Spresense Device Introduction

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Spresense Products

- The Main Board has an embedded GNSS Receiver with built-in Antenna.
- The GNSS Receiver outputs position data in NMEA format
- Provides QZSS Early Warning Message during disasters
- Arduino compatible interface
Spresense is open source and comes with full documentation, tutorials and sample projects.

- C/C++ based Spresense SDK
- NuttX real-time OS (POSIX compliant)
- Multicore application support
- Optional add-on boards (BLE, Wi-Fi, sensors etc.)
- Arduino IDE support for quick prototyping
- Support for TensorFlow, NNC and Edge Impulse for professional machine learning development

Reference: https://developer.sony.com/develop/spresense/
Spresense Documents and Tutorials

https://developer.sony.com/develop/spresense/webinars

1. How to read GPS information using the Arduino IDE

In this tutorial we will explore how to utilize the Spresense positioning features from the Arduino IDE. The built-in Global Navigation Satellite System (GNSS) receiver is one of the main features of the Spresense board, and the Arduino support library is designed to provide easy access to the most commonly used GNSS functionality.

The first two steps of this tutorial show how to get a basic application for receiving GPS data up and running. Subsequent steps add guidelines showing how to optimize signal coverage and decrease start-up time.

1.1 Basic setup for GPS

The GNSS module is initialized by creating an `GNSS` object and calling its `begin()` method. This powers the hardware block and prepares it for positioning. Then, for a basic example that uses GPS only, we call the `start` method without any parameter in the applications setup:

```
#include <GNSS.h>
static SdGnss *gnss;

void setup() {
  // Setup serial output for printing. */  
  Serial.begin(115200);
  
  /* Initialize GNSS. */  
  gnss->begin();  
  gnss->start();
}
```

This causes the GNSS module to look for satellites. When a fix is established, positioning information is acquired.


https://developer.sony.com/develop/spresense/docs/overview_tutorials_en.html
Spresense Board Interface

Main Board

Main Board with Extension Board
Spresense Board Interface
Arduino Device

Industrial grade Arduino