

# QgroundControl\_AQ v1.7 Beta building

*Afernan, April 2014*

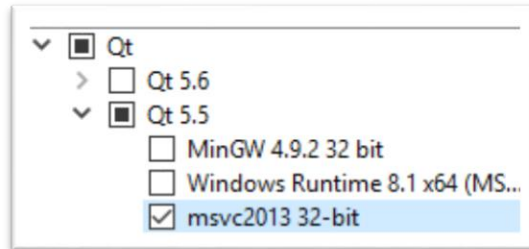
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[wiki](#)

# 1 SOFTWARE NEEDED

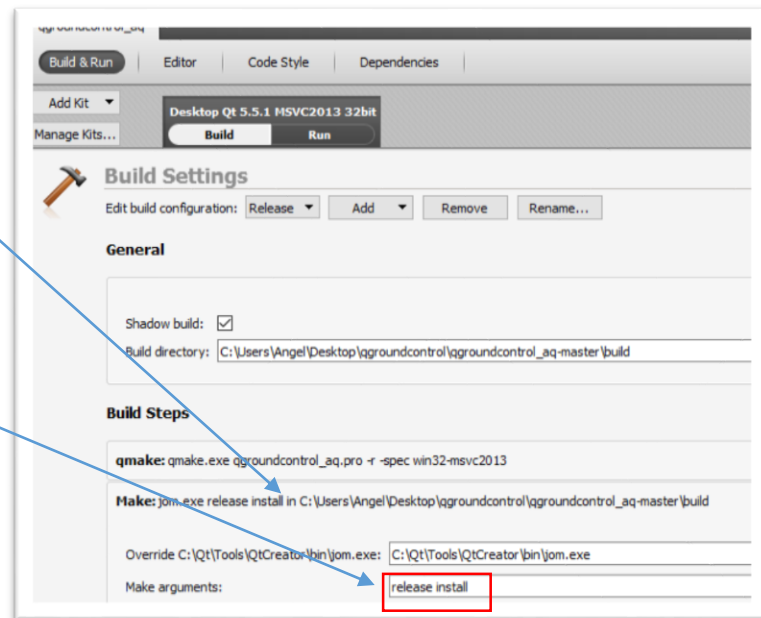
1. Qt [v5.5.1](#) “[qt-unified-windows-x86-2.0.3-online.exe](#)”




2. **Compiler:** 32 bit, [Visual Studio 2013 compiler](#) Express 2013 para escritorio

Must be shown correct path:

Añadir “**release instal**” donde se indica

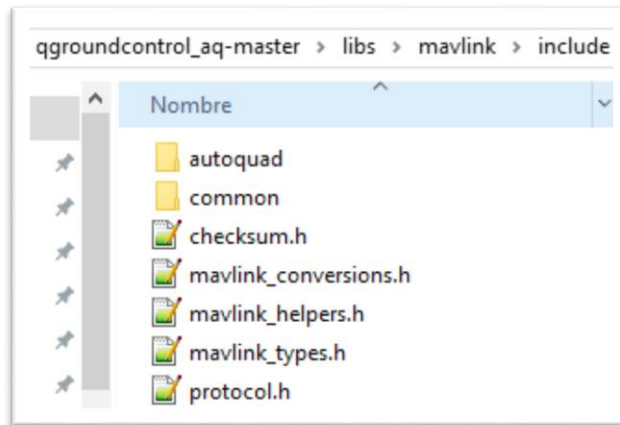


**Note.** Set the Path to the build files (both Debug and Release). Until that it's not correct (show in red) the “Build”  Its not activated.

## 2 SOURCE CODE

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1. Download from [here](#) this [ZIP](#) with “qgroundcontrol\_aq” source code
2. Download the latest version of [https://github.com/AutoQuad/mavlink\\_headers](https://github.com/AutoQuad/mavlink_headers) and place the content in the **libs/mavlink/include** folder of QGC source code.



## 3 BUILDING WITHOUT QT-SPEECH

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We need to change to files:

- qgroundcontrol\_aq.pro
- QtSpeech.pri

### 3.1 ERROR DUE TO USE MSVC2013 INSTEAD OF MSVC2010

It will be **fixed** by adding the following line in the “**qgroundcontrol\_aq.pro** file”, line102

```
# to correct error C2440: cannot convert from 'const wchar_t [1]' to 'const BSTR'  
win32: QMAKE_CXXFLAGS_RELEASE += -Zc:strictStrings
```

### 3.2 PATH SETTING

Path to “Microsoft Visual Studio”. If I have it in “Microsoft Visual Studio 12.0” (created by “Visual Studio 2013 desk” installation) update the file:

\libs\QtSpeech \QtSpeech.pri line37

```
-INCLUDEPATH += "C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/atlmfc"  
+INCLUDEPATH += "C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/atlmfc"
```

### 3.3 BUILDING WITHOUT TEXT-TO-SPEECH

If required files are not present, Build is done without Text-To-Speech.

(To force build without *Text-To-Speech* you need to add "NO\_TEXT\_TO\_SPEECH" to your Qt DEFINES variable. You can do this by un-commenting in "**qgroundcontrol\_aq.pro**", line116)

```
- #DEFINES += NO_TEXT_TO_SPEECH  
+ DEFINES += NO_TEXT_TO_SPEECH
```

### 3.4 BUILDING RELEASE

Select "RELEASE" and



## 4 BUILD CON QT SPEECH

---

1. "**Windows Driver Kit Version 7.1.0**" (<http://www.microsoft.com/en-us/download/details.aspx?id=11800>).
  - a. Mount the ISO and run the installer,
  - b. select "**Build Environments**" and "**Debuggin Tools**" checked
  - c. Install it to the folder of your choice (you can remove it later).
  - d. Once installed, find the **inc/at171** folder and copy the contents to  
C:\Program Files (x86)\Microsoft Visual Studio  
12.0\VC\**at1mfc**
  - e. Then find the lib/ATL/i386 folder and copy the contents to C:\Program Files  
(x86)\Microsoft Visual Studio 10.0\VC\lib. (For 32-bit systems, adjust the paths  
accordingly and then edit the path definitions in the /libs/QtSpeech/qtspeech.pri  
file.)

## 5 BUILD WITH QTSPEECH

**QtSpeech** uses qmake to build itself as static library. **qmake** is part of a Qt distribution.

### Building Qt Speech - Win32/MSVC

Install [Speech SDK](#) (Windows XP - Speech SDK 5.1). Unfortunately fixes in header files are required (maybe due to outdated version of SDK for Windows XP)

**"sphelper.h":**

**C:\Program Files (x86)\Microsoft Speech SDK 5.1\Include**

line 769:

```
- const uLenVendorPreferred = wcslen(pszVendorPreferred);  
+ const ULONG uLenVendorPreferred = wcslen(pszVendorPreferred);
```

line 1418:

```
- static CoMemCopyWFEX(const WAVEFORMATEX * pSrc, WAVEFORMATEX ** ppCoMemWFEX)  
+ static int CoMemCopyWFEX(const WAVEFORMATEX * pSrc, WAVEFORMATEX ** ppCoMemWFEX)
```

line 2372:

```
- for (const WCHAR * psz = (const WCHAR *)IPParam; *psz; psz++) {}  
+ const WCHAR * psz; for (psz = (const WCHAR *)IPParam; *psz; psz++) {}
```

As alternative to avoid building process you can use already built QtSpeech.vs2005.lib, but still you will need sapi.lib on linking stage.

Also need the **ATL MFC** developer package. The simplest way to get this is to download the **Windows Driver Kit Version 7.1.0** (<http://www.microsoft.com/en-us/download/details.aspx?id=11800>).

1. Mount the ISO and run the installer,
2. then select the **"Build Environments"** feature (also keep **Debuggin Tools** checked if it is already). Install it to the folder of your choice (you can remove it later (\*)).
3. Once installed, find the **inc/atl71** folder and copy the contents to **C:\Program Files (x86)\Microsoft Visual Studio 12.0\VC\atlmfc**.
4. Then find the **lib/ATL/i386** folder and copy the contents to **C:\Program Files (x86)\Microsoft Visual Studio 12.0\VC\lib**. (For 32-bit systems, adjust the paths accordingly and then edit the path definitions in the **/libs/QtSpeech/qtspeech.pri** file, line37.)

```
INCLUDEPATH += "C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/atlmfc"
```

(\*)To uninstall run again the installer "KitSetup.exe" and deselect all

Build: check that following line is commented in "qgroundcontrol\_aq.pro", line116

```
# DEFINES += NO_TEXT_TO_SPEECH
```

## 6 ERRORS

### 6.1 QT 2013 & MSVC2013 KIT

No compila. Da error:

**Error 2** error C2440: 'default argument' : cannot convert from 'const wchar\_t [1]' to 'const BSTR'

- “This is the newest version of vs 2013 express version. I just got it yesterday. Is this a vs2013's bug? Any solutions? EDIT: All the errors are C2440: cannot convert from xxx to xxx
- The same code I compiled without any problem using VS2010. And I found that all the errors are from the windows\_kit 8.1. “

it will be **fixed** by adding the following line in the “qgroundcontrol\_aq.pro file”

```
# to correct error C2440: cannot convert from 'const wchar_t [1]' to 'const BSTR'  
win32: QMAKE_CXXFLAGS_RELEASE -= -Zc:strictStrings
```

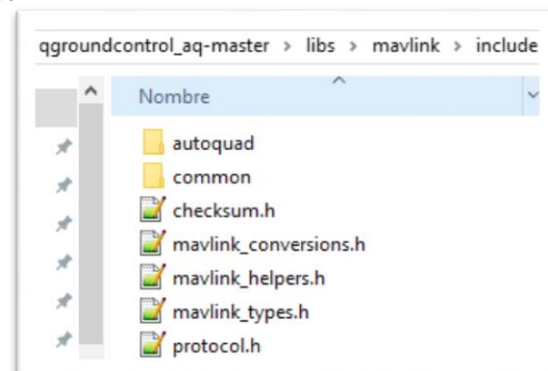
### 6.2 CORREGIR EN EL WIKI, README.MD

#### 6.2.1 lib

If you download an archive, you will also need to download the latest version of [https://github.com/AutoQuad/mavlink\\_headers](https://github.com/AutoQuad/mavlink_headers) and place the content in the lib/mavlink folder of QGC source code.

Must say

“...place the content in the Libs/mavLink folder of QGC source code”



#### 6.2.2 Build on Windows

##### Build on Windows

Supported builds for Windows are 32bit (64b might work, not tested), using MSVC 2010 or higher. MinGW/GCC might work, but not tested.

- MSVC it's very difficult to find. It's obsolete
- Qt 5.5.1 MSVC2013 32Bits gives this error:

**Error 2** error C2440: 'default argument' : cannot convert from 'const wchar\_t [1]' to 'const BSTR'

**fixed** by adding the following line in the “qgroundcontrol\_aq.pro file” (at line 102)

```
# to correct error C2440: cannot convert from 'const wchar_t [1]' to 'const BSTR'  
win32: QMAKE_CXXFLAGS_RELEASE -= -Zc:strictStrings
```