

ARCHITECTS' & ENGINEERS' SPECIFICATIONS

Power Amplifier **XM4180**

► 120 V model

The power amplifier shall provide four channels of amplification. This amplifier shall draw 600 W or less at 1/8 rated power into 4 ohm loads. The power amplifier shall be capable of operation from a 120 V, 60 Hz line. The amplifier shall meet the following performance criteria. Power output with all channels driven shall be a minimum of 230 W per channel with a 4 ohm load, 180 W with an 8 ohm load, 300 W with 70 V high impedance speakers and 400 W bridged into an 8 ohm load. Total harmonic distortion (THD+N) shall be less than 0.1% at 20 Hz - 20 kHz, half power. Intermodulation distortion (IMD) shall be less than 0.1% using the SMPTE standard of 60 Hz and 7 kHz in a 4:1 ratio respectively with an 8 ohm load. Frequency response shall be from 20 Hz to 20 kHz (+0 dB, -0.5 dB) at 8 ohm, $P_o=1$ W. Residual noise at 20 Hz - 20 kHz shall be less than -73 dBu. Input shall be electronically balanced, with a minimum impedance of 20 kohm balanced and 15 kohm unbalanced. The voltage gain shall be 30 dB, and the input sensitivity shall be +4 dBu. Maximum input voltage shall be +22 dBu. The unweighted signal to noise ratio over the range of 20 Hz - 20 kHz shall exceed 103 dB, referenced to full output. Built-in protection circuitry shall monitor voltage and current levels to minimize potential damage from overloads, and disable output during shorts, DC offset, or excessive operating temperatures 90°C. The relay shall also delay amplifier connection to the load during turn-on for six seconds while the protection circuitry analyzes the load. In-rush current limiting shall minimize turn-on current surges when multiple units are powered-up remotely to prevent AC breaker overload. The amplifier shall employ forced-air cooling with dual temperature-controlled fans, variable in speed for minimum acoustic noise. Air flow shall be from front to rear. The front panel shall have a recessed AC power switch, LED indicator. The LED indicators shall indicate POWER, SIGNAL, PROTECT/MUTE and CLIP/LIMIT condition. The front-panel shall have four 31-step volume knobs (one per ch). 2 x Rear-panel mode switches shall provide three modes of input operation: Stereo, Bridged, and Parallel. In Parallel input mode, each channel's level shall be independently adjustable. The rear-panel shall have 12 dB/oct HPF switch ($f_c=20$ Hz or 55 Hz). Rear panel input connectors shall be a 3-pin detachable terminal block and a 3-pin XLR connector for each channel. The XLR input shall be wired with pin 2 hot. Rear panel output connectors shall be a 5-way binding posts. Dsub15P Data Port connectors shall allow remote control and monitoring. Isolation components shall be provided and output devices shall be mounted by individual screws to minimize sonic degradation caused by vibration. The amplifier shall conform to the latest EU RoHS hazardous substances and WEEE directives. It shall use only two standard rack-spaces and its dimensions shall be 480 mm W x 412.2 mm D x 88 mm H (18-7/8" x 16-1/4" x 3-7/16"). Weight shall be 10 kg (22 lbs). The amplifier shall be YAMAHA XM4180.

► 230 V model

The power amplifier shall provide four channels of amplification. This amplifier shall draw 600 W or less at 1/8 rated power into 4 ohm loads. The power amplifier shall be capable of operation from a 230 V, 50 Hz line. The amplifier shall meet the following performance criteria. Power output with all channels driven shall be a minimum of 230 W per channel with a 4 ohm load, 180 W with an 8 ohm load, 300 W with 70 V high impedance speakers and 400 W bridged into an 8 ohm load. Total harmonic distortion (THD+N) shall be less than 0.1% at 20 Hz - 20 kHz, half power. Intermodulation distortion (IMD) shall be less than 0.1% using the SMPTE standard of 60 Hz and 7 kHz in a 4:1 ratio respectively with an 8 ohm load. Frequency response shall be from 20 Hz to 20 kHz (+0 dB, -0.5 dB) at 8 ohm, $P_o=1$ W. Residual noise at 20 Hz - 20 kHz shall be less than -73 dBu. Input shall be electronically balanced, with a minimum impedance of 20 kohm balanced and 15 kohm unbalanced. The voltage gain shall be 30 dB, and the input sensitivity shall be +4 dBu. Maximum input voltage shall be +22 dBu. The unweighted signal to noise ratio over the range of 20 Hz - 20 kHz shall exceed 103 dB, referenced to full output. Built-in protection circuitry shall monitor voltage and current levels to minimize potential damage from overloads, and disable output during shorts, DC offset, or excessive operating temperatures 90°C. The relay shall also delay amplifier connection to the load during turn-on for six seconds while the protection circuitry analyzes the load. In-rush current limiting shall minimize turn-on current surges when multiple units are powered-up remotely to prevent AC breaker overload. The amplifier shall employ forced-air cooling with dual temperature-controlled fans, variable in speed for minimum acoustic noise. Air flow shall be from front to rear. The front panel shall have a recessed AC power switch, LED indicator. The LED indicators shall indicate POWER, SIGNAL, PROTECT/MUTE and CLIP/LIMIT condition. The front-panel shall have four 31-step volume knobs (one per ch). 2 x Rear-panel mode switches shall provide three modes of input operation: Stereo, Bridged, and Parallel. In Parallel input mode, each channel's level shall be independently adjustable. The rear-panel shall have 12 dB/oct HPF switch ($f_c=20$ Hz or 55 Hz). Rear panel input connectors shall be a 3-pin detachable terminal block and a 3-pin XLR connector for each channel. The XLR input shall be wired with pin 2 hot. Rear panel output connectors shall be a 5-way binding posts. Dsub15P Data Port connectors shall allow remote control and monitoring. Isolation components shall be provided and output devices shall be mounted by individual screws to minimize sonic degradation caused by vibration. The amplifier shall conform to the latest EU RoHS hazardous substances and WEEE directives. It shall use only two standard rack-spaces and its dimensions shall be 480 mm W x 412.2 mm D x 88 mm H. Weight shall be 10 kg. The amplifier shall be YAMAHA XM4180.

ARCHITECTS' & ENGINEERS' SPECIFICATIONS

Power Amplifier **XM4080**

► 120 V model

The power amplifier shall provide four channels of amplification. This amplifier shall draw 400 W or less at 1/8 rated power into 4 ohm loads. The power amplifier shall be capable of operation from a 120 V, 60 Hz line. The amplifier shall meet the following performance criteria. Power output with all channels driven shall be a minimum of 115 W per channel with a 4 ohm load, 80 W with an 8 ohm load and 230 W bridged into an 8 ohm load. Total harmonic distortion (THD+N) shall be less than 0.1% at 20 Hz - 20 kHz, half power. Intermodulation distortion (IMD) shall be less than 0.1% using the SMPTE standard of 60 Hz and 7 kHz in a 4:1 ratio respectively with an 8 ohm load. Frequency response shall be from 20 Hz to 20 kHz (+0 dB, -0.5 dB) at 8 ohm, $P_o=1$ W. Residual noise at 20 Hz - 20 kHz shall be less than -73 dBu. Input shall be electronically balanced, with a minimum impedance of 20 kohm balanced and 15 kohm unbalanced. The voltage gain shall be 26 dB, and the input sensitivity shall be +4 dBu. Maximum input voltage shall be +22 dBu. The unweighted signal to noise ratio over the range of 20 Hz - 20 kHz shall exceed 103 dB, referenced to full output. Built-in protection circuitry shall monitor voltage and current levels to minimize potential damage from overloads, and disable output during shorts, DC offset, or excessive operating temperatures 90°C. The relay shall also delay amplifier connection to the load during turn-on for six seconds while the protection circuitry analyzes the load. In-rush current limiting shall minimize turn-on current surges when multiple units are powered-up remotely to prevent AC breaker overload. The amplifier shall employ forced-air cooling with dual temperature-controlled fans, variable in speed for minimum acoustic noise. Air flow shall be from front to rear. The front panel shall have a recessed AC power switch, LED indicator. The LED indicators shall indicate POWER, SIGNAL, PROTECT/MUTE and CLIP/LIMIT condition. The front-panel shall have four 31-step volume knobs (one per ch). 2 x Rear-panel mode switches shall provide three modes of input operation: Stereo, Bridged, and Parallel. In Parallel input mode, each channel's level shall be independently adjustable. The rear-panel shall have 12 dB/oct HPF switch ($f_c=20$ Hz or 55 Hz). Rear panel input connectors shall be a 3-pin detachable terminal block and a 3-pin XLR connector for each channel. The XLR input shall be wired with pin 2 hot. Rear panel output connectors shall be a 5-way binding posts. Dsub15P Data Port connectors shall allow remote control and monitoring. Isolation components shall be provided and output devices shall be mounted by individual screws to minimize sonic degradation caused by vibration. The amplifier shall conform to the latest EU RoHS hazardous substances and WEEE directives. It shall use only two standard rack-spaces and its dimensions shall be 480 mm W x 412.2 mm D x 88 mm H (18-7/8" x 16-1/4" x 3-7/16"). Weight shall be 9.8 kg (21.6 lbs). The amplifier shall be YAMAHA XM4080.

► 230 V model

The power amplifier shall provide four channels of amplification. This amplifier shall draw 400 W or less at 1/8 rated power into 4 ohm loads. The power amplifier shall be capable of operation from a 230 V, 50 Hz line. The amplifier shall meet the following performance criteria. Power output with all channels driven shall be a minimum of 115 W per channel with a 4 ohm load, 80 W with an 8 ohm load and 230 W bridged into an 8 ohm load. Total harmonic distortion (THD+N) shall be less than 0.1% at 20 Hz - 20 kHz, half power. Intermodulation distortion (IMD) shall be less than 0.1% using the SMPTE standard of 60 Hz and 7 kHz in a 4:1 ratio respectively with an 8 ohm load. Frequency response shall be from 20 Hz to 20 kHz (+0 dB, -0.5 dB) at 8 ohm, $P_o=1$ W. Residual noise at 20 Hz - 20 kHz shall be less than -73 dBu. Input shall be electronically balanced, with a minimum impedance of 20 kohm balanced and 15 kohm unbalanced. The voltage gain shall be 26 dB, and the input sensitivity shall be +4 dBu. Maximum input voltage shall be +22 dBu. The unweighted signal to noise ratio over the range of 20 Hz - 20 kHz shall exceed 103 dB, referenced to full output. Built-in protection circuitry shall monitor voltage and current levels to minimize potential damage from overloads, and disable output during shorts, DC offset, or excessive operating temperatures 90°C. The relay shall also delay amplifier connection to the load during turn-on for six seconds while the protection circuitry analyzes the load. In-rush current limiting shall minimize turn-on current surges when multiple units are powered-up remotely to prevent AC breaker overload. The amplifier shall employ forced-air cooling with dual temperature-controlled fans, variable in speed for minimum acoustic noise. Air flow shall be from front to rear. The front panel shall have a recessed AC power switch, LED indicator. The LED indicators shall indicate POWER, SIGNAL, PROTECT/MUTE and CLIP/LIMIT condition. The front-panel shall have four 31-step volume knobs (one per ch). 2 x Rear-panel mode switches shall provide three modes of input operation: Stereo, Bridged, and Parallel. In Parallel input mode, each channel's level shall be independently adjustable. The rear-panel shall have 12 dB/oct HPF switch ($f_c=20$ Hz or 55 Hz). Rear panel input connectors shall be a 3-pin detachable terminal block and a 3-pin XLR connector for each channel. The XLR input shall be wired with pin 2 hot. Rear panel output connectors shall be a 5-way binding posts. Dsub15P Data Port connectors shall allow remote control and monitoring. Isolation components shall be provided and output devices shall be mounted by individual screws to minimize sonic degradation caused by vibration. The amplifier shall conform to the latest EU RoHS hazardous substances and WEEE directives. It shall use only two standard rack-spaces and its dimensions shall be 480 mm W x 412.2 mm D x 88 mm H. Weight shall be 9.8 kg. The amplifier shall be YAMAHA XM4080.