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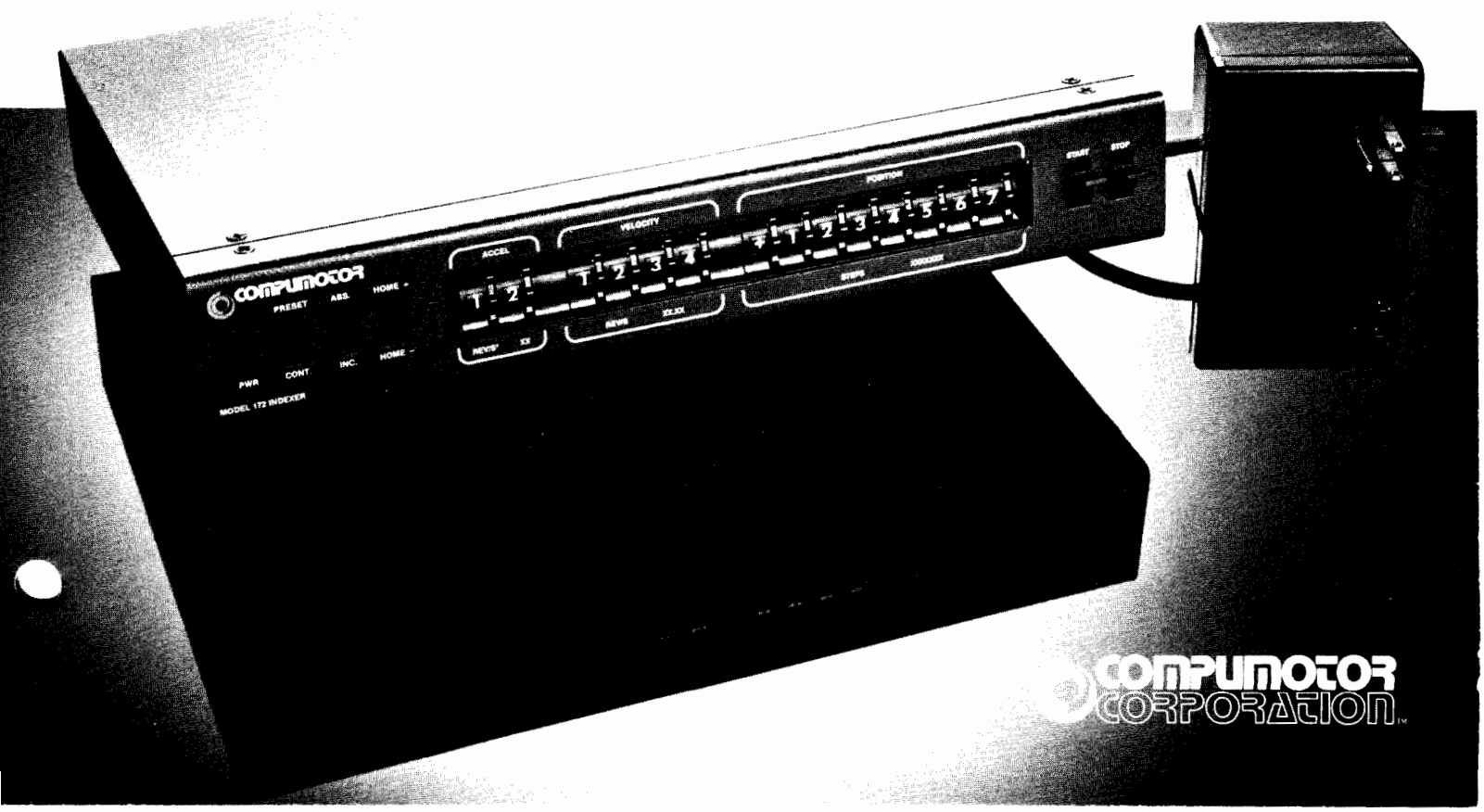
Find the *Parker / Compumotor 172A* at our website: *Click HERE*

MODEL 172 PRESET INDEXER

The Model 172 Preset Indexer from Compumotor Corporation is a microprocessor-based, programmable pulse generator for driving most open loop stepping motor translators. Incremental or absolute position programming may be accomplished via front control panel thumbwheels or over a parallel BCD interface. Sixteen different stepping motor resolutions are accommodated by DIP switch selection from 200 to 50000 steps per revolution. Packaged configurations are available for EIA rack mount or bench use. Circuit card versions are provided for OEM card rack or industrial panel mount.

Features:

- Microprocessor: 8085 with 4K bytes Program ROM.
- BCD bit-parallel or thumbwheel data input.
- Acceleration: 2 decades, 0.01 to 990 rev/sec^2 in four user-selectable ranges.
- Velocity: 4 decades; 0001 to 9999 in two user-selectable ranges. See Note A.
- Position: 7 decades; ± 1 to ± 9,999,999 steps where 1 step can represent from 1 to 255 pulses sent to the motor.
- Other Inputs: Remote Start, Remote Stop, Direction, Preset or Continuous Mode, Incremental or Absolute Programming, Go Home + or Go Home −, Reset, CW Limit, CCW Limit, Home Limit, Go Home Velocity, Compumotor Remote Power Shutdown.
- Outputs: TTL Step and Direction and Open-Collector CW Step and CCW Step, At Home, In Position, Going Home, Constant Velocity, Cannot Move and Compumotor Remote Power Shutdown.
- Optional 7-Digit Display (Model 717).
- Resolutions (steps per revolution):
  Stepping Motor—200, 400
  Microstepping—800, 1600, 2000, 3200, 6400, 7200, 10000, 10800, 12800
  Compumotor—21600, 25000, 25400, 36000, 50000



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Specifications:

Performance

- Stepping Accuracy: ± 0 Steps from Preset Total
- Velocity Accuracy: to ±0.02% of Set Rate. See Note A.
- Velocity Repeatability: ±0.02% of Set Rate
- Home Position Repeatability: to ±0.0002 in (0.05 mm). See Note B.

Power

- 117VAC 50/60 Hz, .2A with supplied wall-mounted AC transformer
- 9-12VDC, 1.5A unregulated to the circuit card
- 9-12VAC, 50-400 Hz, 1.5A to the circuit card

Inputs

- Parallel BCD Data Lines
  - Number: 55
  - Type: TTL Active High
  - Input Impedance: 4.7KΩ
  - Logic: "1": +5VDC, 1mA nominal
  - Minimum Data Hold Time after Start: 2msec
- Command Input Lines:
  - Number: 8 Command, 3 Control
  - Type: TTL Active Low (1KΩ Pull-up)
  - Logic "0": 0.75VDC max., −4.25mA min.
  - Minimum Pulse Width: 2msec (except 100 μsec for $\overline{\text{START}}$ and $\overline{\text{STOP}}$)
  - Minimum Data Hold Time after Start: 2msec

Outputs

- TTL Step Pulse
  - Amplitude: +4.5VDC 60mA source max., (−60mA sink max.)
  - Duration: 1 to 10μsec. See Note C.
- TTL Direction Level
  - CW Direction (Logic "1"): +4.5VDC 60mA source max.
  - CCW Direction (Logic "0"): 0VDC −60mA sink max.
- Open Collector CW and CCW Step
  - Step Duration: 1 to 10μsec. See Note C.
  - Step Rating: −300mA at 40VDC maximum sink

172 CONFIGURATIONS

Model Number	Description	Front Panel Thumbwheels	Transformer Power Supply	Compumotor Part Number
172A	Packaged Indexer	X	X	72-000850-01
172D	172A+717 Display	X	X	72-001321-01
172X	Indexer Circuit Card Only		X	72-001049-01
717	7-Digit Display Only			72-000990-01
—	EIA 19" Rack Mount Kit			72-001032-01

Note A: Maximum and minimum velocities and velocity accuracy are dependent on motor/translator resolution. Request Model 172 Operators Manual for details.

Note B: Depends on load characteristics and repeatability of limit switch sensing element.

Note C: Step Duration is dependent on maximum step frequency and motor resolution. Request Model 172 Operators Manual for details.

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MODEL 172 PRESET INDEXER PIN-OUT LIST (J1)

PCB PIN #	AMP PIN #	SIGNAL	INPUT/ OUTPUT
1	1	TTL STEP	O
2	2	TTL DIRECTION	O
3	3	SHUTDOWN	O
4	4	CW STEP (OC)	O
5	5	CCW STEP (OC)	O
6	6	IN POSITION	O
7	7	CANNOT MOVE	O
8	8	GOING HOME	O
9	9	AT HOME	O
10	10	+ 5 VDC	O
11	11	RESERVED	I
12	12	CONSTANT VELOCITY	O
13	13	DIRECTION (CW/CCW)	I
14	14	8 Position	
15	15	4 10^6	I
16	16	2 Digit	
17	17	1	
18	18	8 Position	
19	19	4 10^5	I
20	20	2 Digit	
21	21	1	
22	22	8 Position	
23	23	4 10^4	I
24	24	2 Digit	
25	25	1	
26	26	8 Position	
27	27	4 10^3	I
28	28	2 Digit	
29	29	1	
30	30	8 Position	
31	31	4 10^2	I
32	32	2 Digit	
33	33	1	
34	34	8 Position	
35	35	4 10^1	I
36	36	2 Digit	
37	37	1	
38	38	8 Position	
39	39	4 10^0	I
40	40	2 Digit	
41	41	1	
42	42	CCW LIMIT	I
43	43	GND	I

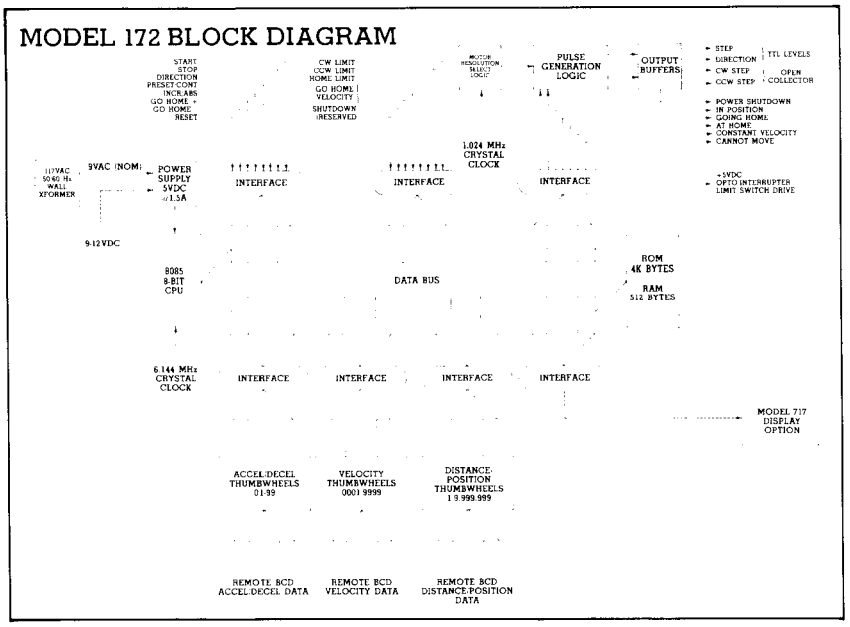
PCB PIN #	AMP PIN #	SIGNAL	INPUT/ OUTPUT
44	A	GND (STEP)	I
45	B	GND (DIRECTION)	I
46	C	GND (SHUTDOWN)	I
47	D	GND (CW STEP)	I
48	E	GND (CCW STEP)	I
49	F	START	I
50	H	STOP	I
51	J	PRE/CONT Mode	I
52	K	INCR/ABS	I
53	L	GO HOME +	I
54	M	GO HOME −	I
55	N	HOME LIMIT	I
56	P	SHUTDOWN	I
57	R	RESET	I
58	S	4 GO HOME	
59	T	2 Velocity	I
60	U	1	
61	V	8 Accel/Decel	
62	W	4 10^1 Digit	I
63	X	2	
64	Y	1	
65	z	8 Accel/Decel	
66	a	4 10^0 Digit	I
67	b	2	I
68	c	1	
69	d	8 Velocity	
70	e	4 10^3	I
71	f	2 Digit	
72	h	1	
73	j	8 Velocity	
74	k	4 10^2	I
75	l	2 Digit	
76	m	1	
77	n	8 Velocity	
78	p	4 10^1	I
79	r	2 Digit	
80	s	1	
81	t	8 Velocity	
82	u	4 10^0	I
83	v	2 Digit	
84	w	1	
85	x	CW LIMIT	I
86	y	GND	

Notes: J1 is an AMP 86-Pin (Dual 43) 0.156 PC Edge Connector with Polarizing Slot and Solder Eyelets (AMP P/N 1-530654-3)
OC = Open Collector
GND = Common DC Ground
PIN 44 Opposite PIN 1

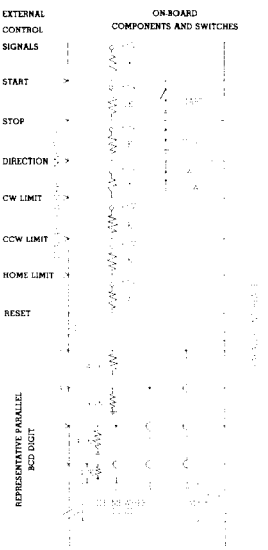
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SPECIFICATIONS

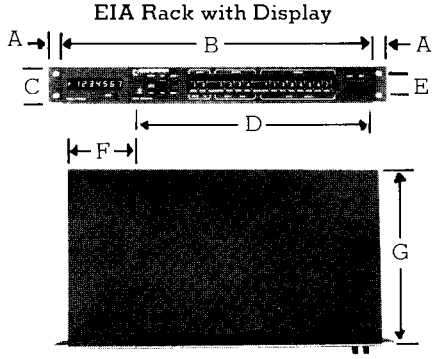
MODEL 172 BLOCK DIAGRAM



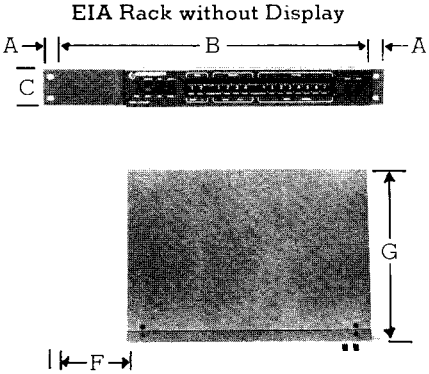
172 INTERFACE EXAMPLE



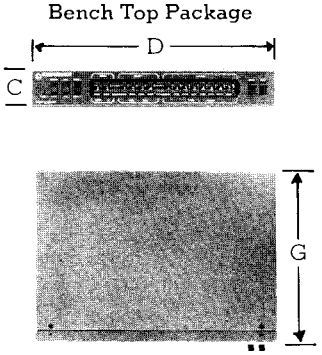
EIA Rack with Display



EIA Rack without Display

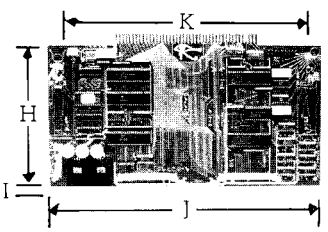


Bench Top Package



PHYSICAL DIMENSIONS IN INCHES (CM)

A = 0.88(2.22)	D = 13.75(34.93)	G = 10.00(25.4)	J = 13.00(33.02)
B = 17.63(44.78)	E = 1.25(3.18)	H = 6.75(17.15)	K = 12.50(31.75)
C = 2.25(5.72)	F = 3.88(9.86)	I = 0.50(1.27)	



Circuit Card Only

WEIGHTS IN POUNDS (KG)

	With Display	Without Display	Circuit Card Only
Net	13 (5.90)	10 (4.5)	4 (1.8)
Shipping	17 (7.71)	14 (6.4)	8 (3.6)

Electrical Requirements
With AC Transformer: 90 to 130 VAC, 50/60 Hz, .2 A max.
Without AC Transformer: 9-12 VAC, 50 to 400 Hz, 1.5 A max.
9-12 VDC unregulated, 1.5 A max.

Environmental
Operating: 32 to 122°F (0 to 50°C)
10 to 90% Humidity, non-condensing
Storage: −25 to 185°F (−30 to 85°C)

Specifications Subject to Change Without Notice

The Computer Movement that started a Revolution

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172/10K/5.82

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