APPLICATION NOTE

ABSTRACT
This application note shows a typical interface between Philips SC28L198 and a Motorola 68000 microprocessor.

AN10118

Interfacing the SC28L198 to Motorola 68000

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INTRODUCTION

This application note shows a typical interface between Philips SC28L198 and a Motorola 68000 microprocessor. The SC28L198 has been designed to interface to the 68000 directly, requires almost no special logic other than an address decoder and an inverter to invert the R/$\overline{W}$ from the controller.

THE INTERFACE

The address decoder is used to decode the valid address space for the SC28L198, its Active-LOW output is connected to the SC28L198 $\overline{CS}$ input to enable the UART when there are valid UART's addresses on the address bus. The lower 8-bit address lines of the controller are connected directly to ADR[7..0] of the UART to select any of the UART's internal registers.

Since the R/$\overline{W}$ signal of the UART is logically inverted with the R/$\overline{W}$ signal from the controller, an inverter is needed to translate this signal between the controller and the SC28L198.

The UART $\overline{DTACK}$ and $\overline{IRQ}$ are open-collector outputs, therefore, external pull-up to V_{CC} are needed on these two signals.

The schematic shows a detailed implementation for the interrupt interface, but most likely this interface already exists in the system, so these two signals ($\overline{IRQ}$ and $\overline{IACK}$) just need to connect to this interface.

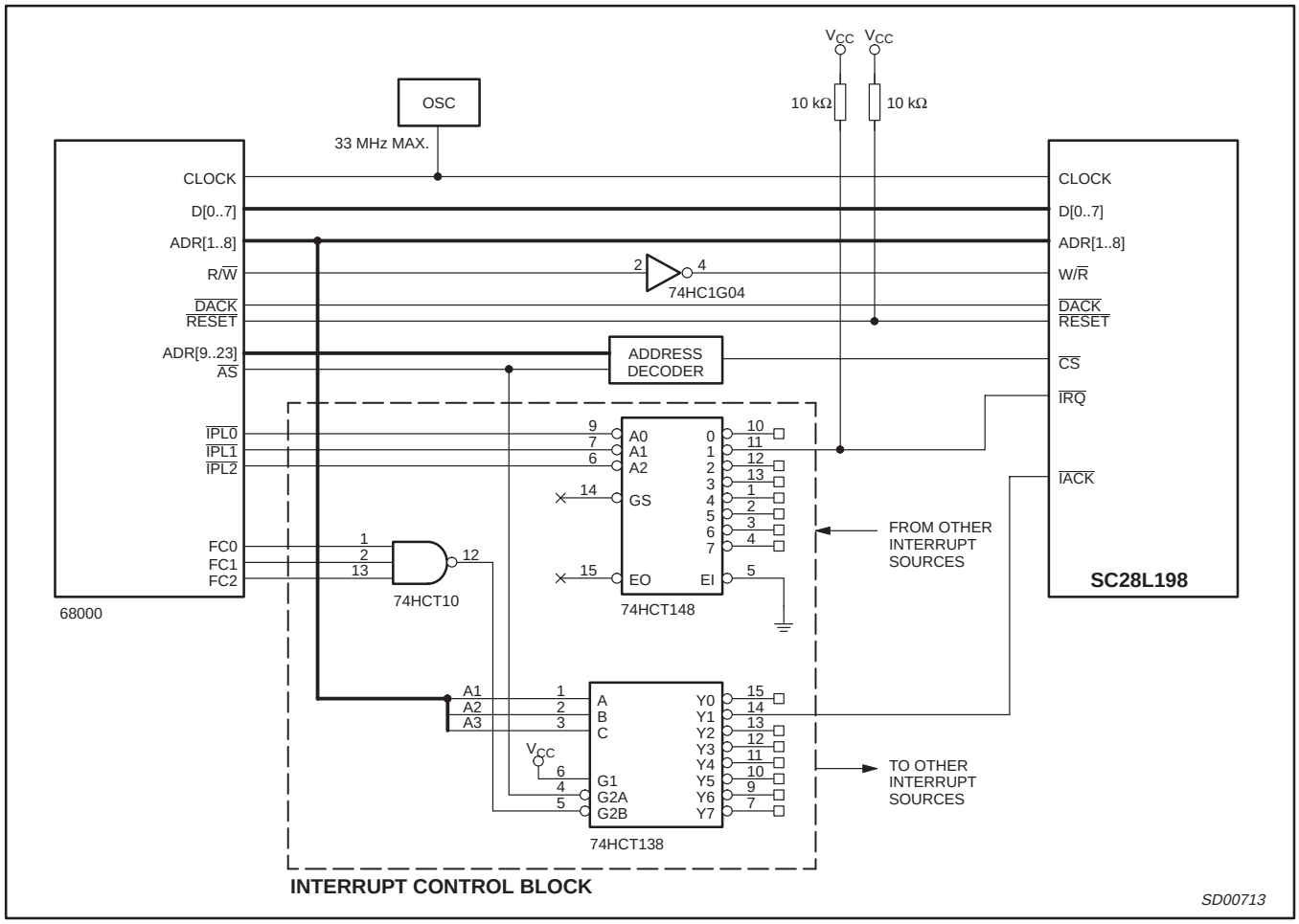

Figure 1. Interface between Philips SC29L198 and Motorola 68000.

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REVISION HISTORY

Rev	Date	Description
_1	20030616	Initial version (9397 750 09507).

Definitions

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

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