Claims

1. A driver apparatus configurable for receiving and processing at least one input signal, the driver apparatus being coupleable to ground potential, the driver apparatus comprising:

a processing portion configurable for receiving and processing the at least one input signal in a manner so as to produce drive signals;

a ground potential coupler coupling at least a portion of the processing portion to the ground potential such that the processing portion is configurable to produce the drive signals based on an effective reference potential; and

a control portion coupled to the processing portion and the ground potential coupler, the control portion being configurable to receive and process at least a portion of the drive signals in a manner so as to control variance of the effective reference potential; and

wherein the control portion comprises:

a detection portion; and

an output portion which is coupled to the detection portion and the ground potential coupler,

wherein the detection portion is coupled to the processing portion in a manner so as to receive and process at least a portion of the drive signals to produce a control signal, and

wherein the control signal is communicable to the output portion such that variance of the effective reference potential is controllable.

2. The driver apparatus as in claim 1,

wherein the processing portion comprises a processing segment array, and

wherein the processing segment array comprises a plurality of processing segments, each of which being configurable to produce a drive signal.

3. The driver apparatus as in claim 2,

wherein the plurality of processing segments comprises a first processing segment, a second processing segment, a third processing segment and a fourth processing segment,

wherein the first processing segment is coupled to the second processing segment, the second processing segment is coupled to the third processing segment and the third processing segment is coupled to the fourth processing segment, and

wherein the drive signals comprises a first drive signal, a second drive signal, a third drive signal and a fourth drive signal.

4. The driver apparatus as in claim 3,

wherein the first processing segment is configurable for receiving and processing at least one input signal to produce the first drive signal which is communicable from the first processing segment to the second processing segment,

wherein the second processing segment is configurable for producing the second drive signal based on the first drive signal, the second drive signal being communicable from the second processing segment to the third processing segment,

wherein the third processing segment is configurable for producing the third drive signal based on the second drive signal, the third drive signal being communicable from the third processing segment to the fourth processing segment, and

wherein the fourth processing segment is configurable for producing the fourth drive signal based on the third drive signal.

5. The driver apparatus as in claim 4,

wherein the processing segment array corresponds to a monostable multi-vibrator array, and

wherein each processing segment of the plurality of processing segments corresponds to a monostable multi-vibrator module which is edge triggered.

6. The driver apparatus as in claim 5 wherein each processing segment of the plurality of processing segments corresponds to a monostable multi-vibrator module which is negative edge triggered.

~~7. The driver apparatus as in claim 1, the control portion comprising:~~

~~a detection portion; and~~

~~an output portion which is coupled to the detection portion and the ground potential coupler,~~

~~wherein the detection portion is coupled to the processing portion in a manner so as to receive and process at least a portion of the drive signals to produce a control signal, and~~

~~wherein the control signal is communicable to the output portion such that variance of the effective reference potential is controllable.~~

~~8~~7. The driver apparatus as in claim ~~7~~1, wherein variance of the effective reference potential is controllable such that the drive signals are capable of being synchronized with the at least one input signal.

~~9~~8. The driver apparatus as in claim ~~7~~1, the output portion being a switching arrangement operable in one of a saturation operating mode and a cut-off operating mode.

9~~10~~. The driver apparatus as in claim ~~9~~8, the output portion being switchable between the saturation operating mode and the cut-off operating mode based on the control signal.

10~~11~~. The driver apparatus as in claim ~~10~~9, the switching arrangement comprising an active element and a passive element which is coupled to the active element.

11~~12~~. The driver apparatus as in claim ~~11~~10, the ground potential coupler comprising:

a charge storage element; and

a resistive element,

wherein the charge and resistive elements are coupled in a parallel circuit arrangement.

12~~13~~. The driver apparatus as in claim ~~12~~11, wherein when the switching arrangement is operating in the saturation mode, the passive element is effectively coupled to the charge storage element and the resistive element in another parallel circuit arrangement.

13~~14~~. The driver apparatus as in claim ~~11~~10 wherein the active element is a transistor and the passive element is a resistive type element.