ACR2000 (1-4 Axes) ISA Bus / Standalone Motion Controller:

The ACR2000 is capable of Standalone or PC-bus operation. It has the ability to run up to four servo loops, with up to 4 encoders at 20MHz. It can optionally be equipped with 8 analog inputs through a 12-bit analog/digital converter and introduce these inputs into servo loops. Because of our modular design to our outputs, it is possible to have four axis of servo or four axis of stepper on the same controller. The ACR2000 controller, like the ACR8010, uses a SIMM card for analog outputs or stepper outputs and can be purchased as 2 or 4 axis. Of course, all of Acroloop's systems run on the same software and firmware, so the standard features and benefits apply to the ACR2000 as well.

The ACR2000 is Acroloop Motion Control Systems' answer to four axis or less affordable high performance control, when flexibility in the field, real-time speed, and ease of programming are most needed.

ACR2000 Exclusives:

50 MHz Floating Point DSP.
4 Axes of Servo or Stepper.
Up to 4 Encoders at 20 MHz.
128K User/System Memory Expandable to 1/2 Megs each.
32 Optically Isolated 24Volt DC I/O Expandable to 288 I/O.
Half Size ISA Size.
Up to four Communication Channels. (ISA, COM1, COM2, LPT).
Optional RS232/RS485 and AcroWire IEEE-1394 Interface.

Detailed Specifications (ACR2000):

Hardware:

Axes/controller
1-4 axes
Communications
PC-Bus or Standalone
Processor
32/64 bit Floating Point DSP @50MHz
Trajectory Calc.
64-bit precision
User Memory
512KBytes
System Memory
512KBytes
Firmware
Two 128K x 16 EPROM's
Flash Memory
512KBytes
Size
Half- size ISA board
Operating System
Real time system independent of PC

Communications:

PC Interface
Two 512 x 8 hardware FIFO's BAD
Two Serial Ports (RS-232 and/or RS-422)
One Parallel Port (8-bits)
Protocols
Binary, String, & ASCII

Inputs/Outputs:

Encoder Inputs
4 (32-bit registers), 8 MHz
Analog Outputs
up to 4, 16-bit precision
Stepper Outputs
up to 4, 4 MHz Digital I/O 32, 24VDC
optically-isolated (expandable to

Performance:

Multi-tasker
8 coordinate systems, Motion/PLC programs
Trajectory Update
Every 200-500 micro seconds
Servo Update
50 microseconds/axis
Ladder Logic PLC
200-500 microsecond scan time
Interpolation
Linear, Circular, Sinusoidal, Helical and
Elliptical Splines, Nurbs, 3-D Arcs
Servo Loop
PID, Velocity Feedforward, Acceleration
Feedforward with Notch, LoPass and

programmable filtering
Position Reg.
Hardware, < 1 microsecond
Communications
Simultaneous PC, Serial and LPT ports, AcroWire IEEE-1394

Software Support:

Standard Lang.
Visual Basic,Visual C++, C++
Program Tools
AcroVIEW Motion/PLC Program
Dev. Tools
ActiveX/OCX controls
Operating System
Windows NT, Windows 95/98, DOS

Additional Firmware Highlights:

· Triggered Floating Point Electronic GEARING.

320) **Auxiliary Analog:** Inputs up to 8 (12- bit)	· Triggered Segmented Electronic CAM. · On-the-fly position and velocity matching. · Ladder Logic PLC. · Programmable Limit Switch. · Interruptible moves. · Either analog or digital feedback for position or velocity loops. · Dual encoder feedback. · Mixing of Axes and interpolation. · Teach and Learn functions. · Parameter based with over 15,000. addressable pre-defined hardware registers. · NURBS and Splines. · Spherical Commands. · Automatic Targential Tool Operation.

ACR2000

1-4 Axis PC-Bus or Standalone Motion Controller *Product Code = A*

Example: 1-4 Axis PC-Bus Controller

Example: ACR2000/ PC / E4 / D4 / 00 / A0 / 0 / 0

PC = PC/ISA Bus Card
SA = Standalone Card
SW= Standalone w/AcroWire Interface
PW= PS w/AcroWire Interface
PS = PC-Bus and Standalone
Note: SA and PS options include communications daughter-board with 2 serial and 1 parallel port. Serial ports are programmable for RS-232 or RS-422 communications.

E0 = 0 Encoder Inputs
E2 = 2 Encoder Inputs
E4 = 4 Encoder Inputs

D2/00 = 2 Digital-Analog Outputs
D4/00 = 4 Digital-Analog Outputs
S2/00 = 2 Stepper Outputs
S4/00 = 4 Stepper Outputs

0 = No I/O Expansion
1 = Add 64 Digital I/O
2 = Add 128 Digital I/O
3 = Add 192 Digital I/O
4 = Add 256 Digital I/O

0 = 32 optically-isolated, 24VDC, Sinking
1 = 32 optically-isolated, 24VDC, Sourcing
Note: Order appropriate breakout box

A0 = None
A8 = 12-bit Analog-Digital Inputs
Note: Maximum of 8 single-ended or 4 differential Analog-Digital Inputs

ACR2000 Suggested Accessories

ACR2000 Suggested Accessories

Part Number	Part Description
SPL028	Standalone Mounting Bracket
SPS031	+5V (6A), -12V (1A), +12V (2A) DC Power Supply (Standalone Power)
SPS021	+24VDC, 1.2A Power Supply (Digital I/O Power Supply)
RBB02IO3	Breakout Board for 16In/16Out. Screw Terminals, LED's Cables. SINKING (SnapTrack Mounting)
RBB02IO5	Breakout Board for 16In/16Out. (Screw Terminals, LED's, Cables). SOURCING (SnapTrack Mounting)
RBB02COM	BreakOut board for COM1,COM2,LPT. (Screw Terminals, LED's, Cables.) (Snaptrack Mounting)
RBB02ENC	Breakout Board for 4 Encoders (Screw Terminals, LED's, Cables.) (Snaptrack Mounting)
RBD08432	2 Axis Breakout Box (Screw Terminals, LED's, Cables, and Enclosure). SINKING
RBD08434	4 Axis Breakout Box (Screw Terminals, LED's, Cables, and Enclosure) SINKING
RBD08452	2 Axis Breakout Box (Screw Terminals, LED's, Cables, and Enclosure). SOURCING
RBD08454	4 Axis Breakout Box (Screw Terminals, LED's, Cables, and Enclosure).

	SOURCING.
PWH801XX	Analog I/O Cable with 6' flying leads
SBD12400	64 Digital I/O Expansion Board, 24VDC optically-isolated, SINKING
SBD12420	64 Digital I/O Expansion Board, 24VDC optically-isolated, SOURCING
MKT85010	Upgrade ADC Option after shipment factory added only, 48 hour burn-in required
PWH10506	RS-232 Serial Cable (9 pin D to 9 pin, 6' long)

ACR2000 Spare Parts

Part Number	Part Description
SBD08202	2 Axis DAC Board
SBD08204	4 Axis DAC Board
SBD0872	2 Axis Stepper Board
SBD0874	4 Axis Stepper Board
SBD12300	ACR2000 Communications Daughterboard (2 serial & 1 parallel ports)
MC24401	8 Bit Output Driver, Sinking (2 required per ACR2000, 4 required per XIO Board)
MC247	8 Bit Output Driver, Sourcing (2 required per ACR2000, 4 required per XIO Board)
FU122	2 Amp Fuse (24VDC Digital I/O Power, 1 required per ACR2000)
FU124	4 Amp Fuse (ACRCOMM, 5VDC, 1 required per board)
FU123	¼ Amp Fuse (ACRCOMM, +/-12VDC, 2 required per board)
SMC230(V#)XX	EPROM Set (Specify Version Number) (XX = AX - STD Memory or BX = EXP Memory)