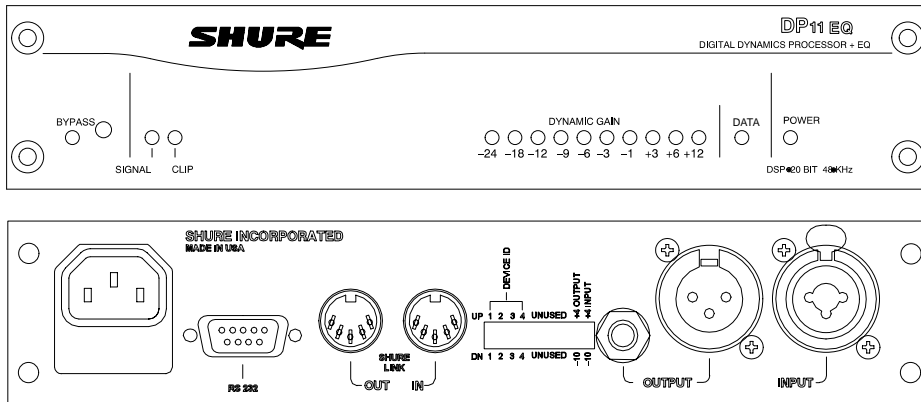


DP11EQ DIGITAL SIGNAL PROCESSOR

The Shure Model DP11EQ is a single-channel, digital signal processor that combines a comprehensive dynamics processor, two parametric equalizers, and a delay in a single, half-rack enclosure. The DP11EQ can function as a gate, expander, Automatic Gain Control (AGC) leveler, compressor, limiter, and no overshoot peak limiter. All of these features

are accessed via the supplied Windows* software. You can connect a computer to set up the unit in a sound system, then remove the computer so no one can tamper with the settings when the unit is left unattended. The DP11EQ is designed for installed sound reinforcement applications: theater, conference rooms, meeting halls, houses of worship, etc.



HARDWARE FEATURES

- Crystal* 20-bit A/D and D/A converters (Analog-to-Digital, Digital-to-Analog) for 104 dB dynamic range.
- 48 kHz sampling rate for flat response to 20 kHz.
- Half-rack space chassis allows rack mounting of one or two units in a single rack space with no sagging or bending.
- Shure Link Interface allows multiple units to be programmed with a single computer.
- Independently driven, cross-coupled, balanced 1/4-inch and XLR outputs. Can be used with balanced or unbalanced inputs.
- Electronically balanced input with combination 1/4-inch and XLR connector. Can be used with balanced or unbalanced outputs.
- No internal batteries. Settings and DSP program stored in internal EEPROM.
- +4 dBu/-10 dBV DIP-switch-selectable input and output levels.
- 80 MHz Motorola* DSP56009 processor engine with full 24-bit internal processing.
- RS-232 interface for external computer control and firmware updates.
- Internal linear power supply eliminates the need for a cumbersome external power supply.
- Solid state bypass eliminates unreliable mechanical relays and switches.
- A SIGNAL presence and a CLIP indicator
- DYNAMIC GAIN meter.
- Shure Link connectors for networking to other Shure Link devices, such as the models DFR11EQ and UA888.

SOFTWARE FEATURES

- Four (4) processing blocks: pre-dynamics equalizer (EQ1), dynamics (DYN), post-dynamics (EQ2), and Delay.
- The dynamics processor functions as a Gate, Expander, leveler, Compressor, Limiter, and No Overshoot Peak Limiter.
- The parametric equalizer offers up to 10 filters with adjustable frequency, up to 6 dB of boost or -18 dB of cut per filter, 1/40 to 2 octave bandwidth.
- Response Viewing. The dynamics and equalizer windows each have a viewer which shows the effect of the process on the signal.
- Up to 1.3 seconds of Digital Delay with temperature compensation option. Displayed in time and distance.
- Digitally-controlled signal polarity inverting for equipment that inverts balanced signals.
- Front panel lockout control to prevent tampering.
- Storage of multiple scenes to floppy or hard disk.

SPECIFICATIONS

GENERAL

Frequency Response

20 to 20k Hz ± 1.0 dB re 1 kHz

Dynamic Range

104 dB minimum, A-weighted, 20 Hz to 20 kHz

Sampling Rate

48 kHz

Digital-to-Analog, Analog-to-Digital Conversion

20 bit resolution

Voltage Gain

- 1 dB ± 1dB (power off)
- 12 dB ± 2 dB (input -10 dBV, output +4 dBu)
- 12 dB ± 2 dB (input +4 dBu, output -10 dBv)
- 0 dB ± 2 dB (equal input and output sensitivities)

Impedance

Input: 47 kΩ ± 20% actual
Output: 120 Ω ± 20% actual

Input Clipping Level

- +18 dBu minimum (at +4 dBu setting)
- +6 dBV minimum (at -10 dBV setting)

Output Clipping Level

- +18 dBu minimum (at +4 dBu setting)
- +6 dBV minimum (at -10 dBV setting)

Total Harmonic Distortion

< 0.05% at 1 kHz, +4 dBu, 20 to 20 kHz

LED Signal Indicators

Signal: -40 dB
Clip: 6 dB down from input clipping

Propagation Delay from Input to Output

0.08 ms (all filters flat, no dynamics processing, 0 ms delay), up to 2.1 ms (all processing enabled)

Polarity

Input to output: inverting optional (default: non-inverting)
XLR: pin 2 positive with respect to pin 3
1/4-inch TRS: tip positive with respect to ring

Operating Voltage

DP11EQ: 120 Vac, 50/60 Hz, 50 mA max
DP11EQE: 230 Vac, 50/60 Hz, 25 mA max
DP11EQJ: 100 Vac, 50/60 Hz, 50 mA max

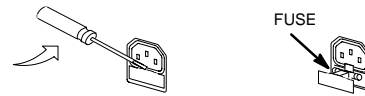
Temperature Range

Operating: 0° to 60° C (32° to 140° F)

Fuse

DP11EQ: 120 Vac. Fuse: 100 mA, 250V time delay
DP11EQE: 230 Vac. Fuse: 50 mA, 250 V time delay
DP11EQJ: 100 Vac. Fuse: 100 mA, 250 V time delay

In order to change a blown fuse, remove the power cord and pry open the drawer with a flathead screwdriver.



Dimensions

219 mm x 137 mm x 44 mm
8 5/8 in x 5 3/8 in x 1 3/4 in

Weight

930 g (2.05 lbs)

DYNAMICS PROCESSOR

Gate and Expander

Threshold: -72 to -1 dB, 0.5 dB resolution
Attack: 1.0 to 200 ms
Decay: 0.05 to 1 second
Gate Hold Time: 0 to 0.5 seconds

AGC Leveler

Threshold: -72 to -1 dB, 0.5 dB resolution
Attack: 0.2 to 3 seconds
Decay: 0.5 to 5 seconds
Hinge: Threshold to -1 dB, 0.5 dB resolution

Compressor and Limiter

Threshold: -72 to -1 dB, 0.5 dB resolution
Attack: 1.0 to 200 ms
Decay: 0.05 to 1 second
Knee: Hard or Soft selectable

No Overshoot Peak Limiter

Propagation delay: 1 ms
Threshold: -72 to -1 dB, 0.5 dB resolution
Attack: 0 ms
Decay: 100 ms

PARAMETRIC EQUALIZER

Parametric Filter Frequency Bands

Up to 9 bands, variable frequency, variable Q

Boost/Cut Range

+6 dB to -18 dB per band

Q Range

1/40-octave to 2 octave

High and Low Shelf/Cut Filters

Shelf, +6 to -18 dB per filter
Cut, -12 dB per octave nominal

DELAY

Up to 1.3 seconds, 21 microsecond resolution

CERTIFICATIONS

DP11EQ : UL Listed and cUL Listed to UL 813 and CSA C22.2 No. 1. Authorized under Verification provision of FCC Part 15 as a Class B Digital Device.
DP11EQ E: Conforms to European Union Directives, eligible to bear CE marking. Meets European Union Low

Voltage Requirements: VDE GS-Certified to EN 60 950.
Meets European Union EMC Emissions Requirements: EN 50 081-1 (1992) [EN 55022]. Meets European Union EMC Immunity Requirements EN 50 082-1 (1992).

FURNISHED ACCESSORIES

Power Cable (DP11EQ)	95A8389	Single Mount Rack Bracket	53A8484
Power Cable (DP11EQE)	95A8247	Dual Mount Rack Bracket	53B8484
5-pin DIN Shure Link Cable	95A8676	Straddle Bars	53A8443