

PRODUCT DATA

Power Amplifier — Type 2719

USES

- Drives Vibration Exciter Type 4808
- Drives Vibration Exciter Type 4809 safely to full rating

FEATURES

- 180 VA power output
- Adjustable RMS output-current limit
- Low or high output impedance
- Low distortion over wide frequency range
- Extensive built-in protection, including interlock relay
- Rear panel voltage and current monitor points
- Front panel indicators (LEDs) showing clipped output signal, temperature and current overloads, output signal phase (0° or 180°), operating mode (current or voltage), current state and interlock input disabled
- Multifunction display (backlit LCD) showing output current and output voltage

Description

Power Amplifier Type 2719 is designed to drive small vibration exciters, particularly the 112 N (25 lbf) Vibration Exciter Type 4808. The RMS output-current limit is adjustable, making Type 2719 equally suitable to drive the 45 N (10 lbf) Vibration Exciter Type 4809 safely to full rating. The power amplifier has a usable frequency range from DC to 100 kHz. The rated AC output is 180 VA into a 0.8Ω exciter or resistive load, in the frequency range DC to 15 kHz (± 0.5 dB). The maximum voltage gain is 14 dB. The harmonic content of the output is very small as heavy negative feedback is used. The instrument can tolerate temperature and supply-line variations while maintaining excellent stability. Two output modes are selectable via the front panel. The power output stage is directly coupled to the output, and hence to the connected vibration exciter. A current-limiting circuit prevents excessive instantaneous output current peaks. During operation, the voltage, current levels and waveforms can be inspected at the monitor points on the rear panel or RMS readings can be obtained from the LCD display.

Type 2719 consists of an input stage (both AC-coupled and direct), a preamplifier, a power amplifier and various



warning and safety circuits with indication lamps. A multifunction display shows output current and output voltage. The amplifier can be used as a voltage generator with low output impedance and a flat voltage frequency response, or as a current generator with high output impedance and a flat current frequency response.

Protection

Power Amplifier Type 2719 features extensive protection circuits for itself and the connected vibration exciter. When triggered, the protection circuits disconnect the input signal and light an LED, indicating the reason for instrument shutdown. Overload protection against excessive coil current is provided by setting the RMS output current to between 1 A and 15 A. This feature enables Type 2719 to safely drive vibration exciters with different maximum current ratings. The signal to the exciter is switched off if the preset current limit is exceeded. The power output stage is protected by a temperature sensing safety device to prevent output transistor temperatures that exceed design limits and lead to transistor failure. When triggered, the temperature protection circuit blocks the amplifier input signal. Further protection is provided by an interlock relay that disconnects the input if the operator switches between voltage mode and current mode during operation of Type 2719. Resetting is performed by simply turning the amplifier gain control fully anticlockwise. Dedicated LED indicators advise you of the current operating mode and any distortion when excessive signal levels saturate the preamplifier and cause distortion of the output waveform. The instrument remains operative in this condition.

Specifications – Power Amplifier Type 2719

COMPLIANCE WITH STANDARDS



compliance with EMC Directive



compliance with EMC requirements of Australia and New Zealand

Safety, EMC Emission and Immunity:

According to relevant standards:

EN/IEC 61010-1, UL 61010-1,
EN/IEC 61000-6-2, EN/IEC 61000-6-4,
CISPR22 Class A limit, FCC Rules Part 15,
EN/IEC 61326

Temperature: According to IEC 60068-2-1
and IEC 60068-2-2

Operating temperature:
+5 to +40°C (41 to 104°F)

Storage temperature:
-25 to +70°C (-13 to 158°F)

Humidity: According to IEC 60068-2-78,
Damp Heat: 90% RH (non-condensing at
40°C (104°F))

Mechanical: Non-operating according to
IEC 60068-2-6, IEC 60068-2-27,
IEC 60068-2-29

Reliability: According to MIL-HDBK 217 F,
GB (Part-stress)

Enclosure: According to IEC 60529

POWER OUTPUT CAPACITY

180 VA into a 0.8 Ω exciter or resistive load,
at 25°C and nominal mains voltage.

144 VA into a 1 Ω exciter or resistive load, at
40°C or at 10% above nominal mains
voltage.

(4-pin Neutrik® Speakon® socket at rear
panel)

OUTPUT VOLTAGE CAPACITY

12 V RMS, DC to 15 kHz, via 4-pin Neutrik®
Speakon® plug

OUTPUT CURRENT CAPACITY

7.5 A RMS at or below 5 Hz

15 A RMS, 40 Hz to 10 kHz

12 A RMS at 15 kHz

FREQUENCY RANGE

Full Capacity: 40 Hz to 10 kHz

Reduced Capacity: DC to 100 kHz

FREQUENCY RESPONSE

Typical small signal response in low
impedance mode:

DC Input: DC to 15 kHz ±0.5 dB; DC to
100 kHz ±3 dB

AC Input: 15 Hz to 15 kHz ±0.5 dB
(2 separate BNC sockets at rear panel)

INPUT IMPEDANCE

>10 kΩ

DC STABILITY

Less than 50 mV drift from 0 V for ±10%
variation of mains supply from nominal, and
for 10°C to 40°C (50°F to 104°F) variation in
ambient temperature

CONTROLS

Power on/off

Continuously variable gain control, 0 to Cal.
(14 dB) with integral reset

Continuously variable current limit control
1 to 15 A (RMS)

Switch for voltage mode or current mode
operation

Switch for phase inversion (0° or 180°)
between input and output

MULTIFUNCTION DISPLAY (LCD) AND INDICATOR LAMPS

Clipping

Temperature overload

Current overload

Power on

Ready

Voltage mode

Current mode

Interlock

AC mode

DC mode

Stand-by

Voltage monitor, RMS, read-out accuracy ±
2% (also available from BNC connector at
rear)

Current monitor, RMS, read-out accuracy ±
2% (also available from BNC connector at
rear)

PROTECTION

Input signal is removed and an indicator lamp
is lit when the following parameters exceed
preset limits:

Driver Coil Current – true RMS adjustable
limit 1 to 15 A (RMS)

Power Transistor Temperature

Heat Sink Temperature

Output Signal Distortion – no shut-down

OTHER FEATURES

Electronic peak current limiting

POWER REQUIREMENTS

Single phase 100, 120, 230 V RMS, ±10%.

Approx. 400 VA at full load

Appliance inlet with fuse holder and voltage
selector at rear

FUSES

100 v or 120 V: T 63 A

230 V: T 3.15 A

DIMENSIONS

Height: 2HE equivalent of 88 mm

Width: 482.6 mm (19 in) with flanges for
standard 19 inch rack mounting

Depth: 350 mm (13.8 in)

WEIGHT

14.0 kg (31 lb.)

Ordering Information

Type 2719 Power Amplifier

Includes the following accessories:

3 × JP 0035 BNC Plugs
Mains Cable

Optional Accessories:

AQ 0649 Drive cable with two 4-pin
Neutrik® Speakon® plugs at
both ends for driving Type 4808
(new version), 5 m (16.4 ft)
WL 1325 Cable with 4-pin Neutrik®
Speakon® plug to two banana
plugs for driving Type 4809,
5 m (16.4 ft)

JJ 0500 5-pin Cannon Plug. Used with
AQ 0649 for connection to Type
4808 (old version). The plug
must be soldered onto one end
of AQ 0649 instead of one of
the 4-pin plugs

TRADEMARKS

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