



## Ditton 66: A Sweet-Sounding Speaker

**The Equipment:** Celestion Ditton 66 loudspeaker system in wood cabinet. Dimensions: 40 by 15 inches (front panel), 11¼ inches deep. Price: \$499.50 each (sold in pairs only). Warranty: "limited," five years parts and labor. Manufacturer: Celestion Industries, Ltd., England; U.S. distributor: Celestion Industries, Inc., P.O. Box 521, Holliston, Mass. 01716.

**Comment:** As an eminent engineer once commented: "Don't confuse me with the facts. Does it *sound* good?" If "good" be "musical," the Celestion Ditton 66 does sound good, at least to our ears. It is an eminently sweet, clean speaker with a rich, warm bass and an extended (but not brash) treble. Driven with sufficient power, it will produce a prodigious sound level—especially in the lower depths—and do it cleanly, as tests at CBS Technology Center bear witness.

Although the efficiency of the Ditton 66 is about 3½ dB below what we have come to consider average—CBS reports an on-axis sound pressure level of 83½ dB at 1 meter from a 0-dBW noise input, 250 Hz to 6 kHz—it is an easy speaker to drive. The impedance curve is relatively smooth and well contained. Except for a 22.5-ohm peak at resonance (49 Hz), the load stays between 4 and 10.5 ohms throughout the audio band. We rate the impedance as 4.6 ohms (the minimum reached just above resonance), but over the important midrange the curve averages about 2 ohms higher: low, but not so low as to be dangerous.

Power is the staff of life for the Ditton, which easily handles a full 20 dBW (100 watts) at 300 Hz, producing a very high 108 dB SPL at 1 meter with a mere 2.3% combined second and third harmonic content. On a pulsed basis, the Ditton 66 swallowed the full drive capability of the lab's power amp without signs of overload, producing a whopping 116½ dB SPL. At more reasonable levels—say, 85 dB and below—distortion is less than 0.3% for 80-Hz signals and less than 0.4% at 300 Hz. Even at 95 dB SPL, 80-Hz distortion is less than 0.4%; at 300 Hz, the harmonic content is less than 0.8%. In short, it is one of the cleanest high-level bass reproducers we've come across.

Measurements in the anechoic chamber indicate an over-all average omnidirectional response within ±6 dB from 40 Hz to 16 kHz except for a trough in the octave centered on 4 kHz. (In that region the level is 10 dB below nominal.) Below 48 Hz the response falls off rapidly: at

about 18 dB per octave. (The Ditton 66 uses a 12-inch woofer and 12-inch flat passive radiator in its tuned-cabinet design.) But there is another way to interpret the data. The response in the "fundamental" region between 50 and 800 Hz is quite uniform (within ±4 dB), as is that in the "overtone" region between 2.5 and 16 kHz (within ±2½ dB). Between the two areas the curves shelf off so that the overtone region averages, perhaps, about 9 dB below the fundamental region. This interpretation corresponds more closely to what our ears tell us is happening.

Triangles, bells, and such, which have their energy concentrated almost exclusively at the higher frequencies, are reproduced very well, albeit perhaps not quite in perfect loudness balance with the rest of the orchestra. In listening tests, the reduced relative high-end response shows up mainly as a lack of sparkle and a transient response that, though fairly good, is not up to the best we've heard. On the other hand, that same characteristic lends a sweetness to the sound that is quite appealing. There is no trace of harshness or hiss, and yet the highs are indeed there—right out to at least 16 kHz.

There are no controls for the midrange or tweeter, so equalizing the system comes down to touchups with the preamp's tone controls. We found that a slight boost in the treble helps to restore the sparkle to the high end and improves the apparent transient response. A slight cut in the bass also helps the balance, but we achieved a greater improvement by moving the speakers away from reflecting walls and out into the room.

The dispersion of the midrange and tweeter is especially good. They are both mounted high enough above the floor to clear typical furniture, so a good fraction of the sound you hear is the so-called "direct wave." This probably helps create the outstanding stereo imagery of the Ditton system. The image has excellent depth and width, and with a good disc it is hard to tell that the sound is emanating from the speaker itself. Very satisfying.

Although a 17-dBW (50 watts per channel) amp will produce a sound level that will satisfy most listeners, the Ditton 66s will easily handle much more. When suitably driven, we expect they are capable of producing realistic listening levels in even the largest rooms. One caution, however: At subsonic frequencies, generated by record warps and lead-in grooves, the woofer and drone cone motion become quite violent—to the point of introducing chirps into the sound. So to get the low-distortion performance of which the system is capable, a subsonic filter is a must, especially if you're using a powerful amp.

The speaker projects its personality into the music, but that personality is restrained—even a little somber and serious. If warmth and sweetness of sound are, for you, among the cardinal musical virtues, you will probably enjoy the Ditton 66.

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