

# Letter from America

Some time ago, Electro-Voice modified their quadraphonic decoder to deal with CBS SQ records and then triumphantly advertised 'The 4-channel war is over'. The advocates of discrete systems like JVC-RCA could paraphrase John Paul Jones and reply — we have only just begun to fight! RCA have just announced that the first of their discrete discs will be released in May; the price will be the same as ordinary stereo records. Station KIOI in San Francisco has been broadcasting experimental transmissions using the Dorren 'Quadracast' system which is ideal for the JVC-RCA discs., JVC report that much progress has been made in overcoming some of the problems which many critics thought were inherent in the system. As *W.W.* readers may be aware\*, the JVC discrete system uses a multiplex arrangement which requires a response up to 45 kHz. As 'might be expected, this not only posed recording problems (particularly at the inner grooves) but also meant that a relatively

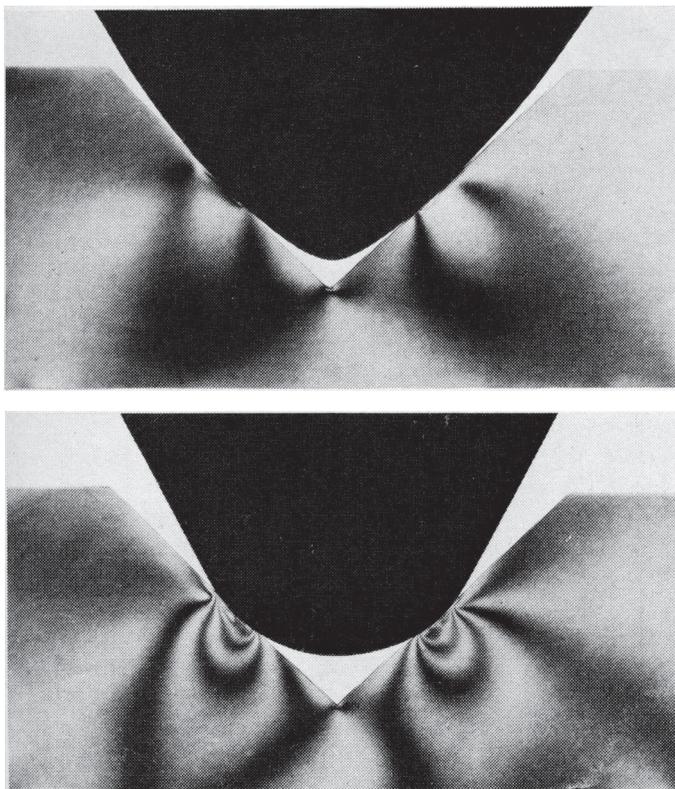
expensive pickup had to be used. Earlier JVC discs got over some of the difficulties by not using more than two-thirds of the disc — but the life of the record was still restricted due to high-frequency erasure. However, JVC developed a new stylus called the Shibata (see illustration) which gives a better contact with the record grooves. According to JVC, this stylus enables the groove wall pressure to be reduced to one-fourth and so the signal/noise ratio and amplitude response are much improved. Now, RCA have come up with a new record compound which uses multiple resins plus lubricating stabilizers which will further reduce record wear and erasure of the carrier frequency. According to W. H. Dearborn, RCA's director of operations, the new disc is fully compatible and can be played as many as 100 times with an ordinary pickup at 5 grams without significant deterioration! But of course any four-channel record system not only has to be compatible, it must be capable of being

used for broadcasts and the big problem remaining is getting FCC approval. However, tests by station KIOI indicate that the Quadracast system radiates less sideband energy than ordinary two-channel stereo. Meanwhile, tests are going on in New York with two f.m. stations broadcasting discrete records and tapes. One station radiates front left and rear right, and the other front right and rear left. Not particularly compatible and listeners need two receivers — but the response has been remarkably good.

Coming back to matrix systems, it seems that more and more manufacturers are making equipment for the CBS SQ system and the latest list includes Kenwood, Lafayette, Harman-Kardon, Sherwood and Toshiba — as well as Sony who came in first. So far about 30 SQ records are available. Records made with the Sansui and Electro-Voice matrix systems are also appearing in the shops. How do the various matrix arrangements compare in practice? Recently I spent some time listening to the available systems using their respective decoders and appropriate records. The four were Sansui, UMX-Denon, Electro-Voice and SQ. All gave good results with little to choose between them. Tests were also made for mutual compatibility — i.e. records made by system A played through system B, C and D's decoders. Conclusions were that all systems were compatible enough to give a good surround sound but in some cases location suffered. For instance, a UMX record played via an SQ decoder had the effect of moving an instrument placed at the rear extremes to a position nearer the front. Such deviations were easy enough to detect in a very heavily damped room with little reflected sound but they were heavily masked under normal domestic listening conditions.

Advocates of a discrete system speak very smugly of a 45-dB separation between channels, saying you really cannot hear a peep from channels A, B, or C if you listen closely to channel D's speaker. And it is perfectly true — you can't: but the question is, how relevant is this kind of separation? An instrument playing in one corner of your living room is not heard at a 45 dB lower level in any of the other corners — unless you have an exceptionally large house. It seems to me that the only valid case for a discrete system is the undeniable fact that it does give the composer a better tool, or medium — especially for electronic music. Even here, it is surprising what effects are achieved by such composers as Walter Carlos in his 'Switched-on Bach' or Mort Subotnick with 'Touch'. (Both these recordings are CBS SQ, the first using a Moog and the second a Buchla synthesizer.)

It might be asked — what are the reactions of American hi-fi enthusiasts and music-lovers to all this quadraphonic confusion. Well, no doubt about it — many prospective buyers are adopting a wait-and-see policy.



*New Shibata stylus (top) developed by JVC claims to reduce record wear by reducing pressure to one-quarter of that with an elliptical stylus (bottom) and to improve phase and amplitude response. Stress patterns shown are for equal downward force.*

\* See pp 486-8 October 1970 issue.