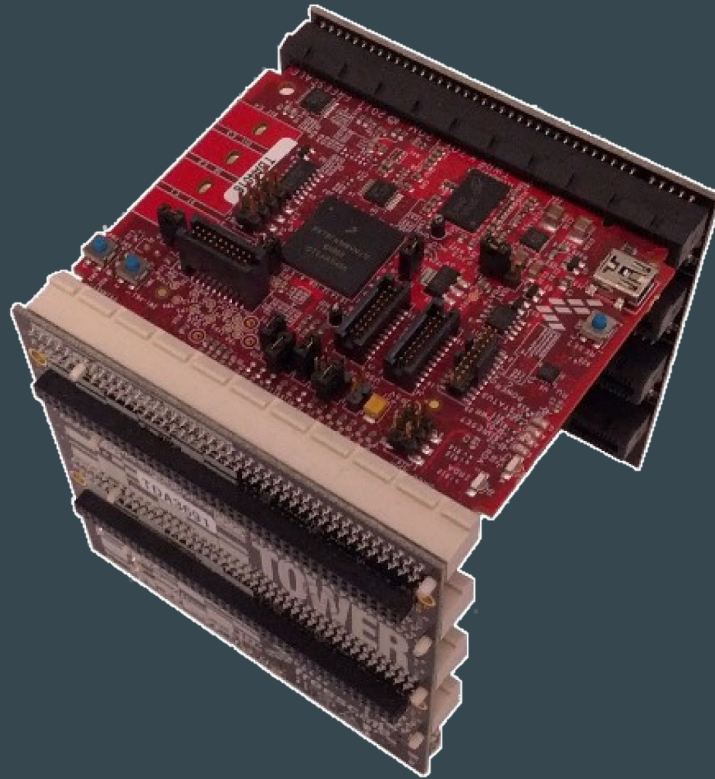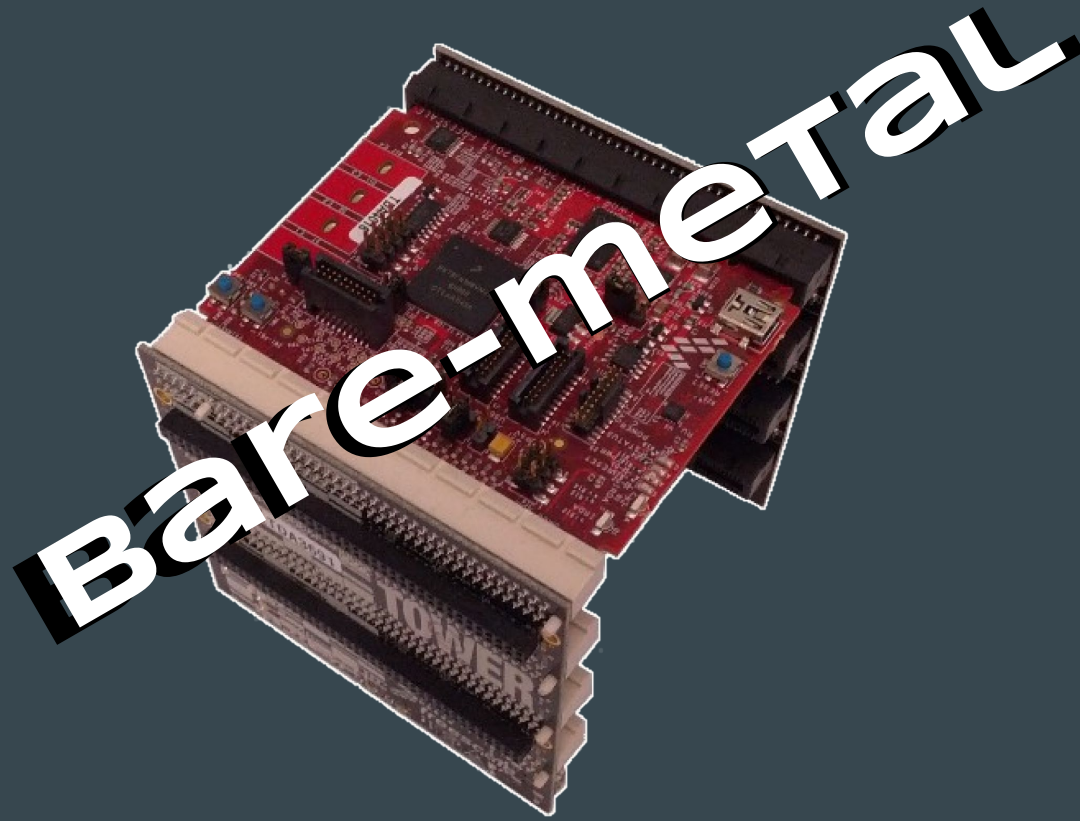# ES Coursework 2

ES Coursework 2

Objective

Produce a configurable audio filter system

Audio data (8-bit 8KHz) → virtual serial port of board → apply band-pass filter → send back over serial port

Implement 4 filters;
 cycle through them with push-buttons
 indicate which one is on with LEDs

Convenience vs Freedom

No MQX this time: ʙᴀʀᴇ-ᴍᴇᴛᴀʟ programming!

You have to handle manually (in your **C** code):
   Interrupts and Exceptions - communicate with **core**
   Clock Management - choose and divide a **clock**
   Pin MUXing - select **devices** and options
   GPIO - control **LEDs** and **push-buttons**
   UART - communicate with **DICE**
   Anything else you'd like to use!

Where to Start

There is a **template project** in the group space
    minimum working **ʙᴀʀᴇ-ᴍᴇᴛᴀʟ** program
    solves your **LED** problems
    shows you how to use **MK70F12.h** (see next slide)

Your best friend

Documentation!

    Detailed instructions in the **handout sheet**

    K70 Reference Manual - 2259 pages of **pure fun**

    ARMv7-M Arch Ref Manual - supplementary

    K70 Tower Board Reference Manual

       info for the **LEDs** and **push-buttons**

MK70F12.h - header provided by Freescale:

       use the source, Luke!

Submission

Submit by **6PM** on **25th of March**

SUBMIT ES 2 ES_PART_2