# Downloadbox Operating Instructions





Read and follow this operating instructions.

Keep this operating instructions for future reference.

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ME0101000-OM

#### Table of Contents Product description ......4 1 2 Requirements ......4 3 Hardware 4 3.1 Downloadbox ......4 IBIC T-Adapter Cable Option ......5 32 3.3 Diagnostic T-Adapter Cable Option.....7 Files on the USB Storage Device......8 4 4.1 Copying Downloadmanager 2......8 Copying Update Files to the USB Memory Device ......9 4.2 4.3 5 Downloadmanager Software ......10 5.1 Starting Downloadmanager.....10 5.2 5.3 Updating Firmware on the ECU ......12 5.4 Updating Profiles on the ECU ......14 5.5 Technical specifications ......17 6 7 7.1 Alarm messages ......17 72

## **1 Product Description**

The Downloadbox is a tool which you can connect to a display using different adapter cables in order to update devices. This allows you to update ECU firmware and load profiles.

### 2 Requirements

There are four items that you must have to update ECU firmware and load profiles. You will need:

- A Connection Cables
- A Downloadbox
- A USB Storage Device
- · Firmware and profile software

### 3 Hardware

#### 3.1 Downloadbox

The Downloadbox enables you to transfer and update files. It takes the software from a USB Storage Device and installs the files onto the ECU. There are two Connection Cabling options for file transfers.



#### 3.2 <u>Option 1</u> - Connection Cable using ISOBUS Implement Connector (IBIC) T-Adapter Cable P/N: ME0501005



1	Connect to 9 Pin ISOBUS Harness going the the ECU
2	ISOBUS Implement Connector (IBIC) T-Adapter Cable ME0501005
3	Connects to 9 pin Tractor ISOBUS connection at the back of the tractor
4	Downloadbox Cable ME0501004
(5)	USB Storage Device
6	Downloadbox



#### **Connection Instructions:**

The ISOBUS Implement Connector (IBIC) T-Adapter Cable (ME0501005) connects to the main ISOBUS connection on the back of the tractor. It allows you to break into the ISOBUS connection and make updates to the ECU.

Follow these steps to connect the cables:

- 1. Unplug the main ISO cable from the tractor.
- 2. Plug the IBIC T-Adapter Cable into the ISO connector located on the back of the tractor.
- 3. Plug the other end of the IBIC T-Adapter Cable into the ISOBUS cable going back to the ECU on the implement.
- 4. Plug the two Downloadbox Cable (ME0501004) deutsche connectors into the two deutsche on the IBIC T-Adapter Cable.
- 5. With the tractor power off, plug the Downloadbox into the silver connection of the Downloadbox Cable. **Plugging in the Downloadbox** with the power on can potentially cause a short.





1	Connect to ISO existing aux module using in cab Diagnostic Connector (not always connected)		
2	ISOBUS Diagnostic T-Adapter Cable ME0501009		
3	Connect to ISO in cab 9-Pin Diagnostic Connector Connection 2 to Download Box Cable ME0501004		
4	Downloadbox Cable ME0501004		
5	USB Storage Device		
6	Downloadbox		



#### **Connection Instructions:**

The ISOBUS Diagnostic T-Adapter Cable (ME0501009) connects to the 9-Pin ISO Diagnostic port in the cab of the tractor. It allows you to break into the ISOBUS connection and make updates to the ECU.

Follow these steps to connect the cables:

- 1. Plug the Diagnostic T-Adapter Cable into the 9-Pin ISO Diagnostic port in the cab of the tractor.
- 2. Plug the two Downloadbox Cable (ME0501004) deutsche connectors into the two deutsche on the Diagnostic T-Adapter Cable.
- 3. (If Applicable) connect the other 9-Pin connector to the coresponding mate in the machine.
- 4. With the tractor power off, plug the Downloadbox into the silver connection of the Downloadbox Cable. Plugging in the Downloadbox with the power on can potentially cause a short.

### 4 Files on the USB Storage Device

By default, firmware and profiles are loaded on the USB Storage Device that was shipped to you with the Downloadbox. Skip ahead to Section 5 if you have the factory USB Storage Device for your ISOBUS Control System. The steps in Section 4 are only required if you are using a different USB Storage Device and/or the Download Manager file structure does not exsit on the USB stick.

#### 4.1 Copying Downloadmanager 2 to a USB Storage Device

This first step is to setup the correct file structure on your USB Storage Device. Downloadmanager 2 will not work if the correct file structure is not on the USB stick. If you need to copy updated files to your ECU and you already have the correct file structure on your USB Storage Device, skip ahead to Section 4.2 for firmware or Section 4.3 for profiles.

If you do not have the necessary files, contact your dealer. They will be able to supply you with a ZIP file from Mueller Electonics. Follow these steps once you have the zip file loaded on your computer:

- 1. Unzip the ZIP file on your computer.
- Copy all of the files from the folder "C:\ME\_Tools\ME Downloadmanager 2\Downloadmanager 2 USB memory device" directly onto an empty USB Memory Device.
- 3. Confirm that the structure on the USB Storage Device looks like this:





#### 4.2 Copying Firmware Files to the USB Storage Device

Update files are files with which device software is updated. All update files have a \*.mec file extension. Older update files with extensions \*.dbo, \*.mhx, \*.cio, \*.bin or \*.hex cannot be used for updating with Download Manager 2.

You must copy update files to the Download folder on the USB Storage Device. Make sure to copy the file to the Firmware Folder in the appropriate product folder. All update files must be in this location for the Download Manager 2 to update your ECU.

#### 4.3 Copying Profiles to the USB Storage Device

Profiles are files with which default parameters for setup of a specific machine type. All profiles have a \*.mec file extension.

Profiles must be in the correct control system folder before you will be able to perform an update. Default profiles already exist in this file structure.

Copy the profiles into the correct control system folder. The example below is shown for copying profiles for the ISOBUS Spreader Control System.



Follow this proceedure for each application:

- Liquid Fertilzer / Sprayer
- Slurry
- Spreader
- Weather Station

5

### 5 Downloadmanager Software

#### 5.1 Starting Downloadmanager

How you start Downloadmanager depends on:

- How you will use it.
- · How you will start your display.
  - By the tractor ignition.
  - By manual launching.

Type of use	Display starts with tractor ignition	Display must be started manually
Third party displays with Downloadbox	Switch on ignition	Start the display

### 5.2 Screen structure

After launching Downloadmanager, you will see screens on which the software can be used on the display screen.

The example below shows the screen which appears once the software is started:



1	Display of selectable ECU's
2	Brief instructions and key
3	Navigation Icons



#### 5.3 Updating Firmware on the ECU

This section is only required if the firmware on the ECU needs to be updated. If the ECU has the correct firmware, please proceed to section 5.4.

Follow these steps to update the firmware on the ECU:

- 1. Confirm that the ECU is connected to a display.
- 2. Make sure the correct update files are on the USB Storage Device.
- 3. Start Downloadmanager. The following screen appears:

Downloadbox 1.1d 30322592( Address Name	)6X15114		
0x87: ECU-MIDI: ECO Sp	orayer F	R	
		Q	
<ol> <li>Select the device.</li> </ol>	分贝		
2. Highlight the device.			
3. Select a file to download.	$\Box$		
Show device information	í		
Update list	Ĩ		
Search for other devices	Õ,		

- 4. Press the Up/Down arrows to highlight the ECU.
- 5. Mark the device. An "X" will appear before the selected device.
- 6. Press the folder icon to open the update files.







The following screen appears:

	Select file USB/Download				
	 ./Liquid_NH3-Fert ./Slurry ./Spreader ./Weather Station				
	<ol> <li>Select a directory.</li> <li>Switch to the selected directory.</li> </ol>		 		
	Show all files in the directory Return to device list	<u>ا</u> وک		5	
7. Press th The opt the Firm	ne arrows to select the approprion will be Firmware or Profile tware folder.	riate folder. es. Select	$\overline{\mathbb{G}}$		

8. Select the appropriate Firmware file with the arrow icons.



9. Press the triangle icon to start the update process. The following screen appears:

Download status Address: 0x87 Name: ECU-MIDI: ECO Sprayer F	
	l
The update process will be performed. Do not switch the terminal off.	
Status: Delete (54%)	
Cancel and return to device 🗙 list	×

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The bar will display the progress of the upload.

The green LEDs will light consecutively during the course of the upload on the downloadbox.

- 10. Wait until the update has been completed. The ECU working mask screen may disappear during the course of the update. The update will continue anyway. The update will only be completed once the green LEDs are lit continuously.
- 11. Press the Back Arrow to return to the devices list. The software for the device will be updated.



- 12. Delete the object pool on the display. If you need instructions for deleting the object, please refer to Section 7.2.
- 13. Recycle power on the entire system. The device will reload on the display, and the update is complete.

#### 5.4 Updating Profiles on the ECU

Follow these steps to upload profiles onto the ECU:

- 1. Confirm that the ECU is connected to a display.
- 2. Make sure the correct update files are on the USB Storage Device.
- 3. Start Downloadmanager. The following screen appears:

0x87: ECU-MIDI: ECO Sp	orayer F	B <
1. Select the device.	分贝	I
2. Highlight the device.		
3. Select a file to download.	$\overline{\Box}$	
5how device information	í	1
Jpdate list	Ŕ	
Show device information Jpdate list	i	

- 4. Press the Up/Down arrows to highlight the ECU.
- 5. Mark the device. An "X" will appear before the selected device.
- 6. Press the folder icon to open the update files. The following screen appears:
- Select file USB/Download /Liquid\_NH3-Fert /Slurry /Spreader /Weather Station 1. Select a directory. 2. Switch to the selected directory. Show all files in the directory \$ Return to device list 7. Press the arrows to select the appropriate folder. The options will be Firmware or Profiles. Select the Profiles folder.
- 8. Select the appropriate file with the arrow icons within the profiles folder.
- 9. Press the triangle icon to start the update process.













The following screen appears:

Address:		!
Name:	ECU-MIDI: ECO Sprayer	F
performe	te process will be d. Do not switch the	
terminal	OII.	'
Status:	Delete (54%	)
		l
		[ ]
Cancel a	nd return to device 💊	· · · · · · · · · · · · · · · · · · ·



The bar will display the progress of the upload.

The green LEDs will light consecutively during the course of the upload on the downloadbox.

- 10. Wait until the upload has been completed. The ECU working mask screen may disappear during the course of the update. The upload will continue anyway. The upload will only be completed once the green LEDs are lit continuously.
- 11. Press the Back Arrow to return to the devices list. The software for the device will be updated.



- 12. Delete the object pool on the display. If you need instructions for deleting the object, please refer to Section 7.2.
- 13. Recycle power on the entire system. The device will reload on the dis play, and the update is complete.

#### 5.5 Updating Downloadbox

The current software version of the Downloadbox is always integrated into Downloadmanager 2. If you use Downloadmanager 2 with a Downloadbox, you can install the current software version of the Downloadbox directly.

Follow the steps below to update the Downloadbox software:

- 1. Connected the Downloadbox to a display.
- 2. Power up the display.
  - You will be asked whether you want to update the software version of the Downloadbox. This message will only appear when a new software version is found.
- 3. Confirm the message.

You have updated the software version for the Downloadbox.

### **6** Technical Specifications

Operating voltage:	9 – 30 Volt
Operating temperature:	0 – 70°C
Storage temperature:	-20 – 85C
Weight:	approx. 50 g
Dimensions (W x H x D):	42 x 85 x 24 mm

## 7 Troubleshooting

#### 7.1 Alarm Messages

Depending on how you use Downloadmanager, different alarm messages may appear.

#### Alarm messages for all versions

Alarm text	Remedial measure
Another Downloadmanager was found.	Close down all Downloadmanagers and restart.
Another Downloadmanager is active. Close down all Downloadmanagers and restart.	Close down all Downloadmanagers and restart.
The download path was not found.	Ensure that the "Download" directory is available.

#### 7.2 Deleting the Object Pool

#### CNH Pro700 / IntelliView IV

Follow these steps to clear the oject pool:

- 1. In the Main menu, select Diagnostics
- 2. Select the VT tab
- 3. Select the NVM tab
- 4. Here, multiple object pools are saved and stored. You can select which one to delete by pressing Next Folder
- 5. Select delete folder at the top right to delete the selected object pool or the delete icon in the middle right to delete all

#### John Deere GS3

Follow these steps to clear the oject pool: Choose Menu > press Message Center > select Cleanup > check Controllers > select Begin Cleanup



#### Mueller Touch800 / Touch1200

Follow these steps to clear the oject pool: Press Settings > Object Pool > press the red X > choose Yes to confirm.

