



Swan RM600F Stereo Loudspeakers

BECAUSE MAGNETIC/COIL TYPE DYNAMIC LOUDSPEAKERS ARE SO UBIQUITOUS, WE TEND TO FORGET THAT THERE ARE OTHER DESIGNS, WRITES **STEPHEN DAWSON**.

Electrostatic speakers use a highly electrostatically-charged thin sheet, contained between two other highly charged 'stators', which vibrates evenly across its entire surface to provide excellent midrange and treble sound.

But the part of the loudspeaker that has been most subject to alternative designs has been the tweeter, which is responsible for producing the high frequencies.

Various different versions have included compression drivers, which

often use a more or less conventional coil driven diaphragm behind a horn, but often also employ a piezoelectric driver, in which a crystalline material physical flexes in response to an electrical signal.

Perhaps the strangest tweeters ever seen were 'plasma' tweeters, which used what looked like a flame reacting to the signal. Unfortunately, these also generated ozone, which is poisonous, and so were discontinued.

One of the most respected technologies is the ribbon tweeter. This also uses a diaphragm, but attached to a 'planar' coil sitting in an extremely strong magnetic field. The light weight of the diaphragm helps the tweeter to be very responsive to high frequencies, while its shape (usually a rectangle

DETAILS

Product: Swan RM600F stereo loudspeakers

Manufacturer: Swan

Distributor: Oceanic Distribution

Contact: 1300 556 303

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SPECIFICATIONS

Model :	Swan RM600F
System Type :	3-way 4th order vented box system
Drivers Configuration :	Ribbon tweeter ; 50mm midrange; 2 pcs 6-1/2 inch woofer
Frequency Range:	38Hz - 20kHz
Harmonic Distortion:	62Hz - 20kHz <1% (2.83V, 1m)
Sensitivity:	89dB SPL (2.83V, 1m)
Nominal Impedance:	4Ω
Power Handling:	10 - 120W
Finish:	Wood veneer with piano lacquer
Dimensions (W×D×H):	224×327×1080mm
Net Weight :	26.6kg

with the long sides orientated vertically) tends to reduce the dispersion of high frequencies in the up and down angles (where they are largely wasted), while spreading them widely from side to side.

The Swan RM600F stereo loudspeakers use ribbon tweeters to produce high frequencies.

DRIVERS

Swan calls them 'isodynamic', which would suggest that instead of using a single set of magnets to create the field, there are magnets at both front and back to provide greater linearity and efficiency.

The aperture behind which these tweeters reside measures 25.4mm wide and double that in height, conforming to the norm for this style of tweeter.

Now, while most loudspeakers use dome tweeters and often omit the midrange driver all together, in favour of crossover simplicity, Swan includes a 50mm dome midrange. This allows a single driver to cover the entire area in which the ear is most sensitive, avoiding crossover problems in that area.

For bass these speakers each include a pair of 165mm bass drivers.

The enclosures are bass reflex loaded, with a very large port on the front. Swan says that they have a 'frequency range' of 38 to 20,000 hertz, a sensitivity of 89dB (presumably at one metre with 2.83 volts of input, as is the normal way of measuring this specification) and a nominal impedance of four ohms. It also says that they can handle up to 120 watts of power.

They each measure 1,080mm tall, 327mm deep and 224mm wide, and weigh rather a lot at over 26 kilograms each.

The finish was gorgeous. The review speakers has an exceptionally deep piano gloss lacquer over medium dark wood with a slight reddish tinge.

Each of the speakers had gold plated binding posts with large plastic knurled knobs which made tightening easy. They support bi-wiring for those who prefer to spend money on unnecessary cable.

LISTENING

I mostly used the LSA 'Standard' Integrated Amplifier for my listening

sessions with these loudspeakers, and a wide range of stereo music in standard CD format, and HDCD and Super Audio CD.

And was promptly surprised. I have a habit of looking at specifications before the listening. A bad habit, perhaps, because it tends to colour one's expectations.

And the fact is, a 'frequency range' of '38Hz ~ 20kHz' simply didn't seem very impressive, especially for a set of \$3,500 a pair stereo loudspeakers. Especially at the bottom end.

In fact, 'frequency range' itself is a claim that often invites incredulity. I've seen generally reputable brands with ludicrous 'range' claims: 16 hertz for a modestly sized centre channel speaker and the like.

'Frequency response' is the preferred claim, accompanied by a decibel range within which the various frequencies will be delivered.

So with a claim of a mere 'range' specified to an unimpressive 38 hertz at the bass end, I really wasn't expecting much.

But in this case the 'frequency range' appears to be understatement, rather than overstatement. I particular, my surprise concerned the apparent bass extension. Emerson, Lake and Palmer's *Pictures at an Exhibition* was delivered with some material right at the extremes of human ear response in a genuinely powerful way. More mundane material, such as bass guitar and kick drum, was thoroughly dealt with by these speakers.

I wouldn't call these loudspeakers entirely neutral in tone, with a scientifically flat frequency response. They presented a slightly bright and forward sound. By no means brash, though, and they entirely avoided any sense of sibilance in voices or other forms of harshness. It was as though they had been voiced that way: not too hot, but just enough to deliver an impeccable amount of detail in the music and fine impact.

This was coupled with an unusual stereo image. Unusual in a good way. The wide dispersion from the tweeter resulted in a very 'airy' sound, a surprising sense of almost being there.

That didn't detract from precision in the audible sense of location of the various instruments. In Wynton Marsalis' *The Majesty of the Blues* the exact location of the primarily cymbal percussion dancing over the bass and trumpet could be pointed to with confidence, while the mostly restrained drum work would occasionally just jump forth, closely representing the clear musical intentions of the performers.

With classical music, the sweetness of smoothness of the ribbon tweeter came to the fore. It covered every dimension of detail, clarity and delicacy. Whether the impact on the bite of violin in a Schubert String Quintet, or the precise pluck of a harpsichord string in a Scarlatti harpsichord sonata, the precision was simply brilliant.

When compared to my \$10,000 per pair reference loudspeakers, okay maybe they lacked just a slender edge in dynamism on percussion, and ten hertz of so in bass extension, but not too much else.

CONCLUSION

Ribbon tweeters normally only appear in loudspeakers firmly lodged into the ranks of exotica. These loudspeakers are surprisingly – yes, I'm going to say it – inexpensive for the quality that they provide. And that's just the quality of the sound I'm talking about. Take into account the simply beautiful finish, and the Swan RM600F loudspeakers are a bargain. **CH**

