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2010年4月1日
瑞萨电子公司

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7544 群
定时器 A 运行（脉冲宽度 HL 连续测定模式）

要点
这是定时器 A 的脉冲宽度 HL 连续测定模式的应用例子。

动作确认器件
本资料说明的应用例子适合下列单片机和使用条件：

· 单片机：7544 群

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1. 应用例子的说明

■ 要点
使用脉冲宽度HL连续测定模式，检测电话的铃声（呼叫）信号*。
*：由电话线路的ON/OFF（接通/断开）送来的信号。
每个国家有不同的规定，在此以日本国内的规定为例。

■ 说明
通过测定由铃声信号检测电路输出的脉冲宽度，判断有无电话呼叫。

将f(XIN)=6.4MHz的16分频作为计数源，使用脉冲宽度HL连续测定模式，测定铃声信号波形的“H”和“L”电平的宽度。对于“H”电平宽度，200ms以上1.2s未满的脉冲宽度为正常值；对于“L”电平宽度，600ms以上2.2s未满的脉冲宽度为正常值。如果超出此范围，就作为异常值检测。同时，1个周期（“H”电平宽度+“L”电平宽度）的宽度必须为1.0s以上3.0s未满，否则就作为异常值检测。

运行时钟使用f(XIN)=6.4MHz高速模式。

1.1 外围电路例子
外围电路例子如图1所示。

1.2 铃声信号输入时的运行时序
铃声信号输入时的运行时序如图2所示。

- 在输入正常范围的铃声信号时
### 1.3 控制步骤例子

控制步骤例子如图3和图4所示。

注：在此应用中，为不使用的位，请在用法中设定成“0”或者“1”。

#### 图3 控制步骤例子（1）
图 4 控制步骤例子（2）
2. 参考文献
   
   数据表
   
   7544群数据表（最新版本请从瑞萨科技网页取得）
   
   http://www.cn.renesas.com
### 修订记录

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