



FEATURES

- Comprehensive integration of DSP, amplification and network
- U-Net network / EAW Pilot control software
- Push-button 2 box cardioid and hyper-cardioid capability
- Simple-to-use rigging allows flown and ground-stacked arrays to be constructed with ease

DESCRIPTION

The extraordinary NTS250 powered subwoofer is architected to serve as a companion subwoofer for any EAW system. As the name suggests, it is an obvious choice to use in conjunction with the NTL720 compact line array. This professional, high output yet compact and lightweight premium subwoofer unites a push-pull pair of high efficiency neodymium 15 inch woofers, 2000W of amplification, powerful system optimization DSP and EAW Pilot software accessible front-end DSP, the proprietary U-Net audio and communications network, a professional rigging system and push button 2 box cardioid and hyper-cardioid configurability within a comprehensively integrated, RoadCoat™ clad package.

ORDERING DATA

| Description | Part Number |
|---|---------------|
| EAW NTS250 Black 115 V | 0030378-00-90 |
| EAW NTS250 Black 230 V | 0030378-01-90 |
| Optional Accessories | Part Number |
| Pole, 1-3/8 in (35 mm) dia, 4 ft (1.2 m) high | 179074 |
| Caster Pallet PLT52N (for up to three NTS250) | 0032933-90 |

COMPLIANCE

| |
|---|
| CE EN 60065:2002, EN55103-1:1997, EN 55103-2:1997EN 55103-1, EN55103-2, EN60065 |
| CSA CAN/CSA 60065-03, UL Std No. 60065-03 |
| FCC Part 15 |

DUAL 15 INCH SELF-POWERED SUBWOOFER

See *NOTES TABULAR DATA* for details

CONFIGURATION

| Subsystem: | Transducer | Loading |
|------------|-------------|-------------------|
| | LF 2x 15 in | Vented, Push-Pull |

Operating Mode:

| | Amplifier Channels | External Signal Processing |
|--|--------------------|----------------------------|
| | Bi-amp LF1, LF2 | DSP w/1-way filter |

ACOUSTICAL PERFORMANCE

| | |
|---------------------------|------------------|
| Operating Range: | 35 Hz to 130 kHz |
| Nominal Beamwidth: | |
| | Horz 360° |
| | Vert 360° |

Axial Output Limit (whole space SPL):

| | Average | Peak |
|---------------------|---------|--------|
| Calculated LF1, LF2 | 129 dB | 135 dB |

ELECTRICAL PERFORMANCE

Input

| | | |
|-------------|---|------------------------|
| Type | Electronically balanced XLRF | |
| Sensitivity | 3.1 V / 12 dBu at Limit | 6.2 V / 18 dBu at Clip |
| Impedance | 20 k ohm (balanced to chassis), 10 k ohm (unbalanced) | |
| Wiring | Pin 1: chassis, Pin 2: signal +, Pin 3: signal - | |
| Loop | Electronically balanced XLRM | |

DSP (50 Mflop 32 bit Sharc):

| | |
|----------|-----------------|
| Encoding | 24 Bit / 48 kHz |
| Filters | Proprietary |
| Latency | 2.97 ms |

User Addressable DSP

| | Array | Box |
|-------|---------------|---------------|
| EQ | 10 Parametric | 10 Parametric |
| Delay | 1200 ms | 1200 ms |
| Level | 15 dB +/- | 15 dB +/- |

Amplifier (Each of two)

| | |
|-------------------|-----------------------|
| Type | Modified Class D |
| Maximum Output | 63 V, 1000 W @ 4 ohm |
| THD + noise | < 0.3% |
| Dynamic Range | > 105 dB |
| Driver Protection | Integral DSP limiting |

AC Mains (Nominal)

| | 115 V | 230 V |
|--------------|-------------------|----------------|
| Connector | Neutrik PowerCon® | |
| Input | 100 V to 120 V | 220 V to 240 V |
| Frequency | 50 Hz to 60 Hz | 50 Hz to 60 Hz |
| Current: | | |
| Idle | 0.25 A | 0.15 A |
| In Rush | 0.9 A | 0.6 A |
| Output Limit | 1.6 A | 1.0 A |
| Fuse Rating | 10 A | 6.3 A |

AC Loop:

| | | |
|-----------------------|-------------------|----|
| Connector | Neutrik PowerCon® | |
| Circuit Breaker Limit | 10A | 5A |

CONTROLS

| | |
|------------------|--------------------------|
| Gain | 0 dB / +6 dB / +12 dB |
| Rear Speaker DSP | Cardioid / Hypercardioid |

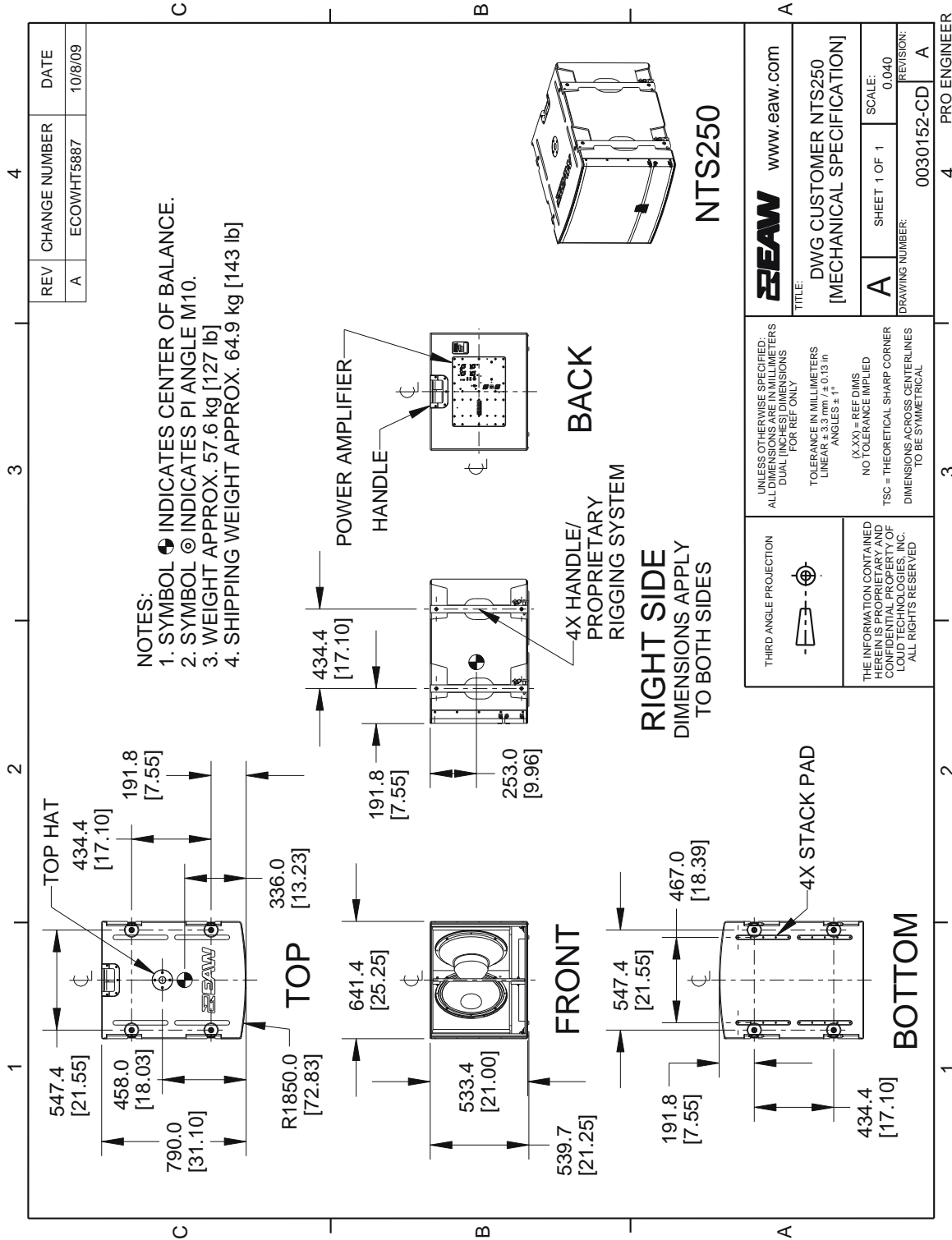
INDICATORS (LED)

| | |
|------------------|------------------|
| Signal Present | System Gain |
| Limiter Active | Rear Speaker DSP |
| Clip | Input Selection |
| Amplifier Status | U-Net Status |

| | |
|------------------------|--|
| Input Selection | Analog, AES Ch 1, AES Ch 2, U-Net (1 - 64) |
| Communication | USB, U-Net 1, U-Net 2 |

ENCLOSURE

| | |
|----------|-------------------------------------|
| Material | Exterior-grade Baltic birch plywood |
| Finish | RoadCoat™ textured black paint |
| Grille | Powder-coated perforated steel |



| | | |
|-----|---------------|---------|
| REV | CHANGE NUMBER | DATE |
| A | ECOWHT5887 | 10/8/09 |

| | |
|----------------------------|--|
| | www.eaw.com |
| | TITLE: DWG CUSTOMER NTS250 [MECHANICAL SPECIFICATION] |
| A | SHEET 1 OF 1 SCALE: 0:040 |
| DRAWING NUMBER: 0030152-CD | REVISION: A |

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN MILLIMETERS
DUAL (INCHES) DIMENSIONS
FOR REF ONLY

TOLERANCE IN MILLIMETERS
LINEAR: ± 0.3 mm / ± 0.13 in
ANGLES: ± 1°

(XX) = REF DIMS
NO TOLERANCE IMPLIED

TSC = THEORETICAL SHARP CORNER
DIMENSIONS ACROSS CENTERLINES
TO BE SYMMETRICAL

THIRD ANGLE PROJECTION

THE INFORMATION CONTAINED
HEREIN IS PROPRIETARY AND
CONFIDENTIAL PROPERTY OF
LOUD TECHNOLOGIES, INC.
ALL RIGHTS RESERVED

NOTE: This drawing has been reduced. Do not scale.

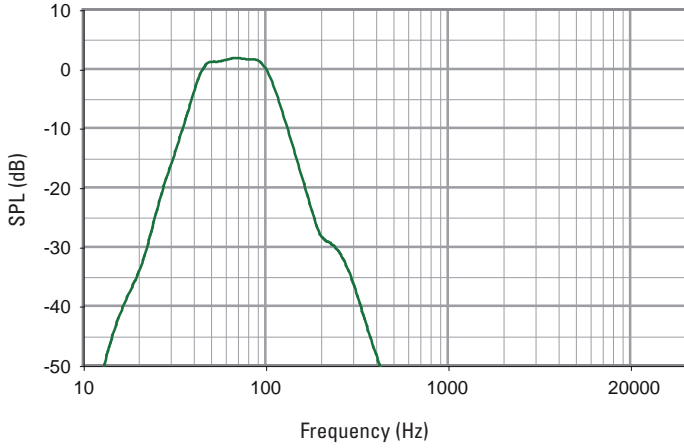


PERFORMANCE DATA

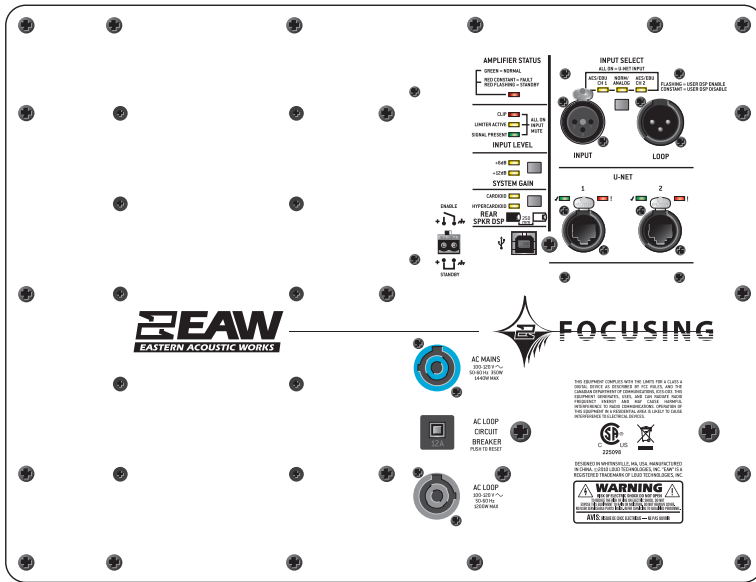
See *NOTES GRAPHIC DATA* for details

Frequency Response: Processed Dual-amplified

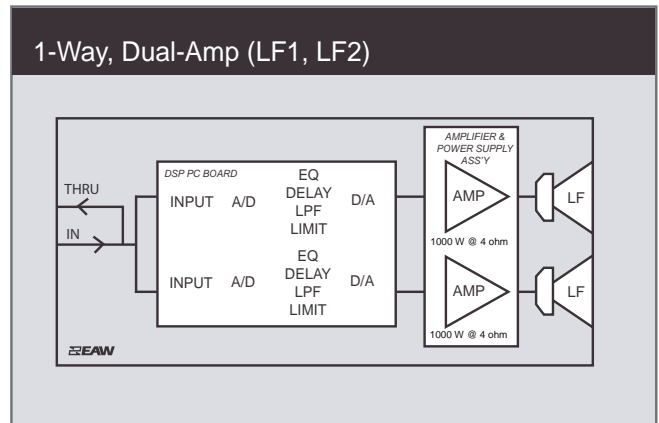
LF 1, LF 2= green



INPUT PANEL



SIGNAL DIAGRAM



LEGEND

- DSP/EQ:** Integral Digital Signal Processor.
- HPF:** High Pass Filter for crossover.
- LPF:** Low Pass Filter for crossover.
- LF/MF/HF:** Low Frequency / Mid Frequency / High Frequency.
- AMP:** Power Amplifier.

NOTES

TABULAR DATA

1. **Measurement/Data Processing Systems:** Primary - FChart: proprietary EAW software; Secondary - Brüel & Kjær 2012.
2. **Microphone Systems:** Earthworks M30; Brüel & Kjær 4133
3. **Measurements:** Dual channel FFT; length: 32 768 samples; sample rate: 48 kHz; logarithmic sine wave sweep.
4. **Measurement System Qualification** (includes all uncertainties): SPL: accuracy +/-0.2 dB @ 1 kHz, precision +/-0.5 dB 20 Hz to 20 kHz, resolution 0.05 dB; Frequency: accuracy +/-1 %, precision +/-0.1 Hz, resolution the larger of 1.5 Hz or 1/48 octave; Time: accuracy +/-10.4 µs, precision +/-0.5 µs, resolution 10.4 µs; Angular: accuracy +/-1°, precision +/-0.5°, resolution 0.5°.
5. **Environment:** Measurements time-windowed and processed to eliminate room effects, approximating an anechoic environment. Data processed as anechoic or fractional space, as noted.
6. **Measurement Distance:** 7.46 m. Acoustic responses represent complex summation of the subsystems at 20 m. SPL is referenced to other distances using the Inverse Square Law.
7. **Enclosure Orientation:** For beamwidth and polar specifications, as shown in Mechanical Specification drawing.
8. **Volts:** Measured rms value of the test signal.
9. **Watts:** Per audio industry practice, "loudspeaker watts" are calculated as voltage squared divided by rated nominal impedance. Thus, these are not True Watt units of energy as defined by International Standard.
10. **SPL:** (Sound Pressure Level) Equivalent to the average level of a signal referenced to 0 dB SPL = 20 microPascals.
11. **Subsystem:** This lists the transducer(s) and their acoustic loading for each passband. Sub = Subwoofer, LF = Low Frequency, MF = Mid Frequency, HF = High Frequency.
12. **Operating Mode:** User selectable configurations. Between system elements, a comma (,) = separate amplifier channels; a slash (/) = single amplifier channel. DSP = Digital Signal Processor. IMPORTANT: To achieve the specified performance, the listed external signal processing must be used with EAW-provided settings.
13. **Operating Range:** Range where the processed Frequency Response stays within -10 dB SPL of the power averaged SPL within this range; measured on the geometric axis. Narrow band dips are accepted.
14. **Nominal Beamwidth:** Design angle for the -6 dB SPL points, referenced to 0 dB SPL as the highest level.
15. **Axial Sensitivity:** Power averaged SPL over the Operating Range with an input voltage that would produce 1 W at the nominal impedance; measured with no external processing on the geometric axis, referenced to 1 m.
16. **Nominal Impedance:** Selected 4, 8, or 16 ohm resistance such that the minimum impedance point is no more than 20% below this resistance over the Operating Range.
17. **Accelerated Life Test:** Maximum test input voltage applied with an EIA-426B defined spectrum; measured with recommended signal processing and Recommended Protection Filter.
18. **Calculated Axial Output Limit:** Highest average and peak SPLs possible during the Accelerated Life Test. The Peak SPL represents the 2:1 (6 dB) crest factor of the Life Test signal.
19. **High Pass Filter:** This helps protect the loudspeaker from excessive input signal levels at frequencies below the Operating Range.

GRAPHIC DATA

1. **Resolution:** To remove insignificant fine details, 1/12 octave cepstral smoothing was applied to acoustic frequency responses and 1/3 octave cepstral smoothing was applied to the beamwidth and impedance data. Other graphs are plotted using raw data.
2. **Frequency Responses:** Variation in acoustic output level with frequency for a constant input signal. Processed: normalized to 0 dB SPL. Unprocessed inputs: 2 V (4 ohm nominal impedance), 2.83 V (8 ohm nominal impedance), or 4 V (16 ohm nominal impedance) referenced to a distance of 1 m.
3. **Processor Response:** The variation in output level with frequency for a constant input signal of 0.775 V = 0 dB reference.
4. **Beamwidth:** Average angle for each 1/3 octave frequency band where, starting from the rear of the loudspeaker, the output first reaches -6 dB SPL referenced to 0 dB SPL as the highest level. This method means the output may drop below -6 dB SPL within the beamwidth angle.
5. **Impedance:** Variation in impedance magnitude, in ohms, with frequency without regard to voltage/current phase. This means the impedance values may not be used to calculate True Watts (see 9 above).
6. **Polar Data:** Horizontal and vertical polar responses for each 1/3 octave frequency band 100 Hz to 16 kHz or Operating Range.

