

Example of CRC coding

Page intentionally left blank

Example of CRC Coding

This code has not been optimised for efficiency of processing.

```

/* CRC_CHECK.C - ROUTINES TO CALCULATE A CRC VALUE FOR A FILE */

#include <stdio.h>
#include <math.h>
#include <string.h>

static int PolyCoefficients[] = {0,1,2,4,5,7,8,10,11,12,16,22,23,26,32};
unsigned long Polynomial = 0;
unsigned long crc_calc (unsigned short data, unsigned long accum)

{
int i=0;
for(i=8; i>0; i--)
{
if((data ^ accum) & 0x0001)
accum = (accum >> 1) ^ Polynomial;
else
accum >>=1;
data >>=1;
}
return(accum);
}

int crc_check(FILE *fileptr, unsigned long *crc_num)
{
int i = 0;
int ch = 0;
unsigned long Remainder = ~0;
Polynomial = 0;

for ( i=0; i < sizeof(PolyCoefficients)/sizeof(int); i++)
Polynomial |= 1L << (31 - PolyCoefficients [i]);
while((ch=fgetc(fileptr))!=EOF)
Remainder = crc_calc((short)ch, Remainder);
*crc_num = Remainder^~0;
return(0);
}

```

Page intentionally left blank