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- Enhanced New-Wave Alarm Panels Thanks to CML and Mobitex Technology-

New UK legislation heralds a change to both commercial and domestic security alarm system designs, to ensure that dual path communicators are provided in line with the **EN50136-1 1998 standard** and in association with **PD6662 2004**. These requirements, which will also affect Europe in the near future, state that an alarm panel must have one communications path as a wireline channel and the other as a wireless communicator, with very high reliability and integrity.

CML Microcircuits provides ultra-low powered modem solutions meeting the new requirements, which comes in to effect in October 2005.

CML's **CMX909B** and new **CMX990** miniature narrowband M2M GMSK modem IC, offer 100% accuracy thanks to their ability to run on the **Mobitex wireless packet-data network**. When combined with a **CMX850** wireline modem, the **CMX990** and **CMX850** offer a complete ultra-low-powered solution, already used in many new-wave designs for dual communicator alarm panels.

CNI (Communications Network Interface) is one such company manufacturing a specific dual communicator device incorporating CML's modem ICs, which can be linked in to any new-wave alarm system. The CNI LinkBox is connected to the master control unit within a security system and monitors the detectors; forwards alarm signals and transports monitoring signals to and from a central operation centre. The **Mobitex** data network is the primary communications channel used for guaranteed critical transmittal, while the wireline modem is used as a back-up.

Following a successful field test of the LinkBox, The Korean security company S1 (a division of Samsung), recently placed an order for 30,000 units, as during the tests, the **Mobitex** data network and CML modem ICs, performed flawlessly providing 100% reliable and error-free data transmissions. In addition, **Mobitex** is naturally wireless, meaning that there are no wires for thieves to cut. Applications can also take advantage of the closed user group feature (CUG) in **Mobitex** to guarantee that unauthorised persons are not able to access the security system.

CML is actively pursuing the new standard, helping designers integrate their wireline and wireless modems in to URN (Police response compliant) designs. A range of evaluation kits is available from CML, for rapid design-in. These new kits allow designers full access to all functions of the chip and its external components.

Three separate PCB-based kits are available for the CMX990:

EV9900 - The universal **CMX990** evaluation kit, to demonstrate general data operation; this board comes complete with a parallel interface to connect to an external host, and is loaded with components for use in the 800-900MHz band, with support for 400MHz operation.

EV9902 - A Hyperstone microcontroller development card with embedded firmware, supplied with a PC based GUI, to allow easy evaluation of the **CMX990**, in general purpose non-Mobitex applications.

DE9901 - A total 'plug-and-play' **Mobitex** evaluation kit, complete with embedded **Mobitex Technology AB** object code, allowing the board to directly 'log-on' to an on-air **Mobitex** network.

The **CMX990** is a time, space and component-saving wireless data IC, used in a variety of M2M applications, from vending machines to utility meters, receiving much critical acclaim since it's launch. As a single-chip GMSK packet-data modem with RF transceiver, this innovative half-duplex IC offers: a versatile baseband modem, IF and RF processing functions, programmable synthesizers, signal level-setting functions and comprehensive on-chip and peripheral control, monitoring and interfacing.

The **CMX990** offers a data range of 4 to 16 kb/s with selectable BT values, at **RF frequencies of 400MHz to 1GHz**. The **CMX990** is configurable to both freeformat and packet data schemes, is fully Mobitex compatible and can be set to comply with EN 300 113 and FCC CFR 47 Part 90 standards, employing simple task-command configuration to provide simplicity and efficiency to the control and operation of the modem.

FEC, CRC, data scrambling and interleaving functions are available on the **CMX990**. Automatic Rx clock extraction and signal level measurement/compensation allows the unit to operate in all signal conditions. By employing external VCO inputs, the two programmable on-chip synthesizers provide all the frequencies necessary for wireless data operation. Addressable on-chip DACs and ADCs are provided for control and monitoring of a wide range of external functions, including system levels and the VCO loops, with separate dedicated functions for RF PA stage and TCXO control.

With low operational power of 3.0 volts and availability in a 'no-leads' 64 VQFN package, optimum power consumption can be assured at all times by the separate dynamic power saving of unused functions.

Assistance is available from CML's help-desks for implementation of the CMX990 into wireless data applications: techsupport@cmlmicro.com. Further product information can be found at www.cmlmicro.com or by calling +44 (0)1621 875500.

The CMX990 will be showcased at the 2005 Mobitex Business and Networking Conference in New York 29th –30th August.

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For further information please contact Mark Channen at the address at the head of this release