

# Matlab Kinect Installation Guide

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This guide will install the Kinect Matlab interface which will allow use of the Kinect 1 and 2 with the Matlab Image Acquisition Toolbox.

## 1 Requirements

### 1.1 Kinect 1

- Windows 7+
- USB 2.0+
- Matlab 2013a+

### 1.2 Kinect 2

- **NATIVE** Windows 8+
- DX11 Graphics Support
- USB 3.0+ Support
- Matlab 2016a x64

## 2 Installation

1. (Optional) Set the MATLAB Package Installation Directory to your Home Directory

- This is done via the command:  
`matlabshared.supportpkg.getSupportPackageRoot('H:/MATLAB2016/packages')`

2. Install the [Kinect for Windows Sensor Interface](#)

- Run `supportPackageInstaller`
- From here install the 'Kinect for Windows Sensor' and follow prompts

3. Install the Kinect for Windows SDK.

Matlab has a bug in the Kinect support package installation that breaks the install of the Kinect SDKs. As such it is nessecary to install the relevant SDK over the top of the Matlab installed one.

**Kinect 1** Install the [Kinect for Windows SDK v1.8](#)

**Kinect 2** Install the [Kinect for Windows SDK v2.0](#)

4. Test the Kinect is working with matlab

- Restart Matlab ensuring kinect is plugged in
- Run `imaqhwinfo` and ensure 'kinect' is listed as being installed
- Run `imaqhwinfo('kinect')` to list connected kinect devices. If kinect is listed as connected it should be good to go

5. Test the kinect Use the provided matlab script testkinect.m as a basis for using and displaying the image data captured from the kinect

```
%% Initialize color video device
tic;
%Get videoinput (vi) object
colorVid = videoinput('kinect', 1, 'RGB_640x480');

%Set input settings
colorVid.FramesPerTrigger = 1; %Only request one frame per trigger call
colorVid.TriggerRepeat = Inf; %Tell vi object to allow inf trigger calls

%% Initialize color video device
depthVid = videoinput('kinect', 2, 'Depth_640x480');

%Set input settings
depthVid.FramesPerTrigger = 1; %Only request one frame per trigger call
depthVid.TriggerRepeat = Inf; %Tell vi object to allow inf trigger calls

%% Set trigger config for vi objects
triggerconfig([colorVid depthVid], 'manual');

%% Start vi devices
start([colorVid depthVid]);

%% Get and display 200 frames from vi devices
figure('Position', [100, 100, 600, 1000]);

% There are many ways to plot an image
% 'imshow' tends to be the easiest how ever it is slow
% the following constructs and image object that can
% have its data overwritten directly improving image display
% performance

% Construct Color image subplot
subplot(2, 1, 1);

% Setup plot
set(gca, 'units', 'pixels');
set(gca, 'xlim', [0 255]);
set(gca, 'ylim', [0 255]);

% Aquire size of video image format
size = colorVid.VideoResolution;

% Construct image display object
cim = image(...
    [1 size(1)], ...
    [1 size(2)], ...
    zeros(size(2), size(1), 3), ...
    'CDataMapping', 'scaled'...
);

% Ensure axis is set to improve display
axis image;

% Construct Depth image subplot
subplot(2, 1, 2);

% Setup plot
set(gca, 'units', 'pixels');
set(gca, 'xlim', [0 255]);
set(gca, 'ylim', [0 255]);

% Aquire size of video image format
size = depthVid.VideoResolution;

% Construct image display object
% Remember depth image is single channel where color is 3 channels
dim = image(...
```

```

    [1 size(1)],...
    [1 size(2)],...
    zeros(size(2), size(1)),...
    'CDataMapping', 'scaled'...
);

% Ensure axis is set to improve display
axis image;

try

    for i = 1:100
        %Trigger a frame request
        trigger([colorVid depthVid])

        % Get the color frame and metadata.
        [colorIm, colorTime, colorMeta] = getdata(colorVid);

        % Get the depth frame and metadata.
        [depthIm, depthTime, depthMeta] = getdata(depthVid);

        % Update data in image display objects
        set(cim, 'cdata', colorIm); %Color
        set(dim, 'cdata', depthIm); %Depth

        % Force a draw update
        drawnow;
    end

catch ME
    fprintf('Error thrown processing frames: %s - %s\n', ME.identifier, ME.message);
end

%% Cleanup vi devices
delete([colorVid depthVid]);
clear colorVid;
clear depthVid;

toc;

```

Script 1: Kinect Test Script (testkinect.m)