

RTK Implementation

Related products: Nautiz X6, Algiz RT10

Nautiz X6

The RTK receiver of the Nautiz X6 works via a serial port connection.

Accessing Serial Port

Overview Back docking connector

<https://www.handheldgroup.com/knowledge-base/nautiz-x6-v2-back-docking-connector/>

Dependency

<https://www.handheldgroup.com/knowledge-base/accessing-the-serial-port-on-the-back-connector/>

Example setup

1. Power on the serial port and receive NMEA messages.

```
public void setPower(boolean powerOn) {
    try {
        @SuppressWarnings("PrivateApi")
        IBinder iBinder = (IBinder) Class.forName("android.os.ServiceManager")
            .getMethod("getService", String.class)
            .invoke(null, "mmi_device");
        IMmiDevice mService = IMmiDevice.Stub.asInterface(iBinder);
        //noinspection ConstantConditions
        mService.writeForBackNode("str: /sys/class/ext_dev/function/ext_dev_5v_enable", powerOn ? "1" : "0");
        mService.writeForBackNode("str: /sys/class/ext_dev/function/pin10_en", powerOn ? "1" : "0");
    } catch (Exception e) {
        e.printStackTrace();
    }
}

try {
    setPower(true);
    serialPort = new SerialPort(new File("/dev/ttyHSL1"), 38400, 0);
    inputStream = serialPort.getInputStream();
    outputStream = serialPort.getOutputStream();
    getNMEA = new GetNMEA();
    getNMEA.start();
    outputStream.write("GNGGA 1 \r\n".getBytes());
    outputStream.write("GNGSA 1 \r\n".getBytes());
    outputStream.write("GNGSV 1 \r\n".getBytes());
    outputStream.write("GNRMC 1 \r\n".getBytes());
} catch (IOException e) {
    e.printStackTrace();
    Log.e(TAG, e.getMessage());
}
```

Write port

After sending GGA messages to the server, write the received RTK data to the port.

```
@Override
public void sendRTK(byte[] data, int size) {
    if (serialPort != null && size > 0) {
        try {
            outputStream.write(data, off: 0, size);
            Log.i(tag: "Sent Data", String.valueOf(size));
            outputStream.flush();
        } catch (IOException e) {
            Log.e(TAG, msg: "Send Data to serial port failed!");
            Log.e(TAG, e.getMessage());
            e.printStackTrace();
        }
    }
}
```

Algiz RT10

Receive NMEA messages from the integrated Android Location SDK.

Sending data to module:

```
private void SendDataToUbloxChip(byte[] data){
    try{
        int serverPort = 46435;
        String hostName = "localhost";
        DatagramSocket msocket = null;
        DatagramPacket mpacket = null;
        msocket = new DatagramSocket();
        mpacket = new DatagramPacket(data,data.length,
        InetAddress.getByHost(hostName), serverPort);
        msocket.send(mpacket);
        msocket.close();
    } catch (ConnectException e) {
        e.printStackTrace();
    } catch (UnknownHostException e) {
        e.printStackTrace();
    } catch (IOException e) {
        e.printStackTrace();
    } catch (Exception e) {
        e.printStackTrace();
    }
}
```

Downloads

MaxGo RTK:

<https://download.handheldgroup.com/apps/rtk/app/rtk-0.2.0-release.apk>

Documentation:

<https://download.handheldgroup.com/apps/rtk/app/Docs/MaxGo%20RTK%20-%20Help.pdf>