➤ FASTCOMESCC-104 Series
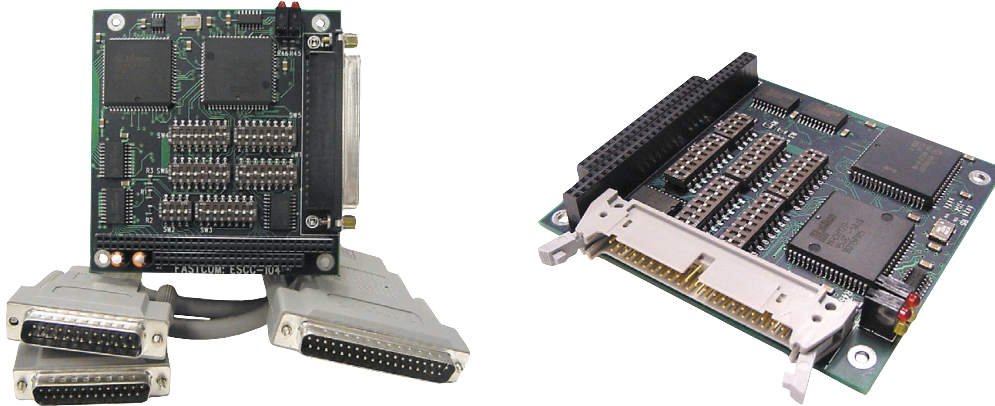
➤ PC104 high-speed synchronous dual port RS-422/485 serial boards

➤ Rugged embedded sync/async communications

The FASTCOMESCC-104 Series adapter continues our popular FASTCOMESCC/P and FASTCOM/ESCC PCI/ISA advanced synchronous/asynchronous communications adapters into the embedded PC-104 market. The FASTCOMESCC-104 has all the same features as the ISA FASTCOM/ESCC with both 8- and 16-bit DMA channels selections for high throughput, high megabaud communications.

The FASTCOMESCC-104 comes with a side mounted DB37F connector and includes a shielded 2-foot DB37P to two DB25P connectors following the RS-530 standard.

The FASTCOMESCC104E is our rugged extended temperature version that meets the E2 industrial operating temperature range of -40 ° to 85 °C (-40 ° to 185 °F). This model comes with locking 40-pin IDC side mounted connector for ribbon cable use (not included).

The FASTCOMESCC-104 Series supports all standard synchronous protocols (HDLC, SDLC, Bisync,) and their variations as well as all standard asynchronous data formats. Programming is simplified with the inclusion of drivers, example programs and comprehensive documentation supplied on the FASTCOM CD. Currently, the FASTCOMESCC-104 comes with SDLC and HDLC drivers for Windows 95/98/2000/NT and Linux to get your communication application up and running quickly.

- ➤ Dual channel sync/async serial interface
- ➤ Both 8- and 16-bit DMA channel selections
- ➤ RS-422 and RS-485 serial
- ➤ Extended temperature model (FASTCOMESCC104E)
- ➤ Multi-protocol capable including: HDLC, SDLC, etc
- ➤ Up to 10Mbps
- ➤ 64-byte FIFOs each direction
- ➤ True 16-bit data path to FIFOs
- ➤ Linux®, DOS, Windows®95/98/ 2000/NT support

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➤ FASTCOMESCC-104 Series - Technical Specifications

Channels
• Two Ports
Communications Chip
• Siemens® 82532
Clock
• Programmable on board clock generator (391Khz to 33Mhz)
Buffering
• 64-byte FIFO's per direction
Data Rate (max.)
• 10Mbps burst per single channel **
• Data rates are limited by factors such as cable length and quality
Distance (max.)
• Up to 4000-feet @ 9600bps (can be higher data rate depending on cabling)
Drivers/Receivers
• RS-422, RS-485
Protocol Support
• HDLC, SDLC, ISDN LAP D, X.25 LAP B, ASYNC and BISYNC
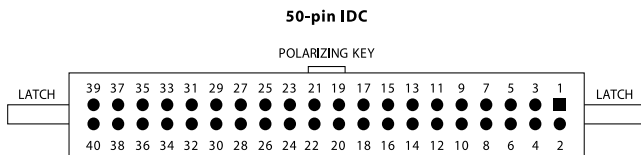**Data Encoding Modes**
• NRZ, NRZI, FM, Manchester
Control Signals
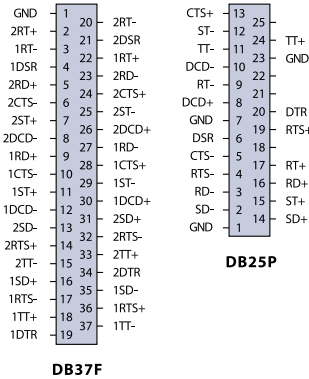• RTS, CTS, DTR, DCD, DSR
Serial Interface Features
• Collision resolution
• Programmable bit inversion
• Transparent RD/SD of data bytes without HDLC framing
• Asynchronous and bisynchronous operating modes
• True 16-bit data paths to FIFOs
• Both 8- and 16-bit DMA channel selections
• Interrupt-only operation

Protocol Support Features (HDLC/SDLC)
• Types of protocol support - automatic, manual, transparent
• Handling of bit-oriented functions in all modes
• Module 8 and 128 operation
• Storage of up to seventeen short received frames
• Preamble transmission (with repetition)
• Manchester line encoding
• FM encoding (bi-phase space/bi-phase mark)
• CRC generation of either CRC-32 or CRC-CCITT polynomials (CRC-16/CCITT for bisync)
• CRC reset state to all 1's or all 0's
Bus
• PC104 ISA 16-bit
Connector/Cable
• One DB37F on card side(FASTCOMESCC-104)
• Included shielded cable is DB37P to two DB25P connectors(follows RS-530 STD)
• One 40-pin locking IDC header for ribbon cable on card side (FASTCOMESCC104E)
• No ribbon cable provided

Power Requirements
• +5VAC @ 300mA

Environmental
Operating Temperature
  Standard FASTCOMESCC-104
    • 0 ° to 70 °C (32 °to 158 °F)
  E2 Extended Temperature FASTCOMESCC104E
    • -40 ° to 85 °C (-40 ° to 185 °F)
Non-Operating Temperature
  Standard Only
    • -20 ° to 70 °C (-4 °to 158 °F)
  Extended
    • -55 ° to 120 °C (-67 ° to 248 °F)
Humidity
• 0 to 90% (max.), non-condensing
MTBF
• 25.46yrs (calculated)
Dimensions
• Standard PC104

Agency Approvals
• CE Marked

OS Support
• C++ class library for DOS
• VxD/DLL interface for Windows®3.1
• VxD interface for Windows 95/98/Me
• Kernel Mode driver for Windows 2000/NT
• Character driver for Linux®

Support
• Superior pre- and post sales technical support
• Two year limited warranty

Ordering Guide
FASTCOMESCC-104
• 2-port RS422/485 sync/async PC104 board, shielded cable, documentation & software CD
FASTCOMESCC104E
• Extended temperature 2-port RS422/485 sync/async PC104 board with 40-pin IDC connector, no cable, documentation & software CD

**While the FASTCOMESCC-104 will operate on any clock rate from 1 to 10MHz, it is still installed on the ISA PC104 bus which will limit overall throughput to an aggregate total of 16Mbps. What this translates to is that the board will clock data in or out at 10Mbps, but due to bus limitations, it cannot run full duplex with continuous data at the maxiumum clock rate. It can however run on continuously at the maximum clock rate (either half duplex or forced idle time) or continuously at a slower clock rate (1 to 4Mbps, two channels full duplex).

50-pin IDC

POLARIZING KEY

LATCH 39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1 LATCH
       40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2

FASTCOMESCC104E

Signal	Pin #	Signal	Pin #
GND	1	1ST-	21
2RT+	2	1DCD+	22
2RT-	3	1DCD-	23
2DSR	4	2SD+	24
1RT-	5	2SD-	25
1RT+	6	2RTS+	26
1DSR	7	2RTS-	27
2RD+	8	2TT+	28
2RD-	9	2TT-	29
2CTS+	10	2DTR	30
2CTS-	11	1SD-	31
2ST+	12	1SD+	32
2ST-	13	1RTS-	33
2DCD+	14	1RTS+	34
2DCD-	15	1TT-	35
1RD+	16	1TT+	36
1RD-	17	1DTR	37
1CTS+	18	N/C	38
1CTS-	19	N/C	39
1ST+	20	GND	40

50-pin IDC

FASTCOMESCC-104

DB37F

GND	1 / 20	2RT-
2RT+	2 / 21	2DSR
1RT-	3 / 22	1RT+
1DSR	4 / 23	2RD-
2RD+	5 / 24	2CTS+
2CTS-	6 / 25	2ST-
2ST+	7 / 26	2DCD+
2DCD-	8 / 27	1RD-
1RD+	9 / 28	1CTS+
1CTS-	10 / 29	1ST-
1ST+	11 / 30	1DCD+
1DCD-	12 / 31	2SD+
2SD-	13 / 32	2RTS-
2RTS+	14 / 33	2TT+
2TT-	15 / 34	2DTR
1SD+	16 / 35	1SD-
1RTS-	17 / 36	1RTS+
1TT+	18 / 37	1TT-
1DTR	19	

DB25P

CTS+	13 / 25	
ST-	12 / 24	TT+
TT-	11 / 23	GND
DCD-	10 / 22	
RT-	9 / 21	
DCD+	8 / 20	DTR
GND	7 / 19	RTS+
DSR	6 / 18	
CTS-	5 / 17	RT+
RTS-	4 / 16	RD+
RD-	3 / 15	ST+
SD-	2 / 14	SD+
GND	1	

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