

# AP420 - Mono Audio Digitiser

This unit is a high-quality monophonic (single channel) audio digitiser capable of accepting a microphone or line-level input and sampling at rates of over 20kHz. It plugs directly into the parallel port of the Amiga 500, 2000 and 3000; for the Amiga 1000 a gender changer (part number AP320-1) should be used.

## Controls

The diagram shows the input jacks and controls accessible at the rear of the unit:

- (A) Line level RCA input jack, which can be connected to the LINE OUT jack of any amplifier or tape recorder (about 0.5V).
- (B) Miniature phono jack intended for a microphone, although any weak (about 50mV) signal may be connected.
- (C) Input selection header; in the HI (left) position the signal at the RCA jack is digitised, while in the LO (right) position the miniature phono jack signal is used. A small pair of pliers may be needed to shift this jumper.
- (D) Gain control, used to adjust the strength of the signal.

## Operation

The public domain program PerfectSound is included with the Digitiser to get you started, but we suggest you invest in one of the many sampling programs available, such as AudioMaster or Audio Engineer (both written in Australia). The Digitiser is compatible with all sampling programs.

Best results will be obtained with a sampling rate of approximately 20kHz, but most digitising programs allow you to reduce this to save storage space if required. The highest frequency reproduced will be half the sampling rate (10kHz for a 20kHz sampling rate). Try to adjust the gain control to give the largest possible digitised waveform without "clipping" (hitting the upper and lower limits of the display). Programs which allow you to monitor the signal in real time before digitising are very helpful in this regard.

Do NOT plug in or remove the Digitiser while your Amiga is switched on.

## Notes

The precise upper limit of the sampling rate depends on variations in the values of R11 and C5, but should be 20-25kHz. It can be increased by reducing the value of either component, but quality may be degraded.

Sampling at low rates with high-quality input signals may produce aliasing noise. This can be reduced by increasing the value of C2, which provides a roll-off at 10kHz for 20kHz sampling. Doubling its value will halve the roll-off frequency and the ideal sampling rate.

The microphone gain is controlled by R4, while the overall gain (microphone and line-level) is controlled by R6. Reducing either resistor will reduce the corresponding gain (but note that if R6 is reduced C2 should be proportionately increased).

