

PCB (101 X 109 mms.). Order as 'PCB 80-1' £1.60

80-2. VOLTAGE CONTROLLED OSCILLATOR. Based on CEM 3340. See ETI February 1980. Exponential response; fully temperature compensated; 10Hz to 16 kHz min.; 0-10V sawtooth, pulse, triangle and sine outputs; ±5V triangle and sine outputs; linear FM; voltage and manual control of pulse width; three synchronisation techniques.

With P.C.B. order as KIT 80-2 £16.10

P.C.B (159 X 82mms.). Order as 'PCB 80-2' £2.10

80-3. VOLTAGE CONTROLLED LOW FREQUENCY OSCILLATOR. See ETI February 1980.

0 to 10V will range oscillator between 0.2Hz to 205Hz. Lower frequency can be obtained. Same facilities as 80-2.

With P.C.B. order as KIT 80-3 £16.10

P.C.B. (159 X 82 mms.). Order as 'PCB 80-3' £2.10

SEPARATE COMPONENTS: ALL PRICES IN PENCE

SPECIALISED COMPONENTS:

SSM 2020. Dual VCA	365	CEM 3310. VCTG	400
SSM 2030. VCO	485	CEM 3320. VCF	390
SSM 2040. VCF	485	CEM 3330. Dual VCA	400
SSM 2050. VCTG	365	CEM 3340. VCO	600

Q 81, 1k, 1% 3500ppm/°C temperature compensating resistor 185

ACTIVE DEVICES:

LM 741CN	23	LM 723-14	40	2N2218A	28
LM 348	90	TL 082	63	TIP 31A	45
LF 351	38	uA 1458	44	IN 4148	3
LM 347	130	CA 3080E	63	BZY 88, 10V	9
Bridge Rectifier. In-Line 1.6A 200V			50		
0.2" LED (Red) with mounting hardware			17		

PASSIVES:

Carbon film resistors, ¼ or ½w, 5%	1.5
Metal film, 100ppm T.C., 1%, ¼w	7
Wirewound, 2.5W	16
Carbon miniature presets	9
Cermet single turn presets	37
Cermet multiturn presets	88
Rotary potentiometers	26
Polystyrene capacitors: 10pF to 1000pF	7; 2200pF 9
Polycarbonate capacitor 10nF	15
Polyester capacitors. 1nF and 4n7 (7.5mm PCB). Siemens	7
Polyester caps. Plessey Minibox (10nF to 47nF) 10mm PCB	6
ditto , 100nF, 10mm PCB	7
ditto , 470nF, 15mm PCB	15
Polyester Caps. Mullard C280, 100nF	7

MISCELLANEOUS:

DIL Sockets: 8 pin 10; 14 pin 12; 16 pin 13; 18 pin 15
High quality 3.5mm jack sockets for patchcord connectinf 11

SEE SUPPLEMENTARY LIST ON DIGISOUND 80 PROJECT FOR OTHER ITEMS.

PRICES: ALL PRICES IN OUR LISTS EXCLUDE VAT AND POSTAGE. PLEASE ADD 30p TO TOTAL OF ORDER FOR P&P AND THEN ADD 15% VAT.

PRICES ARE SUBJECT TO CHANGE BUT WE WILL ENDEAVOUR TO MAINTAIN THEM UNTIL 31st MARCH 1980. Please make cheques, postal orders, etc. payable to DIGISOUND LIMITED and cross them. MAIL ORDER ONLY



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JAN 1980

OUR AIM IS TO PROVIDE A SERVICE TO ALL WHO ARE INTERESTED IN ELECTRONIC MUSIC.

We now have exclusive distribution rights for two series of customised I.C.'s for use in synthesisers and other audio applications. In our September 1979 list we introduced kits based on devices from Solid State Micro Technology for Music (SSM) and we are currently introducing I.C.'s from Curtis Electromusic Specialties (CEM) with a series of articles in 'Electronics Today International' commencing with the February 1980 issue. This series will also use some of the SSM products. The two series of kits are generally compatible since we are following accepted industry design standards. It should also be noted that the kits, particularly those based on the SSM devices, can be readily modified to suit most of the previously published synthesiser designs.

We design and supply kits and in the case of those not published in magazines there is adequate documentation provided for construction and calibration. We are gradually increasing the range of components stocked, all of which are first grade components of specified origin. We will supply the whole kit or just the parts you require. For purchases of the individual SSM devices we will provide the appropriate 'Construction Note'.

Application Notes and Specifications for the SSM products are available for 20p (no VAT) if sent with an order, or 35p if ordered separately. More comprehensive data on the CEM devices will be available in due course but some of their features are being described in the articles appearing in ETI.

All P.C.B.'s are of professional quality being 1/16 inch glass fibre; roller tinned; N/C drilled and saw trim finished. The first dimension quoted in the price list is the side containing all the inputs and outputs.

In the September 1979 list we mentioned our wish to start a publication devoted to electronic music. The response to this idea has been encouraging and we will start putting an issue together in the coming months. Keep on writing to us on any topic related to electronic music. We may be able to include your contribution in our first issue and do not worry about quality of drawings or such things as spelling and grammar since it will be edited. For example why not write to us on one or more of the following topics.-

- a) A design, or an idea, for a device useful for electronic music.
- b) Problems you experienced with a published design related to our objectives. Tell us how you overcame it or let us know whether you require an answer on how to cure the problem.
- c) A review of a relevant book or record.
- d) Details of any local clubs which hold meetings on EM.

At this time we cannot pay for contributions but we will send you a free copy and put your name in print (tell us if you wish to remain anonymous).

KITS AVAILABLE. JANUARY 1980

See notes at end regarding P & P and VAT, which are EXCLUDED from the following prices.

9 X 3 inch panels will start to become available at the end of January 1980 for the 20XXX series of kits. These will be the same price as the 80 series and of the same format, namely, provision for 3.5mm jack sockets. The panels are however purpose made for the 20XXX series. A series of blank or partly punched panels will also become available in the near future.

20201. DUAL VOLTAGE CONTROLLED AMPLIFIER. Based on SSM 2020. Two VCA's on one board. Independent linear and exponential control response with gain. 10V control range. With linear control at max. gain the response is typically 500mV per volt which can be decreased to about 70mV per volt. Exponential response is about 700mV with 10V control input and min. gain and rising to 4 to 6V at max. gain. Actual values depend on component tolerances but the figures quoted are typical. Breakthrough with 0V control is typically 2 to 2.5mV, when trimmed. INPUTS EACH HALF: 2 signal inputs; 1 linear voltage control; and 3 exponential voltage control. One of the latter is arranged so that it can receive a negative offset voltage from a trim pot (not supplied) and be used to cancel out any residual voltage from an envelope generator. Similarly, this input may be used to bury the envelope by a few volts and this technique is used by some manufacturers so as to avoid the extended tone resulting from the exponential decay of the envelope shaper. One of the control inputs may also be used to inject a negative voltage so that the synthesiser can be abruptly stopped when the rest of the group have finished playing.

With P.C.B., order as KIT 20201 £10.50

PCB (150 X 94mms) separately. Order as PCB 20201 £2.15

20301. VOLTAGE CONTROLLED OSCILLATOR. Based on SSM 2030. Design will interface with a keyboard having a linear scale and positive control voltages. Component values provided suit 1V/octave keyboard with 0V at lowest key - other arrangements easily accommodated. INPUTS: keyboard for 1V/octave response; external 1V/octave response; coarse control pot. (+5 octaves); fine control pot. (+0.5 octaves); linear frequency modulation with attenuating pot.; pulse width modulation (0 to 100% pulse duty cycle) with manual control from pot. as well as provision for external voltage control (0 to 10V); soft and hard synchronisation. OUTPUTS: +5V triangle; +5V sine; 0-10V sawtooth; and typically -0.5V to +7V pulse with fully variable mark space ratio.

With P.C.B. order as KIT 20301 £15.80

20302. VOLTAGE CONTROLLED LOW FREQUENCY OSCILLATOR. Facilities are basically the same as 20301 but designed to give 1V/octave control response over the range of 0.2 to 200Hz. A voltage controlled LFO is extremely useful but we believe that you will not require accurate temperature compensation (Q 81 replaced by 1k resistor) or perhaps use the FM input (100k pot not supplied). Some other minor component changes. A high quality 10nF polycarbonate capacitor is supplied.

With P.C.B. order as KIT 20302 £13.60

ADDITION FOR 20301. A switch in the control line from the coarse control pot will allow the keyboard to be rapidly restored in tune with the keyboard. It also reduces likelihood of drift arising from the pot.

Order as 'sub-min SPDT switch' £0.65

ADDITION FOR 20301 AND 20302. A pulse with a voltage of 0 to 10V can be obtained from an alternative output by using a 2N2218A transistor

Order as 'large amplitude pulse' £0.29
(N.B. This pulse replaces the output described above)

PCB (115 X 114mms) separately. Suitable for 20301 and 20302 plus the addition listed. Order as PCB 20301-2 £1.80

20401. 24dB/OCTAVE VOLTAGE CONTROLLED LOW PASS FILTER. Based on SSM 2040. Compatible with 20301 with good exponential response over the range of 16Hz to 16kHz. INPUTS: Keyboard 1V/octave; external 1V/octave; coarse ± 5 octaves; fine ± 1 octave; 3 signal inputs. Rotary pots for coarse and fine controls and for manual adjustment of Q. 10V P-P signals in and out.

With P.C.B. order as KIT 20401 £13.48

20402. As 20401 but with manual and external voltage control of Q (0 to 10V for full control range).

With P.C.B. order as KIT 20402 £15.42

20403. 24dB/OCTAVE VOLTAGE CONTROLLED HIGH PASS FILTER. Same features as 20401 but without Q control.

With P.C.B. order as KIT 20403 £13.25

20404. VOLTAGE CONTROLLED PHASE SHIFTER (ALL PASS FILTER). 1V/octave response and configured as above filters. Two deep notches which can be enhanced by regeneration. Although the voltage control facility is useful we do not feel that temperature compensation is necessary and so the Q 81 is replaced by a 1k resistor.

With P.C.B. order as KIT 20404 £11.66

20405. As 20404 but with both manual and external voltage control of regeneration. We do not consider this facility to be worth the extra cost but if you wish to make your own assessment it can be provided.

With P.C.B. order as KIT 20405 £13.60

P.C.B. (109 X 112mms.) which will accommodate any of the above filters. Order as PCB 20401-5 £1.75

20501. VOLTAGE CONTROLLED TRANSIENT GENERATOR (ENVELOPE SHAPER). Based on SSM 2050. Basically as shown in SSM 'Application Notes' but trimmers provided to allow accurate calibration and also matching of peak sustain voltage to peak attack voltage. Resistors provided to cope with gate and trigger voltages up to 15V. Designed as a low cost unit with manual adjustment of time constants and sustain level via rotary pots. Full ADSR and AD responses. Minimum range of 2 msec. to 20 secs. and since response is exponential this means that the important ranges of 2 to 10 msec. and 2 to 100 msec. occupy about 25% and 45% of the potentiometer rotation, respectively.

With P.C.B. order as KIT 20501 £7.20 (Please specify if your gate and trigger pulses - if fitted- are derived from TTL)

Two 20501's on same PCB. Order as kit 20501 X 2 £12.60

P.C.B. (121 X 84mms.). Order as 'PCB 20501' £1.65

20502. VOLTAGE CONTROLLED TRANSIENT GENERATOR (ENVELOPE SHAPER). Based on SSM 2050. A design with both manual and external voltage control of A, D, S and R functions. A number of control inputs are provided which may be user specified and which allow both additive and subtractive control. For example, feeding back a proportion of the output voltage to the +ve control input results in a markedly convex attack contour whereas if applied to the -ve input the response is markedly concave. The voltage control inputs can also accept low frequency waveforms so that effects such as amplitude modulation (tremolo) is obtained during, say, the sustain phase of the envelope. This is a most versatile unit offering unlimited scope for creation of realistic and unique envelopes. Best suited to advanced constructors.

With P.C.B. order as KIT 20502 £10.40

P.C.B. (152 X 98 mms.) . Order as PCB 20502 £2.28

ADDITION FOR 20501 AND 20502. If your keyboard does not output both gate and trigger pulses then you can still obtain both ADSR and AD responses by incorporating a switch

Order as 'sub-min. SPDT switch' £0.65

80-1. DUAL ± 15 V POWER SUPPLIES. See ETI, February 1980. As supplied will provide trimmed ± 15 V supplies up to 300mA per rail without deterioration in voltage. Easily modified for increased power. No mains connectors included - see supplementary price lists on 80 Series.

With P.C.B. order as KIT 80-1 £16.70