



XMA202 1/2-inch Preamplifier with High-Pass Filter

Features:

- Suitable for 1/2-inch pre-polarized microphone
- ICCP power supply preamplifier
- Frequency response: 40 Hz ~ 100 kHz (± 0.2 dB)
- Attenuation: 0.2 dB (typ.)
- Connector: BNC
- Optional TEDS (IEEE.1451.4)



Applications:

- General purpose acoustic measurements
- Environmental, industrial, traffic and other acoustic measurement

Introduction

XMA202 is 1/2-inch ICCP power supply preamplifier developed by BSWA, which is suitable for MP series 1/2-inch pre-polarized microphones. It is a general preamplifier that can be used in a variety of acoustic applications.

The main function of the preamplifier is impedance change, since the output impedance of the microphone is above G Ω , it cannot be directly connected to the common data acquisition equipment. The high input impedance and low output impedance of the preamplifier can reduce the output impedance of the microphone to less than 100 Ω .

XMA202 reduces the input impedance to 1.5 G Ω , making it more suitable for conventional measurement environments. Unlike laboratory settings, conventional measurement environments are often accompanied by low-frequency noise, which may interfere with the DC bias of the ICCP-powered preamplifier and thereby affect measurement accuracy. The capacitance of the microphone and the input impedance of the preamplifier are working together to form a first-order high-pass filter to remove the low-frequency noise effectively.

XMA202 does not provide polarization voltage, so it is only applicable to pre-polarized microphone. The power supply mode named ICCP (Integrated constant current power) can operate on a constant current power supply and give output signals in the form of voltage modulation on the coaxial cable. This kind of power supply mode can keep a very low signal attenuation even using a long cable. The MC1xx series power supply conditioner is required.

XMA202 can choose to supply with TEDS to support read microphone information directly by data acquisition equipment, including microphone model, serial number, sensitivity, etc. BSWA TEDS microphone supports the IEEE 1451.4 standard. The version of 0.9 is used by default to be compatible with more data acquisition equipment. The version of 1.0 can also be selected according to user's requirements.

Specifications

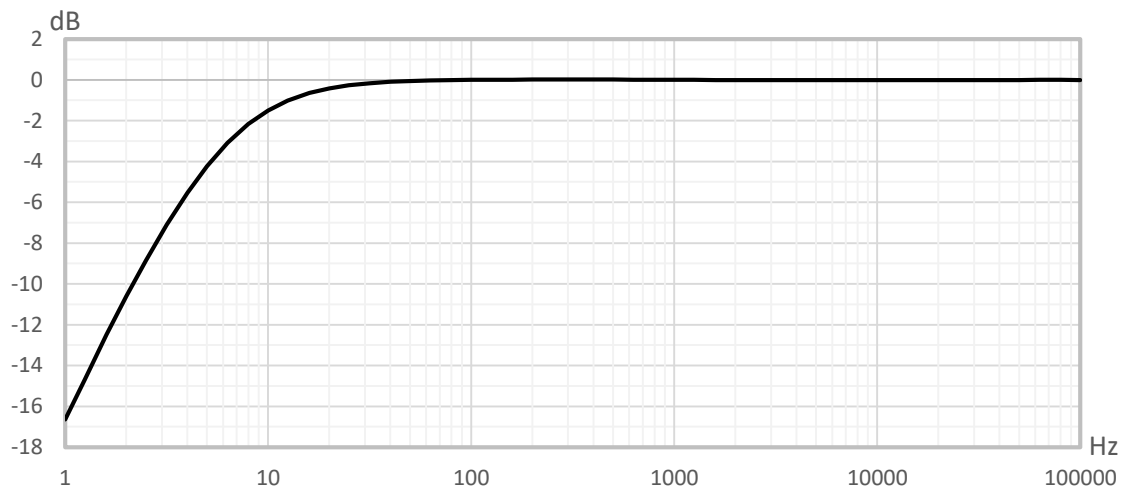
Diameter		1/2"
Polarization Voltage Support		0V (Prepolarized)
Frequency Response (Hz)		40 ~ 100 k (± 0.2 dB) 10 Hz to 100 kHz (+0.2 dB/-2 dB)
Attenuation (dB)		0.3 (typ.)
Maximum Output Voltage (Vp)		± 8
Self-generated	A-weighted	<3.5 μ V (2.8 μ V typ.)
Noise	20 Hz ~ 20 kHz	<23 μ V (13.5 μ V typ.)
Input Impedance (G Ω pF)		1.5 0.4



Output Impedance (Ω)	<30 (26 typ.)
Power Supply	ICCP (2mA ~ 20mA, 4mA typ.)
DC Bias Voltage (V)	12 $\pm$ 2
Operating Temperature Range ($^{\circ}$ C)	-30 ~ 80
Operating Humidity Range (%RH)	0 ~ 95
Dimensions (mm)	$\varnothing 12.7 \times 70.3$
Mounting Thread for Microphone	11.7 mm-60 UNS
Output Connector	BNC
Weight (g)	25.1
TEDS	Optional, IEEE 1451.4 compliant (default v0.9, optional v1.0)

Note: Unless specified otherwise, all values were measured at 23 $^{\circ}$ C, 101.3 kPa, 50 %RH by using 1 meters coaxial cable, 4 mA / 24 V power supply and microphone capacitance of 15 pF.

Typical Frequency Response



Dimensions

