

REVISION	CHANGE	APPROVED	DATE
0	Provisional release	JTS	02/12/2024
1	Initial release	JTS	19/12/2024



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APL-SI-0032

UPDATING DSD HUB FIRMWARE VERSION

PROCEDURE



SUBJECT:

SERVICE & MAINTENANCE

ASSEMBLY NO:	APPLICABILITY:
AH-xxx (i30-190)	DSD propeller hub models only

1. TOPIC

1.1 Introduction

This instruction covers the procedure for updating the firmware version for an Airmaster DSD (Digital servo-drive) propeller hub. This task is completed using Airmaster flash software running on a Microsoft Windows PC and connecting to the AC300 controller. A laptop is recommended so that it may be taken to the controller inside the cockpit.

Hub firmware should only be updated when directed to by Airmaster.

1.2 Prerequisites

Complete the following tasks before proceeding:

- Ensure that PC is updated to include .NET Framework 3.5
<https://www.microsoft.com/en-us/download/details.aspx?id=21>

2. MATERIAL REQUIREMENTS

2.1 Parts

ITEM	QTY	PART NO.	DESCRIPTION	IMAGE
1.	1	A0117	USB-Serial Cable	
2.	2	A0170x	AC300 'SmartPitch' Controller	

2.2 Tooling

ITEM	QTY	DESCRIPTION	IMAGE
1.	1	MS Windows Laptop	
2.	-	Hub Firmware Programmer (.exe)	
3.	-	Hub Firmware File (.bin)	

2.3 Paperwork

ITEM	QTY	CODE	DESCRIPTION
1.	1	AD-UNIVERSAL	DSD Hub Firmware & Parameters Sheet
2.	1	AD-UNIVERSAL	Airmaster Propeller Logbook

3. PROCEDURE

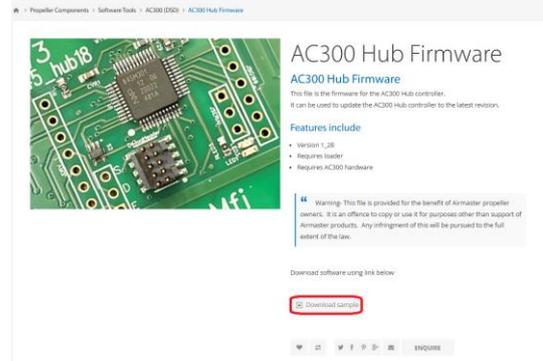
3.1 Download Hub Firmware Programmer

Procedure: Downloading Hub Firmware Programmer

Step 1 Download Hub Firmware File

- Download the latest DSD hub firmware file (.bin) from the Airmaster website:

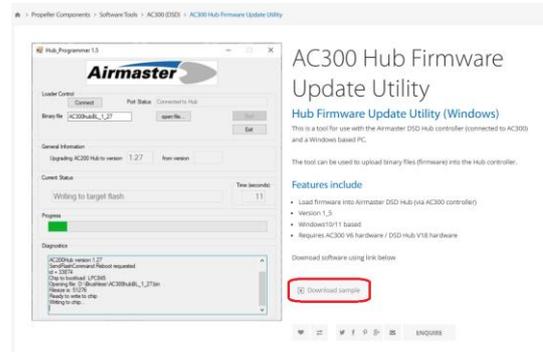
<https://propellor.com/ac300-hub-firmware>



Step 2 Download Hub Firmware Programmer

- Download the latest version of the DSD hub firmware programmer from the Airmaster website:

<https://propellor.com/hub-firmware-update-utility>



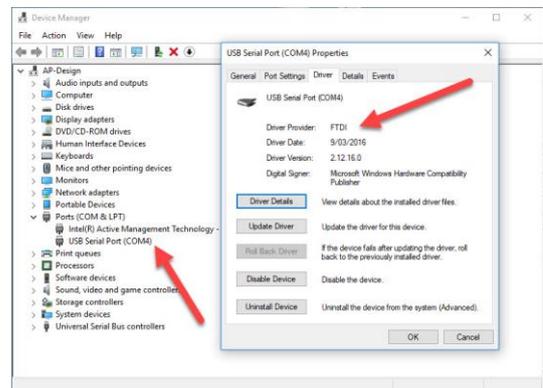
Note
This application is only compatible with Microsoft Windows operating systems.

Step 3 Install USB Driver (As Required)

- When the USB-serial cable (A0117) is connected to a PC for the first time, the required USB driver must be downloaded:

Note
Generally, this task is completed automatically on Windows 10 operating systems.

- Visit link below and download the "Setup Executable" for your operating system.
<https://www.ftdichip.com/Drivers/VCP.htm>
- Open the setup .zip file and choose a convenient folder to unzip the executable.
- Confirm, accept, and finish the extraction.



Note
Check the COM port assigned to the USB-serial cable: Control Panel > Device Manager > USB Serial Port > Driver.

3.2 Update Hub Firmware

⚠ Caution

Only update hub firmware when directed to by Airmaster.

Procedure: Updating Hub Firmware

Step 1 Connect Controller to PC

- Plug USB-Serial cable (A0117) into USB port on PC.
- Plug USB-serial cable (4-way connector) into rear of controller [CN4].
- Turn on power supply to the controller by turning on the aircraft power.

Step 2 Run Application

- Run the hub firmware programmer.

ⓘ Note

A warning window may appear before opening the programmer. This is normal, select More Info > Run Anyway.

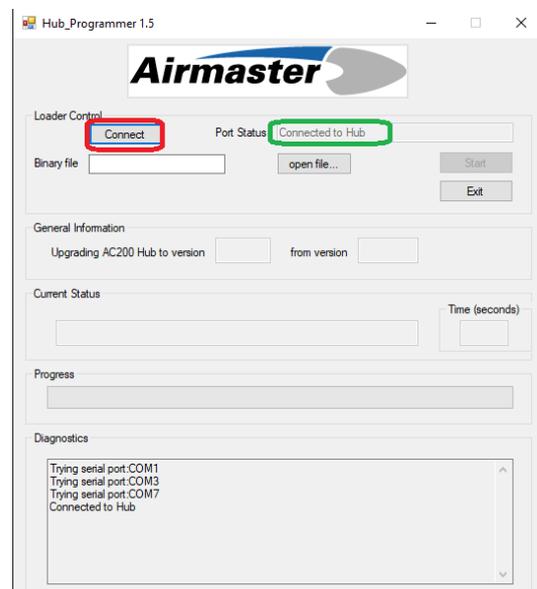
ⓘ Note

The program can't be run if another Airmaster application is open which is accessing the same COM port for the USB-serial cable.

- Press 'Connect'.

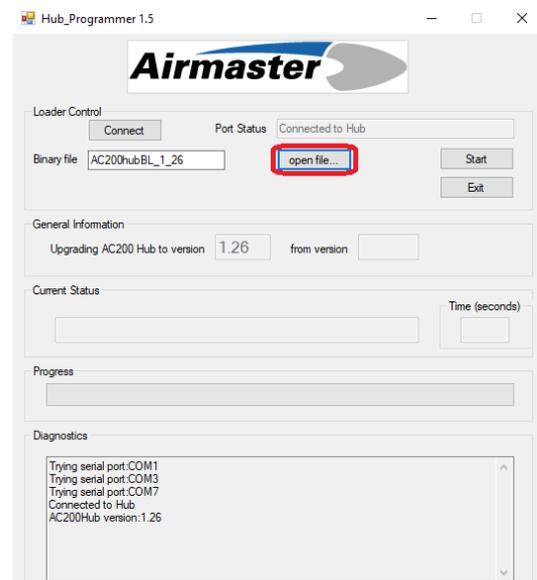
ⓘ Note

Port status should show "Connected to Hub".



Step 3 Load Firmware File

- Press 'Open File' and select the hub firmware file (.bin) downloaded.



Step 4 Start Firmware Update

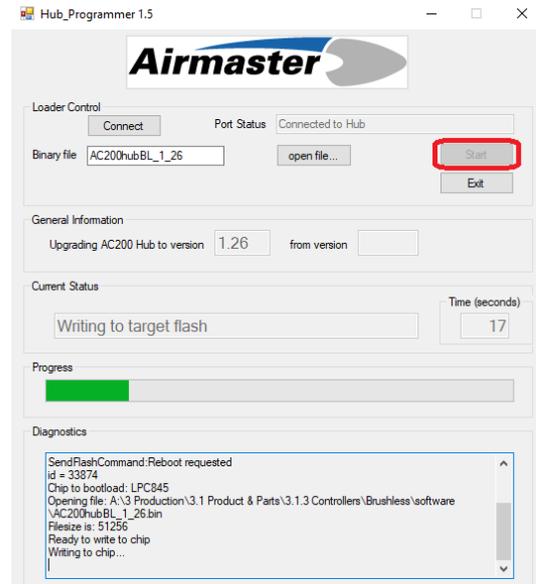
- Press 'Start' to commence the automatic flash update.

⚠ Caution

Do not interrupt the flash update as this may corrupt the hub PCB. Wait for the progress bar to complete to 100% before exiting the programmer.

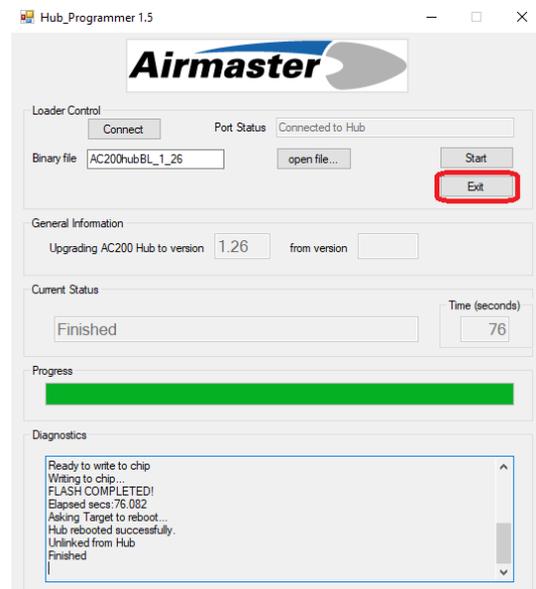
📌 Note

If the flash update does not start automatically, reset the controller by pressing the circuit breaker (FS1) located at the rear, then (promptly) start the flash update again.



Step 5 Close Programmer

- Exit the programmer once the flash update progress is 100% completed.



3.3 Subsequent Action

Perform the following tasks once this procedure is complete:

- Record firmware update in the propeller logbook.
- Check with Airmaster if any parameters must be adjusted for the new firmware version.
- Record, sign and date the updated "Hub Firmware Version" under a new column of the "DSD Hub Firmware & Parameters Sheet" (found in the propeller's assembly drawings booklet).
- Send an email to support@propellor.com stating the serial number of the propeller hub, as well as the previous and new hub firmware versions.