PAC EVK Quick Start: Project Setup

00:00:07.320 --> 00:00:10.080
Hello, this is the Getting Started
with PAC part 3.

00:00:10.080 --> 00:00:14.080
In this video, I'll be opening the firmware
project in Keil and I'll show you

00:00:14.080 --> 00:00:18.520
how to set up the Keil environment
by installing the correct device pack.

00:00:19.000 --> 00:00:23.120
Picking up from the previous video,
I'm in the FOC firmware project directory.

00:00:23.400 --> 00:00:27.320
You'll notice the firmware package
is organized by device family,

00:00:27.560 --> 00:00:33.120
mainly PAC52ss and PAC55xx family
devices.

00:00:33.680 --> 00:00:37.680
The key idea is to choose the folder
that matches your evaluation work.

00:00:38.040 --> 00:00:41.080
In my case, I'm using the PAC55724,

00:00:41.240 --> 00:00:44.640
so I'm going with the PAC55xx folder.

00:00:45.200 --> 00:00:48.120
But before we dive into the project
folder, I want to point out

00:00:48.120 --> 00:00:51.120
one important directory
the resources folder.

00:00:51.640 --> 00:00:55.040
This folder includes
several helpful PDF files

00:00:55.360 --> 00:01:00.640
covering the features,
as well as the motor position methods.

00:01:02.520 --> 00:01:03.320
And if you're brand new to

00:01:03.320 --> 00:01:06.960
the platform, I strongly recommend
reading these in this order.

00:01:07.200 --> 00:01:10.040
First, the Getting Started guide.

00:01:10.040 --> 00:01:15.080
Next is the FOC Firmware Overview,
and lastly the FOC Tuning Guide.

00:01:15.720 --> 00:01:18.440
All right
now let's go back to the PAC55 folder

00:01:18.440 --> 00:01:21.440
and open the project.

00:01:23.080 --> 00:01:25.080
So inside the correct family folder

00:01:25.080 --> 00:01:28.280
you'll find project directories
for multiple IDEs.

00:01:28.640 --> 00:01:32.280
You have your Keil, IAR and Eclipse.

00:01:32.640 --> 00:01:37.600
Each IDE has his own dedicated
project file inside the firmware package.

00:01:37.920 --> 00:01:40.200
For this tutorial I'm using Keil.

00:01:40.200 --> 00:01:43.200
Now you may notice
there are two Keil project options.

00:01:43.480 --> 00:01:46.840
This is usually related to ARM
compiler version capability.

00:01:47.600 --> 00:01:50.680
So Keil often defaults to ARM
compiler 6,

00:01:50.760 --> 00:01:52.040

so here's the rule:

00:01:52.040 --> 00:01:54.120
if your project requires compiler 6,

00:01:54.120 --> 00:01:58.120
go ahead and open the project labeled
for compiler 6.

00:01:58.480 --> 00:02:01.240
If your project requires compiler 5,

00:02:01.240 --> 00:02:04.920
you'll need to install ARM
compiler version 5.06

00:02:05.280 --> 00:02:08.280
update 6 build 750,

00:02:08.280 --> 00:02:13.200
and this is directly from the ARM’s
website. So I'll be using compiler 6,

00:02:13.240 --> 00:02:15.360
so let's go ahead and open.

00:02:15.360 --> 00:02:18.320
Here you'll find the Keil project.

00:02:18.320 --> 00:02:19.200
Let's go ahead and open.

00:02:20.720 --> 00:02:23.720
At this point the project
should open in Keil.

00:02:23.880 --> 00:02:28.200
You should see the FOC source code tree
visible on the left.

00:02:28.960 --> 00:02:33.120
If Keil prompts you with something
like missing device or device not found,

00:02:33.400 --> 00:02:38.520
don't worry, that just means the device
support pack isn't installed yet.

00:02:39.000 --> 00:02:40.520
We'll fix that now.

00:02:40.520 --> 00:02:43.520

So Keil uses
something called device packs.

00:02:43.680 --> 00:02:48.440
The device pack contains
the device support files that Keil

00:02:48.440 --> 00:02:53.680
needs to compile for the PAC device,
as well as to program it correctly.

00:02:54.360 --> 00:02:58.680
So let's go ahead and open the pack
installer by going here.

00:02:59.360 --> 00:03:04.120
And here is the Pack Installer
window. In the Pack Installer,

00:03:04.120 --> 00:03:08.680
look at the left panel and
expand Active Semi.

00:03:09.240 --> 00:03:12.920
Select the family that corresponds
with your board.

00:03:13.440 --> 00:03:16.440
I'm using PAC55xx series.

00:03:16.520 --> 00:03:18.000
Navigate to the right side,

00:03:18.000 --> 00:03:23.000
you should see device specific
ActiveSemi PAC55xx.

00:03:23.400 --> 00:03:24.880
It should say install.

00:03:24.880 --> 00:03:28.480
I already have it installed
so it shows as up to date.

00:03:28.600 --> 00:03:31.600
Once that finishes, your Keil environment
is set up and ready.

00:03:31.760 --> 00:03:35.200
At this point
Keil is prepared to compile and program.

00:03:35.200 --> 00:03:36.480
your EVK.

00:03:36.480 --> 00:03:39.440
In the next video,
we will go into the build settings.

00:03:39.440 --> 00:03:42.520
Select the J-Link as the debugger, then

00:03:42.520 --> 00:03:45.680
build and flash the
firmware over SWD.