

News Highlights – Issue 39:

[Fastrax Releases New Super-performing GPS Module IT500](#)

[Jennic Enables Wireless Transportation of Real-time Logistics Data](#)

[High Gain Active GPS Antenna Now Available from Glyn](#)

[Telit Releases New Features and AT Commands for its GSM Modules](#)

[Telegesis Announces 3rd Generation of ZigBee Modules based on Ember EM357 and EM351 Chips](#)

Fastrax Releases New Super-performing GPS Module IT500

New Fastrax IT500 sets higher performance benchmark with respect to sensitivity and power consumption – the unique sensitivity allows reliable operation even in covert installations.



Fastrax, available through [GLYN High-Tech Distribution](#), releases a new super-performing GPS module IT500 in time for its 10th Anniversary celebration. The Fastrax IT500 GPS module boasts impressive test results in acquisition and navigation sensitivity as well as power consumption and navigation performance. The fix rate of up to 10Hz improves data-logging capabilities of GPS applications and creates a wide range of new opportunities.

Fastrax has built a reputation as a trusted and competent player in the GPS industry during the 10 years of the company's history. The product portfolio is large and comprises everything from GPS NMEA modules based on best chipsets from several different suppliers, to unique programmable GPS modules, asset tracking platforms and state of the art Software GPS solutions.

Fastrax IT500 has 66 acquisition channels and 22 tracking channels, which is significantly higher than the current market norm. The new GPS receiver module has a market leading cold start sensitivity of -148dBm and navigation sensitivity of -165dBm, which enable high performance navigation in the most demanding applications and environments, and a solid fix even in harsh GPS visibility environments. Low power consumption and the unique sensitivity make IT500 well suited for both asset tracking and navigation systems and battery operated consumer products like personal navigation devices, handheld computers and sports accessories. With its compact design and optional built-in USB 2.0 interface, Fastrax IT500 is also an ideal receiver for GPS mouse and Mini PCI card applications.

"Fastrax is proud to celebrate its 10 Year Anniversary by releasing yet another industry leading GPS module. The high growth during Q1/-09 in comparison to last year, especially in this market environment, shows that we are doing the right things and that customers reward us with their trust," comments Taneli Tuurnala, CEO and President of Fastrax. "The IT500 is a great example of our long-standing industry expertise. With its market leading sensitivity and one of the lowest available battery consumption levels we set a new industry benchmark. When we develop a new module we also want secure the interest of our customers. By making the IT500 design according to our Multiplatform footprint, which is also supported by our IT300 and IT03-S receivers, we give our customers more choice and help to reduce their design costs."

The compatibility with Fastrax multiplatform design allows designers to address several customer and market requirements with a single hardware design. This helps to save considerable amount of development time, testing, documentation and support cost while reducing time to market to an absolute minimum.

New Fastrax IT500 sets higher performance benchmark with respect to sensitivity and power consumption – the unique sensitivity allows reliable operation even in covert installations.

Fastrax IT500 uses Mediatek's MT3329 GPS chipset. Fastrax IT500 samples and volume production quantities are available now.

For more details about Fastrax IT500 and other Fastrax GPS products, please send us an email at sales@glyn.com.au



Jennic Enables Wireless Transportation of Real-time Logistics Data



Jennic, a manufacturer of innovative 32-bit wireless microcontrollers and available through [GLYN High-Tech Distribution](#), announces the release of its Logistics Reference Design, providing a comprehensive platform for use in monitoring and tracking of goods in transportation. Based upon Jennic's Patented Sleeping Beacon Technology, the platform allows battery powered, time-synchronised sleeping wireless sensor networks to be evaluated for logistics applications. Sensors in the network periodically communicate environment data such as temperature to a

central controller, which communicates with a back-office system to provide real-time transportation data to logistics personnel and for auditing purposes.

The Logistics Reference Design includes the following key features.

- Ultra-low power wireless technology creates 'intelligent' sensor network for transportation applications
- Comprehensive platform, to serve rapid development and quick time to market
- Jennic's Patented Sleeping Beacon Technology, maximises battery lifetime of sensor nodes
- IEEE802.15.4 standards based solution to serve a global market

The Reference Design is provided as two packages, to enable first evaluation, followed by development and customisation. The evaluation package is designed to allow the benefits of the ultra-low power wireless solution to be rapidly assessed with use of Jennic's standard evaluation kit and a PC for the back-office GUI. The Windows based GUI displays real-time data relating to the sensor network; including node temperature, battery voltage and RF channel. It also allows the frequency agility features of the solution to be evaluated, through the effects of RF interference and channel blacklisting.

The developer package is supplied as a drop-in application for the Jennic SDK, along with project files and application source code. Provision of source code ensures developers can access right into the heart of the solution, to perform customisations; typically the integration of a GPRS/GSM modem link to the back-office.

Colin Faulkner, Jennic Product Marketing, commented, "Our sleeping beacon technology offers the perfect solution for mobile, battery powered sensor networks, addressing logistics requirements such as cargo and vehicle security, and environment monitoring. The Logistics Reference Design provides OEMs with a fast, effective platform for developing bespoke solutions, providing all the

enabling technology on which to build their system.”

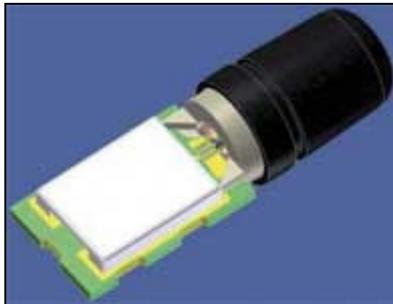
When deploying a monitoring system based on Jennic’s Logistics Reference Design, transport companies can expect to see a fast return on their investment, through a reduction in quality issues, insurance claims and fuel costs by reducing unnecessary transportation.

At the heart of the design is Jennic’s IEEE802.15.4 standards based wireless microcontroller technology operating in the unlicensed 2.4GHz ISM band, providing a solution for a global market. To enable rapid time to market, Jennic offers a range of pre-certified surface mounted wireless modules that have full compliance with all RF regulatory requirements meaning lower certification costs.

For more details about Jennic products, please send us an email at sales@glyn.com.au



High Gain Active GPS Antenna Now Available from Glyn



Glyn announces the release of JCA044 surface-mount high-gain GPS antenna, the smallest active quadrifilar helix GPS antenna and providing high performance in difficult GPS applications.

The JCA044 integrates a high-performance, high-gain, low-noise amplifier and is an active antenna ideal in applications where:

- the device is handheld, body-worn, or otherwise surrounded by high-dielectric materials that would de-tune conventional antennas;
- the antenna is tightly integrated with other antennas, e.g.,

Bluetooth®/GPS receivers or GPS/GSM mobile phones;

- there are tight constraints on the size of the device or the amount of space allocated to ground planes;
- the GPS receiver requires 20dB or more of input pre-amplification;
- the orientation of the device is random; or
- the antenna will be embedded in the device.

The JCA044 antenna is balanced, which isolates it from the device and enables the antenna to reject common mode noise resident on the device ground plane. The construction and materials of the antenna constrain its near-field to a very small volume, therefore materials near the antenna have negligible de-tuning effects and the antenna maintains its pattern and efficiency in the presence of dielectric loading. As a dielectrically-loaded antenna with a high performance SAW filter, the JCA044 antenna effectively attenuates signals from common GSM and ISM frequencies by as much as 30dB, minimizing the need for additional filtering.

The JCA044 antenna may be deployed in an external, “stubstyle” configuration, but it is also a simple antenna to embed due to its isolation properties. The antenna is deployed with either a black radome or an ABS plastic sleeve.

Technical Data

Type: Quadrifilar Helix

Frequency: 1573.42 (min), 1575.42 (typ) 1577.42 (max) MHz

Polarization: Right-hand circular polarized

Voltage: 2.8 (min), 3.3 (typ), 3.6 (max) V

Current: 13 (typ), 15 (max) mA

Gain: +24 (min), +25 (typ) dBic

Beamwidth: 135 Degrees

Bandwidth (3dB): 20 MHz

Axial Ratio: <2.0 @Zenith

VSWR: <2.0:1 (typ), 2.3:1 (max)
 Impedance: 50
 Noise Figure: 1.2 (typ), 1.3 (max) dB
 Input 3rd Order Intercept Point: -10 dBm
 Operating Temperature: -40 +20 +85 °C
 Element Dimensions: 10 (diameter) x 17 (length) mm
 Overall Dimensions (w/radome): 13 (dia) x 14.6 (width) x 44 (length) mm
 Weight (excl radome or sleeve): 8.4 grams
 Mounting: SMT

Download Glyn's GSM/UMTS/3G & GPS Antennas from this link:
http://www.glyn.co.nz/downloads/documents/Antennas/GSM_UMTS_&_GPS_Antennas_v6a.pdf

For more information on Glyn's range of antennas, please send us an email at sales@glyn.com.au



Telit Releases New Features and AT Commands for its GSM Modules

Telit, available through [GLYN High-Tech Distribution](#), releases new features and AT commands for its range of GSM modules, specifically for various event monitoring and for running AT commands remotely.

Event monitoring can be configured for the following events:



VBATT	Battery voltage threshold drop
DTR	Data Terminal Ready signal status monitoring
ROAM	Network roaming state
CONTDEACT	GPRS context deactivation
RING	Call rings number
STARTUP	Module start-up (with or without SIM)
REGISTERED	Network registration (to home network or in roaming) after the start-up and the SMS ordering
GPIOx (with x = 1,2,3,4,5)	GPIO pin status monitoring
ADCH1	ADC pin voltage threshold exceeding
ADCL1	ADC pin voltage threshold drop

AT commands can be also executed remotely by sending the request either via SMS or TCP.

These new AT commands are described in detail in two new application notes.

For more information on Telit's new AT commands for its GSM modules, please send us an email at sales@glyn.com.au



Telegesis Announces 3rd Generation of ZigBee Modules based on Ember EM357 and EM351 Chips



Telegesis, available through [GLYN High-Tech Distribution](#), announces the releases of its 3rd generation of advanced ZigBee modules and the first module family on the market to feature the EM357 and EM351- the latest ARM® Cortex M-3 SOC's from Ember.

ETRX3 series modules have a footprint of just 19mm x 25mm for both standard and PA/LNA versions which represents a 40% reduction in size compared to the ETRX2 module. They are available

with either an on board antennae or a Hirose U.FL connector to allow connection of external antennae.

A link budget of 105dB on the standard ETRX3 module gives excellent performance and RF power can be further boosted by use of the ETRX3-LR which adds an extra LNA+PA boosting the link budget to 123dB.

The ETRX3 series are low power 2.4GHz ZigBee modules integrating a 2.4 GHz, IEEE 802.15.4 compliant transceiver with up to 192k of flash, 12k of RAM, and many advanced peripherals.

The EM357 and EM351 utilise an efficient architecture that exceeds the dynamic range requirements imposed by the IEEE 802.15.4-2003 standard by over 15 dB. The integrated receive channel filtering allows for robust co-existence with other communication standards in the 2.4 GHz spectrum, such as IEEE 802.11 and Bluetooth.

The ARM® Cortex M3 microprocessor is optimised for high performance, low power consumption, and efficient memory utilisation making it ideal for use in ZigBee applications. To maintain the strict timing requirements imposed by the ZigBee and IEEE 802.15.4-2003 standards, the EM357 and EM351 integrate a number of MAC functions into the hardware handling automatic ACK transmission and reception, automatic backoff delay, and clear channel assessment for transmission, as well as automatic filtering of received packets.

ETRX3 series modules work from a 2.1v to 3.6v supply and active power consumption is reduced by over 20% compared to the ETRX2. In deep sleep mode, current consumption is reduced to 800nA and further reduced to 400nA if the self wakeup feature is not enabled.

ETRX3 series modules features all the advanced software already present on other Telegesis ZigBee modules such as the Telegesis AT command set which allows the designer to use the functionality of the EmberZNet stack without the need for complex embedded code. Development is also made easier by the addition of an integrated JTAG and debugging interface.

As with all our modules, ETRX3 series devices are designed to be easily integrated into designs without the need for RF or embedded expertise. Using the latest version of Embers Znet PRO meshing technology ETRX3 family modules allows designers to add the latest meshing radio technology without complex software engineering.

ETRX3 series module features

- EM300 series ZigBee SOC featuring 32-bit ARM® Cortex-M3 processor
- Dimensions 19mm x 25 mm x 3 mm

- Up to 192k of Flash, 12k of RAM
- Estimated RX Sensitivity -99dBm (-100dBm Boost)
- Estimated TX Power 3dBm (5dBm Boost)
- 105dB link Budget
- Est Current Consumption: 20% better compared to ETRX2
- 128µS Wakeup
- Improved Hardware MAC Acceleration
- JTAG Interface for Programming and Debugging
- Improved Peripherals (ADC, timers etc.)
- Chip Antenna and U.FL coaxial Connector
- FCC Approval, tested for European Regulations

For more information on Telegesis products, please send us an email at sales@glyn.com.au



For more information about GLYN Ltd products, please visit our website at www.glyn.com.au

To **unsubscribe** to this newsletter, click [here](#).

GLYN Ltd (Australia and New Zealand) is a high-tech solutions provider and the exclusive distributor for a select range of semiconductors and electronic component manufacturers from Japan, Europe, USA and Taiwan. We are the sister company of GLYN GmbH (Germany) which has sales offices throughout Central Europe, Scandinavia and the UK.

GLYN represents some of the major brands in the industry such as Mitsubishi Electric, Fujitsu, Mitsubishi Materials, Micronas, Telit, Jennic, Maxwell, Fastrax, Cyan, FTDI, Bluegiga, Yitran, Sierra Monolithics, Isahaya Semiconductors, AUO, Univision and CMEL OLED and EDT LCD displays. Through our extensive network of suppliers we can also source those hard to find or obsolete items from a range of the world's premier semiconductor suppliers including Renesas, Toshiba, NEC, NEC-Tokin, Sony, Seiko Instruments, Yamaichi, Suyin, ICSI, Wavecom, Infineon, and Displaytech.