

CELESTION

PROFESSIONAL LOUDSPEAKERS
& COMPRESSION DRIVERS





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Quick reference guide

LF loudspeakers

Model	Application	Magnet	Power rating	Sens	Frequency range	Voice coil diameter		Xmax		Qts	Bl	Weight		Page
						(mm)	(in)	(mm)	(in)			(kg)	(lb)	
CF1025C	10" aluminium chassis mid/bass driver	Fe	600W	99dB	60-5000Hz	64	2.5	4.25	0.17	0.265	14.82	4.9	10.8	30
FTR12-3070C	12" aluminium bass/mid driver	Fe	700W	96dB	40-4000Hz	75	3	5.5	0.22	0.321	18.58	6.3	13.9	28
FTR15-3070C	15" aluminium chassis bass/mid driver	Fe	800W	99dB	40-4000Hz	75	3	5.5	0.22	0.382	17.33	6.3	13.8	25
PowerProX18	18" aluminium chassis LF loudspeaker	Fe	2400W	97dB	35-1000Hz	100	4	9.3	0.37	0.379	24.38	13.2	29.1	16
CF18VJD	18" aluminium chassis subwoofer	Fe	3200W	97dB	25-1500Hz	125	5	12	0.47	0.309	32.59	23	50.6	17
TSQ1845	18" aluminium chassis LF loudspeaker	Neo	3600W	96.5dB	30-1,000Hz	115	4.5	15	0.47	0.290	33.8	11.8	26	10
TSQ2145	21" aluminium chassis LF loudspeaker	Neo	3600W	97dB	30-1,000Hz	115	4.5	15	0.46	0.344	33.8	13.8	30.4	9
TSQ2460	24" aluminium chassis LF loudspeaker	Neo	4800W	98dB	20-200Hz	152	6	18.75	0.73	0.3	40.5	22	48	8

Coaxial drivers

Model	Application	Magnet	Power rating	Sens	Frequency range	Min crossover	Voice coil diameter		HF dispersion	Weight		Page
							(mm)	(in)		(kg)	(lb)	
FTX0617	6.5" aluminium chassis coaxial	LF:	Fe	300W	92dB	100-6000Hz	44	1.75	100°	3	6.6	90
		HF:	Fe	80W	103dB		34	1.4				
FTX0820	8" aluminium chassis coaxial	LF:	Fe	400W	94dB	1500-20,000Hz	50	2	100°	4.1	9	89
		HF:	Fe	80W	103dB		34	1.4				
FTX1025	10" aluminium chassis coaxial	LF:	Fe	600W	96dB	60-5000Hz	64	2.5	100°	4.5	9.9	88
		HF:	Fe	80W	104dB		25	1				
FTX1225	12" aluminium chassis coaxial	LF:	Fe	600W	97dB	50-4000Hz	64	2.5	90°	5.9	13	87
		HF:	Fe	120W	104dB		45	1.75				
FTX1530	15" aluminium chassis coaxial	LF:	Fe	800W	97dB	40-4000Hz	75	3	90°	6.5	14.3	86
		HF:	Fe	150W	106.5dB		75	3				

Full range speakers

Model	Application	Magnet	Power rating	Sens	Frequency range	Voice coil diameter		Xmax		Qts	Bl	Weight		Page
						(mm)	(in)	(mm)	(in)			(kg)	(lb)	
K12H-100TC	12" steel chassis extended HF response driver	Fe	200W	97dB	50-10,000Hz	45	1.75	3	0.12	0.399	13.55	3.8	8.4	106
K12H-200TC	12" steel chassis extended HF response driver	Fe	400W	98dB	50-10,000Hz	50	2	4	0.16	0.374	14.63	8.6	3.9	105

Quick reference guide

Wide-band and wideband AxiPeriodic drivers

Model	Application	Magnet	Power rating	Sens	Frequency range	Voice coil diameter		Throat exit		Weight		Page
						(mm)	(in)	(mm)	(in)	(kg)	(lb)	
Axi2050	2" exit wide band and wideband AxiPeriodic driver	Ne o	300W	108dB	300-20,000Hz	125	5	50	2	7.5	16.5	47

HF compression drivers

Model	Fitting	Power rating	Sens	Voice coil diameter		Throat exit		Diaphragm	Magnet	Frequency range	Min crossover	Weight		Page
				(mm)	(in)	(mm)	(in)					(kg)	(lb)	
CDX1-1720	Bolt	100W	107dB	44	1.75	25	1	Titanium	Ne o	800-20,000Hz	1500Hz	0.65	1.4	69
CDX1-1731	Screw	80W	110dB	44	1.75	25	1	PE TP film	Ne o	1200-20,000Hz	2200Hz	0.65	1.4	71
CDX1-1745	Bolt	80W	110dB	44	1.75	25	1	PE TP film	Fe	1200-20,000Hz	2200Hz	2.3	5.1	56
CDX1-1747	Bolt	120W	110dB	44	1.75	25	1	Polyimide	Fe	1000-20,000Hz	1600Hz	2.3	5.1	54
CDX14-3045	Bolt	240W	108dB	75	3	35	1.4	Titanium	Ne o	500-20,000Hz	1000Hz	2	4.4	66
CDX14-3055	Bolt	240W	108dB	75	3	35	1.4	Titanium	Ne o	500-20,000Hz	1000Hz	1.7	3.7	64
CDX20-3020	Bolt	200W	107dB	75	3	50	2	Titanium	Fe	500-18,000Hz	800Hz	4.9	10.8	50



Consistently superior performance.

The result of a specialist development program within Celestion's UK-based R&D facility, Ten Squared (Ten²) is a range of low frequency pro audio drivers, designed and engineered without compromise to deliver consistently superior levels of performance in the most demanding professional sound reinforcement applications, even after hundreds of hours of use.

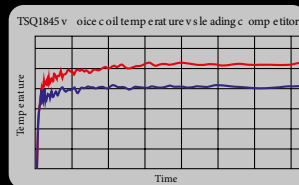
Ten Key Features

That add up to a new standard in LF driver performance

The Ten² development program revisited every detail of driver design, developing and testing a series of incremental improvements that combine to redefine standards of performance and durability in professional low frequency loudspeakers.

Precision Tuned Venting

Precision Tuned Venting (PTV) harnesses the cooling effects of constant air flow in a set of precisely dimensioned vents, enabling cooling around the coil and magnet assembly to be significantly improved - by up to 30°C compared to conventional designs.

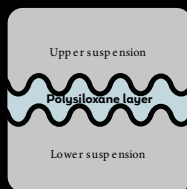


Reduced Power Compression

Highly efficient PTV cooling delivers additional reduction in power compression (loss of driver efficiency), as well as slower thermal stresses on the voice coil, leading to improved performance, endurance and longevity.

Polysiloxane Laminated Dual Suspension

Polysiloxane (a silicone polymer) is sandwiched between two resin-impregnated layers which enables the laminated suspension to be worked much harder without losing stiffness, giving better coil control, making DC shift less likely and increasing speaker longevity.

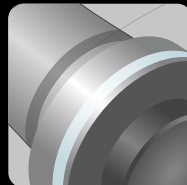


Reconfigured Magnet Assembly For Greater Excursion

A re-configured magnet assembly allows much greater cone excursion before damage occurs (Xmech) and best-in-class Xprotection figures (the distance the coil and cone move, measured to the point where both BL and Cms have both reduced to 30% of their resting value).

Convergent Motor Strength & Mechanical Compliance

Electrical motor strength BL and mechanical compliance Cms reach their defined Xprotection limit at practically the same point: achieving a low distortion performance even during high excursion.

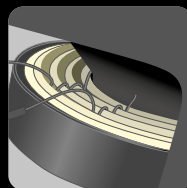
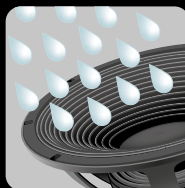


Custom Voice Coil Structure

Celestion winds its own voice coils using proprietary adhesion and voice coil structure solutions to maximise product lifespan and performance longevity.

Enhanced Moisture Protection

A water-based solvent is applied to one or both sides of the loudspeaker's cone (depending on speaker model and desired application). This significantly improves the driver's ability to resist direct exposure to water and higher levels of humidity, and also improves product durability.

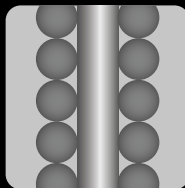


Laser-Cauterized Lead Out Wire Holes

Weaving lead-out wires into the suspension through laser cut holes reduces 'whipping' and lessens the fatigue on wires and joints caused by high power and cone excursion.

Multi-layer Inside/Outside Coil Windings

Celestion's voice coils are wound inside/outside in multiple layers, to maximise cooling potential with the greatest amount of surface area exposed to free air. This further contributes to the reduction of both power compression and thermal stresses.



Precision built in the UK

TSQ drivers are built on the newly-commenced, robotically-assisted production line at Celestion's UK-based loudspeaker research and manufacturing facility, and rigorously tested in line with an exacting list of performance criteria.

TSQ2460



Preliminary Information

Parameters⁴

Sd	2239cm ² / 347in ²
Fs	29Hz
Mms	530g / 18.69oz
Qms	10.3
Qes	0.31
Qts	0.3
Re	5.1Ω
Vas	404l / 14.26ft ³
Bl	40.5Tm
Cms	0.057mm/N
Rms	9.1kg/s
Le (at 1kHz)	2.5mH
Xmax ⁵	18.75mm / 0.73in
Xmeh ⁶	40mm / 1.57in

Packed Dimensions & Weights

Single pack size (WxDxH)	650mm x 650mm x 290mm
	25.5in x 25.5in x 11.4in
Single pack weight	25kg / 55lb

24-inch cast aluminum chassis
neodymium magnet low frequency
loudspeaker

- Advanced temperature control using 3-channel tuned venting system provides highly efficient cooling across the frequency band
- Voice coil typically operates at 30°C lower temperature than other leading drivers in this class
- Polysiloxane laminated double suspension provides much greater stability and improved cone displacement symmetry
- Lead-out wires precision woven into suspension minimizes excess motion and reduces fatigue
- Double-sided, weatherproof cone coating enhances durability

4800W

continuous power
rating

98dB

sensitivity

6-inch

round copper voice
coil

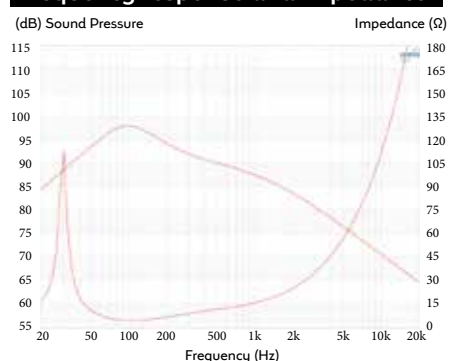
General Specifications

Nominal diameter	610mm / 24in
Power rating ¹	2400W
Continuous power rating ²	4800W
Rated impedance	8Ω
Sensitivity ³	98dB
Frequency range	20-200Hz
Chassis type	Cast aluminum
Magnet type	Neodymium
Voice coil diameter	152mm / 6in
Voice coil material	Round copper
Former material	Glass fibre
Cone material	Glass loaded cellulose, water-resistant coating front & back
Surround material	Triple roll, cloth sealed
Suspension	Triple, polysiloxane-laminated
Gap height (H _g)	15mm / 0.59in
VC winding height (H _{vc})	45mm / 1.77in

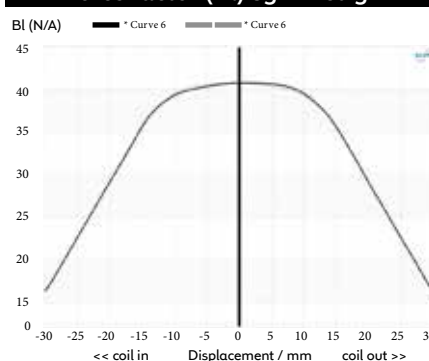
Mounting Information

Overall diameter	627mm / 24.7in
Overall depth	280mm / 11in
Cut-out diameter	571mm / 22.5in
Mounting hole dimensions	8.5x9mm / 0.33x0.35in
Number of mounting holes	8
Mounting hole PCD	596.3-606mm / 23.47-23.86in
Flange & gasket thickness	21mm / 0.83in
Unit weight	22kg / 48lb

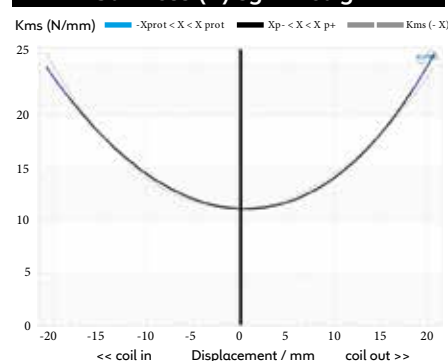
Frequency response and impedance*



Force factor (Bl) symmetry*



Stiffness (K) symmetry*



1. Tested for two hour using a continuous, band-limited pink noise signal at 1W, 1m in 2π anechoic environment. 2. Define as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit subjected to preconditioning signal: 5.05(Hvc-Hg) + 0.25Hz. 5. Maximum peak-to-peak excursion before damage. 6. Simulated data.

21-inch cast aluminum chassis neodymium magnet low frequency loudspeaker

- Advanced temperature control using 3-channel tuning venting system provides highly efficient cooling across the frequency band
- Voice coil typically operates at 30°C lower temperature than other leading drivers in this class
- Polysiloxane laminated triple suspension provides much greater stability and improved cone displacement symmetry
- Lead-out wires precision woven into suspension minimises excess motion and reduces fatigue
- Double-sided, weatherproof cone coating enhances durability

3600W
continuous power rating

97dB
sensitivity

4.5-inch
round copper voice coil

General Specifications

Nominal diameter	530mm / 21in
Power rating ¹	1800W
Continuous power rating ²	3600W
Rated impedance	8Ω
Sensitivity ³	97dB
Frequency range	30-1,000Hz
Chassis type	Cast aluminum
Magnet type	Neodymium
Voice coil diameter	115mm / 4.5in
Voice coil material	Round copper
Form material	Glass fibre
Cone material	Glass loaded cellulose, water-resistant coating front & back
Surround material	Triple roll, cloth sealed
Suspension	Triple, polysiloxane-laminated
Gap height (H _g)	12mm / 0.46in
VC winding height (H _{vc})	36mm / 1.42in

Mounting Information

Overall diameter	541mm / 21.3in
Overall depth	250mm / 9.84in
Cut-out diameter	505mm / 19.88in
Mounting hole dimensions	8.5x10mm / 0.33x0.39in
Number of mounting holes	8
Mounting hole PCD	525-528mm / 20.61-20.79in
Flange & gasket thickness	17mm / 0.67in
Unit weight	13.8kg / 30.4lb

TSQ2145



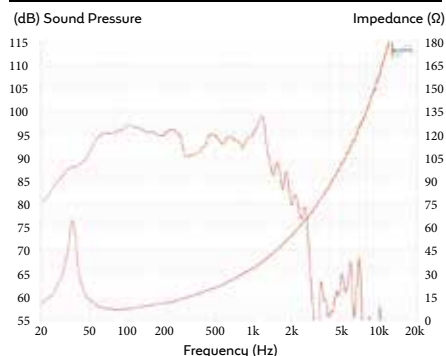
Parameters⁴

Sd	1661 9cm ² / 257 9in ²
Fs	30Hz
Mms	435 2g / 15 35oz
Qms	8.393
Qes	0.359
Qts	0.344
Re	5.0Ω
Vas	253 8l / 8 96ft ³
Bl	33.8Tm
Cms	0.065mm/N
Rms	9.77kg/s
Le (at 1kHz)	3.91mH
Xmax ⁵	15mm / 0.46in
Xmech ⁶	40mm / 1.57in
Efficiency π ₀	1.9%

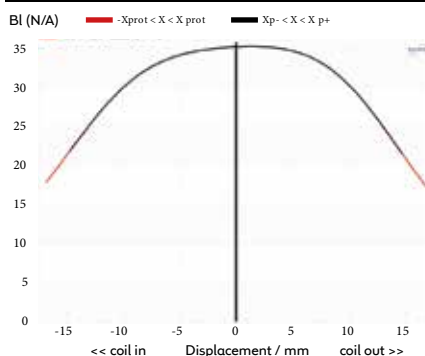
Packed Dimensions & Weights

Single pack size (WxDxH)	575mm x 575mm x 280mm
	22.6in x 22.6in x 11in
Single pack weight	14.5kg / 32lb

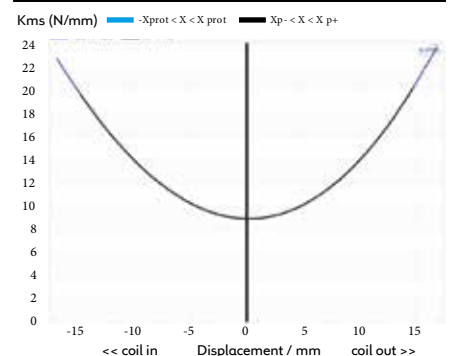
Frequency response and impedance



Force factor (Bl) symmetry



Stiffness (K) symmetry



1. Tested for two hours using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. 2. Define d as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit subjected to pre-conditioning signal: 5.0 5°(Hvc-Hg) + 0.25°Hg. 6. Maximum peak-to-peak excursion before damage.

TSQ1845



18-inch cast aluminium chassis neodymium magnet low frequency loudspeaker

- Advanced temperature control using 3-channel tuned venting system provides highly efficient cooling across the frequency band
- Voice coil typically operates at 30°C lower temperature than other leading drivers in this class
- Polysiloxane laminated double suspension provides much greater stability and improved cone displacement symmetry
- Lead-out wires precision woven into suspension minimises excess motion and reduces fatigue
- Double-sided, weatherproof cone coating enhances durability

3600W continuous power rating
96.5dB sensitivity
4.5-inch round copper voice coil

Parameters⁴

Sd	1134cm ² / 175.8in ²
Fs	35Hz
Mms	316g / 11.18oz
Qms	8.712
Qes	0.300
Qts	0.290
Re	5.0Ω
Vas	119.3l / 4.21ft ³
Bl	33.8Tm
Cms	0.065mm/N
Rms	7.99kg/s
Le (at 1kHz)	3.06mH
Xmax ⁵	15mm / 0.47in
Xmeh ⁶	40mm / 1.57in
Efficiency π _o	1.8%

Packed Dimensions & Weights

Single pack size (WxDxH)	500mm x 500mm x 280mm 19in x 19in x 11in
Single pack weight	12.3kg / 27.1lb

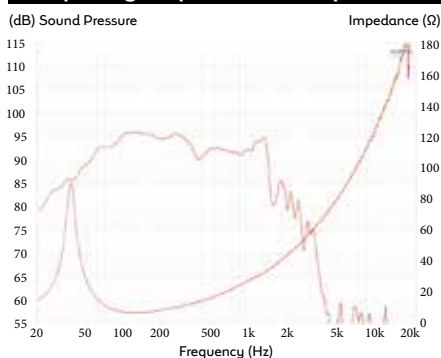
General Specifications

Nominal diameter	457mm / 18in
Power rating ¹	1800W
Continuous power rating ²	3600W
Rated impedance	8Ω
Sensitivity ³	96.5dB
Frequency range	30-1,000Hz
Chassis type	Cast aluminium
Magnet type	Neodymium
Voice coil diameter	115mm / 4.5in
Voice coil material	Round copper
Former material	Glass fibre
Cone material	Glass loaded cellulose, water-resistant coating front & back
Surround material	Triple roll, cloth sealed
Suspension	Dual, polysiloxane-laminated
Gap height (H _g)	12mm / 0.46in
VC winding height (H _{vc})	36mm / 1.42in

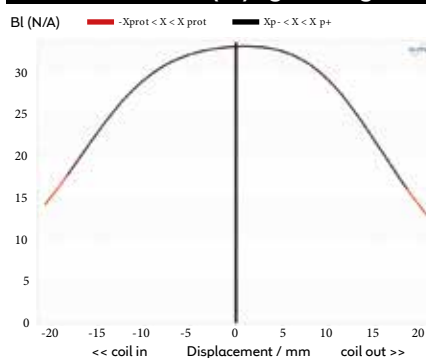
Mounting Information

Overall diameter	460mm / 18.1in
Overall depth	235mm / 9.5in
Cut-out diameter	414mm / 16.29in
Mounting hole dimensions	7x11mm / 0.28x0.43in
Number of mounting holes	8
Mounting hole PCD	432-441mm / 17.04-17.36in
Flange & gasket thickness	17mm / 0.67in
Unit weight	11.8kg / 26lb

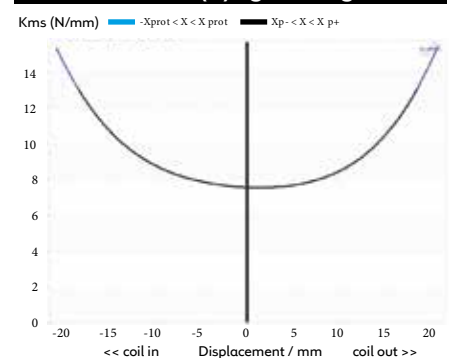
Frequency response and impedance



Force factor (Bl) symmetry



Stiffness (K) symmetry



1. Tested for two hours using a continuous, band-limited pink noise signal at 1W, 1m in 2π anechoic environment. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit subjected to preconditioning signal. 5. 0.5° (Hvc-Hg) + 0.25°Hg. 6. Maximum peak-to-peak excursion before damage.





LF Cast Chassis Ferrite

Ferrite magnetic cast aluminum
chassis drivers

	Nominal diameter	Continuous power rating	Rated impedance	Sensitivity	Frequency range	Voice coil diameter	Unit weight
PowerProX18	457mm/18in	2400W	8Ω	97dB	35-1000Hz	100mm/4in	13.2kg/29.1lb
CF18VJD	457mm/18in	3200W	4/8Ω	97dB	25-1500Hz	125mm/5in	23kg/50.6lb
FTR15-3070C	381mm/15in	800W	8Ω	99dB	40-4000Hz	75mm/3in	6.3kg/13.8lb
FTR12-3070C	305mm/12in	700W	8Ω	96dB	40-4000Hz	75mm/3in	6.3kg/13.9lb
CF1025C	254mm/10in	600W	8Ω	99dB	60-5000Hz	64mm/2.5in	4.9kg/10.8lb

PowerProX18



18-inch, cast aluminum chassis,
ferrite magnet LF loudspeaker

- PowerProX speakers are built for maximum performance and reliability throughout the lifespan of each speaker
- Dynamic air flow venting delivers class-leading heat management with an average 20°C lower voice coil temperature
- Polysiloxane laminated dual suspension provides greater stability and improved cone displacement symmetry
 - Aluminum demodulation ring reduces harmonic and intermodulation distortion caused by voice coil displacement
- Double-sided, weatherproof cone coating for moisture protection and enhanced durability

2400W

continuous power
rating

97dB

sensitivity

4-inch

inside / outside round
copper voice coil

General Specifications

Nominal diameter	457mm / 18in
Power rating ¹	1200W
Continuous power rating ²	2400W
Rated impedance	8Ω
Sensitivity ³	97dB
Frequency range	35-1000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	3.5kg / 124oz
Voice coil diameter	100mm / 4in
Voice coil material	Round copper
Former material	Glass fibre
Cone material	Glass loaded cellulose, water-resistant coating front & back
Surround material	Cloth-sealed
Suspension	Dual-laminated
Gap height (H _g)	12.75mm / 0.5in
VC winding height (H _{vc})	25mm / 0.98in

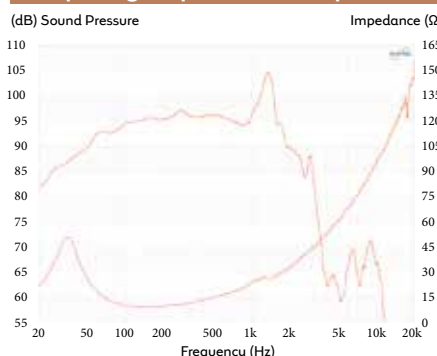
Parameters⁴

Sd	1210.0cm ² / 187.6in ²
Fs	34.8Hz
Mms	229.98g / 8.1oz
Qms	3.147
Qes	0.431
Qts	0.379
Re	5.1Ω
Vas	188.9l / 6.67ft ³
Bl	24.38Tm
Cms	0.091mm/N
Rms	15.96kg/s
Le (at 1kHz)	1.61mH
Xmax ⁵	9.3mm / 0.37in
Xmech ⁶	48mm / 1.9in
Efficiency η _o	1.8%

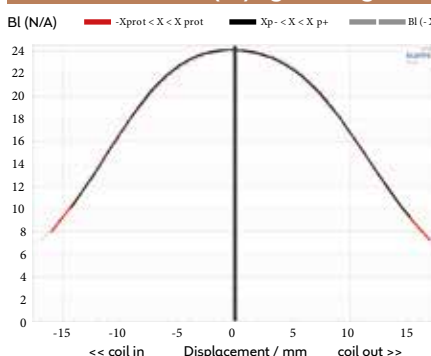
Mounting Information

Overall diameter	460mm / 18.1in
Overall depth	225mm / 8.9in
Cut-out diameter	414mm / 16.29in
Mounting hole dimensions	11x7mm / 0.43x0.28in
Number of mounting holes	8
Mounting hole PCD	441-432mm / 17.36-17.31in
Flange & gasket thickness	16.2mm / 0.64in
Unit weight	13.2kg / 29.1lb

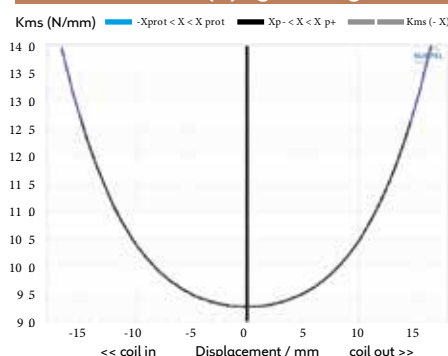
Frequency response and impedance



Force factor (Bl) symmetry



Stiffness (K) symmetry



1. Tested for two hours using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. 2. Define a 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit subjected to pre-conditioning signal. 5. 0.5*(Hvc-Hg) + 0.25*Hg. 6. Maximum peak-to-peak excursion before damage.

18-inch, cast aluminum chassis, ferrite magnet subwoofer

CF18VJD

- Airflow vented magnet assembly for dynamic heat dispersion
- Twin demodulation rings
- Longer coil for greater control at high excursion
- Optimised double suspension

3200W

continuous power
rating

97dB

sensitivity

5-inch

inside / outside round
copper voice coil



General Specifications

Nominal diameter	457mm / 18in
Power rating ¹	1600W
Continuous power rating ²	3200W
Rated impedance	8Ω
Sensitivity ³	97dB
Frequency range	25-1500Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	4.93kg / 174oz
Voice coil diameter	125mm / 5in
Voice coil material	Round copper
Former material	Glass fibre
Cone material	Carbon and kevlar loaded paper
Surround material	Cloth-sealed
Suspension	Double
Gap height (H _g)	12mm / 0.47in
VC winding height (H _{vc})	30mm / 1.18in

Parameters⁴

S _d	1134 cm ² / 175.79in ²
F _s	34.50Hz
M _{ms}	265.42g / 9.36oz
Q _{ms}	4.573
Q _{es}	0.332
Q _{ts}	0.309
R _e	6.13Ω
V _{as}	145.81l / 5.15ft ³
Bl	32.59Tm
C _{ms}	0.08mm/N
R _{ms}	12.59kg/s
Le (at 1kHz)	1.87mH
X _{max} ⁵	12mm / 0.47in

Mounting Information

Overall diameter	462mm / 18.19in
Overall depth	233mm / 9.17in
Cut-out diameter	416mm / 16.38in
Mounting hole dimensions	11x7mm / 0.43x0.28in
Number of mounting holes	8
Mounting hole PCD	432-441mm / 17.0-17.36in
Unit weight	23kg / 50.6lb

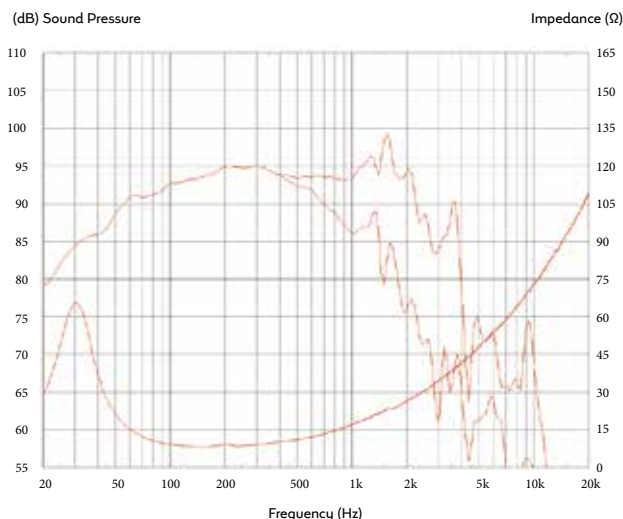
Packed Dimensions & Weights

Single package size (WxDxH)	500mm x 500mm x 255mm
	19.7in x 19.7in x 10.1in
Single package weight	24kg / 52.8lb

Also available in 4Ω, data available on request

1. Tested for two hours using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit subjected to pre-conditioning signal. 5. X_{max} = 0.5° (Hv-Hg) + 0.25° Hg.

Frequency Response and Impedance Curves



Topmost curve: Frequency response on axis | Secondary curve: Frequency response at 45° off axis

15-inch, cast aluminum chassis, ferrite magnet bass/mid driver

FTR15-3070C

- Full gap flux saturation for increased BL and reduced distortion
- Glass loaded paper cone with weather-resistant impregnation
- Airflow vented magnet assembly for dynamic heat dispersion

800W

continuous power
rating

99dB

sensitivity

3-inch

inside /outside round
copper voice coil

General Specifications

Nominal diameter	381mm / 15in
Power rating ¹	400W
Continuous power rating ²	800W
Rated impedance	8Ω
Sensitivity ³	99dB
Frequency range	40-4000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	2.3kg / 81oz
Voice coil diameter	75mm / 3in
Voice coil material	Round copper
Form material	Glass fibre
Cone material	Glass loaded paper (weather-resistant)
Surround material	Cloth-sealed
Suspension	Single
Gap height (H _g)	10mm / 0.39in
VC winding height (H _{vc})	16mm / 0.63in

Parameters⁴

Sd	855.30cm ² / 132.57in ²
Fs	41.40Hz
Mms	81.73g / 2.88oz
Qms	3.510
Qes	0.429
Qts	0.382
Re	6.07Ω
Vas	187.62l / 6.63ft ³
BL	17.33Tm
Cms	0.18mm/N
Rms	6.05kg/s
Le (at 1kHz)	0.59mH
Xmax ⁵	5.5mm / 0.22in

Mounting Information

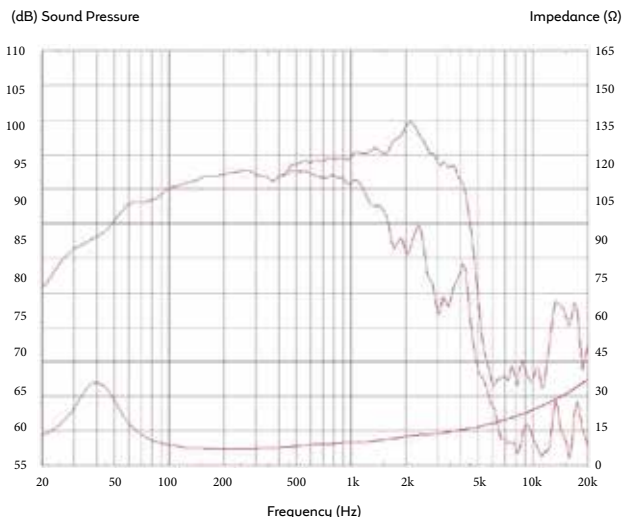
Overall diameter	385mm / 15.16in
Overall depth	158mm / 6.2in
Cut-out diameter	351mm / 13.82in
Mounting hole dimensions	10x7mm / 0.39x0.27in
Number of mounting holes	8
Mounting hole PCD	365-375mm / 14.37-14.76in
Unit weight	6.3kg / 13.8lb

Packed Dimensions & Weights

Single pack size (WxDxH)	435mm x 435mm x 200mm
	17.1in x 17.1in x 7.9in
Single pack weight	7.7kg / 17.0lb
Multi pack quantity	36
Multi pack size (WxDxH)	1210mm x 1050mm x 980mm
	47.6in x 41.3in x 35.4in
Multi pack weight	260kg / 570lb



Frequency Response and Impedance Curves



Topmost curve: Frequency response on axis | Secondary curve: Frequency response at 45° off axis

¹ Tested for two hours using a continuous, band-limited pink noise signal at 1W per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. ² Defined as 3dB greater than the AES rating. ³ Measured on axis at 1W, 1m in 2π anechoic environment. ⁴ Measured after unit subjected to pre-conditioning signal. ⁵ Xmax = 0.5°(Hvc-Hg) + 0.25°Hg.

FTR12-3070C

12-inch, cast aluminum chassis,
ferrite magnet bass/mid driver

- Glass loaded paper cone with weather-resistant impregnation
- Airflow vented magnet assembly for dynamic heat dissipation

700W

continuous power
rating

96dB

sensitivity

3-inch

inside / outside round
copper voice coil



General Specifications

Nominal diameter	305mm / 12in
Power rating ¹	350W
Continuous power rating ²	700W
Rated impedance	8Ω
Sensitivity ³	96dB
Frequency range	40-4000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	2.3kg / 81oz
Voice coil diameter	75mm / 3in
Voice coil material	Round copper
Former material	Glass fibre
Cone material	Glass loaded paper (weather-resistant)
Surround material	Cloth-sealed
Suspension	Single
Gap height (H _g)	10mm / 0.4in
VC winding height (H _{vc})	16mm / 0.63in

Parameters⁴

S _d	530 93cm ² / 82.29in ²
F _s	65 10Hz
M _{ms}	54.61g / 1.93oz
Q _{ms}	2.804
Q _{es}	0.362
Q _{ts}	0.321
R _e	5.59Ω
V _{as}	43.70l / 1.54ft ³
Bl	18.58Tm
C _{ms}	0.11mm/N
R _{ms}	7.96kg/s
L _e (at 1kHz)	1.09mH
X _{max} ⁵	5.5mm / 0.22in

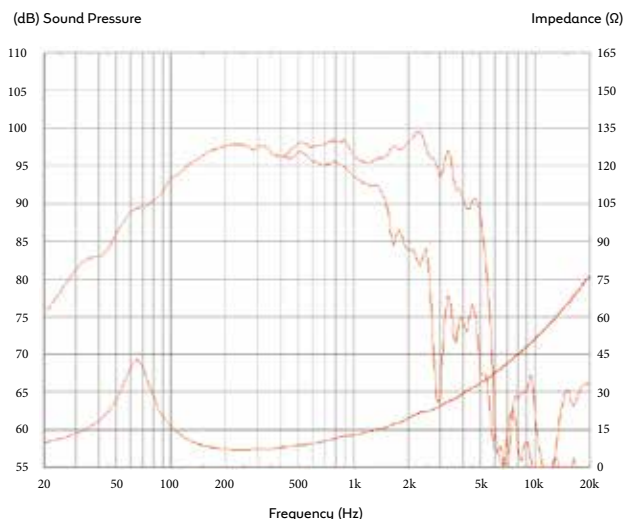
Mounting Information

Overall diameter	318mm / 12.5in
Overall depth	102mm / 4in
Cut-out diameter	286mm / 11.26in
Mounting hole dimensions	10x7mm / 0.39x0.27in
Number of mounting holes	8
Mounting hole PCD	298-304mm / 11.7-12.0in
Unit weight	6.3kg / 13.9lb

Packed Dimensions & Weights

Single pack size (WxDxH)	350mm x 350mm x 180mm 13.8in x 13.8in x 7.1in
Single pack weight	6.3kg / 13.9lb
Multi pack quantity	60
Multi pack size (WxDxH)	1210mm x 1050mm x 980mm 47.6in x 41.3in x 35.4in
Multi pack weight	410kg / 900lb

Frequency Response and Impedance Curves



Topmost curve: Frequency response on axis | Secondary curve: Frequency response at 45° off axis

1. Tested for two hours using a continuous, band-limited pink noise signal at 1W per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2πr anechoic environment. 4. Measured after units subjected to preconditioning signal. 5. X_{max} = 0.5*(H_{vc}-H_g) + 0.25*H_g.

CF1025C

10-inch, cast aluminum chassis,
ferrite magnet mid/bass driver



- Balanced air flow venting provides enhanced cooling
- Twin demodulation rings

600W

continuous power
rating

99dB

sensitivity

2.5-inch

edge wound copper
clad aluminum voice
coil

General Specifications

Nominal diameter	254mm / 10in
Power rating ¹	300W
Continuous power rating ²	600W
Rated impedance	8Ω
Sensitivity ³	99dB
Frequency range	60-5000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	1.7kg / 60oz
Voice coil diameter	64mm / 2.5in
Voice coil material	Edge wound copper clad aluminum
Former material	Glass fiber
Cone material	Kevlar loaded paper
Surround material	Cloth-sealed
Suspension	Single
Gap height (H _g)	8mm / 0.3in
VC winding height (H _{vc})	12.5mm / 0.49in

Parameters⁴

S _d	346 36cm ² / 53 69in ²
F _s	54 8Hz
M _{ms}	37.03g / 1.31oz
Q _{ms}	2.338
Q _{es}	0.299
Q _{ts}	0.265
R _e	5.15Ω
V _{as}	38.63l / 1.36ft ³
BL	14.82Tm
C _{ms}	0.23mm/N
R _{ms}	5.46kg/s
L _e (at 1kHz)	0.57mH
X _{max} ⁵	4.25mm / 0.17in

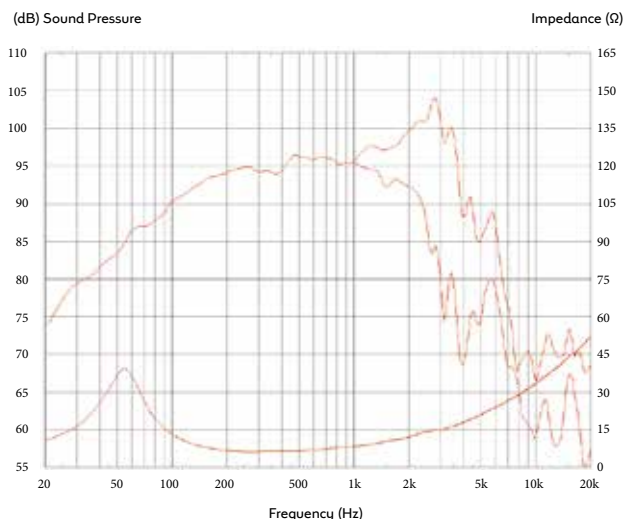
Mounting Information

Overall diameter	265mm / 10.43in
Overall depth	119mm / 4.7in
Cut-out diameter	230 8mm / 9.1in
Mounting hole dimensions	8x6.5mm / 0.3x0.25in
Number of mounting holes	8
Mounting hole PCD	244 5-247mm / 9.63-9.73in
Unit weight	4.9kg / 10.8lb

Packed Dimensions & Weights

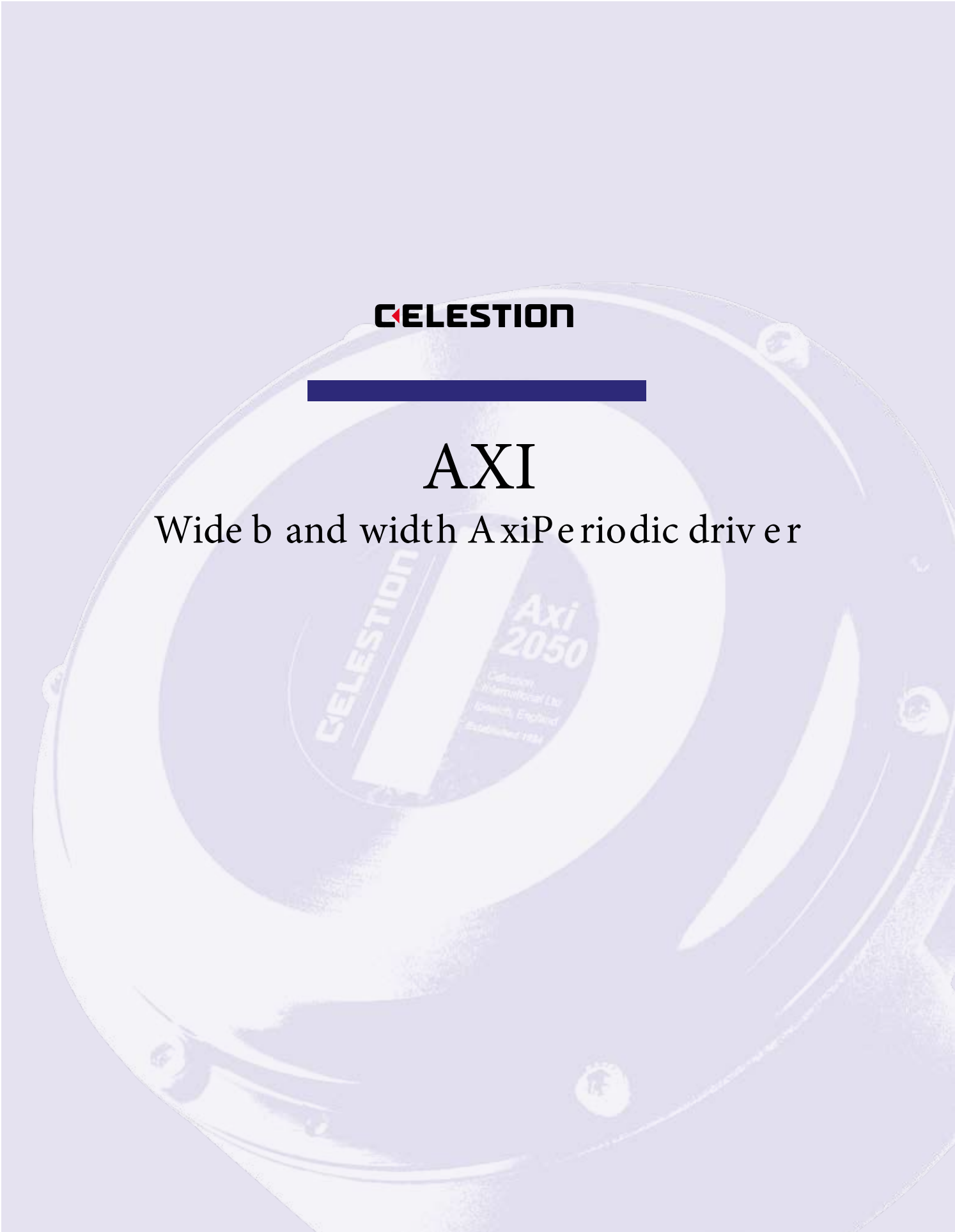
Single pack size (WxDxH)	306mm x 306mm x 155mm
	12in x 12in x 6.1in
Single pack weight	5.5kg / 12.1lb
Multi pack quantity	8
Multi pack size (WxDxH)	555mm x 520mm x 290mm
	21.9in x 20.5in x 11.4in
Multi pack weight	45kg / 99lb

Frequency response and Impedance Curves



Topmost curve: Frequency response on axis | Secondary curve: Frequency response at 45° off axis

1. Tested for two hours using a continuous, band-limited pink noise signal at 1W, 1m in 2π anechoic environment. 2. Power calculated on minimum impedance. Loudspeaker tested in free air. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit subjected to preconditioning signal. 5. X_{max} = 0.5 * (H_{vc} - H_g) + 0.25 * H_g.



CELESTION

AXI

Wide band width AxiPeriodic driver

2-inch exit, neodymium magnet,
wide band width AxiPeriodic driver

Axi2050

- No midband crossover required
- Low mass Titanium diaphragm with unique circumferentially AxiPeriodic geometry
- Sculpted diaphragm profile prevents break-up in critical listening band
 - Vibration modes decoupled from acoustic modes removing unwanted resonance peaks
- Large effective surround area extends low frequency performance

300W

continuous power rating

108dB

sensitivity

300-20,000Hz

frequency range



General Specifications

Power rating ¹	150W
Continuous power rating ²	300W
Rated impedance	8Ω
Sensitivity ³	108dB
Frequency range	300-20,000Hz
Magnet type	Neodymium
Voice coil diameter	125mm / 5in
Voice coil material	Aluminum
Diaphragm material	Titanium
Surround material	Integrated

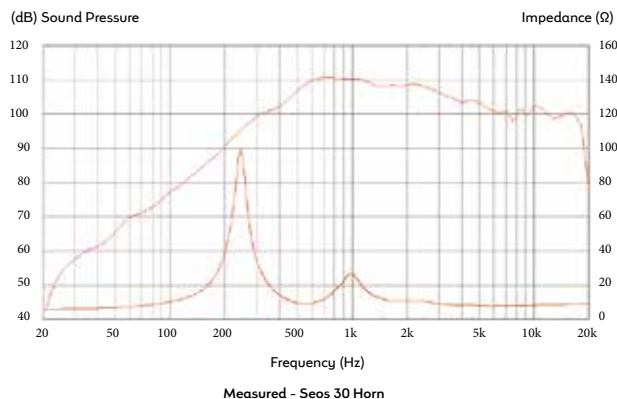
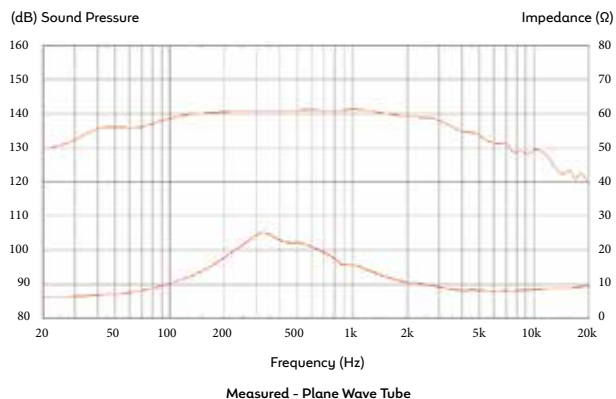
Mounting Information

Width	198mm / 7.8in
Depth	111mm / 4.4in
Fitting	Bolt (4 x M6 holes on 102mm/4in PCD)
Throat exit	50mm / 2in
Unit weight	7.5kg / 16.5lb

Packed Dimensions & Weights

Single pack size (WxDxH)	300mm x 300mm x 165mm
	11.8in x 11.8in x 6.5in
Single pack weight	8.2kg / 18.1lb

Frequency Response and Impedance Curves



1. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m, using a compactible horn, in a 2π anechoic environment.



HF Ferrite

Ferrite magnet compression drivers

	Magnet type	Voice coil diameter		Throat exit	Fitting	Diaphragm material	Power rating	Rated impedance	Sensitivity	Frequency range	Min crossover frequency	Unit weight
CDX20-3020	Ferrite	75mm/3in		50mm/2in	Bolt	Titanium	200W	8Ω	107dB	500-18,000Hz	800Hz	4.9kg/10.8lb
CDX1-1747	Ferrite	44mm/1.75in		25mm/1in	Bolt	Polyimide	120W	8Ω	110dB	1000-20,000Hz	1600Hz	2.3kg/5.1lb
CDX1-1748	Ferrite	44mm/1.75in		25mm/1in	Screw	Polyimide	120W	8Ω	110dB	1000-20,000Hz	1600Hz	2.3kg/5.1lb
CDX1-1745	Ferrite	44mm/1.75in		25mm/1in	Bolt	PE TP film	80W	8/16Ω	110dB	1200-20,000Hz	2200Hz	2.3kg/5.1lb
CDX1-1746	Ferrite	44mm/1.75in		25mm/1in	Screw	PE TP film	80W	8/16Ω	110dB	1200-20,000Hz	2200Hz	2.3kg/5.1lb
CDX1-1447	Ferrite	35mm/1.4in		25mm/1in	Bolt	Polyimide	70W	8Ω	106dB	1500-20,000Hz	2200Hz	1.0kg/2.2lb
CDX1-1445	Ferrite	35mm/1.4in		25mm/1in	Bolt	PE TP film	40W	8/16Ω	106dB	1500-20,000Hz	2200Hz	1.0kg/2.2lb
CDX1-1446	Ferrite	35mm/1.4in		25mm/1in	Screw	PE TP film	40W	8/16Ω	106dB	1500-20,000Hz	2200Hz	1.0kg/2.2lb

CDX20-3020

2-inch exit ferrite magnet
compression driver



- 800Hz recommended minimum crossover frequency (12dB /oct)
- Single piece titanium diaphragm and surround

200W
continuous power
rating

107dB
sensitivity

3-inch
edge wound copper
clad aluminum voice
coil

General Specifications

Power rating ¹	100W
Continuous power rating ²	200W
Rated impedance	8Ω
Sensitivity ³	107dB
Frequency range	500-18,000Hz
Recommended minimum crossover (12dB /oct)	800Hz
Magnet type	Ferrite
Voice coil diameter	75mm / 3in
Voice coil material	Edge wound copper clad aluminum
Diaphragm material	Titanium
Surround material	Titanium

Mounting Information

Width	180mm / 7.0in
Depth	68.0mm / 2.7in
Fitting	Bolt (4 x M6 holes on a 102mm/4in PCD)
Throat exit	50mm / 2in
Unit weight	4.9kg / 10.8lb

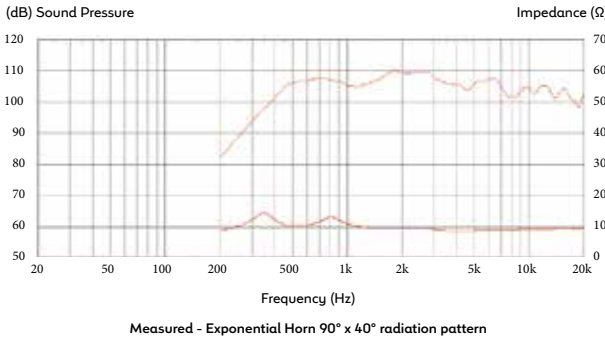
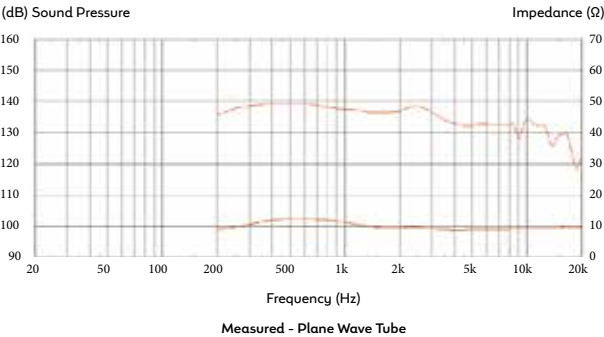
Packed Dimensions & Weights

Single pack size (WxDxH)	214mm x 196mm x 82mm 8.4in x 7.7in x 3.2in
Single pack weight	5.1kg / 11.2lb

Repair Kits

T6509	Diaphragm repair kit (8Ω)
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Frequency Response and Impedance Curves



1. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal at 1W per AES standard. Power calculated on minimum impedance. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.

CDX1-1747/48

1-inch exit ferrite magnet
compression driver



CDX1-1747
bolt fitting



CDX1-1748
screw fitting

- Single piece polyimide diaphragm and surround
- Sound Castle soft clamping diaphragm assembly
- 1,600Hz recommended minimum crossover frequency (12dB/oct)
- Bolt (CDX1-1747) and screw (CDX1-1748) fitting versions available

120W

continuous power
rating

110dB

sensitivity

1.75in

edge wound copper
clad aluminum voice
coil

General Specifications

Power rating ¹	60W
Continuous power rating ²	120W
Rated impedance	8Ω
Sensitivity ³	110dB
Frequency range	1000-20,000Hz
Recommended minimum crossover (12dB/oct)	1600Hz
Magnet type	Ferrite
Voice coil diameter	44mm / 1.75in
Voice coil material	Edge wound copper clad aluminum
Diaphragm material	Polyimide
Surround material	Polyimide

Mounting Information

Width	120mm / 4.7in
Depth	53mm / 2.1in
Fitting (1747)	Bolt (2/3 M6 holes on 76/57mm, 3/0/2 24in PCD)
Fitting (1748)	Screw (35mm/1.38in diameter)
Throat exit	25mm / 1in
Unit weight	2.3kg / 5.1lb

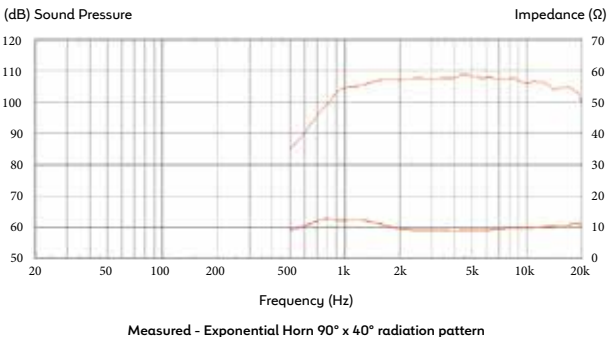
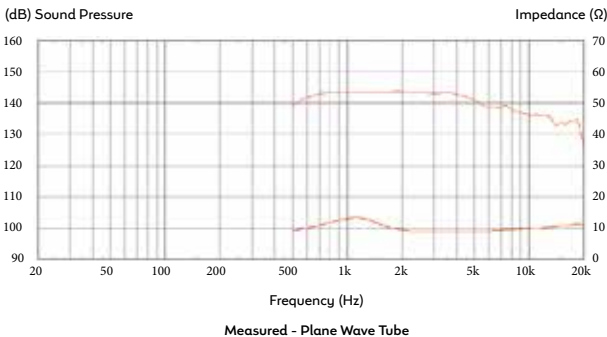
Packed Dimensions & Weights

Single pack size (WxDxH)	140mm x 170mm x 70mm 5.5in x 6.7in x 2.8in
Single pack weight	3kg / 6.6lb
Multi pack quantity	6
Multi pack size (WxDxH)	430mm x 370mm x 90mm 16.9in x 14.6in x 3.5in
Multi pack weight	14kg / 30.8lb

Horns & Repair Kits

T5572	Diaphragm repair kit (8Ω)
T5359	H1-9040P Horn
T5134	H1-7050 'Noble' Horn
T5951	H1SC-9050 Horn (screw)
T5952	H1SC-8050 Horn (screw)

Frequency Response and Impedance Curves



1. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal at 1W per AES standard. Power calculated on minimum impedance. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.

CDX1-1745/46



CDX1-1746
screw fitting



CDX1-1745
bolt fitting

1-inch exit ferrite magnet
compression driver

- Single piece PE TP diaphragm and surround
- Sound Castle diaphragm assembly
- 2,200Hz recommended minimum crossover frequency (12dB/oct)
- Bolt (CDX1-1745) and screw (CDX1-1746) fitting versions available

80W
continuous power
rating

110dB
sensitivity

1.75in
edge wound copper
clad aluminum voice
coil

General Specifications

Power rating ¹	40W
Continuous power rating ²	80W
Rated impedance	8Ω
Sensitivity ³	110dB
Frequency range	1200-20,000Hz
Recommended minimum crossover (12dB/oct)	2200Hz
Magnet type	Ferrite
Voice coil diameter	44mm / 1.75in
Voice coil material	Edge wound copper clad aluminum
Diaphragm material	PE TP film
Surround material	PE TP film

Mounting Information

Width	120mm / 4.7in
Depth	56mm / 2.2in
Fitting (1745)	Bolt (2/3 M6 holes on 76/57mm, 30/24in PCD)
Fitting (1746)	Screw (35mm/1.38in D diameter)
Throat exit	25mm / 1in
Unit weight	2.3kg / 5.1lb

Packed Dimensions & Weights

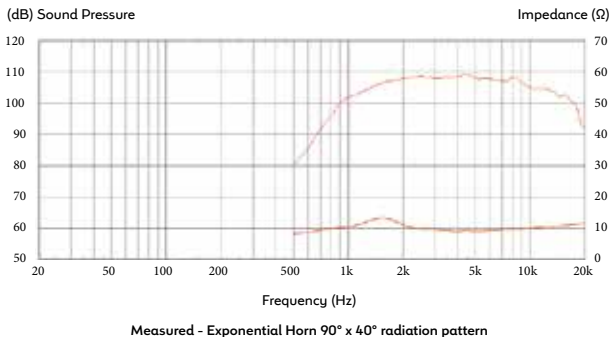
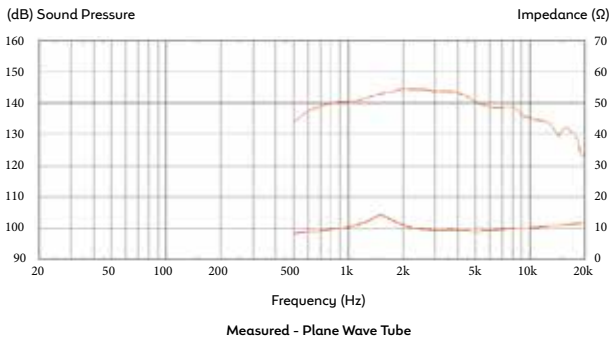
Single pack size (WxDxH)	140mm x 170mm x 70mm 5.5in x 6.7in x 2.8in
Single pack weight	3kg / 6.6lb
Multi pack quantity	6
Multi pack size (WxDxH)	430mm x 370mm x 90mm 430in x 370in x 90in
Multi pack weight	14kg / 30.8lb

Horns & Repair Kits

T5510	Diaphragm repair kit (8Ω)
T5523	Diaphragm repair kit (16Ω)
T5359	H1-9040P Horn
T5134	H1-7050 'N' o Bell' Horn
T5951	H1SC-9050 Horn (screw)
T5952	H1SC-8050 Horn (screw)

Also available in 16Ω, data available on request

Frequency Response and Impedance curves



1. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal at 1W, 1m, using typical horn, in 2π anechoic environment.
2. Defined as 3dB greater than the AES rating.
3. Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.

1-inch hex ferrite magnet compression driver

- Single piece polyimide diaphragm and surround
- Integrated diaphragm and rear cover for ease of replacement
- 2,200Hz recommended minimum crossover frequency (12dB/oct)

70W
continuous power
rating

106dB
sensitivity

1.4-inch
copper clad
aluminum voice coil

CDX1-1447



General Specifications

Power rating ¹	35W
Continuous power rating ²	70W
Rated impedance	8Ω
Sensitivity ³	106dB
Frequency range	1500-20,000Hz
Recommended minimum crossover (12dB/oct)	2200Hz
Magnet type	Ferrite
Voice coil diameter	35mm / 1.4in
Voice coil material	Copper clad aluminum
Diaphragm material	Polyimide
Surround material	Polyimide

Mounting Information

Width	90mm / 3.5in
Depth	46.5mm / 1.8in
Fitting	Bolt (4 x M6 holes on 76mm/3in PCD)
Throat exit	25mm / 1in
Unit weight	1.0kg / 2.2lb

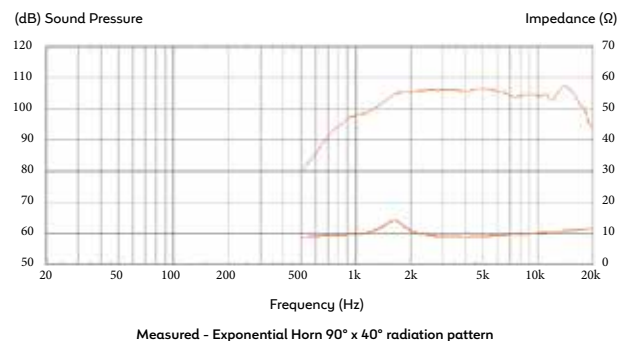
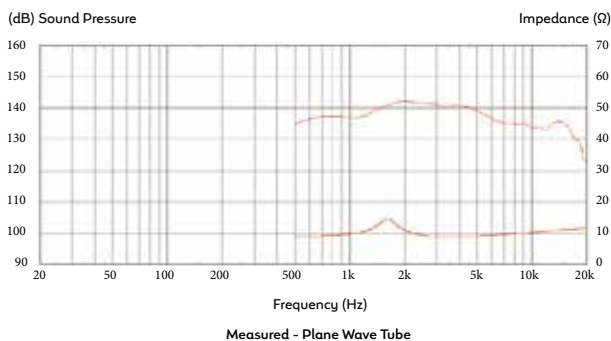
Packed Dimensions & Weights

Single pack size (WxDxH)	110mm x 98mm x 81mm 4.3in x 3.9in x 3.2in
Single pack weight	1.5kg / 3.3lb
Multi pack quantity	16
Multi pack size (WxDxH)	495mm x 495mm x 90mm 19.5in x 19.5in x 3.5in
Multi pack weight	17kg / 37.4lb

Horns & Repair Kits

T6525	Diaphragm repair kit (8Ω)
T5359	H1-9040P Horn
T5134	H1-7050 'Nobell' Horn

Frequency Response and Impedance Curves



¹ Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal at 1W per AES standard. Power calculated on minimum impedance. ² Defined as 3dB greater than the AES rating. ³ Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.

CDX1-1445/46



CDX1-1745
bolt fitting



CDX1-1746
screw fitting

1-inch exit ferrite magnet compression driver

- Single piece PE TP diaphragm and surround
- Integrated diaphragm and rear cover for ease of replacement
- 2,200Hz recommended minimum crossover frequency (12dB/oct)
- Bolt (CDX1-1445) and screw (CDX1-1446) fitting versions available

40W

continuous power
rating

106dB

sensitivity

1.4-inch

copper clad
aluminum voice coil

General Specifications

Power rating ¹	20W
Continuous power rating ²	40W
Rated impedance	8Ω
Sensitivity ³	106dB
Frequency range	1500-20,000Hz
Recommended minimum crossover (12dB/oct)	2200Hz
Magnet type	Ferrite
Voice coil diameter	35mm / 1.4in
Voice coil material	Copper clad aluminum
Diaphragm material	PE TP film
Surround material	PE TP film

Mounting Information

Width	90mm / 3.5in
Depth	52mm / 2.1in
Fitting (1445)	Bolt (4 x M6 holes on 76mm/3in PCD)
Fitting (1446)	Screw (35mm/1.38in Diameter)
Throat exit	25mm / 1in
Unit weight	1.0kg / 2.2lb

Packed Dimensions & Weights

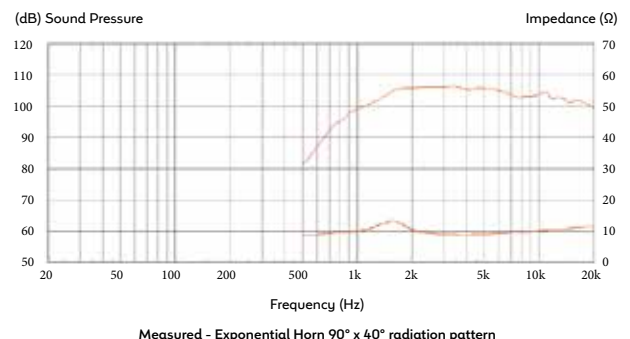
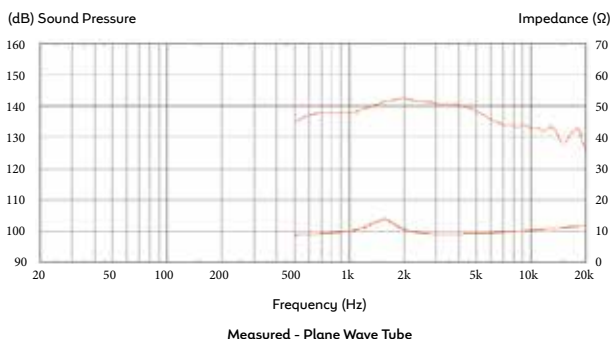
Single pack size (WxDxH)	110mm x 98mm x 81mm 4.3in x 3.9in x 3.2in
Single pack weight	1.5kg / 3.3lb
Multi pack quantity	16
Multi pack size (WxDxH)	495mm x 495mm x 90mm 19.5in x 19.5in x 3.5in
Multi pack weight	17kg / 37.4lb

Horns & Repair Kits

T5549	Diaphragm repair kit (8Ω)
T5557	Diaphragm repair kit (16Ω)
T5359	H1-9040P Horn
T5134	H1-7050 'Noble' Horn
T5951	H1SC-9050 Horn (screw)
T5952	H1SC-8050 Horn (screw)

Also available in 16Ω, data available on request

Frequency Response and Impedance Curves



1. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal at 1W, 1m, using typical horn, in 2π anechoic environment.
2. Defined as 3dB greater than the AES rating.
3. Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.



HF Neo

Neodymium magnet compression drivers

	Magnet type	Voice coil diameter	Throat exit	Fitting	Diaphragm material	Power rating	Rated impedance	Sensitivity	Frequency range	Min crossover frequency	Unit weight
CDX14-3055	Neo	75mm/3in	35mm/1 4in	Bolt	Titanium	240W	8Ω	108dB	500-20,000Hz	1000Hz	1.7kg/3.7lb
CDX14-3045	Neo	75mm/3in	35mm/1 4in	Bolt	Titanium	240W	8Ω	108dB	500-20,000Hz	1000Hz	2kg/4.4lb
CDX1-1720	Neo	44mm/1 75in	25mm/1in	Bolt	Titanium	100W	8Ω	107dB	800-20,000Hz	1500Hz	0.65kg/1.4lb
CDX1-1730	Neo	44mm/1 75in	25mm/1in	Bolt	PE TP film	80W	8/16Ω	110dB	1200-20,000Hz	2200Hz	0.65kg/1.4lb
CDX1-1731	Neo	44mm/1 75in	25mm/1in	Screw	PE TP film	80W	8/16Ω	110dB	1200-20,000Hz	2200Hz	0.65kg/1.4lb

CDX14-3055



1 4-inch exit neodymium magnet compression driver

- Maximum modal suppression phase plug
- Deep-drawn titanium diaphragm with polyimide surround
- Sound Castle soft clamping diaphragm assembly

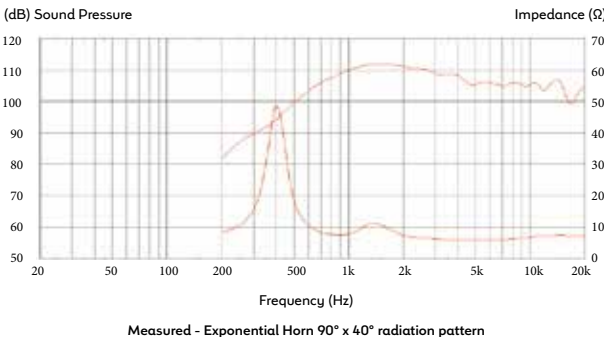
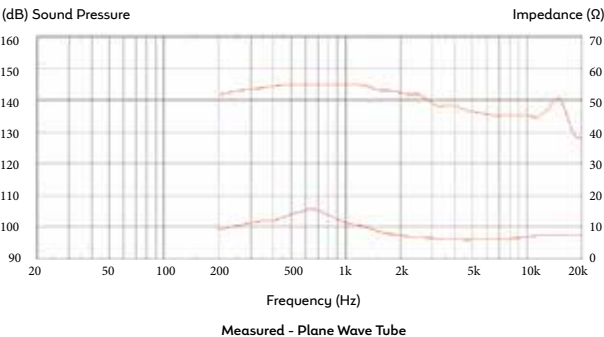
240W continuous power rating
108dB sensitivity
3-inch edge wound copper clad aluminum voice coil

General Specifications	
Power rating ¹	120W
Continuous power rating ²	240W
Rated impedance	8Ω
Sensitivity ³	108dB
Frequency range	500-20,000Hz
Recommended min. crossover (12dB/oct)	1000Hz
Magnet type	Neodymium
Voice coil diameter	75mm / 3in
Voice coil material	Edge wound copper clad aluminum
Diaphragm material	Titanium
Surround material	Polyimide

Mounting Information	
Width	120mm / 4.7in
Depth	55mm / 2.2in
Fitting	Bolt (4 x M6 holes on 102mm/4in PCD)
Throat exit	35mm / 1.4in
Unit weight	1.7kg / 3.7lb

Packed Dimensions & Weights	
Single pack size (WxDxH)	170mm x 140mm x 75mm 6.7in x 5.5in x 3in
Single pack weight	2kg / 4.4lb

Frequency Response and Impedance Curves



1. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.

CDX14-3045



1 4-inc h e x i t n e o d y m i u m m a g n e t
c o m p r e s s i o n d r i v e r

- Single p i e c e t i t a n i u m d i a p h r a g m a n d s u r r o u n d
- E n h a n c e d s u r r o u n d s h a p e f o r g r e a t e r l i n e a r i t y
- H i g h t e m p e r a t u r e p o l y m e r c l a m p r i n g m i n i m i s e s d i s t o r t i o n

240W
c o n t i n u o u s p o w e r
r a t i n g

108dB
s e n s i t i v i t y

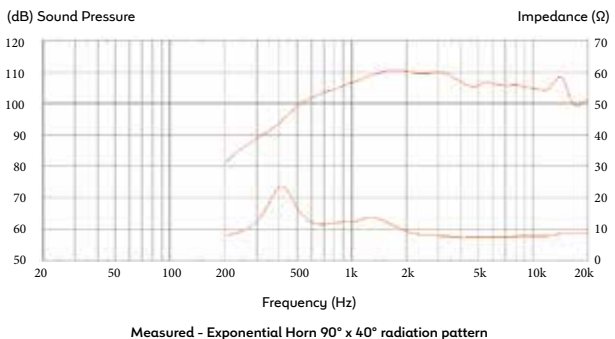
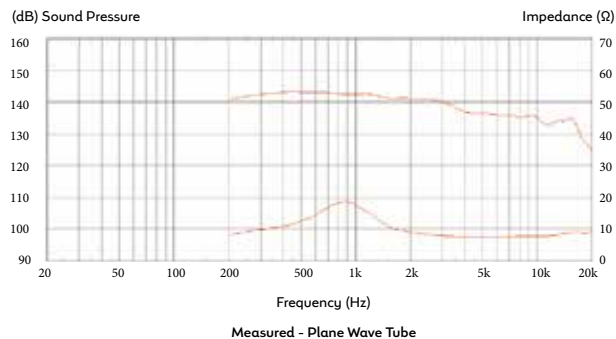
3-inch
e d g e w o u n d c o p p e r
c l a d a l u m i n i u m v o i c e
c o i l

General Specifications	
Power rating ¹	120W
Continuous power rating ²	240W
Rated impedance	8Ω
Sensitivity ³	108dB
Frequency range	500-20,000Hz
Recommended min. crossover (12dB /oct)	1000Hz
Magnet type	Neodymium
Voice coil diameter	75mm / 3in
Voice coil material	Edge wound copper clad aluminum
Diaphragm material	Titanium
Surround material	Titanium

Mounting Information	
Width	117mm / 4 6in
Depth	59mm / 2 3in
Fitting	Bolt (4 x M6 holes on 102mm/4in P CD)
Throat exit	35mm / 1 4in
Unit weight	2kg / 4 4lb

Packed Dimensions & Weights	
Single pack size (WxDxH)	170mm x 140mm x 75mm 6 7in x 5 5in x 3in
Single pack weight	2 2kg / 4 9lb

Frequency Response and Impedance Curves



1. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.

1-inch high exit neodymium magnet compression driver

CDX1-1720

- Maximum modal suppression package
- Deep-drawn titanium diaphragm with polyimide surround
- 1,500Hz recommended minimum crossover frequency (12dB/oct)

100W

continuous power
rating

107dB

sensitivity

1.75in

edge wound copper
clad aluminum voice
coil

General Specifications

Power rating ¹	50W
Continuous power rating ²	100W
Rated impedance	8Ω
Sensitivity ³	107dB
Frequency range	800-20,000Hz
Recommended minimum crossover (12dB/oct)	1500Hz
Magnet type	Neodymium
Voice coil diameter	44mm / 1.75in
Voice coil material	Edge wound copper clad aluminum
Diaphragm material	Titanium
Surround material	Polyimide

Mounting Information

Width	88.5mm / 3.5in
Depth	55mm / 2.2in
Fitting	Bolt (4 x M6 holes on 76mm/3in PCD)
Throat exit	25mm / 1in
Unit weight	0.65kg / 1.4lb

Packed Dimensions & Weights

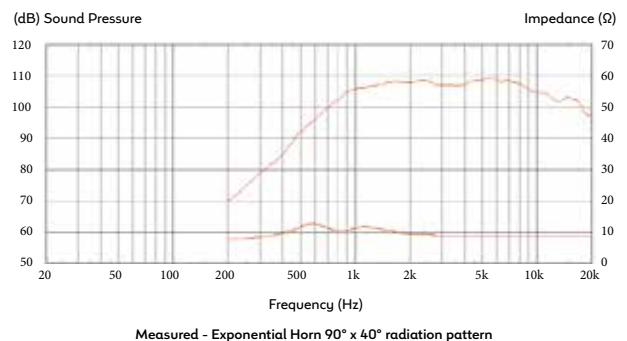
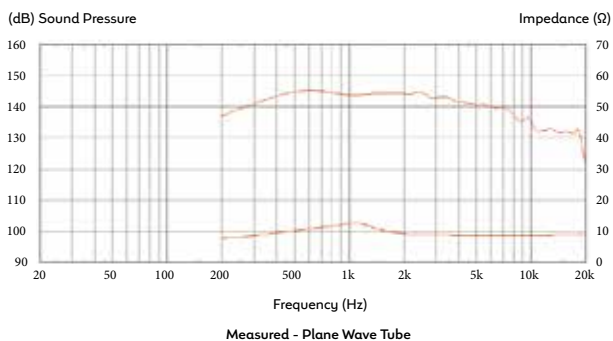
Single package size (WxDxH)	90mm x 90mm x 60mm 3.5in x 3.5in x 2.4in
Single package weight	0.75kg / 1.7lb
Multi pack quantity	16
Multi pack size (WxDxH)	500mm x 485mm x 110mm 19.7in x 19.1in x 4.3in
Multi pack weight	11.2kg / 24.9lb

Horns & Repair Kits

T5555	Diaphragm repair kit (8Ω)
T5359	H1-9040P Horn
T5134	H1-7050 'N' Oval Horn



Frequency Response and Impedance Curves



1. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.

1-inch high exit neodymium magnet compression driver

- Single piece PETP film diaphragm and surround
- Sound Castle diaphragm assembly
- 2,200Hz recommended minimum crossover frequency (12dB/oct)
- Flange (CDX1-1730) and screw (CDX1-1731) fitting versions available

80W

continuous power rating

110dB

sensitivity

1.75in

edge wound copper clad aluminum voice coil

CDX1-1730/31



CDX1-1730
bolt fitting



CDX1-1731
screw fitting



General Specifications

Power rating ¹	40W
Continuous power rating ²	80W
Rated impedance	8Ω
Sensitivity ³	110dB
Frequency range	1200-20,000Hz
Recommended minimum crossover (12dB/oct)	2200Hz
Magnet type	Neodymium
Voice coil diameter	44mm / 1.75in
Voice coil material	Edge wound copper clad aluminum
Diaphragm material	PETP film
Surround material	PETP film

Mounting Information

Width	88.5mm / 3.5in
Depth	55mm / 2.2in
Fitting (1730)	Bolt (4 x M6 holes on 76mm/3in PCD)
Fitting (1731)	Screw (35mm/1.38in diameter)
Throat exit	25mm / 1in
Unit weight	0.65kg / 1.4lb

Packed Dimensions & Weights

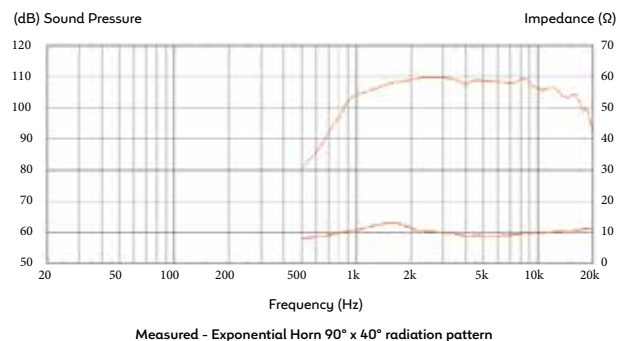
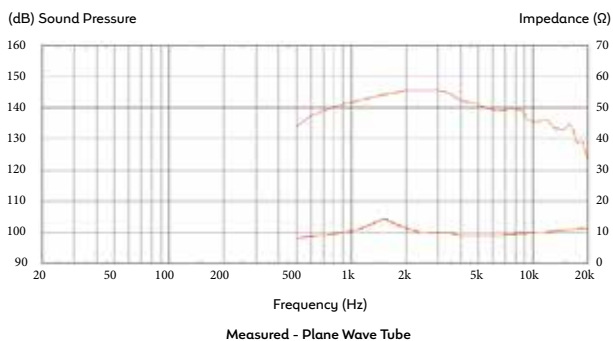
Single pack size (WxDxH)	90mm x 90mm x 60mm
	3.5in x 3.5in x 2.4in
Single pack weight	0.75kg / 1.7lb
Multi pack quantity	16
Multi pack size (WxDxH)	500mm x 485mm x 110mm
	19.7in x 19.1in x 4.3in
Multi pack weight	11.2kg / 24.9lb

Horns & Repair Kits

T5510	Diaphragm repair kit (8Ω)
T5523	Diaphragm repair kit (16Ω)
T5359	H1-9040P Horn
T5134	H1-7050 'Noble' Horn
T5951	H1SC-9050 Horn (screw)
T5952	H1SC-7050 Horn (screw)

Also available in 16Ω, data available on request

Frequency Response and Impedance Curves



¹ Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. ² Defined as 3dB greater than the AES rating. ³ Measured on axis at 1W, 1m, using typical horn, in 2π anechoic environment.



Coaxial drivers

	Nominal diameter	Power rating	Rated impedance	Sensitivity	Frequency range	LF voice coil diameter	Unit weight
FTX1530	381mm/15in	800W	8Ω	97dB	40-4000Hz	75mm/3in	6.5kg/14.3lb
FTX1225	305mm/12in	600W	8Ω	97dB	50-4000Hz	64mm/2.5in	5.9kg/13lb
FTX1025	254mm/10in	600W	8Ω	96dB	60-5000Hz	64mm/2.5in	4.5kg/9.9lb
FTX0820	200mm/8in	400W	8Ω	94dB	70-5000Hz	50mm/2in	4.1kg/9lb
FTX0617	165mm/6.5in	300W	8Ω	92dB	100-6000Hz	44mm/1.75in	3kg/6.6lb

FTX1530

800Wcontinuous power
rating**97dB**

sensitivity

3"edge wound copper
clad aluminum voice
coils (LF and HF
elements)

15-inch cast aluminum chassis, ferrite magnet coaxial driver

- Ferrite magnet assembly acts as common motor for both LF and HF
- Titanium HF diaphragm
- Demodulation ring
- 90° nominal HF coverage
- HF repair kit available

General Specifications: LF

Nominal diameter	381mm / 15in
Power rating ¹	400W
Continuous power rating ²	800W
Rated impedance	8Ω
Sensitivity ³	97dB
Frequency range	40-4000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	2.3kg / 81oz
Voice coil diameter	75mm / 3in
Voice coil material	Edge wound copper clad aluminum
Former material	Glass fiber
Cone material	Kevlar loaded paper
Surround material	Cloth-sealed
Suspension	Single
Gap height (H _g)	8mm / 0.31in
VC winding height (H _{vc})	16mm / 0.63in

Parameters⁴

S _d	855.30cm ² / 132.57in ²
F _s	42.50Hz
M _{ms}	84.29g / 2.97oz
Q _{ms}	3.809
Q _{es}	0.297
Q _{ts}	0.276
R _e	5.36Ω
V _{as}	172.07l / 6.08ft ³
B _l	20.16Tm
C _{ms}	0.17mm/N
R _{ms}	5.91kg/s
L _e (at 1kHz)	0.82mH
X _m x ⁵	6mm / 0.24in

General Specifications: HF

Power rating ⁶	75W
Continuous power rating	150W
Rated impedance	8Ω
Sensitivity	106.5dB
Frequency range	800-18,000Hz
Recommended min crossover (12dB/oct)	1000Hz
Voice coil diameter	75mm / 3in
Magnet type	Dual-ferrite magnet motor
Diaphragm material	Titanium
Surround material	Polyimide

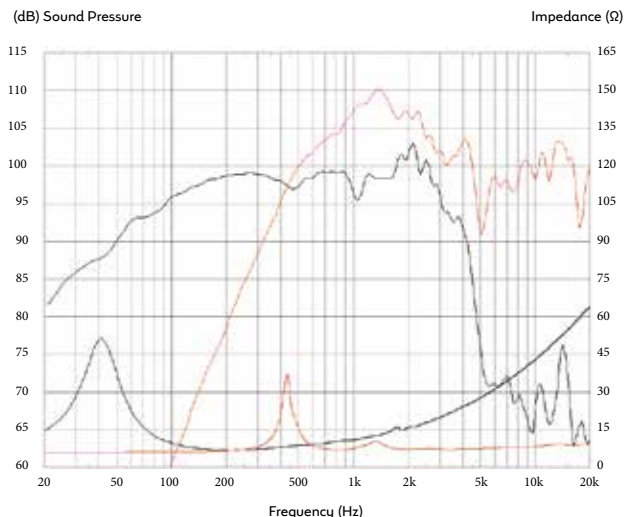
Mounting Information

Overall diameter	387mm / 15.24in
Overall depth	176mm / 6.93in
Cut-out diameter	351mm / 13.82in
Mounting hole dimensions	10x7mm / 0.39x0.27in
Number of mounting holes	8
Mounting hole PCD	365-375mm / 14.37-14.76in
Unit weight	6.5kg / 14.3lb

Packed Dimensions & Weights

Single pack size (WxDxH)	428mm x 428mm x 228mm
	16.8in x 16.8in x 8.9in
Single pack weight	7.5kg / 16.5lb
Multi pack quantity	36
Multi pack size (WxDxH)	1050mm x 1200mm x 950mm
	41.3in x 47.2in x 37.4in
Multi pack weight	265kg / 580lb

Frequency Response and Impedance Curves



Black: LF response curve | Red: HF response curve

1. Tested for two hours using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit subjected to pre-conditioning signal. 5. X_m at 0.5*(H_{vc}-H_g) + 0.25*H_g. 6. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance.

12-inc h c a s t a l u m i n i u m c h a s s i s , f e r r i t e m a g n e t c o a x i a l d r i v e r

- Ferrite magnet assembly acts as common motor for both LF and HF
- Polyimide HF diaphragm
 - Demodulation ring
- 90° nominal HF coverage
 - HF repair kit available

General Specifications: LF

Nominal diameter	305mm / 12in
Power rating ¹	300W
Continuous power rating ²	600W
Rated impedance	8Ω
Sensitivity ³	97dB
Frequency range	50-4000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	2.3kg / 81oz
Voice coil diameter	64mm / 2.5in
Voice coil material	Edge wound copper clad aluminum
Former material	Glass fibre
Cone material	Kevlar loaded paper
Surround material	Cloth-sealed
Suspension	Single
Gap height (H _g)	8mm / 0.31in
VC winding height (H _{vc})	16mm / 0.63in

Parameters⁴

S _d	530.93cm ² / 82.29in ²
F _s	47.3Hz
M _{ms}	53.501g / 1.89oz
Q _{ms}	4.214
Q _{es}	0.437
Q _{ts}	0.396
R _e	5.39Ω
V _{as}	84.59l / 2.99ft ³
Bl	14.00Tm
C _{ms}	0.212mm/N
R _{ms}	3.77kg/s
Le (at 1kHz)	3.36mH
X _{ma} x ⁵	6mm / 0.24in

General Specifications: HF

Power rating ⁶	60W
Continuous power rating	120W
Rated impedance	8Ω
Sensitivity	104dB
Frequency range	1000-20,000Hz
Recommended min crossover (12dB/oct)	2000Hz
Voice coil diameter	45mm / 1.75in
Magnet type	Dual-ferrite magnet motor
Diaphragm material	Polyimide
Surround material	Polyimide

Mounting Information

Overall diameter	318mm / 12.5in
Overall depth	168mm / 6.6in
Cut-out diameter	286mm / 11.26in
Mounting hole dimensions	7.5x6.5mm / 0.29x0.26in
Number of mounting holes	8
Mounting hole PCD	298-304mm / 11.70-11.97in
Unit weight	5.9kg / 13lb

Packed Dimensions & Weights

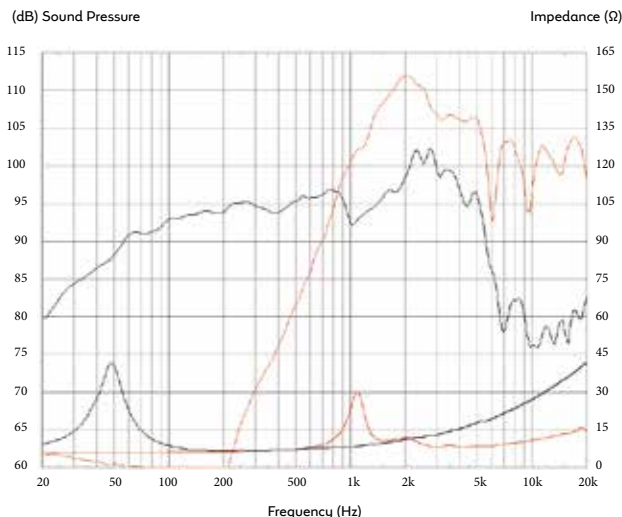
Single pack size (WxDxH)	364mm x 364mm x 189mm
	14.3in x 14.3in x 7.4in
Single pack weight	6.7kg / 14.7lb
Multi pack quantity	48
Multi pack size (WxDxH)	970mm x 1070mm x 850mm
	38.1in x 42.1in x 33.4in
Multi pack weight	315kg / 690lb

FTX1225

600W continuous power rating
97dB sensitivity
2.5" edge wound copper clad aluminum voice coil (LF)
1.75" edge wound copper clad aluminum voice coil (HF)



Frequency Response and Impedance Curves



Black: LF response curve | Red: HF response curve

1. Tested for two hours using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. Loudspeakers tested in free air. 2. Define a 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit is subjected to preconditioning signal. 5. X_{ma} = 0.5° (Hv c-Hg) + 0.25° Hg. 6. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance.

FTX1025

600W **96dB**continuous
power rating

sensitivity

2.5"edge wound
copper clad
aluminum voice
coil (LF)**1"**copper clad
aluminum voice
coil (HF)**10-inch cast aluminum chassis,
ferrite magnet coaxial driver**

- Ferrite magnet assembly acts as common motor for both LF and HF
- Polyimide HF diaphragm
- Demodulation ring
- 100° nominal HF coverage
- HF repair kit available

General Specifications: LF

Nominal diameter	254mm / 10in
Power rating ¹	300W
Continuous power rating ²	600W
Rated impedance	8Ω
Sensitivity ³	96dB
Frequency range	60-5000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	1.5kg / 54oz
Voice coil diameter	64mm / 2.5in
Voice coil material	Edge wound copper clad aluminum
Former material	Glass fiber
Surround material	Cloth-sealed
Suspension	Single
Gap height (H _g)	8mm / 0.31in
VC winding height (H _{vc})	14mm / 0.55in

Parameters⁴

S _d	346	36cm ² / 53	69in ²
F _s	71	50Hz	
M _{ms}	32	55g / 1	15oz
Q _{ms}	2	788	
Q _{es}	0	523	
Q _{ts}	0	44	
R _e	5	42Ω	
V _{as}	25	85l / 0	91ft ³
Bl	12	30Tm	
C _{ms}	0	15mm/N	
R _{ms}	5	25k g/s	
L _e (at 1kHz)	0	48mH	
X _{max} ⁵	5mm / 0	2in	

General Specifications: HF

Power rating ⁶	40W
Continuous power rating	80W
Rated impedance	8Ω
Sensitivity	104dB
Frequency range	1000-20,000Hz
Recommended min crossover (12dB/oct)	2000Hz
Voice coil diameter	34mm / 1.4in
Magnet type	Dual-ferrite magnet motor
Diaphragm material	Polyimide
Surround material	Polyimide

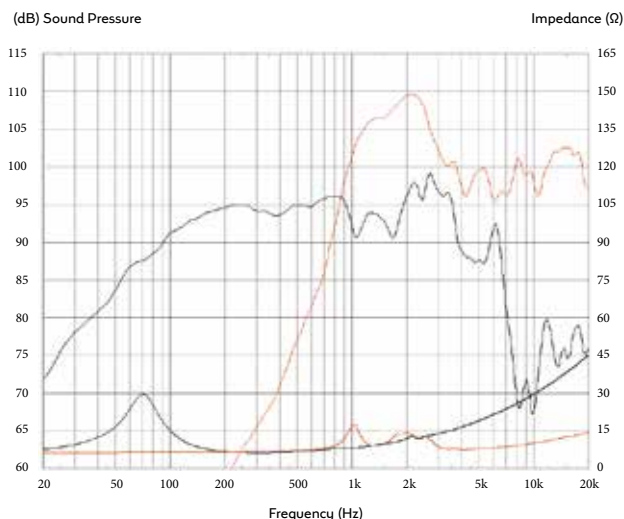
Mounting Information

Overall diameter	260mm / 10	24in
Overall depth	123mm / 4	84in
Cut-out diameter	234mm / 9	21in
Mounting hole dimensions	7 5x6 5mm / 0	29x0 26in
Number of mounting holes		8
Mounting hole PCD	244-247mm / 9	6-9 7in
Unit weight	4 5kg / 9	9lb

Packed Dimensions & Weights

Single pack size (WxDxH)	303mm x 303mm x 178mm
	11 9in x 11 9in x 7 0in
Single pack weight	5 2kg / 11 4lb
Multi pack quantity	32
Multi pack size (WxDxH)	960mm x 1070mm x 890mm
	37 7in x 42 1in x 35 0in
Multi pack weight	175kg / 205lb

Frequency Response and Impedance Curves



Black: LF response curve | Red: HF response curve

1. Tested for two hour using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. 2. Define a 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π angle choice environment. 4. Measured after units subjected to pre-conditioning signal. 5. X_{max} = 0.5 * (H_{vc} - H_g) + 0.25 * H_g. 6. Tested for two hour on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance.

8-inc h c a s t a l u m i n i u m c h a s s i s , f e r r i t e m a g n e t c o a x i a l d r i v e r

- Ferrite magnet assembly acts as common motor for both LF and HF
- Polyimide HF diaphragm
 - Demodulation ring
- 100° nominal HF coverage
- HF repair kit available

General Specifications: LF

Nominal diameter	200mm / 8in
Power rating ¹	200W
Continuous power rating ²	400W
Rated impedance	8Ω
Sensitivity ³	94dB
Frequency range	70-5000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	1.5kg / 54oz
Voice coil diameter	50mm / 2in
Voice coil material	Edge wound copper
Form material	Glass fiber
Cone material	Kevlar loaded paper
Surround material	Cloth-sealed
Suspension	Single
Gap height (H _g)	8mm / 0.31in
VC winding height (H _{vc})	12mm / 0.47in

Parameters⁴

Sd	226.98cm ² / 35.18in ²
Fs	78.80Hz
Mms	22.66g / 0.80oz
Qms	2.800
Qes	0.310
Qts	0.279
Re	5.85Ω
Vas	13.13l / 0.46ft ³
Bl	14.56Tm
Cms	0.18mm/N
Rms	4.01kg/s
Le (at 1kHz)	0.62mH
Xmax ⁵	4mm / 0.16in

General Specifications: HF

Power rating ⁶	40W
Continuous power rating	80W
Rated impedance	8Ω
Sensitivity	103dB
Frequency range	1500-20,000Hz
Recommended min crossover (12dB/oct)	2200Hz
Voice coil diameter	34mm / 1.4in
Magnet type	Dual-ferrite magnet motor
Diaphragm material	Polyimide
Surround material	Polyimide

Mounting Information

Overall diameter	225mm / 8.8in (octagonal profile)
Overall depth	123mm / 4.8in
Cut-out diameter	187mm / 7.36in
Mounting hole dimensions	6.5mm / 0.26in Ø
Number of mounting holes	8
Mounting hole PCD	210mm / 8.27in
Unit weight	4.1kg / 9lb

Packed Dimensions & Weights

Single pack size (WxDxH)	238mm x 238mm x 148mm
	9.3in x 9.3in x 5.8in
Single pack weight	4.7kg / 10.3lb
Multi pack quantity	40
Multi pack size (WxDxH)	890mm x 1100mm x 890mm
	35.08in x 43.3in x 35.0in
Multi pack weight	195kg / 430lb

FTX0820

400W **94dB**

continuous
power rating

sensitivity

2"

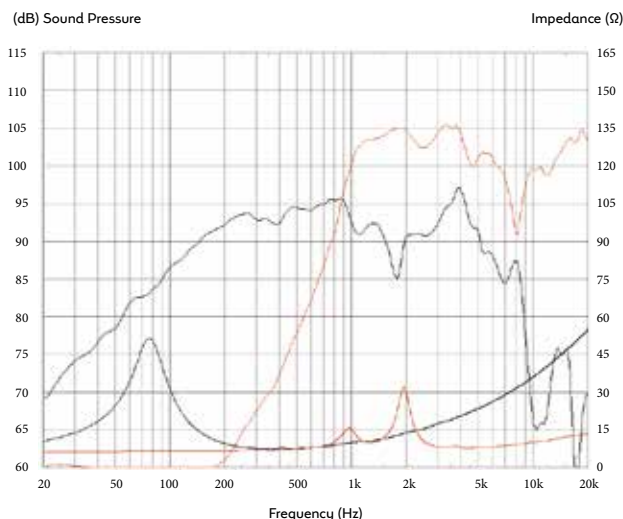
edge wound
copper clad
aluminum voice
coil (LF)

1.4"

copper clad
aluminum voice
coil (HF)



Frequency Response and Impedance Curves



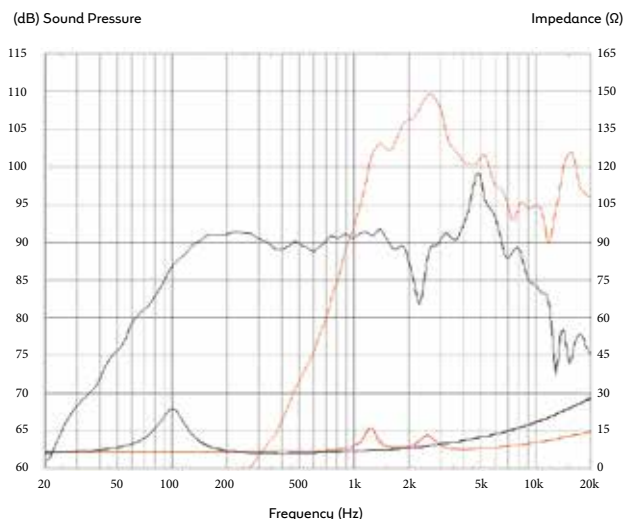
1. Tested for two hours using a continuous, band-limited pink noise signal at 1W per AES standard. Power calculated on minimum impedance. Loudspeakers tested in free air. 2. Define a 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit is subjected to preconditioning signal. 5. Xmax = 0.5" (Hvc-Hg) + 0.25"Hg. 6. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal at 1W per AES standard. Power calculated on minimum impedance.

FTX0617

300W continuous power rating
92dB sensitivity
1.75" edge wound copper clad aluminum voice coil (LF)
1.4" copper clad aluminum voice coil (HF)



Frequency Response and Impedance Curves



Black: LF response curve | Red: HF response curve

6 5-inc h c a s t a l u m i n i u m c h a s s i s ,
ferrite magnet coaxial driver

- Ferrite magnet assembly acts as common motor for both LF and HF
- Polyimide HF diaphragm
- Demodulation ring
- 100° nominal HF coverage
- HF repair kit available

General Specifications: LF

Nominal diameter	165mm / 6 5in
Power rating ¹	150W
Continuous power rating ²	300W
Rated impedance	8Ω
Sensitivity ³	92dB
Frequency range	100-6000Hz
Chassis type	Cast aluminum
Magnet type	Ferrite
Magnet weight	0 88kg / 31oz
Voice coil diameter	44mm / 1 75in
Voice coil material	Edge wound copper clad aluminum
Former material	Glass fiber
Cone material	Kevlar loaded paper
Surround material	Cloth-scaled
Suspension	Single
Gap height (H _g)	6mm / 0 24in
VC winding height (H _{vc})	10mm / 0 4in

Parameters⁴

Sd	153 94cm ² / 23 86in ²
Fs	100Hz
Mms	11 58g / 0 41oz
Qms	3 651
Qes	0 925
Qts	0 738
Re	5 52Ω
Vas	7 37l / 0 26ft ³
Bl	6 59Tm
Cms	0 22mm/N
Rms	1 99kg / s
Le (at 1kHz)	0 27mH
Xmax ⁵	3 5mm / 0 14in

General Specifications: HF

Power rating ⁶	40W
Continuous power rating	80W
Rated impedance	8Ω
Sensitivity	103dB
Frequency range	1500-20,000Hz
Recommended min crossover (12dB /oct)	2200Hz
Voice coil diameter	34mm / 1 4in
Magnet type	Dual-ferrite magnet motor
Diaphragm material	Polyimide
Surround material	Polyimide

Mounting Information

Overall diameter	189mm / 7 44in (max)
Overall depth	93mm / 3 7in
Cut-out diameter	150mm / 5 9in
Mounting hole dimensions	6 5x5 5mm / 0 26x0 22in
Number of mounting holes	4
Mounting hole PCD	173 5mm / 6 83in
Unit weight	3kg / 6 6lb

Packed Dimensions & Weights

Single pack size (WxDxH)	190mm x 190mm x 128mm 7 4in x 7 4in x 5 0in
Single pack weight	3 5kg / 7 7lb
Multi pack quantity	8
Multi pack size (WxDxH)	350mm x 350mm x 240mm 13 7in x 13 7in x 9 4in
Multi pack weight	30kg / 65lb

1. Tested for two hours using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. 2. Defined as 3dB greater than the AES rating. 3. Measured on axis at 1W, 1m in 2π anechoic environment. 4. Measured after unit is subjected to pre-conditioning signal. 5. Xmax = 0.5 * (Hvc-Hg) + 0.25 * Hg. 6. Tested for two hours on plane wave tube using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance.



Full Range Speakers

Wide bandwidth drivers

	Nominal diameter	Power rating	Rated impedance	Sensitivity	Frequency range	Voice coil diameter	Unit weight
K12H-200TC	305mm/12in	400W	8Ω	98dB	50-10,000Hz	50mm/2in	8.6lb / 3.9kg
K12H-100TC	305mm/12in	200W	8Ω	97dB	50-10,000Hz	45mm/1.75in	3.8kg/8.4lb

12-inc h pressed steel chassis,
ferrite magnet extended HF
response driver

- Secondary cone extends HF response to 10kHz
- Strengthened voice coil assembly for improved midb and clarity

400W
continuous power
rating

98dB
sensitivity

2-inch
round copper voice
coil

General Specifications

Nominal diameter	305mm / 12in
Power rating ¹	200W
Continuous power rating ²	400W
Rated impedance	8Ω
Sensitivity ³	98dB
Frequency range	50-10,000Hz
Chassis type	Pressed steel
Magnet type	Ferrite
Magnet weight	1.41kg / 50oz
Voice coil diameter	50mm / 2in
Voice coil material	Round copper
Former material	Polyimide
Cone material	Kevlar loaded paper
Surround material	Cloth sealed
Suspension	Single
Gap height (H _g)	8mm / 0.31in
VC winding height (H _{vc})	12mm / 0.47in

Parameters⁴

Sd	530.93cm ² / 82.29in ²
Fs	62.30Hz
Mms	40.57g / 1.43oz
Qms	2.804
Qes	0.432
Qts	0.374
Re	5.81Ω
Vas	64.10l / 2.26ft ³
Bl	14.63Tm
Cms	14.63mm/N
Rms	5.67kg / s
Le (at 1kHz)	0.63mH
Xmax ⁵	4mm / 0.16in

Mounting Information

Overall diameter	309mm / 12.2in
Overall depth	130.3mm / 5.1in
Cut-out diameter	283mm / 11.14in
Mounting hole dimensions	7.9mm / 0.31in Ø
Number of mounting holes	4
Mounting hole PCD	297mm / 11.69in
Unit weight	8.6lb / 3.9kg

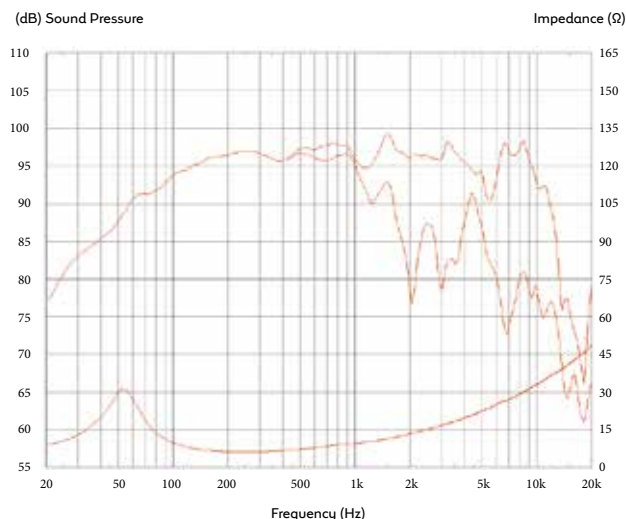
Packed Dimensions & Weights

Single pack size (WxDxH)	333mm x 332mm x 145mm
	13.1in x 12.7in x 5.7in
Single pack weight	5.0kg / 11lb

K12H-200TC



Frequency Response and Impedance curves



¹ . Tested for two hours using a continuous, band-limited pink noise signal as per AES standard. Power calculated on minimum impedance. Loudspeaker tested in free air. ² . Defined as 3dB greater than the AES rating. ³ . Measured on axis at 1W, 1m in 2π anechoic environment. ⁴ . Measured after unit is subjected to pre-conditioning signal. ⁵ . Xmax = 0.5*(Hvc-Hg) + 0.25"Hg.

K12H-100TC

12-inc h pres sed steel chassis,
ferrite magne t e xte nde d HF
resp ons e driv er

- Secondary cone e xtends HF resp ons e to 10kHz
- Strengt he ne d voice coil a sse mbl y for impr ove d midb and clarity

200W
cont inu ous power
rat ing

97dB
sens itiv ity

1.75in
round c opp er voice
coil

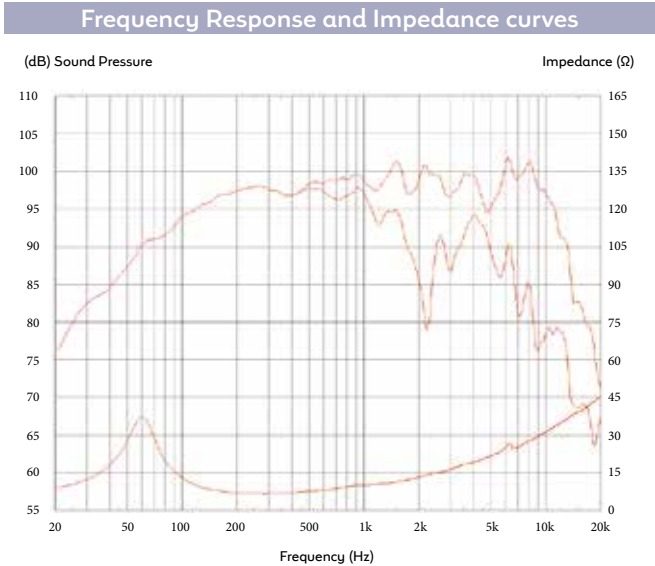


General Specifications	
Nominal diame ter	305mm / 12in
Power rat ing ¹	100W
Cont inu ous power rat ing ²	200W
Rate d imp e danc e	8Ω
Sens itiv ity ³	97dB
Frequency range	50-10,000Hz
Chassis type	Pres sed steel
Magne t type	Ferrite
Magne t weight	1.41kg / 50o z
Voice coil diame ter	45mm / 1.75in
Voice coil mat erial	Round c opp er
Forme r mat erial	Polyimide
Cone mat erial	Kevlar lo ade d pap er
Surr ound mat erial	Cloth-s eale d
Su sp ension	Single
Gap height (H _g)	8mm / 0.31in
VC winding height (H _{vc})	10mm / 0.39in

Parameters ⁴	
S _d	530.93cm ² / 82.29in ²
F _s	55.60Hz
M _{ms}	45.39g / 1.60o z
Q _{ms}	2.550
Q _{es}	0.473
Q _{ts}	0.399
R _e	5.48Ω
V _{as}	72.04l / 2.54ft ³
B _l	13.55Tm
C _{ms}	0.18mm/N
R _{ms}	6.22kg/s
L _e (at 1kHz)	0.67mH
X _{max} ⁵	3mm / 0.12in

Mounting Information	
Overall diame ter	309mm / 12.2in
Overall de pth	129.7mm / 5.1in
Cut-out diame ter	283mm / 11.14in
Mount ing ho le dime nsions	7.9mm / 0.31in Ø
Numb er of mount ing ho les	4
Mount ing ho le P CD	297mm / 11.69in
Unit weight	3.8kg / 8.4lb

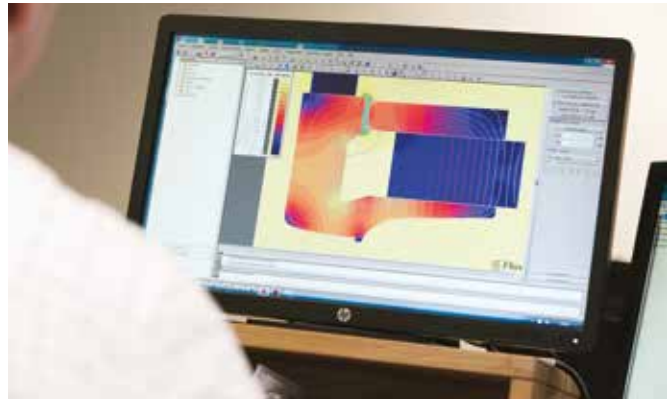
Packed Dimensions & Weights	
Single pack size (WxDxH)	333mm x 332mm x 145mm
	13.1in x 12.7in x 5.7in
Single pack weight	4.8kg / 10.5lb



Topmost curve: Frequency Response on axis | Secondary curve: Frequency Response at 45° off axis

1. Tes ted for two hour s u sing a c ont inu ous, b and -limit e d pink noise signal a s p er AES s tand ar d . Power calc ulat e d on minimum imp e danc e . Lou dsp e ak er tes ted in fr ee air . 2. Define d as 3dB gr e at er than t he AES r at ing . 3. Mea sur e d on axis at 1W , 1m in 2π r ane cho ic e nvir onme nt . 4. Mea sur e d afte r unit s subj ect e d to pr e- cond it ioning signal . 5. X_{max} = 0.5*(H_{vc}-H_g) + 0.25*H_g .

About Celestion



Research and Development

Celestion professional loudspeakers and compression drivers have earned an enviable global reputation for innovative design, exceptional performance and superior reliability.

The pursuit of excellence begins with a world-leading team of R&D engineers, led by experienced Head of Engineering Paul Cork at our purpose-built facility in Ipswich, England. The team are supported by state-of-the-art design, development, analysis and testing tools as well as experienced technical drawing and specialist development technicians with the resources on-site to prototype, test and measure the performance of new designs.

In addition to developing our standard range, the R&D team also works with our OEM customers to establish the parameters of a specific project and identify the best way to fulfill the design brief, either by modifying an existing model or developing a new product 'from the ground up'.

Celestion's R&D department also calls upon the expertise of the Group Research team, headed by Mark Dodd (insert). Its remit is to discover and develop new technologies, techniques and processes that add value to the fast-expanding portfolio of Celestion professional audio products. Mark is a participating member of the Audio Engineering Society, and one of the foremost contributors of authoritative papers on compression driver and loudspeaker technology.



Design and Engineering

Celestion has access to the latest design software employing the principles and methods of Finite Element Analysis (FEA) for efficient loudspeaker development, as well as design tools such as 3-D CAD and printing for technical visualisation and prototyping.



With more than 100 years of combined experience in loudspeaker design and development, the Celestion team has pushed the boundaries of these tools to achieve new levels of flexibility in modelling and accuracy in measurement, and created custom software to perform more in-depth analysis and to enable more revealing presentation of data.

Pioneering users of FEA for the prediction of mechanical and thermal properties, Celestion was the first loudspeaker manufacturer to use FEA for vibro-acoustic modelling and to predict magnetic inductance, subsequently combining these results with magneto-static modelling to provide a complete, voltage-coupled model.

Such innovations empower the Celestion team to take new product concepts and make finite element models of their electrical, mechanical and acoustical properties, combining these to create a 'Virtual Prototype'. This advanced technique builds greater accuracy, flexibility and creativity into the development process, ensuring each new design is fully FEA-optimised to meet its performance brief.





Analysis and Testing

The development process is dramatically enhanced by the ability to produce prototypes and sample runs on site. The Ipswich, UK design headquarters is equipped with a full production line plus all the machinery required to build short runs for testing, measurement, approval and production engineering.



Celestion engineers make extensive use of industry-standard measurement tools such as the Klippel® Distortion Analyser, measuring actual physical prototypes to verify the results achieved in FEA modelling. The system provides detailed analysis of motor design, voice coil alignment and cone suspension. By bringing these processes together in one place, the Celestion team is fully resourced to develop sound reinforcement loudspeaker and compression driver solutions that match and exceed the performance and cost requirements of an impressive list of systems builders.



Test resources include a hemi-anechoic chamber which provides a reflection-free environment for the precision measurement of key physical properties including frequency response and sound pressure level. Additionally a set of plane wave tubes is located in the development laboratory for the further measurement of compression drivers. Alongside scientific testing facilities, Celestion has also created an exceptional analytical listening environment designed by the world-renowned Philip Newell. Here, new loudspeaker designs can be auditioned and compared in an acoustically neutral listening space. Throughout the development process a new product is subject to a rigorous testing regime enabling Celestion to confidently claim that each product is consistently capable of delivering the same high quality and trouble-free performance now and for years to come.



Manufacturing and Logistics

Celestion is part of the Gold Peak group with an annual turnover of more than US \$1 Billion. Manufacturing takes place at our own ISO9000 and ISO14000-accredited facilities in China and Thailand, where a highly trained workforce shares a singular commitment to quality.

Here, modern production lines enable Celestion to achieve exceptional consistency and productivity. In addition, the manufacturing facility replicates the Ipswich HQ test and listening facilities, incorporating its own hemi-anechoic chamber and acoustically neutral listening room, and industry-standard measurement equipment. This ensures the highest degree of accuracy from design inception right through to final manufacture.

With warehousing facilities in Europe, China and on the east and west coasts of the US, Celestion customers enjoy efficient logistics and day-to-day contact with local account managers based in all major territories. Thanks to the streamlined integration of research and development, manufacturing and logistics operations, Celestion delivers an unrivalled combination of product performance, service and value.



Key Technologies

Circumferentially Axiperiodic Diaphragm: Axial section

Central to the ground-breaking performance of the AXI2050 is a heavily sculpted, circumferentially Axiperiodic annular titanium diaphragm. Its unique periodically symmetrical curved elements allow both the large diameter necessary to reproduce a wide frequency band and the low mass required for higher efficiency, while also reducing the number of vibration modes in the critical listening band for a very low distortion performance. The geometry allows the shape of the mechanical modes to be tailored so they do not couple with the acoustic modes, so there are no large resonant peaks.



Maximum Modal Suppression

A number of models in Celestion's range of compression drivers make use of the ground-breaking MMS™ (Maximum Modal Suppression) phase plug design. Applying advanced mathematical analysis to the motion of a curved diaphragm, Celestion's Group Research team developed a new method for calculating the width and position of the slots used in a phase plug. Building on long-established technology, this patented design significantly reduces the occurrence of unwanted resonances in the cavity between the diaphragm and the phase plug itself. The result is greater modal suppression and reduced air non-linearity. The benefit is a better time domain response and much lower distortion than the existing industry standard.



Celestion annular slot phase plug



Typical annular slot phase plug

Deep Drawn Diaphragm

Working together with the MMS phase plug, the "deep-drawn" titanium diaphragm has been manufactured with a taller dome shape to improve stiffness. The deep-drawn diaphragm exhibits its first modal break-up around 15 kHz, compared to a typical compression driver diaphragm which starts to break up in the 8-10 kHz range. The higher threshold frequency of the diaphragm avoids the break-up within the critical mid-range listening band and that is associated with lower profile diaphragms, meaning greater clarity of performance with much less distortion.



Diaphragm from typical large format compression driver

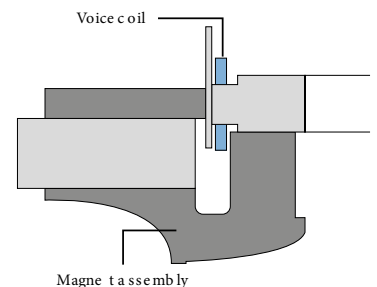


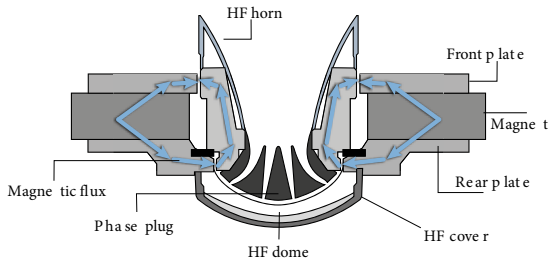
Celestion deep-drawn diaphragm for large format compression drivers

Demodulation Rings

Many LF speakers in the Celestion range as well as the FTX coaxial drivers feature either one or two demodulation rings. Commonly made from aluminium, these conductors are an intrinsic part of the magnet assembly employed to substantially reduce both the harmonic and intermodulation distortion associated with voice coil displacement. They also act to make the variation of system inductance more linear as input current varies, which noticeably improves distortion performance.

A copper sleeve added to the pole piece of midrange and compression drivers has a similar effect, reducing inductive rise for improved HF performance.





Common Magnet Motor

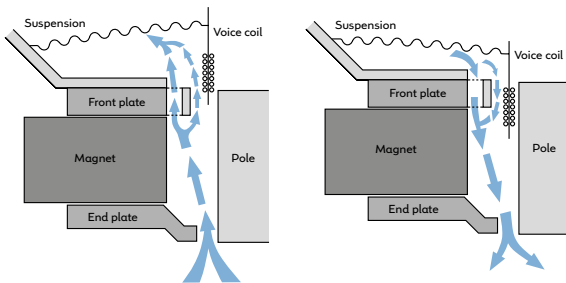
The FT X coaxial drivers feature fully combined Low and High Frequency components powered by a Common Magnet Motor Assembly, where the same ferrite magnet is used to drive both elements. This precision-designed magnet assembly has been optimised using finite element analysis techniques so that it distributes magnetic flux to both LF and HF voice coil gaps in the most efficient way possible, to extract optimum performance from the system.

This design brings the voice coils and hence the acoustic centres of the two components closer together compared to those of a conventional coaxial driver. It delivers further improvements in signal coherence and time alignment for more natural sounding audio reproduction. The use of a single magnet assembly also means lighter weight and a profile that is more compact than conventional coaxial designs.



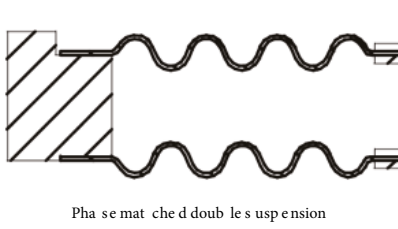
Sound Castles

Celestion's highly successful Sound Castle™ clamping system features on many of our most successful compression drivers. It was developed to ensure an even clamping pressure on the diaphragm surround, reducing distortion while simplifying maintenance in the field. They also allow the full internal volume of the rear cover to act as a loading chamber for the diaphragm, resulting in superior lower mid-b and response. The recently introduced, next-generation "soft clamping" Sound Castle assembly reduces diaphragm stresses to a greater degree which cuts distortion still further and ensures an even more reliable performance.



Balanced Airflow Venting

Balanced Airflow Venting (BAV) builds on Celestion's principles of dynamic heat dispersion for enhanced cooling. Strategically sized and positioned airflow channels are located in the magnet structure to produce a balanced flow around the voice coil, as the air is pumped by the suspension and dust cap. This rapidly takes the heat away from the magnet assembly, actively cooling the system and counteracting the effects of thermal compression.



Optimised Suspension Systems

The inherent shape of the voice coil suspension has a direct effect on the linear excursion of the cone. This can sometimes be a cause of non-linearity in driver performance.

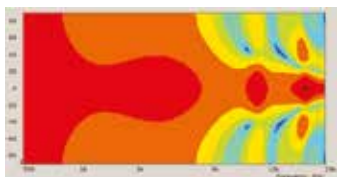
Phase-matching double suspension systems, placing the two individual suspensions in opposing polarities, enables the removal of the non-linearity. The result is a much more balanced and symmetrical cone motion, hence lower distortion.

Key Technologies



Inverted Dust Cap

For horn-loaded midrange applications, the inverted dust cap enables OEM designers to position a phase plug much closer into the cone, minimising distortion by significantly reducing the possibility of destructive interference.



Integrated HF Waveguide

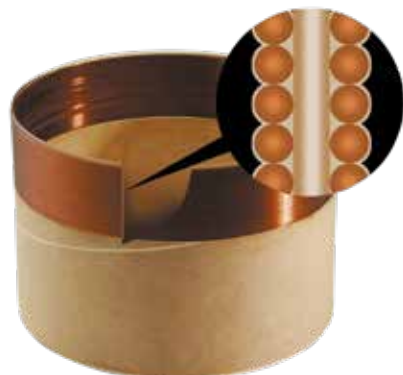
The specialised dustcap with integrated waveguide featured on the AN series compact array drivers deliver greater dispersion to higher frequencies than many equivalent compact drivers. This is one of the features of the AN drivers that facilitates closer coupling when using multiple drivers, meaning these drivers are particularly suited to use in controlled wavefront (beam steering) column arrays.



Application-Specific Cone Surrounds

For low excursion designs, an environmentally robust, high temperature foam surround provides a good match to the impedance of the cone, ensuring sound waves are not reflected back along the cone surface. It also maintains flexibility over a wide temperature range.

Elastomer surrounds deliver a lower resonance for enhanced low frequency performance, with greater stability at extremes of excursion for very long throw applications.



High Temperature Voice Coils

Celestion uses a range of voice coil winding techniques to achieve a number of performance advantages:

- Greater motor symmetry: even for large diameter, large voice coil devices
- More effective cooling, preventing sensitivity loss through thermal compression
- Maximised motor strength.

Inside/Outside coils are wound on both the inside and outside of the former. This is conducive to greater BL symmetry and by effectively doubling the potential heat-dissipation surface area greatly improves cooling.

Multi-layer voice coils have the coil wire wound in multiple layers around the same side of the voice coil former bobbin. This effectively increases the length of wire within the magnetic gap to maximise the speaker's motor strength. The result is a higher BL from a compact magnetic assembly.

CELESTION

EXTENDED EXCURSION DRIVERS





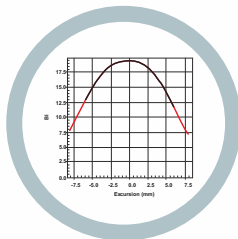
Precision Engineered For Superior Performance And Durability

Designed and engineered for the most demanding professional sound reinforcement applications, Celestion extended excursion drivers combine advanced cone control and motor cooling features to deliver superior performance and enhanced durability with greater Xmax and enhanced low end performance. This range of ferrite magnet bass/mid-bass models is available in a range of cast aluminium chassis sizes and power ratings.

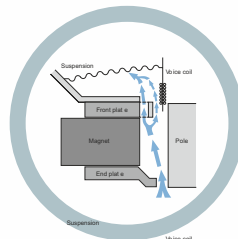
Key Technologies



Elastomer surround enables greater excursion delivering more low end



Optimised T-Pole improves cone displacement symmetry, reducing distortion



Balanced airflow venting provides enhanced cooling, minimising power compression



Coated cones for water resistance and overall greater durability



Extended Excursion Bass/Mid-Bass Drivers



CF0820BMB

8-inch, cast aluminium chassis,
ferrite magnet mid/bass driver

500W

Continuous
Power Rating

93dB

Sensitivity

2in

Voice Coil
Diameter

7.25mm/

0.29in

Xmax



CF1025BMB

10-inch, cast aluminium chassis,
ferrite magnet LF driver

600W

Continuous
Power Rating

92.5dB

Sensitivity

2.5in

Voice Coil
Diameter

6.65mm/

0.26in

Xmax



CF1230BMB

12-inch, cast aluminium chassis,
ferrite magnet LF driver

700W

Continuous
Power Rating

96dB

Sensitivity

3in

Voice Coil
Diameter

7mm/

0.28in

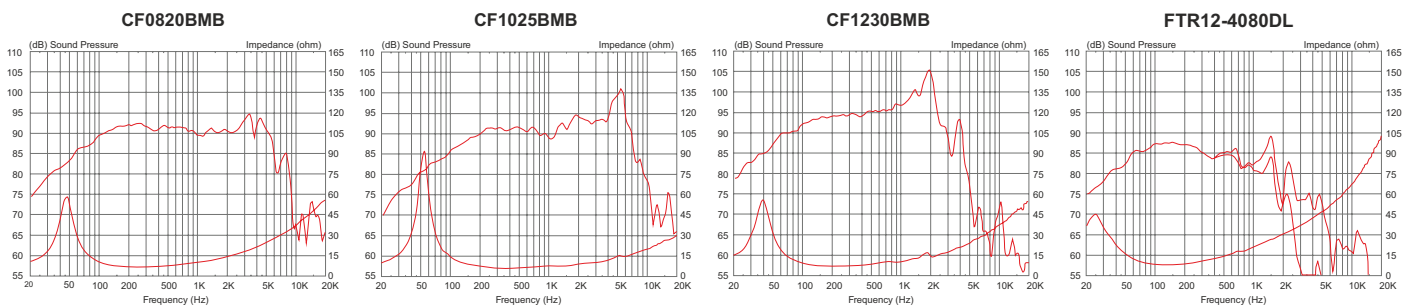
Xmax



General Specifications	CF0820BMB	CF1025BMB	CF1230BMB
Nominal Diameter	200mm / 8in	254mm / 10in	305mm / 12in
Nominal Power Rating	250W	300W	350W
Continuous Power Rating	500W	600W	700W
Sensitivity	93dB	92.5dB	96dB
Rated Impedance	8Ω	8Ω	8Ω
Frequency Range	50Hz-6000Hz	45Hz-5000Hz	50-3000Hz
Voice Coil Diameter	50mm / 2in	64mm / 2.4in	75mm / 3in
Chassis Type	Cast aluminium	Cast Aluminium	Cast Aluminium
Magnet Type	Ferrite	Ferrite	Ferrite
Voice Coil Material	Copper clad aluminium	Round copper	Copper clad aluminium
Former Material	Glass fibre	Polyimide	Glass Fibre
Cone Material	Treated paper	Glass fibre loaded paper	Glass loaded paper (weather-resistant)
Surround Material	Elastomer	Elastomer	Elastomer
Suspension	Single	Single	Single
Xmax	7.25mm / 0.29in	6.65mm / 0.26in	7mm / 0.28in
Gap Depth	8mm / 0.31in	8mm / 0.33in	8mm / 0.31in
Voice Coil Winding Width	18.5mm / 0.73in	17.3mm / 0.68	18mm / 0.7in
Overall Depth	108mm / 4.3in	124.5mm / 4.9in	155.5mm / 6.1
Unit Weight	3.1kg / 6.8lb	4.3kg / 9.5lb	6.75kg / 14.9lb

Small Signal Parameters			
Sd	226.98cm ² / 35.18in ²	346.36cm ² / 53.69in ²	3530.93cm ² / 82.3in ²
Fs	50.50Hz	40.9Hz	43.4Hz
Mms	32.35g / 1.14oz	55.865g / 1.97oz	88.41g / 3.12oz
Qms	5.095	7.952	4.451
Qes	0.394	0.371	0.417
Qts	0.366	0.355	0.381
Re	5.45Ω	6.04Ω	5.84Ω
Vas	22.42l / 0.79ft ³	46.1l / 1.63ft ³	60.68l / 2.14ft ³
Bl	11.92Tm	15.28Tm	18.38Tm
Cms	0.31mm/N	0.271mm/N	0.152mm/N
Rms	2.01kg/s	1.804kg/s	5.416kg/s
Le (at 1kHz)	0.78mH	1.15mH	0.713mH

Frequency Response and Impedance Curves



Topmost curve: Frequency response on axis | Secondary curve: Frequency response at 45° off axis | Power Rating: Tested for two hours using a continuous, band-limited pink noise signal as per AES standard.
Power calculated on minimum impedance. Loudspeaker tested in free air. | Continuous Power Rating is defined as 3dB greater than the AES rating. | Sensitivity measured on axis at 1W, 1m in 2" anechoic environment. |
Xmax is derived from: (voice coil winding width-gap depth)/2. | Small Signal Parameters are measured after unit subjected to pre-conditioning signal.

Distributed by:

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