

Blue Cable Sensor 001056  
Reed Switch 001055

7 komax

Schematic 110V

40S

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Valid from Machine No:

40.4964

to

40.6242

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Komax Corp., USA  
1100 East Corporate Grove Drive  
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Release 1994/800020.A  
Can change without notice

## How to use Komax Schematics

These instruction pages were created to help the owner/operator understand the schematics and provide a quick and convenient method of troubleshooting the machine should problems arise.

The schematics are drawn in a multiple page format to allow easier handling of the document. All schematics are arranged in a standard form to provide ease of understanding when a customer may have more than one type of Komax machine. The schematics are arranged as follows:

### 1) Schematic Overview

This first page is provided to give the user a quick and complete view of how the various subsystems in the machine are arranged and the connections between each.

### 2) Schematic Index

The index contains a listing of all the components contained within the schematic. It is arranged in alpha-numeric order by component type. Each row contains the component type, reference designator, schematic page number, and location. The location is provided for the component on the machine itself by major sub-assembly as well as the location on the schematic page itself. Each page has a numeric scale across the top which corresponds to the location number located in the index.

### 3) Schematic

The following section contains all the pages of the schematic. Pages are numbered starting at page 1. Each page contains a series of numbers across the top which are referenced by both the index and the schematic whenever a circuit is contained on more than one page. Page 1 contains numbers 0-9, Page 2 contains 10-19, etc.

Each page of the schematic follows a standard format so that a circuit may be traced from any point within it to any other point. Whenever a circuit is contained on more than one page, a circuit number and page location number is provided. For example, if you try to follow the circuit from fuse F4 you should first locate the component in the index. The index would tell which page number and location of the fuse. You would then follow the circuit from the component. As the circuit leaves the page it provides the circuit number and location where it continues.

See Page #2 for Examples



Component		Ref. Design	Page #	Location	
				Machine	Drawing #
TERMINALS	X301	79,80,81,82,83 84,85,86,129,130,131 132,133,134,135,136 179,180,181,182,183 184,185,186,229,230 231,232,233,234,235,236	8	WUL	70,71,72,73,74 75,76,77,71,72,73 74,75,75,75,77 71,72,73,74,75 75,76,77,70,71 72,72,75,76,77
		101,102,103,104 151,152,153,154	13	WUL	121,122,125,125 121,122,125,125
		56,57,58,59,105,106 108,107,108,118,155 156,157,158,168,206 207,208,209,259,409	14	WUL	136,132,135,137,130,132 134,133,132,136,130 132,134,134,136,136 132,135,137,137,137
		53,60,61,62,63 64,65,66,67,68 110,111,112,113,114,115 116,117,160,161,162,163  164,165,166,167,203 208,210,211,212,213,214 215,216,217,218	15	WUL	143,141,142,142,141 143,145,146,147,145 140,142,141,141,145,144 147,147,140,142,141,141  145,144,147,147,143 143,141,142,142,143 145,146,147,146
	X401	251,252,255 401,402,405 253,254,403,404	3 3 4	WUR	26,27,28 26,27,28 33,34,33,34
		278,279,280,281,282 283,284,285,286,287  328,329,330,331,332 333,334,335,336,337 378,379,380,381,382 383,384,385,386,387  428,429,430,431,432 433,434,435,436,437	9	WUR	80,81,82,82,83 83,84,85,85,86  81,81,82,82,83 84,84,85,87,87 81,81,82,82,83 84,84,85,87,87  80,81,82,82,83 84,84,85,85,86
		288,289,290,291,292 293,294,295,338,339  340,341,342,343,344 345,388,389,390,391 392,393,394,395,438 439,440,441,442,443 444,445	10	WUR	91,91,92,92,93 94,95,95,91,91  92,93,93,94,95 97,91,92,92,93 93,94,95,96,91 91,92,93,93,94 95,95
		260,261,262,263,264 265,266,267,268,269  310,311,312,313,314 315,316,317,318,319 360,361,362,363,364 365,366,367,368,369  410,411,412,413,414 415,416,417,418,419	11	WUR	100,101,101,102,103 103,104,105,106,106  100,101,101,102,103 103,104,105,106,107 100,101,102,102,103 104,104,105,106,107  100,101,101,102,103,103 103,104,105,105,106
		270,271,272 273,274,275,276,277  320,321,322,326 327,370,371,372,376 377,420,421,422,423 424,425,426,427	12	WUR	110,111,112 113,113,114,114,115  111,111,112,116 116,111,111,112,115 116,110,111,112,113 113,114,114,115
		256,301,302,323,324 325,351,352,373,374 375,406	13	WUR	124,123,127,127,127 127,123,127,127,127 127,124
		109,159,257,258,303 304-308,353 354-358,407,408	14	WUR	137,137,136,137,132 133,134,131,132,137,132 133-137,136,137

## K040S SCHEMATICS

Component		Ref. Design	Page #	Location	
				Machine	Drawing #
ENCODER		E1	15	WUL	147
FAN		M2	2	ESR	12
FILTER		K1	1,5	ESR	1,43
FUSES		E1,E2,E3	2	ESR	13,12,10
		F1,F2,F3,F4,F5,F6	6	WUL	51,51,53,53,55,55
		F7,F8	6	WUR	57
MOTOR		M1	15	WUL	143-145
PLUGS	X1	L1,N,PE	1	ESR	1 - 3
		X1.0 - X1.5	7	ESR	60 - 64
		X2.0 - X2.5	9	ESR	80 - 84
		X3.1 - X3.6	11	ESR	101 - 104
	X2	1,2,3,4	2	ESR	17-16
	X201	1,2,3,4,5,6	5	uP-Rack	45-49
		7,8,9,10,11,12	5	uP-Rack	45-49
	X501	1A,1B,2A,2B,3A,3B	7	uP-Rack	67-69
		1C - 8C	7		65-60
		4A,4B - 16A,16B	8		79-70
	X502	1A,1B,2A,2B,3A,3B	9	uP-Rack	87-89
		1C - 8C	9		85-80
4A,4B - 16A,16B		10		99-90	
X503	1A,1B,2A,2B,3A,3B	11	uP-Rack	107-108	
	1C - 8C	11		105-100	
	4A,4B - 16A,16B	12		119-110	

AG	=	ANGLE GRIPPER	IOC	=	INPUT/OUTPUT CARD	SWT	=	SLIDING WIRE TROUGH
BP	=	BACK PLANE	LG	=	LEFT GRIPPER STA.#1	ToP	=	TERMINAL OR PC
CBC	=	CONVEYOR BELT CIRCUIT	LPU	=	LEFT PULL OFF UNIT	UFP	=	USER FRONT PLATE
CC	=	CONTROL CIRCUIT	LSC	=	LEFT SWIVEL CYLINDER	URC	=	UP RACK CURCUIT
CPRC	=	CP-RACK CIRCUIT	MC	=	MONITORING CIRCUIT	VR	=	VOLTAGE REGULATOR
DC	=	DOUBLE CUTHEAD	MPO	=	MAIN POWER OUTLET	WC	=	WIRE CARRIER
EC	=	EMERGENCY CIRCUIT	MR	=	MOTOR REGULATOR	WFLV	=	WIRE FEED LOAD VOLTAGE
EL	=	ERROR LAMP	PR	=	POWER RACK	WL	=	WIRE LIFTER
ES	=	EMERGENCY STOP	R	=	RESERVE	WS	=	WIRE STACKER
ESR	=	EMERGENCY STOP RACK	RC	=	ROTATING CYLINDER	WT	=	WIRE TRAY
FO	=	FAST ONS	RPU	=	RIGHT PULL OFF UNIT	WUL	=	WIRE UNIT LEFT
I	=	INPUT	RSC	=	RIGHT SWIVEL CYLINDER	WUR	=	WIRE UNIT RIGHT

REVISION DATE: 10/15/93

Component	Ref. Design	Page #	Location	
			Machine	Drawing #
VALVES	AAO	15	MAIN VALVE	141-142
	A10	7	LG	60
	A11		LPU	61
	A12		LSC	62
	A13		LSC	62
	A15		Airblast	64
	A20	9	RG	80
	A21		RPU	81
	A22		RSU	82
	A23		RSU	82
	A24		DC	83
	A25		WL	84
	A26		Main Valve	87
	A31	11	WS	101
	A32		WS	102
	A33		WT	102
A34	WC		103	
A35	SWT		104	
A36	SR		104	
VOLTAGE REGULATOR	N1	2	ESR	17
	N1	5	uP-Rack	43
	P1	2	ESR	15
	P1	5	uP-Rack	43

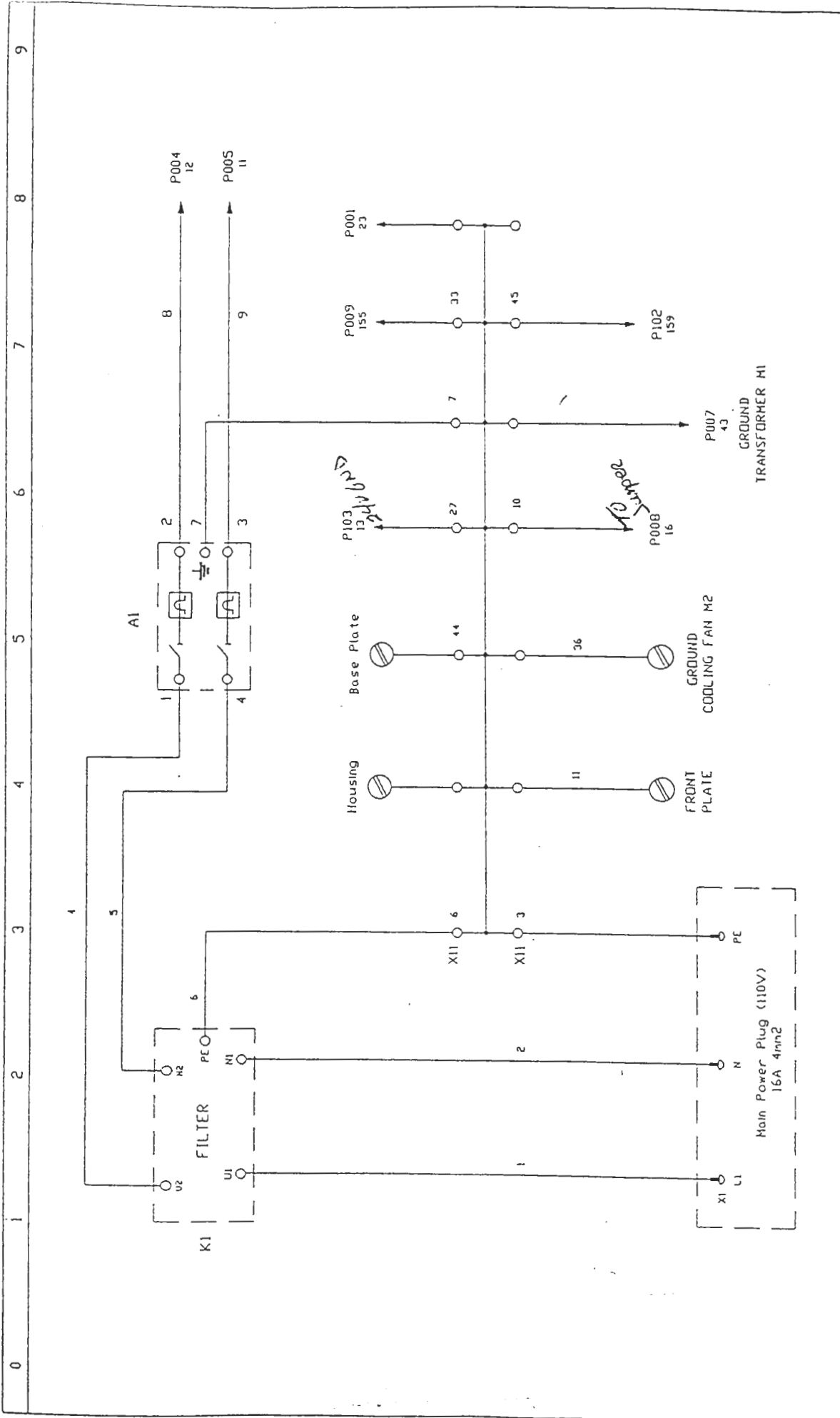
AG	=	ANGLE GRIPPER	IOC	=	INPUT/OUTPUT CARD	SWT	=	SLIDING WIRE TROUGH
BP	=	BACK PLANE	LG	=	LEFT GRIPPER STA.#1	ToP	=	TERMINAL OR PC
CBC	=	CONVEYOR BELT CIRCUIT	LPU	=	LEFT PULL OFF UNIT	UFP	=	USER FRONT PLATE
CC	=	CONTROL CIRCUIT	LSC	=	LEFT SWIVEL CYLINDER	VR	=	VOLTAGE REGULATOR
CPRC	=	CP-RACK CIRCUIT	MC	=	MONITORING CIRCUIT	WC	=	WIRE CARRIER
DC	=	DOUBLE CUTHEAD	MPO	=	MAIN POWER OUTLET	WFLV	=	WIRE FEED LOAD VOLTAGE
EC	=	EMERGENCY CIRCUIT	MR	=	MOTOR REGULATOR	WL	=	WIRE LIFTER
EL	=	ERROR LAMP	PR	=	POWER RACK	WS	=	WIRE STACKER
ES	=	EMERGENCY STOP	R	=	RESERVE	WT	=	WIRE TRAY
ESR	=	EMERGENCY STOP RACK	RC	=	ROTATING CYLINDER	WUL	=	WIRE UNIT LEFT
FO	=	FAST ONS	RPU	=	RIGHT PULL OFF UNIT	WUR	=	WIRE UNIT RIGHT
I	=	INPUT	RSC	=	RIGHT SWIVEL CYLINDER			

REVISION DATE: 10/15/93

Component		Ref. Design	Page #	Location		
				Machine	Drawing #	
PLUGS	X504	1C,2C,88,8C - 16A,16B	15	uP-Rack	149 - 140	
	Y1	2,3,7	5	uP-Rack	45,45,45	
	Y2	2,3,7	5	uP-Rack	45,45,45	
	Y3	1,2,3,4,5,6	5	uP-Rack	40-42	
	C1	1,2,3	10	WUR	96-97	
	C2	1,2,3	8	WUL	76	
	L	1,2,4,5,6	6	WUL	53-52	
	M	1,2,4,5,6	5	WUL	51-50	
	P1	1,2,3,5,6		WUR	57-56	
	P2	1,2,3,5,6		WUL	55-54	
	R1	1,2,3,PE	10,12	WUR	97,115,116	
	R2	1,2,3	8	WUL	77	
	111	1,3	13	WUL	124	
PIECE COUNTER		P301	14	WUL	132	
RELAYS		A1	1	Main Valve	5	
		A14,A16,A17	6	WUL	53,51,55	
		A27	5	WUR	57	
		C1,C2	2,16	ESR	16-18,158	
SWITCHES		S1	3	WUL	25	
		S2	4	Safety Cover	34	
		S2,7	3	Pressure Reg.	28	
		S5	3	WUR	26	
		S6	4	Safety Cover	32	
		S601	3	UFP	21	
SENSORS		E10		LG	71	
		E11	8	LPU	72	
		E12		LPU	73	
		E13		LSC	74	
		E14		LSC	74	
		E20		RG	90	
		E21		RPU	91	
		E22		RPU	92	
		E23	10	RSC	93	
		E24		RSC	93	
		E25		DC	94	
		E30		Wire Stacker	111	
		E31	12	Rotary Cyl.	111	
		E32		Wire Stripper	112	
		TRANSFORMER		M1	5	uP-Rack
T1	2			ESR	10-13	
TERMINALS		X1	1-6,11-16	3	ESR	22-24,24-27
		X3	1-12	16	ESR	154-151
			13-24	16	ESR	155-158
		X4	1-12	16	ESR	154-151
			13-24	16	ESR	155-158
		X11	3,6,7,10,27,33,44,45	1	ESR	3,3,7,6,6,5,7
		X301	51,52,201,202	3	WUL	24,25,24,25
			54,55,204,205	4	WUL	36,34,36,34
			69,70,71,72	7	WUL	60,61,62,62
			73,74,75,76	7	WUL	63,64,64,65
119,120,121,122,123	7		WUL	61,61,62,62,63		
124-128,137,138	7		WUL	64-67,66,66		
169,170,171,172,173	7		WUL	60,61,62,62,63		
174-178,187,188	7		WUL	64-67,66,66		
219,220,221,222	7		WUL	60,61,61,62		
223,224,225,226	7	WUL	63,64,64,65			

REVISION DATE: 10/15/93

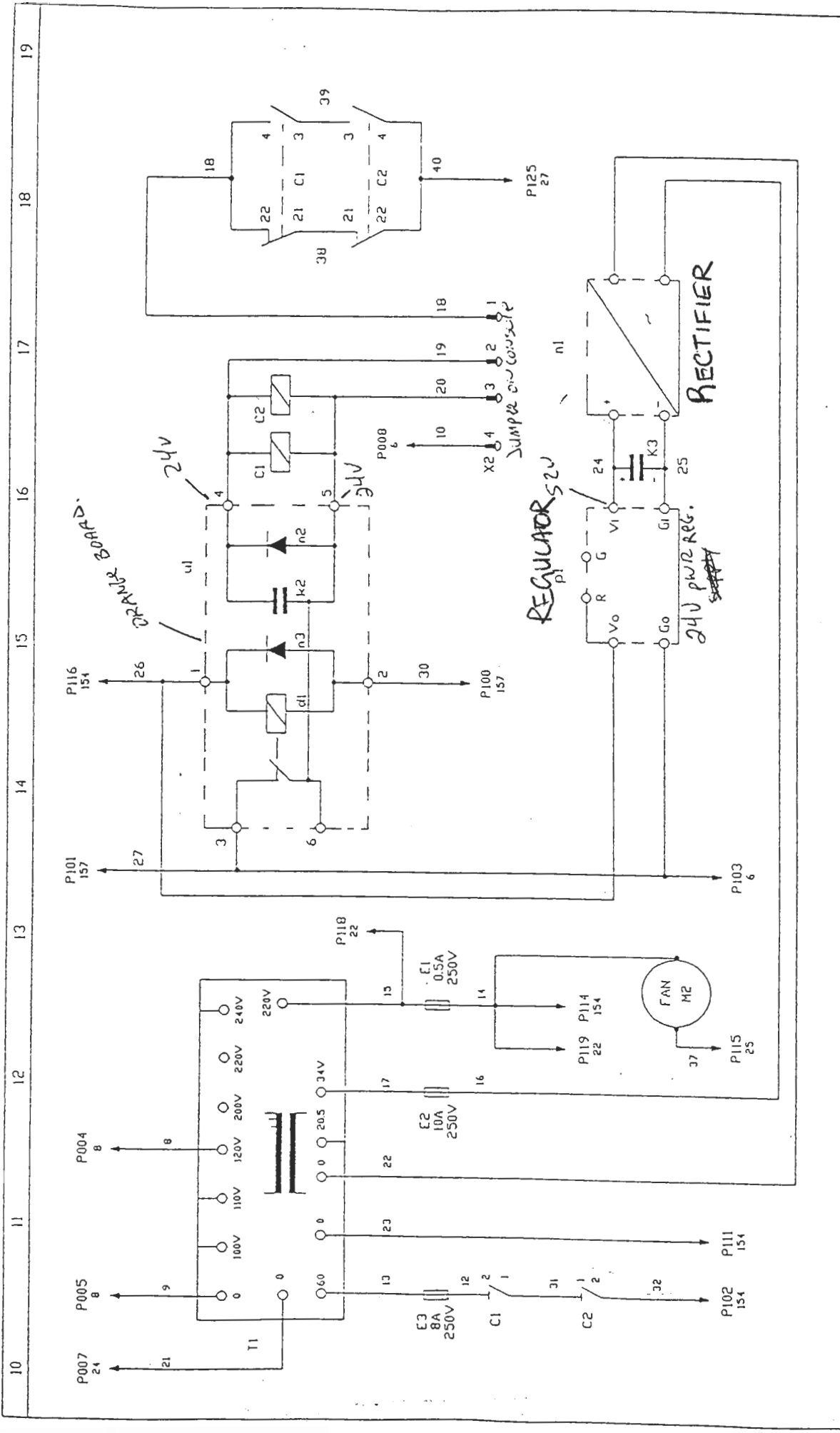




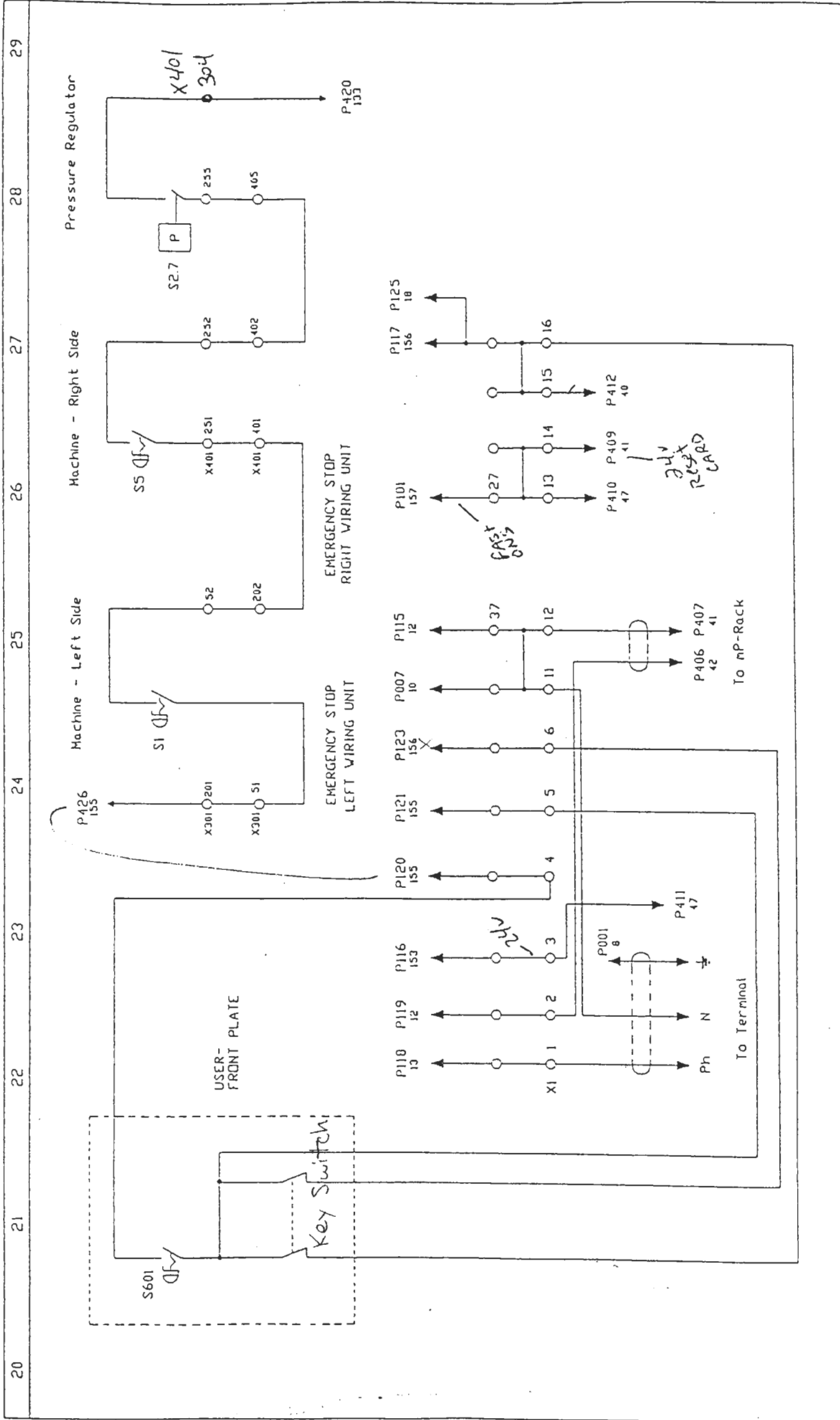
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Revision	Date	08.16.93	SCH0A101	Schematic K40S	Gr. 1 Page 1
	Name	A. Chernyber			
Date	Drawn	A. Chernyber	110V Version	Main Power	Sh. 1
	Name	B. Dnesti			
Date	Appr.	a	b	c	16 Sh.

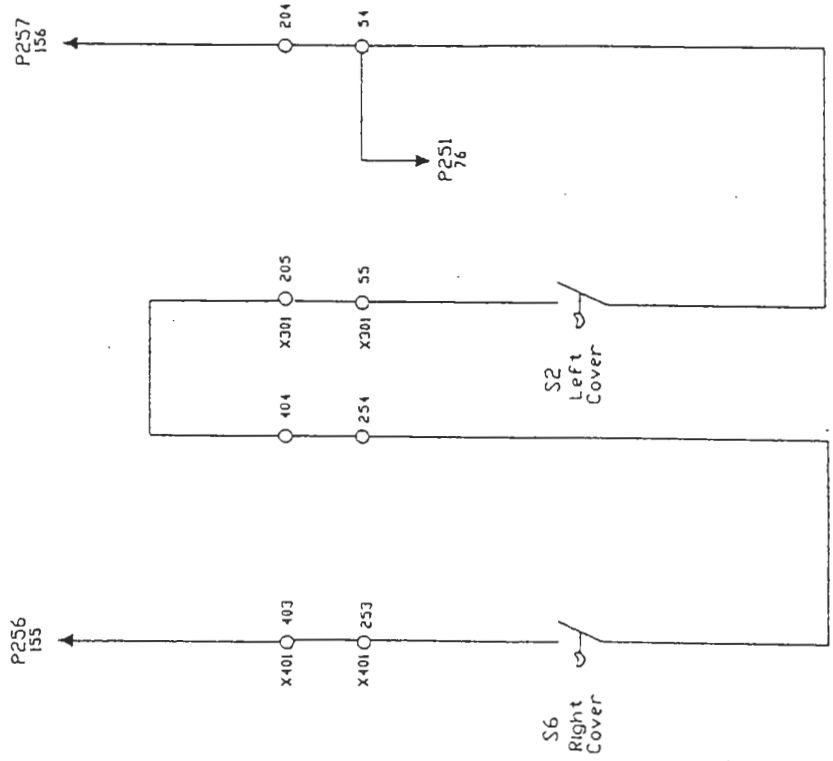
Komax Corp. USA  
708-537-6640



Revision		Date	Name	Date		Appr.	Date		Drawn	Date		Check	Date		Appr.
									A. Chesnyer			A. Chesnyer			
									B. Dnestri			B. Dnestri			
Komalax Corp. USA										SCH00A101		Gr. 1 Page 2		Sh. 2	
708-537-6640										110V Version		POWER SUPPLY		16 Sh.	

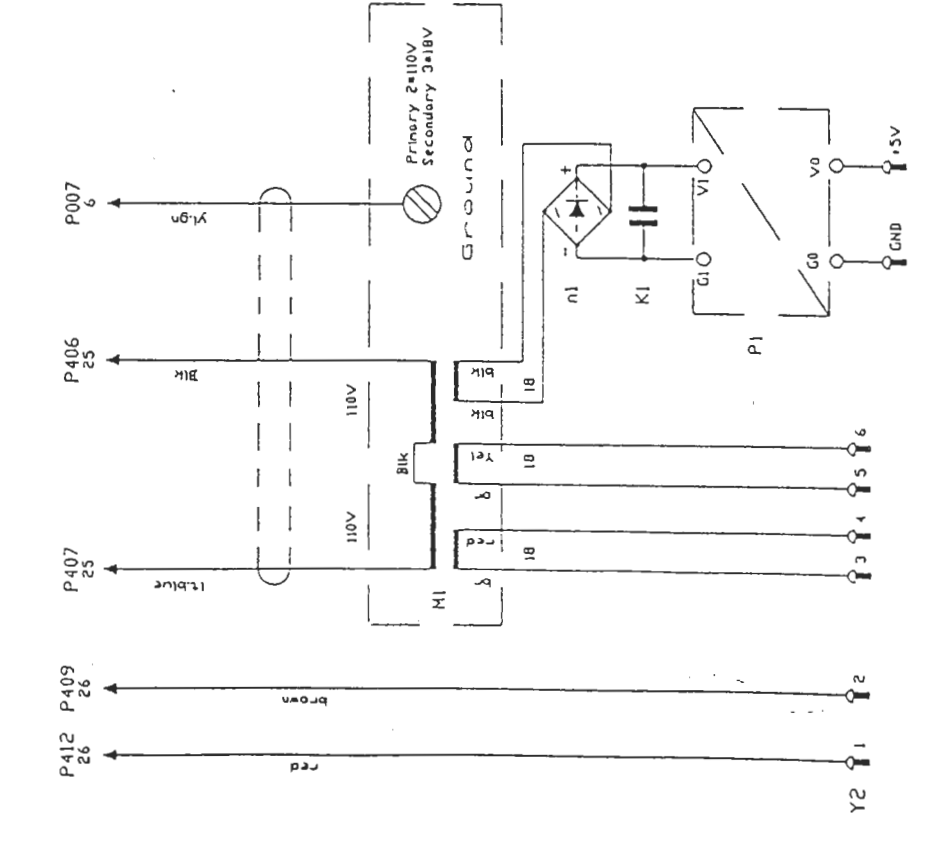
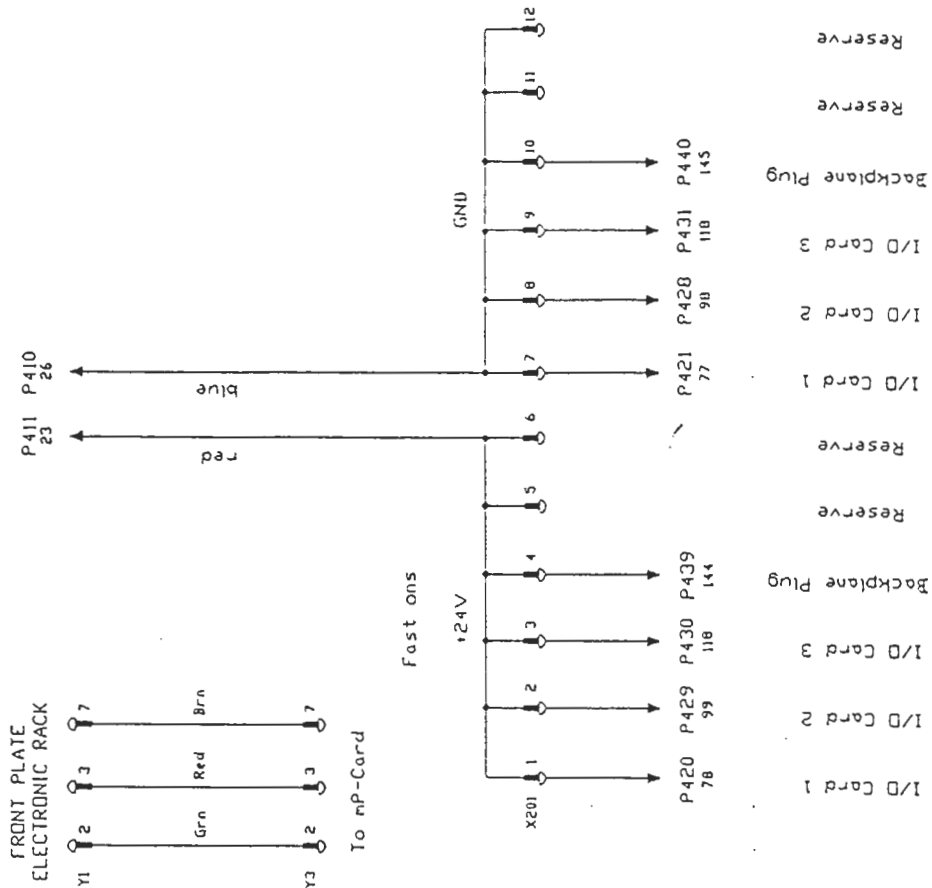


Date		08.16.93		Gr. 1 Page 3	
Drawn		A. Cheyhyber		Schematic K40S	
Check		A. Cheyhyber		SCH0A101	
Appr.		B. Onesti		110V Version	
Revision		a		Emergency Circuit	
		b		Sh. 3	
		c		16 Sh.	



Safety cover Station I

Revision	Date	08.11.93	SCH10A101	Gr. 1 Page 4
	Drawn	A. Cheybar		
	Check	A. Cheybar	110V Version	Safety Cover
	Appr.	B. Onesti		Sh. 4
				16 Sh.

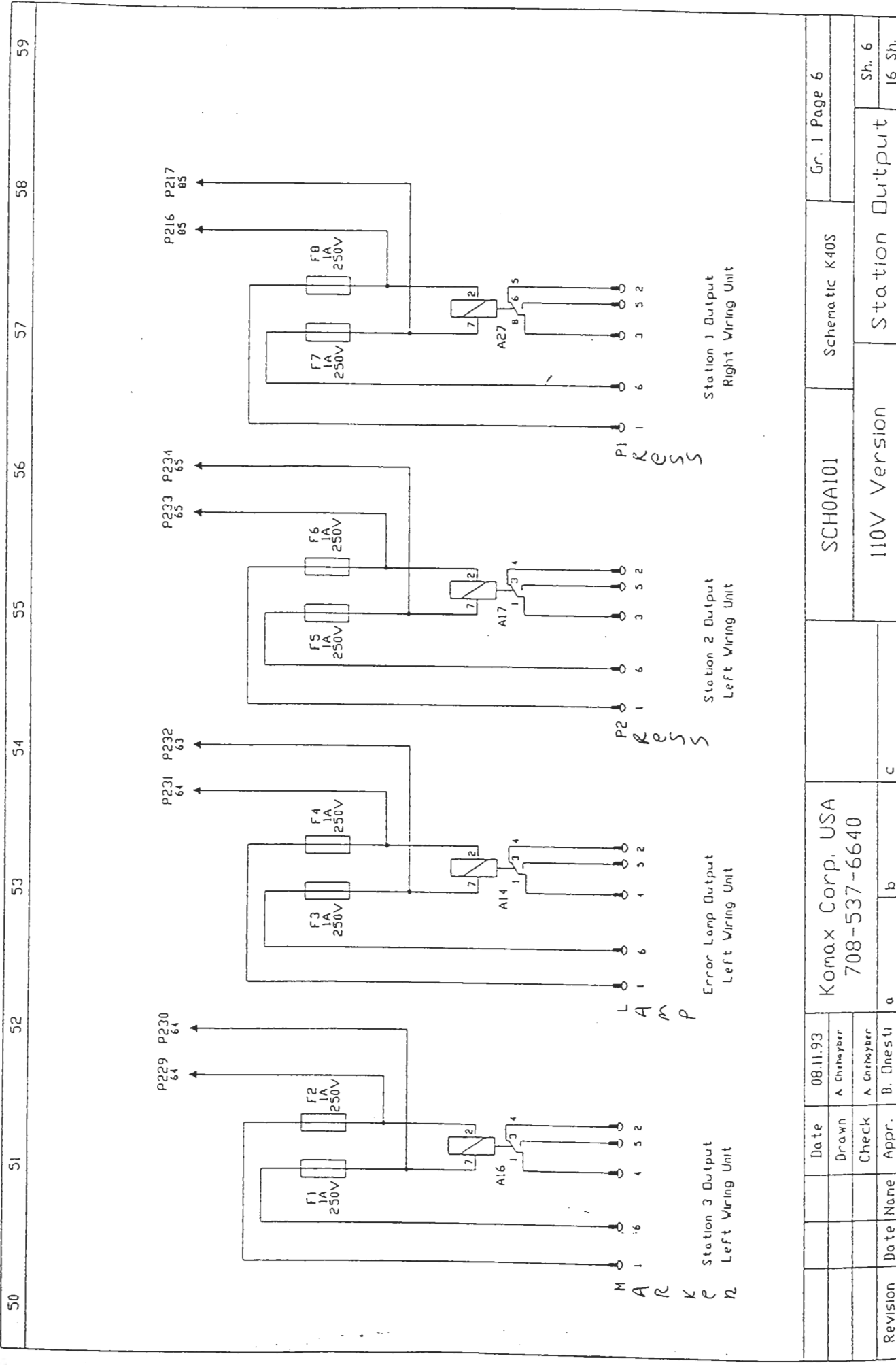


Power to I/O Cards

to Reset Card  
Up - Rack

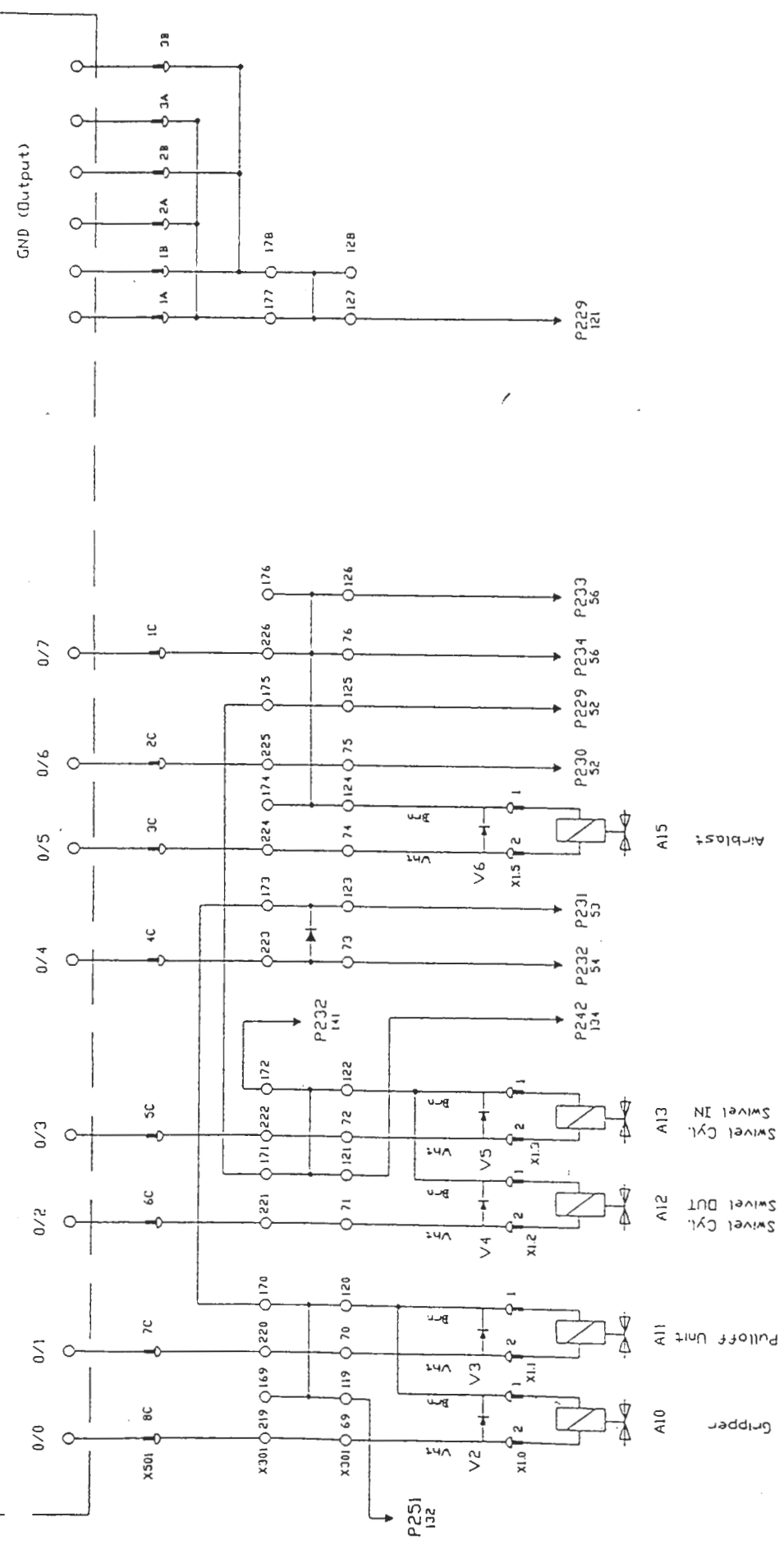
to Backplane  
Up - Rack

SCH0A101		Schematic K40S		Gr. 1 Page 5	
110V Version		5V/24V Circuit up-Rack		Sh. 5	
a		b		c	
Date		08.16.93		Komax Corp. USA	
Drawn		A. Cheybar		708-537-6640	
Check		A. Cheybar			
Appr.		B. Onesti			
Revision	Date	Name			



Revision	Date	Name	Appr.	a	b	c	Komax Corp. USA 708-537-6640	SCH0A101	Schematic K40S	Gr. 1 Page 6	Station Output	Sh. 6
	Date	Name	Appr.									16 Sh.

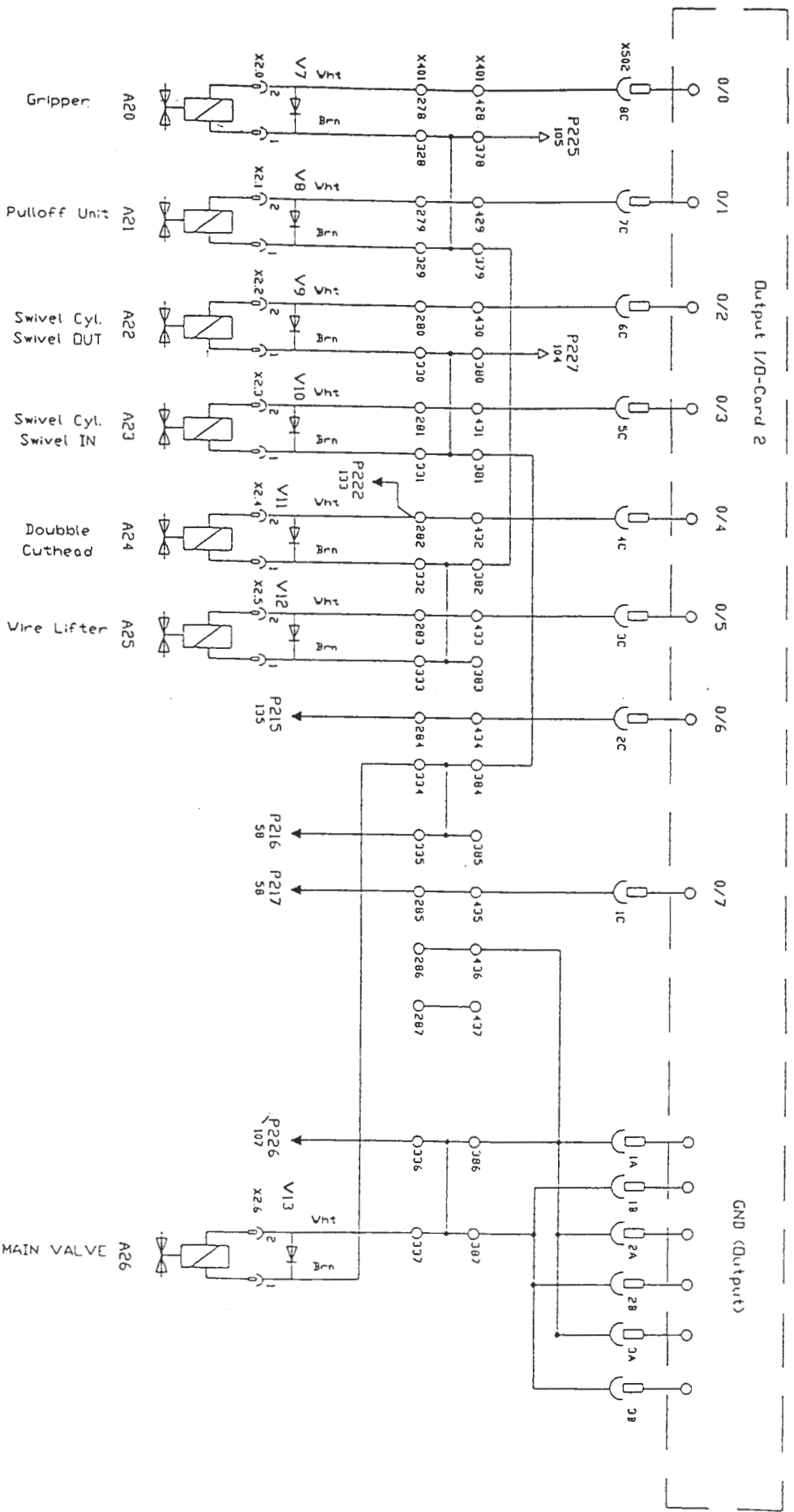
Output I/O-Card 1



Date		08.11.93		Komax Corp. USA		SCH0A101		Gr. 1 Page 7	
Drawn		A. Chreyber		708-537-6640		Schematic K40S			
Check		A. Chreyber				110V Version		I/O 1 Outputs	
Appr.		B. Onesti						Sh. 7	
Revision		Date Name		a		b		16 Sh.	

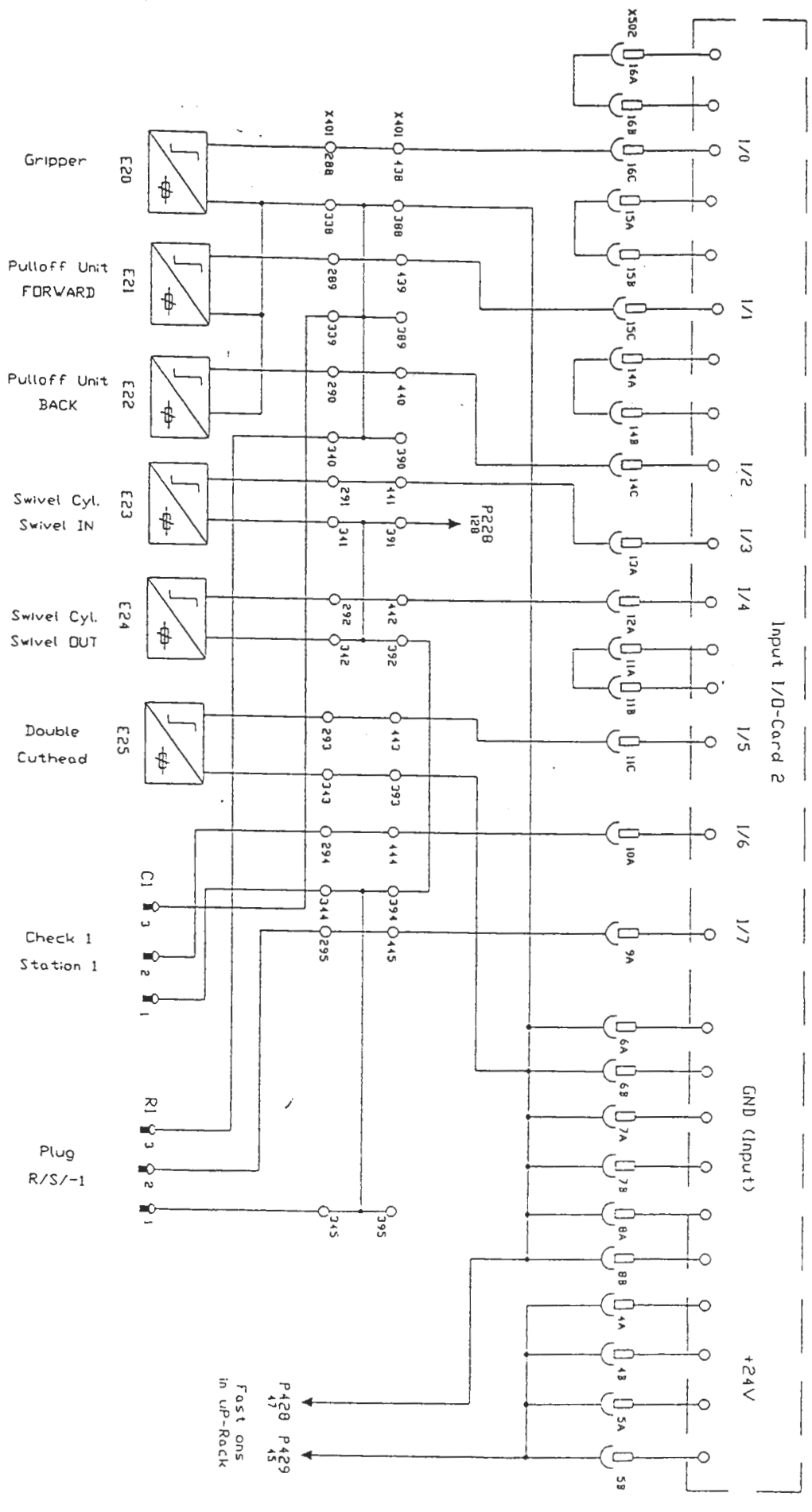


80 81 82 83 84 85 86 87 88 89



Revision	Date	Name	Date	Drawn	Check	Appr.	B. Dnesti	a	b	c
			08.16.93	A. Overhayer	A. Overhayer					
			KOMAX CORP. USA							
			708-537-6640							
			SCH0A101							
			110V Version							
			Schematic K405							
			Gr. 1 Page 9							
			Sh. 9							
			16 Sh.							

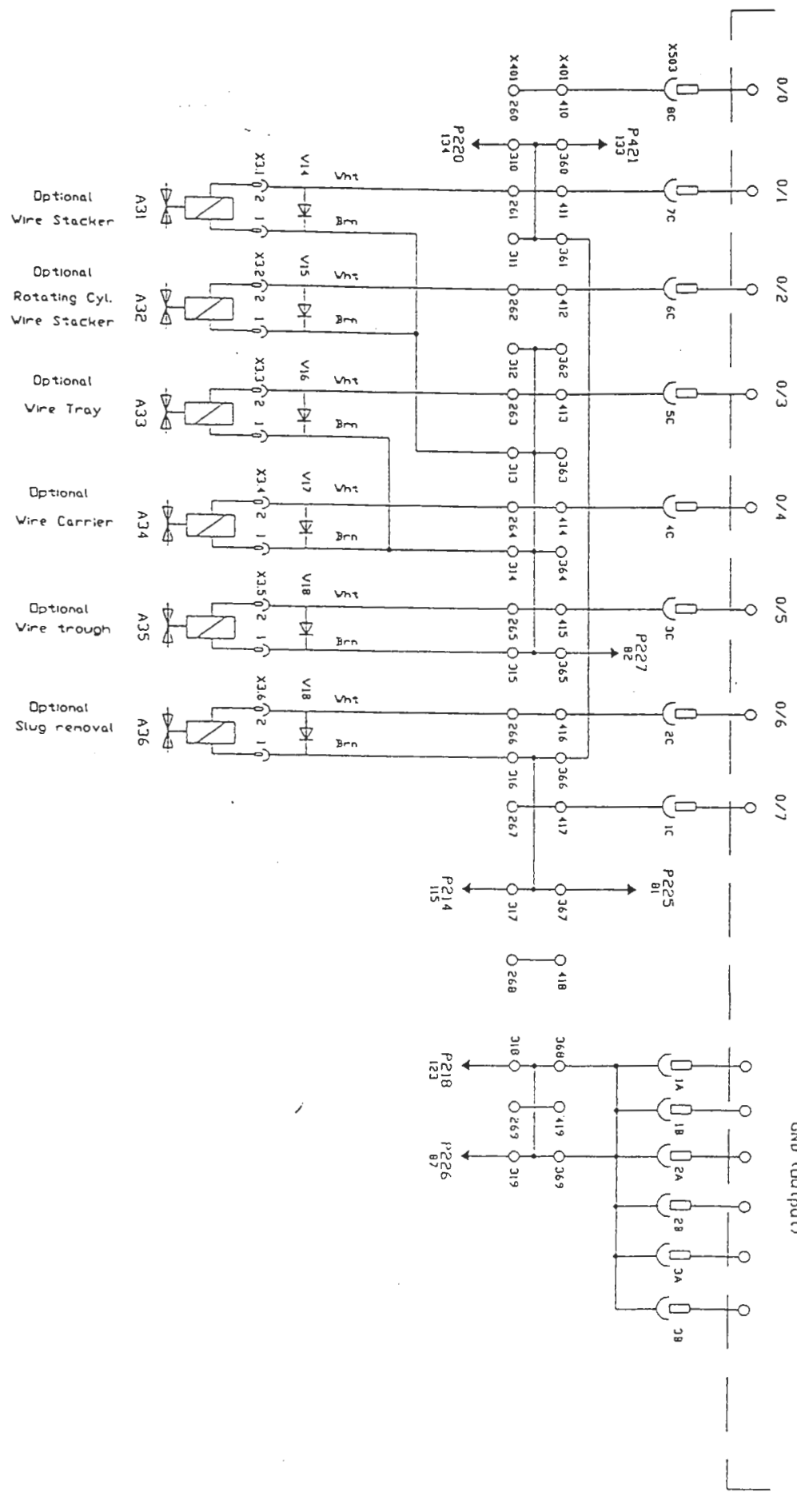
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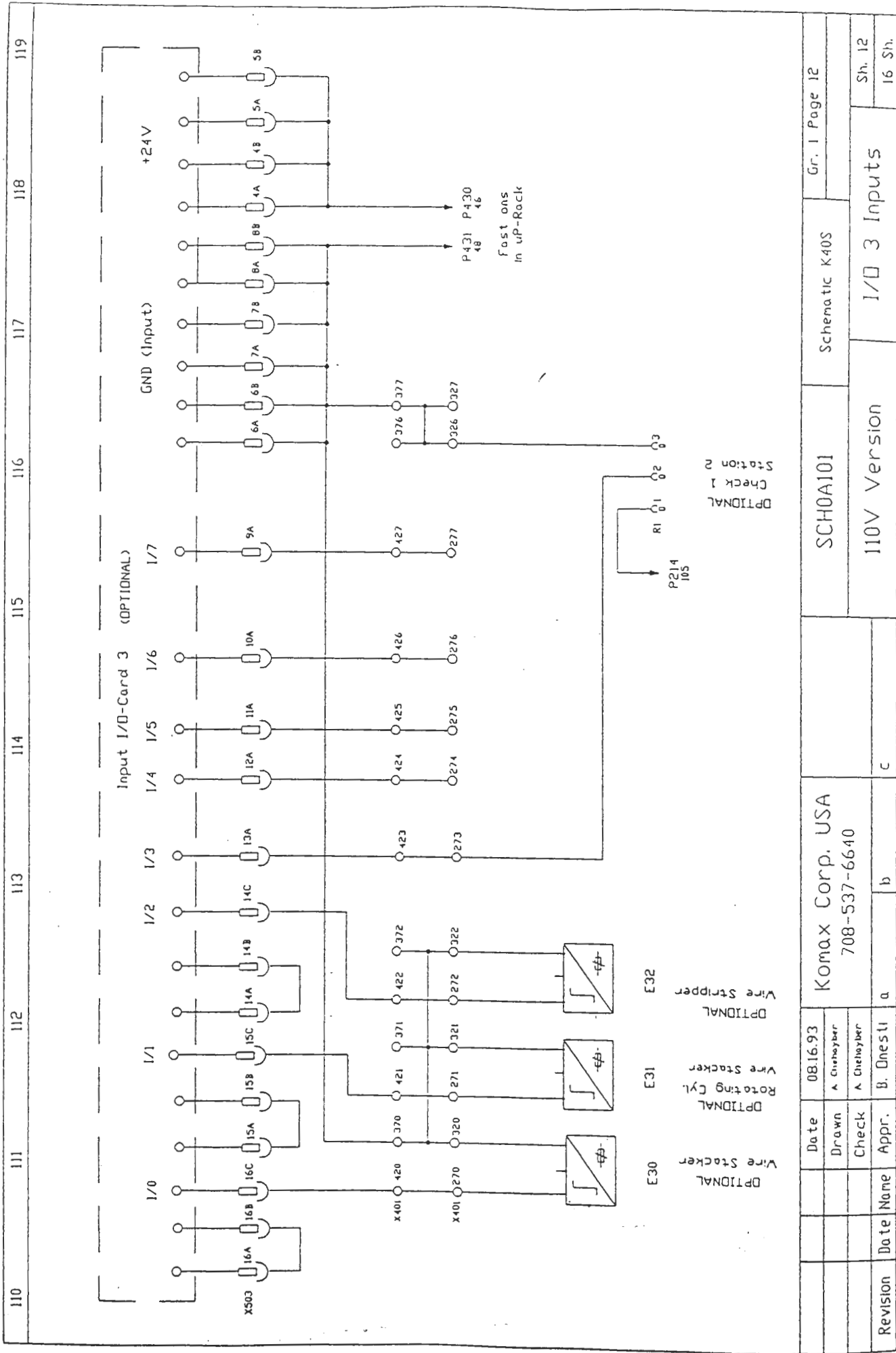
P420 P429  
Fast ONs  
in UP-Rock  
47 45

Revision	Date	Appr.	Check	Drawn	Date	Appr.	Check	Drawn	Date
				A. Chetwyler	08.11.93	B. Dnestri	A. Chetwyler	A. Chetwyler	
Komax Corp. USA					708-537-6640				
SCH00A101					110V Version				
Schematic K40S					Gr. 1 Page 10				
I/O 2 Inputs					Sh. 10				
					16 Sh.				

Output I/O-Card 3 (OPTIONAL)



Revision	Date	Name	Appr.	Date	Drawn	Check	Appr.	Gr. 1 Page 11
				08/16/93	A. Cheskyber	A. Cheskyber	B. Dnestri	
Komax Corp. USA							SCH10A101	
708-537-6640							Schematic K40S	
							110V Version	
							I/O 3 Outputs	
							Sh. 11	
							16 Sh.	



Date		08.16.93		Kamax Corp. USA		SCH0A101		Gr. 1 Page 12	
Drawn		A. Chelnyar		708-537-6640		110V Version		Schematic K40S	
Check		A. Chelnyar				1/O 3 Inputs		Sh. 12	
Appr.		B. Onesti		c		110V Version		16 Sh.	
Revision		Date Name		a b		110V Version		1/O 3 Inputs	

OPTIONAL  
Check 1  
Station 2

E30  
OPTIONAL  
Wire Stripper

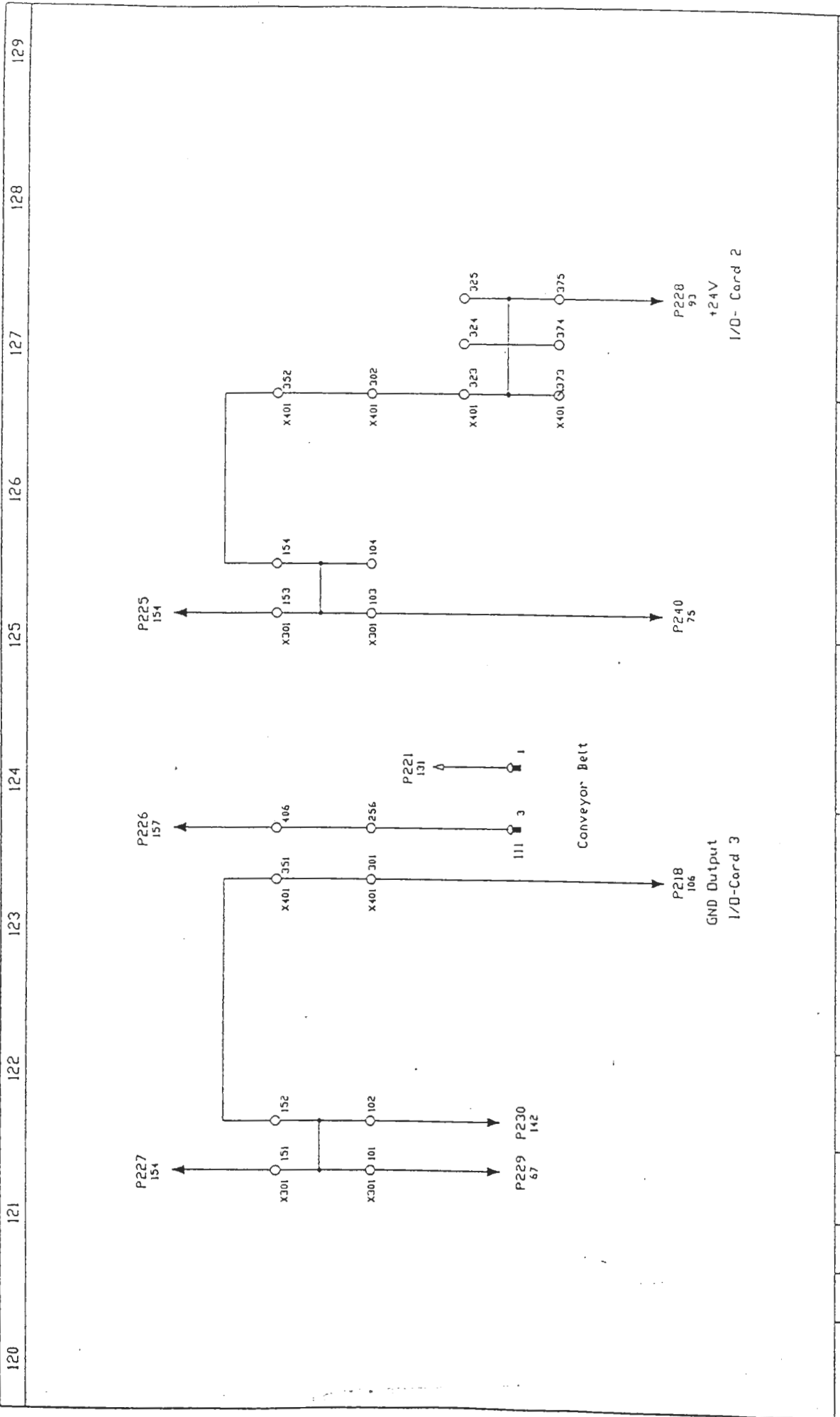
E31  
OPTIONAL  
Rotating Cyl.  
Wire Stripper

E32  
OPTIONAL  
Wire Stripper

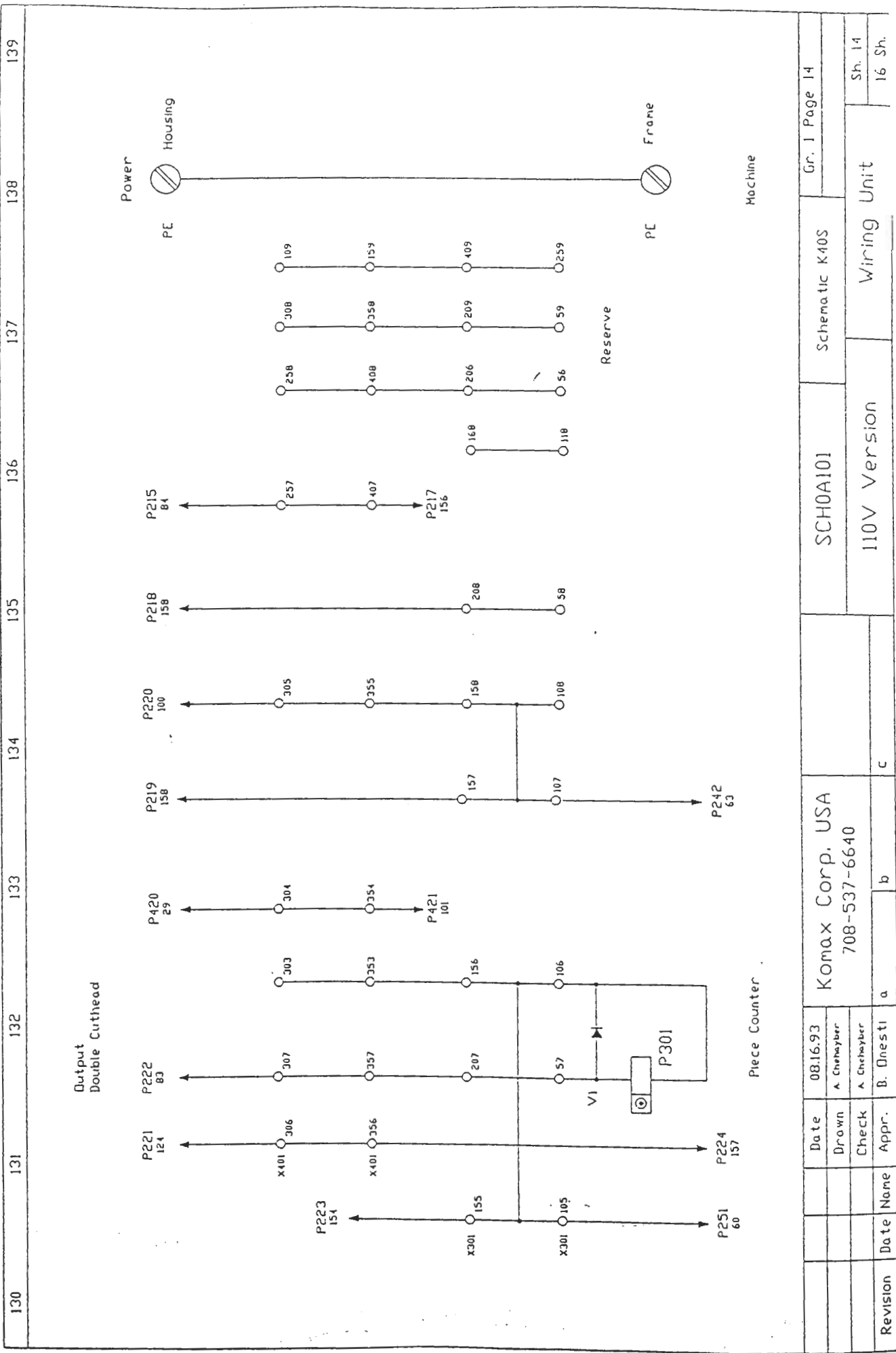
P214  
105

R1  
01 02 03

P431 P430  
48 46  
Fast ons  
in uP-Rack

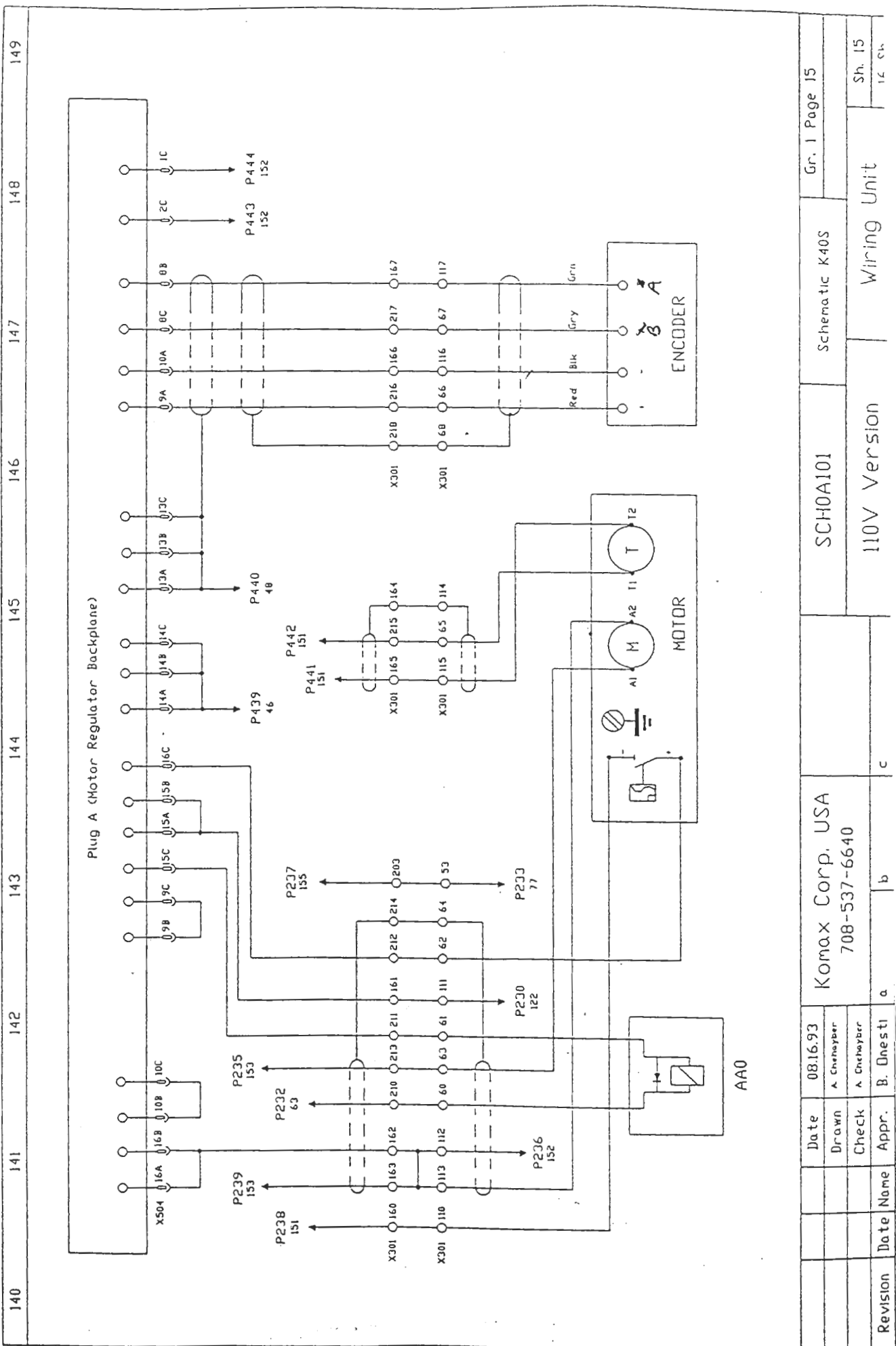


Date		08.16.93		Komax Corp. USA		SCH0A101		Schematic K40S		Gr. 1 Page 13	
Drawn		A. Chenayber		708-537-6640		110V Version		110V Version		Power Supply Wiring Unit	
Check		A. Chenayber								Sh. 13	
Appr.		B. Dnesti		a		b		c		16 Sh.	
Revision	Date	Name									



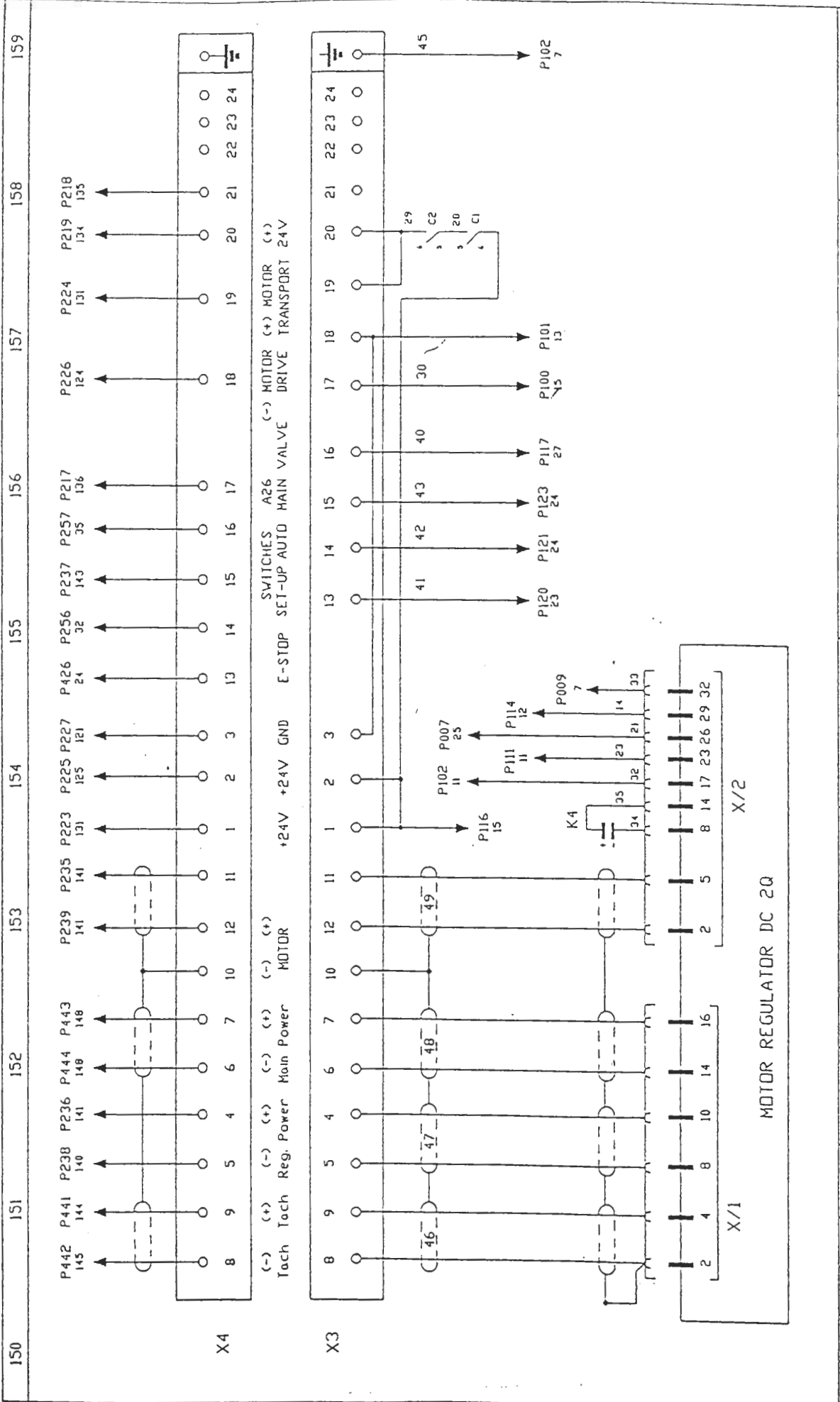
130 131 132 133 134 135 136 137 138 139

Date		08.16.93	
Drawn	A. Chehayber		
Check	A. Chehayber		
Appr.	B. Dnesti		
Revision	Date	Name	Appr.
SCH0A101		Schematic K40S	
110V Version		Wiring Unit	
Komax Corp. USA		708-537-6640	
Gr. 1 Page 14		Sh. 14	
		16 Sh.	

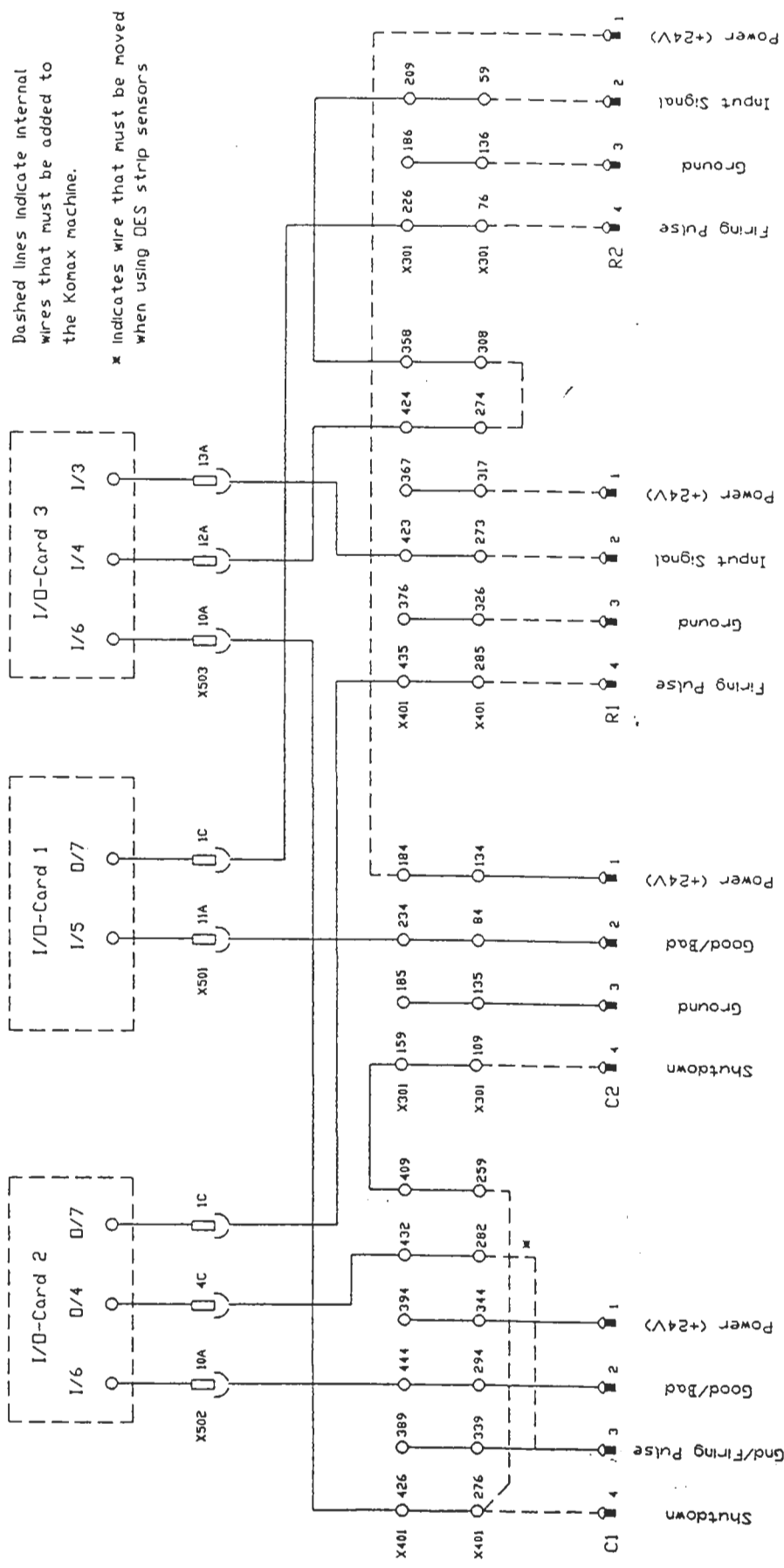


Plug A (Motor Regulator Backplane)

Date		08.16.93		Gr. 1 Page 15	
Drawn		A. Chelnyber		Schematic K40S	
Check		A. Chelnyber		110V Version	
Appr.		B. Dnesti		Wiring Unit	
Revision	Date	Name			Sh. 15
					12 ch.



Date 08.16.93			SCH0A101			Schematic K40S			Gr. 1 Page 16		
Drawn A. Cheyber			110V Version			MAIN CONNECTOR			Sh. 16		
Check A. Cheyber									12 cl.		
Appr. B. Dnestri											
Revision	Date	Name									



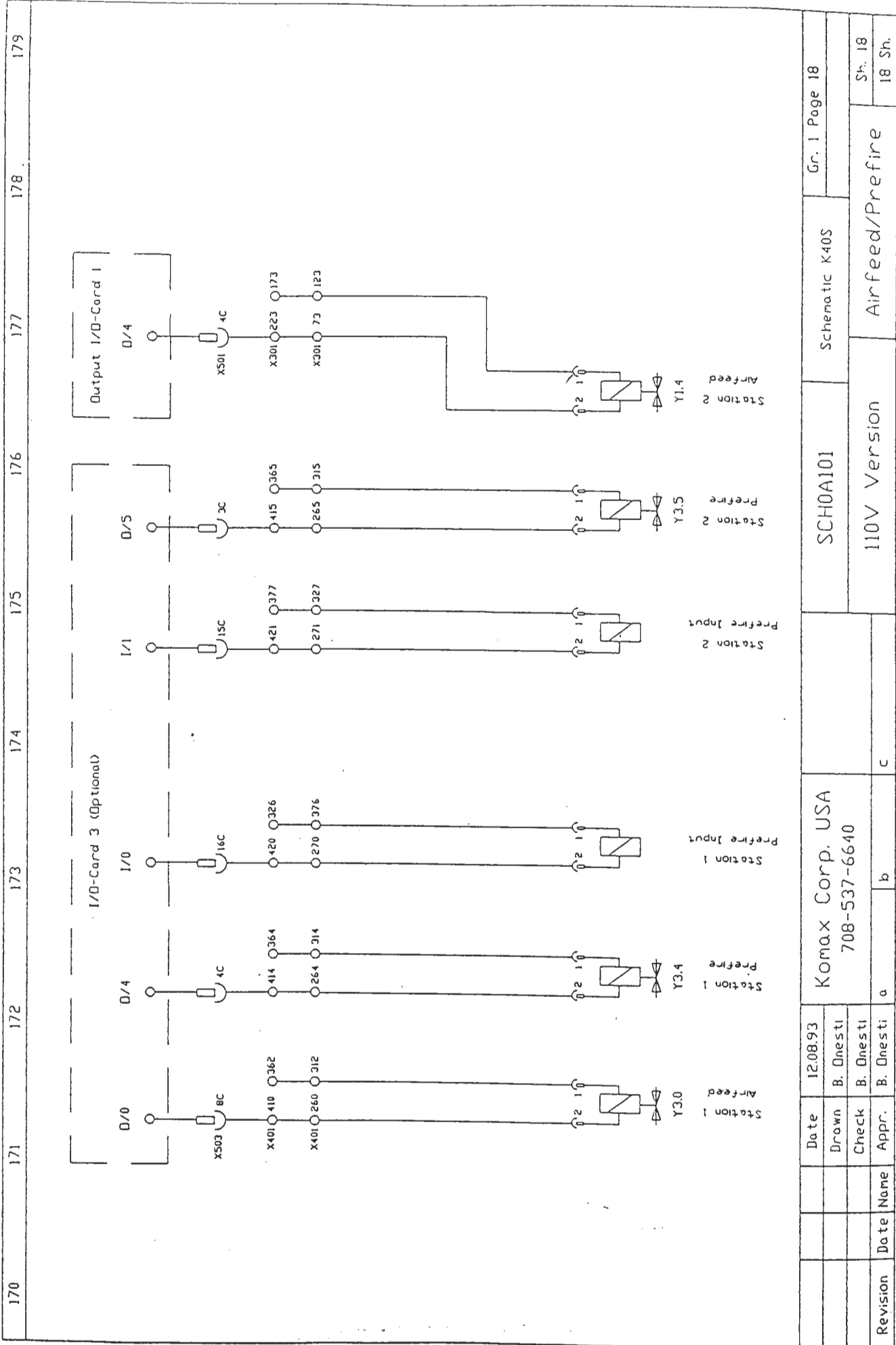
Check 1 Station 1  
(Quality Check)

Check 1 Station 2  
(Quality Check)

Check 2 Station 1  
(Terminal Feed Check)

Check 2 Station 2  
(Terminal Feed Check)

Date	08.11.93	Komax Corp. USA 708-537-6640	SCH0A101	Schematic K40S	Gr. 1 Page 17
	Drawn A. Cheyber				
Check	A. Cheyber	110V Version	Monitoring		Sh. 17 17 Sh.
Annr	B. Piersti				



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Revision	Date Name		a	b	c	110V Version		Airfeed/Prefire		Sh. 18
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