



## Using the CMX602A in place of the FX602

### Introduction

The CMX602A and the FX602 are pin compatible, use the same external components, draw the same current and the Zero Power and FSK Receive modes are unchanged. However, there are a few differences in operation that the user should be aware of, these are described below:

- 1 In a BT On-hook application, the controlling software should wait for the DET output to go high and then low again to indicate the presence of a Tone Alert signal.
- 2 For the Off-hook case, the IRQN output going low (when in Tone Alert Detect mode) indicates that a CAS has been detected. The local handset and keypad should then be muted as required by the Bellcore specification and the CMX602A switched to FSK Receive mode to be ready to receive the FSK data, doing this will also clear the IRQN output.
- 3 If it is possible to mute the local speech from the microphone rapidly (within 0.5ms) without introducing noise (i.e. where the CIDCW equipment is built into the telephone set) then this should be done whenever the CMX602A is in Tone Alert Detect mode and the DET output is high. Doing this will markedly reduce the number of false responses generated by local (near end) speech. Note that the DET output is not used for any other purpose in an off-hook application when the CMX602A is set to Tone Alert Detect mode.

### FX602 Algorithms with the CMX602A

The DET output high time for the CMX602A is 17ms less than the FX602, i.e. under average speech and CAS signal levels the DET output lengths from a FX602 are mostly in the range 35 to 50ms, for a CMX602A this reduces to 18 to 33ms. This may cause problems depending on the algorithm used.

Issue 5 of the **FX602** Data Sheet describes two algorithms:

Algorithm (a) is for use when local speech muting can be effected without injecting noise, and says that the minimum DET high time should be 15ms.

This algorithm will work with the CMX602A at the cost of a very slight loss in CAS detection performance.

Algorithm (b) is not recommended for use with the CMX602A.

For the optimum CMX602A algorithms, please refer to the latest CMX602A data sheet.

### Important Note

*The EV6000/6020 Firmware upgrade kit (V2.3), is available from the CML Web Site (URL: <http://www.cmlmicro.co.uk>), or on floppy disk by request. This will allow current EV6000/6020 users, to fully evaluate the CMX602A.*

*A CMX602A specific evaluation kit, the EV6021, is now available from CML.*

Note that this Application Note is intended to be used in conjunction with the current CML Product Data Sheet; printed Specifications apply.  
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