

# USW-1

UltraSeries™  
Subwoofer

## Features

High power

Extremely low distortion

Long-term reliability

Rugged

Compact and easily handled

## Applications

Road use or installations

Sound reinforcement

Concert, film, and theater

Live music clubs

Music playback systems

Bass instrument amplification



— 12  
—  
— 9  
—  
— 6  
—  
— 3  
—  
— 0  
Inches

The compact, high-power USW-1 extends the frequency range and power bandwidth of Meyer Sound reinforcement systems to 40Hz. Accurate and rugged, the subwoofer consists of two 15-inch cone drivers capable of long excursion with extremely low distortion, housed in a heavily braced five cubic foot vented enclosure of multiple-ply hardwood.

Fitted with handles, the roadworthy cabinet has a durable, textured finish and, optionally, aircraft-style rigging pan fittings for ease of installation.

The USW-1 requires a professional quality power amplifier capable of delivering up to 400 watts into 4 ohms (this normally corresponds to a 250 watt/8 ohm rating), with a signal voltage gain of 20 dB (minimum) to 30 dB (maximum).



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MEYER SOUND

# USW-1 Specifications

## Acoustical – USW-1/B-2EX System

|                                 |                      |
|---------------------------------|----------------------|
| Frequency Response <sup>1</sup> | 40-100 Hz $\pm$ 4 dB |
| Maximum SPL <sup>2</sup>        |                      |
| Continuous                      | 130 dB               |
| Peak                            | 135 dB               |
| Acoustical Crossover Frequency  | 100 Hz               |

## USW-1 Loudspeaker

|                     |  |
|---------------------|--|
| Transducers         | (2) MS-15 15-inch cone, 8 ohms per driver                      |
| Enclosure           | 5 cu. ft. vented, multi-ply Finnish birch                      |
| Finish              | Black textured or weather protected (optional)                 |
| Protective Grill    | Perforated steel screen, charcoal-grey foam covering           |
| Connector           | EP-4 male, EP-5 male (Europe only)                             |
| Rigging (optional)  | Aircraft pan fittings, $\frac{3}{8}$ " - 16 or M-10 nut plates |
| Physical Dimensions | 31" W x 21½" H x 21½" D with grill frame and foam              |
| Weight              | 115 lbs. (52.2 kg)   |

## B-2EX Control Electronics Unit

|                             |   |
|-----------------------------|---|
| Input Type                  | Balanced (active), 47k ohms                   |
| Output Type                 | Active push-pull, will drive 600 ohms         |
| Maximum Input/Output Level  |   |
| Balanced                    | +26 dBu                                       |
| Unbalanced                  | +20 dBu                                       |
| Hum and Noise <sup>3</sup>  | -90 dBV                                       |
| Dynamic Range               | >110 dB                                       |
| Sense Input                 | 10k ohms true differential, opto-isolated     |
| Driver Protection Circuitry | RMS limiter, switchable excursion limiter     |
| Indicators                  |   |
| Limit                       | Red LED                                       |
| Excursion                   | Red LED                                       |
| Sense                       | Green LED                                     |
| Power                       | Green LED                                     |
| Controls                    |   |
| Front Panel                 | Input level control, AC on/off switch         |
| Preset Panel                | Safe switch, Crossover Bypass switch          |
| Connectors                  |   |
| Balanced Inputs/Output      | 3-pin XLR (A-3)                               |
| Sense Inputs                | Banana jacks                                  |
| Power                       | 120/240V AC, 50/60 Hz (rear-panel switchable) |
| Physical Dimensions         | 19" W x 1¾" H x 7¾" D                         |
| Weight                      | 8 lbs. (3.25 kg)                              |

**Note 1:**  
Measured 1 meter on-axis,  
half-space conditions,  
pink noise input, in third-  
octave bands.

**Note 2:**  
Loudspeaker driven by power  
amplifier rated at 400 W into  
4 ohms, weighted noise  
signal source.

**Note 3:**  
"A"-weighted, unbalanced.

## The B-2EX Control Electronic Unit



The USW-1 operates as a system with the B-2EX Control Electronics Unit (one per channel). Optimized for use with Meyer Sound subwoofers, and pre-aligned at the factory, the B-2EX contains frequency response and phase response alignment circuitry, and Meyer Sound's exclusive SpeakerSense™ driver protection circuitry, incorporating RMS signal limiting and switchable excursion limiting.

A single-channel device operating at line level, the B-2EX is intended to be the final component in the signal chain before the power amplifier. It is connected in parallel with the input to the system being supplemented by the USW-1, and incorporates a summing input for deriving a mono subwoofer signal from a stereo program.

The factory-calibrated SpeakerSense circuitry protects the USW-1 loudspeaker components from damage due to overheating under high power conditions. This unique circuit continuously monitors the power applied to the USW-1 drivers, and limits the B-2EX output when the safe operating limits of the drivers are exceeded. Until the onset of overload, the SpeakerSense circuitry has no effect on the B-2EX output signal.

Included in the SpeakerSense circuit is a Safe switch, which moves the limit point down by 6 dB and engages the excursion limiter. This has the effect of increasing the safety margin of the system, and is intended to be used when extended periods of overload are anticipated. In addition to these features, the B-2EX incorporates a Crossover switch which engages/disengages the lowpass rolloff of the subwoofer output. This feature may be used whenever it is desirable to operate the USW-1 full-range as, for example, in instrument amplification.

The setup controls are located behind a cover plate on the B-2EX front panel, providing a means for securing the system installer's presets.

The low frequency speaker system shall consist of two 15" low frequency loud-speakers front-mounted in a heavily braced hardwood-plywood bass-reflex direct-radiating enclosure, and a separate Control Electronics Unit.

The Control Electronics Unit shall contain a power supply capable of operating from a 120/240V AC, 50/60 Hz line, a master level control, an active crossover set at 95 Hz, an RMS limiter for speaker protection, a switchable excursion limiter, and two active balanced summing inputs. The Control Electronics Unit shall meet the following criteria: total harmonic distortion less than .1%; "A"-weighted noise level 110dB below rated output of +26 dBu.

The speaker system, its companion Control Electronics Unit, and a power amplifier rated at 400 watts into 4 ohms shall meet the following criteria: pressure sensitivity, 101 dB SPL measured with

1 watt of pink noise, one meter on axis; frequency response, 40 Hz to 100 Hz plus or minus 4 dB measured with 1/3 octave pink noise, one meter on axis; output of 130 dB SPL one meter on axis with peaks of 135 dB SPL when driven with weighted noise. Total harmonic distortion shall be less than 3% at 130 dB SPL one meter on axis at 60 Hz.

Speaker enclosure dimensions are 31" W x 21½" H x 21½" D with grill frame and foam, weight 115 lbs (52.2 kg).

Control Electronics Unit dimensions are 19" W x 1¾" H x 7¾" D, weight 8 lbs (3.6 kg).

The speaker system shall be the Meyer Sound USW-1.

The Control Electronics Unit shall be the Meyer Sound B-2EX.

*Meyer Sound Laboratories has devoted itself to designing, manufacturing, and refining components that deliver superb sonic reproduction. Every part of every component is designed and built to exacting specifications and undergoes rigorous, comprehensive testing in the laboratories.*

*Research remains an integral, driving force behind all production. Meyer strives for sound quality that is predictable and neutral over an extended lifetime and across an extended range.*



**Sound  
engineering  
for the art  
and science  
of sound.**