

# First steps receiving data from a uPart using a cPart bridge

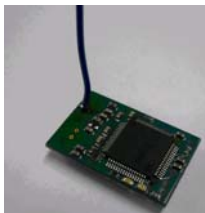
If you follow the steps below you can easily receive data from a uPart and see the sent data in the Particle Analyser. Please note, that this guide is written for Windows (for device drivers and software for linux see <http://particles.teco.edu/software/index.html>)!

## 1) Devices needed

uPart



cpart



USB bridge



## 2) Downloading needed software and device drivers

- JDK 1.5 (or higher): <http://java.sun.com/javase/downloads/index.jsp>
- USB bridge software (Windows installer package, containing binaries and sources) [http://particles.teco.edu/software/bridge/USBBridge/sw/v100/usbbridge\\_v100.msi](http://particles.teco.edu/software/bridge/USBBridge/sw/v100/usbbridge_v100.msi)
- Windows Drivers for the USB bridge: [http://particles.teco.edu/software/bridge/USBBridge/sw/v100/usbbridge\\_v200\\_driver\\_libusb.zip](http://particles.teco.edu/software/bridge/USBBridge/sw/v100/usbbridge_v200_driver_libusb.zip)
- Particle Analyser: There are 2 versions of the particle analyser available one Delphi implementation that you can get here: [particleAnalyzer-20040114.zip](#) and also a Java version which you can download here: [pAnalyzer-0.0.5.zip](#) (if you choose to use the Java version which has more features but may crash from time to time there is a [Webstart](#) available which dynamically loads all needed classes)

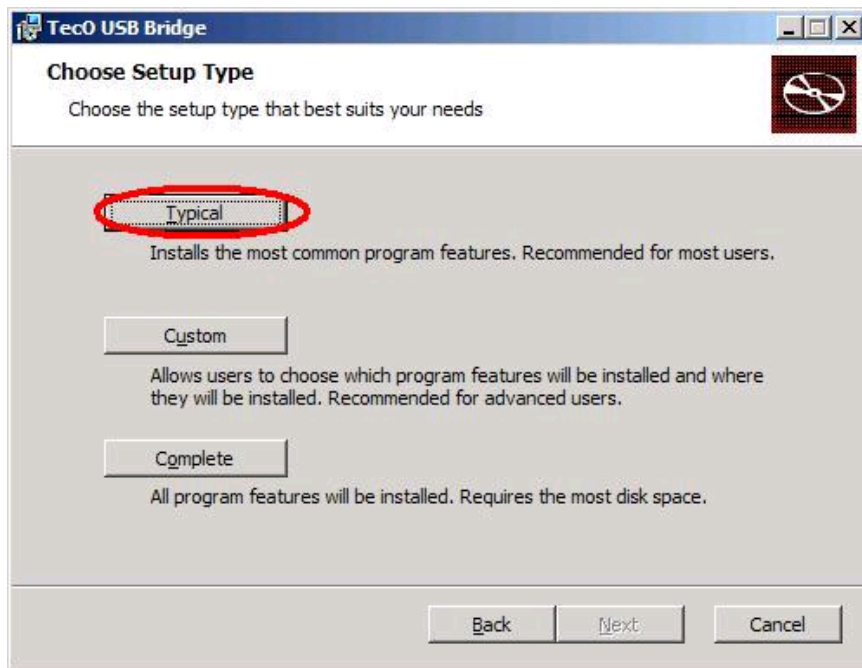
## 3) Installing the software and device drivers

### 3.1) Install JDK 1.5

Install the Java Development Kit as described on the Sun page.

### 3.2) USB bridge software (Windows)

Start [usbbridge\\_v100.msi](#) from your computer and choose 'Typical '



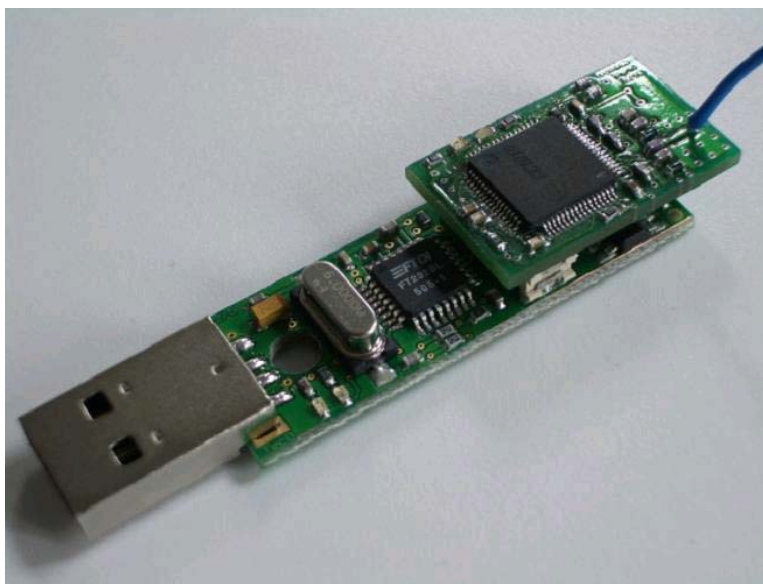
If finished, you should find a link to the program on your desktop.



### 3.3) Windows Drivers for the USB bridge

Extract the [usbbridge\\_v200\\_driver\\_libusb.zip](#) into a directory of your choice.

Now insert the [USBBridge](#) in your USB port. Please note that the receiver ([cPart](#)) should be connected on the USB board on top like in the image shown below.

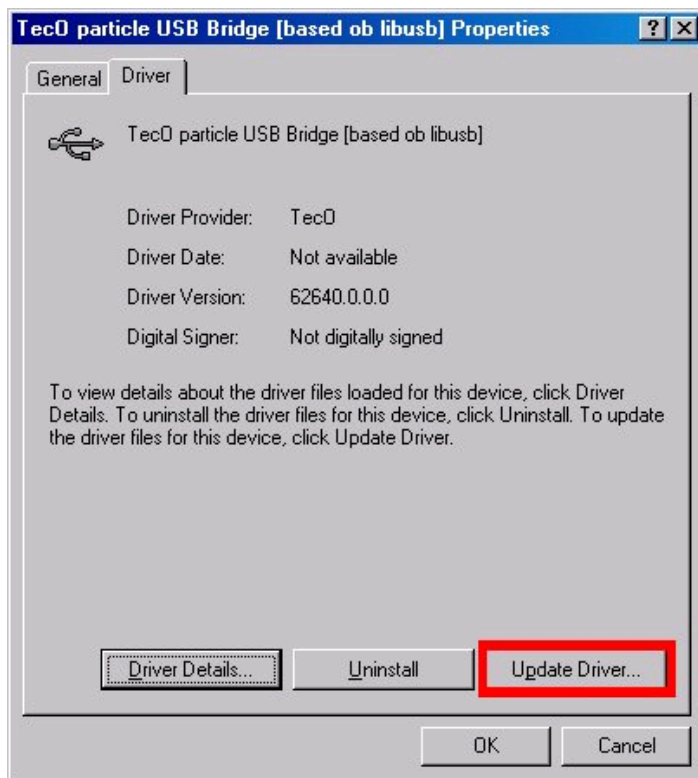


Windows will now request you to select the driver.

Specify the Driver directory you chose earlier. The installation concludes automatically the correct .inf file. Check for the "TecO particle USBBridge [based on libusb]" in the Device Manager. It should read like the following:



If you have already installed an older version of the USBBridge driver, please update it:



### 3.4 Particle Analyser

Depending on the version you downloaded the installation is slightly different.

#### 3.4.1) Delphi implementation

Extract [particleAnalyzer-20040114.zip](#) to a directory of your choice. You will find the executable in the following directory: 2004\_01\_14\ParticleAnalyzer\Analyzer.exe.

#### 3.4.2) Java implementation

Extract [pAnalyzer-0.0.5.zip](#) to a directory of your choice. In that directory you will find a run.bat to execute it.

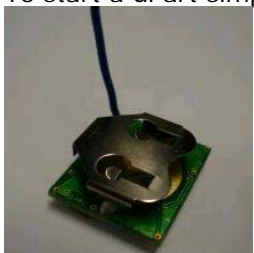
#### 3.4.3) Java Webstart

Click on [Webstart](#) and follow the instructions on screen. You need to accept the certificate in order to use it. After the installation all the files are stored in a temporary folder for offline usage.

## 4.) Starting the applications

### 4.1) uPart

To start a uPart simply insert a 3 volt lithium manganese battery in the battery slot of the uPart.



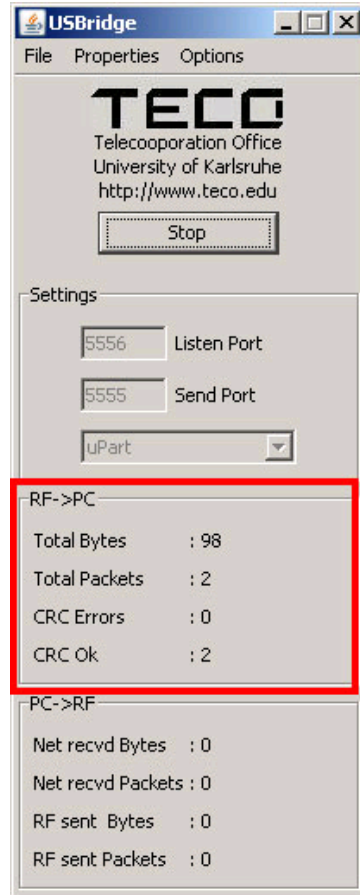
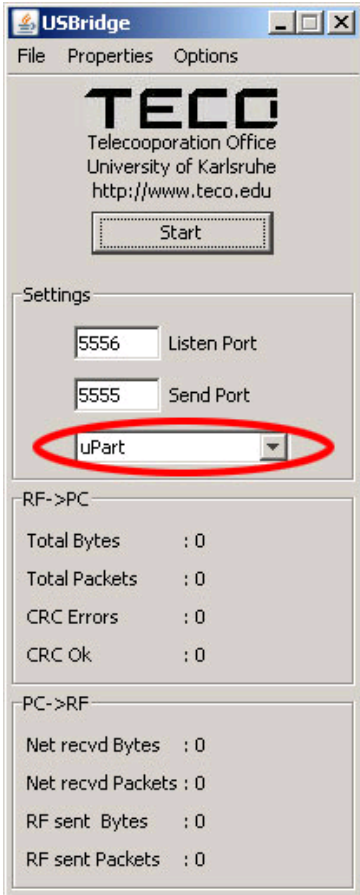
## 4.2) USBBridge program

Start the USB bridge program via the link on your desktop:



Switch it to "uPart" and press the "Start" button.

Start a uPart (if not done yet) by inserting a batterie and check for incomming data.

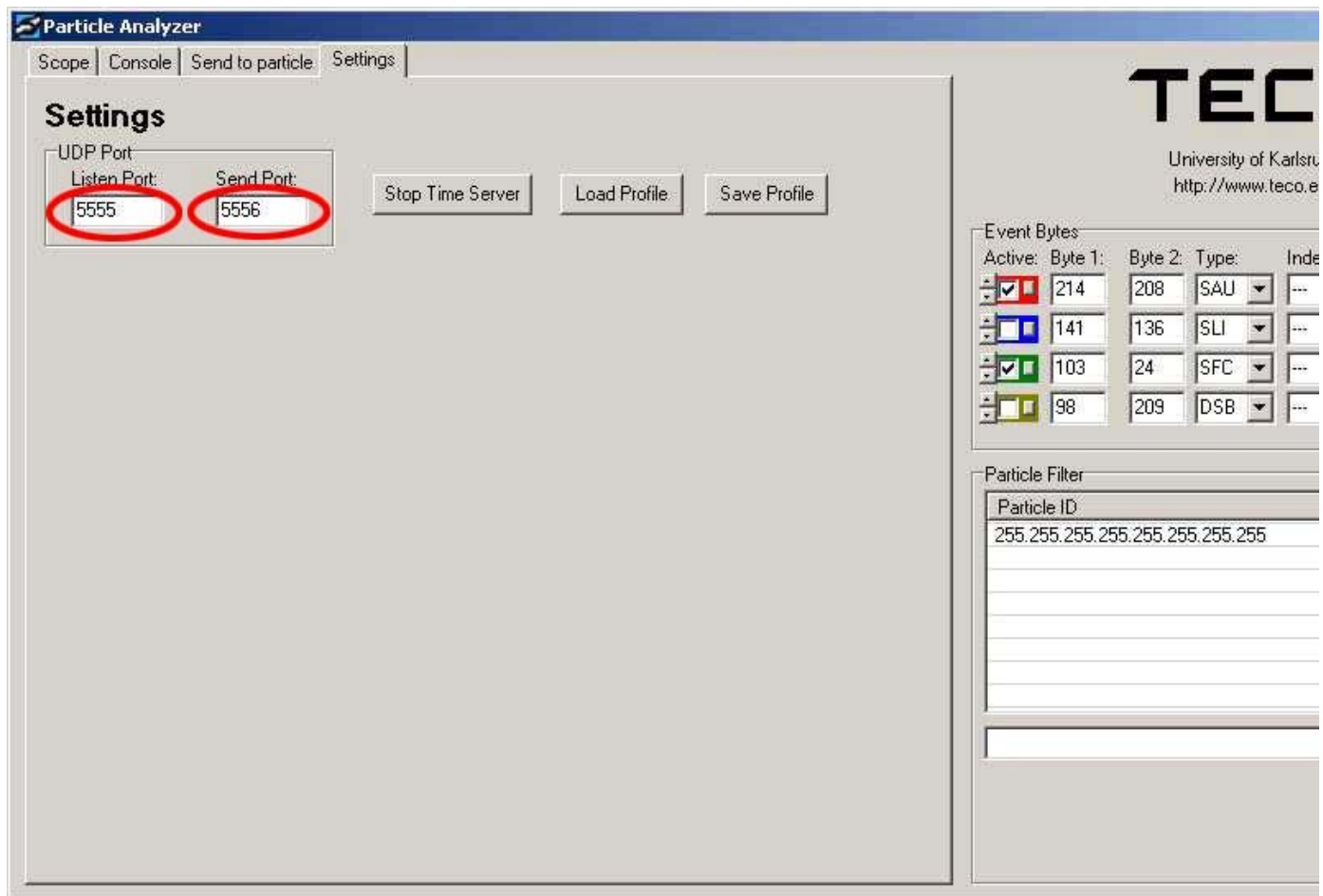


## 4.3 Particle Analyser

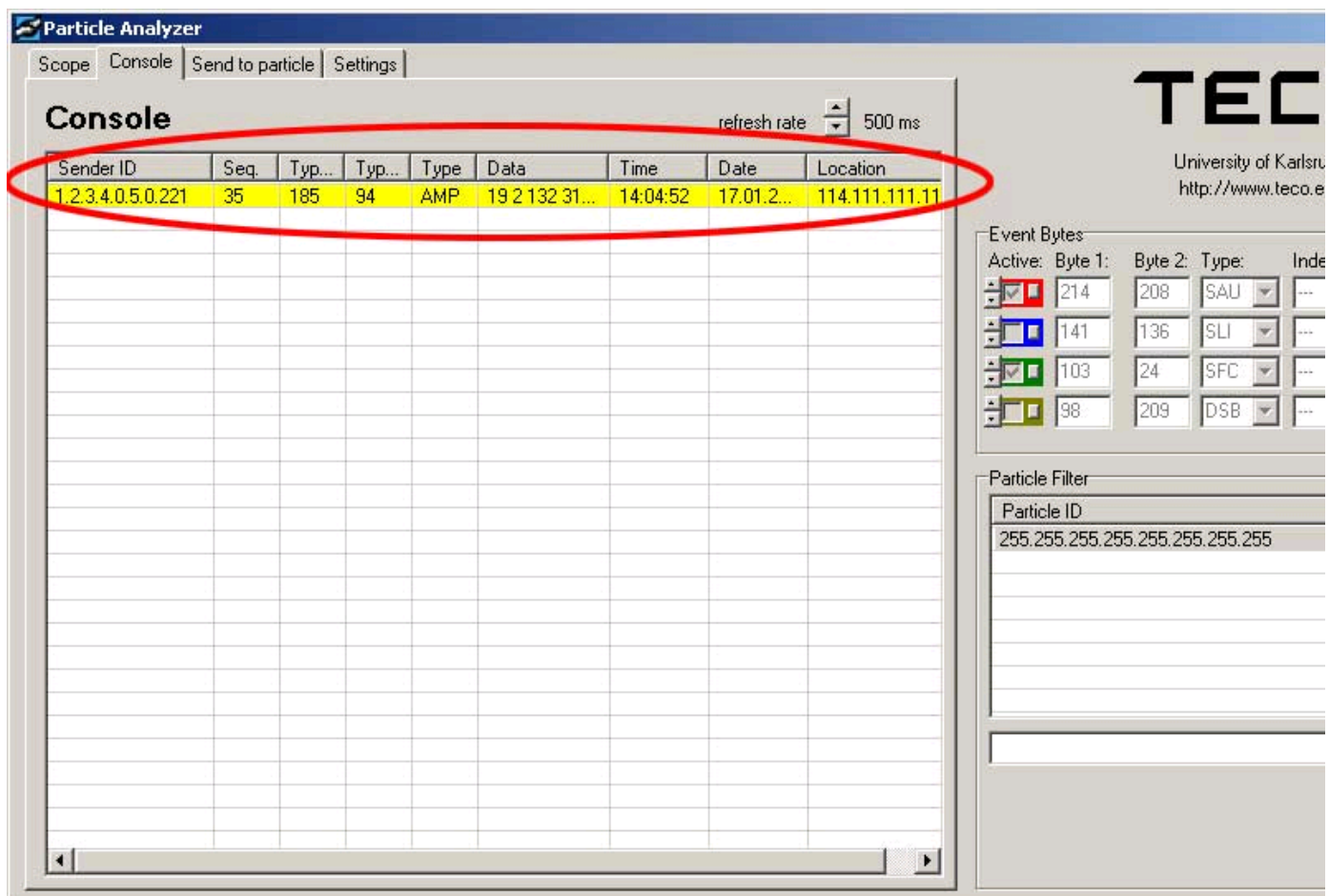
### 3.4.1) Delphi implementation

Execute Analyzer.exe in the program directory





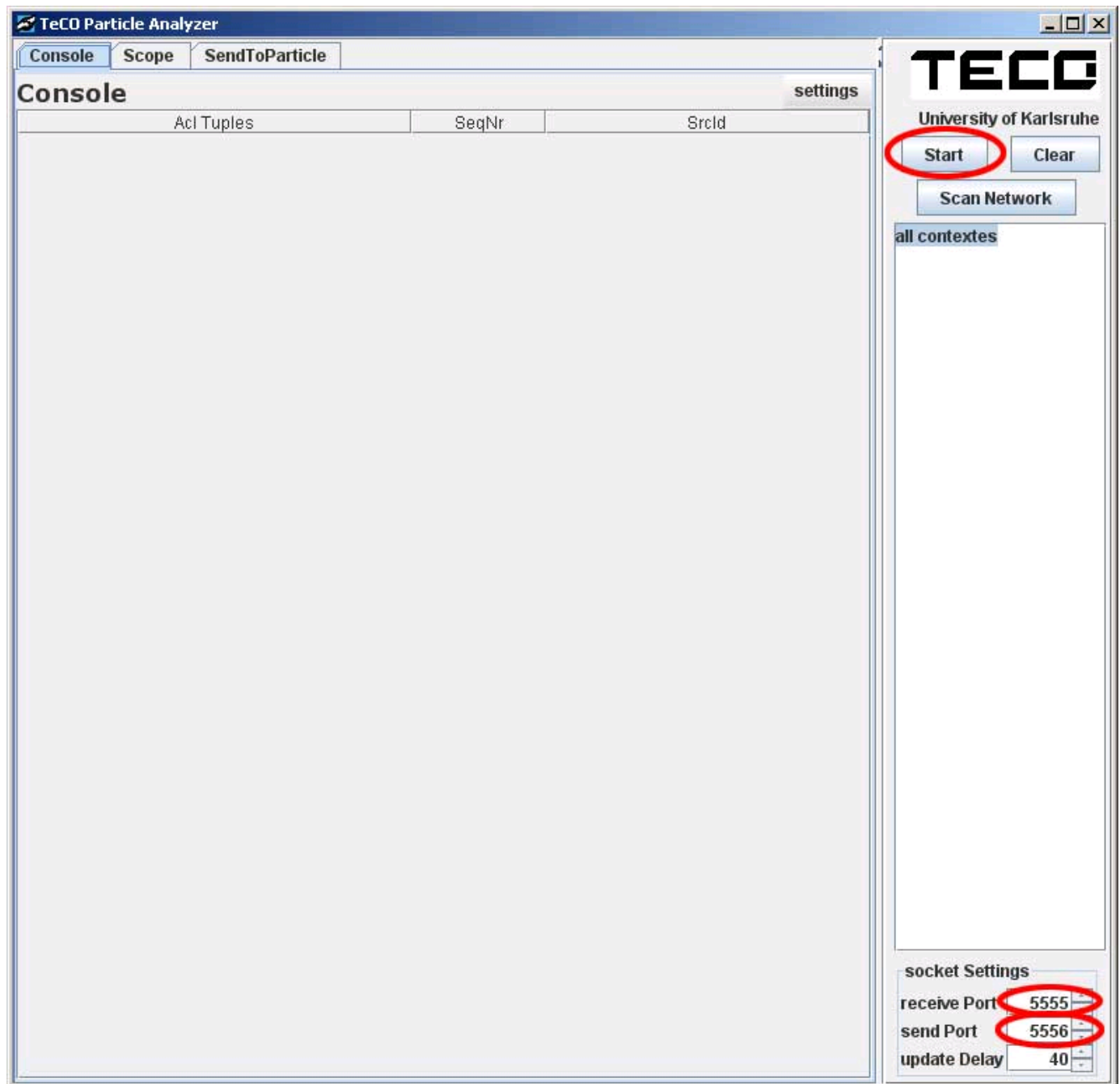
Now press the Start button and switch to the console view where the incoming packets are shown.



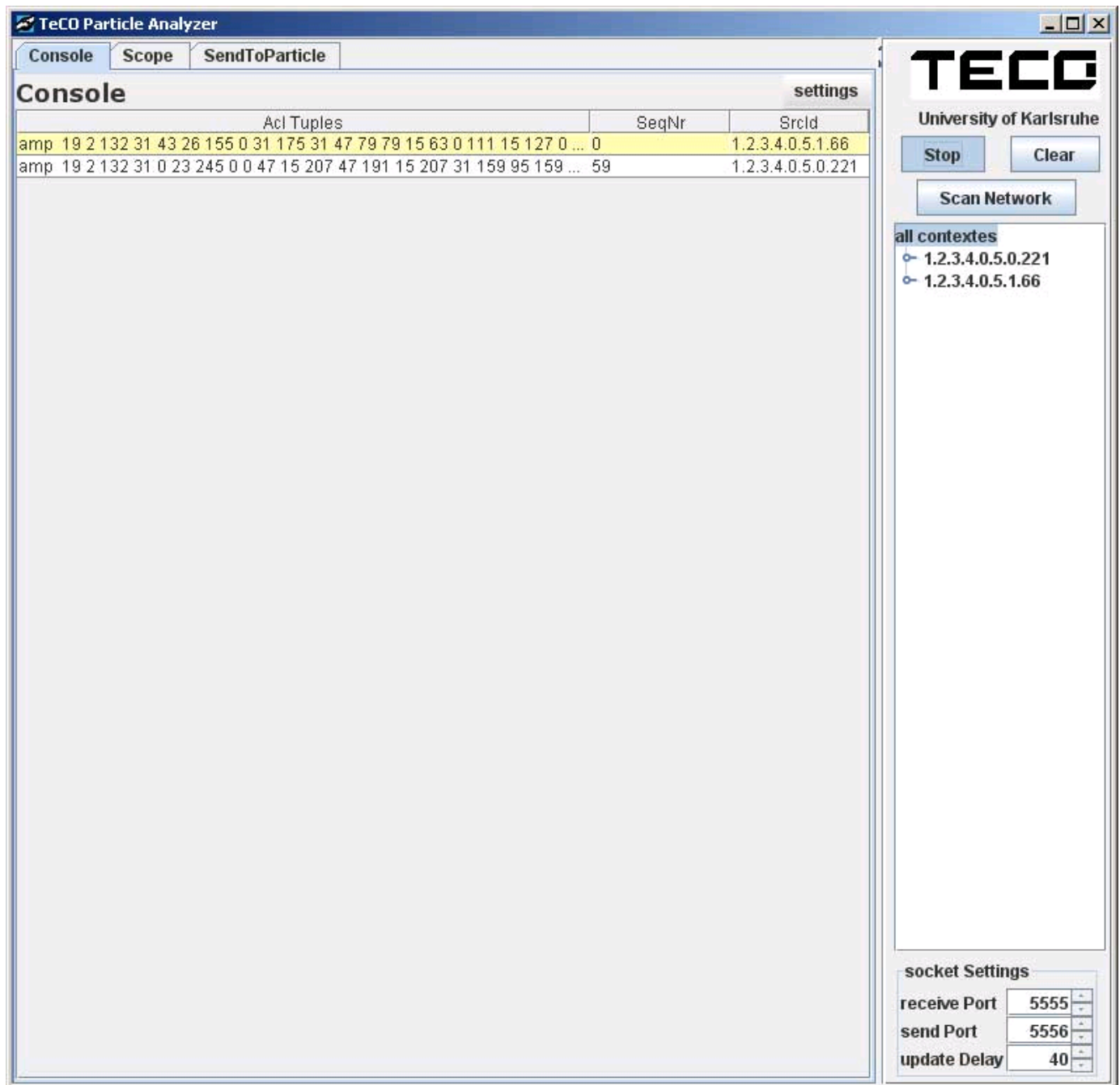
### 3.4.2) Java implementation && Java Webstart

Execute the run.bat in the install folder or the ParticleAnalyzer link which should be on the desktop (otherwise you have use the [Webstart](#) link). The first start might take some time because the Java virtual machine has to be loaded (as you may know from other applications).

Please check if the ports are set correctly and press Start.



After a packet has been received it will be shown in the list and the ID of the sender uPart is on the right side. If you click on the ID you can filter and show only the selected uPart. In this example I activated 2 uParts.



AcI Tuples	SeqNr	SrcId
amp 19 2 132 31 43 26 155 0 31 175 31 47 79 79 15 63 0 111 15 127 0 ... 0	0	1.2.3.4.0.5.1.66
amp 19 2 132 31 0 23 245 0 0 47 15 207 47 191 15 207 31 159 95 159 ... 59	59	1.2.3.4.0.5.0.221

socket Settings

receive Port	5555
send Port	5556
update Delay	40

Note: Every USB bridge is broadcasting any data received via RF to the local network. If you have 2 bridges running you might receive duplicates!

#### 4) Congratulations! It should work now!

For more information about [ACL tuples](#) or how to use the libparticle framework to write client applications see the [documentation](#) at the [particle website](#).