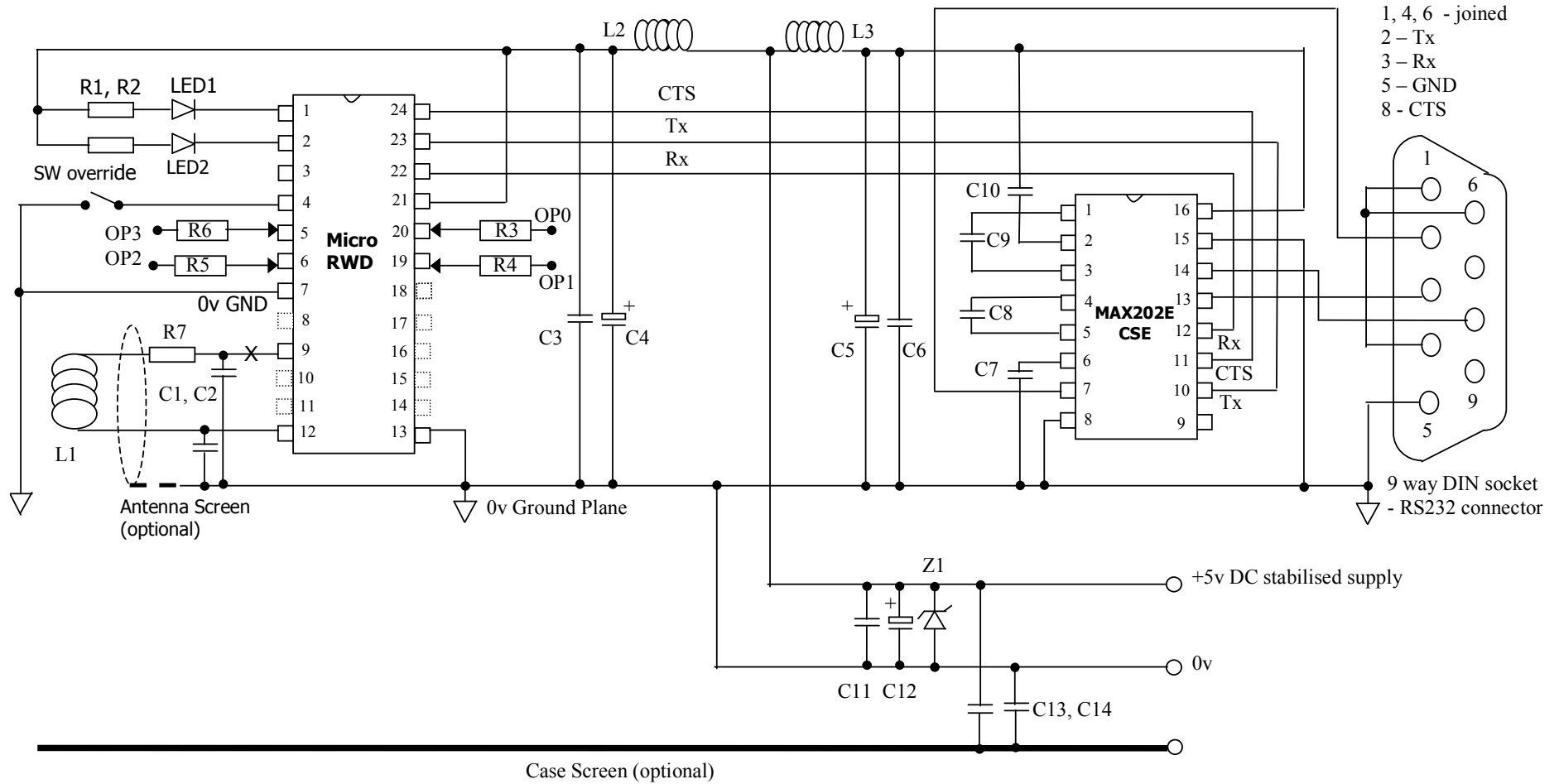


Data Sheet

RS232-Reader.pdf

3 Pages, Last Revised 19-12-08



Data Sheet

Suggested Parts List

Component	Description	Notes
LED1, LED2	Red and Green low current LEDs (2ma)	Optional indicator LEDs for valid transponder in field etc.
R1, R2	1K Resistors	Current limiting resistors for LEDs
R3, R4, R5, R6	Resistors	Current limiting/protection resistors for OP0, OP1, OP2, OP3 output drives. (Standard MicroRWD supports 25ma maximum sink current into each driver)
R7	27R Resistor	Antenna series resistor to limit peak antenna current. For correct inductance antenna (700 μ H), R = 27 ohms. For out-of-tune antenna, resistor may be omitted (peak antenna voltage must not exceed +/- 100v)
C1, C2	47pF Ceramic Capacitors (NPO 100v)	Additional EMC protection for antenna circuit (optional)
C3, C6, C7, C8, C9, C10, C11	100nF Ceramic Capacitors (X7R 50v)	C3, C6, C11 decoupling capacitors. C7, C8, C9, C10 charge pump capacitors for RS232 driver.
C4, C5, C12	22 μ F Capacitors (16v Tantalum or Electrolytic)	Filter reservoir capacitors to ensure smooth 5v supply
C13, C14	1nF Ceramic Capacitors (X7R 50v)	Optional decoupling capacitors to case screen (if available)
L1	Antenna coil, 34 SWG wire (700 μ H optimum inductance)	MicroRWD can compensate for different antenna inductances between 500 - 800 μ H (approx). Optimum antenna coil diameter 25mm to 200mm.
L2, L3	22 μ H chokes	RFI filter inductors.
Z1	5v6 Zener diode (1.3W BZX85C or 2W BZV47C)	Voltage surge and transient protection

Parts list is shown for guidance only, certain component values may be different depending on particular implementation.

ib technology

Notes

Antenna can be mounted up to 1.5 metres from MicroRWD system. Screened twisted pair cable should be used with screen connected as shown.

Antenna must not be exposed to high voltage ESD sources, if the antenna is likely to be physically exposed then a 100nF (NPO 100v) series capacitor should be fitted in antenna circuit at position X to protect RF drive circuitry.

If OP0, OP1, OP2 or OP3 output signals are connected off the main system PCB then 1K (minimum) series resistors should be used to protect MicroRWD from external voltage spikes. Likewise if the switch override input is taken off the PCB then a series resistor must be used to protect the input.

The system will only perform well if the 5v supply is stabilised and noise free. It should be capable of sourcing the maximum current with a good safety margin.

The decoupling capacitors C3 and C6 should be placed directly across the 5v and GND pins of the MicroRWD and MAX202. C7, C8, C9 and C10 charge pump capacitors must be mounted close to MAX202 device pins.

Good PCB layout techniques should be employed on the PCB to keep the RF drive and digital circuits separate. Tracks should be kept to minimum lengths and care must be taken with their routing paths. Extensive ground plane areas should be employed on the PCB.

The L2 and L3 RFI filters are to prevent supply noise affecting the main devices and also to block any generated noise from getting back onto the supply rails. The inductors and capacitors must be mounted as close to the devices as possible.

No responsibility is taken for the method of integration or final use of the Micro RWD system

More information on the Micro RWD and other products can be found at the Internet web site:

<http://www.ibtechnology.co.uk>

Or alternatively contact IB Technology by email at:

sales@ibtechnology.co.uk