



## MC4102 DIGITAL DELAY PROCESSOR LSI

Ibanez introduced I.D.P.C. (Ibanez Digital Processing Conversion) LSI two years ago. Now we have improved a new LSI to perform much better than before (40 dB wider dynamic range and better S/N ratio). It performs equivalent to a 15-bit PCM digital delay system, thus eliminating the need for any analog noise reduction circuitry.



## DML20 16KHz BANDWIDTH DIGITAL MODULATION DELAY III

The Ibanez DML20 Digital Modulation Delay provides chorus/flange/delay effects at a full range of 16kHz. The delay time is from 1msec to 1024msec so that doubling, echo and sound to 1024msec so that doubling, echo and sound on sound can be achieved with full fidelity.

The modulation section with a full 4:1 sweep ratio provides the user with lush chorusing and flanging. The DML20's stereo output provides three dimensional spatial effects and all of the above without resorting to expensive rack mount effects.

### ■SPECIFICATIONS

INPUT IMPEDANCE.....	500kΩ
OUTPUT IMPEDANCE.....	< 1kΩ
MAXIMUM INPUT LEVEL.....	+5dBv
MAXIMUM OUTPUT LEVEL.....	+5dBv
DELAY TIME.....	1-4ms
1 FLANGER.....	4-16ms
2 CHORUS.....	16-64ms
3 DOUBLING.....	64-256ms
4 ECHO S.....	128-512ms
5 ECHO M.....	256-1024ms
6 ECHO L.....	16kHz ± 0.5, -3dB
BANDWIDTH.....	16kHz ± 0.5, -3dB
SWEEP RATIO.....	4:1
SPEED RANGE.....	0.06Hz - 13Hz
TOTAL HARMONIC DISTORTION.....	0.5%(400Hz, -20dBv)
EQUIVALENT INPUT NOISE.....	90dBv(IHF-A)
POWER SUPPLY.....	ONE 9V BATTERY (5-006P/ALKALINE) or AC ADAPTER
POWER REQUIREMENT.....	68mA(DC9V)
SIZE.....	125(D) × 70(W) × 54(H)mm
WEIGHT.....	460g
OPTION.....	AC109 9V AC ADAPTER



## DDL20 16KHz BANDWIDTH DIGITAL DELAY III

Not only do digital effects provide realistically delayed sound but they offer a wide array of new sound possibilities. For example, complete doubling effects can be produced with a setting of a short delay time with one repeat using the stereo output of the DDL20. The DDL20 features delay times from 8msec to 1024msec with a 16kHz bandwidth and needs no noise reduction circuits so a clean, clear sound is achieved.

### ■SPECIFICATIONS

INPUT IMPEDANCE.....	500kΩ
OUTPUT IMPEDANCE.....	< 1kΩ
MAXIMUM INPUT LEVEL.....	+5dBv
MAXIMUM OUTPUT LEVEL.....	+5dBv
DELAY TIME.....	8-32ms
1 FILTERING.....	16-64ms
2 DOUBLING.....	32-128ms
3 SLAPBACK.....	64-256ms
4 ECHO S.....	128-512ms
5 ECHO M.....	256-1024ms
6 ECHO L.....	16kHz ± 0.5, -3dB
BANDWIDTH.....	16kHz ± 0.5, -3dB
TOTAL HARMONIC DISTORTION.....	0.5%(400Hz, -20dBv)
EQUIVALENT INPUT NOISE.....	90dBv(IHF-A)
POWER SUPPLY.....	ONE 9V BATTERY (5-006P/ALKALINE) or AC ADAPTER
POWER REQUIREMENT.....	58mA(DC9V)
SIZE.....	125(D) × 70(W) × 54(H)mm
WEIGHT.....	440g
OPTION.....	AC109 9V AC ADAPTER



PB4 PEDAL BAG

