



R6500 Microcomputer System DATA SHEET

ROM-RAM-I/O-COUNTER (RRIOC)

SYSTEM ABSTRACT

The ROM-RAM-I/O Counter (RRIOC), Part Number R6531, further enhances the cost-effectivity of the R6500 NMOS 8-bit microcomputer system by providing a powerful, flexible two-chip minimum system option. Produced with N-channel depletion load, silicon gate technology, the R6500 system employs advanced architecture, including 13 instruction addressing modes to achieve third generation performance speeds and smaller chips, the threshold to lower hardware and design costs. Included in the R6500 system are 10 software-compatible microprocessor (CPU) options, a growing number of memory and I/O devices, a very efficient, low-cost SYSTEM 65 development aid and complete documentation.

DESCRIPTION

The R6531 is primarily designed to provide innovative Equipment Designers with a wide span of two-chip minimum systems in combination with the R6500 family of 10 CPUs. It can also be combined in a variety of multi-chip system configurations with other R6531's, ROMs, RAMs and other I/O devices.

There are two R6531 versions: a 40-pin dual-in-line package; another with expanded I/O in a compact 52-pin quad-in-line package — see Table 1. Both versions contain a 2048 x 8 mask-programmable ROM, a 128 x 8 static RAM, a software programmable multi-mode counter, an 8-bit serial data channel, and 15 bidirectional data lines (two ports) with a handshake control mode and four interrupts inputs. The 52-pin version has an 8-bit output port and a 4-bit input port for a total of 27 I/O lines. Several mask options are available to provide a RAM standby power pin and chip selects for multi-chip systems — see Figure 1.

A 52-pin, quad in-line prototyping circuit is also available in 1- and 2-MHz versions. The order numbers are R6531-099 and R6531-099A, respectively.

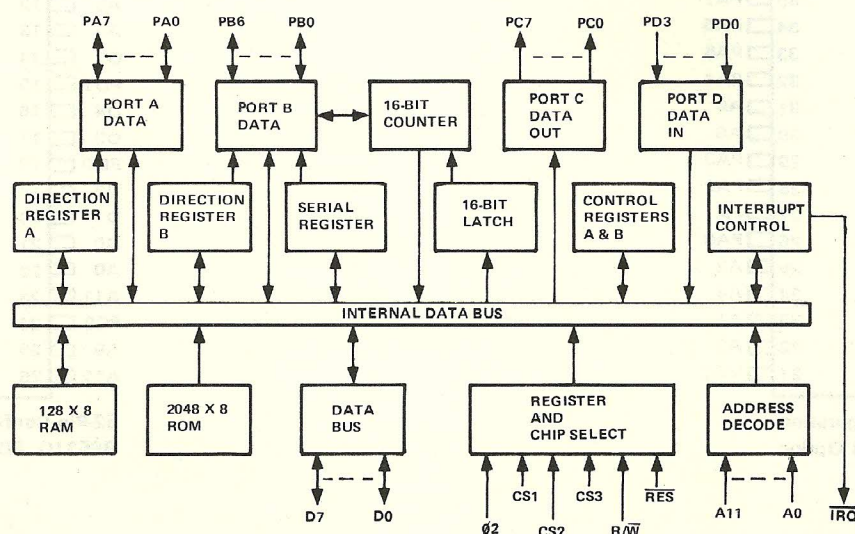
FEATURES

- 2048 x 8 mask programmable ROM
- 128 x 8 static RAM
- 16-bit multi-mode counter/latch
 - interval timer (one shot or free running)
 - pulse generator (one shot or free running)
 - event counter
- 8-bit serial channel
- TTL compatible I/O, drive one TTL load
- 15 bidirectional I/O lines (2 ports — 40 pin package)
- Expansion 8-bit output port and 4-bit input port (52 pin package)
- I/O handshake control
- Four edge sensitive interrupt inputs
- 2 MHz or 1 MHz operation
- Single +5V power supply

Table 1 Ordering Information

Order Number: R6531

Temperature Range:	No suffix = 0°C to +70°C
	E = -40°C to +85°C (Industrial)
Package:	C = 40-Pin DIP, Ceramic
	P = 40-Pin DIP, Plastic
	Q = 52-Pin QUIP, Plastic
Frequency Range:	No suffix = 1 MHz
	A = 2 MHz



R6531 Block Diagram

ROM-RAM-I/O-COUNTER (RRIOC)

