

Leica Geosystems

ADS80 Downloader

User Manual

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Chapter 1

ADS80 Downloader

Introduction

ADS80 Downloader is a software module performing the first step of ADS80 ground processing workflow. After this the data processing can continue with using whether Leica GPro or Leica XPro software.

ADS80 Downloader gives a captured Mass Memory data overview and executes data extraction or data replication to a user defined repository.

XPro v5.1 and later have new option to skip the Data Download step and to use the raw MM80 data in the workflow from Data Preparation to Product Generation. Further description on this workflow is provided in the Data Preparation part of XPro User Manual.

This manual describes how to use the ADS80 Downloader software.

Where to get assistance and training

Please be aware, that for a complete understanding of the functionality and operation of the system it is necessary to participate in an ADS data processing training and maintenance course.

For assistance and training courses please contact your local Leica Geosystems subsidiary or representative.

Headquarter

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Chapter 2

Installation and Configuration

System Requirements

ADS80 Downloader is a software that runs under the Microsoft Windows family of operating systems. Basic system requirements are the following:

- IBM PC-compatible computer,
- Windows 7 64-bit OS, English language.
- 4 GB or more RAM,
- 3 TB or more free disk space for data download. One full day flight data with products may require about 3 TB.
- 3 GHz processor speed, 8 cores or more
 - for .ads format download (for GPro workflow) 1 or 2 cores with highest frequency
 - for .lri format download (for Leica XPro workflow) 8 cores or more are suggested
- Data download workstation has to have the following for mounting the adapter card:
 - one unused PCIe slot on the backplane
 - two open slots in the housing.

Installation

It is recommended to uninstall the previous version of the software before installing the new version.

To install ADS80 Downloader software, double-click the **setup.exe** file on the ADS80 Downloader CD. Follow the instruction provided by the installation program.

Security Options in Windows 7

In case experiencing issues with getting the processing logs populated into the ADS80 Downloader installation folder with Windows 7 OS, it might be required to change the Security Options.

It should help going to

Administrative Tools > Local Security Policy > Local Policies > Security Options
and setting

User Account Control: Virtualize file and registry write failure to Disabled.

Necessary parts for MM80 connection

The following parts have to be available for connecting 2 MM80 Mass Memories to the workstation:

- 2x 776572 - MM80 download adapter with cable, 2 m
- 2x 763812 - Power Supply Set MM80 for data download:
- 1x 763937 - SAS Host Bus Adapter, PCIe Bus (LSI SAS3442E-R)

Including:

- 777426 - SAS Host Bus Card, PCIe Bus
- 767993 - Slot Cover
- 767994 - Internal SAS cable

Mounting the adapter

1. Mount the HBA Adapter with slot cover and internal SAS cable in a PC to a free PCIe slot.
2. Attach power supply sets and download adapter to the PC.

Chapter 3

Data download

Preparation for download

Data storage on MM80 is performed whether in Single Operation, Joint Operation or Backup Operation modes. Dependent on the MM80 storage mode selected for data capture one or both MM80-s have to be attached to the download workstation.

Additional information about the data storage modes is provided in Leica ADS80 User Manual.

- Attach the MM80-s to the MM80 download adapter
- Open an Explorer, right click on MyComputer and select "Manage"
- Select Disk Management
- Wait some seconds until the disks are recognized by the system
- There should be 6 Dynamic Disks (for 2 MM80-s) which can be Reactivated or, alternatively, Foreign Disks which can be Imported .



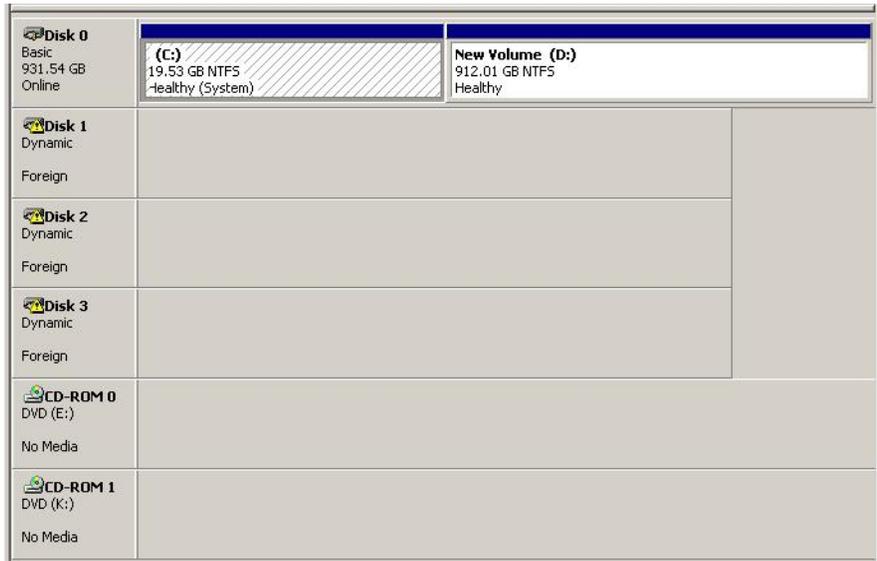
DO NOT CLICK "Convert to Basic Disk" - all data would be lost on the MM80

- Check that an usable drive letter gets assigned after the reactivation / import

Figure 3-1: Reactivate Offline Disks



Figure 3-2: Import Foreign Disks



Access rights to MM

Download process requires that user has write access to the Mass Memory - writing permission is necessary for Index file.

When attaching an MM to workstation with Windows 7 OS then the user has to be owner of the disk and has to gain write access to the Index file.

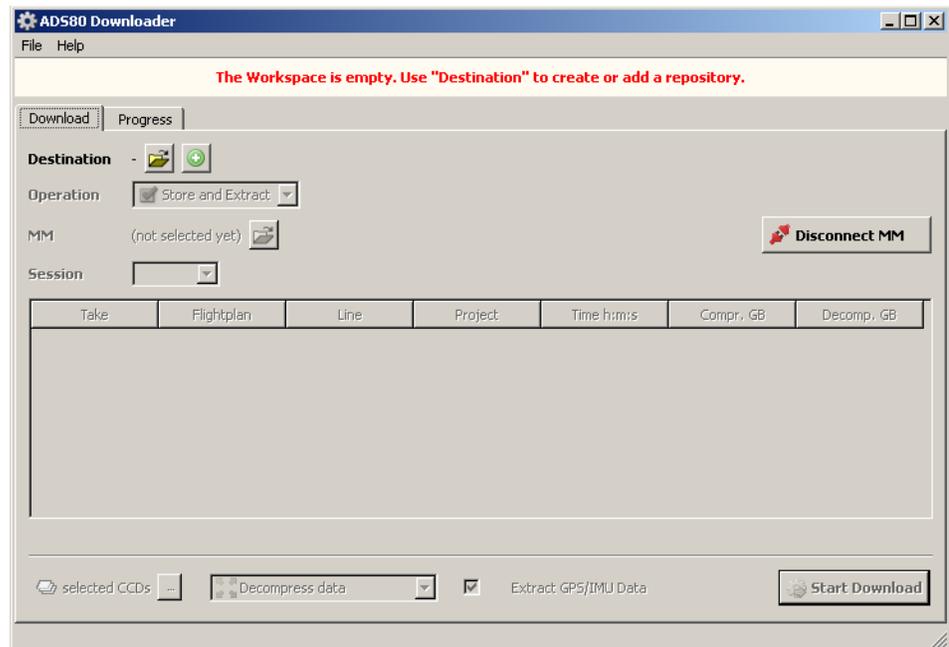
In case the Mass Memory is formatted with FCMS 3.22 or greater, then the access rights for the volume are already set to allow access for everyone.

There is no need to format the MM80 before each flight.

Data download

Start the ADS80 Downloader program with clicking the shortcut on Desktop or selecting from **Programs > Leica Geosystems > ADS80 Downloader**.

Figure 3-3: ADS80 Downloader window



Create / select Repository

Repository has to be pointed out into which the data download will be performed.

Click **Create New Repository** button on the **Destination** line. Browse the location and type in the repository name for creating a new repository.

Alternatively, click **Attach existing Repository** button on the **Destination** line in case the existing repository is intended to be used for the download.

Created repository folders carry the extension .xpro.

Select data for download

Data for download and download options have to be picked after creating and selecting the repository.

Select download operation mode from **Operation** selection box:

- **Store and Extract** - for performing copy of session on MM80 to the repository; copy is followed by data extraction to the repository
- **Store only** - for performing copy of session on MM80 to the repository
- **Extract only** - for performing data extraction to the repository.

Select the Mass Memory location from which the data will be downloaded by clicking the icon behind the **MM** field.

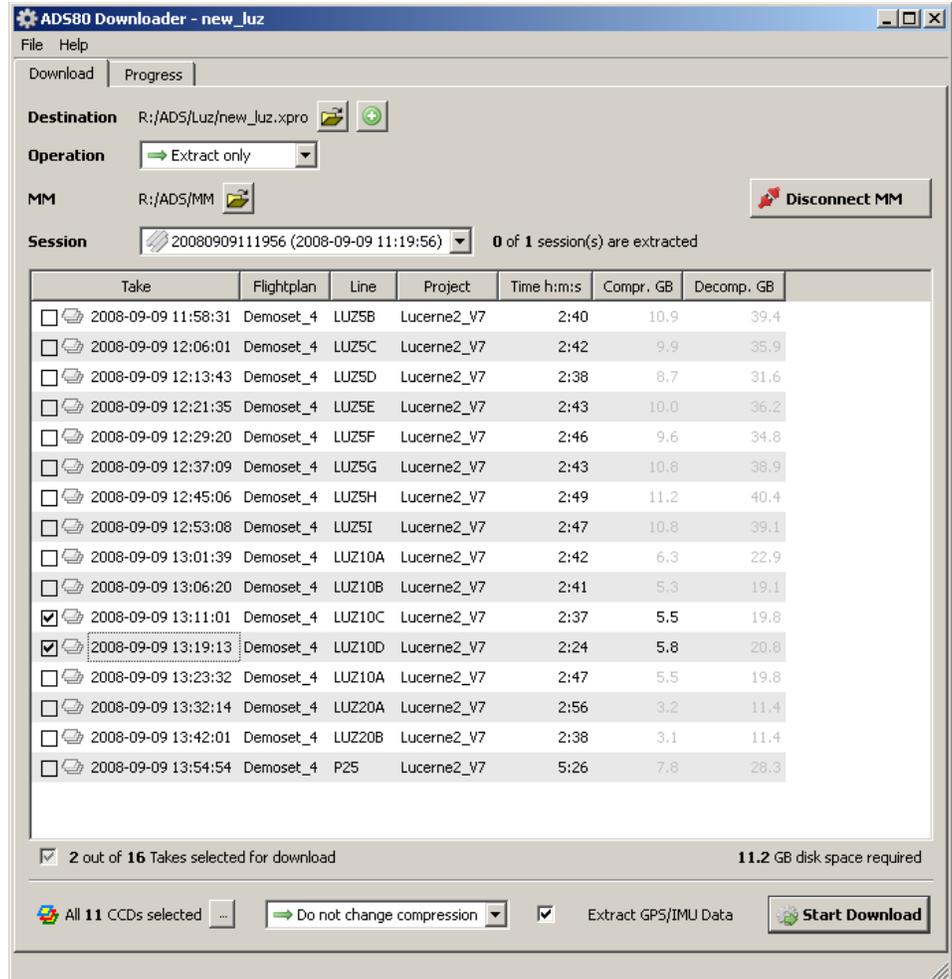
Browse to the Mass Memory location and **Open** the MMVolume.xml.

The selection process is the same for the real MM80 connected to the workstation and as well for the previously copied Mass Memory data location.

There can be several sessions captured to one Mass Memory.

Select the session from which you wish to download the data by using the **Session** selection box.

Figure 3-4: Select data for download



Once the session is selected the view gets filled with listing the takes captured during the particular session.

All the takes from the session appear as activated for download. Click the **check boxes** for deselecting/reselecting the takes.

Selection button for CCDs in the lower left corner of the ADS80 Downloader main window opens the dialog for selecting image bands for download.

All the image bands appear as activated for download. Click the **check boxes** for deselecting/reselecting the image bands.

Figure 3-5: Select Image Bands dialog



Click OK for confirming the image band selection and closing the dialog.

Image compression selection box in the bottom of the Downloader main window offers the following choices:

- **Decompress data**
- **Do not change compression**



*Note: For downloading the data for Leica GPro workflow the option has to be set to **Decompress data**. GPro is not able to handle the compressed images from ADS80.*

Check box for **Extract GNSS/IMU Data** in the bottom of the Downloader main window offers the option to perform the image and GNSS/IMU data extraction separately.

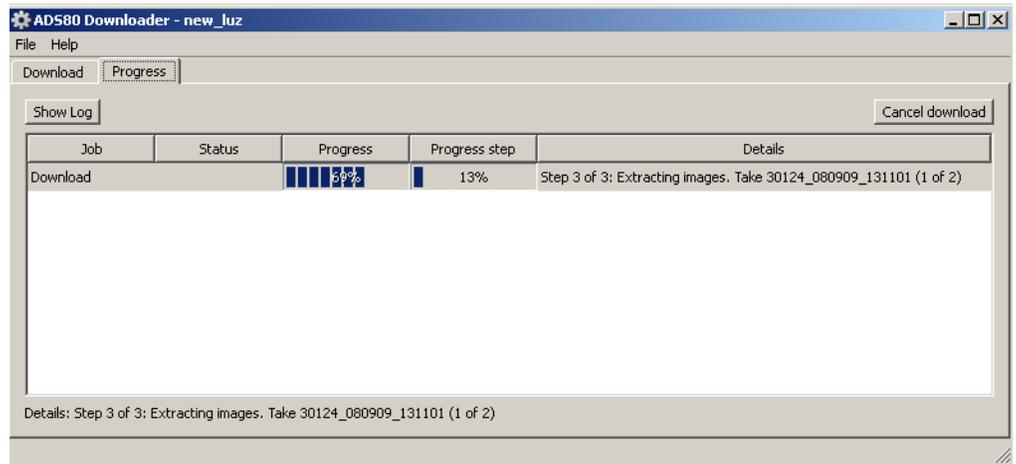
Commonly, GNSS/IMU data is always selected for the extraction as it is required for georeferencing the images in the later stage of ADS data processing.

Start download

Click **Start Download** button in the lower right corner of the Downloader main window in order to perform the download.

Progress of the download process can be observed in the download **Progress** window.

Figure 3-6: Download Progress window



Downloaded data

Data is downloaded to the repository into the workspace folder.

Workspace contains **Session** folder, where for each downloaded session the following data is extracted:

- **gps-imu** - folder containing the raw GNSS-IMU data and additional folders ready to use for GNSS-IMU processing,
- **images** - folder containing ADS80 images and camera time (CT) files,
- **mm** - folder containing the copy of Mass Memory data in case the **Store** option has been selected; folder is containing as well FPES fight planning and evaluation data,
- **raw** - folder containing info and support files related to the downloaded images.

Split raw files

In case the MM80-s have been exchanged in the flight session, then the session is on two or more MM raw files. The name of raw file will then reflect that it is a successor of another file (20090909075340_FlightData.raw, 20090909075340_A_FlightData.raw, 20090909075340_B_FlightData.raw, etc).

The exchange in the air is performed between the flight lines while the image recording is off. While the user swaps the MM then the GNSS-IMU data recording is buffered and not interrupted.

Downloader treats each split session MM raw file as if it were from an independent flight.

Thus for GNSS-IMU processing the separately downloaded GNSS-IMU raw file parts would have to be copied together into one folder.

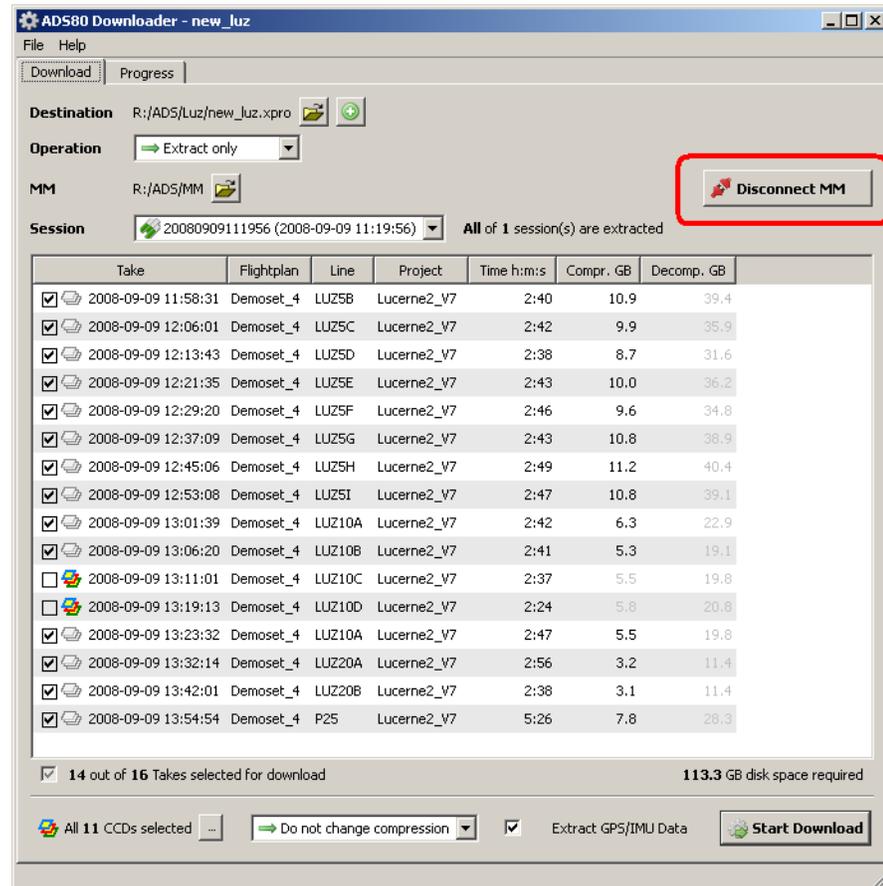
IPAS Pro and IPAS TC can handle multiple input files for extract - the extensions of the subsequent GNSS-IMU raw files would have to be renamed as .000, .001, .002, etc.

Disconnect MM80

Before detaching MM80 from workstation press the **Disconnect MM** button.



*Note: **Disconnect MM** button has to be used before detaching MM80 in order to avoid inconsistencies in file system.*

Figure 3-7: Disconnect MM80

The Disconnect MM dialog window opens with asking to specify the device to disconnect.

Figure 3-8: Disconnect MM window

After selecting the device and clicking OK please wait for the next dialog message before disconnecting the MM cable.

Figure 3-9: MM cable ready to disconnect



The confirmation message is displayed after the remove is complete.

Figure 3-10: MM removed confirmation

