

ABSTRACT

The invention relates to an identification system comprising an interrogator and a plurality of transponders. The interrogator includes transmitter means (30) for transmitting an interrogation signal to the transponder, receiver means (10) for receiving a response signal from the transponder, and processor means (18) for identifying the transponder from data in the response signal. Clock extraction means (12, 20, 22, 24, 26) are further provided for extracting a transponder clock signal from the response signal which is used to synchronise the modification of the interrogation signal with the response signal from the transponder. Each transponder comprises receiver means (110, 116) for receiving the interrogation signal, a transponder clock generator (114), a code generator (112), transmitter means (110), and a modulator (118) connected to the code generator, so that on receipt of the interrogation signal the transponder transmits a response signal containing data which identifies the transponder. The interrogator is adapted to detect successful reception of a response signal from any transponder, to derive a synchronisation signal from the response signal of that transponder, and to modify the interrogation signal synchronously with the response signal to indicate successful reception of the response signal. Each transponder further includes means (116) responsive to a respective modification of the interrogation signal to cease transmission of its response signal.

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