Probability Anomaly Detector

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IS IT possible to influence physical things by the power of thought? Using the Probability Anomaly Detector described in this article, it may be possible to provide evidence that mind can affect matter.

ZENER NOISE

When a Zener diode is biased near to its breakdown voltage, microplasmas form within the diode. Microplasmas are small areas of high ionisation created by radiation such as light. These microplasmas occur at random and cause small fluctuations in the voltage appearing across the diode.

If the power of thought is capable of influencing the photons which cause the microplasmas, then the circuit of the Probability Anomaly Detector (P.A.D.) should be able to detect the effect.

The noise from a Zener diode is used to trigger a Schmitt trigger when it exceeds a certain voltage. The output of the Schmitt is sampled at regular intervals and used to trigger a bistable, the output being fed to an integrator.

If the output of the Schmitt is purely random, i.e. the probability of being in one state is exactly equal to that of being in the other, then the output of the integrator, monitored by a meter will be zero. However a sequence of one particular state will cause the meter reading to rise. A scale has been prepared indicating the probability of a particular meter reading so that the amount of influence a subject has can be estimated.

CIRCUIT DESCRIPTION

The complete circuit of the P.A.D. is shown in Fig. 1. A Zener diode D1 is biased by R1 so that a spiky voltage appears across it. These voltage variations show the creation and destruction of microplasmas within the diode.

COMPONENTS . . .

Resistors

R1	100kΩ (see text)	R9	2·7kΩ	R17	10MΩ
R2	15kΩ	R10	15kΩ	R18	10MΩ
R3	220kΩ	R11	100kΩ	R19	22kΩ
R4	1kΩ	R12	15kΩ	R20	100kΩ
R5	10kΩ	R13	39kΩ	R21	15kΩ
R6	15kΩ	R14	1MΩ	R22	22kΩ
R7	1·5kΩ	R15	1·5kΩ	R23	22kΩ
R8	10kΩ	R16	10MΩ	R24	100kΩ
				R25	12kΩ

All ±10% ¼W carbon

Potentiometers

VR1 50kΩ
VR2 10kΩ } vertical skeleton preset
VR3 100kΩ

Capacitors

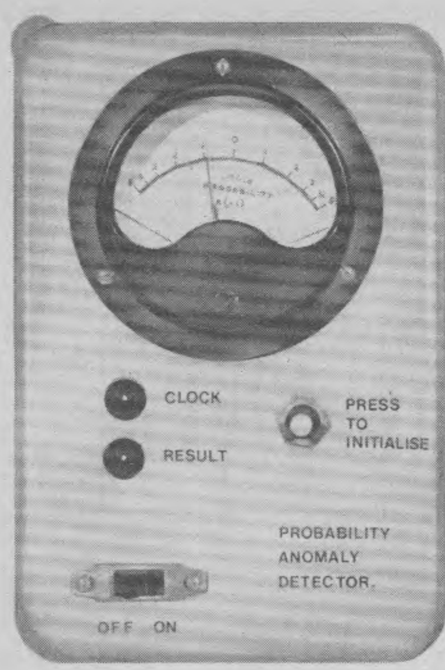
C1	0·1μF	C5	2·2μF 100V paper
C2	0·1μF	C6	0·047μF
C3	10μF 15V elect	C7	0·047μF
C4	0·47μF		

Semiconductors

D1 10V 400 mW Zener
D2, D3 EC403 (2 off)
D4, D5 TIL209 or similar light emitting diode (2 off)
D6–D9 EC403 (4 off)
TR1–TR3 BC108 (3 off)
TR4 ZTX500
TR5–TR8 BC108 (4 off)
IC1 Type 741 8-pin d.i.l.

Miscellaneous

ME1 50–0–50μA meter
S1 Momentary contact pushbutton
S2 Double pole on/off
B1, B2 9V battery PP3 (2 off)
0·1in matrix Veroboard 5in × 2·7in
Suitable case



Front view of the prototype Probability Anomaly Detector

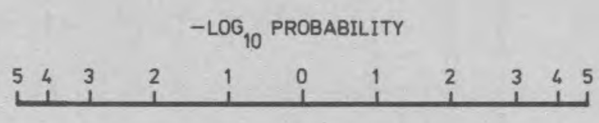


Fig. 2 Meter calibration

The diode voltage is amplified by TR1 and then used to fire the Schmitt trigger, the threshold at which it fires being adjustable by means of VR1.

Transistors TR5 and TR6 form an astable multivibrator which produces short pulses separated by about a second. Transistor TR4 acts as a gate which feeds the output of the Schmitt (controlled by the multivibrator) to the bistable TR7, TR8. After a burst of noise, suitably shaped by the Schmitt, the bistable takes up one of two states: either TR7 conducts and TR8 does not, or vice versa.

If no outside influence is operating the state of the bistable is determined at random. IC1 and C5 form an integrator. C5 charges or discharges depending on the state of the bistable so that a sequence of one state or another will cause a voltage to appear at the output of IC1 with a polarity depending on which state is repeated. The meter scale is suitably calibrated according to the passage of time (see Fig. 2).

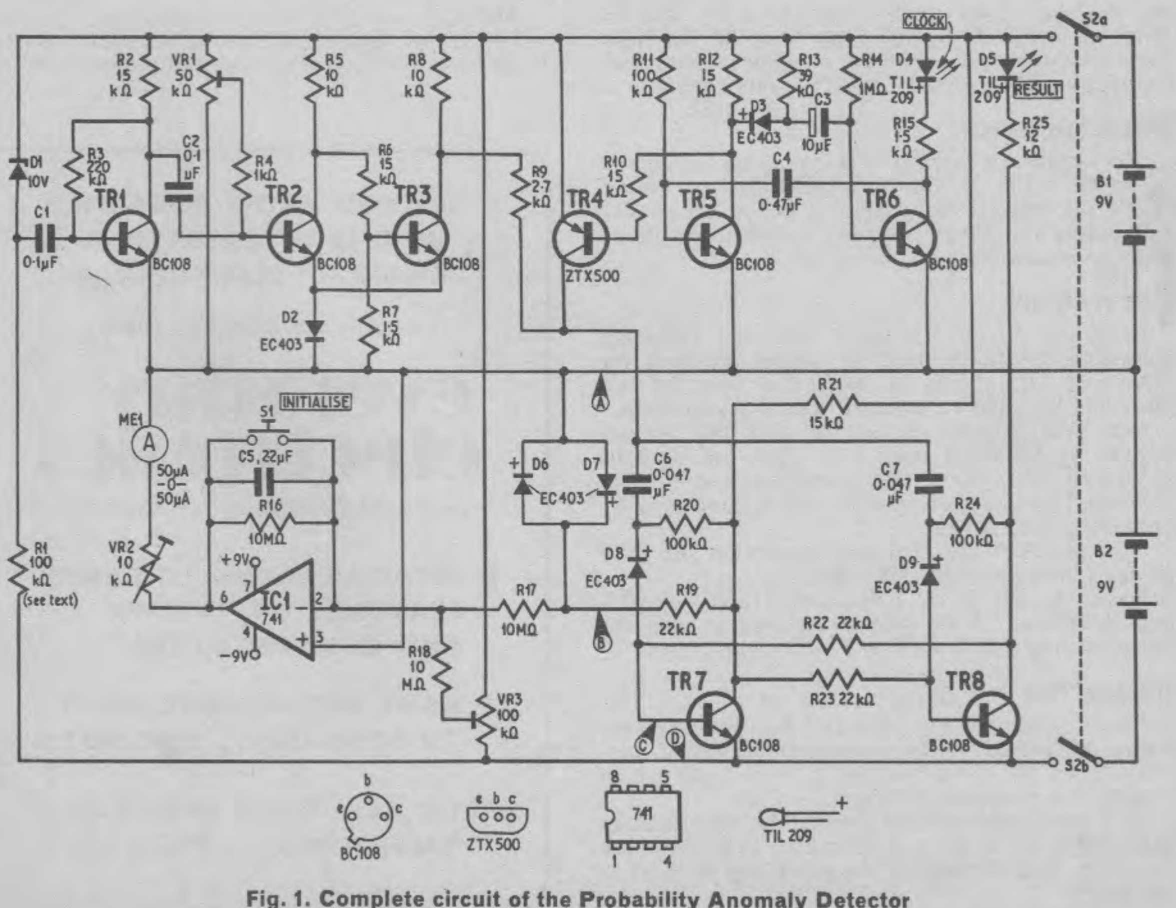


Fig. 1. Complete circuit of the Probability Anomaly Detector

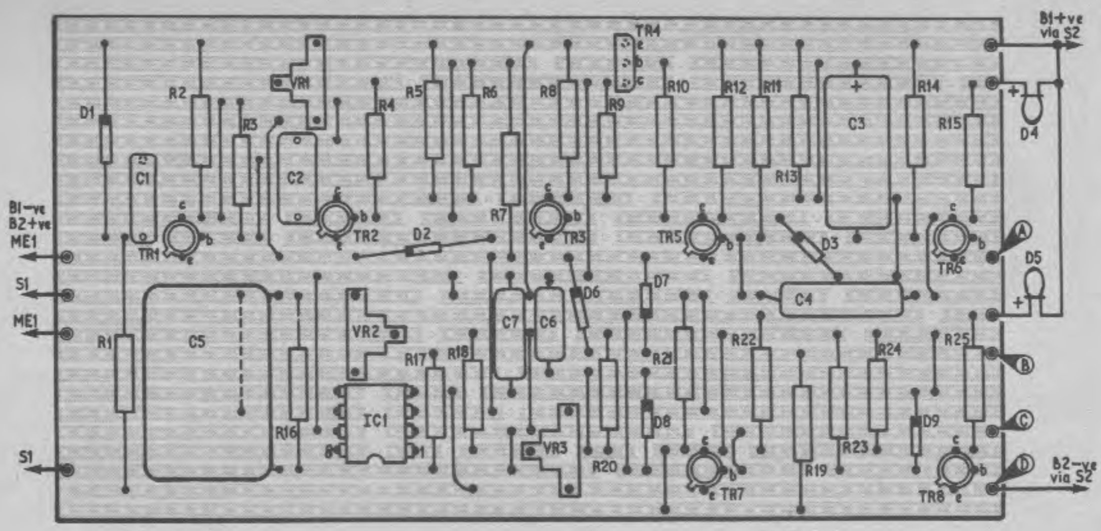


Fig. 3 Circuit layout on the Veroboard

To work out the calibration a computer simulation of the P.A.D. was created and after three days simulated operation figures were obtained as to how often certain sequences were likely to occur. The prototype used a 50μA-0-50μA meter ME1 as the output indicator. For extra information as to the working of the circuit two l.e.d.s D4 and D5 were used to indicate the occurrence of the pulse from the multivibrator and the outcome of each trial, i.e. the state of the bistable after the gating period.

CONSTRUCTION

The circuit can be built on 0·1in matrix Veroboard as shown in Fig. 3. The front panel layout is shown in the photograph, but layout is not at all critical. For testing the circuit a crystal earpiece was found to be an invaluable aid.

SETTING UP

Once the circuit has been built the following procedure should be used for setting up. First the output of TR1 should be monitored with the earpiece and R1 adjusted until the noise is a maximum.

Next VR1 should be set so that the Schmitt triggers on the noise from TR1. This can be done by setting the wiper at 0V, connecting the earpiece between TR3 collector and 0V, and turning up VR1 until oscillation is heard.

Next points A and B should be shorted and VR3 adjusted until the meter ME1 reads zero.

Points A and B are disconnected and points C and D shorted. VR2 is then adjusted so that the meter reading rises from 0 to 2 in 10 clock pulses.

USING THE P.A.D.

After resetting the P.A.D. by pressing the INITIALISE switch S1 the experimenter should concentrate on the meter and try to force it to a high reading in a particular direction.

If a high reading does occur, the experimenter should then try to get a high reading in the opposite direction, thus eliminating the possibility of drift in the P.A.D.

If the state of the P.A.D. was purely random then it would be expected that the meter reading would be as follows:

Above 0	almost always
Above 1	1/10th of the time
Above 2	1/100th of the time
Above 3	1/1000th of the time, etc.

The higher the meter reading the more unlikely is the possibility that the cause is of a random nature.

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