Revison	Change	Approved	Date
1	Initial release	mje	15/03/16
2	Update to User 4-25	mje	22/6/18

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SUPPLEMENTARY INSTRUCTION

SI-006 AC200 USER SOFTWARE INSTRUCTIONS

Part / Assy #		AC-2xx
Drawing #		
Applicability		AC200User_4_25
Compliance		

SUBJECT: AC200 USER SOFTWARE

1. Introduction

This document is intended to assist the propeller operator in modifying the AC200 control box flight parameters. This is done through the use of software running on a MS Windows PC. A lap-top computer is recommended, to allow it to be taken to the controller in the aircraft.

2. Material Information

2.1 Parts Required

Item	Assy No.	Description
1	A0117	AC200 USB serial cable assy
2		User Software AC200UserV4-25

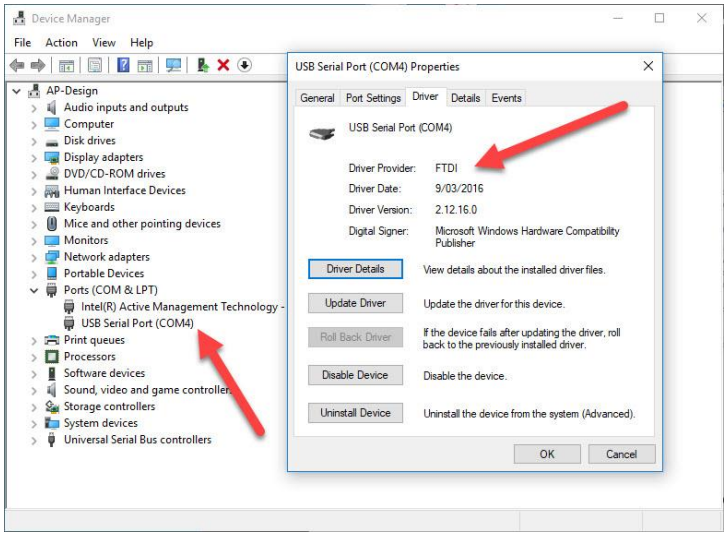
3. Download User Software

Download the latest version of the User software from the Airmaster website http://www.airmasterpropellers.com/a0127, scroll down to Download Sample. Store to a convenient folder.

4. Installing USB Driver

Plug the USB cable into your windows laptop. On win10 the driver should load automatically.

Note: On other systems check the driver that has been installed under \Control Panel\ USB Serial Port



Drivers can be downloaded from the FTDI website http://www.ftdichip.com/Drivers/VCP.htm

5. Connecting PC to AC200 Controller

Take the AC200 programming cable supplied, and connect PC and controller as follows:

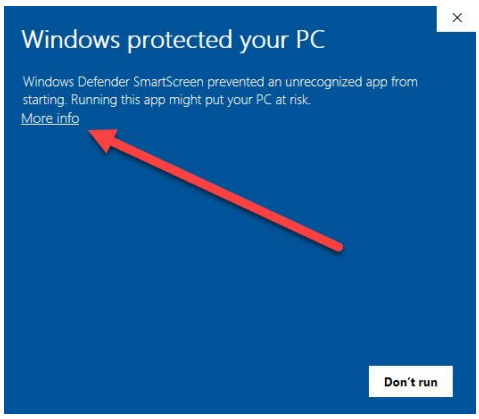
a. Connect the USB plug to a USB port on the PC.

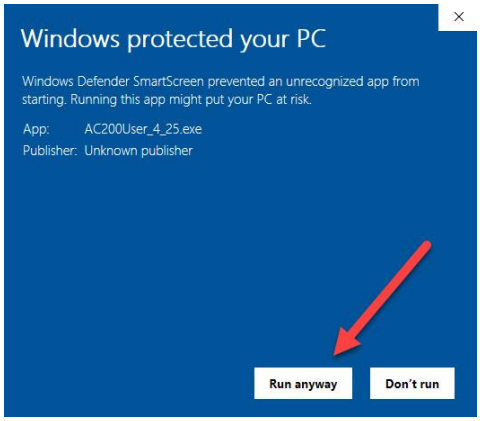
b. Connect the 4 way connector to the connector CN4 on the rear of the AC200 controller.

c. Turn on the power supply to the AC200 controller by turning on the aircraft power.

d. Run AC200 User Software on the PC.

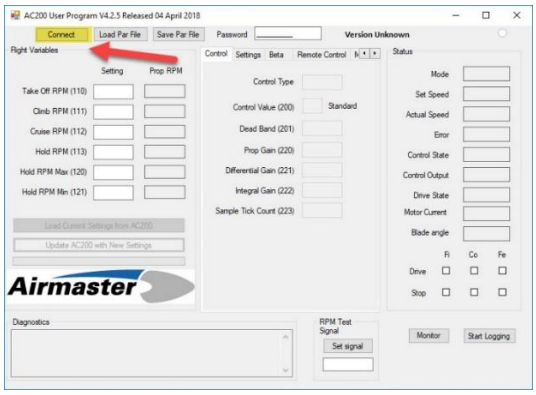
Note: You may see some windows warning you about running this software. This is normal. Select 'More Info' and 'Run Anyway'.



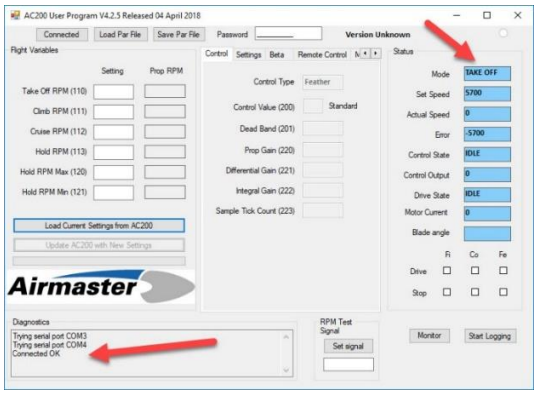


e. Select 'Connect'

After a few seconds the software will show that it is connected to the controller and the right hand panel will turn blue and display current state of the controller.



Press Connect

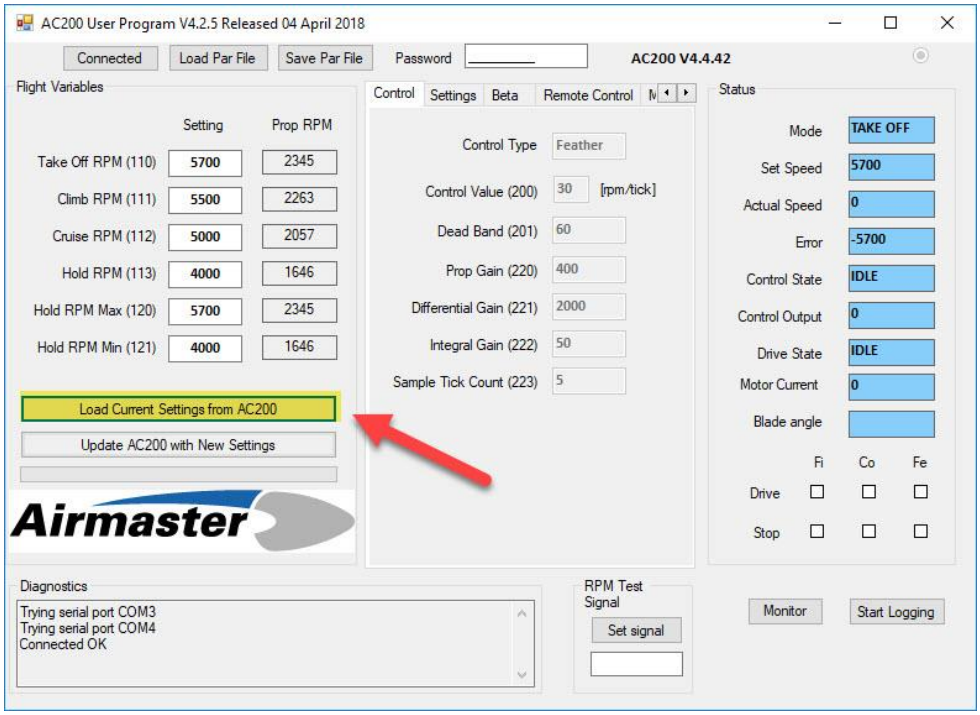


Controller connected

Note: If the software shows that it is not connected, check that the com port selection displayed at the bottom of the software window is the same as that used by the cable. If this does not work, check that no other software on the PC has taken control of the com port. Contact Airmaster Propellers Ltd if further trouble is experienced.

6. Checking Parameter Values

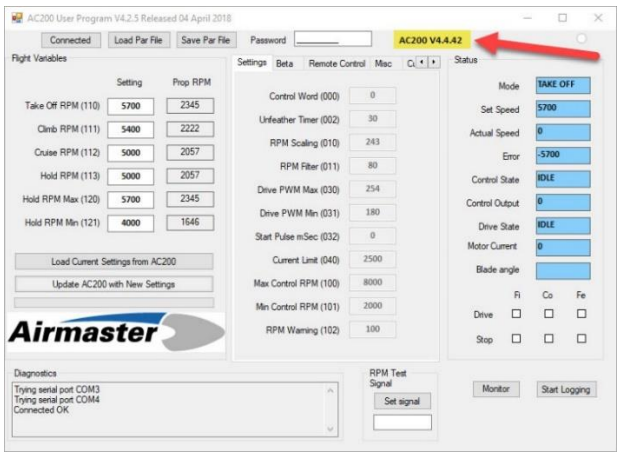
Click the 'Load Current Settings From AC200' button on PC. The parameter values currently programmed in the controller will appear in the setting windows.



Load parameter file

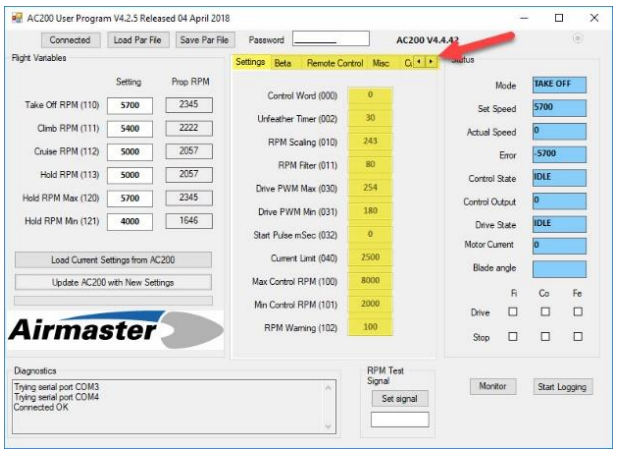
All of the parameter values may be checked against the values recorded on the "AC200 Software and Parameter" sheet that came with the propeller. By referencing the parameter numbers, the programmed parameter values can be compared with the correct parameter values recorded on the sheet.

Software version can be checked in the top right of the display window



Reading SW version

Many parameters are listed under the tabbed window. You may need to navigate to them using the < and > nav boxes on the upper right



Using tabbed interface

7. Changing Flight Parameter Values

The flight variables (parameters 110 to 121) are available to be changed by the operator. These values are recorded in the leading particulars section of the propeller logbook, as well as on the "AC200 Software and Parameter" sheet. The values recommended by Airmaster are listed in chapter 9 of the "Operators Manual", which came with the propeller.

Note: The other parameters; setting variables and control variables, are not available to be changed by the operator. These parameters are protected by a password in the operator program software. Contact Airmaster Propellers Ltd for further advice should these parameters require changing.

If the operator wishes to alter the operation of the controller, the flight variables may be changed as follows:

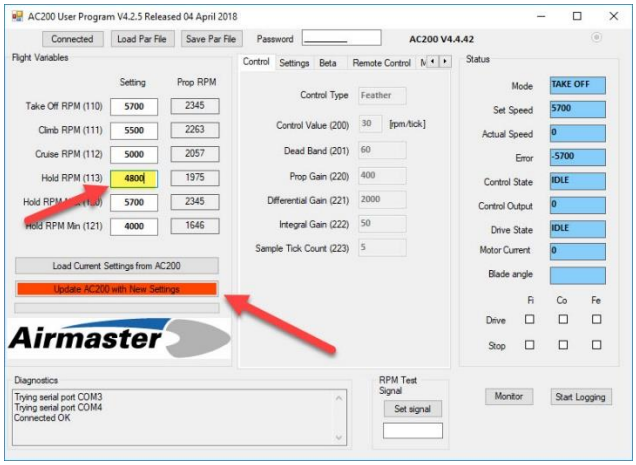
a. Enter new values in the setting windows beside each parameter. Ensure that the following conditions are met:

   i. That 'Take-Off RPM' and 'Hold RPM Max' are both at least 100rpm less than the maximum speed for the engine concerned (eg 5700rpm or less for Rotax engines).

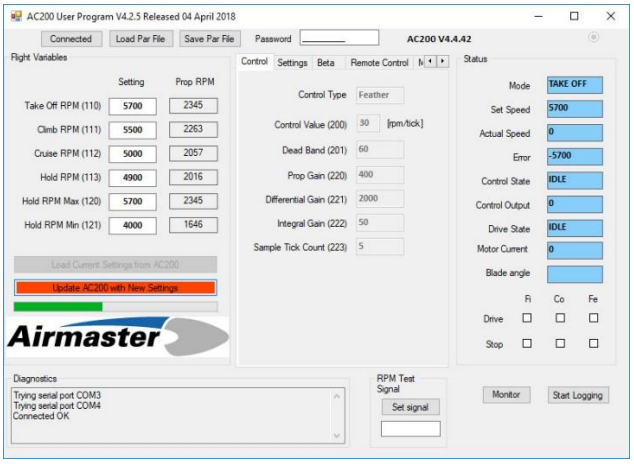
   ii. That the calculated propeller speed (Prop RPM) 'Take-Off RPM' and at 'Hold RPM Max' (see values in Prop RPM column) are within allowable ratings for the Airmaster hub being used.

Note: Current versions of the controller software apply other checks to the parameters programmed in the controller. For instance, the controller will not allow a value for 'Hold RPM Max' to be higher than 'Take-Off RPM'.

b. Click 'Update AC200 with New Settings' button. The new values for the parameters will be loaded into the controller.



Change Flight Parameter



Parameters Updating

c. Record the new flight variable parameter values in a new column in the following locations:

   i. The "AC200 Software and Parameter" sheet.

ii. The leading particulars section of the propeller logbook.

d. Make an entry in the propeller logbook to record the action carried out.

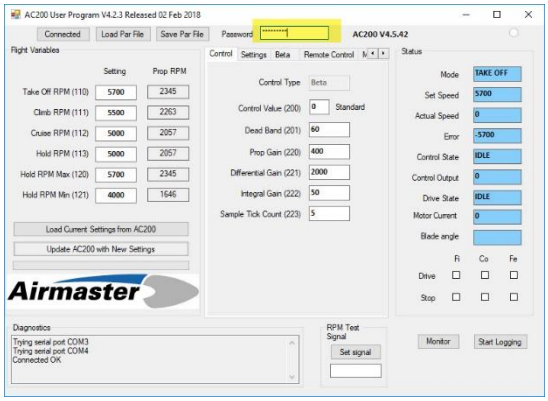
Note: The parameter values actually programmed in the controller may be checked at any time by clicking the ‘Load Current Settings From AC200’ button. This function resets any values entered into the setting windows to the values currently programmed into the controller.

When the operator is satisfied that the desired parameters are programmed into the controller, the reprogramming should be completed by closing the software on the PC, turning off the power supply to the controller, and disconnecting the cable from the controller.

8. Changing System Parameter Values

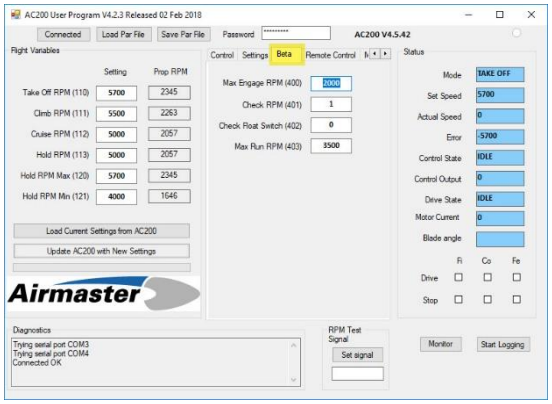
Caution: System parameters should only be changed with consultation, and with approval from Airmaster Propellers Ltd. Failure to adhere to this may make the controller inoperative or to react in unpredictable ways.

Enter the password into the password box. The system parameter boxes will now appear white



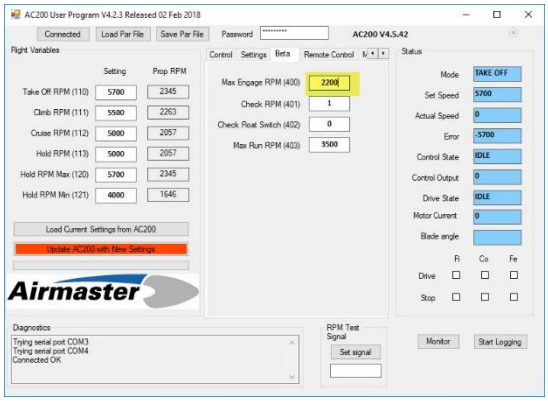
Enter password

Navigate to desired parameter using tabbed interface



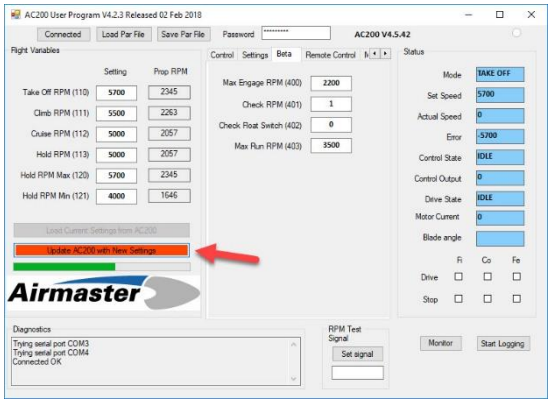
Find parameter

Change the parameter by typing the new value in the parameter box



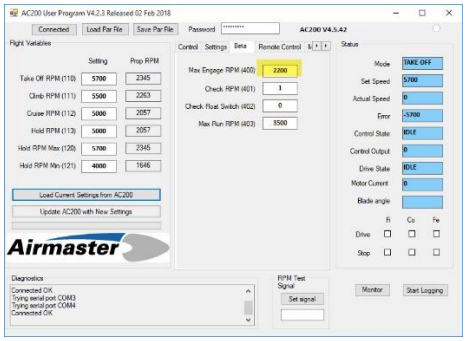
Change parameter value

Update AC200 with new value



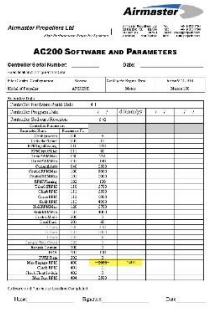
Update AC200

Check the parameter has loaded correctly after repowering the controller



Check parameters

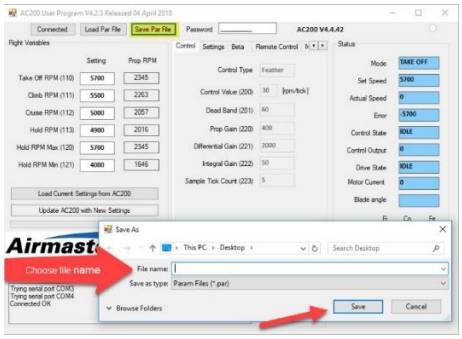
Update parameter sheet with new parameter value

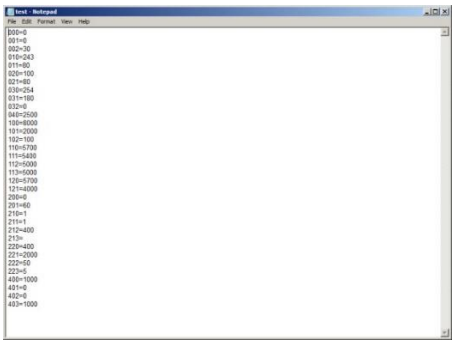


Update parameter sheet

9. Saving Parameter Files

Select ‘Save Par File’, then choose a file name and path to store the file.



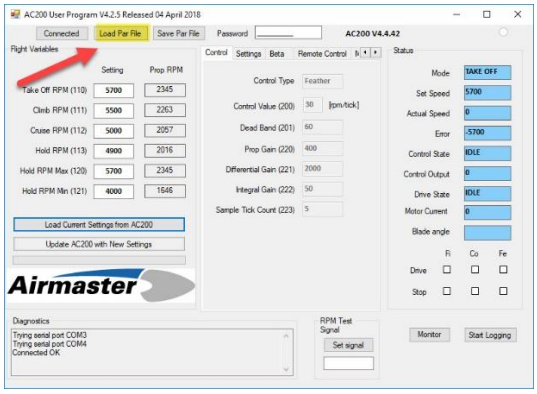


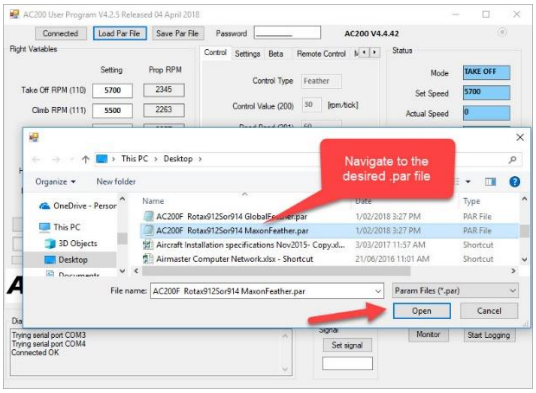
The resultant file is a text based with an extension of .par

You can view the contents of the file with a text editor like ‘Notepad’

10. Loading Parameter files

Select ‘Load Par File’ then navigate to, and select the desired parameter file. Press ‘Open’.





Save the parameter file to the AC200 by selecting ‘Update AC200 with New Settings’

Check loaded parameters against the parameter check sheet.