

Product Data

Microphone Multiplexer — Type 2822

USES:

- 12-channel microphone multiplexer
- General purpose multichannel microphone power supply in multichannel systems
- Sound power measurements

FEATURES:

- Mains driven power supply for Brüel & Kjær Microphones and Preamplifiers (except Type 2660)
- Manual or IEEE-488 interface control of channel selection

- 12 channels with Brüel & Kjær 7-pin preamplifier inputs and BNC AC outputs for use in multichannel systems
- BNC multiplexer output for AC output of the signal from a selected channel
- Pseudo-balanced output to avoid ground loops
- Option for rack-mounting available
- EMC: complies with FCC class B, CISPR 22 class B, EN 50081-1 (EN 55022), EN 50082-1, EN 50082-2
- Optional Modification Type 2822/WH 3173 available for external channel control by Brüel & Kjær Analyzers

Microphone Multiplexer Type 2822 is a 12-channel IEEE-488 controlled multiplexer and microphone power supply. Channel selection is simply controlled by sending a single data byte over the interface or manually from the back panel.

The multiplexer is portable and can be used stand-alone, or it can be rack-mounted (kit available) for use in multichannel measurement systems.

Description

Microphone Multiplexer Type 2822 is mains powered and housed in a robust, portable carrying case.

Type 2822 has 12 standard Brüel & Kjær input sockets, which are placed vertically in pairs on the front panel. In addition to signal and ground connections, these sockets provide a preamplifier voltage, a heater voltage and a polarization voltage (Fig. 3). The polarization voltage (0, 28 or 200 V) can be selected independently for each of the channels using the separate switches on the front panel.

The back panel of the multiplexer (Fig. 5) has 12 BNC output sockets for output of the AC signal from each of the channels. These outputs al-



ways carry the signal from the corresponding input, allowing the multiplexer to be used in multichannel measuring systems. The back panel also has a multiplexer output (BNC) which outputs the AC signal from the active channel, indicated by a lighted LED on the front panel.

Grounding

The use of multiple instruments in measurement systems can lead to

grounding problems. Type 2822 minimizes the probability of ground loops by transferring the input signal from each preamplifier input to the AC output via a differential buffer amplifier. Each differential buffer amplifier has an internal jumper which determines whether the signal ground for the AC output is connected directly to the chassis or whether it is connected via a low value resistor (43.2 Ω).

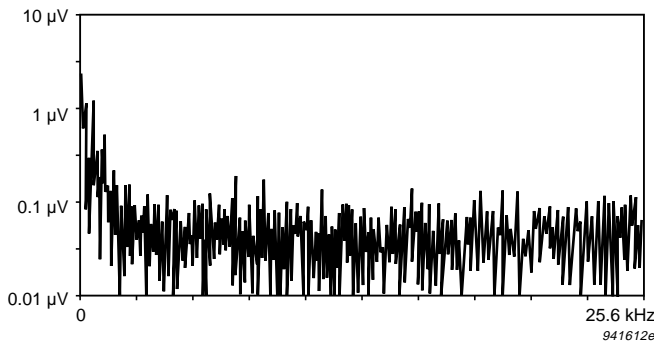


Fig.1 Typical noise curves for Type 2822: multiplexer output, input short-circuited

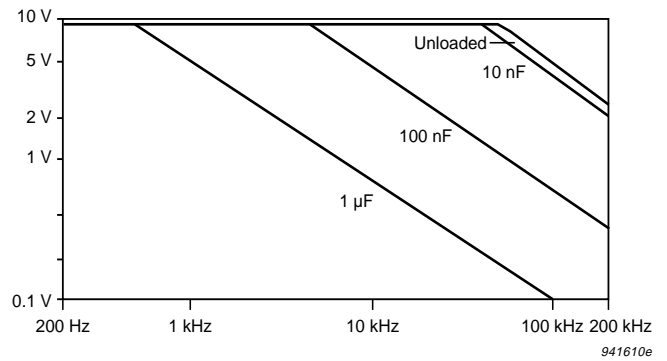


Fig.2 AC output and the use of long cables

Noise

Fig. 1 shows a typical noise curve (input short-circuited) for Type 2822.

Cables

A number of cables and connectors/adaptors are available for use with Type 2822 (see Ordering Information).

Fig.2 shows the effects of using long cables for the AC output signals (typical curves).

Optional Modification 2822/WH3173

This modification of the multiplexer has an extra 8-pin connector positioned to the left of the IEEE connector on the back panel. This allows a single multiplexer to be controlled by an analyzer: via the **Remote Control** connector of Real-time Frequency Analyzers Types 2123 and 2133, and via the **Remote Control Mic. Boom/Mux.** connector of Real-time

Frequency Analyzers Types 2143 and 2144.

TTL compatible inputs (Fig. 4) allow you to reset the multiplexer to channel 1 on high-to-low signal transition or to advance one channel on low-to-high signal transition.

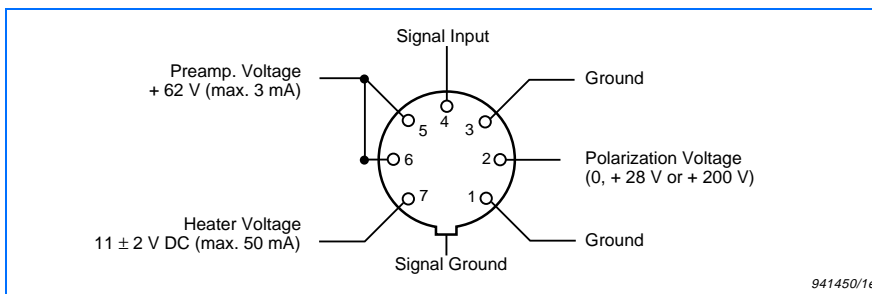


Fig.3 Pin designations for 7-pin preamplifier connector. **Note:** This is not suitable for use with Preamplifier Type 2660

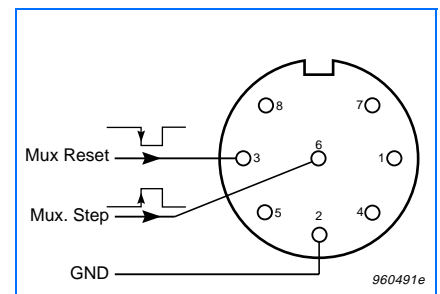


Fig.4 Ext. Channel Control connector of WH3173

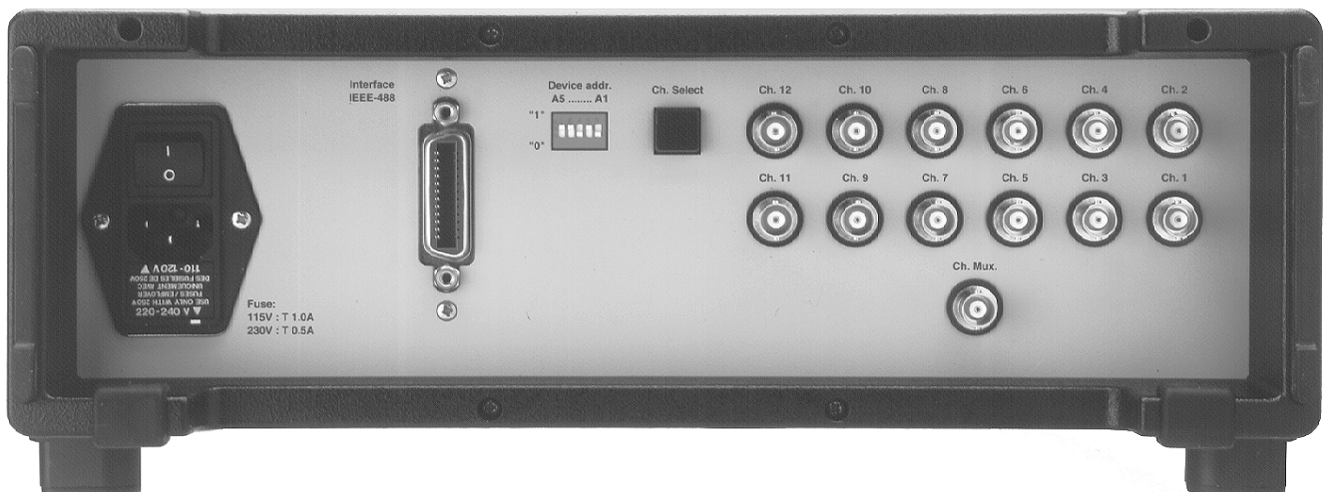


Fig.5 Back panel of Type 2822

Specifications 2822

PREAMPLIFIER INPUTS:

Connector: Accepts Brüel & Kjær 7-pin plug as used on Brüel & Kjær Microphone Preamplifiers (except Type 2660)

Input Impedance: 200 k Ω || 1 nF

Max. Input Voltage: 9 V_{RMS}

Preamplifier Supply Voltage: +62 V DC, max. 3 mA/channel

Heater Voltage: 11 \pm 2 V DC, max. 50 mA/channel

Polarization Voltage: 0, 28 or 200 V, source impedance 1 M Ω , stability 1%

Cross-talk: -60 dB up to 200 kHz

AC OUTPUT:

Connector: BNC

Max. Output Voltage: 12.7 V_{peak}, 9 V_{RMS}

Frequency Response (1 V, unloaded):

22.4 Hz to 200 kHz, \pm 0.7 dB

22.4 Hz to 20 kHz, \pm 0.3 dB

Output Noise:

AC output Ch. 1 to Ch. 12:

15 μ V_{RMS}, 200 kHz BW

AC output Ch. Mux.:

20 μ V_{RMS}, 200 kHz BW, 114 dB s/n ratio

8 μ V_{RMS}, 22.4 Hz to 22.4 kHz

Gain: 0 dB

Output Impedance: 50 Ω

Max. Load: 15 mA

Harmonic Distortion: <0.3%

LED on front panel indicates channel selected for Ch. Mux.

CHANNEL SELECTION:

Manual: Via Ch. Select key

Automatic: Via IEEE-488 Interface

IEEE-488 INTERFACE:

Conforms with IEEE-488.1 and compatible with IEC 625-1. Provides remote control of multiplexer (excluding polarization voltage)

Functions Implemented:

AH1 - Acceptor Handshake

L2 - Listener

RL2 - Remote/Local

DC2 - Device Clear

Command Set:

0: No channel selected

n: Channel n (n = 1 to 12)

Address: Set to 20 (decimal) on delivery

POWER SUPPLY:

Voltage:

110 - 120: 90 to 140 V AC

220 - 240: 180 to 264 V AC

Frequency: 47.5 to 66 Hz

Power Rating: approx. 30 VA

Complies with IEC 1010-1, Safety Class I

Fuses:

110 - 120 V mains: T 1.0 A slow blow (VF 0013)

220 - 240 V mains: T 500 mA slow blow (VF 0023)

DIMENSIONS:

(cabinet including sockets and switches)


Height: 117 mm (4.6") excluding feet

Width: 356 mm (14.1")

Length: 300 mm (11.9")

Weight: 6.2 kg (13.6 lb.)

COMPLIANCE WITH STANDARDS:

	CE-mark indicates compliance with: EMC Directive and Low Voltage Directive.
Safety	EN 61010-1 and IEC 1010-1: Safety requirements for electrical equipment for measurement, control and laboratory use.
EMC Emission	EN 50081-1: Generic emission standard. Part 1: Residential, commercial and light industry. EN 50081-2: Generic emission standard. Part 2: Industrial environment. CISPR 22: Radio disturbance characteristics of information technology equipment. Class B Limits. FCC Rules, Part 15: Complies with the limits for a Class B digital device.
EMC Immunity	EN 50082-1: Generic immunity standard. Part 1: Residential, commercial and light industry. EN 50082-2: Generic immunity standard. Part 2: Industrial environment. Note 1: The above is guaranteed using accessories listed in this Product Data sheet only. Note 2: RF immunity implies that at 80 dB SPL, the noise floor will be affected by no more than 0.5 dB re 50 mV/Pa.
Temperature	IEC 68-2-1 & IEC 68-2-2: Environmental Testing. Cold and Dry Heat. Operating Temperature: -10 to +55°C (+14 to +131°F) Storage Temperature: -25 to +70°C (-15 to 158°F)
Humidity	IEC 68-2-3: Damp Heat: 90% RH (non-condensing at 40°C (104°F))
Mechanical	Non-operating: IEC 68-2-6: Vibration: 0.3 mm, 20 m/s ² , 10-500 Hz IEC 68-2-27: Shock: 1000 m/s ² IEC 68-2-29: Bump: 1000 bumps at 250 m/s ²
Enclosure	IEC 529 (1989): Protection provided by enclosures: IP 40

Ordering Information

Type 2822 Microphone Multiplexer
Includes the following Accessories:

Mains Power Cable

2 x VF 0013: T 1.0 A Fuses

2 x VF 0023: T 500 mA Fuses

Optional Accessories

2822/WH 3173:

Modification for external control by analyzer

WA 0558: 19" Rack Mounting Kit with installation height approx. 134 mm

ZG 0350: 7-pin LEMO to Brüel & Kjær 7-pin Preamplifier Input Adaptor

CABLES:

AO 0087: 1.2 m BNC to BNC Coaxial Cable

AO 0133: 0.6 m BNC to BNC Coaxial Cable

AO 0142: 3.0 m BNC to BNC Coaxial Cable

Brüel&Kjær reserves the right to change specifications and accessories without notice



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