



Neil A. Armstrong Test Facility

Common DAC System

Documentation Requirements

revision 37111 (2023-11-02)

Comments and Suggestions - [Click HERE](#)

Introduction and Scope

This document contains the minimum documentation requirements required by ATF for all Data Acquisition and Control (DAC) System at NASA's Neil A. Armstrong Test Facility in Sandusky, Ohio. These requirements must be met "in addition to" any other requirements that are included in each ATF DAC system's procurement statement of work.

D.1 Bill of Material (BOM) Lists

The provider shall provide a minimum of 5 BOM files that collectively list all equipment and software included in the system. The 5 BOM files are defined as follows:

D.1.1 BOM - List of System Documentation

A CSV file providing the complete list of all documents developed by the provider in fulfillment of these documentation requirements.

This list of system documentation shall contain, but is not limited to, the following columns:

#	ID	Title	Version	Link
1	<PRJ-ID>-D.1.1	BOM - List of System Documentation	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
2	<PRJ-ID>-D.1.2	BOM - List of Mechanical and Structural equipment	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
3	<PRJ-ID>-D.1.3	BOM - List of Electrical and Electronic equipment	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
4	<PRJ-ID>-D.1.4	BOM - List of System Software/Firmware	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
5	<PRJ-ID>-D.1.5	BOM - List of Supporting Equipment	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
6	<PRJ-ID>-D.2.1	SPEC - Functional Specifications/Capabilities	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
7	<PRJ-ID>-D.2.2	SPEC - Design Requirements (Inherited)	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
8	<PRJ-ID>-D.2.3	SPEC - Design Requirements (Derived)	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
9	<PRJ-ID>-D.3.1	DESIGN - Design and Architecture	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
10	<PRJ-ID>-D.3.2	DESIGN - 1-Line System Diagram	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
11	<PRJ-ID>-D.3.3	DESIGN - System Detailed Hardware Inventory List	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
12	<PRJ-ID>-D.3.4	DESIGN - System Detailed Software Inventory	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
13	<PRJ-ID>-D.3.5	DESIGN - Detailed System Interconnection Drawing	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
14	<PRJ-ID>-D.3.6	DESIGN - Network Topology Diagram	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
15	<PRJ-ID>-D.3.7	DESIGN - Detailed System Configuration	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
16	<PRJ-ID>-D.3.8	DESIGN - Required and Recommended Maintenance	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
17	<PRJ-ID>-D.4.1	PROC - Functional Checkout Procedure	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
18	<PRJ-ID>-D.4.2	PROC - Measurement Device Calibration Procedure	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
19	<PRJ-ID>-D.4.3	PROC - Start-up and Shut-down Procedure	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
20	<PRJ-ID>-D.4.4	PROC - Per Test User Configuration Procedure	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
21	<PRJ-ID>-D.4.5	PROC - Making a Recording Procedure	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
22	<PRJ-ID>-D.4.6	PROC - Monitor a Data Channel in Real Time	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
23	<PRJ-ID>-D.4.7	PROC - Review previously recorded data	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
24	<PRJ-ID>-D.4.8	PROC - Export data from the system	1.0	<a href="https://curl-tbdi/<PRJ-ID>/docs/...">https://curl-tbdi/<PRJ-ID>/docs/...
...

^ the data provided in the table above is limited to the list of documents defined in this requirement document and it is provided for **example purposes only**. The actual list of required documents shall be developed by the provider and shall be in accordance with these requirements as may include additional documents the provider develops for the project.

<i>Title</i>	The "Title" column contains the unique document title assigned by the provider for the document described by the row
<i>Version</i>	The "Version" column contains the version number of the unique document assigned by the provider for the document described by the row. It is expected that all documents will be at version 1.0 upon delivery of the system to NASA
<i>Link</i>	The "Link" column shall contain a URL pointing to where the document is accessible online in the providers git repository. The exact URL for the document link column will be determined by the provider prior to the delivery of the system.
<i>Rationale</i>	NASA requires a single list of documents that are developed by the provider with links to read/download them.

D.1.2 BOM - List of Mechanical and Structural equipment

A CSV file providing the complete list of all non-power and non-signal processing mechanical and structural products included in the design and delivery of the SEC FDAS system to NASA and their quantities.

This bill of materials (BOM) document shall contain, but is not limited to, the following columns:

#	Item	Quantity	Manufacturer	Description	Part Number
1	M1	<td>	<td>	44U x 19" wide x 24" deep equipment cabinet (example)	<td>
2	M2	<td>	<td>	Universal Rack mount kit (example)	<td>
...	

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

<i>Item</i>	A unique number for each row that allows the product type to be uniquely identified on subsequent drawings and diagrams.
<i>Quantity</i>	The quantity of the product contained in the system
<i>Manufacturer</i>	The manufacturer of the product
<i>Description</i>	A description of the product
<i>Part Number</i>	The manufacturer's product/part number used for ordering the product
<i>Rationale</i>	<i>NASA seeks to keep track of the non-signal processing and non-power handling mechanical and structural equipment separately from the all the other types of equipment used in the system.</i>

D.1.3 BOM - List of Electrical and Electronic equipment

A CSV file providing the complete list of all power handling and signal processing electrical and electronic products included in the design and delivery of the SEC FDAS system to NASA and their quantities.

This bill of materials (BOM) document shall contain, but is not limited to, the following columns:

#	Item	Quantity	Manufacturer	Description	Part Number
1	E1	<td>	<td>	5U Rack mount Workstation (example)	<td>
2	E2	<td>	<td>	10 TB Network Addressable Storage Device	<td>
3	E3	<td>	<td>	16 CH 24 bit ADC FMC (digitizer) device	<td>
...

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

<i>Item</i>	A unique number for each row that allows the product type to be uniquely identified on subsequent drawings and diagrams.
<i>Quantity</i>	The quantity of the product contained in the system
<i>Manufacturer</i>	The manufacturer of the product
<i>Description</i>	A description of the product
<i>Part Number</i>	The manufacturer's product/part number used for ordering the product
<i>Rationale</i>	<i>NASA seeks to keep track of the non-signal processing and non-power handling mechanical and structural equipment separately from the all the other types of equipment used in the system.</i>

D.1.3.1 The List of Electrical and Electronic equipment shall not contain any IP Addresses, FQDNs, passwords, or any other explicit IT addressing information relating to directly addressing, communicating with, logging in to, and administrating the devices.

D.1.4 BOM - List of System Software/Firmware

A CSV file providing the complete list of all software and firmware *intentionally** included in the design and delivery of the SEC FDAS system to NASA and their quantities.

Note(*) By "intentionally" included in the design we are referring to software and firmware explicitly identified and selected during the design process. Incidental software and firmware that is tacitly included in common IT items (i.e. monitors and keyboards) is not required to be included in this table.

This bill of materials (BOM) document shall contain, but is not limited to, the following columns:

#	Item	Quantity	Manufacturer	Description	Part Number	License Type
1	S1	<td>	Rocky Enterprise Software Foundation	Rocky Linux 8	release 8.8 (Green Obsidian)	BSD and/or similar
2	S2	<td>	EPICS	EPICS 7	7.0.7	EPICS Open license
3	S3	<td>	Control System Studio	cs-studio	4.5.9	Eclipse Public License - v 1.0
...

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

Item A unique number for each row that allows the software/firmware product to be uniquely identified on subsequent drawings and documents.

Quantity The quantity of the product contained in the system

Manufacturer The manufacturer of the software product

Description A description of the software product

Part Number The manufacturer's software product/part number used for obtaining the product

License Type The software license type that the software is covered by

D.1.5 BOM - List of Supporting Equipment

A CSV file providing the complete list of all equipment that is not a specifically connected part of the system, but is required for episodic diagnostics, troubleshooting, maintenance or checkout purposes.

This bill of materials (BOM) document shall contain, but is not limited to, the following columns:

#	Item	Quantity	Manufacturer	Description	Part Number
1	D1	<td>	<td>	Component extraction/removal tool	<td>
2	D2	<td>	<td>	System checkout loop-back cable	<td>
3	D3	<td>	<td>	diagnostic port PCB to USB adapter for firmware updates from support PC	<td>
4	D4	<td>	<td>	Firmware development laptop	<td>
...

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

Item A unique number for each row that allows the product type to be uniquely identified on subsequent drawings and diagrams.

Quantity The quantity of the product contained in the system

Manufacturer The manufacturer of the product

Description A description of the product

Part Number The manufacturer's product/part number used for ordering the product

Rationale NASA seeks to keep track of the non-signal processing and non-power handling mechanical and structural equipment separately from the all the other types of equipment used in the system.

D.1.5.1 The List of Electrical and Electronic equipment shall not contain any IP Addresses, FQDNs, passwords, or any other explicit IT addressing information relating to directly addressing, communicating with, logging in to, and administrating the devices.

Rationale: IP Addresses, FQDNs and such are listed exclusively in the System Network Topology Diagram (D.3.6) and the System OT Security Information List (D.3.8)

D.2 System Specifications

The provider shall provide a minimum of 3 System Specification files that collectively capture specifications of the system. The 3 system specification files are defined as follows:

D.2.1 Functional Specification

A text file containing a few paragraphs that specifies the functional requirements that the SEC FDAS has been designed to do.

Note For procurements, this text is provided in the procurement statement of work. While it may seem redundant, it is included in this documentation list for completeness.

D.2.2 Design Requirements (Inherited)

A CSV file containing a complete list of all requirements accepted in the project by the developer/provider as inherited from NASA or on behalf of NASA.

Note For procurements, this table is a just a compilation of all of the different requirements sets applicable to the procurement as stated in the Statement Of Work (SOW).

This Design Requirement CSV file shall contain, but is not limited to, the following columns:

#	Requirement Set	Requirement Set Description	Requirement Document Reference
1	Application	Functional specifications that are specifically required for Vibroacoustic and Shock/Separation testing at GRC-ATF.	Ref: D.x.y.z in D.1.1
2	Architecture	Hardware and software architecture requirements that are common to all Data Acquisition and Control (DAC) systems at GRC-ATF.	Ref: D.x.y.z in D.1.1
3	Documentation	GRC-ATF specific requirements for system documentation.	Ref: D.x.y.z in D.1.1
4	Training	ATF specific requirements for operation and maintenance training of the new FDAS provided to GRC-ATF.	Ref: D.x.y.z in D.1.1
5	Support	Requirements for the vendor to provide on-site operations of the system in support of high-profile test projects at GRC-ATF.	Ref: D.x.y.z in D.1.1
...

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

D.2.3 Design Requirements (Derived)

A CSV file containing a complete list of all requirements created/derived by the developer during the design process

This Design Requirement CSV file shall contain, but is not limited to, the following columns:

Set#	Requirement Set	Requirement Set Description	Requirement Document Reference
1	Software	The project shall be based on the EPICS 7 toolkit	Ref: <PRJ-ID>-D.x.y
2	Hardware	The project shall meet all voltage digitization requirements using digitizers based on the <tbid> FMC carrier boards and <tbid> ADC modules.	Ref: <PRJ-ID>-D.x.z
...

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

D.3 System Design Documents

D.3.1 Design and Architecture

A text and graphical document that describes and shows the design of the system and its corresponding hardware and software architecture. The Design and Architecture document shall provide a conceptual description of what the chosen design is and how it is designed to meet the system's functional specification and all the requirements.

The Design and Architecture document shall contain a summary section that includes, but is not limited to, the following high-level system facts:

- Overall AC electrical power requirements of the system (voltages, currents, etc..)
- Overall Mechanical limits of the system (size, weight, etc..)
- Overall Environmental limits of the system (temperature, humidity, vibration)

D.3.1.1 The System Design and Architecture document shall not contain any IP Addresses, FQDNs, passwords, or any other explicit IT addressing information relating to directly addressing, communicating with, logging in to, and administrating the devices.

Rationale: IP Addresses, FQDNs and such are listed exclusively in the System Network Topology Diagram (D.3.6) and the System OT Security Information List (D.3.8)

D.3.2 System Block Diagram

A diagram of the system in which the principal parts or functions are represented by simple named blocks connected by lines which show the relationships of the blocks

D.3.2.1 The System Block diagram shall not contain any IP Addresses, FQDNs, passwords, or any other explicit IT addressing information relating to directly addressing, communicating with, logging in to, and administrating the devices.

Rationale: IP Addresses, FQDNs and such are listed exclusively in the System Network Topology Diagram (D.3.6) and the System OT Security Information List (D.3.8)

D.3.3 System Detailed Hardware List

A CSV table containing a detailed list of each instance of each device listed in the BOM (D.1.3). Where the BOM is a list of item types and their quantities, the System Detailed Hardware List provides an exhaustive list that enumerates each instance of each part listed in the BOM along with a unique designation in the system (i.e. C1..C5, ETH1..ETH9, PS1..PS11, etc..) as well as the Manufacturers serial number.

The System Detailed Hardware List shall contain, but is not limited to, the following columns:

	System Designator	BOM ID	Description	Serial Number
1	AWS1	E1	System Primary Operator Station	<tbd>
2	MON1	E1	System Monitoring Station #1	<tbd>
3	MON2	E1	System Monitoring Station #2	<tbd>
...
17	ETH1	E2	Ethernet Switch #1	<tbd>
18	ETH2	E2	Ethernet Switch #2	<tbd>
19	ETH3	E2	Ethernet Switch #3	<tbd>
...
42	ADC1	E3	Digitizer 1 (Channels 1-16)	<tbd>
43	ADC2	E3	Digitizer 1 (Channels 17-32)	<tbd>
44	ADC3	E3	Digitizer 1 (Channels 33-48)	<tbd>
...

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

- D.3.3.1** The System Detailed Hardware List shall not contain any IP Addresses, FQDNs, passwords, or any other explicit IT addressing information relating to directly addressing, communicating with, logging in to, and administrating the devices.

Rationale: IP Addresses, FQDNs and such are listed exclusively in the System Network Topology Diagram (D.3.6) and the System OT Security Information List (D.3.8)

D.3.4 System Detailed Software List

A CSV table containing a detailed list of each instance of each installed piece of software and firmware listed in the Software/Firmware BOM (D.1.4). Where the BOM is a summary list of software item types and their quantities, the System Detailed Software List provides a list that enumerates each instance of each piece of software listed in the BOM along with a reference to where it installed and a references to how it is configuration.

The System Detailed Software List shall contain, but is not limited to, the following columns:

#	Installation Target	Purpose	SW BOM ID	Configuration Details
1	AWS1	OS	S1	Ref section on AWS1 in: <PRJ-ID>-D.3.7
2	AWS1	IOC	S2	Ref section on AWS1 in: <PRJ-ID>-D.3.7
3	AWS1	HMI	S3	Ref section on AWS1 in: <PRJ-ID>-D.3.7
...
53	MON1	OS	S1	Ref section on MON1 in: <PRJ-ID>-D.3.7
54	MON1	IOC	S2	Ref section on MON1 in: <PRJ-ID>-D.3.7
55	MON1	HMI	S3	Ref section on MON1 in: <PRJ-ID>-D.3.7
...
101	MON2	OS	S1	Ref section on MON2 in: <PRJ-ID>-D.3.7
102	MON2	IOC	S2	Ref section on MON2 in: <PRJ-ID>-D.3.7
103	MON2	HMI	S3	Ref section on MON2 in: <PRJ-ID>-D.3.7
...
236	ADC1	IOC	S4	Ref section on ADCs in: <PRJ-ID>-D.3.7
237	ADC2	IOC	S4	Ref section on ADCs in: <PRJ-ID>-D.3.7
...

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

- D.3.4.1** The System Detailed Hardware List shall not contain any IP Addresses, FQDNs, passwords, or any other explicit IT addressing and access information relating to directly addressing, communicating with, logging in to, and administrating the devices.

Rationale: IP Addresses, FQDNs and such are listed exclusively in the System Network Topology Diagram (D.3.6) and the System OT Security Information List (D.3.8)

D.3.5 Detailed System Interconnection Drawing

An electrical drawing that comprehensive captures exactly how all connections to all components are made referencing cable IDs, HW Reference Designators (D.3.3). The Detailed System Interconnection Drawing shall make it possible to identify any miswirings of the system as well as to restore proper connectivity of any component to any other based entirely from the drawing.

At a minimum, The Detailed System Interconnection Drawing shall include but not be limited to, connections of:

- Power cable connections
- Network cable connections
- Fiber connections
- Analog signal connections
- Network Switch connections
- Computer connections
- Peripheral cable connections (e.g. Keyboard, mouse and monitor)

Rationale NASA will use this drawing to represent the configuration control document for all physical aspects of the system.

D.3.5.1 The System Detailed Hardware List shall not contain any IP Addresses, FQDNs, passwords, or any other explicit IT addressing information relating to directly addressing, communicating with, logging in to, and administrating the devices.

Rationale: IP Addresses, FQDNs and such are listed exclusively in the System Network Topology Diagram (D.3.6) and the System OT Security Information List (D.3.8)

D.3.6 Network Topology Diagram

A simplified block diagram of the networked devices in the system and their connections.

D.3.6.1 The diagram shall include the IP Addresses and FQDNs of the devices that have them

D.3.6.2 The diagram shall include the media types, patches, connector types cable IDs, and line/circuit counts for all connections handling digital transport of information.

D.3.6.3 The diagram shall not contain any information relating to system power

D.3.6.4 The diagram shall not contain any information relating to analog signals

D.3.7 Detailed System Configuration

A document containing a dedicated section for each instance of each device listed in the System Detailed Hardware List (D.3.3).

Rationale NASA will use this drawing to represent the configuration control document for all software configurable aspects of the baseline system configuration.

The Detailed System Configuration document shall:

D.3.7.1 contain in each section for each device any information that is specific to the installation and configuration of that device (i.e. .cfg, .ini, .yml, .json, .xml, etc..)

D.3.7.2 The Detailed System Configuration document shall not contain any IP Addresses, FQDNs, passwords, or any other explicit IT addressing information relating to directly addressing, communicating with, logging in to, and administrating the devices.

Rationale: Domain specific IP Addresses, FQDNs and such are listed exclusively in the System Network Topology Diagram (D.3.6) and the System OT Security Information List (D.3.8)

D.3.8 System OT Security Information List

A CSV file containing a list of Devices and their FQDNs, IP Address, and other information specific to directly addressing and communicating with the device

The System OT Security Information List shall contain, but is not limited to, the following columns:

#	System Device	FQDN	Admin username	Admin password	Adapter Designator	Network ID	Other
1	AWS1	<PRJ-ID>-AWS001	root	password	X	X	X
2	AWS1	X	X	X	Eth01	aaa.bbb.ccc.1	X
3	AWS1	X	X	X	Eth02	aaa.bbb.ccc.2	X
4	AWS1	X	X	X	Eth03	disabled	X
...	...						

^ data provided in the table above is for **example purposes only**. Actual data to be determined by the provider.

D.4 System Operating Procedures

D.4.1 Start-up and Shut-down Procedure

The Start-up and Shut-down procedure shall:

D.4.1.1 Provide a step-by-step procedure detailing how to properly start the system and shut-it down.

D.4.1.2 Ensure that the start-up process starts from a completely powered-down and de-energized state (i.e. all devices switched off)

D.4.1.3 Ensure that the power-down process results in all components and devices safe and de-energized (i.e. all devices switched off)

D.4.1.4 Include a section on troubleshooting common issues that might be encountered when starting-up and powering-down the system.

D.4.2 Functional Checkout Procedure

The Functional Checkout Procedure shall:

D.4.2.1 Provide a step-by-step procedure detailing how to verify that the all aspects of the system are functional and the system is ready for use by the users

D.4.3 Measurement Device Calibration Procedure

The Measurement Device Calibration procedure shall:

D.4.3.1 Provide a step-by-step procedure detailing how to calibrate any analog input channels using a NIST tracible calibration reference.

D.4.3.2 Provide a step-by-step procedure detailing how to check the current calibration tolerance of a channel using a calibration reference.

D.4.4 Per-Test User Configuration Procedure

The Per-Test User Configuration procedure shall:

D.4.4.1 Provide a step-by-step procedure detailing how to Enable/Disable specific channels

D.4.4.2 Provide a step-by-step procedure detailing how to Assign Channel Labels

D.4.4.3 Provide a step-by-step procedure detailing how to Assign EU values to Channels

D.4.4.4 Provide a step-by-step procedure detailing how to Assign Warning and Limit thresholds to channels

D.4.4.5 Provide a step-by-step procedure detailing how to Set the Sample Rate/Rates

D.4.5 Making a Recording Procedure

The Making a Recording procedure shall:

D.4.5.1 Provide a step-by-step procedure detailing how to capture the meta-data of a recording (test run number, customer name, recording comments, operator, etc..)

D.4.5.2 Provide a step-by-step procedure detailing how to initiate and terminate a specific recording

D.4.6 Monitor a Data Channel in Real Time

The Monitor Data in Real Time procedure shall:

D.4.6.1 Provide a step-by-step procedure detailing how to identify the available channels to monitor

D.4.6.2 Provide a step-by-step procedure detailing how to select an available channels to monitor

D.4.6.3 Provide a step-by-step procedure detailing how to view selected channels in real time in the time domain (amplitude vs time)

D.4.6.4 Provide a step-by-step procedure detailing how to view selected channels in real time in the frequency domain (amplitude vs frequency)

D.4.7 Review previously recorded data

The Review previously recorded data procedure shall:

D.4.7.1 Provide a step-by-step procedure detailing how to identify the data on the system that is available to be reviewed.

- D.4.7.2** Provide a step-by-step procedure detailing how to select specific data to be reviewed
- D.4.7.3** Provide a step-by-step procedure detailing how to review the selected data as time domain data in a graphical plot that shows amplitude versus time
- D.4.7.4** Provide a step-by-step procedure detailing how to review the selected data as frequency domain data in a graphical plot that shows amplitude versus frequency

D.4.8 Export data from the system

The Export data from the system procedure shall:

- D.4.8.1** Provide a step-by-step procedure detailing how to identify the data on the system that is available to be exported.
- D.4.8.2** Provide a step-by-step procedure detailing how to select specific data on the system for export
- D.4.8.3** Provide a step-by-step procedure detailing how to select specific channels of specific data on the system for export
- D.4.8.4** Provide a step-by-step procedure detailing how to select a specific segment of time from specific data on the system for export
- D.4.8.5** Provide a step-by-step procedure detailing how to export data as a CSV file
- D.4.8.6** Provide a step-by-step procedure detailing how to export data as a UFF58 file



National Aeronautics and Space Administration

Page: **Neil A. Armstrong Test Facility - Common DAC System - Documentation Requirements**

Link: <https://wiki.grc.nasa.gov/pbgeneral>

[/Neil_A_Armstrong_Test_Facility_-_Common_DAC_System_-_Documentation_Requirements](https://wiki.grc.nasa.gov/pbgeneral/index.php?title=Neil_A_Armstrong_Test_Facility_-_Common_DAC_System_-_Documentation_Requirements&oldid=37111)

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