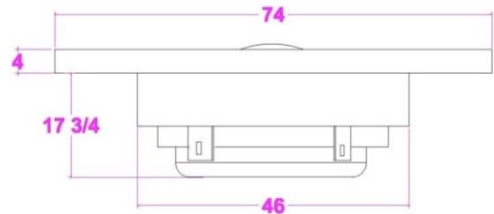


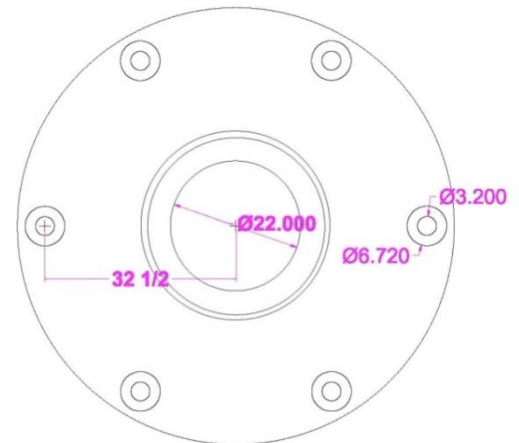
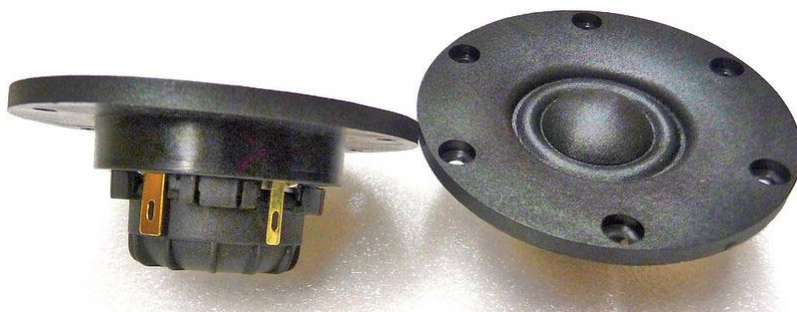


LD22 Series Low Distortion 22mm Tweeter

F Series



C Series



The LD22 series of 22mm high performance tweeters fits a unique position between 19mm (3/4") and more conventional 25/26mm (1") units. The 2 face plates were developed after a series of prototypes were designed and measured. This Canadian effort, along with local face plate production, assembly and packaging, results in a proud "Made in Canada" achievement.

The 22mm vented copper-clad aluminum voice coil and extra wide surround result in a low F_s and support a 2kHz lower crossover capability. They have a rear chamber for very low distortion performance and the outside ring neodymium magnet affords greater internal volume than that of more traditional neodymium tweeters. The carefully chosen material and the shape of the coated fabric dome enable response with full output to 40 kHz.

We offer two versions with different off axis responses. The C series has a carefully designed faceplate with a compound curve giving better than average off axis response out to 45 degrees for a wider so-called "sweet spot" listening experience.

The F series has a flatter faceplate for a more traditional off axis response. Both are packaged in pairs including mounting gaskets and screws.

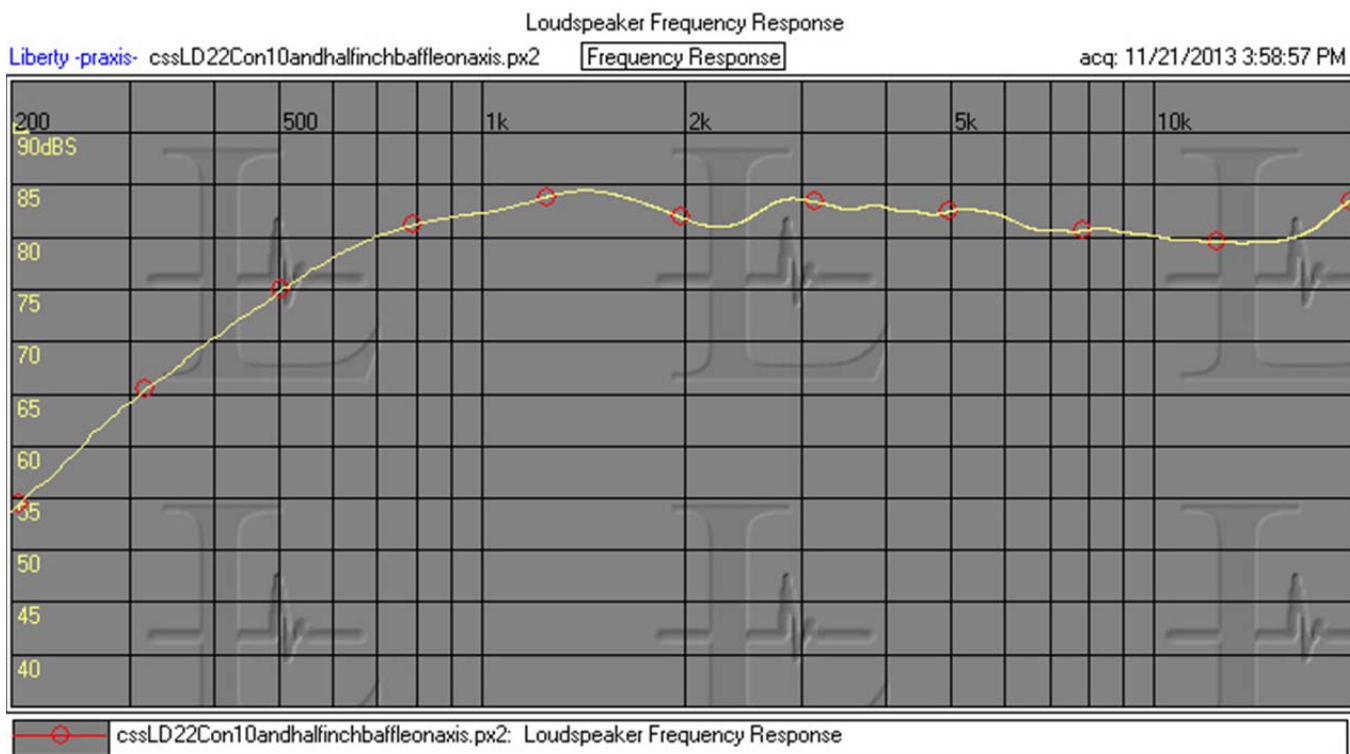
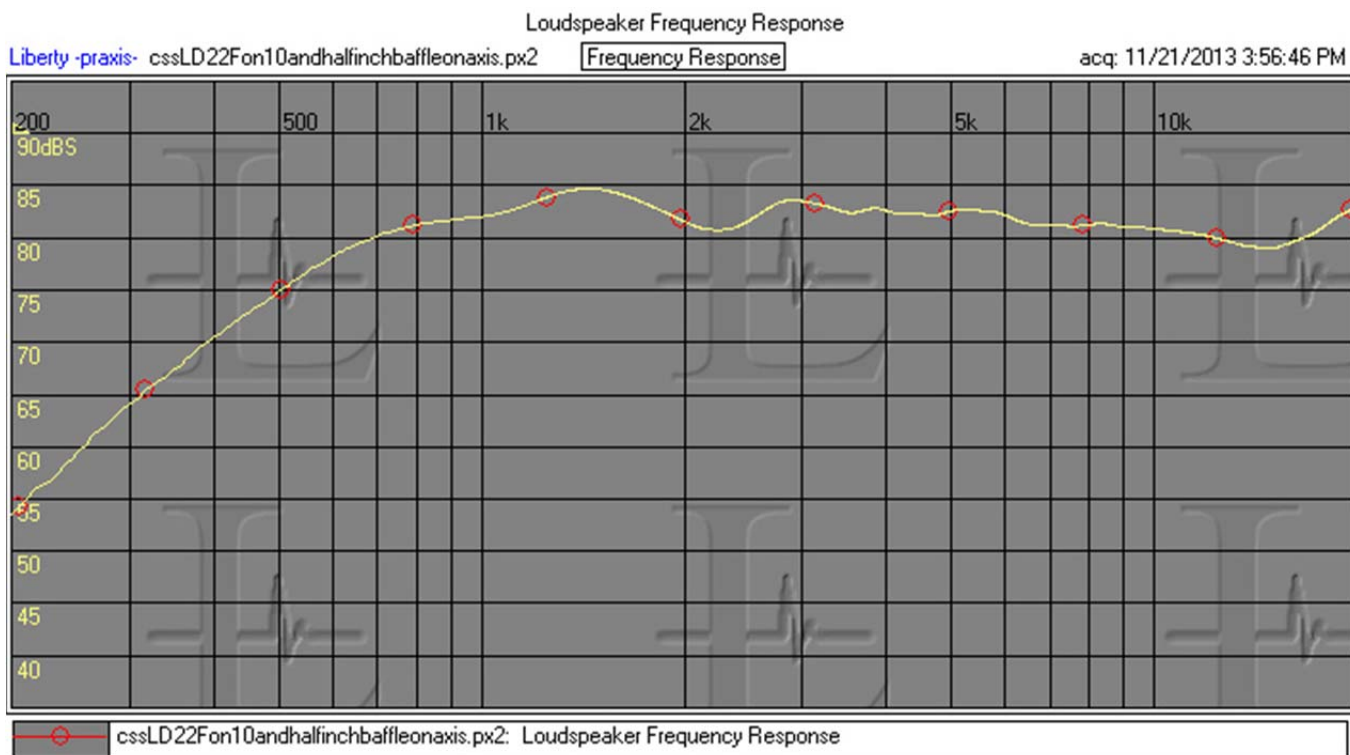
| Parameter | Value | Unit |
|---|-------|---------|
| Nominal size | 22 | [mm] |
| Nominal impedance | 4 | [ohm] |
| Recommended frequency range | 2-30 | [kHz] |
| Sensitivity, 2.83V/1m (average SPL in range 2 - 20 kHz) | 89 | [dB] |
| Effective radiating area, Sd | 6.1 | [sq.cm] |
| Resonance frequency, Fs | 870 | [Hz] |
| Moving mass, incl. air (free air, no baffle), Mms | 0.27 | [g] |
| Force factor, Bxl | 1.7 | [N/A] |
| Suspension compliance, Cms | 0.15 | [mm/N] |
| Equivalent air volume, Vas | 7.7 | [ml] |
| Mechanical resistance, Rms | 0.97 | [Ns/m] |
| Mechanical Q, Qms | 1.4 | [-] |
| Electrical Q, Qes | 1.69 | [-] |
| Total Q, Qts | 0.77 | [-] |
| Voice coil resistance, RDC | 3.6 | [ohm] |
| Voice coil inductance, Le (measured at 20 kHz) | 40 | [μH] |
| Voice coil inside diameter | 22 | [mm] |
| Voice coil winding height | 1.6 | [mm] |
| Air gap height | 2.5 | [mm] |
| Theoretical linear motor stroke, Xmax | ±0.45 | [mm] |

Below are several acoustic measurements for the LD22 tweeters. The measurements were taken with Praxis plus the WT2 from Smith and Larson.

The frequency responses are for 2 different cabinet widths (7.5" plus 10.5") for each LD series tweeter. Doing these measurements shows the real world acoustic measurements for the tweeters on 2 different baffle widths as these widths are popular for many DIY usages.

The near field distortion measurement shows a very clean response.

LD22F LD22C Frequency responses on axis measured on a 10.5" baffle (Below)

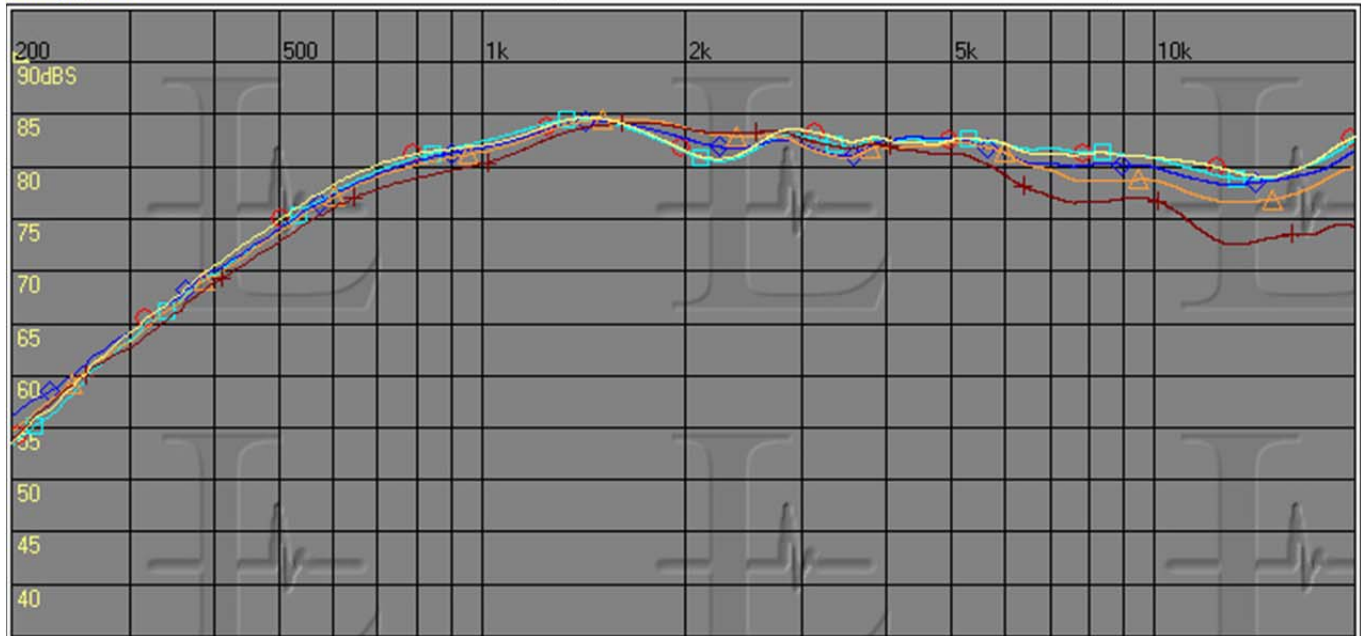


LD22F LD22C frequency response 0 to 40 off axis measured on a 10.5" wide cabinet (Below)

Loudspeaker Frequency Response

Liberty -praxis- cssLD22Fon10andhalfinchbaffle0to40offaxis.px2

acq: 11/21/2013 3:56:46 PM

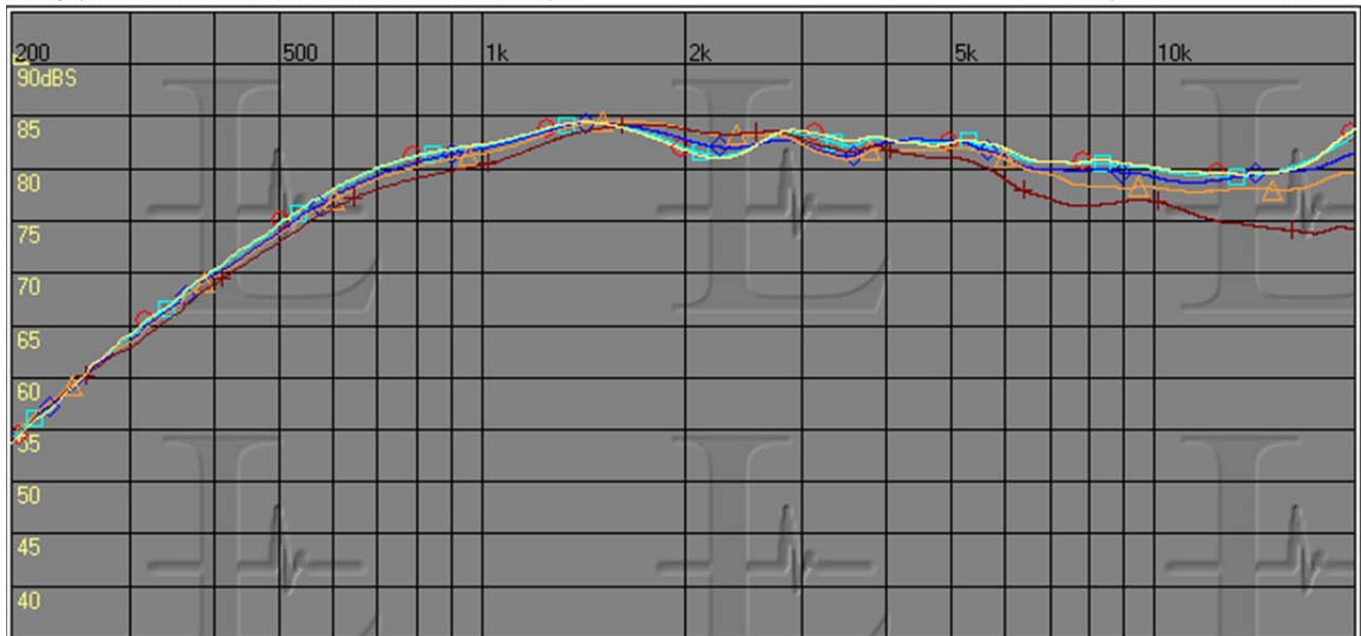


- cssLD22Fon10andhalfinchbaffleonaxis.px2: Loudspeaker Frequency Response
- cssLD22Fon10andhalfinchbaffle10offaxis.px2: Loudspeaker Frequency Response
- ◇ cssLD22Fon10andhalfinchbaffle20offaxis.px2: Loudspeaker Frequency Response
- △ cssLD22Fon10andhalfinchbaffle30offaxis.px2: Loudspeaker Frequency Response
- ⊕ cssLD22Fon10andhalfinchbaffle40offaxis.px2: Loudspeaker Frequency Response

Loudspeaker Frequency Response

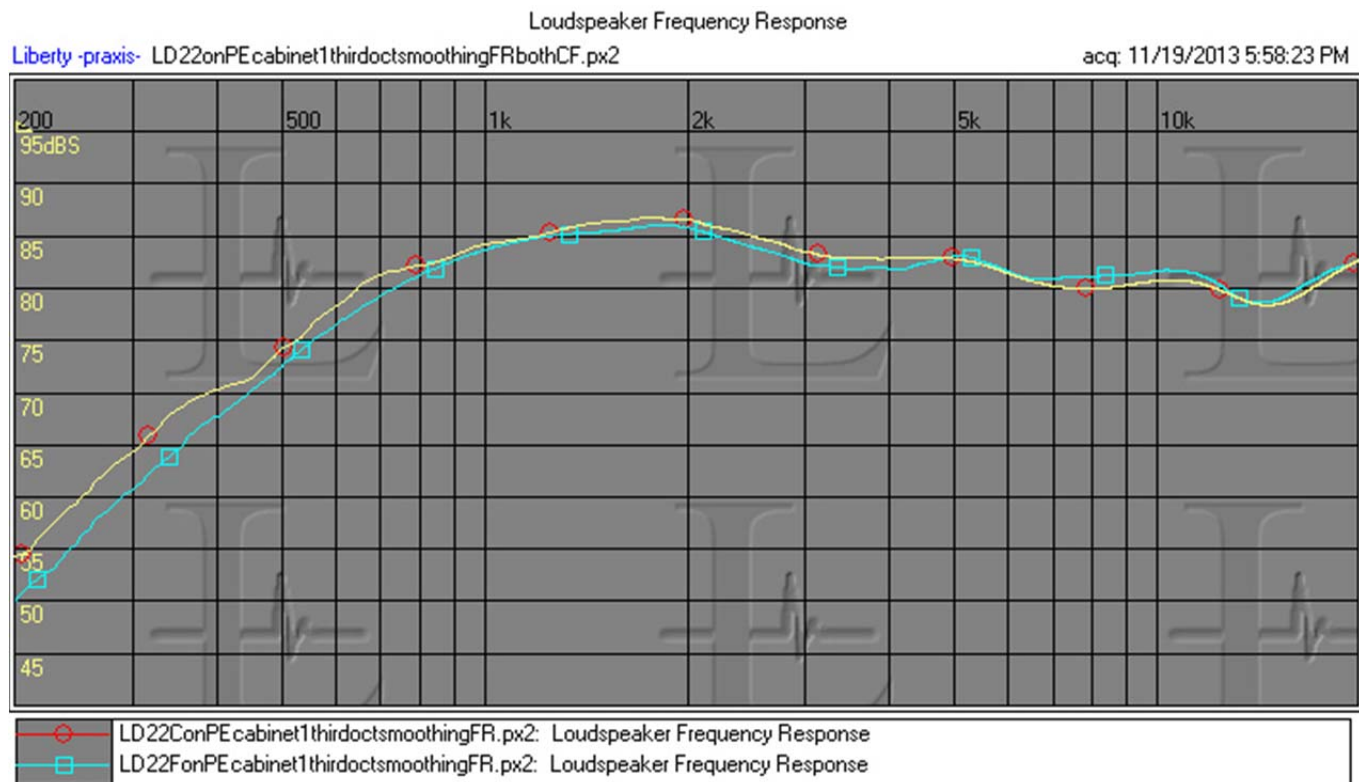
Liberty -praxis- cssLD22Con10andhalfinchbaffle0to40offaxis.px2

acq: 11/21/2013 3:58:57 PM

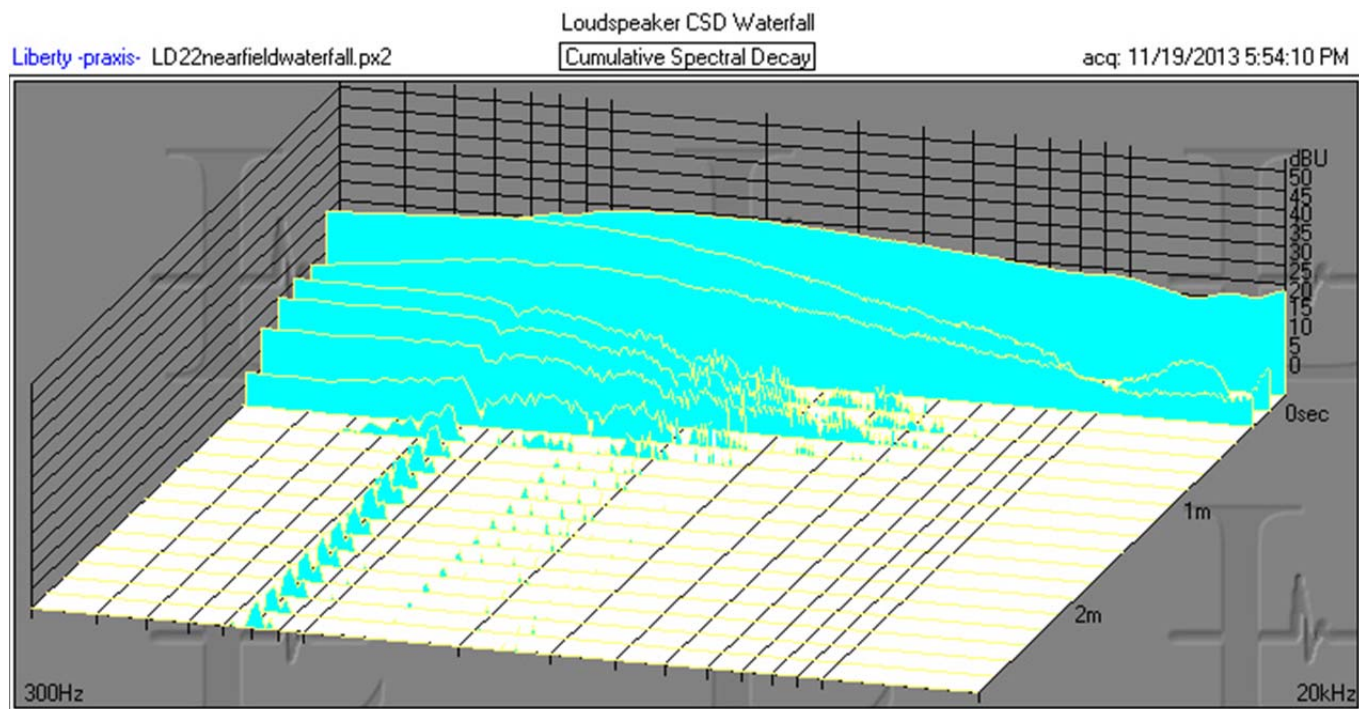


- cssLD22Con10andhalfinchbaffleonaxis.px2: Loudspeaker Frequency Response
- cssLD22Con10andhalfinchbaffle10offaxis.px2: Loudspeaker Frequency Response
- ◇ cssLD22Con10andhalfinchbaffle20offaxis.px2: Loudspeaker Frequency Response
- △ cssLD22Con10andhalfinchbaffle30offaxis.px2: Loudspeaker Frequency Response
- ⊕ cssLD22Con10andhalfinchbaffle40offaxis.px2: Loudspeaker Frequency Response

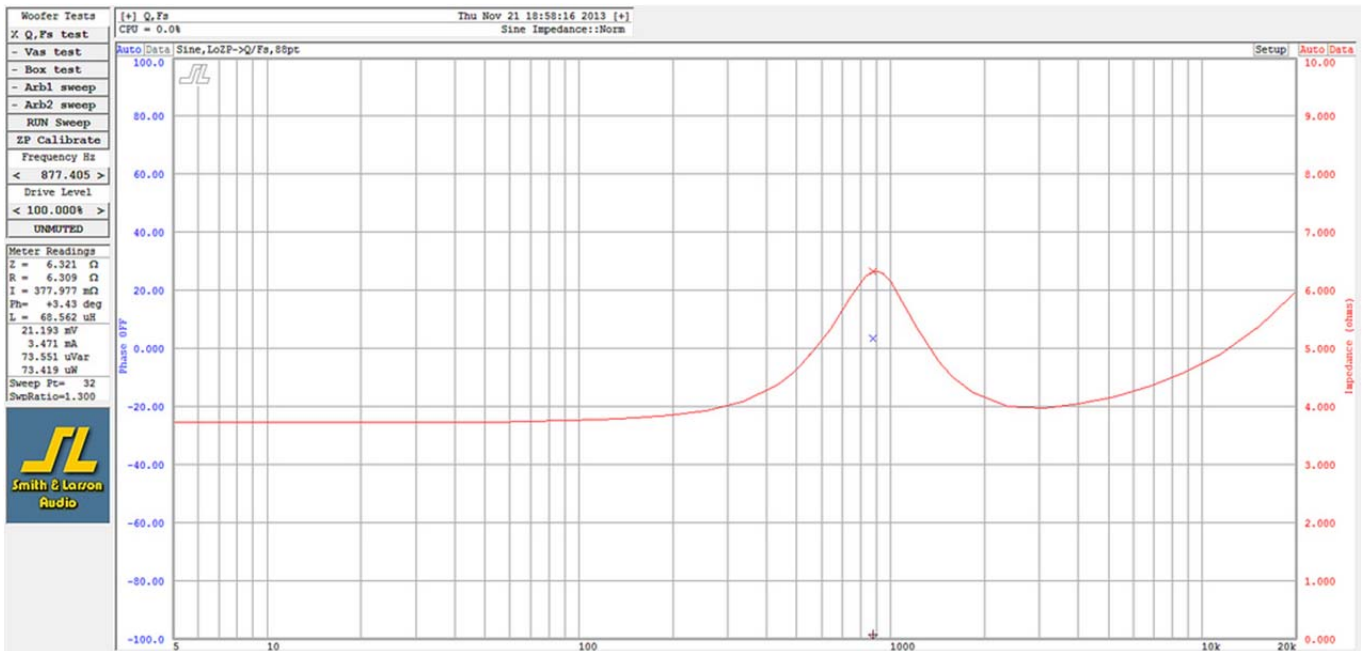
LD22C LD22F tweeters frequency responses measured on a 7.5" wide baffle mounted on a Parts Express .25cft cabinet (Below)



Near field Waterfall distortion measurement (Below)



LD22 Impedance measurements



| | |
|---------|--|
| Load | Buffer[0] Q, Fs |
| Save As | Completed: Thu Nov 21 19:04:25 2013 |
| Copy | Drive level 100.000% [3.471 mA] |
| Paste | Sine, LoZP (LV/LA) -> Q/Fs, 81 pts |
| Cut | ; |
| SelAll | Re = 3.7327 ohm |
| Help | Fs = 876.6439 Hz |
| | Zmax = 6.3793 ohm |
| | Ro = 4.8588 ohm |
| | F0 = 532.4427 Hz |
| | F1 = 1.3912 kHz |
| | Fmin = 3.4056 kHz |
| | Qes = 1.8822 |
| | Qms = 1.3346 |
| | Qts = 0.7809 |
| | Le = 0.0000 H @1k |
| | XLe = 6.1970 ohm @1k |
| | PLe = -5.1886 Deg @1k |
| | ; |
| | ; Approximate Impedance Fitting Constants ; |
| | ; (Improved with Completion of Vas Test) ; |
| | ; |
| | Krm = 873.922E-09 ohms Freq dependent resistance |
| | Erm = 1.211E+00 Rem=Krm*(2*pi*f)^Erm |
| | Kxm = 472.795E-06 Henries Freq dependent reactance |
| | Exm = 754.847E-03 Xem=Kxm*(2*pi*f)^Exm |