

PRODUCT DATA

½" DeltaTron Microphone Preamplifier — Type 2695

½" DeltaTron[®] Microphone Preamplifier Type 2695 enables you to make acoustical measurements with a DeltaTron input module. Prepolarized microphones can be connected to the preamplifier. The preamplifier has a 10–32 UNF connector. The preamplifier's low output impedance allows problem-free use with long extension cables. The robust, compact design enables Type 2695 to be used in a wide range of environmental conditions and in narrow spaces.

USES

- Coupler measurement
- Where space is limited

FEATURES

- 10–32 UNF output connector
- Connects directly to DeltaTron sockets
- Low output impedance allowing the use of long extension cables
- ICP[®] compatible
- Supports "Smart Transducer Interface" IEEE P1451.4 containing TEDS (Transducer Electronic Data Sheet)



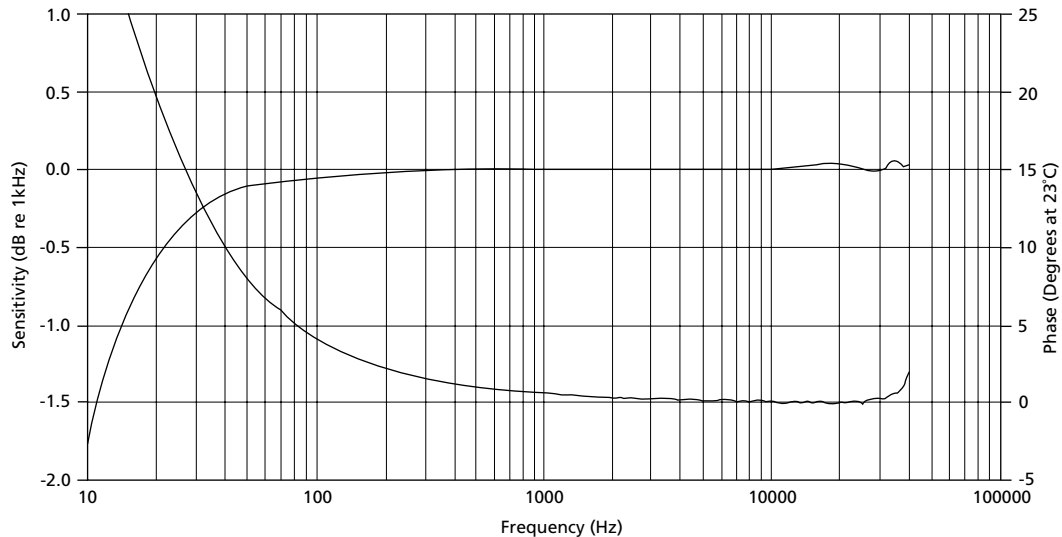
Description

The Type 2695 preamplifier is very compact, and operates over a wide range of temperature, humidity and other environmental conditions. It has a very high input impedance presenting virtually no load to the microphone. The low output impedance means that you can connect long cables between the preamplifier and measurement equipment. The preamplifier's main application is in vibration analysis configurations with DeltaTron or ICP input modules where it is also desired to make acoustical measurements. It presents a very price competitive solution compared to a system with both vibration and acoustical inputs.

DeltaTron is a generic name for Brüel & Kjær transducers and signal conditioning products. It identifies products that operate on a constant current power supply and give output signals in the form of voltage modulation on the power supply line. One of the advantages of this system is that it allows you to use inexpensive coaxial cables. The preamplifier converts the DeltaTron or ICP constant current line drive (CCLD) supply, which must be between 2 and 20 mA (nominal 4 mA), into a constant 12V DC level. The output signal from the microphone swings around this DC level. As no polarization voltage is available, only prepolarized condenser microphones can be used, e.g., Types 4155, 4176, 4188, 4189, 4942 and 4944. For further details of prepolarized condenser microphones, see the appropriate Product Data Sheets.

2695

Fig. 1 Typical frequency and phase response curves for Preamplifier Type 2695



Specifications – ½” DeltaTron Microphone Preamplifier Type 2695

FREQUENCY RESPONSE (re 250 Hz)

200 Hz to 20 kHz ± 0.2 dB
 31.6 Hz to 50 kHz $+0.2$ dB, -0.5 dB
 Lower -3 dB limit at < 12 Hz

PHASE LINEARITY

1 kHz to 10 kHz $\pm 1^\circ$
 100 Hz to 20 kHz $< -1^\circ$, $+10^\circ$

ATTENUATION

0.2 dB (typical)

INPUT IMPEDANCE

$1.7 \text{ G}\Omega \parallel < 0.4 \text{ pF}$

OUTPUT IMPEDANCE

$< 75 \Omega$

MAX. OUTPUT CURRENT

3 mA (peak)
 (19 mA with 20 mA DeltaTron supply current)

MAX. OUTPUT VOLTAGE

7 V peak (< -30 dB THD, 1 kHz)
 corresponding to:
 141 dB SPL for microphone sensitivity of 30 mV/Pa
 138 dB SPL for microphone sensitivity of 50 mV/Pa

DC OUTPUT LEVEL

$12 \text{ V} \pm 2 \text{ V}$

DISTORTION (THD)

< -70 dB at 1 V_{out} , 1 kHz

OUTPUT SLEW RATE

$2 \text{ V}/\mu\text{s}$ (typical)

NOISE

$< 4 \mu\text{V}$ A-weighted
 $< 12 \mu\text{V}$ Lin., 22.4 Hz–22.4 kHz

POWER REQUIREMENTS

DeltaTron supply: 2–20 mA. Nominal 4 mA

SHOCK

Max. 100 m/s^2

INFLUENCE OF MAGNETIC FIELDS

80 A/m, 50 Hz: Max. $< 4 \mu\text{V}$ A-weighted

ENVIRONMENTAL

Temperature Range

Operating: -20° to $+60^\circ\text{C}$ (-4°F to $+140^\circ\text{F}$)
Storage: -25° to $+70^\circ\text{C}$ (-13°F to $+158^\circ\text{F}$)
Humidity: 0 to 90% RH, non-condensing at 40°C (104°F)

DIMENSIONS

$\varnothing 12.7 \text{ mm} \times 35.7 \text{ mm}$ ($\varnothing 0.5'' \times 1.4''$) including connector
Microphone thread: 11.7 mm–60 UNS
Output socket: 10–32 UNF connector

Note: All values are typical at 23°C (73.4°F), 101.3 kPa, 50% RH, power supply ≥ 4 mA, cable length < 40 m and a microphone capacitance of 15 pF unless specified otherwise

CE compliance with EMC Directive

Ordering Information

Type 2695 ½” DeltaTron Microphone Preamplifier
 2695–CAI Accredited Initial Calibration
 2695–CAF Accredited Calibration

OPTIONAL ACCESSORIES

AO 0589 Cable, 10–32 UNF–MCX (right-angle)
 AO 0531 10–32 UNF to BNC connector, 5 m (16.4 ft)
 ZG 0328 DeltaTron power supply adaptor, BNC to
 Brüel & Kjær 7-pin microphone socket adaptor

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