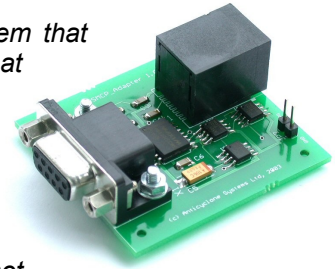


SMCP Adapter

SMCP Adapter Product Guide

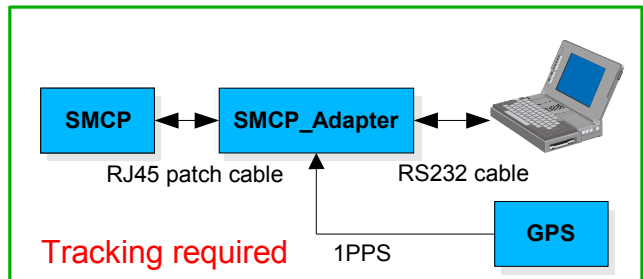
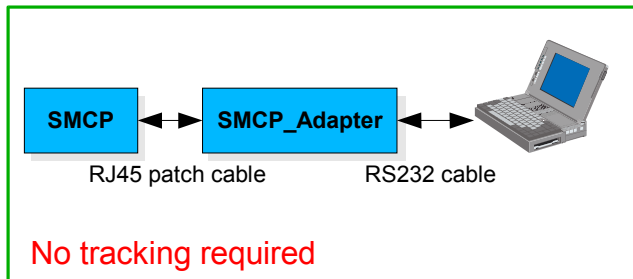
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Antrak Limited have designed an ASCAT ground transponder positioning system that uses the Anticyclone Systems Limited Servo Motor Control Processor (SMCP) at the centre of the design. The SMCP controls the positioning system's motors and monitors system state. The end customer has specified the SMCP card must use an RS422 serial interface for command and control and have a single RS422 input to accept an externally supplied 1PPS GPS timing signal.



For testing purposes it is desirable to use a standard PC to control and exercise the ASCAT positioning system. Standard desktop and laptop PCs are not equipment with RS422 interfaces but the majority are fitted or can be fitted with with at least one RS232 serial port interface. The SMCP Adapter design allows a PC RS232 interface to control the SMCP card and allows a single ended 1PPS signal from a GPS receiver to feed the differential RS422 input on the SMCP card.

Power for the SMCP Adapter is supplied from the SMCP card via the RJ45 connection and so no external power supply is required. A standard PC 1:1 RS232 cable connects a PC to the SMCP Adapter. If no table tracking is required for testing these are the only connections required. For table tracking, the 1PPS output and a ground connection from a GPS receiver need to be connected to the marked 1PPS header pins on the SMCP Adapter. If the 1PPS input is not used, we recommend fitting a shorting link to this position.



1PPS GPS input on the SMCP Adapter card header (JP2) accepts standard 0 to 5V logic levels. Logic 0 is from 0.0 to 0.8V, logic 1 is from 2 to 5V, input current $\pm 2\mu\text{A}$.

| SMCP Adapter X1-RJ45 (1:1) | | SMCP Adapter J1 <-> PC RS232 | | | |
|----------------------------|-----------|------------------------------|-----|---|-----|
| 1 | TX- | 1 | | 1 | CD |
| 2 | TX+ | 2 | Tx | 2 | Rx |
| 3 | GPS 1PPS+ | 3 | Rx | 3 | Tx |
| 4 | RX+ | 4 | DSR | 4 | DTR |
| 5 | RX- | 5 | GND | 5 | GND |
| 6 | GPS 1PPS- | 6 | DTR | 6 | DSR |
| 7 | GND | 7 | CTS | 7 | RTS |
| 8 | +5V | 8 | RTS | 8 | CTS |
| | | 9 | | 9 | RI |

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