

TerraPhoto New Features

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Setup: Public Function Header Files

- Setup installs three C header files as documentation for public functions:
 - `\terra64\include\photo_functions.h` – general public functions
 - `\terra64\include\photo_types.h` – data types used



Various Improvements



- **Convert time** in **Manage Camera Trajectories** shows conversion result for first time stamp
- **Manage Raster References** recognizes *.wld files as georeferencing for ortho rasters
- **Define Camera** dialog is smaller and fits better on screen on a low resolution display
- Support for Alpha channel in ECW/JPEG2000 images
- **Blur images** has new choices for blurring ratio: 12*12, 15*15, 16*16, 20*20, 25*25, 30*30, 32*32
- **Rectify textures** has **Delete old texture files** setting
- User can specify input folder in **Import feature points** command in **Define Tie Points**
- **Images / Delete / Inside fence** and **Images / Delete / Outside fence** can use multiple selected polygons
- Support for Inertial Explorer trajectory text file format

Intensity Correction Grid

- **Intensity grid** button in **Define Color Corrections** has new option **Manual entry** for manual intensity correction grid
- Correction grid changes brightness of different parts of raw images whenever TerraPhoto makes use of a raw image
- Correction is saved in an image list file

The image shows two windows from the TerraPhoto software. The top window, titled 'Assign Intensity Grid', has a blue header and a grey body. It features a dropdown menu set to 'Manual entry', and input fields for 'Columns: 7' and 'Rows: 5'. Below these is a 7x5 grid of input boxes containing numerical values for intensity correction. The bottom window, titled 'Define Color Corrections', also has a blue header and a grey body. It includes three histograms (red, green, and blue) with 'Display...' and 'Select by...' buttons. Below the histograms is a 'Color balance' section with sliders for Red (-18), Green (3), and Blue (16), and buttons for 'Derive...', 'Sample', and 'Apply'. At the bottom, there are sections for 'Intensity, saturation and contrast' with sliders and 'Apply' buttons, and an 'Intensity grid...' button. The main area of this window shows a road image with a grid of yellow numbers overlaid, representing the intensity correction values.

| | | | | | | |
|----|----|----|----|----|----|----|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| 10 | 5 | 0 | 0 | 0 | 5 | 10 |
| 20 | 10 | 10 | 10 | 10 | 10 | 20 |

Color balance

Red: -18
Green: 3
Blue: 16

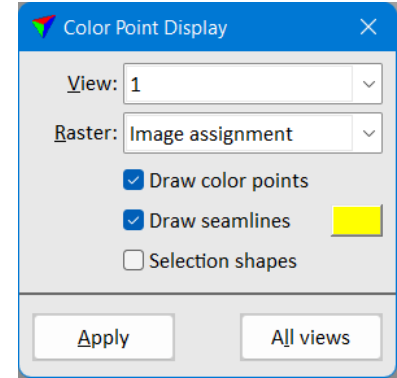
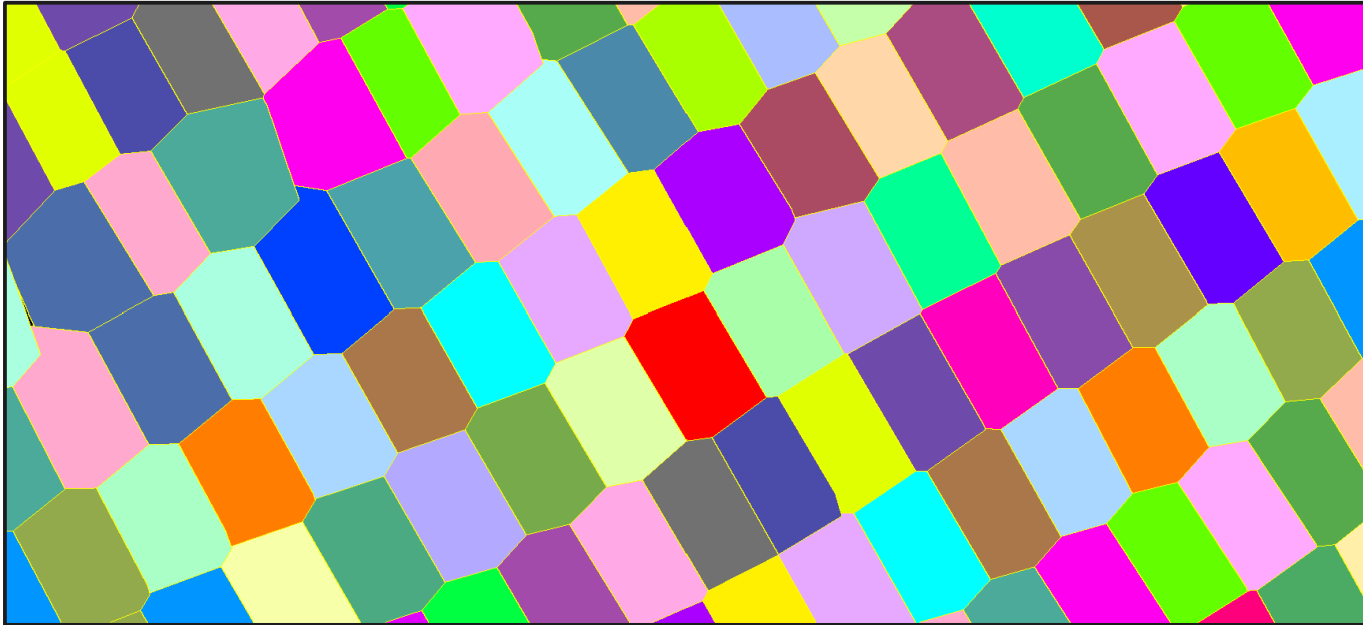
Intensity, saturation and contrast

Intensity: 0 .. Apply
Saturation: 0 .. Apply
Contrast: 0 .. Apply

Intensity grid...

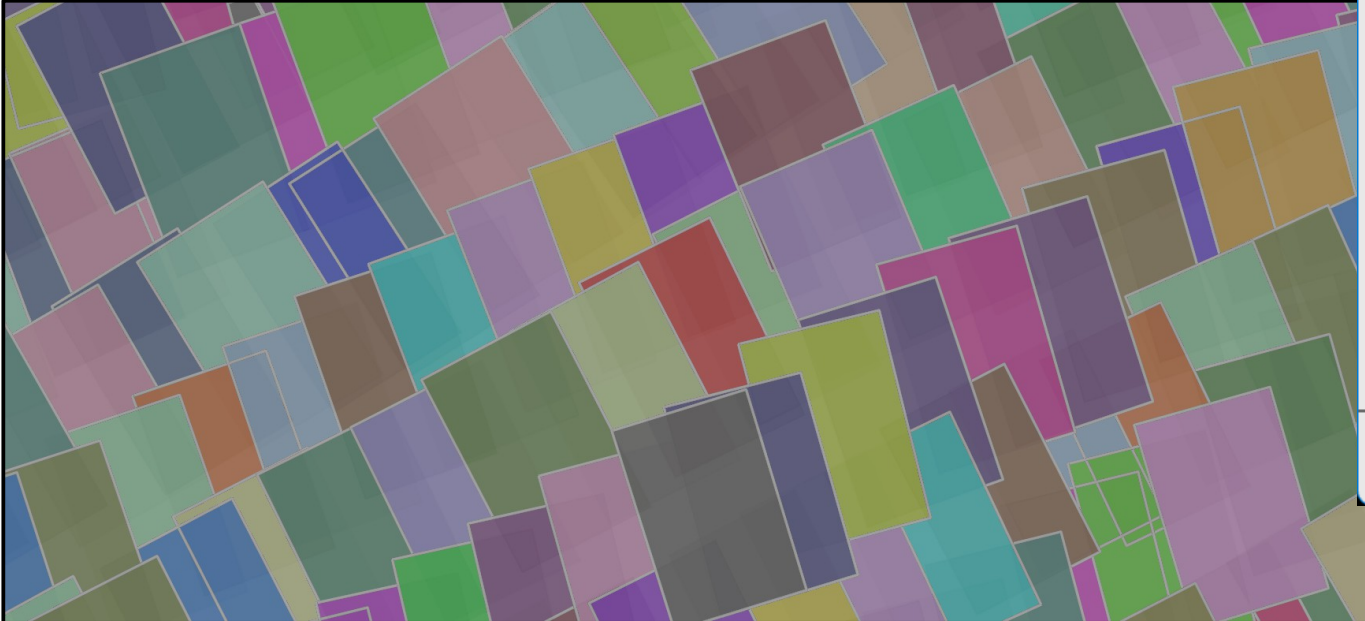
Image Colors

- Each image in the image list gets its own display color from a table of 61 colors
- Color information is saved when you save an image list
- **Define color points** mode will use this when coloring by image assignment
- **Change image color** lets you swap an image color



Improvements in 'Draw locations'

- You can choose how line color and how fill color is selected
- You can choose **Image color**
- You can specify transparency level in MicroStation version



Draw locations

Draw: Footprints

Projection: Approximate

Camera: Any camera

Images: All

Tie value: Any

Tie status: Any

Line color: Active color

Fill color: Image color

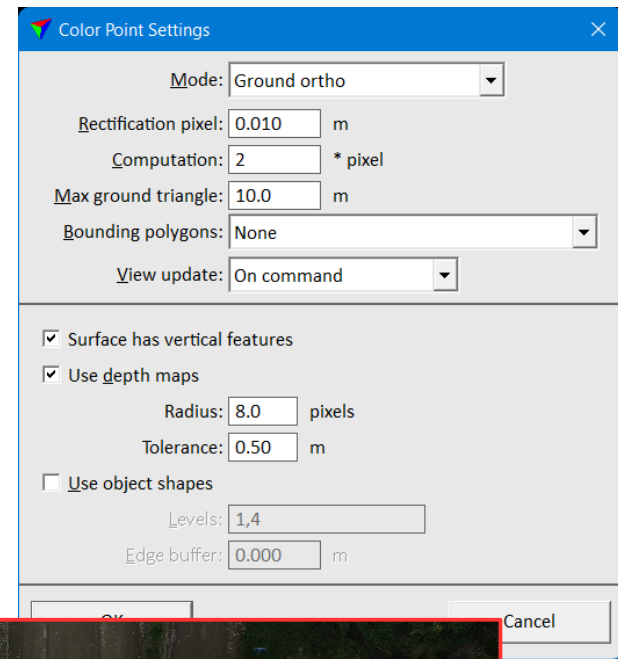
Transparency: 70%

Label: None

OK Cancel

Depth Maps in Ortho Production

- Produce a true ortho without vectorizing buildings
- Workflow:
 - Classify building roofs (and bridges) carefully
 - Compute depth maps using class 6 – Building (and 11 – Bridges)
 - Set **Use depth maps** on when working with color points
 - Set **Use depth maps** on in **Rectify orthomosaic**



Normal ortho rectified to ground



Top surface ortho with depth maps

New Drone Mission



- Import wizard for **DJI L1** or **DJI P1** image data sets
- Result: mission definition, image list and camera calibration file
- Image exterior orientation can come from:
 - Time & trajectory
 - Blocks exchange file
 - Image metadata
- Camera calibration can come from:
 - TerraPhoto calibration file
 - Blocks exchange file
 - Image metadata

A screenshot of a software dialog box titled "New Drone Mission". The dialog has a blue title bar and a white background. It contains several sections with input fields and dropdown menus. The "System" dropdown is set to "DJI L1". The "Mission description" text field contains "Luosto". The "Image folders" text field contains "D:\luosto_parking\DCIM", with "Add..." and "Remove" buttons to its right. The "Orientation from" dropdown is set to "Time & trajectory". The "Calibration from" dropdown is set to "Image metadata". The "Trajectory input" text field contains "D:\luosto_parking\DJI_20210816201607_0001_Zenmuse-L1-mission_sbet.out", with "Add..." and "Remove" buttons to its right. The "Input system" text field contains "4326", followed by a double arrow button and the text "4326 WGS84 longitude & latitude". The "Input elevations" dropdown is set to "Ellipsoidal". The "Target system" text field contains "3134", followed by a double arrow button and the text "3134 ETRS89 / ETRS-GK27FIN". The "Target elevations" dropdown is set to "Orthometric", followed by a right-pointing arrow. The "Geoid model" dropdown is set to "Finland - FIN2005". The "Storage folder" text field contains "D:\luosto_parking", with a "Browse..." button to its right. At the bottom, there are "OK" and "Cancel" buttons.