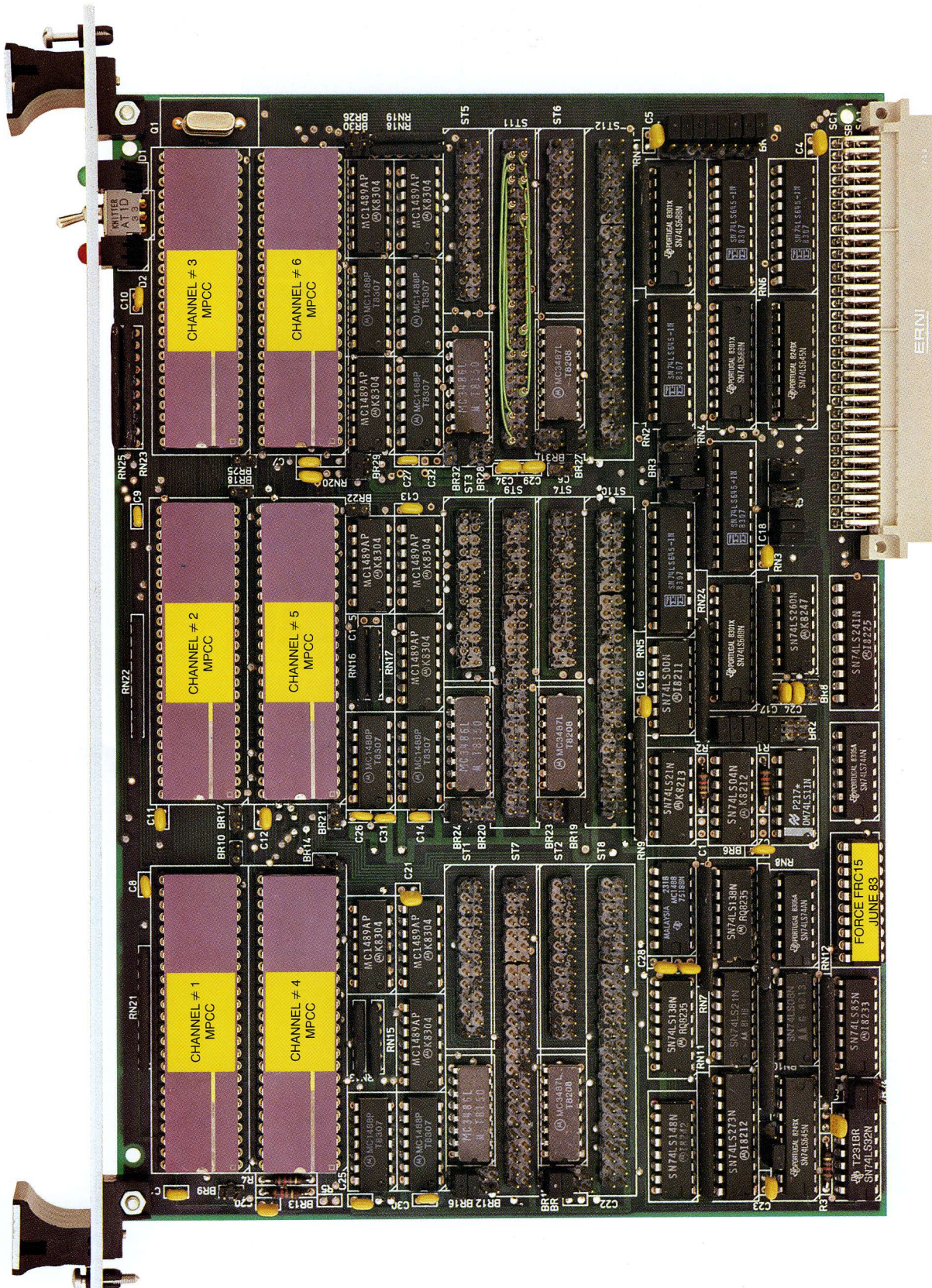


**System 68000 VME**  
**SYS68K/SIO-1**  
**Multi Protocol Serial I/O Controller**



CHANNEL # 3  
MPOCC

CHANNEL # 6  
MPOCC

CHANNEL # 2  
MPOCC

CHANNEL # 5  
MPOCC

CHANNEL # 1  
MPOCC

CHANNEL # 4  
MPOCC

FORCE FRC15  
JUNE 83

ERNI

## General Description

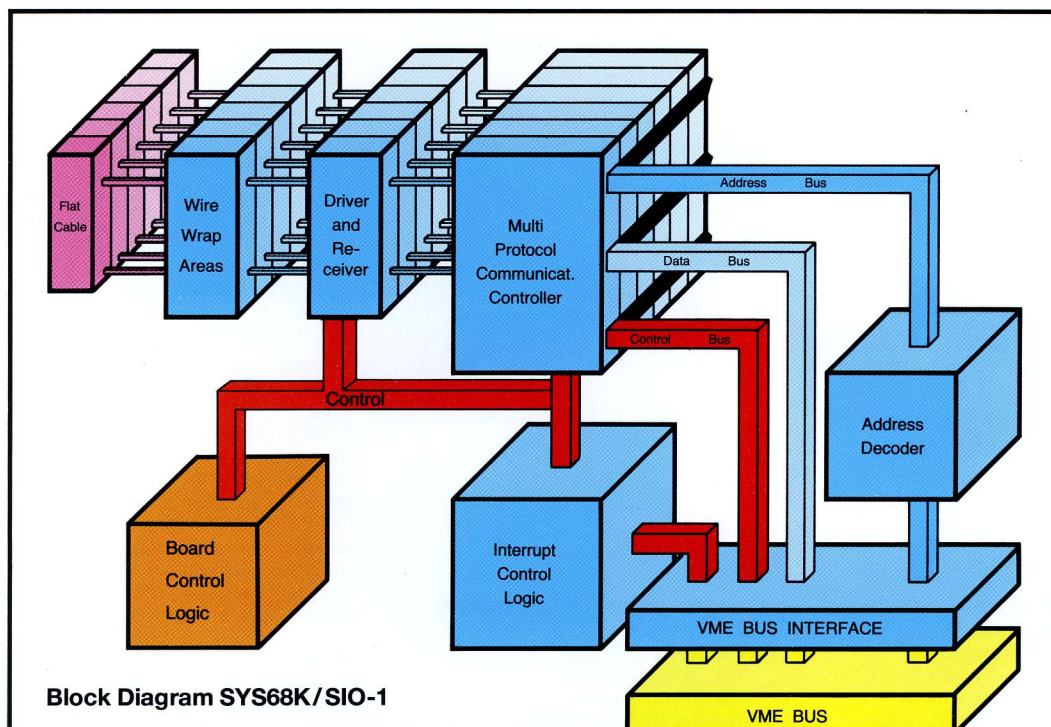
The SYS68K/SIO-1 contains six serial I/O channels based on the VME bus. The Multi-Protocol Communications Controller (MPCC) used for each channel, with its asynchronous or synchronous protocols and the 8 character receiver and transmitter buffer register offers a wide variety of applications.

Each MPCC is able to generate an interrupt to the VME bus (levels 1-7) and to drive three different auto interrupt vectors.

The interface to the communication equipment is RS232 or RS422 compatible (free selectable).

## Features of the SYS68K/SIO-1

- 6 serial I/O channels
- Fully VME bus compatible
- Multi-Protocol Communications Controller (68561) for each channel allows:
  - Asynchronous/synchronous receiver/transmitter functions
  - Full/half duplex, auto-echo and local loop-back modes
  - Protocols:
    - IBM binary synchronous communications in ASCII or EBCDIC format
    - Character Oriented Protocols (COP) BSC, DDCMP, X3.28, X.21, ISO IS1745, ECMA16, etc.
    - Synchronous Bit-Oriented Protocols (BOP) SDLC, HDLC/ADCCP, X.25, etc.
    - Asynchronous or isochronous mode
- 22 directly addressable registers for flexible option selection, complete status reporting and data transfer
- Eight character receiver and transmitter buffer register
- Three separate programmable and maskable interrupt vector numbers for receiver, transmitter, and serial interface
- Software programmable baud rate from 110 to 38400 baud
- 16 bit data bus
- Free configurable I/O interface signal assignment through wire wrap areas with
  - 5 Drivers (RS232 compatible)
  - 6 Receivers (RS232 compatible)
  - 2 Drivers (RS422 compatible)
  - 2 Receivers (RS422 compatible) for each channel
- Modern handshake interface
- Selectable Parity (enable odd, even) and CRC (control field enable, CRC-16, CCITT, V.41, VRC/LRC)
- Free selectable access address of the 6 MPCC's in common
- Address modifier decoding
- RUN/LOCAL mode indicated by LED's





Each MPCC is able to use the listed protocols and communicates with its 16 bit data bus to the controller module. The internal 8 character receiver/transmitter buffer register (FIFO) reduces the software handling in accordance to the three separate maskable auto-interrupt vector numbers (transmitter, receiver, or handshake interface).

All the MPCC's on the board work asynchronously to the bus and respond to the handling CPU on the free selectable access address and address modifier code.

The RUN/LOCAL switch isolate the board from the bus during failures or maintenance. This mode is indicated by two LED's on the front panel.

The interface driver and receiver of each channel are RS232 (5/6) or RS422 (2/2) compatible. For easy installation, each signal of the interface is free configurable to one of the receiver/transmitter in-/outputs via wire wrap.

There are six 26 pin male connectors on the board where flat cables can be plugged in.

## SYS68K/SIO-1 Specifications

Interface	6 independent serial I/O channels RS232 or RS422 compatible (free selectable)
Devices	6 Multi-Protocol Communications Controllers (68561)
Protocols	IBM BSC: ASCII EBCDIC COP: BSC, DDCMP X3.28, X.21 ISO IS1745 BOP: SDLC HDLC/ADCCP X.25  Asynchronous and isochronous modes Full/half duplex, auto-echo and local loop-back modes. Software programmable baud rate (110 – 38400 baud).
Interrupt	Free selectable interrupt request in common for the 6 I/O channels. 18 different auto-interrupt vectors are programmable (3 per channel).
Bus	VMEbus compatible (A24:D16) Free selectable board base address (100 byte steps) Address Modifier decoding
Power Requirements	+5V / 1.6 A (typ), 1.8 A (max) +12V / 100 mA, (typ) 300 mA (max) -12V / 100 mA (typ), 300 mA (max)
Operating Temperature	0 to +50 degrees C
Storage Temperature	-50 to +90 degrees C
Relative Humidity	0-95 % (non-condensing)
Board Dimensions	Double Eurocard 234 x 160 mm (9.2 x 6.3 inch)

## SYS68K/SIO-1FP

### Description

The SYS68K/SIO-1FP is a doublewide front panel containing six 25-pin D-sub connectors with flat wire cable to be used in conjunction with the SYS68K/SIO-1 multiprotocol serial I/O controller board.

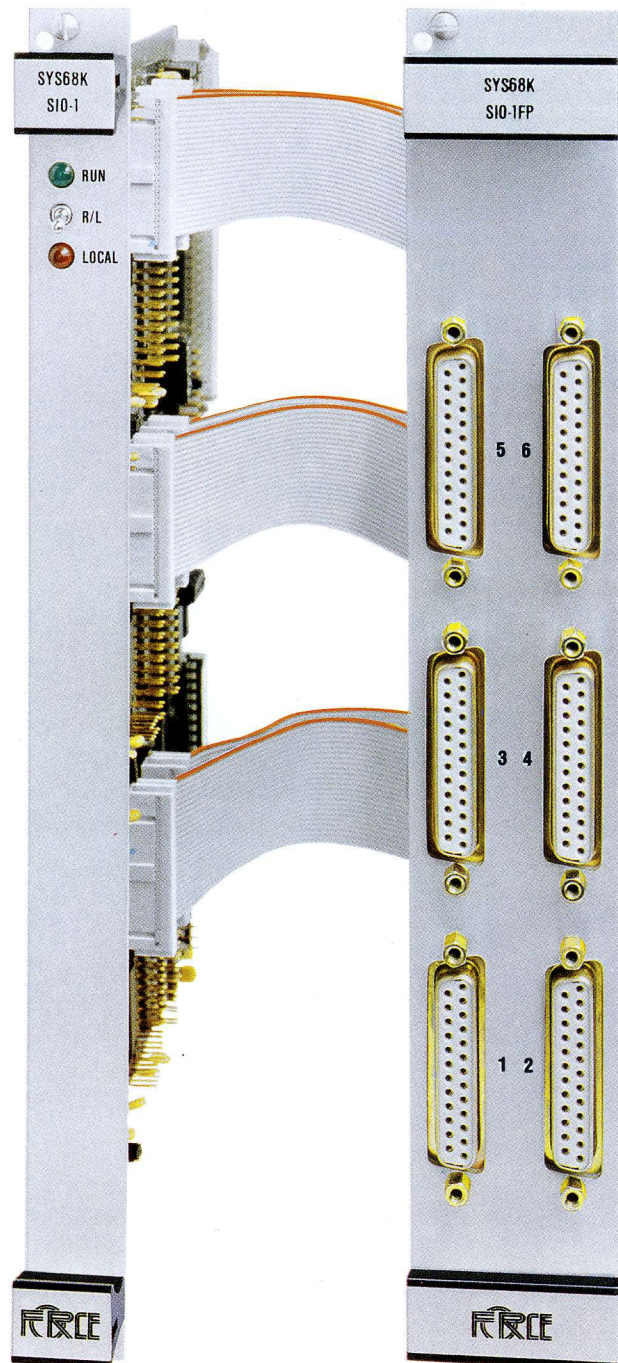
The SYS68K/SIO-1FP allows easy plug-in to the serial I/O ports relieving the user from individual wiring problems in systems applications.

### Specifications

Connectors:	6 D-sub (female) with flat cable
-------------	-------------------------------------

### Ordering Information

SYS68K/SIO-1 Part No. 310000	6 Channel Multi-Protocol Serial I/O Board including User's Manual
SYS68K/SIO-1/UM Part No. 800008	User's Manual for the SYS68K/SIO-1 Board
SYS68K/SIO-1FP Part No. 310001	Front Panel with six 25 pin D-Sub Connectors





**FORCE COMPUTERS INC.**  
727 University Ave.  
Los Gatos, CA 95030  
Phone (408) 354-3410  
Tlx 172465  
Telefax (408) 3957718

**FORCE COMPUTERS GmbH**  
Daimlerstraße 9  
D-8012 Ottobrunn  
Telefon (0 89) 6 09 20 33  
Telex 5 24 190 forc-d  
Telefax (0 89) 6 09 77 93

**FORCE COMPUTERS FRANCE**  
11, Rue Casteja  
F-92100 Boulogne  
Tel. (1) 46 20 37 37  
Tlx 206 304 forc-f  
Telefax (1) 46 21 35 19

Note:  
FORCE COMPUTERS reserves the right to make changes to the product herein to improve reliability, function or design. FORCE COMPUTERS does not assume any liability arising out of the application or use of product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.

© Copyright 1985  
Design FORCE COMPUTERS