



# MERIDIAN 206 CD PLAYER

With the new 206 player, Meridian aims to offer the styling and performance of the well-known 207 PRO, but in a simpler, single-box format

Meridian is one of the few UK CD player manufacturers carrying out original research into player technology, including the transport servo-systems. Its existing 207 PRO has been with us for several years, and remains a unique product – a two-box player of refined styling which incorporates a decent fully remote-controlled pre-amplifier. The latter includes an optional moving-coil/moving-magnet analogue cartridge input. Current 16-bit versions of the 207 sound better than ever, and must be included in the top performance grouping in their price range.

The 206 aims to continue the format and styling of the 207 but, while the two-box look has been retained, the player is now actually built as one box. The pre-amp section has been omitted, giving a major reduction in cost, but the player's audio section is said to have been tuned for an even better sound. The remote control is still present, although the refinements of absolute-phase invert,

disc-error indication, and one time-code (remaining-time of a specific track) have been left off.

Although looking very much like a 207, the 206 shows some detail changes, notably by the use of new satin-black mouldings for the front panels, into which glass windows are fitted. Previously, thicker glass panels were used on their own which gave rise to some quality-control problems. The controls are revised to take account of the new system micro-processor. The audio output is a nominal 2V, direct-coupled and fixed, while two digital outputs are now provided, one for optical and one for phono coaxial connection. It is intended that this player be regarded both as an effective digital transport and as a worthy complete CD player, and both aspects were investigated.

The typically clear, pale-green display may be read from a good distance, and can also show track-number (or index), elapsed-time for the present track, and elapsed or remaining time for the whole disc. At the end of a disc, total time or the total number of tracks are displayed, according to the display mode selected. The tidy remote handset has a convenient 10-key entry for track selection and programming. The playability of some troublesome CDs – for example with bubbles or dimples – has also been improved. Mains

connection is via an IEC socket on the rear panel,

## Technology

Paralleling the 207, at the heart of the 206 is a Philips CDM-4 laser transport fitted with the Hall-effect drive-spindle motor and interfaced with Meridian's own 4th-generation servo-board, which has superior transient behaviour. The CDM-4 chassis is of reinforced plastic, augmented in the 206 by a diecast top-plate. The whole assembly is then decoupled by a compliant three-point, high-absorption Sorbothane suspension. The transport section also forms an acoustically isolated enclosure when shut.

Current-to-voltage conversion is achieved using a unique Meridian non-feedback circuit, with emitter-coupling to a wideband amplifier based on a current mirror technology. A DC-coupled servo-controlled buffer follows, while filtering and de-emphasis are entirely passive. System improvements include a separated crystal oscillator which also drives the system microprocessor, thus avoiding beats from digital frequencies and their harmonics. Good power-supply practice is apparent throughout.

## Sound quality

Our first sample (prior to production

distribution) sounded 'iffy', and Meridian subsequently confirmed a minor production error in case-vs-track grounding points. A replacement sample from the first production with the ground-error corrected was more promising, and we are assured that all 206 models sold will be to this correct standard.

Obvious comparisons were with the 207. It was apparent that the 206 demonstrated improvements in stereo focus, depth and clarity, as well as in bass firmness and timing – plus that vital impression of inner confidence. These comparisons were made using the fixed-level output of the 207. In tonal balance, the 206 was desirably sweeter and richer, and though the differences were not great the 206 did manage to sound more relaxed.

The Meridian 206 has already jumped the 'barrier' with a score that lies some 3% above the Accuphase reference, and by definition it thus gains the crown.

A strong clue to the 206's fine performance lies in the inherent quality of its internal digital data-stream, as well as that provided at the digital output terminal. It could easily be acquired for transport purposes only. A 25% lift above the crowd was assured by its purer mid and treble, as well as by its stronger dynamics, more spacious soundstages, and faster – as well as tighter and more rhythmic – bass.

Moving on to the analogue outputs setting aside its performance with a decoder selling for five times the cost of this entire player, many of the benefits of the 206's superior digital performance were still evident in its analogue sound – to the detriment of the current 207, well rated as that undoubtedly is. In percentage terms the 206 was a substantial 18% better than the 207 (short the 206's digital output and you can have 20%!). Compared with the current 207, it showed benefits in bass definition and speed, stage depth and clarity, as well as

ambience retrieval, sweetness and tonal balance. Stereo focus was also improved, all these qualities hovering in the critical area between 'very good' and 'excellent'.

It was a real pleasure to find a finely styled UK player at this price level which could so effortlessly deliver an 'Accuphase-plus' performance, and in a manner suggesting very little listener fatigue.

### Lab report

One surprise was the polarity inversion of the analogue output – unusual in up-market machines.

The general phase characteristic was linear, with negligible ringing, and channel separation was fine – decently symmetric compared with the 207. Negligible phase difference exists between channels, and left/right balance was very accurate. The frequency response is intentionally tailored to produce a mild 0.35dB roll-off by 20kHz (only -0.1dB at 10kHz), with improved rejection of out-of-band spurs. The latter are rated at -107dB under normal modulation conditions, while no single up-band artefact reads higher than -114dB when playing a 1kHz tone at -70dB (Fig 1).

Track-access times are now pretty rapid, though it was still possible to enter the data faster than the system controller could accommodate. The results for distortion at full-level were fine, if not to the very highest standard. This is not a reflection on DAC linearity but is connected with the zero-feedback analogue circuitry. With 1kHz at -10dB modulation the measured -85dB harmonic distortion (0.005%) was at the code limit, while the in-band distortion with a 20kHz single tone at 0dB level was excellent at -91dB. The two-tone HF intermodulation at a -10dB level was also very good at -93dB (0.0022%), and at full modulation the IM results were still satisfactory at -77dB. The 1kHz difference-tone representing the latter is seen as a 'bump' on the

left-hand side of the graph in Fig 2.

At the -70dB modulation level, around -37dB of distortion was generated, 3rd- and 5th-harmonic only and with negligible hum or noise, while at -90dB the level-error was typically -3dB. A decent sine wave could be obtained on this measurement (Fig 3), while the associated spectrogram shows a decently low distortion even at this threshold level. A wide dynamic range of 106dB is given by these results, with a 15.6-bit linearity. In agreement with the above, the fade-to-noise test for linearity (Fig 4) shows straight transfer-characteristic down to about -77dB, then a small shift of slope which stabilizes by -90dB, beyond which the mild analogue noise doesn't detract from the linear trend, this extending right down towards the -120dB measurement limit. In practical terms, this is a very high resolution system.

### Conclusion

With improvements to build quality as well as operation of the drawer mechanism and disc playability, this well designed and finished player is a serious contender. The technical test results also showed improvement, achieved using a consistent and well established technology. Although I still have minor reservations concerning the operating system behind the controls (which are not as slick as the imported competition), as well as the as-yet unspecified absolute-phase inversion at the analogue output I cannot argue with the high quality of the digital data outputs or with the first-rate analogue sound quality achieved for a single box player, one which has usurped the position of the historic Accuphase.

This player is one of the few upmarket models which is worth the money, both as a transport and as a complete machine. It is still playing as I complete this review – definitely a good sign! Needless to say, the 206 carries my firm recommendation. ✓

## MERIDIAN 206 CD PLAYER

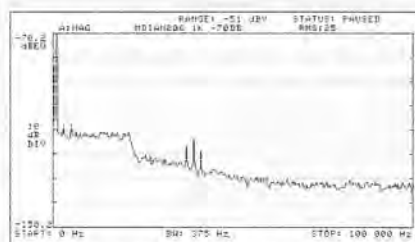


Fig 1. Meridian 206: spurs up to 100kHz associated with 1kHz tone at -70dB

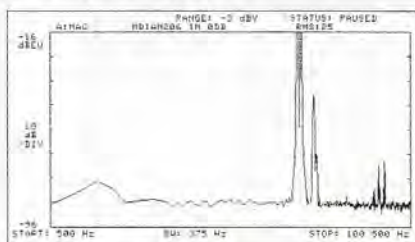


Fig 2. Meridian 206: intermodulation spurs from 19/20kHz tones at 0dB, log scale 500Hz-100.5kHz

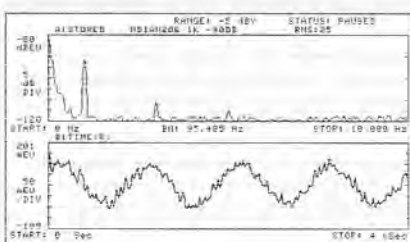


Fig 3. Meridian 206: dithered 1kHz sine wave at -90dB, waveform below distortion spectrum above



Fig 4. Meridian 206. linearity plot below -60dB

### Test results

|                                            | 20Hz   | 1kHz            | 20kHz   |
|--------------------------------------------|--------|-----------------|---------|
| Channel balance                            | 0.05dB | 0.05dB          | 0.06dB  |
| Stereo separation                          | 115dB  | 98dB            | 72dB    |
| Channel phase difference                   | 0°     | 0°              | 0°      |
| THD 0dB                                    | -74dB  | -82dB           | -91dB   |
| THD -10dB                                  | —      | -85dB           | —       |
| THD -70dB                                  | —      | -37dB           | —       |
| Intermod 19kHz/20kHz, 0dB                  | —      | -77dB           | —       |
| Intermod 19kHz/20kHz, -10dB                | —      | -93dB           | —       |
| Frequency response, left                   | +0dB   | —               | -0.01dB |
| Frequency response, right                  | +0dB   | —               | -0.35dB |
| S/N 20Hz-20kHz unweighted                  | —      | 106dB           | —       |
| S/N CCIR/ARM, 1kHz ref                     | —      | 103dB           | —       |
| Output level, 0dB                          | —      | 2.36V           | —       |
| Output impedance                           | —      | 100ohms         | —       |
| De-emphasis (error in dB)                  | +0.07  | +0.35           | +0.33   |
| Track access time (Tr 15)                  | —      | 3secs           | —       |
| Error correction capability                | —      | gap >1.5mm      | —       |
| Mechanical noise                           | —      | low             | —       |
| Spurs up to 100kHz                         | —      | -107dB          | —       |
| Resolution at -90dB, left/right            | —      | -2.9dB/-3.3dB   | —       |
| Dimensions (wdh)                           | —      | 32.2x33.5x9.6cm | —       |
| Meridian America Inc.                      |        |                 |         |
| 14120-K Sullyfield Circle,                 |        |                 |         |
| Chantilly, Virginia 22021.                 |        |                 |         |
| Tel (703) 818 3028                         |        |                 |         |
| Fax (703) 830 7625                         |        |                 |         |
| <b>Supplier:</b>                           |        |                 |         |
| Meridian Audio Ltd, Eccleston Road, Tovil, |        |                 |         |
| Maidstone, Kent ME15 6QP Tel: (0622)       |        |                 |         |
| 672269                                     |        |                 |         |