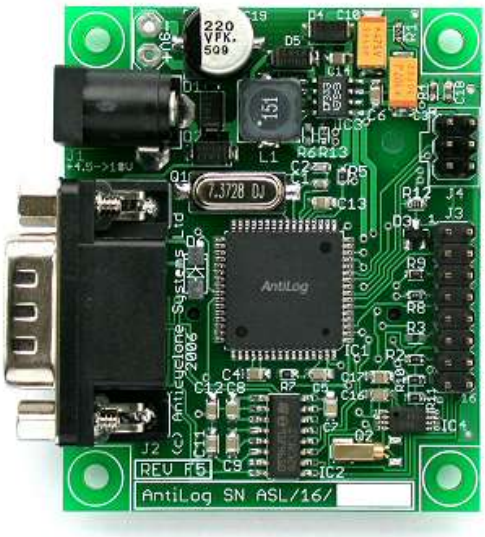
Anticyclone Systems

Forced Power option for AntiLog ('P' option)



DOC/AntiLog/UG/2006002_1.1

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1. Introduction

This guide is intended to supplement the AntiLog RS232 Data Logging System User Guide[1] and the AntiLog RS232 Data Logging System OEM Supplement[2]. It details the additional functionality provided by the AntiLog Forced Power ('P') option.

The standard AntiLog product requires the user to push the 'On' button to start data logging. The user must then push and hold the 'Off' button to terminate a logging session. AntiLog units that are supplied with the Forced Power ('P') option do not require button pushes to start or stop logging as the application and removal of a power source is all that is required to start and stop a data logging session. The 'P' option hardware is therefore ideal in environments where no user intervention is possible or desirable for data recording, such as vehicle installations, Unmanned Aircraft (UAVs) and applications where power can be taken directly from the equipment transmitting data (e.g. integrated with a powered GPS OEM module).

The AntiLog 'P' variant is currently only available as an OEM card for building into a customer application.

2. Applicability

The guide refers to AntiLog OEM hardware builds F5 and F6 and is applicable to embedded software versions V3.2 and higher.

3. 'P' Option Changes

The Forced Power option differs from the standard AntiLog OEM product in the following ways:-

3.1 Power source

The 'P' option hardware must be powered from a source with a voltage range 9.5V to 18V compared to 4.5V to 18V for the standard product, even though the PCB legend says "+4.5 to 18V". The 'P' option hardware does not draw any more power in operation compared to the standard product. Power can be applied via the main DC jack (J1) or via the 'PP3' clip (through hole plated solder connections).

3.2 'PP3' Power connection

The PP3 clip connection on the OEM design is still present and is still reverse polarity protected but its main purpose on the 'P' option hardware is to allow a direct wired connection to your power source. The power source must be 9.5V to 18V and so a real PP3 battery is no longer recommended.

3.3 Revised 'On' button function

You still require an 'On' button to be wired into the OEM header if you wish to switch the unit on in playback mode rather than record mode. The 'On' button must also be fitted if you want to insert 'On' button events or send user commands in record mode when the 'On' button is pressed (same functionality as standard AntiLog product).

3.4 Revised 'Off' button function

If you press and hold the 'Off' button while power is applied, AntiLog will shut down the current session, but will restart logging again with a new session all the time power is applied. If you press and hold the 'On' button shortly after the 'Off' button restart you can start the unit up in playback mode instead of record mode.

3.5 Terminating a logging session

To terminate a logging session, simply remove power from the device. The standard OEM product requires that you press and hold the 'Off' button to cleanly terminate a logging session, but the 'P' option automatically closes the log file when power is removed. Pressing and holding the 'Off' button on the 'P' option closes the current logging session but it does NOT shut down the unit, it simply restarts with a new recording session (see "Revised 'Off' button function" above).

3.6 Improved brown-out detection

The 'P' option does not require a constant power source to maintain reliable logging, the built in brown out detection logic is designed to invoke a log session clean up following a brown out voltage drop below 8.5V. The unit will remain inactive while the supply voltage is below 8.5V but will start a new logging session and commence recording again when the input supply exceeds 9.0V or above. This means the unit is ideal in conditions where severe power loss may occur at any time (e.g. The 'P' option unit can be powered in vehicles where the cigarette lighter socket is automatically disconnected from the 12V supply when turning the starter motor from the ignition key).

3.7 Battery check function

The battery check function in the playback menu system does not give as accurate reading in the 'P' option variant. However, the state of the power source is not so important for the 'P' option so the battery check function would not normally be used in this configuration.

4. Additional Information

4.1 Switching on in Playback mode

To enter playback mode instead of record mode when power is applied, press and hold the 'On' button and apply power. Keep the 'On' button depressed until the green LED is lit and then release.

You can also set the menu and playback baud rates to the default of 115,200 baud by extending the 'On' button push for at least five seconds as you can do with the standard product.

4.2 Playback menu system

There are no differences between the functionality of the 'P' option playback menu options and the standard product menu options except for the functionality of the 'shut down' item in the root menu.

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AntiLog-P 3.2, Serial number ASL/16/768

(3148395 byte(s) recorded in 2 sessions, 9% of 31860744)
(PLAYBACK mode, X-MODEM and 'On' button aware)

 <S> Start playback now (or use 'On' button)
 <R> Recording options
 <P> Playback options
 <G> General options
 <L> Lock user options
 <B> Battery check
 <A> About AntiLog
 <U> Shut down
?
```

If you confirm the shut down from the menu system, the 'P' option restarts into the recording mode as long as power is still applied instead of shutting down. It is not possible to 'shut down' the 'P' option, it is always active when sufficient power is applied.

5. References

1. AntiLog RS232 Data Logging System User Guide, DOC/AntiLog/UG/2003001_3.2
2. AntiLog RS232 Data Logging System OEM Supplement, DOC/AntiLog/UG/2003002_3.2

6. Abbreviations

DC	Direct Current
GPS	Global Positioning System
OEM	Other Equipment Manufacturer
RS232	A common physical interface standard specified by the Electronic Industries Association (EIA) for the interconnection of devices.
UAV	Unmanned Air Vehicle