

# CELESTION

## CKT-S-TF1530e System



The CKT-S-TF1530e system is a high performance passive sub-woofer. This system comprises the TF1530e 15”(380mm) bass driver in a 124L ported enclosure. TF1530e features a 3” edge-wound voice coil, vented magnet system, Kevlar loaded cone, good excursion capability and 400W(AES) power handling. The result is a compact sub-woofer with 35Hz bass extension (-10dB), 130.5dB peak maximum output and a sensitivity of 97dB when floor-mounted and used with an 80Hz low pass filter. This sub-woofer is an ideal match for typical 8”, 10” and 12” based two-way satellites.

Components	
System	Bass Driver
CKT-S-TF1530e	TF1530e

# CELESTION

## LF Pressed Chassis / Ferrite

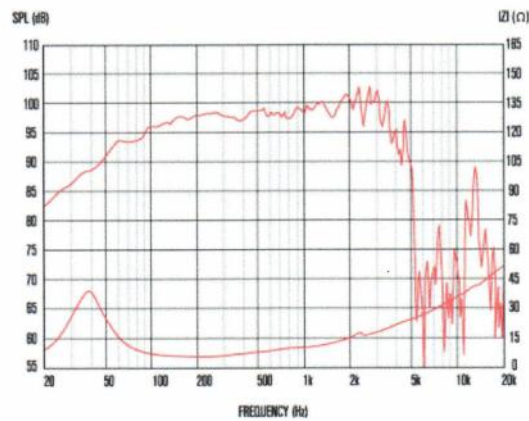
### TF1530e



#### Features

- 15" speaker driver unit provides extended low frequency range
- 3" edgewound voice coil enables 98dB efficiency and 400Wrms (AES standard) power handling
- Vented magnet assembly for enhanced cooling
- Kevlar-loaded cone with sealed surround and damping for reduced distortion
- Suitable for use in 2-way and 3-way systems

#### 8 Ω Frequency Response



#### General Specifications

Nominal diameter	381mm/15in
Nominal impedance	8 Ω
Frequency range	40-3000Hz
Voice coil diameter	75mm/3in
Chassis type	Pressed Steel
Magnet type	Ferrite
Coil material	Flat CCA
Former material	Glass Fibre
Cone material	Kevlar loaded paper
Surround material	Cloth-sealed
Suspension	Single
Gap depth	8mm/0.31in
Voice coil winding width	17mm/0.67in

#### Small Signal Parameters

D	0.33m/12.99in
Fs	40.9Hz
Mms	86.24g/3.04oz
Qms	4.073
Qes	0.376
Mmd	72.09g/2.54oz
Qts	0.344
Re	5.09Ω/Omega;
Vas	181.72 lt/6.41ft <sup>3</sup>
Bl	17.318Tm
Cms	0.176mm/N
Rms	5.433kg/s
Le (at 1kHz)	0.827mH

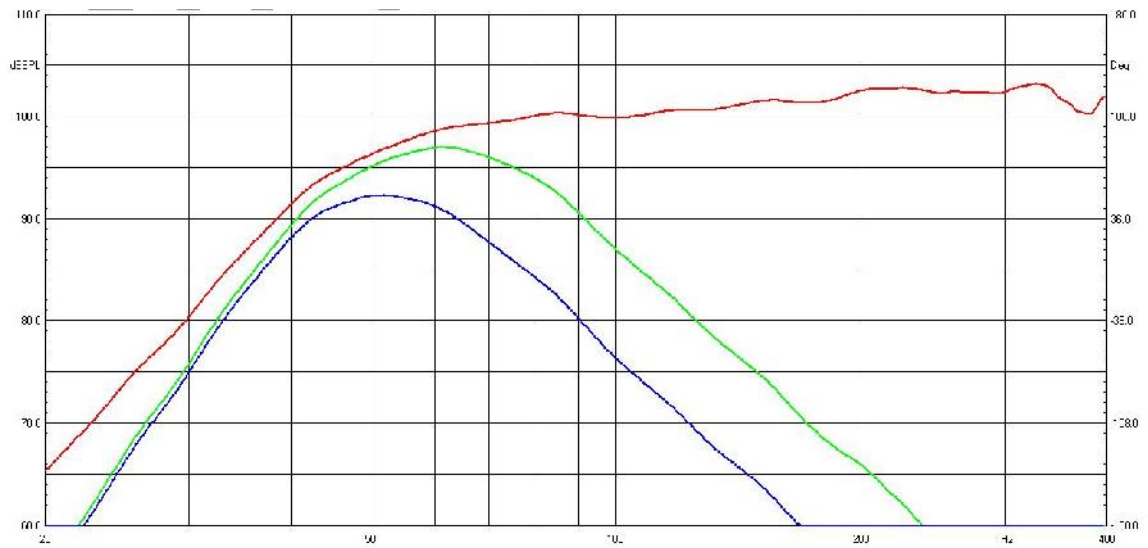
#### Mounting Information

Overall diameter	385mm/15.16in
Overall depth	161mm/6.34in
Cut-out diameter	352mm/13.86in
Mounting slot dimensions	9.4x6.2mm/0.37x0.24in
Number of mounting slots	8
Mounting PCD range	369mm/14.57in
Unit weight	6.5kg/14.3lb

**CELESTION**

Celestion, Claydon Business Park, Great Blakenham, Ipswich, IP6 0NL United Kingdom

## Measured Data

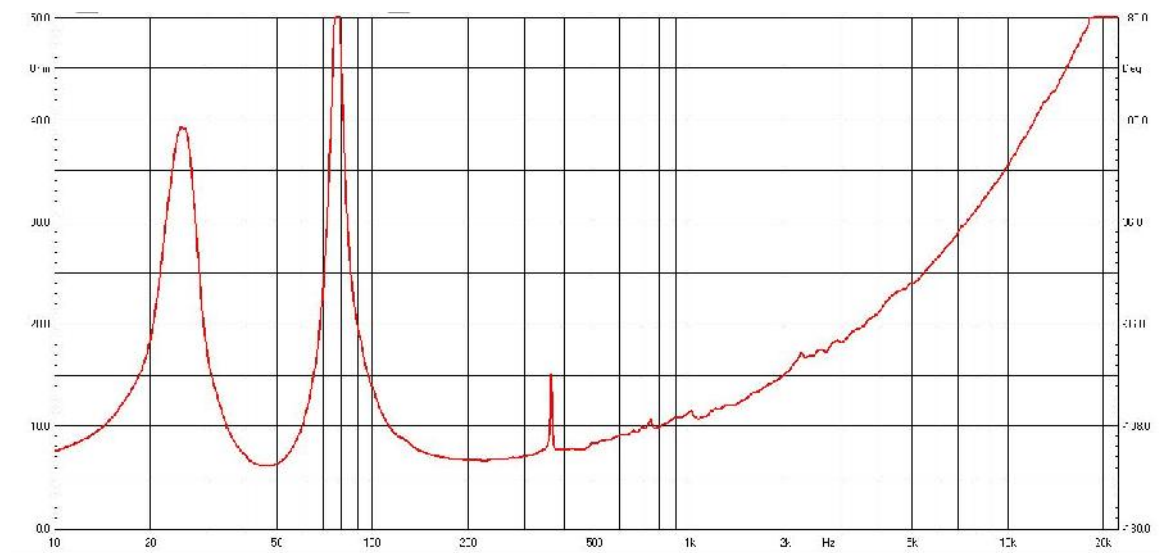


Frequency Response

Red: Measured near-field, corrected to indicate the 2m far-field, floor mounted response (level normalized to 2.83V/1m).

Green: With 80Hz (-6dB) 4<sup>th</sup> order low pass filter and 35Hz (-3dB) 4<sup>th</sup> order high pass filter.

Blue: With 60Hz low pass and 35Hz high pass filters.



Input Impedance

## Specifications:

Format: Passive Sub-woofer

Driver: TF1530e

Sensitivity: 97dB (2.83V/1m/floor-mounted/including 80Hz 4<sup>th</sup> order LPF (-6dB))

Input Impedance: 8 ohms (nominal), 6.1 ohms (minimum)

System Rated Power: 550W (EIA), 2200W (peak)

LF Extension: 44Hz (-3dB), 35Hz(-10dB), floor mounted with 80Hz LPF (-6dB)

Maximum Output Level (floor-mounted/with LPF): 124.5dB (Continuous), 130.5dB (peak)

LF Unit Power Rating: 400W (AES)

Recommended High Pass Filter: -3dB at 35-40Hz (4<sup>th</sup> order)

Internal Volume: 124L

Port Tuning Frequency: 45Hz

Port Dimensions: 4 x (Diameter 100mm x Length 290mm)

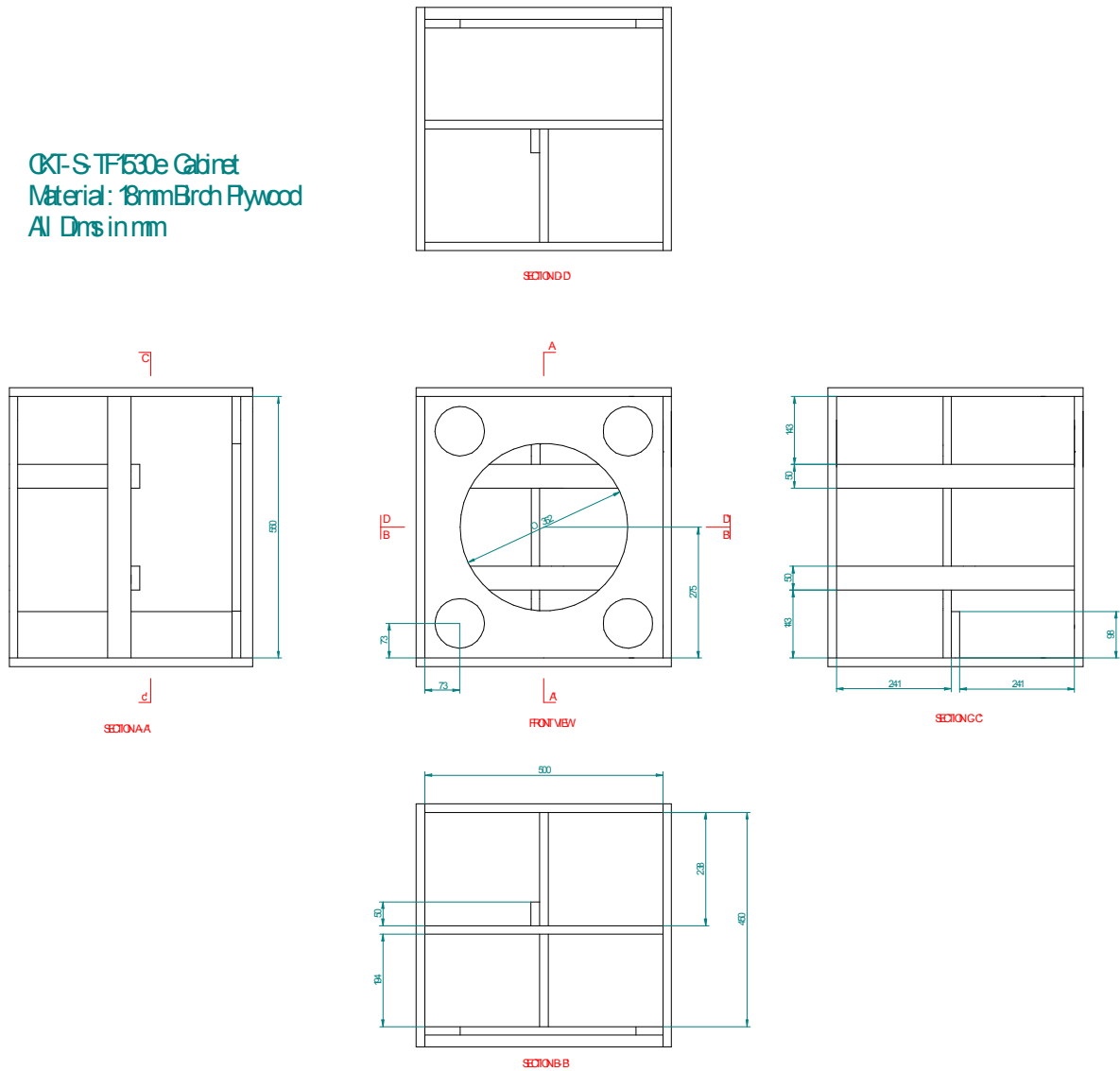
Port Options: smaller port: 4 x (90Dx222L) / larger port: 4 x (110Dx367L)

Overall Dimensions: 586 x 536 x 511mm (H x W x D)

## Cabinet Design:



CKT-S-TF1530e Cabinet  
 Material: 18mm Birch Plywood  
 All Dims in mm



**Construction Notes:**

All joints should be glued and screwed. The front and back panels can be fitted onto internally mounted battens.

T-Nuts and fixing bolts are recommended as a means of fixing the units.

Ensure that there are no air leaks in the cabinet apart from the ports – foam gasket strip should be used in the mounting of drivers, stand attachment (top-hat) and terminal panel.

Internal cables should be carefully positioned to avoid any rattling.

Internal acoustic damping is not essential for a sub-woofer but, if used, it should be positioned clear of the ports and driver cone.

It is important that the cabinet is solidly built and free of obvious panel resonances which may colour the sound. For this design 18mm MDF can be used instead of 18mm Birch plywood.

A cable conductor cross-sectional area of 2.5 square mm is recommended.

The positive connection on the input panel should be connected to the positive terminal of the driver.

## **Operation with satellite speakers**

Successful integration of a sub-woofer with a satellite normally requires a little bit of adjustment and tweaking, however, the following procedure is a good starting point:

- (1) Set the  $-3\text{dB}$  point of the High Pass Filter to the  $-3\text{dB}$  point of the satellite's low frequency roll-off.
- (2) Set the  $-6\text{dB}$  point of the Low Pass Filter to the same frequency.
- (3) Adjust the sub-woofer level for the best low-mid balance.
- (4) If it sounds like there's a 'notch' at the crossover frequency then reverse the polarity of the sub-woofer or satellite to determine the setting which gives the best integration.
- (5) To protect the sub-woofer, and maximize its output capability, add a suitable high pass filter to the sub-woofer channel.