

**Quick Start Guide**

**Innomatix Data Collection System with Coprocessor Support**

|  |  |
| --- | --- |
| Revision | 1.2 |
| Revision Date | September 6, 2017 |

Document History

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Author** | **Change** |
| 1.0 | Feb 2016 | Staff | Initial Creation |
| 1.1 | Apr 2016 | Staff | Updates after final integration |
| 1.2 | Sept 2017 | Staff | Minor wording updates |

Table of Contents

1.0 Introduction 2

2.0 Unpacking 2

3.0 Photo Reference 2

4.0 Installation 4

5.0 Programmable Coprocessor Checkout 5

6.0 Auxiliary CAN Checkout 5

7.0 Frequently Asked Questions 6

8.0 Troubleshooting 6

8.1. Coprocessor basic operation 6

8.2. Auxiliary CAN Networks 6

1. Introduction

This document is for users who have received an Innomatix DAP-III-based Telmatics System that includes a Programmable Coprocessor.



Please refer to the *Innomatix DAP-III Quick Start Guide* for information about connecting and confirming operation of the basic DAP-III device. This document builds on that and provides information specific to connecting and confirming operation of the Programmable Coprocessor portion of your system.

Your system has been preconfigured to ensure that installation can be completed in as few steps as possible and results in a functioning system that can then be customized for your particular application.

1. Unpacking

Unpacking your DAP-III with Programmable Coprocessor support varies from the basic DAP-III in these ways:

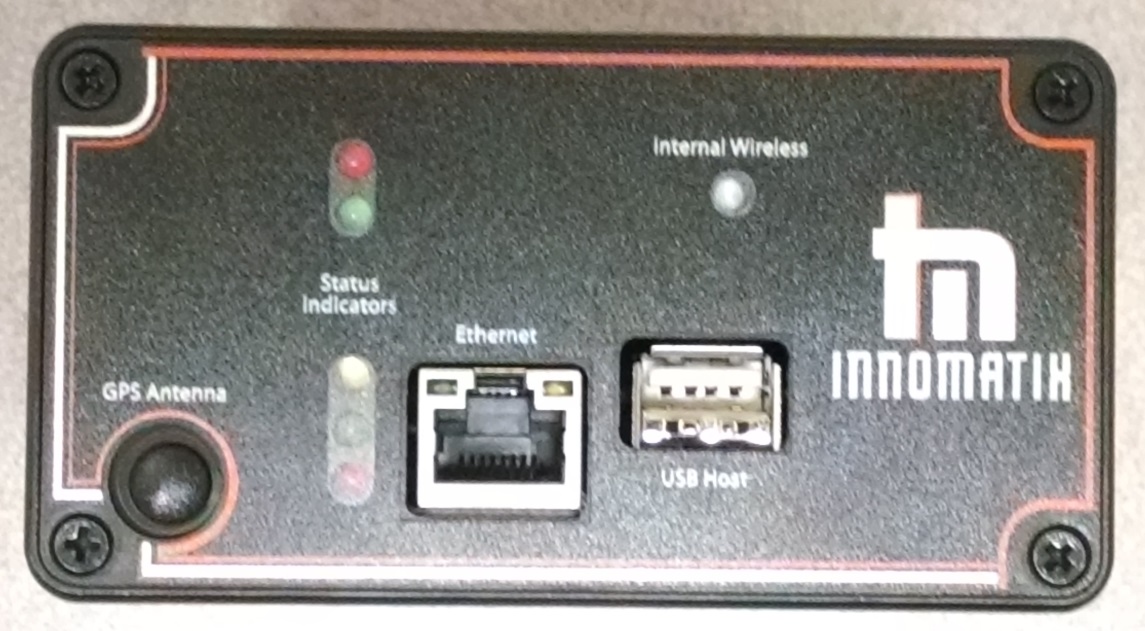
* Your system includes a DAP-III+ platform with Programmable Coprocessor rather than a standard DAP-III platform.

1. Photo Reference

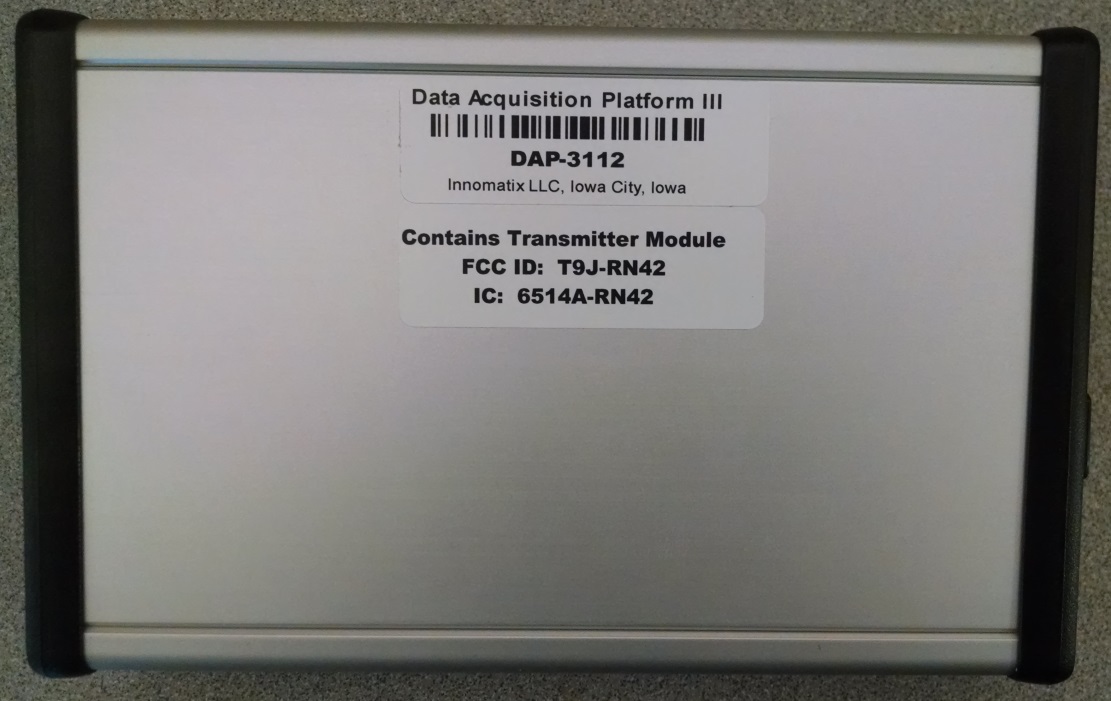
The DAP-III+ with Programmable Coprocessor is similar in appearance to the standard DAP-III. This photo shows the front end cap with Bluetooth antenna connection and connector pin numbers.



This photo shows the DAP-III+ rear end cap. This unit does not have the GPS option as indicated by the plugged GPS Antenna connector opening.



DAP-III bottom showing serial number barcode sticker



1. Installation

Installation of your DAP-III+ with Programmable Coprocessor is the same as for the base DAP-III with the addition of the two Auxiliary CAN network connections

NOTE: Connection of the two Auxiliary CAN networks is entirely optional. No connections are necessary if the Programmable Coprocessor will not use the CAN channels.

1. **CAN:** The DAP-III+ Programmable Coprocessor receives data from one or two CAN networks via the “Auxiliary CAN” cable connected to the 14-pin “Additional I/O And CAN” connector.

The CAN networks connected to the Coprocessor may be the same networks as the primary CAN networks connected to the DAP-III+, or they may be different networks.

|  |  |
| --- | --- |
| **DAP Additional I/O**  **Connector Pin** | **Signal** |
| Pin 6 | CAN3 Low |
| Pin 7 | CAN4 Low |
| Pin 13 | CAN3 High |
| Pin 14 | CAN4 High |

Your Programmable Coprocessor is preconfigured with an example application which DOES NOT make use of the auxiliary CAN networks. Be aware – connecting any improperly configured device to a CAN network can cause errors on the network. Do Not connect your Programmable Coprocessor to CAN networks without fully understanding the implications of improper CAN network configuration.

Part numbers for the 6-pin and 14-pin connectors are as follows. See the DAP-III / DAP-III+ Hardware Manual for more information.

**Six Pin Connector (CAN 1/CAN 2/Power)**

On board part: **Molex 43045-0602**

Mating Connector Housing: **Molex 43025-0600**

Sample Crimp Pin: **Molex 43030-0009**

**Fourteen Pin Connector (Additional I/O)**

On board part: **Molex 43045-1402**

Mating Connector Housing: **Molex 43025-1400**

Sample Crimp Pin: **Molex 43030-0009**

1. Programmable Coprocessor Checkout

Confirm that the Programmable Coprocessor is working properly by locating the “CoprocVers” and “CoprocStat” signals in the BlueView signal list. The CoprocVersion signal reports the coprocessor firmware version in the format “x.y.z”. The CoprocStatus displays status strings from the Coprocessor.

See section *7.1 Coprocessor basic operation* for troubleshooting information if the value is a not version number in that format.

1. Frequently Asked Questions

|  |  |
| --- | --- |
| Q: | How does the DAP-III+ differ from the DAP-III? |
| A: | The DAP-II+ has an additional microcontroller which can be programmed by the end user. This provides a very simple path for the end user to add project-specific data processing. Refer to the *Innomatix DAP3 Coprocessor Developers Guide* for more information. |

1. Troubleshooting
   1. Coprocessor basic operation

The “basic operation” of the coprocessor is confirmed by checking for the “CoprocVers” signal on the BlueView display. If the value of this signal is not a version number in the expected format, there are two likely causes:

1. The Programmable Coprocessor has incompatible firmware loaded. While it is possible to create firmware that is functional on the coprocessor, to be compatible with its use as a DAP-III+ Programmable Coprocessor, the firmware must include and use the *Innomatix Programmable Coprocessor Support Library*.

*https://developer.mbed.org/users/Innomatix/code/InnomatixSupport/*

In addition to the functionality provided by the support library public API, the library performs some behind-the-scenes functionality such as version reporting and firmware updates.

1. The DAP-III+ has incompatible software. The DAP-III family of Telematics Platforms are very flexible. There are configurations of the platform that do not have a coprocessor, and variations that have a coprocessor which is preprogrammed with application-specific functionality rather than being end-user programmable.

Confirm that the DAP-III+ device has a software build and configuration with coprocessor support enabled.

1. Visit the readings page of InnomatixData website for the given DAP-III+.
2. Find the “DAPVersion” signal and confirm that the value is at least v2.9.6.0
3. Find the “DAPConfiguration” signal and note the value. If you have access to the configuration, the value will be a hyperlink taking you to the configuration.
4. Go to the “Features” page for the specified configuration and confirm that the Coprocessor is enabled. Contact Innomatix if you do not have access to the configuration, or to the Features page for the configuration.
   1. Auxiliary CAN Networks

Confirm basic Programmable Coprocessor operation.

Follow the CAN Network check out and troubleshooting information found in the *Innomatix DAP3 Quick Start* document.