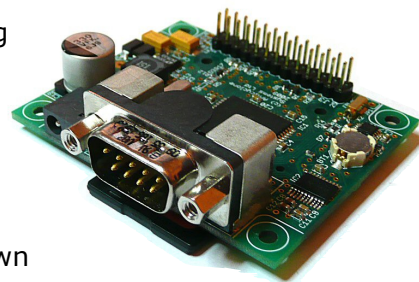


## INTRODUCTION

Our AntiLogPro design is the latest development in the AntiLog RS232 data logging product range. It builds on the ease of integration and use of the original highly successful AntiLog design, but in addition delivers an even higher level of performance. AntiLogPro therefore provides an ideal solution for all your demanding RS232 data logging requirements. Use the OEM module to embed a robust high quality, single board, RS232 data logging solution into your own product solution.



The AntiLogPro OEM board only requires the addition of a power source, two push to make switches ('On' and 'Off' buttons) and two bi-colour LEDs (for visual feedback) to realise a fully working data logging solution. You can also combine up to a theoretical maximum of 255 AntiLogPro OEM units together into one large multiple port data logging solution all controlled via one single serial port interface.

Individual AntiLogPro OEM units can log up to 921,600 baud at full data rate or two channels of full rate data at 460,800 baud as soon as you press the 'On' button. Push the 'Off' button to stop logging. Repeat as many times as you like to append to the store – it's as simple as that. It's even easier if you have purchased the "forced power 'P' option" for your unit as it will start logging and appending data and will stop again with the simple application and removal of a power source, no button pushing required.

Hold the 'On' button down until the LED lights green and release to put the unit in playback mode. Playback mode allows you to configure your unit using an easy to use terminal menu system. Recorded data can be replayed or upload to a PC, Laptop or other host machine of your choice. Data can even be played back in 'real time' on up to two RS232 output channels simultaneously to simulate real equipment output.

## APPLICATIONS

- Recording important civil or military GPS receiver trials data on location.
- Logging output from equipment types in ASCII, binary or any other format.
- Monitoring traffic in both directions on an existing RS232 link.
- Recording two equipment outputs which need a common time stamp reference.
- Recording data from equipment that needs to be polled for readings.
- Logging separate digital events and logic levels whilst recording RS232 data.
- Completely unattended data logging in remote locations.
- Trials where important events need to be logged using operator button pushes.
- Applications that require data to be collected by non-technical staff.
- Environment temperature, humidity and atmospheric pressure monitoring.
- When there is a need to log large numbers of RS232 data channels (multi-unit).

## FLEXIBILITY

AntiLogPro can record all RS232 data transmitted by your RS232 data sources. It does not suffer from data resolution problems experienced by some other RS232 data logging solutions which attempt to convert the data before storing it. You can also pre-select, sub sample, filter and time tag incoming data streams independently on up to two recording channels from a choice of three hardware serial ports (in any combination).

You can even transmit user defined commands back at your equipment during record either by pressing the front panel buttons or have AntiLog automatically send commands at user defined rates (ideal for taking measurements from equipment which requires data polling).

The built in Real Time Clock (with on board battery backup) allows time tagging of logged data. The bootloader, standard on all units, allows the embedded software to be upgraded to the latest release from plain text files which can be supplied over the Internet.

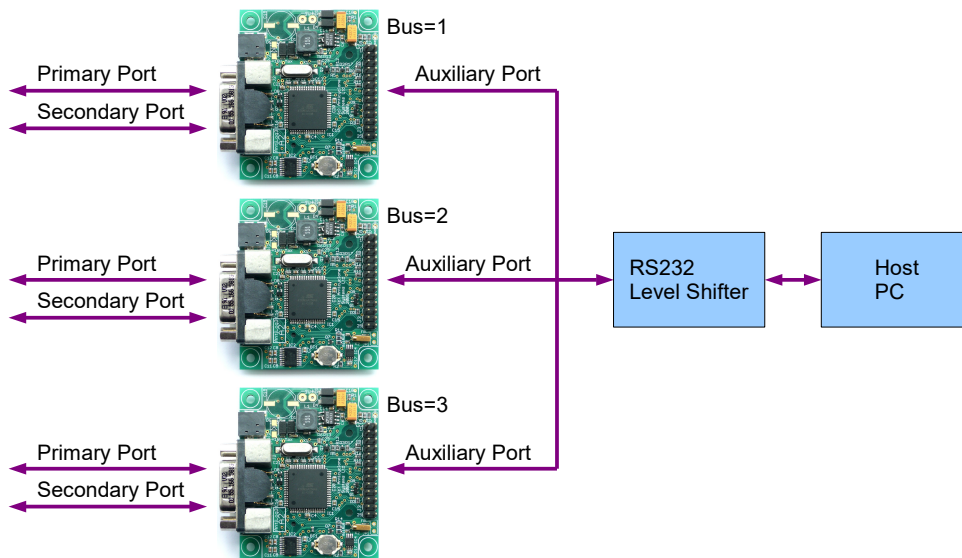
## CONFIGURATION

You configure AntiLog for your needs using a serial port terminal program. Use the intuitive menu system you see on the terminal screen in the playback mode to configure your unit. All settings are non-volatile, so there is no need to reprogram the unit even if all sources of power are removed. A free terminal application (AntiTermPro) designed specifically to support the AntiLog product range is available from the Anticyclone Systems Ltd website ([www.anticyclone.co.uk](http://www.anticyclone.co.uk)).

## MULTIPLE UNIT OPERATION

One or more AntiLogPro OEM units can be combined together in a special multiple unit mode to form a large multiple channel RS232 data logging capability. Each unit is configured for multiple unit operation and assigned a unique bus address in the range 1 to 255 and the complete system is then controlled via the third Auxiliary port bus.

A single serial port connection to a host PC is established using a standard RS232 level shifter or by using one of the level shifting drivers already build into the AntiLogPro OEM hardware. A dedicated ASLCMD Command Language is used to communicate with the final system.

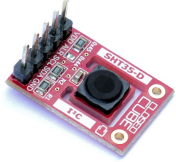


All AntiLogPro OEM units have the Forced Power ('P') option fitted as standard as all the boards are expected to operate at the same time when power is applied (without needing to push an 'On' button on each board). When power is removed, they will all independently shut down their media log files safely. No existing logged data is ever lost when power is cycled as incoming data is always appended to the media store (unless configured to do so with the selectable RING buffer storage method).

The Anticyclone Systems Ltd AntiTermPro application provides direct support for this Multiple unit operating mode with a dynamic GUI which reads the capabilities directly from the connected units to build up a multiple unit display.

## MONITORING THE LOCAL ENVIRONMENT

V8.1 and later of the AntiLogPro OEM software provides direct support for selected I2C environment sensors connected to the J3 pin header I2C bus. These sensors can provide local temperature, humidity and atmospheric pressure readings for real time display or logging. Sensor readings are logged as ASCII comma separated text lines with added date and time stamps for easy subsequent data analysis.



You can chose to log sensor readings to any of the logging channels at any rate you like whilst still recording up to two channels of RS232 data. You can use our AntiTermPro application to view these readings in real time in the playback menu system (and you can also view them in real time whilst in record mode logging data if you are using a multiple unit configuration).

## ANTILOGPRO OEM STANDARD FEATURE SUMMARY

### General Features

- Cost effective, comprehensive data logging solution.
- Single or Dual port RS232 data logging available in the one unit.
- Three serial ports available, two accessible from the front panel 9 way D connector.
- Fully configurable RS232 line states including inversion (for logging UART RS232).
- Unattended operation possible including automatic power and log file shut down.
- Up to 1TByte non volatile storage options supported (MMC/SD/SDHC/SDXC media).
- At least 60 hours of recording time possible from a single PP3 Alkaline battery
- Extended operation possible with long life PP3 Alkaline cells.
- Dynamic battery health check via menu system with terminal load voltage report.
- Dynamic power management saves power when using slower baud rates.
- Can operate from an external DC power source in the range 4.5 to 18V.
- File system supports real time date and time tagging of session and event information.
- Direct support for selected I2C bus temperature, humidity and pressure sensors.
- Media recovery feature for comprehensive data recovery.
- Access to CMOS 3V3 RS232 levels (secondary and auxiliary ports only).
- 1PPS synchronization output signal for precise timing applications.
- Built in system 'bootloader' to allow embedded software upgrades via any serial port.

### Recording Features

- Records ASCII, binary or any other data combination as standard.
- Able to log two RS232 line data channels, two CMOS channels or a combination of both.
- Ring buffer write mode selectable to retain only the most recent logged data.
- Can log 961,200 baud data at full rate (no handshaking required) with suitable media.
- Full rate data capture possible from two 460,800 baud data sources at the same time.
- Selected GPS NMEA sentences can be logged using the built in NMEA sentence filters.
- Intelligent data frame sub-sampling for ASCII line formatted data sources (e.g. NMEA).
- ASCII line data can be time tagged with millisecond resolution.
- Binary data can be time tagged using 'N' byte time tagging mode.
- User equipment commands can be sent at user defined rates (equipment polling).
- Logging of up to nine digital lines (digital state) with protected logic inputs.
- Log time stamped temperature, humidity and pressure from a supported I2C bus sensor.
- Can log 'user events' during data logging using short 'On' and 'Off' button pushes.
- Independent equipment polling and button event logging for both recording channels

----- *Anticyclone Systems Limited* -----

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Registered office at Brook House, Mint Street, Godalming, Surrey. GU7 1HE

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## Playback Features

- Full rate RAW playback available.
- 'Real time' playback (including dual serial port) to simulate original equipment output.
- Time shift to simulate live data (e.g. live time and date replacement in NMEA data).
- Playback can be synchronised to external event input (wait on hardware pulse).
- Hexadecimal playback mode to display recorded data as an ASCII hexadecimal dump.
- Hexadecimal playback mode can show recorded time stamps before each data block.
- Session headers and time stamp date and time can be embedded in output stream.
- ASLTx2 Data Transfer protocol built in for uploading recorded data to a host machine.

## Configuration Features

- Independently programmable transmit and receive baud rates from 600 to 921,600.
- User selectable parity, data bits per character (5 to 8) and stop bits.
- Independent non standard baud rate support per channel (e.g. 11111 baud).
- Complete sets of user options can be saved with a name and recalled for later use.
- Up to four user equipment commands can be stored for output during record mode.
- Time transfer function to accurately transfer time and date to another AntiLog unit.

## TAILOR MADE OPTIONS

AntiLogPro provides an extremely comprehensive set of features as standard but additional 'Option Packs' available from your AntiLog supplier extend the capabilities still further. Hardware options are generally only available from your AntiLog supplier but software options can be installed after purchase using the built in bootloader application.

### Hardware Option 'P': Forced Power (Standard for AntiLogPro OEM)

- Starts recording data as soon as power is applied.
- Power may be removed and reapplied at any time to record more sessions.
- Suitable for power sources in the range 9.5V to 18V.
- 'On' and 'Off' buttons still function to record events and transmit equipment commands.
- Ideal for deeply embedded systems where user interaction is not possible or desired.

### Software Option 'M': Government and Military GPS receiver logging

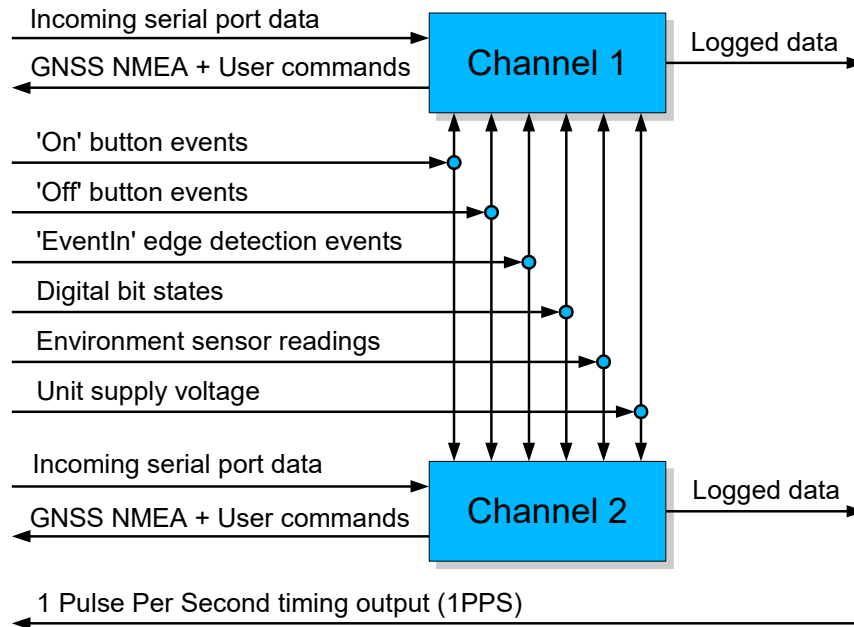
- Includes all standard features available in AntiLog.
- ICD-GPS-150, ICD-GPS-153 (ICD-GPS-15x) data stream compatible.
- Two sources of ICD-GPS-15x data can be recorded at once with independent settings.
- LED flashes show when checksum validated message headers are being recorded.
- Time tagging of all IP messages available to millisecond resolution.
- Message 'autoconnect' feature to automatically request user selected message IDs.
- Automatically sends out acknowledgements in response to acknowledge requests.
- Button events and selected digital input lines can be inserted as IP messages.
- Compatible with RS232 output from SPGR, PLGR, DAGR and similar GPS receivers.
- Selectable 'Real time' playback of ICD-GPS-15x data which can use time tag data.

### Software Option 'S': Security

- Adds user password protection for controlled access to the terminal menu system.
- Prevents unauthorised unit configuration inspection or change.

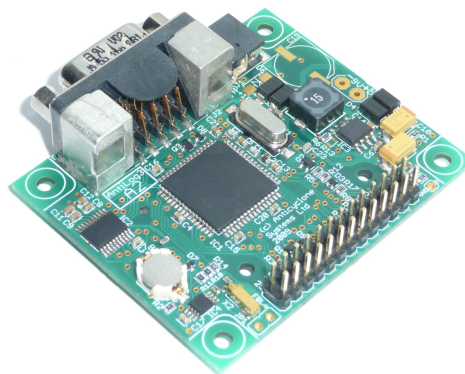
### Hardware Option 'G': GPS Receiver Output Simulator

- Can output simulated GPS receiver NMEA output streams during record mode.
- Simulated receiver position set as a user defined location (latitude, longitude, height).
- Two completely independent GPS output simulations can be active during record.
- Output NMEA messages are synced to AntiLogPro system time.
- Dual and single channel data logging still possible whilst simulations are active.
- Polled user commands (at say 1Hz) can still be inserted into NMEA output streams.



### Software Option 'X': Extended 'On' button Playback delay

- 'On' button delay required to activate playback mode extended from 1.75 to 5 seconds.
- Reduces chance of users accidentally starting AntiLogPro in playback mode.



**DON'T RISK LOSING YOUR IMPORTANT SERIAL PORT DATA!**

For more information please visit [www.anticyclone.co.uk](http://www.anticyclone.co.uk) or email [info@anticyclone.co.uk](mailto:info@anticyclone.co.uk)  
*Detail may be subject to change without notice. Data applicable to AntiLogPro OEM product with embedded software release 8.1*

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