SPECIFICATION	Best low mass conventional arm or parallel tracking arm, with best cartridge	Vestigal arm, with best cartridge	Perfect arm
Vertical in balance oscillation frequency (Seesaw Frequency)	Approx. 30 Cycles per minute (High tracking pressures required to overcome this low frequency)	Approx. 170 Cycles per minute. (Follows any warp naturally at vestigal pressures, cannot recognise warps)	Over 5,000 C. per min.
Actual moving mass	Best 180 grammes in all planes	37.5 grammes horizontal 25 grammes vertical	Zero mass
Inertia (effective mass) with cartridge. This is the weight your stylus has to constantly overcome every time it moves the arm, and is the main wear factor	Best 8,780 gm./cm.² in all planes (often twice this figure). Nine tenths of all the work your stylus does, is to overcome arm inertia	4,500 gm · cm² horizontal 120 gm · cm² vertical One tenth of all the work your stylus does is to overcome arm inertia	Zero inertia
Tracking pressure	Best 1¼ grammes on selection of highly modulated discs	Best one fifth of a gramme on selection of highly modulated dics	One thirtieth of a gramme (approx.)
Pressure at points of contact of stylus and disc	At least three tons	Approx. 6 cwt	Zero
System resonance	40–80 C.P.S. System resonance corresponds exactly with speaker's large air moving frequencies which excites the arm, causing distortion and severe feedback problems	Over 180 C.P.S. System resonance well outside speaker's large air moving frequencies no distortion, feedback therefore Nil	Over 30,000 C.P.S.
Stylus movement induced by tonearm when traversing warps	Considerable, resulting in unwanted signals into amplifier and large sonic, and subsonic bass speaker movements. Doppler distortions, and unwanted sounds are inevitable	Negligible movements	No movements
Wear characteristics on stylus	Considerable wear on stylus, rapid deterioration of rubber or plastic compliant component. Stylus prone to collapse. Damage prone stylus assembly	Probably no wear on stylus, cannot cause deterioration of compliant component, arm can be dropped, or dragged across a disc without damage or even protest from the speakers. Vestigal arm actually takes over as vertical compliant component	As with vestigal arm
Disc wear	Severe degeneration of discs after 15 playings, poor quality Hi-Fi after 35 playings	Degeneration of discs at least forty times less, due to low inertia and tracking force	Not measurable
Type of cartridge	Conventional magnetic or induced magnet. Compliance not over 40 x 10^6 dyne/cm² as stylus prone to damage	Excellent with same cartridges but capable of accepting stylus assemblies of extreme delicacy, incapable of withstanding the onslaught of conventional arms	Zero mass cartridge zero tip mass. Infinite compliance stylus assembly

CONSTRUCTION

The main horizontal pivots carry a main horizontally swinging arm with no facility for vertical movement. At the front end of this main arm is attached a very short subsidiary arm (the Vestigal arm) pivotally mounted to provide vertical movement, and to which is attached the cartridge. As inertia increases with the square of the distance, the counterweight for this subsidiary arm cannot be mounted directly behind this arm, as this would increase the inertia in the horizontal; it has therefore been remotely mounted on the main horizontal arm, near to the main pivots, where it controls the action of the Vestigal arm by means of a thread and roller mechanism. Advantage is also taken to gear down the assembly, to choose a counter weight only one third the weight which would otherwise be required.

The arm is not a balanced device, as it does not employ a massive counterweight at the rear of the arm. The device has therefore to be set to swing neutrally in relation to the earth's gravity during the setting up of the arm. This is easily facilitated by the provision of two levelling screws and a neutral swing screw, which allow adjustment of the arm in all planes.

INERTIA

More confusion exists over this one word, than any other single word in the Hi Fi vocabulary; reviewers in particular often get inertia mixed up with tracking pressure. Inertia is a resistance to movement all objects have; it takes a force to overcome inertia.

Take a one gramme weight (half a paper clip), place it on the tip of your middle finger, and with palm upwards, move that one gramme weight from side to side, and up and down. You probably can't feel that one gramme weight at all, most people can't. Now set your tonearm to track at one gramme, place the stylus on the same finger, and move your arm around, up and down, and from side to side, and now we have a different story altogether, it is now a very heavy one gramme indeed, for it is not one gramme you are shoving around at all, your finger is doing what your stylus is constantly called upon to do, to overcome the inertia of the arm.

THE TRANSCRIPTOR STYLUS SCALES (Details overleaf)