Why Do I Need A Phono Amp

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Please don't be offended if this is obvious to you - just don't read it! We do get asked, however...

Most source components (CD, Tuner, Tape etc) have output levels at what is broadly known as "line level". This, as far as I know, is a term originating in the "pro" field, but put simply, for hifi purposes, it means somewhere between about 100mv (a tenth of a volt) and 1V. This is what most modern integrated amps (or preamps) are set up to work with on their various inputs.

A pick up cartridge, as a source, is very different. A Moving Magnet (MM) type typically gives only about 5mV (five thousandth of a volt), and a Moving Coil (MC) type is even worse, giving only about 300uV (less than a third of one thousandth of a volt). As you can see, both types of cartridge require enormous amounts of low-noise amplification to bring them up to a suitable level for a standard line-level input. Just to make it even harder, when records are cut, the treble is boosted in order to overcome surface noise on playback, and this has to be matched by a treble cut / bass boost on playback, to level the frequency response again - this is called equalisation.

So, a phono amp has the difficult job of providing massive amplification with low introduced noise, coupled with an inbuilt permanent tone control, the RIAA equalisation curve, all just to make your pickup cartridge look the same as a CD player etc, suitable for feeding a standard input.