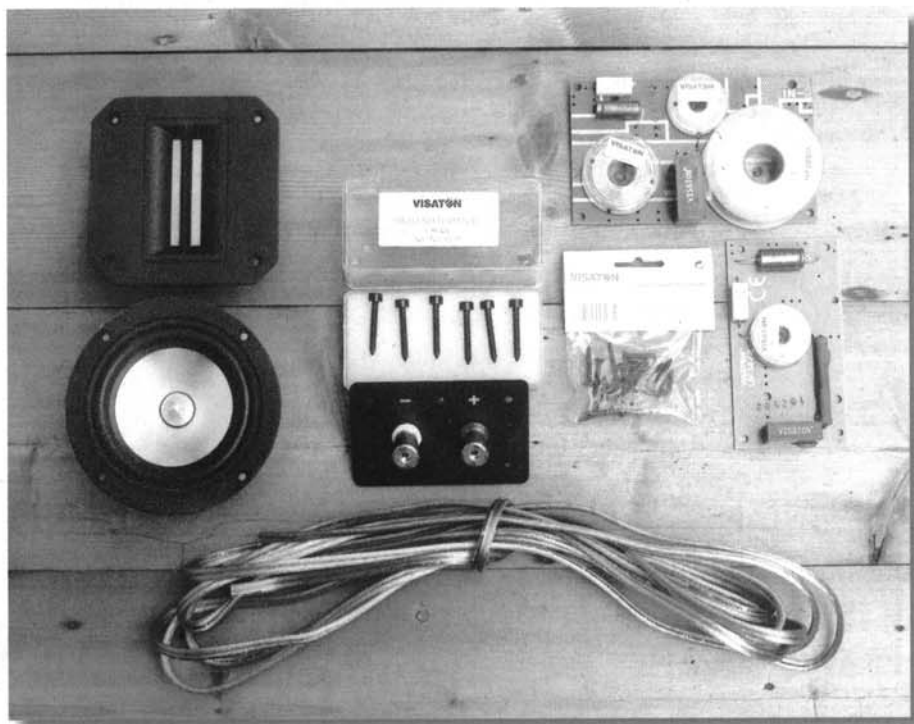


BUILDING STONES

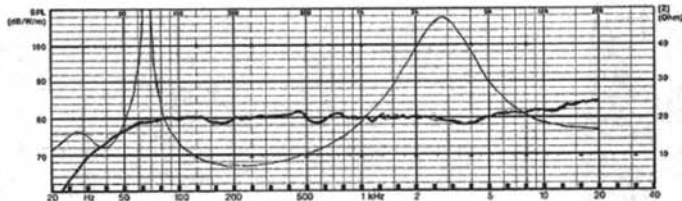


Ever fancied building your own ribbon tweeter loudspeaker? Clive Meakins assembles the Visaton Topas – a Gem from Wilmslow Audio.

Visaton are a German speaker technology company that offers a huge range of drive units and complete speaker designs. Their products are now available in the UK from Wilmslow Audio. You can buy drive units with pre-assembled crossovers and Wilmslow Audio are starting to produce Visaton-designed cabinets. This provides a very quick and easy way to build a pair of speakers without needing special tools or skills. The first full kit available from Wilmslow Audio is the Visaton Topas, featured here.

Unlike so many "generic" speakers on the market today, the Topas features high quality drive units that suggest it will have an interesting, high quality sound. The drive unit and crossover kit costs £646.25, the cabinet kit is £150 extra

at a good price. The Topas is a small floorstanding speaker that is designed to be on the borderline between vented bass and transmission-line. It certainly possesses a small footprint. Just 165mm wide, 225mm deep and standing 900mm tall or a touch more with spikes. The front edges of the cabinet have a chamfer to aid soundstaging. The speakers are ported at the front, offering the likelihood they'll work close to a wall. By the way, do use spikes; the speakers won't be stable without them. Visaton claim a frequency range



A graph of the frequency response and impedance curves of the Topas

and you need another £10 for a floor spike kit. You're not going down this route to build an economy speaker, instead you're after something special



The Visaton TI 100 bass/mid driver is a titanium cone design

from 35Hz to 40kHz. From their graphs it would seem they are an easy 8 ohm load, indeed their impedance looks to be considerably greater than 8 ohms most of the time. The only downside is desperately low efficiency, just 80db for 1W at 1m. Peak power handling is given as 60W so already we can deduce that the Topas is not meant for producing headbanging sound levels.

The drivers used are a bass/mid with titanium cone, accompanied by a ribbon tweeter. The TI 100 bass/mid is a 10cm / 4 inch, magnetically shielded, 8 ohm unit with a hefty double magnet. The MHT 12 is an 8 ohm ribbon tweeter that has a range that runs from 3,000Hz to 40,000Hz. Visaton have a long history with ribbon tweeters. Several speakers have been developed with them in the past: some were successful whilst others struggled with the integration of ribbon and cone sound. It would be interesting to hear what the Topas could do.

The MHT 12 tweeter uses a very thin diaphragm giving a low mass to move around. With both drivers being 8 ohms we end up with a true 8 ohm speaker; unlike many speakers today that mix 4 and 8 ohm drivers.

MADE OF STONE

Time to get to work. Before gluing the cabinets it is advisable to test that the panels all fit well. At this point you need to attach the two crossover boards to the rear panel, as access will be difficult later. Also, all the internal wiring needs to be

prepared and soldered to the boards as well as tied temporarily across the binding post aperture.

I borrowed some woodworking clamps to hold the cabinets while the glue dried. You can bind the cabinets together with masking tape instead, but clamps are better. Just ensure you don't over tighten the clamps or you'll squeeze all the glue out of the joints. I suppose I'm too generous with glue, the supplied amount was only enough for one cabinet but I made sure I had some spare before I started. To run out with a half assembled cabinet would not be a good idea.

To assemble you build up the cabinet while it's lying on it's front. Fitting the angled port requires at least three hands but otherwise all is straightforward. You must then leave the cabinets to dry for 24 hours. When dry I spent a few minutes with



The MHT 12 ribbon tweeter makes the Topas not your average kit loudspeaker

a detail sander cleaning up the joints, getting them smooth. Wilmslow did such a good job of cutting the panels, there was actually very little to do.

I then fitted the spikes. This meant drilling holes in the bases and hammering in threaded collets. Be careful not to drill too deeply - one of my holes went right through the 18mm MDF! I packed the back of the hole and sealed it with glue to ensure it didn't cause an air leak.

Nearly there now. Just drill pilot holes for the binding post plate and then screw it down. Next, stuff the supplied lambs wool evenly into the

cabinet and then prepare to mount the drive units. Again, drill pilot holes before finally screwing in the drive units.

Take care to ensure the drive units have an even gap around them, they look better this way. Also, be sure not to slip with the screwdriver - they are expensive units! I try to be very careful when building kits and test where I can do so; I used a full range car speaker to check bass and treble were output as expected from the crossover boards.

Lastly I soldered the internal wire to the drive units. It's very much up to you how you finish the speakers. Suggestions include veneering, staining/spray varnishing or take them to your local car repair centre and have them sprayed any colour you want!

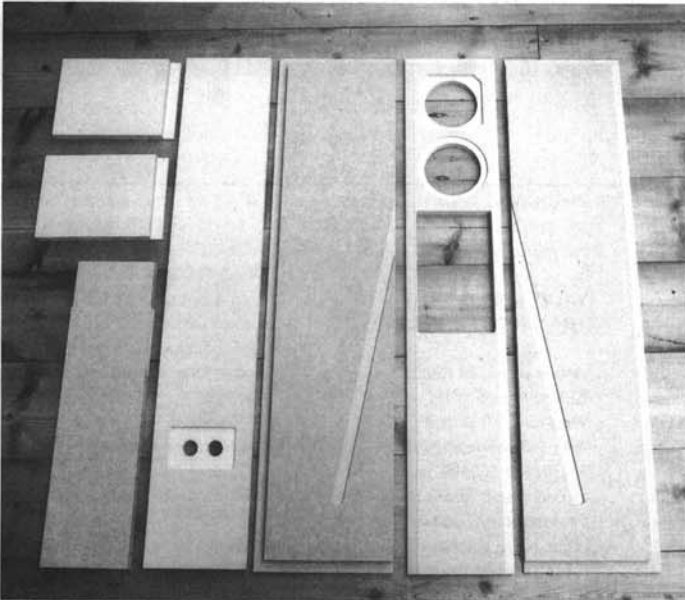
LOOKING GOOD

For a kit, the speakers do look very good indeed. They should be highly acceptable in most domestic situations. The titanium bass/mid is especially attractive. I found the speakers needed a couple of weeks to loosen up and open up fully. The change wasn't night and day but it happened, mostly increasing the level of bass output.

First of all I used the speakers in my usual free-space position: bass was somewhat curtailed. Then I tried them close the rear wall and the missing bass arrived. They worked well just a couple of inches from the rear wall, though for the best balance I ended up with them around 8 inches from the rear wall.

These 'speakers are clearly quite forgiving about placement. Where they work best will depend on your room and how much bass you like. Just don't expect the Topas to work 100cm into a room without a subwoofer. The quality of the bass you get is slightly dry and very textured. You don't get lots of bass bloom with overhang, but instead you get detail. As you would expect from a 4 inch titanium driver, the Topas bass will not pin you to the wall. It's much more subtle than that, but I am quite prepared to believe they do go down to the specified 35Hz.

Vocals project well into the room, especially considering the closeness of the cabinets to the rear wall. There's bags of treble detail but,



The MDF cabinets for the Topas come flatpacked and are easy to assemble

that's not to say the speakers are bright. Treble sparkles in a way that few other speakers achieve, pretty much at any price thanks to that ribbon.

Overall I would say the sound of the Topas is detailed but not over analytical. It is tight, clear, clean, fast and provides plenty of "air". Integration between the drivers is excellent; they complement each other very well. The sound is very different to the Adire Audio HE10. I that I reviewed recently. The HE10. I is very much more "muscular", providing more wallop in general. The Topas are about subtlety and finesse with treble that not only sparkles beautifully but is so incredibly refined.

I drove the Topas with solid-state and valve amps from a Meridian 588 CD player. For solid-state I used a Michell Orca/Alecto monoblock combination. Though these 128W amps are overkill for the speakers, they worked very well indeed. The Michell Alecto stereo amp would be more in keeping with this speaker. I would imagine that some of the several quality 50W / 60W integrated amps on the market would also be a good match for the Topas. I tried a couple of cable set ups: Nordost Red Dawn interconnects with Blue Heaven speaker cable and then Chord Company Chorus / Odyssey. The Nordost accentuated detail whereas Chord gave a fuller bass. I'd say both makes matched the speakers well, the differences were very clear to

hear as the speakers are revealing. Personal preference will determine how you want to tune the Topas sound.

You would expect the soundstage of such a narrow speaker to be good and the Topas did not disappoint. Along with tremendous ambience there is a very spacious sense of atmosphere. Instruments are placed beautifully between the speakers, there is little sound that is perceived to come directly from the drivers.

I originally had no intention of driving 80dB efficiency speakers with a 9W single-ended triode but curiosity got the better of me. It's quite well understood that a 9W SET sounds more like 20W or 30W of solid-state. Perhaps I shouldn't have been surprised. The Transcendent Sound Grounded Grid preamp with DIY Hi-Fi Supply Billie 300B SET monoblocks proved to work rather well the Topas speakers. The speakers proved their ease of drive with no signs of the Billies being uncomfortable at any frequency. For many prospective purchasers of the Topas this

combination is not quite as mad as it first seems. A 20W 300B PSE would also be an interesting option and, of course, bigger valve push-pull amps of around 40-50W would be a great match.

So who is the Topas likely to suit? These are not middle-of-the-road speakers that try to appeal the mass market. Some people will prefer non-Topas attributes such as lots of bass and high volume. If this is the case then the Topas are not for you. The archetypal British living room is likely to be ideal. You will need to be able to cope with a little DIY. As long as you can manage a little soldering you should be fine. You will want clarity, subtlety, fabulous refinement coupled with an "airy" sound plus a very classy looking speaker. Placement near a wall is likely to be necessary. If you value what the Topas do so very well here is a gem.

Visaton Topas £646.29
(drivers and crossover)
£150 (cabinet)

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Hey presto! The finished gems