

ABSTRACT

DETECTION CIRCUIT FOR FLEXIBLE PRINTED CIRCUIT CONNECTION INTEGRITY

Provided is a connection detector assembly for detecting a connected state between a keypad and a processor along a flexible circuit. The assembly comprises a keypad with a plurality of buttons, each button including button contacts. A flexible printed circuit having a plurality of electrical traces aligned along a width of the flexible printed circuit and includes a set of two or more button signal traces individually electrically coupled with a first button contact of a corresponding one of the plurality of buttons. A first diagnostic electrical trace and a second diagnostic electrical trace form a diagnostic circuit with one another. A receiving unit receives the flexible printed circuit. A processor electrically couples to the diagnostic electrical circuit performs a diagnostic check of the diagnostic circuit to determine a connected state, the connected state indicating whether or not a failure condition exists along a designated portion of the diagnostic circuit.

Fig. 1