

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, D.C. 20594

July 9, 2003

Addendum 1 Flight Data Recorder Group Chairman's Solid State Flight Data Recorder Factual Report

A. EVENT

NTSB #: DCA02MA001
Location: Belle Harbor, New York
Date: November 12, 2001
Time: 0916 Eastern Standard Time (EST)
Aircraft: Airbus Industrie A300-600, registration: N14053

B. FLIGHT DATA RECORDER (FDR) GROUP

Chairman: Cassandra Johnson, National Transportation Safety Board (NTSB)
Member: Yves Le Biannic, Airbus Industrie
Member: Ron Stefanik, Allied Pilots Association (APA)
Member: Maurice Ingle, American Airlines (AAL)
Member: Jérôme Bauer, Bureau d'Enquêtes et d'Analyses pour la Sécurité de l'Aviation Civile (BEA)
Member: TR Proven, Federal Aviation Administration (FAA)
Member: Ken Wolski, GE Aircraft Engines (GEAE)

C. ADDENDUM

Section I – Description of FDR Plots

The following table describes the FDR plots added to this Addendum.

Attachment	Plot Description
I-1	Selected FDR data plotted during the flight control ground checks before the event
I-2	Selected FDR data plotted during the taxi onto the runway before the Event.
I-3	Selected FDR data plotted with an expanded time scale near the end of the event.
II-1	Selected FDR data plotted during the take off before the event.
II-2	Selected FDR data plotted during the previous take off.
II-3	Selected FDR data plotted during the 2 nd previous take off.
II-4	Selected FDR data plotted during the 3 rd previous take off.

Section II – Time Scale for Each Attachment

A time correlation had been established between the Federal Aviation Administration (FAA) Air Traffic Control (ATC) time (also known as local time) and the FDR Subframe Reference

Number (SRN)¹ for the FDR data recorded on the day of the event². Therefore, the FDR data plotted in Attachments I-1, I-2, I-3, and II-1 have a time scale of Air Traffic Control (ATC) time.

FDR data not recorded on the day of the event did not have a time correlation established. Therefore, the FDR data from the 3 previous take offs (i.e., Attachments II-2, II-3 and II-4) have a time scale of FDR SRN.

The following table lists the time scale for each of the attached plots.

Attachment	Time Scale
I-1	09:01:50 to 09:02:30 ATC Time
I-2	09:12:05 to 09:13:55 ATC Time
I-3	09:15:35 to 09:16:03 ATC Time
II-1	09:13:40 to 09:14:40 ATC Time
II-2	277,175 to 277,235 FDR SRN
II-3	263,750 to 263,810 FDR SRN
II-4	251,120 to 251,180 FDR SRN

Section III –List of Selected FDR Parameters Graphed

The following tables list the selected FDR parameters graphed in each plot.

Attachment I-1
Lateral Acceleration
Vertical Acceleration
Longitudinal Acceleration
Control Column Position
Filtered Elevator Position
Control Wheel Position
Filtered Aileron Position Left
Filtered Aileron Position Right
Rudder Pedal Position
Filtered Rudder Position
Magnetic Heading

Attachment I-2
Same as Attachment I-1 plus the following:
Computed Airspeed
SLAT Position
Flap Position

Attachment I-3
Same as Attachment I-1 plus the following:
Pitch Attitude
Roll Attitude
Pressure Altitude
Computed Airspeed

Attachments II-1, II-2, II-3 & II-4
Same as Attachment I-1 plus the following:
Pitch Attitude
Roll Attitude
Computed Airspeed
Pressure Altitude
Gear Squat Switch Left
Gear Squat Switch Nose
Gear Squat Switch Right

¹ Duration of FDR recording was measured in SRN, where each SRN equals 1 elapsed second.

² Refer to the Flight Data Recorder Group Chairman’s Solid State Flight Data Recorder Factual Report for more details on the time correlation.

Section IV – Tabular Data

Attachment III contains all the data graphed in Attachments I and II in comma separated variable (CSV) format files and only exist as electronic files in the docket.

Cassandra Johnson
FDR Specialist, Mechanical Engineer

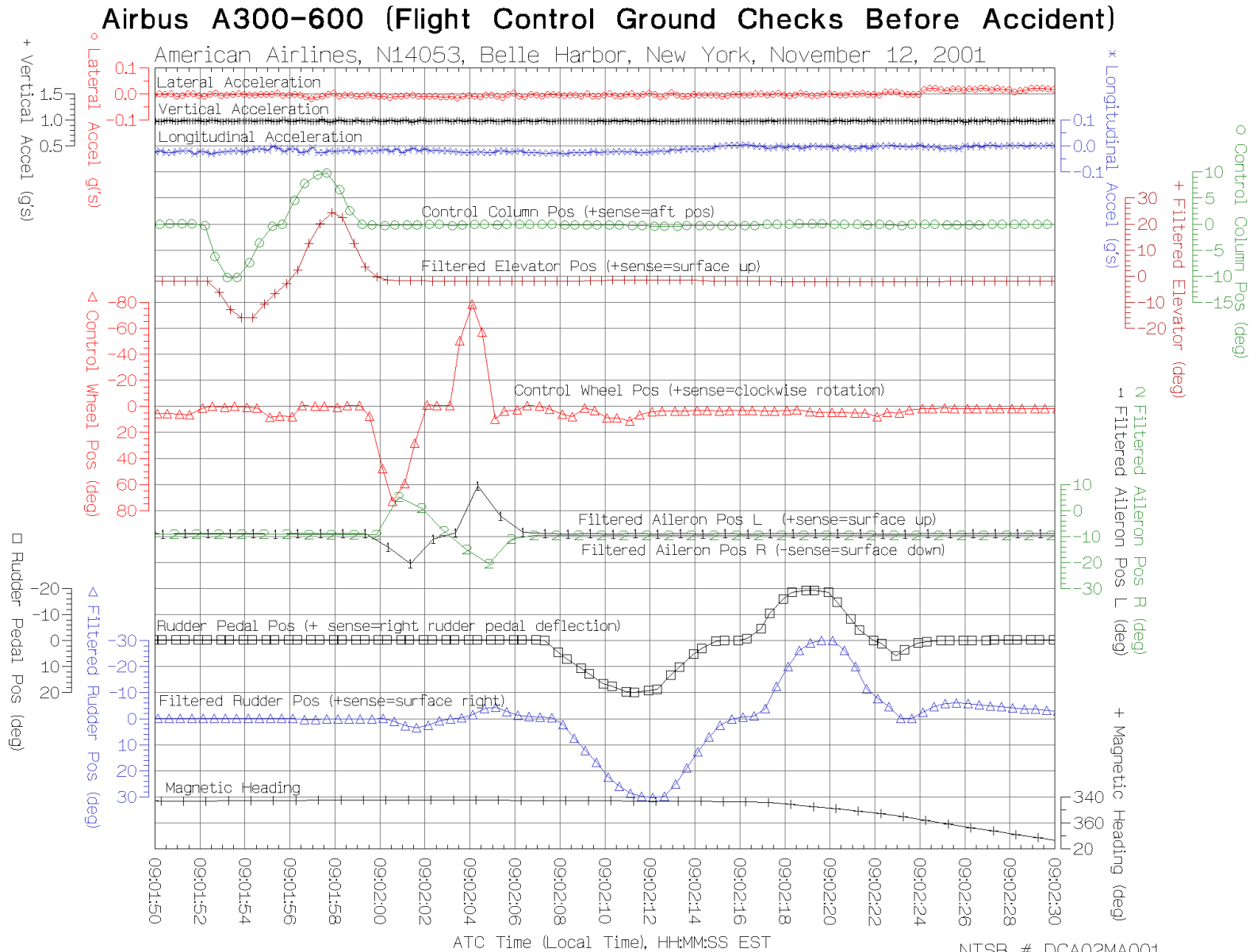
Enclosures

Attachment I: Selected FDR Data Plotted During and Before the Event (3 plots total)

Attachment II: Selected FDR Data Plotted During The Event Take Off and During The Three Previous Take Offs (4 plots total)

Attachment I – Selected FDR Data Plotted During and Before the Event
(3 Plots Total)

Attachment I-1: Selected FDR Data Plotted During The Flight Control Ground Checks Before The Event

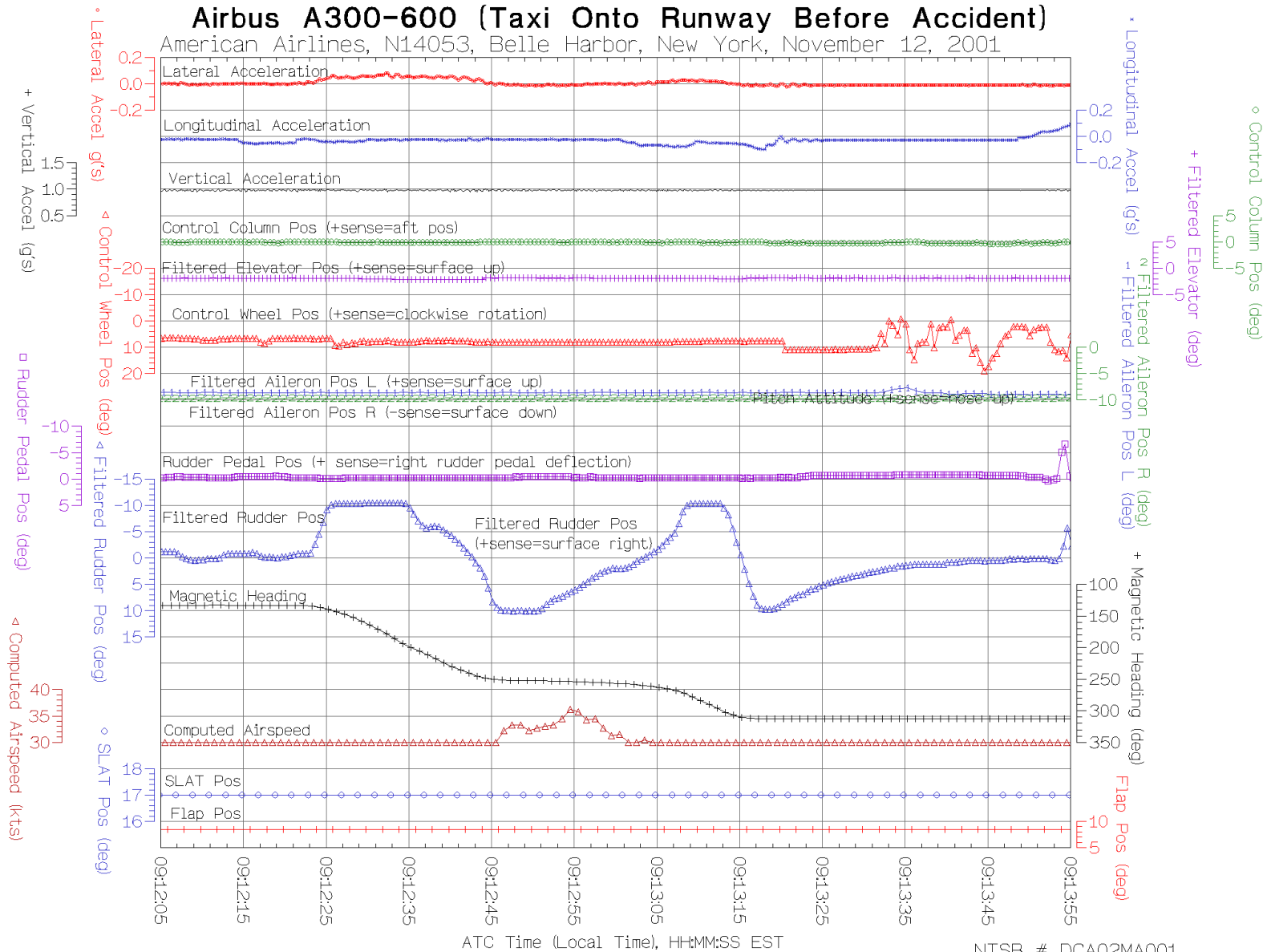


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plot_FltCtrlsGrndCks.plt

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Attachment I-2: Selected FDR Data Plotted During The Taxi Onto The Runway Before The Event

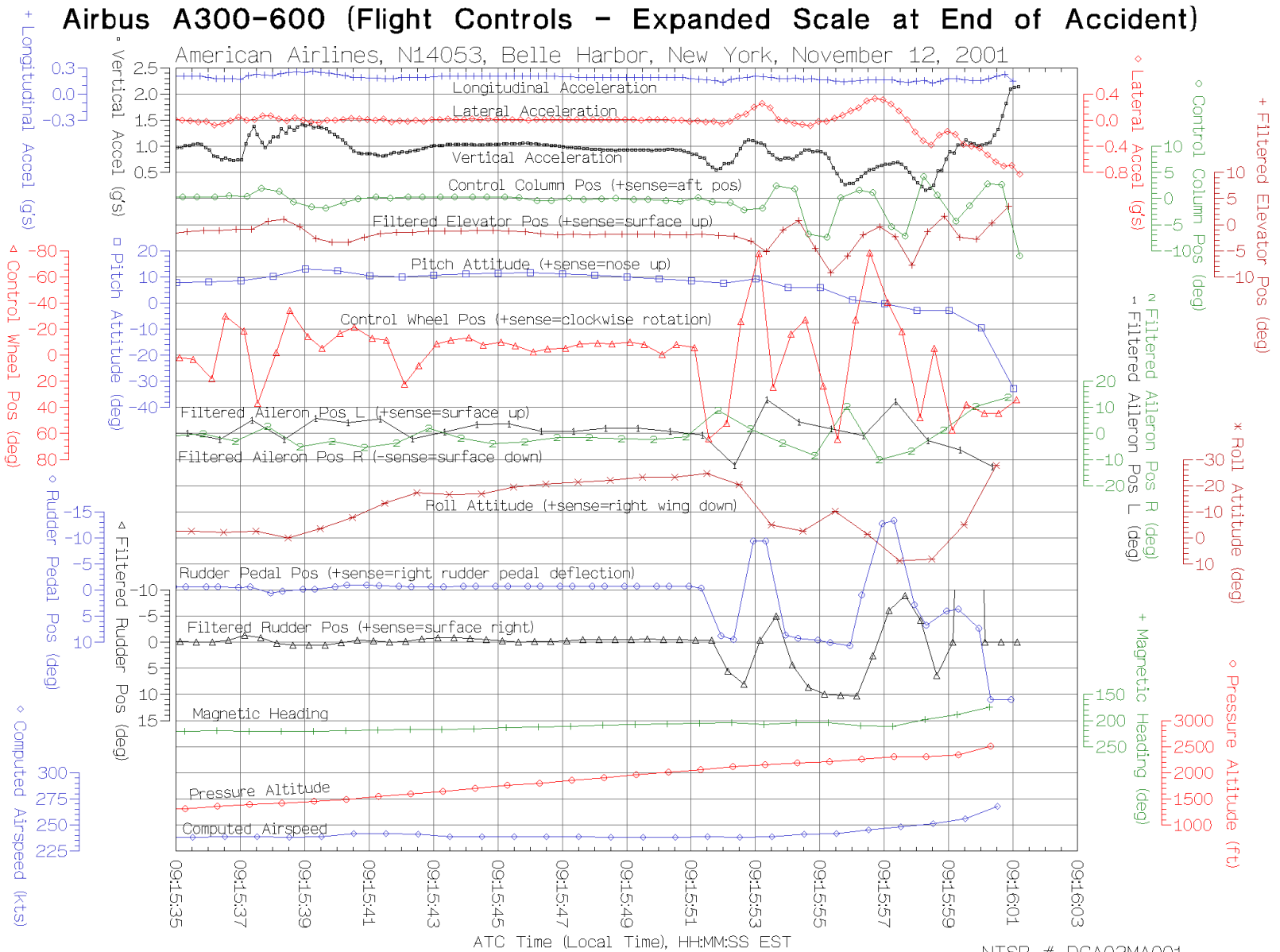


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plot_TaxiOnRwy.plt

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Attachment I-3: Selected FDR Data Plotted With An Expanded Time Scale Near The End Of The Event



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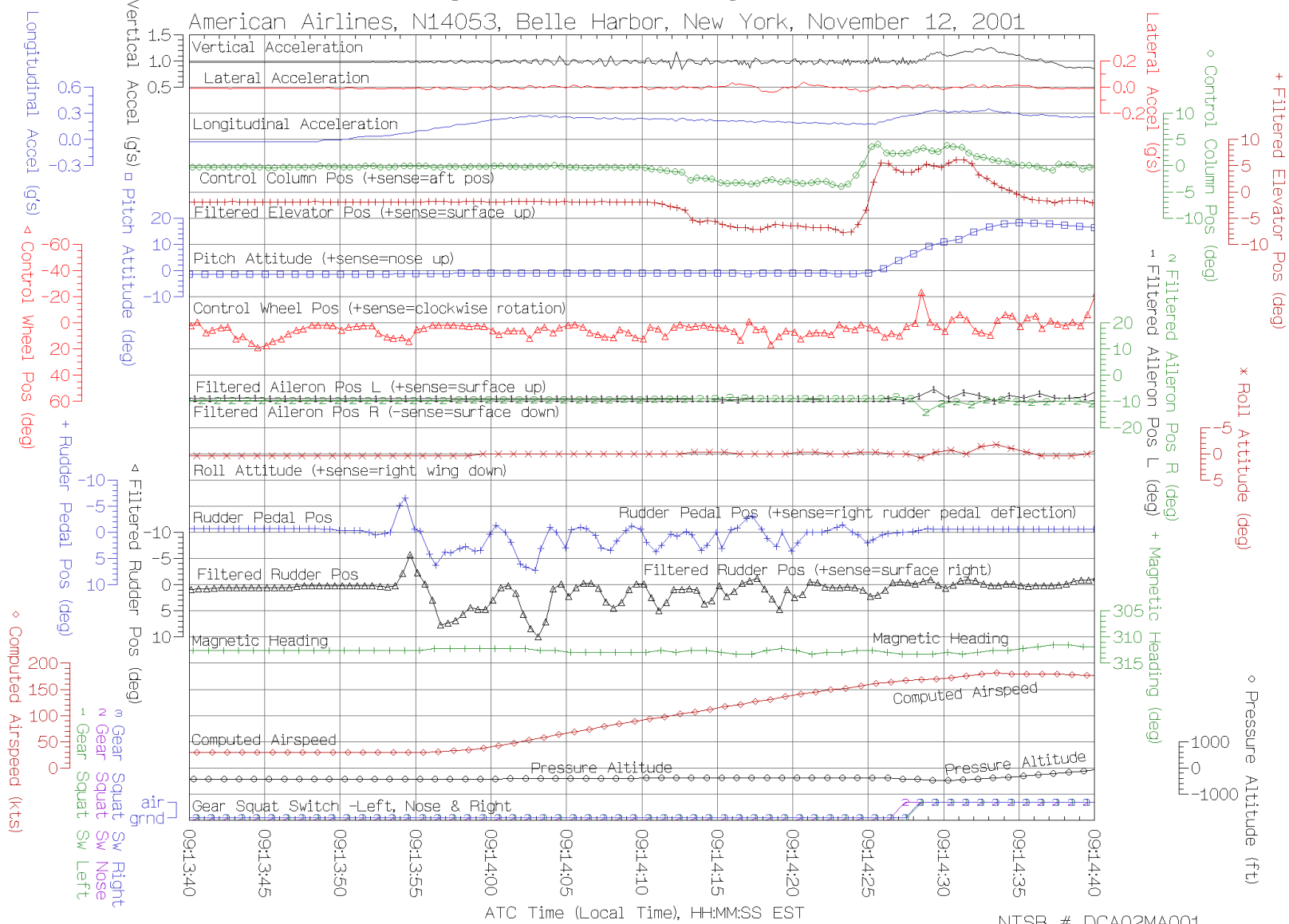
plot_FltCtrls_end.plt

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Attachment II – Selected FDR Data Plotted During The Event Take Off and
During The Three Previous Take Offs
(4 Plots Total)

Attachment II-1: Selected FDR Data Plotted During The Take Off Before The Event

Airbus A300-600 (Flight Controls During Take Off before Accident)



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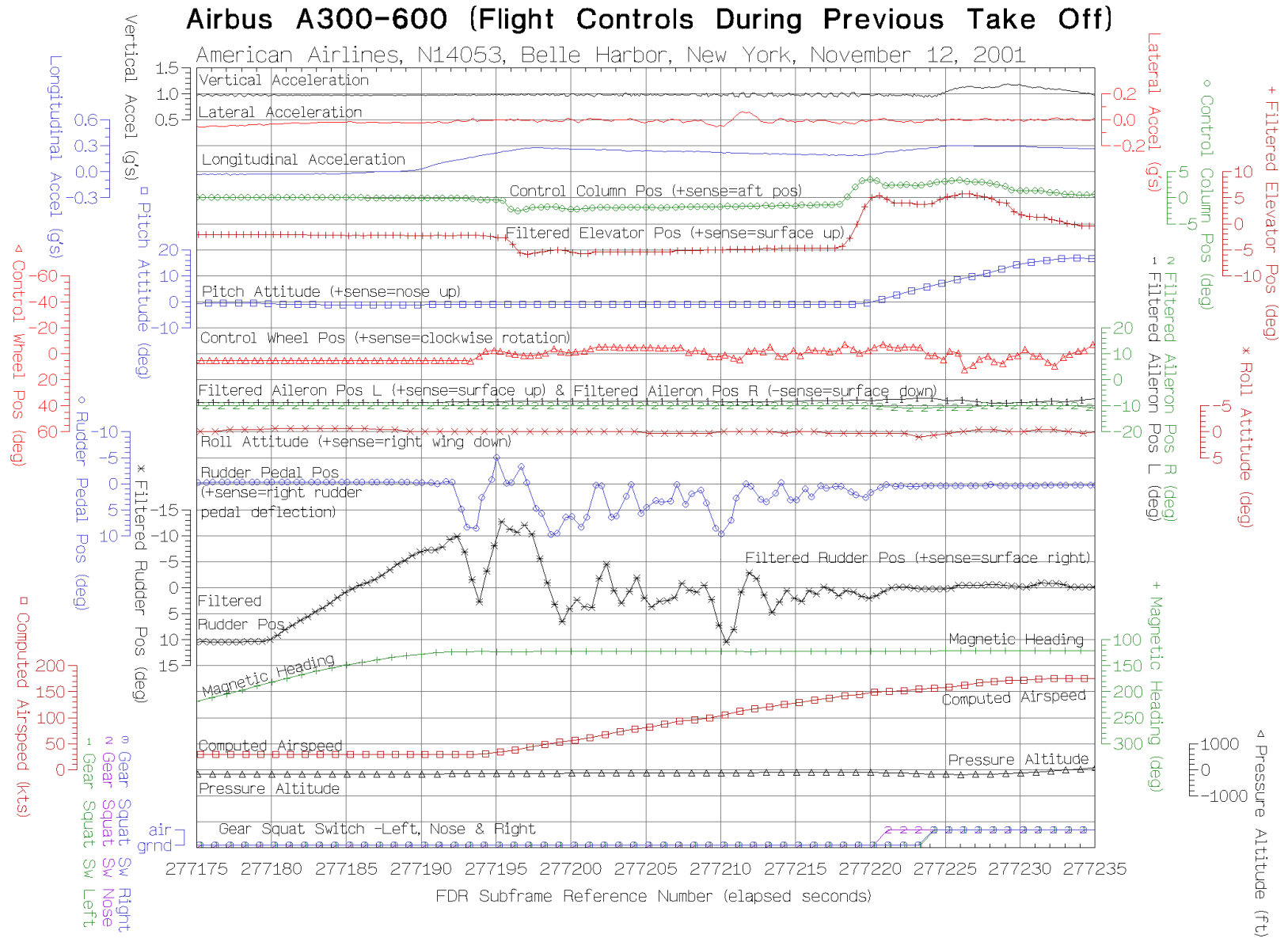
plot_FltCtrls_TO.plt

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II-1

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Attachment II-2: Selected FDR Data Plotted During The Previous Take Off



II-2

DCA02MA001 FDR Addendum 1

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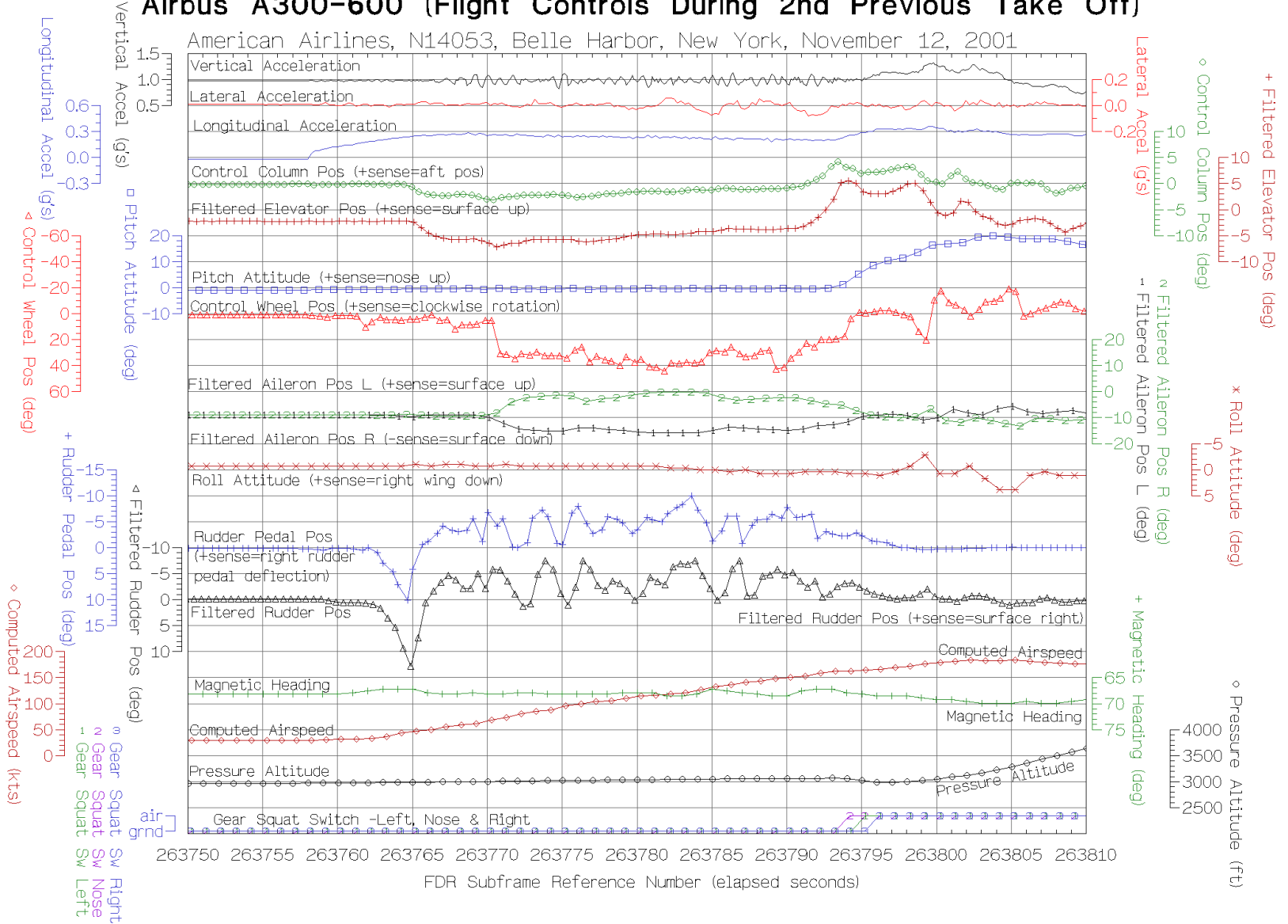
plot_FltCtrls_1stprevTO.plt

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Attachment II-3: Selected FDR Data Plotted During The 2nd Previous Take Off

Airbus A300-600 (Flight Controls During 2nd Previous Take Off)

American Airlines, N14053, Belle Harbor, New York, November 12, 2001



II-3

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plot_FltCtrls2ndprevTO.plt

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Attachment II-4: Selected FDR Data Plotted During the 3rd Previous Take Off

