



Tony Bolton tries out a new phonostage that can trace part of its design back to weather satellites.

A Step in Time

One of the interesting things about some audio equipment is the unusual route that technology can take from its initial implementation, through to its usage within the audio field. In the case of the Timestep T-01 MC phonostage it is the use of low noise circuitry and power supplies that were developed by the company to improve the reception of signals from weather satellites.

Timestep are more recently known in the audio field as developers and manufacturers of power supply units for the Technics SL1200 series of turntables. This is their first commercially available phonostage, although owner, Dave Cawley, told me that he built his first

one as far back as 1981, to partner a Dynavector Ruby Carat cartridge.

Several designs later, the T-01 MC became a reality, boasting discrete dual mono circuits fed by a custom made toroidal transformer. RIAA equalisation is passive and gain provided by four Toshiba FETs (Field Effect Transistors) per channel. The signal inputs via lossless gold plated PTFE input connectors and by a Dale CMF55 input matching resistor. Resistance is factory set at 100 Ohms, which matches most modern moving coil cartridges. Other values can be provided on request. Dave says that this resistor, and the Wima polypropylene RIAA capacitors, were the two most sonically influential choices of component in the finished design.

The power supply uses four Shottkey diodes made by Vishay, and is accessed by an IEC socket at the back right of the casework. Between this and the four gold plated phono sockets for the signal, is a Ground Lift switch. This disconnects the internal electronics from the earth, should an earth loop be causing hum, but keeps the chassis earthed through the mains for safety.

The slim casework (measuring 445 x 310 x 48mm, w x d x h) is made from high grade aluminium, finished in black. The only control is the power-on knob on the front left, which is accompanied by an orange LED, that is set to glow gently, not light the room up like a stage set.

After switching on, the instructions advise that the unit is given two minutes to warm up. After then it reaches full performance within about 20 minutes. They also suggest that the running in period will take up to two weeks. I didn't get to complete that entirely, but I feel that the performance had settled down and matured enough that I was



The Ground Lift switch in the centre disconnects the internal circuitry from the earth, but maintains the chassis connection to earth at all times.

probably 95% of the way there.

I spent the first evening's listening playing a mixture of jazz and pop, blending into electronica. Fed with a modern, well recorded disc, like Shpongles 2009 release 'Ineffable Mysteries Of Shpongland', I found the T-01 MC got into the groove and provided me with a spacious and well defined presentation of the music. The music ranges from live flute and haunting female vocals through to quite pounding rhythms. The sound was big, which suited the production values of the album, without seeming to be overblown.

I was impressed by the very quiet background to everything I played. This was not just the absence of hum, even with the amp turned up high, but the almost complete lack of anything resembling surface noise, unless it was really provoked by a well played record. My recently acquired copy of 'Humph At the Conway' is in pretty good nick despite its 59 years on the planet, but I would normally use a mono cartridge, or set the phonostage to mono, to obtain this level of background quietness. Scratches were equally suppressed, which Dave tells me is down to a complete lack of feedback in the circuit, and very generous headroom for peaks on the signal.

It works effectively and I was able to enjoy a live performance taking place in front of me. I found myself focussing on the subtle details that create the ambience of the building, and the movement of people that adds that little sprinkle of realism to sound.

Over the next few days I explored my record collection through the Timestep, and found my respect for this unit increasing with each disc. It behaved well with the driving finale of Beethoven's 'Egmont Overture', avoiding the feeling of compression on the crescendoes that some affordable phonostage suffer from when playing large scale classical pieces. It was also able to provide the delicacy of touch needed to make Claudio Arrau's performance of the 'Sonata Pathetique' sound thoughtful and considered.

I briefly tried it with the Goldring Legacy cartridge, whose very low output can be a problem for some phonostages. I found that the Timestep's very low noise levels allowed the cartridge to perform well



Power runs from the custom wound toroidal transformer on the right, into the power supply section at the top of the PCB. Below, to left and right, are the two discrete channels of the phono stage.

without any background hiss or hum interfering with the music.

Priced at £995, this phonostage has to be something of an audiophile bargain. It offers a level of performance that, in my experience, usually costs a lot more to obtain. I have encountered bigger soundstages and deeper bass from other units, but rarely combined with a very musical soul that doesn't fight shy of transmitting the emotional integrity of the music played through it. Some phonostages can offer very descriptive sound, but lack the emotional connection with the listener. This manages both.

If you are looking for a well thought out phonostage, that is a plug-in-and-play solution, works with a variety of cartridges, and has a very musical heart, then look no further. It plays elderly records in a way that belies their age, and seems capable of playing all of the musical styles that I tried on it. In short, it is excellent.

SYSTEM USED:

Clearaudio Master Solution turntable/ Universal 12 inch arm/ Benz Wood SL cartridge. Goldring Legacy cartridge. Leema Acoustics Tucana II amplifier. Chario Ursa Major loudspeakers.

MUSIC USED:

Various Artists. 'The World Of Beethoven'. Philips Records. CXL15001. 1970.

Humphrey Lyttelton and His Band. 'Humph At The Conway' Parlophone Records. PMC 1012. 1954

Shpongles. 'Ineffable Mysteries Of Shpongland'. Twisted Records. TWSLP36. 2009.

MEASURED PERFORMANCE

The T-01MC has a gain of x1982 or 64dB, which is as expected for a moving coil (MC) phono stage. A cartridge producing around 0.1mV at normal music levels will be amplified up to 200mV and that is just enough to drive a sensitive

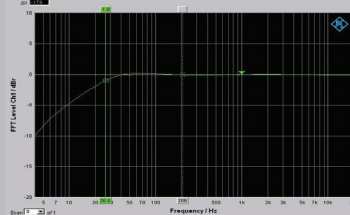
amplifier (200mV input sensitivity) to full output at maximum volume. The output will swing 10V, a healthy amount, putting input overload at 5mV, high enough for most MCs.

Equalisation was accurate, our analysis shows, and a warp filter included. It lifts bass a trifle (0.2dB) around 60Hz and rolls down below 26Hz at 6dB per octave, suppressing warps around 5Hz by -8dB. This is enough to suppress loudspeaker cone flap.

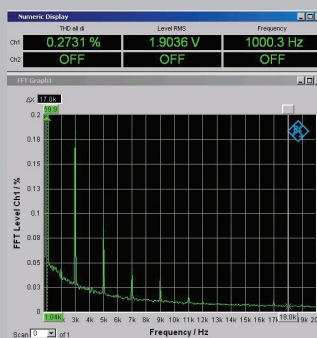
Equivalent input noise was low at 0.1µV and suitable for low output cartridges. Distortion was inevitably higher than a chip-based circuit because of fewer devices, lower open loop gain and lower feedback than a chip-based solution, which most phono stages are.

The T-01MC produced a good set of figures all round for a moving coil phono stage, especially for a discrete transistor amplifier. **NK**

FREQUENCY RESPONSE



DISTORTION



Frequency response	26Hz-20kHz
Separation	88dB
Noise (e.i.n.)	0.1µV
Distortion	0.27%
Gain	x1984 (66dB)
Overload	5mV in / 10V out



TIMESTEP T-01MC PHONOSTAGE £995



VERDICT

New minimalist phonostage, that sonically, punches well above its weight

FOR

- open and precise
- plenty of emotion
- plays old mono records well

AGAINST

- only available in black

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