>Idling, 4 Ohms</i>	55W	
Dimensions	480mm x 88mm x 388mm / 18-7/8" x 3-7/16" (2U) x 15-2/8" (W x H x	
Weight	6.9kg / 15.21lbs	
Warranty	1 year hardware warranty	



7. Accessories (Qty: 8 piece each)		Your brand and Specifications
Minimum Requirements		
Model	TS Cable	
Lenght	6 ft	
Connection Type	TS to TS	
Model	TRS Cable	
Lenght	6 ft	
Connection Type	TRS to TRS	
Model	XLR Cable	
Lenght	6 ft	
Connection Type	XLR Male to XLR Female	
Model	speakON Cable	
Lenght	30 Meters	
Connection Type	speakON to speakON	
Model	RCA Cable	
Lenght	3 Meters	
Connection Type	RCA to RCA	
Model	speakON to TS Cable	
Lenght	30 Meters	
Connection Type	speakON to TS Cable	
Model	RCA to AUX Cable	
Lenght	3 Meters	
Connection Type	RCA to AUX 3.5mm	
Model	AUX Cable	
Lenght	3 Meters	
Size	3.5mm	
Connection Type	AUX to AUX	



Category 2: Sound Setup for Auditorium (KC-01, BS-01, FE-01) Qty: 03

Equipments and Specification of items

Specifications for Microphone

1. Hand-held Microphone Set (Qty: 4 sets)

		Your brand and Specifications
	Minimum Requirements	
Model	Shure SLXD24D/SM58 or equivalent	
Type	Dynamic, Wireless Hand-held Microphone	
Working Range	160 feet (50 meters)	
Battery Type	Rechargeable	
Battery Life	9 hours of continuous use or more	
Input Impedance (@ 1 kHz)	>20 kΩ	
Gain Adjustment Range	-25 to +15 dB (in 1 dB steps)	
Maximum Input Level (Mic gain @ -16 dB)	-9 dBV	
Antenna Type	Dual transmit antennas	
Charge	using an networked charging station	
Charge connector	USB 3.0	
Required	Each set should contain 2 hand-held Microphones and a compatible receiver	
Warranty	1 year hardware warranty	

2. Pin Microphone Set (Qty: 4 sets)

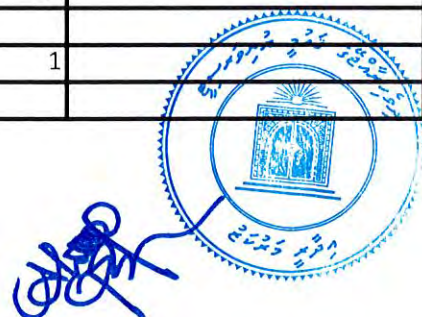
		Your brand and Specifications
	Minimum Requirements	
Model	Shure SLXD124/85 or equivalent	
Type	Pin microphone	
Working Range	160 feet (50 meters)	
Battery Type	Rechargeable	
Battery Life	9 hours of continuous use or more	
Input Impedance (@ 1 kHz)	>20 kΩ	
Gain Adjustment Range	-25 to +15 dB (in 1 dB steps)	
Maximum Input Level (Mic gain @ -16 dB)	-9 dBV	
Antenna Type	Internal, Spatial Diversity, Linear Polarization	
Charge	using an networked charging station	
Charge connector	USB 3.0	
Required	Each set should contain 2 Pin Microphones, 2 body packs and a compatible receiver	
Warranty	1 year hardware warranty	



3. Head Worn Microphone Set (Qty: 4 sets)		Your brand and Specifications
	Minimum Requirements	
Model	Shure SLXD 14/SM35 or equivalent	
Mic Type	Headworn (Headset)	
Frequency response	40 - 20 000 Hz	
Sensitivity	approximately -59 dBV/Pa	
Polar pattern	Omnidirectional	
Features	Adjustable to all head size Twist-proof microphone boom, can be attached to the left or right side should include a detachable cap as integral wind/popshield	
Power Requirements	Battery	
USB/Lightning Connectivity	1 X Micro-USB (Charging)	
Display & Indicators	1 X LED (Battery Status, Sync)	
Required	Each set should contain 2 Head worn Microphones, 2 body packs and a compatible receiver	
Warranty	1 year hardware warranty	


4. Microphone Charging Station (Qty: 4 sets)		Your brand and Specifications
	Minimum Requirements	
Model	Shure MXWNCS8 Networked Charging Station or equivalent	
Charge Time	2-3 hours	
Network Interface	10/100 Mbps Ethernet	
number of ports	8 or above	
Power Requirement	15 V DC @ 3.3 A maximum, supplied by external power supply (tip positive), rechargeable battery	
Other features	Overcharge protection, charge status indication	
Warranty	1 year hardware warranty	

5. 12-Channel Analog Mixer (Qty: 1)		Your brand and Specifications
	Minimum Requirements	
Model	Yamaha MG12XUK 12-Channel Analog Mixer or equivalent	
Format		
Analog/digital:	Analog	
Number of channels:	12	
Busses/groups:	1 Stereo Bus	
Aux sends:	1	
Powered:	No	



Inputs		
Total inputs:		12
Mic preamps:		6
XLR/TRS combo jacks:		6
XLR only jacks:		0
1/4" only jacks:	3 Stereo	
S/PDIF in:		0
ADAT/optical in:		0
RCA in:	2 Stereo	
AES/EBU:		0
Outputs		
Total outputs:		5
XLR out:	1 Stereo	
1/4" out:	2 Stereo/1 Send/1 Stereo Monitor/1 Phones	
S/PDIF out:		0
ADAT/optical out:		0
RCA out:		0
AES / EBU:		0
Other Connectivity		
Connections:	USB	
MIDI I/O:	No	
Headphone output(s):		1
Wi-Fi:	No	
Word-clock I/O:	No	
I/O expansion:	Not Specified	
Onboard effects		
Compression:	Yes	
Reverb:	Yes	
Delay:	Yes	
Chorus/flange:	Yes	
Equalization		
Type:	Physical	
EQ bands:		3
Master graphic:	No	
Other		
Width:	12.4"	
Height:	3.6"	
Depth:	11.7"	
Weight:	6.62 lb.	
Automation:	No	
Fader type:	Rotary	
Motorized faders:	No	
Bundled software:	Yes	
Rackmountable:	Yes	
Warranty		
	1 year hardware warranty	

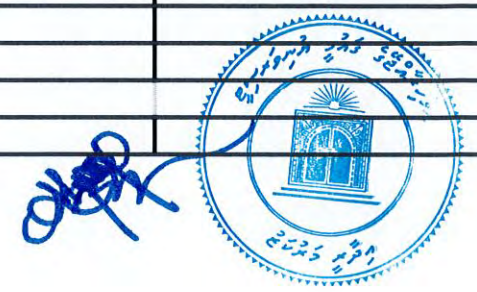


6. Dual Channel Power Amplifier (Qty: 1)		Your brand and Specifications
	Minimum Requirements	
Model	Yamaha PX5 Dual Channel 2x800W Lightweight Power Amplifier (220V-240V MODEL) or equivalent	
Output Power	1kHz non-clip, 20ms burst, both channels driven	
8 Ohms	500W x 2	
4 Ohms	800W x 2	
2 Ohms	500W x 2	
8 Ohms - Power Boost Mode	800W x 1	
4 Ohms - Power Boost Mode	1400W x 1	
Sampling Frequency Rate	48kHz	
A/D D/A Converters	24-bit linear, 128 times over sampling	
Total Harmonic Distortion		
1kHz, 10W	0.1-percent	
1kHz, Half Power	0.3-percent	
Frequency Response	20Hz - 20kHz (+/-1.0dB, 1W, 8 Ohms)	
S/N Ratio	100dB (A-weighted, 8 Ohms, Gain set to +14dBu)	
Crosstalk	<-60dB (half power, 8 Ohms, 1kHz, Vol. max. input, 150 Ohm shunt)	
Voltage Gain/Sensitivity	8 Ohm, Volume max.	
Gain Setting - 32dB	32.0dB/+6.3dBu	
Gain Setting - 26dB	26.0dB/+12.3dBu	
Gain Setting - +4dBu	34.3dB/+4dBu	
Gain Setting - +14dBu	26.3dB/+14dBu	
Voltage Gain/Sensitivity	8 Ohm, Volume max., Power Boost mode	
Gain Setting - 32dB	34.0dB/+6.3dBu	
Gain Setting - 26dB	28.0dB/+12.3dBu	
Gain Setting - +4dBu	36.3dB/+4dBu	
Gain Setting - +14dBu	26.3dB/+14dBu	
Maximum Input Voltage	+24dBu	
Input Impedance		
Balanced	20 k Ohms	
Unbalanced	10 k Ohms	
I/O Connectors		
Speaker Output Ports	Neutrik SpeakON NL4 x 2, Binding Post x 2 pairs, 1/4" TS Jack x 2	
Line Input	XLR-3-31 x 2, 1/4" TRS Jack x 2	
Others	USB 2.0 Standard-A Connector (Female) (for Save/Load, Speaker Preset update, Firmware update with USB memory), AC Inlet x 1 (with AC cord clamp)	
Indicators	POWER x 1 (Green), ALERT x 1 (Red), USB x 1 (Green), PROTECT x 2 (Red), CLIP/LIMIT x 2 (Red), SIGNAL x 2 (Green) (Auto LED OFF feature)	

Processors	Input Summing	
	D-CONTOUR (FOH, MAIN, MONITOR, OFF)	
	Delay (0 - 74ms)	
	HPF/LPF (cutoff frequency 20Hz - 20kHz with polarity control)	
	Speaker Processor (6-band PEQ + limiter + delay)	
Latency	1.5ms (analog input to speakers)	
Presets	8 x user amplifier presets (factory speaker presets for Yamaha passive speakers)	
Protection		
<i>Load Protection</i>		
Power Switch ON/OFF	Output Mute	
Output Voltage Protection	Over Voltage Limiter, user-configurable by wattage and speaker preset	
DC-Fault	Power Supply Shutdown (NOT restored automatically)	
<i>Amplifier Protection</i>		
Thermal	Output Limiter (restored automatically), Output Mute (restored automatically)	
Over Current	Output Mute (restored automatically)	
Over Voltage	Output Limiter (restored automatically)	
Integrated Power Limit	Output Limiter (restored automatically)	
<i>Power Supply Protection</i>		
Thermal	Output Limiter (restored automatically), Power Supply Shutdown	
Over Voltage	Power Supply Shutdown	
Over Current	Power Supply Shutdown	
Amplifier Class	Class-D, balanced output circuit (BTL)	
Cooling	16-step variable speed fan x 2, front to rear airflow	
Power Requirements	220V-240V, 50/60Hz	
Power Consumption		
<i>1/8 Max. Power, 4 Ohms</i>	230W (pink noise at all channels)	
<i>Idling, 4 Ohms</i>	55W	
Dimensions	480mm x 88mm x 388mm / 18-7/8" x 3-7/16" (2U) x 15-2/8" (W x H x	
Weight	6.9kg / 15.21lbs	
Warranty	1 year hardware warranty	

7. Accessories (Qty: 8 piece each)

		Your brand and Specifications
		Minimum Requirements
Model		TS Cable
Lenght	6 ft	
Connection Type	TS to TS	
Model		TRS Cable
Lenght	6 ft	
Connection Type	TRS to TRS	
Model		XLR Cable



Lenght	6 ft	
Connection Type	XLR Male to XLR Female	
Model	speakON Cable	
Lenght	30 Meters	
Connection Type	speakON to speakON	
Model	RCA Cable	
Lenght	3 Meters	
Connection Type	RCA to RCA	
Model	speakON to TS Cable	
Lenght	30 Meters	
Connection Type	speakON to TS Cable	
Model	RCA to AUX Cable	
Lenght	3 Meters	
Connection Type	RCA to AUX 3.5mm	
Model	AUX Cable	
Lenght	3 Meters	
Size	3.5mm	
Connection Type	AUX to AUX	



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Category 3: Sound Setup for Hall (FHS-01) Qty: 01

Equipments and Specification of items

Specifications for Microphone

1. Hand-held Microphone Set (Qty: 4 sets)

	Minimum Requirements	Your brand and Specifications
Model	Shure SLXD24D/SM58 or equivalent	
Type	Dynamic, Wireless Hand-held Microphone	
Working Range	160 feet (50 meters)	
Battery Type	Rechargeable	
Battery Life	9 hours of continuous use or more	
Input Impedance (@ 1 kHz)	>20 kΩ	
Gain Adjustment Range	-25 to +15 dB (in 1 dB steps)	
Maximum Input Level (Mic gain @ -16 dB)	-9 dBV	
Antenna Type	Dual transmit antennas	
Charge	using an networked charging station	
Charge connector	USB 3.0	
Required	Each set should contain 2 hand-held Microphones and a compatible receiver	
Warranty	1 year hardware warranty	

2. Pin Microphone Set (Qty: 4 sets)

	Minimum Requirements	Your brand and Specifications
Model	Shure SLXD124/85 or equivalent	
Type	Pin microphone	
Working Range	160 feet (50 meters)	
Battery Type	Rechargeable	
Battery Life	9 hours of continuous use or more	
Input Impedance (@ 1 kHz)	>20 kΩ	
Gain Adjustment Range	-25 to +15 dB (in 1 dB steps)	
Maximum Input Level (Mic gain @ -16 dB)	-9 dBV	
Antenna Type	Internal, Spatial Diversity, Linear Polarization	
Charge	using an networked charging station	
Charge connector	USB 3.0	
Required	Each set should contain 2 Pin Microphones, 2 body packs and a compatible receiver	
Warranty	1 year hardware warranty	



3. Head Worn Microphone Set (Qty: 4 sets)		Your brand and Specifications
	Minimum Requirements	
Model	Shure SLXD 14/SM35 or equivalent	
Mic Type	Headworn (Headset)	
Frequency response	40 - 20 000 Hz	
Sensitivity	approximately -59 dBV/Pa	
Polar pattern	Omnidirectional	
Features	Adjustable to all head size Twist-proof microphone boom, can be attached to the left or right side should include a detachable cap as integral wind/popshield	
Power Requirements	Battery	
USB/Lightning Connectivity	1 X Micro-USB (Charging)	
Display & Indicators	1 X LED (Battery Status, Sync)	
Required	Each set should contain 2 Head worn Microphones, 2 body packs and a compatible receiver	
Warranty	1 year hardware warranty	

4. Microphone Charging Station (Qty: 4 sets)		Your brand and Specifications
	Minimum Requirements	
Model	Shure MXWNCS8 Networked Charging Station or equivalent	
Charge Time	2-3 hours	
Network Interface	10/100 Mbps Ethernet	
number of ports	8 or above	
Power Requirement	15 V DC @ 3.3 A maximum, supplied by external power supply (tip positive), rechargeable battery	
Other features	Overcharge protection, charge status indication	
Warranty	1 year hardware warranty	

5. 12-Channel Analog Mixer (Qty: 1)		Your brand and Specifications
	Minimum Requirements	
Model	Yamaha MG12XUK 12-Channel Analog Mixer or equivalent	
Format		
Analog/digital:	Analog	
Number of channels:		12
Busses/groups:	1 Stereo Bus	
Aux sends:		1
Powered:	No	



Inputs		
Total inputs:		12
Mic preamps:		6
XLR/TRS combo jacks:		6
XLR only jacks:		0
1/4" only jacks:	3 Stereo	
S/PDIF in:		0
ADAT/optical in:		0
RCA in:	2 Stereo	
AES/EBU:		0
Outputs		
Total outputs:		5
XLR out:	1 Stereo	
1/4" out:	2 Stereo/1 Send/1 Stereo Monitor/1 Phones	
S/PDIF out:		0
ADAT/optical out:		0
RCA out:		0
AES / EBU:		0
Other Connectivity		
Connections:	USB	
MIDI I/O:	No	
Headphone output(s):		1
Wi-Fi:	No	
Word-clock I/O:	No	
I/O expansion:	Not Specified	
Onboard effects		
Compression:	Yes	
Reverb:	Yes	
Delay:	Yes	
Chorus/flange:	Yes	
Equalization		
Type:	Physical	
EQ bands:		3
Master graphic:	No	
Other		
Width:	12.4"	
Height:	3.6"	
Depth:	11.7"	
Weight:	6.62 lb.	
Automation:	No	
Fader type:	Rotary	
Motorized faders:	No	
Bundled software:	Yes	
Rackmountable:	Yes	
Warranty	1 year hardware warranty	



6. Dual Channel Power Amplifier (Qty: 1)		Your brand and Specifications
	Minimum Requirements	
Model	Yamaha PX5 Dual Channel 2x800W Lightweight Power Amplifier (220V-240V MODEL) or equivalent	
Output Power	1kHz non-clip, 20ms burst, both channels driven	
8 Ohms	500W x 2	
4 Ohms	800W x 2	
2 Ohms	500W x 2	
8 Ohms - Power Boost Mode	800W x 1	
4 Ohms - Power Boost Mode	1400W x 1	
Sampling Frequency Rate	48kHz	
A/D D/A Converters	24-bit linear, 128 times over sampling	
Total Harmonic Distortion		
1kHz, 10W	0.1-percent	
1kHz, Half Power	0.3-percent	
Frequency Response	20Hz - 20kHz (+/-1.0dB, 1W, 8 Ohms)	
S/N Ratio	100dB (A-weighted, 8 Ohms, Gain set to +14dBu)	
Crosstalk	<-60dB (half power, 8 Ohms, 1kHz, Vol. max. input, 150 Ohm shunt)	
Voltage Gain/Sensitivity	8 Ohm, Volume max.	
Gain Setting - 32dB	32.0dB/+6.3dBu	
Gain Setting - 26dB	26.0dB/+12.3dBu	
Gain Setting - +4dBu	34.3dB/+4dBu	
Gain Setting - +14dBu	26.3dB/+14dBu	
Voltage Gain/Sensitivity	8 Ohm, Volume max., Power Boost mode	
Gain Setting - 32dB	34.0dB/+6.3dBu	
Gain Setting - 26dB	28.0dB/+12.3dBu	
Gain Setting - +4dBu	36.3dB/+4dBu	
Gain Setting - +14dBu	26.3dB/+14dBu	
Maximum Input Voltage	+24dBu	
Input Impedance		
Balanced	20 k Ohms	
Unbalanced	10 k Ohms	
I/O Connectors		
Speaker Output Ports	Neutrik SpeakON NL4 x 2, Binding Post x 2 pairs, 1/4" TS Jack x 2	
Line Input	XLR-3-31 x 2, 1/4" TRS Jack x 2	
Others	USB 2.0 Standard-A Connector (Female) (for Save/Load, Speaker Preset update, Firmware update with USB memory), AC Inlet x 1 (with AC cord clamp)	



Indicators	POWER x 1 (Green), ALERT x 1 (Red), USB x 1 (Green), PROTECT x 2 (Red), CLIP/LIMIT x 2 (Red), SIGNAL x 2 (Green) (Auto LED OFF feature)	
Processors	Input Summing	
	D-CONTOUR (FOH, MAIN, MONITOR, OFF)	
	Delay (0 - 74ms)	
	HPF/LPF (cutoff frequency 20Hz - 20kHz with polarity control)	
	Speaker Processor (6-band PEQ + limiter + delay)	
Latency	1.5ms (analog input to speakers)	
Presets	8 x user amplifier presets (factory speaker presets for Yamaha passive speakers)	
Protection		
<i>Load Protection</i>		
Power Switch ON/OFF	Output Mute	
Output Voltage Protection	Over Voltage Limiter, user-configurable by wattage and speaker preset	
DC-Fault	Power Supply Shutdown (NOT restored automatically)	
<i>Amplifier Protection</i>		
Thermal	Output Limiter (restored automatically), Output Mute (restored automatically)	
Over Current	Output Mute (restored automatically)	
Over Voltage	Output Limiter (restored automatically)	
Integrated Power Limit	Output Limiter (restored automatically)	
<i>Power Supply Protection</i>		
Thermal	Output Limiter (restored automatically), Power Supply Shutdown	
Over Voltage	Power Supply Shutdown	
Over Current	Power Supply Shutdown	
Amplifier Class	Class-D, balanced output circuit (BTL)	
Cooling	16-step variable speed fan x 2, front to rear airflow	
Power Requirements	220V-240V, 50/60Hz	
Power Consumption		
<i>1/8 Max. Power, 4 Ohms</i>	230W (pink noise at all channels)	
<i>Idling, 4 Ohms</i>	55W	
Dimensions	480mm x 88mm x 388mm / 18-7/8" x 3-7/16" (2U) x 15-2/8" (W x H x	
Weight	6.9kg / 15.21lbs	
Warranty	1 year hardware warranty	



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7. Accessories (Qty: 8 piece each)		Your brand and Specifications
	Minimum Requirements	
Model	TS Cable	
Lenght	6 ft	
Connection Type	TS to TS	
Model	TRS Cable	
Lenght	6 ft	
Connection Type	TRS to TRS	
Model	XLR Cable	
Lenght	6 ft	
Connection Type	XLR Male to XLR Female	
Model	speakON Cable	
Lenght	30 Meters	
Connection Type	speakON to speakON	
Model	RCA Cable	
Lenght	3 Meters	
Connection Type	RCA to RCA	
Model	speakON to TS Cable	
Lenght	30 Meters	
Connection Type	speakON to TS Cable	
Model	RCA to AUX Cable	
Lenght	3 Meters	
Connection Type	RCA to AUX 3.5mm	
Model	AUX Cable	
Lenght	3 Meters	
Size	3.5mm	
Connection Type	AUX to AUX	

