15 PT 1200 MB [2.0]

SWETON®



15 PT 1200 MB [2.0] – PUNCH WITH PRECISION

The **15 PT 1200 MB [2.0]** is the second generation of our 15-inch mid-bass transducer, rated at 1200 W AES (2400 W program). A 99.3 mm (4-inch), 2-layer copper voice coil, in/out wound on a glass-fibre former, sits in a ferrite motor with a force factor of 30.83 N/A against Re 5.57 Ω. That is a Bl^2/Re of 171 N^2/W, 58 % more motor than the first-generation 15 PT 1200 MB.

Xmax is now ±8.75 mm (up from ±7 mm), for a peak displacement volume of 0.73 L. With Fs 44.7 Hz, Qts 0.35 and EBP 127 Hz, the driver is built for vented boxes. In 75 L tuned to 45 Hz it is flat to about 43 Hz (−3 dB) and reaches a calculated 126 dB at 1 m at rated power, before power compression.

Sensitivity is 95 dB (1 W/1 m). The on-axis response stays within ±3 dB from 100 Hz to 2 kHz, so the hand-over to a compression driver at 1.2–1.6 kHz is clean and well damped.

Enclosure Recommendations:

Enclosure Type	Net Volume (Litres)	Tuning	Port (min. area)	Application Use Case
Vented (full-range)	70–80 L (75 L optimum)	45 Hz F3 ≈ 43 Hz	250 cm^2: slot 25 × 10 cm, 36 cm long	Stand-alone 2-way PA, stage monitors
Vented (extended LF)	90–100 L	42–43 Hz F3 ≈ 40 Hz	280 cm^2: 2 × Ø 5" × 32 cm	Deeper bass, no subs
Vented (top over subs)	55–60 L	50 Hz F3 ≈ 48 Hz	2 × Ø 4" × 25 cm	Mid-bass tops, HPF 80–100 Hz
Sealed (compact top)	20–25 L	Qtc 0.63–0.68 fc 81–88 Hz	—	Compact tops, HPF 100 Hz

Recommended HF Pairing

Parameter	Recommendation
Power Rating	80–120 W AES
Sensitivity	107–110 dB (1 W/1 m, on horn)
Diaphragm Type	Titanium preferred
Exit / Voice Coil	1.4" exit, 2.5"–3" VC (1" if XO ≥ 1.6 kHz)
Horn Coverage	60° × 40° or 90° × 40°

Crossover Recommendations

Component	Type	Frequency	Slope
15 PT 1200 MB	LPF	1.2–1.6 kHz	24 dB/oct LR
HF Driver	HPF	1.2–1.6 kHz (same point)	24 dB/oct LR
15 PT 1200 MB	HPF, stand-alone	40 Hz	24 dB/oct BW
15 PT 1200 MB	HPF, with subs	80–100 Hz	24 dB/oct LR

Excursion: when run full-range with the 40 Hz HPF, the cone reaches Xmax (±8.75 mm) near 60 Hz at about 87 V rms (≈ 940 W), so set the limiter there. Above subs with an 80–100 Hz HPF, peak excursion stays under 5.5 mm at the full 1200 W.

Application

- 2-way full-range PA cabinets
- Mid-bass tops over subwoofers (e.g. 21 PT 3500 SUB/4-2)
- Stage monitors (wedges)
- Roadshows, DJ setups, touring and rental rigs
- Vocal reinforcement, open-air events and festivals

Why Choose 15 PT 1200 MB [2.0]?

- Bl 30.83 N/A, Bl^2/Re 171 N^2/W: 58 % more motor than the first generation
- 1200 W AES / 2400 W program on a 4-inch copper in/out coil
- Xmax ±8.75 mm, Vd 0.73 L: more excursion, more bass
- ±3 dB from 100 Hz to 2 kHz: clean crossover to HF
- Qts 0.35, EBP 127 Hz: made for vented enclosures

Legal Disclaimer (Technical Recommendations):

Disclaimer: All enclosure volumes, port dimensions, crossover frequencies, and HF driver recommendations in this document are derived from measured Thiele/Small parameters (Klippel LPM) and lumped-parameter simulation for typical application scenarios. Large-signal effects (power compression, Bl(x), Kms(x)) are not included. These are suggested guidelines to assist system designers and integrators. Actual results may vary with cabinet construction, environment, signal chain, and usage conditions. SWETON shall not be held liable for any direct or indirect losses, damages, or performance issues arising from reliance on these recommendations. Users are advised to conduct their own system-level testing before deployment.

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SPECIFICATIONS & PARAMETERS

Specifications

Nominal Diameter	15 in (395 mm)
Nominal Impedance	8 Ω
Nominal Power Handling (AES)	1200 W
Program Power	2400 W
Sensitivity (1W/1m)	95 dB
Frequency Range	45 – 3000 Hz
Recommended Operating Band	45 – 1600 Hz
Magnet Material	FERRITE
Voice Coil Diameter	99.3 mm (4.0 in)
Winding Material	COPPER
Number of Layers	2
Former Material	GLASS FIBRE
Winding Type	IN/OUT

Mounting Info

Overall Diameter	395 mm
Bolt Circle Diameter	377 mm
Baffle Cutout Diameter	357 mm
Depth	170 mm
Flange and Gasket Thickness	18.60 mm
Weight	16.50 Kgs

Parameters

Resonant Frequency	Fs	45 Hz
DC Resistance	Re	5.57 Ω
Electrical Q	Qes	0.35
Mechanical Q	Qms	23.41
Total Q	Qts	0.35
Compliance Equivalent Volume	Vas	57.86 Ltrs
Peak Diaphragm Displacement Volume	Vd	0.73 Ltrs
Effective Surface Area of Cone	Sd	829.58 cm^2
Reference Efficiency	$\eta 0$	1.41 %
Moving Mass including air load	Mms	213.38 gms
Mechanical Compliance	Cms	0.059 mm/N
Motor Strength	Bl	30.83 T•m
Voice Coil Inductance	Le	1.40 mH
Efficiency Bandwidth Product	EBP	127 Hz
Voice Coil Overhang	Xmax	±8.75 mm

Recone Kit

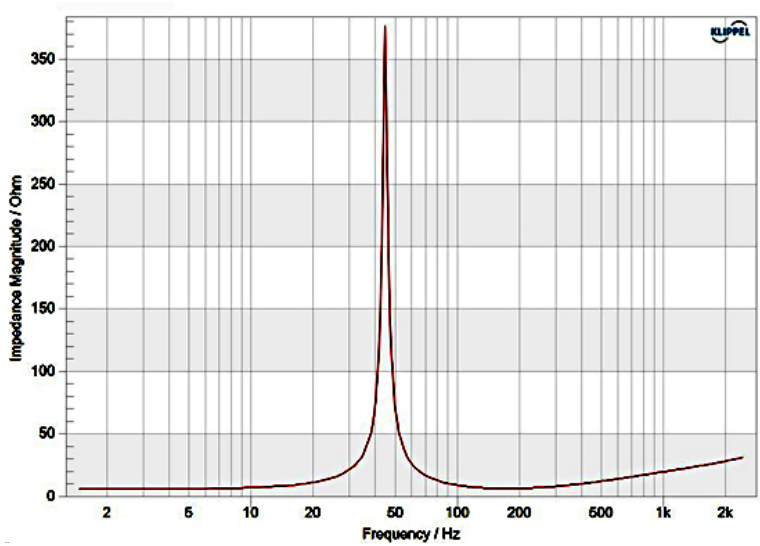
Recone Kit Number	REC15PT1200MB2.0

T/S parameters measured with Klippel LPM (laser), small signal, 8 Ω nominal. Vd = Sd × Xmax. EBP = Fs / Qes. Sensitivity is the Klippel Lnom (1 W into 8 Ω, 1 m, half-space). Max SPL = sensitivity + 10•log(1200), before power compression.

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Impedance Magnitude Z(f) — Klippel LPM



On-Axis Frequency Response — CLIO

