

**LUDLUM MODEL 329-32
64-CHANNEL LAUNDRY MONITOR**

Technical Manual

March 2022

Serial Number 107800 and Succeeding

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LUDLUM MEASUREMENTS, INC
501 OAK STREET, P.O. BOX 810

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Section 1

Parts Lists

Following are the parts lists for each board listed in this manual for the Model 329-32 Laundry Monitor. Refer to the appropriate schematic and board layout in the next section of this manual with the corresponding board number.

Quad Counter (Board # 5323-440)

Reference	Description	Part Number
Crystals		
Y12	MICRO XTAL-12 MHZ HC18	01-5224
Capacitors		
C13	100 μ F, 10V DT	04-5576
C14	27pF, 100V C COG	04-5614
C15	27pF, 100V C COG	04-5614
Transistors		
Q16	2N7000	05-5820
Integrated Circuits		
	ICT-286-S-TG 28P SOC	06-6096
U5	CD74HC14	06-6257
U9	CD74HC00E	06-6260
U17-U19	CD74HC573E	06-6093
U21	27C512-15N	06-6264
U22	CDM6264E3/HM626RAP-10	06-6098
U23-U26	LS7062	06-6201
U27	P80C51FA INTEL	06-6236
U28	CD74HC173E	06-6258
U29	CD74HC14	06-6257
LEDs		
CRN20	HDSP-4830	07-6336

Reference	Description	Part Number
Resistors		
R29-R30	100K 1/4W 5% CR25	10-7023
RN31	220K SIP 10 Pin	12-7578
RN32	22K SIP 10 Pin	12-7566
RN33	220K SIP 10 Pin	12-7578
RN34	2.2K SIP 8 Pin	12-7776
Central Processor (Board # 5323-441)		
Crystals		
Y44	MICRO XTAL- 32.768 Khz	01-5219
Y45	MICRO XTAL-12 Mhz HC18	01-5224
Y46	MICRO XTAL-6.144 Mhz	01-5212
Capacitors		
C7-C10	10 mF 20V DT	04-5592
C11	100 mF 10V DT	04-5576
C12-C15	10 mF 20V DT	04-5592
C16-C19	27pF 100V C COG	04-5614
C20-C21	18 pF 100V 5% COG	04-5365
Transistors		
Q65-Q66	2N3904	05-5755
Integrated Circuits		
	ICT-286-S-TG 28P SOC	06-6096
U2	CD74HC14	06-6257
U22	DS1211	06-6255
U23	CD74HC573E	06-6093
U24-U25	P82510	06-6263
U26	27C512-15N	06-6264
U27	CDM6264E3/HM6264AP-10	06-6098
U28	MM58274CN NATIONAL	06-6254
U29-U30	MAX232EPE	06-6188
U31	P80C51FA INTEL	06-6236
U33	ICL7667CPA	06-6250

Quad Preamplifier (Board # 5324-320)

Reference	Description	Part Number
Capacitors		
C134-C135	10 μ F, 20V, DT	04-5592
C138	1 μ F, 35V, DT	04-5575
C140	10 μ F, 20V, DT	04-5592
C141	330pF, 100V, COG	04-5531
C144	100pF, 100V, C COG	04-5527
C147	.1 μ F, 100V, C X7R	04-5521
C148	.01 μ F, 100V, X7R 103	04-5523
C150	.1 μ F, 100V, C X7R	04-5521
C151	47pF, 100V, C COG	04-5533
C153	.1 μ F, 100V, C X7R	04-5521
C154	.01 μ F, 100V, X7R 103	04-5523
C158	.1 μ F, 100V, X7R	04-5521
C160-C161	100pF, 100V, C COG	04-5527
C162-C163	47pF, 100V, C COG	04-5533
C164	100pF, 100V, C COG	04-5527
C165	47pF, 100V, C COG	04-5533
C166	.1 μ F, 100V, C X7R	04-5521
C170	100pF, 100V, C COG	04-5527
C172-C173	47pF, 100V, C COG	04-5533
C174	.1 μ F, 100V, C X7R	04-5521
C176	.1 μ F, 100V, C X7R	04-5521
C177	100pF, 100V, C COG	04-5527
C178	47pF, 100V, C COG	04-5533
C180-C181	.1 μ F, 100V, C X7R	04-5521
C183	.1 μ F, 100V, C X7R	04-5521
C187	100pF, 100V, C COG	04-5527
C189	.1 μ F, 100V, C COG	04-5521
C190	100pF, 100V, C COG	04-5527
C192	.1 μ F, 100V, C X7R	04-5521
C226	.01 μ F, 100V, X7R 103	04-5523
C233	.01 μ F, 100V, X7R 103	04-5523
C236	1 μ F, 35V, DT	04-5575
C237	330pF, 100V, COG	04-5531
C256	.01 μ F, 100V, X7R 103	04-5523
C263	.01 μ F, 100V, X7R 103	04-5523
C266	1 μ F, 35V, DT	04-5575
C267	330pF, 100V, COG	04-5531
C270	1 μ F, 35V, DT	04-5575
C277	.01 μ F, 100V, X7R 103	04-5523

Reference	Description	Part Number
C279	.01 μ F, 100V, X7R 103	04-5523
C282	330pF, 100V, COG	04-5531
C309-C310	.1 μ F, 100V, C X7R	04-5521
Voltage Regulators		
VR314	LM317LZ	05-5788
Integrated Circuits		
U1	CMXT3906TRLF	05-5890
U2-U4	CMXT3904TRLF	05-5888
U5	CMXT3906TRLF	05-5890
U6-U7	CMXT3904TRLF	05-5888
U8	CMXT3906TRLF	05-5890
U9-U10	CMXT3904TRLF	05-5888
U11	CMXT3906TRLF	05-5890
U12	CMXT3904TRLF	05-5888
U97-U102	TLC372IP	06-6265
U105	CD4098BE	06-6066
U109	CD4098BE	06-6066
U115	CD4098BE	06-6066
U119	CD4098BE	06-6066
Diodes		
CR300	1N4001 T/R	07-6268
Resistors		
R3	TRMR-10K 3266X1-103	09-6822
R7	47K 1/4W 5% CR25	10-7020
R8	470K 1/4W 5% CR25	10-7026
R9	10K 1/4W 5% CR25	10-7016
R10	1 Meg 1/4W 5% CR25	10-7028
R11	100K 1/4W 5% CR25	10-7023
R12-R14	10K 1/4W 5% CR25	10-7016
R15-R16	1K 1/4W 5% CR25	10-7009
R17	10K 1/4W 5% CR25	10-7016
R18	1K 1/4W 5% CR25	10-7009
R19	10K 1/4W 5% CR25	10-7016
R20	1K 1/4W 5% CR25	10-7009
R21	47K 1/4W 5% CR25	10-7020
R24	4.7 1/4W 5% CR25	10-7014
R25	10K 1/4W 5% CR25	10-7016
R28-R29	1K 1/4W 5% CR25	10-7009
R30-R31	47K 1/4W 5% CR25	10-7020

Reference	Description	Part Number
R32	10K 1/4W 5% CR25	10-7016
R34	5.6K 1/4W 5% CR25	10-7042
R37	10K 1/4W 5% CR25	10-7016
R38	4.7K 1/4W 5% CR25	10-7014
R39-R41	10K 1/4W 5% CR25	10-7016
R45-R46	10K 1/4W 5% CR25	10-7016
R47	1K 1/4W 5% CR 25	10-7009
R48	10K 1/4W 5% CR25	10-7016
R51-R53	10K 1/4W 5% CR25	10-7016
R54	1K 1/4W 5% CR25	10-7009
R55	10K 1/4W 5% CR25	10-7016
R56	4.7K 1/4W 5% CR25	10-7014
R57	10K 1/4W 5% CR25	10-7016
R61	5.6K 1/4W 5% CR25	10-7042
R62	300Ohm 1/4W 5% CR25	10-7053
R63	100Ohm 1/4W 5% CR25	10-7004
R64	10K 1/4W 5% CR25	10-7016
R65	4.7K 1/4W 5% CR25	10-7014
R66	47K 1/4W 5% CR25	10-7020
R69	10K 1/4W 5% CR25	10-7016
R70	1K 1/4W 5% CR25	10-7009
R71	47K 1/4W 5% CR25	10-7020
R72	1K 1/4W 5% CR25	10-7009
R73	47K 1/4W 5% CR25	10-7020
R76	47K 1/4W 5% CR25	10-7020
R77	1K 1/4W 5% CR25	10-7009
R78-R79	10K 1/4W 5% CR25	10-7016
R80	22K 1/4W 5% CR25	10-7070
R81	5.6K 1/4W 5% CR25	10-7042
R82-R84	10K 1/4W 5% CR25	10-7016
R89	1K 1/4W 5% cR25	10-7009
R90	10K 1/4W 5% CR25	10-7016
R94	1 Meg 1/4W 5% CR25	10-7028
R223-R224	1 Meg 1/4W 5% CR25	10-7028
R225	22K 1/4W 5% CR25	10-7070
R227	TRMR-10K 3266X1-103	09-6822
R229	5.6K 1/4W 5% CR25	10-7042
R230	100K 1/4W 5% CR25	10-7023
R231	470K 1/4W 5% CR25	10-7026
R232	100 Ohm 1/4W 5% CR25	10-7004
R234	330 Ohm 1/4W 5% CR25	10-7053
R235	10K 1/4W 5% CR25	10-7016
R253-R254	1Meg 1/4W 5% CR25	10-7028

Reference	Description	Part Number
R255	22K 1/4W 5% CR25	10-7070
R257	TRMR-10K 3266X1-103	09-6822
R260	100K 1/4W 5% CR25	10-7023
R261	470K 1/4W 5% CR25	10-7026
R262	100 Ohm 1/4W 5% CR25	10-7004
R264	330 Ohm 1/4W 5% CR25	10-7053
R265	10K 1/4W 5% CR25	10-7016
R268-R269	1Meg 1/4W 5% CR25	10-7028
R271	330 Ohm 1/4W 5% CR25	10-7053
R272	TRMR-10K 3266X1-103	09-6822
R274	100K 1/4W 5% CR25	10-7023
R275	470K 1/4W 5% CR25	10-7026
R276	100 Ohm 1/4W 5% CR25	10-7004
R280	22K 1/4W 5% CR25	10-7070
R281	10K 1/4W 5% CR25	10-7016
R294	243Ohm 1/4W 1%	12-7698
R295-R297	10K 1/4W 5% CR25	10-7016
R298	1.69K 1/8W 1%	12-7680
R308	10K 1/4W 5% CR25	10-7016

Miscellaneous

*	D Plug-CBD21WQ4M5B10000	13-8312
*	Card Ejector-5021N	22-9876
W1-W4	BLDN 83265 RG 178	8303-275

Dual High Voltage Power Supply (HVPS) with Threshold (Board # 5323-746)**Crystals**

Y188	MICRO XTAL-12 Mhz HC18	01-5524
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Capacitors

C5	100pF, 3kV 30GAT10	04-5532
C8	.0015μF, 3kV C NPO	04-5518
C10	.0015F, 3kV C NPO	04-5518
C13	.0015μF, 3kV C NPO	04-5518
C14	33pF, 100V C COG	04-5676
C15	33pF, 100V C COG	04-5616
C16-C17	27pF, 100V C COG	04-5614
C18	470pF, 100V C COG	04-5555

Reference	Description	Part Number
C19-C20	.047M, 100V C X7R	04-5565
C21	27pF, 100V C COG	04-5614
C22-C24	.1μF, 100V C X7R	04-5521
C29	.1μF, 100V C X7R	04-5521
C30	.01μF, 100V X7R 103	04-5523
C31	100pF, 100V C X7R	04-5527
C32	.1μF, 100V C X7R	04-5521
C36	.0056M, 3kV C NPO	04-5522
C37-C38	10μF, 20V DT	04-5592
C39-C43	1μF, 35V DT	04-5575
C45-C47	100μF, 10V DT	04-5576
C48	10μF, 20V DT	04-5592
C49	100μF, 10V DT	04-5576
C143	.0056M, 3kV C NPO	04-5522
C145	.0015μF, 3kV C NPO	04-5518
C148-C149	.0056M, 3kV C NPO	04-5522
C152	.01μF, 100V X7R 103	04-5523
C156	.1μF, 100V C X7R	04-5521
C161	100μF, 10V DT	04-5576
C162	100pF, 100V C COG	04-5527
C166	.0015μF, 3kV C NPO	04-5518
C169	.0015μF, 3kV C NPO	04-5518
C172	.0015μF, 3kV C NPO	04-5518
C173	100pF, 3kV 30GAT10	04-5532
C177	.0015μF, 3kV C NPO	04-5518
C180	.1μF, 100V C X7R	04-5521
Transistors		
Q1	MPSU51	05-5765
Q131	2N7000	05-5820
Q133	2N3904	05-5755
Q154	MPSU51	05-5765
Q171	2N3904	05-5755
Integrated Circuits		
U64	CD74HC14	06-6257
U65	CD4052BE	06-6141
U67	CD74HC573E	06-6093
U68	AD7549JN	06-6253
U69	NMC89C-257Q200 NATL	06-6278
U70	P80C51FA INTEL	06-6236
U71-U72	LM358N	06-6024
U73	LT1078CN8	06-6251

Reference	Description	Part Number
U74	LM331N	06-6156
U75	ICL7660 CPA	06-6132
U77	TLC27M7IP	06-6248
U134	REG-LM385Z-2.5	05-5791
U135	REG-LM85Z-1.2	05-5808
U136	REG-LM385Z-2.5	05-5791
U155	TLC27M7IP	06-6248
Diodes		
CR51-CR52	1N4148	07-6272
CR54-CR55	GI250-2	07-6266
CR60-CR61	GI250-2	07-6266
CR63	GI250-2	07-6266
CR160	1N4148	07-6272
CR163	GI250-2	07-6266
CR165	GI250-2	07-6266
CR167-CR168	GI250-2	07-6266
CR176	GI250-2	07-6266
CR181	1N4148	07-6272
CRN66	LED-HDSP-4830	07-6336
Resistors		
R78	TRMR-10K 3266W1-103	09-6824
R81-R82	TRMR-1MEG 3266W1-105	09-6778
R83-R85	TRMR-100K 3266W1-104	09-6829
R86-R87	1 GIG-OHM FHV-1 2%	12-7686
R90	820OHM 1/4W 5% CR25	10-7060
R91	8.2K 1/4W 5% CR25	10-7015
R92	2.2MEG 1/4W 5% CR25	10-7052
R93	8.2K 1/4W 5% CR25	10-7015
R94	56K 1/4W 5% CR25	10-7021
R96	33K 1/4W 5% CR25	10-7019
R97	100K 1/4(1/8) W 1%	12-7557
R98	100K 1/4W 5% CR25	10-7023
R99-R101	4.7K 1/4W 5% CR25	10-7014
R102	10K 1/4W 5% CR25	10-7016
R103	6.81K 1/8W 1%	12-7619
R104	10K 1/4(1/8)W 1%	12-7540
R105	100K 1/4(1/8)W 1%	12-7557
R106	47OHM 1/4W 5% CR25	10-7002
R109	10K 1/4W 5% CR25	10-7016
R110	22K 1/4W 5% CR25	10-7070
R111	100K 1/4W 5% CR25	10-7023

Reference	Description	Part Number
R112-R113	470K 1/4W 5% CR25	10-7026
R115	1MEG 1/4W 5% CR25	10-7028
R121-R122	2.2K 1/4W 5% CR25	10-7012
R123	5.6K 1/4W 5% CR25	10-7042
R141	4.7MEG 1/4W 5% CR25	10-7030
R142	1MEG 1/4W 5% CR25	10-7028
R151	4.7K 1/4W 5% CR25	10-7014
R157	1GIG-OHM FHV-1 2%	12-7686
R158	4.7MEG 1/4W 5% CR25	10-7030
R159	10K 1/4W 5% CR25	10-7016
R164	470K 1/4W 5% CR25	10-7026
R170	1MEG 1/4W 5% CR25	10-7028
R174	1MEG 1/4W 5% CR25	10-7028
R175	1GIG-OHM FHV-1 2%	12-7686
R178	TRMR-1MEG 3266W1-105	09-6778
R179	100K 1/4W 5% CR25	10-7023
R182	470K 1/4W 5% CR25	10-7026
R183	TRMR-1MEG 3266W1-105	09-6778
R184	22K 1/4W 5% CR25	10-7060
RN128	NETWORK-220K SIP 10 PIN	12-7578
RN129	NETWORK-22K SIP 10 PIN	12-7566
RN130	NETWORK-2.2K SIP 8 PIN	12-7776
Transformers		
T138	M2221;3503;4 HVPS	4275-037
T153	M2221;3503;4 HVPS	4275-037
Miscellaneous		
*	SPACER-432-175	18-8892
*	WIRE-TEFLON WHITE	21-9362
*	CARD EJECTOR-5201N	22-9876

Low Voltage Power Supply/Motor Controller Backplane (LVPS) (Board # 5323-445)

Reference	Description	Part Number
Capacitors		
C10	2700 μ F, 35V DT	04-5621
C11	1500 μ F, 16V E	04-5622
C12-C3	1 μ F, 35V DT	04-5575
C15-C16	1 μ F, 35V DT	04-5575
C18-C19	1 μ F, 35V DT	04-5575
Transistors		
Q1-Q2	MPSU01	05-5778
Q41-Q42	MPS6534	05-5763
Voltage Regulators		
VR3-VR4	LM323K-STEEL	05-5773
VR5	LM340K-15	05-5790
U24	IC-DS1231-20	06-6234
Diodes		
R28	10K 1/4(1/8)W 1%	12-7540
R29	24.9K 1/8W 1%	12-7639
R32	10K 1/4W 5% CR25	10-7016
R34	10K 1/4W 5% CR25	10-7016
R35	100k 1/4W 5% CR25	10-7023
R37	1K 1/4W 5% CR25	10-7009
R60	1K 1/4W 5% CR25	10-7009
R61	10K 1/4W 5% CR25	10-7016
RR33	100k 1/4W 5% CR25	10-7023
RR36	10K 1/4W 5% CR25	10-7016
Miscellaneous		
J7	CONN-CJ50-50B-10	13-8046
*	CONN-640445-7 MTA156	13-8020
*	CONN-640445-6 MTA156	13-7071
*	CONN-1-640445-2 MTA156	13-8072
*	CONN-640445-3 MTA156	13-8125
*	FUSE CLIP-1A1119-10	21-9550
*	FUSE CLIP-1A1119-10	21-9550
*	FUSE CLIP-1A1119-10	21-9550
*	FUSE CLIP-1A1119-10	21-9550

Reference	Description	Part Number
F25	FUSE-6 AMP ABC6	21-9607
F26	FUSE-#312001 AGC-1	21-9277
*	HEAT SINK- 6254B	18-8877
*	HEAT SINK- 6033B-43	18-9012

Gas/Motor Controller (Board # 5323-771)

Reference	Description	Part Number
Crystals		
Y97	MICRO XTAL-12 MHZ HC18	01-5224
Capacitors		
C1	1 μ F, 35V DT	04-5575
C2-C3	10 μ F, 20V DT	04-5592
C4	100 μ F, 10V DT	04-5576
C5	10 μ F, 20V DT	04-5592
C6	1 μ F, 35V DT	04-5575
C7-C8	27pF, 100V C COG	04-5614
C9	.1 μ F, 100V C X7R	04-5521
Transistors		
Q85-Q86	2N7000	05-5820
Q102	2N7000	05-5820
Q117	RFL2N05L (RCA)	05-5818
Q126	2N7000	05-5820
Q127	2N3904	05-5755
Q128	2N7000	05-5820
Integrated Circuits		
U68-U69	LM358N	06-6024
U71	LM331N	06-6156
U74	ICL7662CPA	06-6261
U75	CA3290AE	06-6140
U77	CD74HC14	06-6257
U78	CD4052BE	06-6141
U79	CD74HC259E	06-6215
U80	AD625AD	06-6202
U82	CD74HC574E	06-6094
U83	NMC87C-257Q200 NATL	06-6278
U84	P80C51FA INTEL	06-6236

Reference	Description	Part Number
Diodes		
CR100	DIODE-1N4001 T/R	07-6268
CRN81	LED-HDSP-4830	07-6336
Resistors		
R20-R22	1.82K 1/8W 1%	12-7510
R23	9.09K 1/8W 1%	12-7513
R24	20K 1/4(1/8)W 1%	12-7676
R26	6.81K 1/8W 1%	12-7619
R25	100K 1/4W 5% CR25	10-7023
R27	22K 1/4W 5% CR25	10-7070
R28	10K 1/4W 5% CR25	10-7016
R29-R30	1K 1/8W 1%	12-7637
R31	1.27K 1/8W 1%	12-7669
R32-R33	20K 1/4(1/8)W 1%	12-7676
R35	10K 1/4W 5% CR25	10-7016
R36	1K 1/4W 5% CR25	10-7009
R37-R42	24.9K 1/8W 1%	12-7639
R43	10K 1/4W 5% CR25	10-7016
R45	5.6K 1/4W 5% CR25	10-7042
R46	100K 1/4(1/8)W	12-7557
R47	10K 1/4W 5% CR25	10-7016
R48	10K 1/4(1/8)W 1%	12-7540
R49	47OHM 1/4W 5% CR25	10-7002
R50	100K 1/4(1/8)W 1%	12-7557
R51	10K 1/4W 5% CR25	10-7016
R52	15K 1/4W 5% CR25	10-7017
R58-R59	1K 2W 5%	12-7605
R92	TRMR-500OHM 3266W1-501	09-6843
R93-R94	TRMR-10K 3266W1-103	09-6822
R95-R96	TRMR-500OHM 3266W1-501	09-6843
R99	1M 1/3W 1% T/R	12-7763
R103	4.7K 1/4W 5% CR25	10-7014
R104	NETWORK-2.2K SIP 10PIN	12-7595
R112	5.6K 1/4W 5% CR25	10-7042
R113	4.7K 1/4W 5% CR25	10-7014
R129-R130	1K 1/4W 5% CR25	10-7009
RN89	NETWORK-2.2K SIP 10PIN	12-7595
RN90	NETWOKR-22K SIP 10PIN	12-7566

Reference	Description	Part Number
Miscellaneous		
*	CONN-640456-5 MTA100	13-8057
*	CONN-640456-2 MTA100	13-7073
*	CONN-640456-4 MTA100	13-8088
*	CONN-640455-2 MTA156	13-8098
*	CONN-1-640457-3 MTA100	13-8113
*	SPACER-423-175	18-8992
*	CARD EJECTOR-5021N	22-9876

LED Display Driver (Board # 5323-748)

Crystals

Y43	MICRO XTAL-12 MHZ HC18	01-5224
-----	------------------------	---------

Capacitors

C25	100 μ F, 10V DT	04-5576
C26	10 μ F, 20V DT	04-5592
C27	100 μ F, 10V DT	04-5576
C28	27pF, 100V C COG	04-5614
C29	.0047M, 100V C X7R	04-5570
C30	27pF, 100V C COG	04-5614
C31-C32	.0047M, 100V C X7R	04-5570

Transistors

Q33	2N7000	05-5820
-----	--------	---------

Integrated Circuits

	ICT-286-S-TG 28P SOC	06-6096
U34	P80C51FA INTEL	06-6236
U35	NMC87C-257Q200 NATL	06-6278
U36-U37	CD74HC564E	06-6262
U38	DS3658N (NATIONAL)	06-6240
U39	CD74HC02E	06-6209
U40	CD74HC14	06-6257
U44	UDN2595A	06-6271
U45	UDN2595A DRIVER	06-6170
U46	UDN298A1	06-6271
U47	UDN2595A DRIVER	06-6170
748	CD4514BE	06-6107

Resistors

R1	4.7OHM 1/4W 5% CR25	10-7095
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Reference	Description	Part Number
R2-R13	4.7OHM 1/4W 5% CR25	10-7095
R14	10K 1/4W 5% CR25	10-7016
R15-R17	4.7K 1/4W 5% CR25	10-7014
R18-R20	4.7OHM 1/4W 5% CR25	10-7095
R21-R24	33OHM 2W 10%	12-7799
R41	NETWORK-22K SIP 10PIN	12-7566

Miscellaneous

*	RIBBON-102312-2 LATCH	13-7805
*	CONN-640445-5 MTA156	13-8027
*	CONN-640455-9 MTA156	13-8195
*	CONN-120153-4	13-8338
*	SPACER-423-175	18-8992

Alarm/Alert LEDs (Board # 5323-453)**LEDs**

CR1-CR8	E118 RED	07-6308
CR9-CR-16	E120 YELLOW	07-6309
CR17	E118 RED	07-6308
CR18	E120 YELLOW	07-6309
CR19-CR24	E118 RED	07-6308
CR25	E120 YELLOW	07-6309
CR26	E121 GREEN	07-6310
CR27-CR32	E120 YELLOW	07-6309
CR33-CR35	E121 GREEN	07-6310
CR36	E118 RED	07-6308

Miscellaneous

*	RIBBON-102312-2 LATCH	13-7805
*	CONN-120159-4	13-8337

**Left and Right Cable Driver
(Board # 5505-015)**

Reference	Description	Part Number
Capacitors		
C1-C2	10 μ F, 6.3V	04-5746
C3-C4	.01 μ F, 3kV 10%	04-5762
C5-C6	47pF, 100V	04-5660
C7-C8	10 μ F, 6.3V	04-5746

Reference	Description	Part Number
C9-C10	.01 μ F, 3kV 10%	04-5762
C11-C12	47pF, 100V	04-5660
C13-C14	10 μ F, 6.3V	04-5746
C15-C16	.01 μ F, 3kV 10%	04-5762
C17-C18	47pF, 100V	04-5660
C19-C20	10 μ F, 6.3V	04-5746
C21-C22	.01 μ F, 3kV 10%	04-5762
C23-C24	47pF, 100V	04-5660
C25	47 μ F, 25V-T	04-5786
C26	10 μ F, 10V	04-5757
C27	.01 μ F, 3kV 10%	04-5762
C28-C29	10 μ F, 10V	04-5757
C30-C37	10 μ F, 6.3V	04-5746
C38	10 μ F, 10V	04-5757
C39-C40	.1 μ F, 16V	04-5730
C41	10 μ F, 10V	04-5757
Transistors		
Q1-Q16	MMBFJ309	05-5974
Voltage Regulators		
VR1	TPS76150DVBR	05-5915
Integrated Circuits		
U1-U8	LMH6645	06-6554
U9	LM828M5	06-6518
U10-U17	OPA140AIDBVT	06-6891
Resistors		
R1-R2	10M, 250mW 1%	12-7996
R3-R4	499OHM, 250mW 1%	12-7907
R5-R6	1K, 250mW 1%	12-7832
R7-R8	499OHM, 250mW 1%	12-7907
R9-R10	100K, 250mW 1%	12-7834
R11-R12	10M, 250mW 1%	12-7996
R13-R14	499OHM, 250mW 1%	12-7907
R15-R16	1K, 250mW 1%	12-7832
R17-R18	499OHM, 250mW 1%	12-7907
R19-R20	100K, 250mW 1%	12-7834
R21-R22	10M, 250mW 1%	12-7996
R23-R24	499OHM, 250mW 1%	12-7907
R25-R26	1K, 250mW 1%	12-7832
R27-R28	499OHM, 250mW 1%	12-7907

Reference	Description	Part Number
R29-R30	100K, 250mW 1%	12-7834
R31-R32	10M, 250mW 1%	12-7996
R33-R34	499OHM, 250mW 1%	12-7907
R35-R36	1K, 250mW 1%	12-7832
R37-R38	499OHM, 250mW 1%	12-7907
R39-R40	100K, 250mW 1%	12-7834
R41	1M, 250mW 1%	12-7844
R42-R43	500M, 3kV 2%	12-7031
R44-R51	49.9OHM, 250mW 1%	12-7011
R52-R53	4.75OHM, 250mW 1%	12-7980

Connectors

J1-J8	640456-2 MTA 100x2	13-8073
J9	640456-3 MTA 100x3	13-8081

Miscellaneous

L1-L2	470 μ H, TKS1245	21-9699
W1-W8	CABLE-RG174-PIGTAIL	8303-670

LCD Interface (Board # 5323-635)**Crystals**

Y1	MICRO XTAL-12 MHZ HC18	01-5224
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Capacitors

C2-C5	.0047M, 100V C X7R	04-5570
C6-C7	27pF, 100V C COG	04-5614
C8	.0047M, 100V C X7R	04-5570
C9	.1 μ F, 100V C X7R	04-5521
C10	10 μ F, 20V DT	04-5592
C11	100 μ F, 10V DT	04-5576
C12	10 μ F, 20V DT	04-5592
C13	100 μ F, 10V DT	04-5576
C14	10 μ F, 20V DT	04-5592
C15	1 μ F, 35V DT	04-5575

Transistors

Q37	2N7000	05-5820
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Integrated Circuits

ICT-286-S-TG 28P SOC	06-6096
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Reference	Description	Part Number
U16	ICL7662CPA	06-6261
U17-U18	CD74HC14	06-6257
U19	CD74HC138E	06-6104
U20-U21	CD74HC573E	06-6093
U22	CD74HC245E	06-6267
U23	MM74C923N	06-6072
U24	27C512-15N	06-6264
U25	CDM6264E3/HM6264AP-10	06-6098
U26	P80C51FA INTEL	06-6236
Resistors		
R27-R28	TRMR-10K 3266W1-103	09-6824
R29-R32	4.7K 1/4W 5% CR25	10-7014
R33	10K 1/4W 5% CR25	10-7016
R34	4.7K 1/4W 5% CR25	10-7014
R35-R36	NETOWRK-22K SIP 10 PIN	12-7566
Miscellaneous		
*	RIBBON-102312-2 LATCH	13-7805
*	CONN-640456-4 MTA100	13-8088
*	CONN-640456-9 MTA100	13-8094
*	CONN-640445-9 MTA156	13-8195
*	CONN-102153-4	13-8338
*	CONN-1-640445-0 MTA156	13-8375
*	SPACER-423-175	18-8992
General Wiring Diagram/Motor Control (Drawings 323 x 423 and 424)		
Capacitors		
C145	0.1 μ F, 2kV	04-5525
Switches		
*	KNOB-9001 B-25	08-6664
*	SWITCH-SKR-3U PB	08-6565
S111	SWITCH-XUBJ02313S	08-6685
S112-S113	SWITCH-P117G-5H-C12L	08-6687
S124-S125	BLOCK-9001 KA-2	08-6643
S131	BLOCK-9001 KA-2	08-6643

Reference	Description	Part Number
S146	SWITCH-RIBBON 102-BPH	08-6671
S148	SWITCH-SS12BT30-102L4	08-6532
S153-S156	BLOCK-9001 KA-2	08-6643

Connectors

*	CONN-640440-5 MTA100	13-8041
*	CONN-640440-6 MTA100	13-8047
J13	CONN-1-640456-8	13-8320
J15	CONN-1-640456-8	13-8320
J17	CONN-1-640440-2 MTA100	13-8060
J18	CONN-640440-4 MTA100	13-8087
J19	CONN-640440-6 MTA100	13-8047
J33	CONN-643193-2 MTA156	13-8096
J36	CONN-640440-4 MTA100	13-8087
J51	CONN-640445-6 MTA156	13-8071
J52	CONN-640428-7 MTA156	13-7802
J55	CONN-1-640445-2 MTA156	13-8072
J57	CONN-640440-4 MTA100	13-8087
J126-127	CONN-640440-6 MTA100	13-8047
TB143	STRIP-BARRIER 3-141	18-8785

Miscellaneous

*	FUSE- 10 AMP ABC 10	21-9511
*	LENS-135-3272	21-9613
*	LAMP-95-9110-09-102 HLTR	21-9270
*	LENS-RED 135-1431	21-9252
*	LENS-YELLOW 30214	21-9308
*	LAMP-95-9110-09-102 HLTR	21-9270
*	FUSE-5 AMP ABC 5	21-9615
DS17	BULB #756	21-9375
DS130	BULB-#756	21-9375
DS132	BULB-#120MB 35F2813	21-9614
DS164	SONAERT-SC616N	22-9780
F166-F167	FUSE-HOLDER 341001	21-9269
J165	POWER CORD-17276C 20 FT	21-9368
S110	GEAR TOOTH SENSOR SR7P-A1	21-9546

Reference	Description	Part Number
*	CONTROLLER-M832 BODINE	2310000
*	BODINE 0888	2311908
*	BODINE 0890	2310446
*	BODINE 0850	2310446
* B158	SWTCH-9001 SKS-11 MTR-BODIN32D5BEPM-W3-4154	2310125 2310208

Transformers

T141	XFRMR-M329-32 POWER	4275-104
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Main Backplane A (Board # 5323-450)

Connectors

J1-J2	CONN-CJ50-50B-10	13-8046
J3	D PLUG-CBD21WA4F3S6000	13-8316
J4	CONN-CJ50-50B-10	13-8046
J5	D PLUG-CBD21WA4F3S6000	13-8316
J6	CONN-CJ50-50B-10	13-8046
J7	D PLUG-CBD21WA4F3S6000	13-8316
J8	CONN-CJ50-50B-10	13-8046
J9	D PLUG-CBD21WA4FS6000	13-8316

Main Backplane B (Board # 5323-486)

Connectors

J1	CONN-CJ50-50B-10	13-8046
J2	D PLUG-CBD21WA4F3S6000	13-8316
J3	CONN-CJ50-50B-10	13-8046
J4	D PLUG-CBD21WA4F3S6000	13-8316
J5	CONN-CJ50-50B-10	13-8046
J6	D PLUG-CBD21WA4F3S6000	13-8316

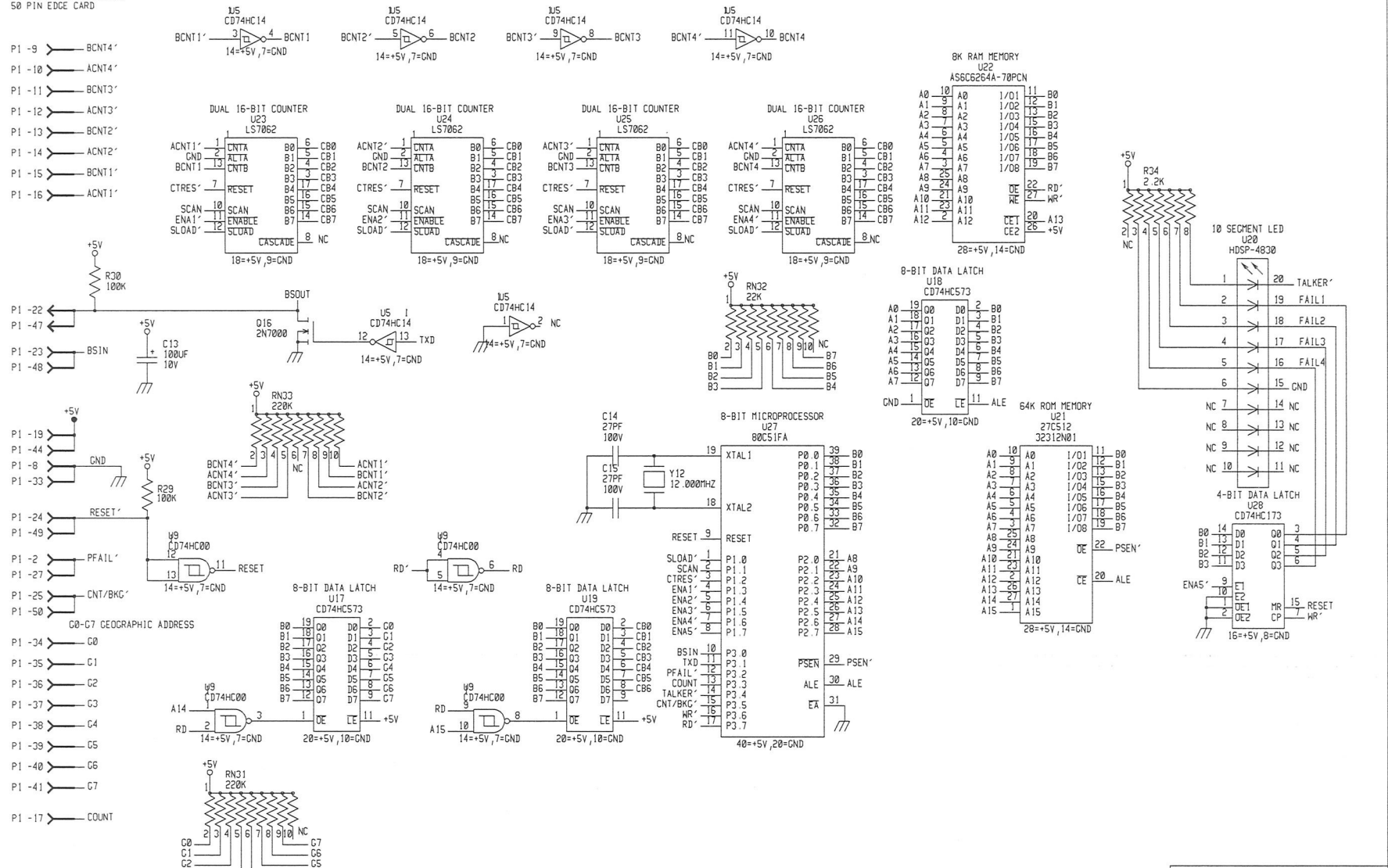
Reference	Description	Part Number
J7	CONN-CJ50-50B-10	13-8046
J8	D PLUG-CBD21WA4F3S6000	13-8316
J9	D PCB CBD27W2F3S6000	13-8314

Section
2**Schematics, Drawings**

- Quad Counter Board, Drawing 323 x 261
Quad Counter Component Layout, Drawing 323 x 261A (2 sheets)
- Central Processor Board, Drawing 323 x 262
Central Processor Component Layout, Drawing 323 x 1232A
- Quad Preamplifier Board, Drawing 324 x 320
Quad Preamplifier Board, Drawing 324 x 321 (2 sheets)
- Dual HVPS with Threshold Board, Drawing 323 x 447
Dual HVPS Board Component Layout, Drawing 323 x 721
- LVPS/MCTL Backplane Board, Drawing 323 x 266
LVPS/MCTL Backplane Board Component Layout, 323 x 266A (2 sheets)
- Gas/Motor Control Board, Drawing 323 x 268
Gas/Motor Control Component Layout, Drawing 323 x 458
- Left & Right Cable Driver Board, Drawing 505 x 15
Left & Right Cable Driver Component Layout, Drawing 505 x 16 & 16A
- LCD Interface Board, Drawing 323 x 377
LCD Interface Component Layout, Drawing 323 x 377A
- Main Backplane A Board, Drawing 323 x 271
Main Backplane A Component Layout, Drawing 323 x 271A (2 sheets)
- Main Backplane B Board, Drawing 323 x 284
Main Backplane B Component Layout, Drawing 323 x 283A (2 sheets)
- General Wiring Diagram/Motor Control, Drawing 323 x 423 (2 sheets)

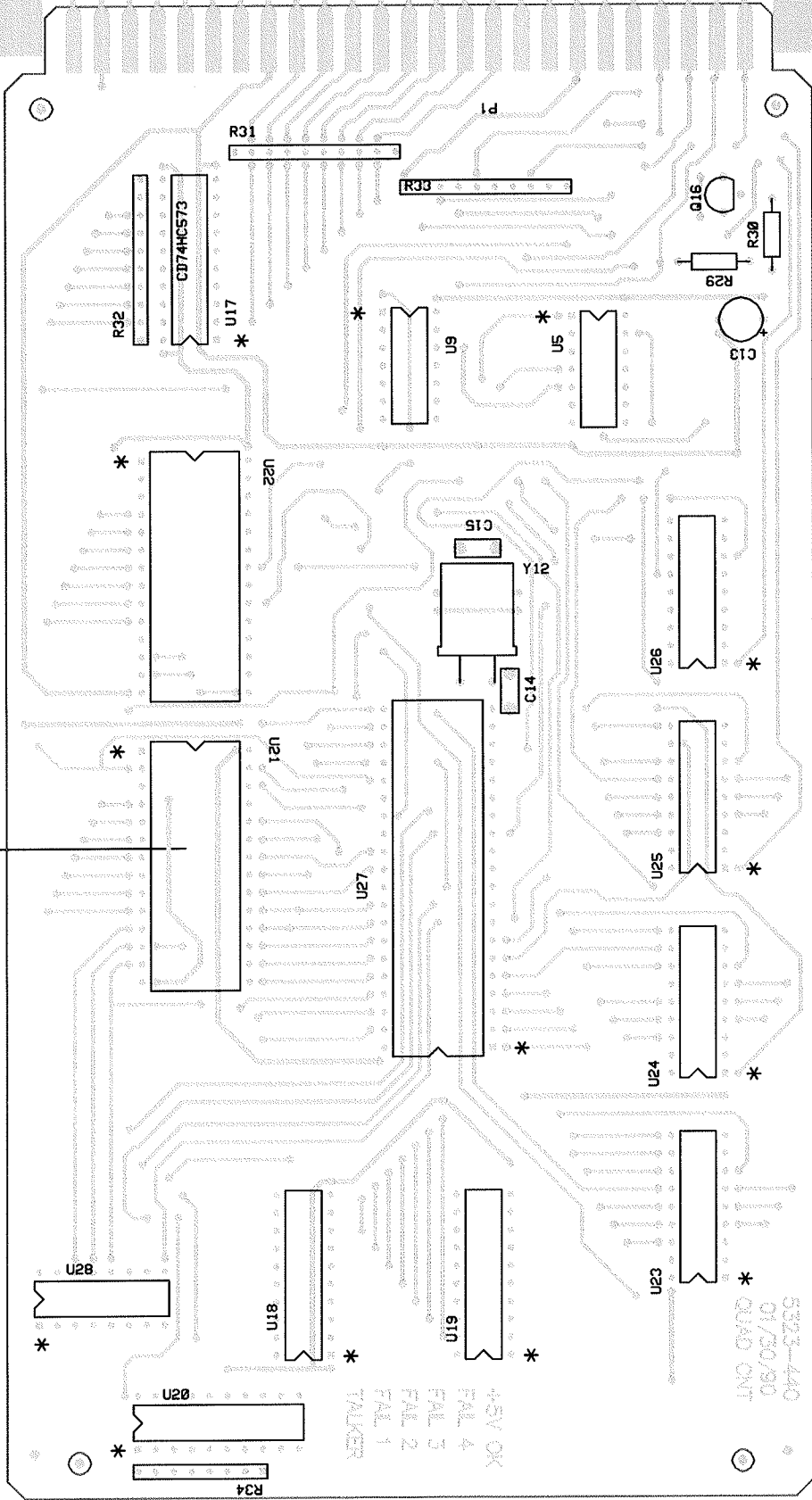
REVISIONS			
EFF	AUTHORITY	ZONE	DATE

P1 BACKPLANE CONNECTOR
50 PIN EDGE CARD



UPDATED CKB	3/15/2015	LUDLUM MEASUREMENTS INC.			
DR RSS	9/24/89	TITLE: QUAD COUNTER			
CHK	/ /	BOARD# 5323-448			
DISCN RDS	9/24/89	SIZE	MODEL	SERIES	SHEET
APPD	<i>[Signature]</i>	D	329-32	323	261
NEXT HIGHER ASSY.					
14:56:07	15-Mar-19	SB323440			

Place Socket 06-6096
 Send 06-6264 with job for Tech's to program

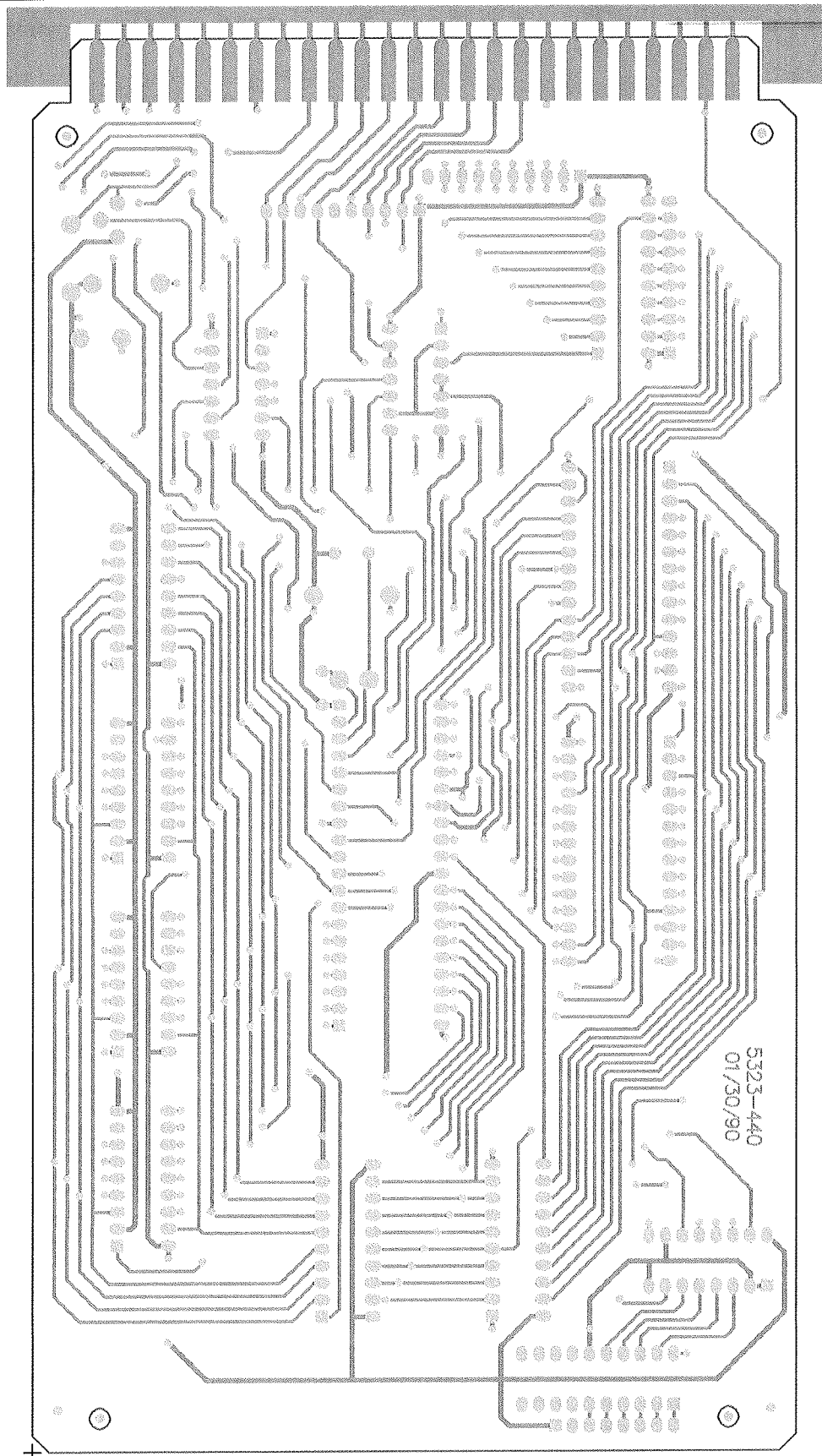


+5V OK
 FAIL 4
 FAIL 3
 FAIL 2
 FAIL 1
 TALKER

5323-440
 01/30/90
 097-575




LUDLUM MEASUREMENTS, INC.		PO Box 810 501 Oak Street Sweetwater, TX 79556 U.S.A. 1-800-622-0828	
Title: QUAD COUNTER BOARD			
Drawn: RSS	10/18/89	Model: 329-32	
Design: RDS	10/01/89	Board#: 5323-440	
Approve: <i>RSS</i>	<i>12/29/89</i>	Rev: 1	
PCBA Drawing		SCALE: 1.05	Series Sheet
Print Date: 3/12/2018	8:24:15 AM	Top Overlay	323 261A
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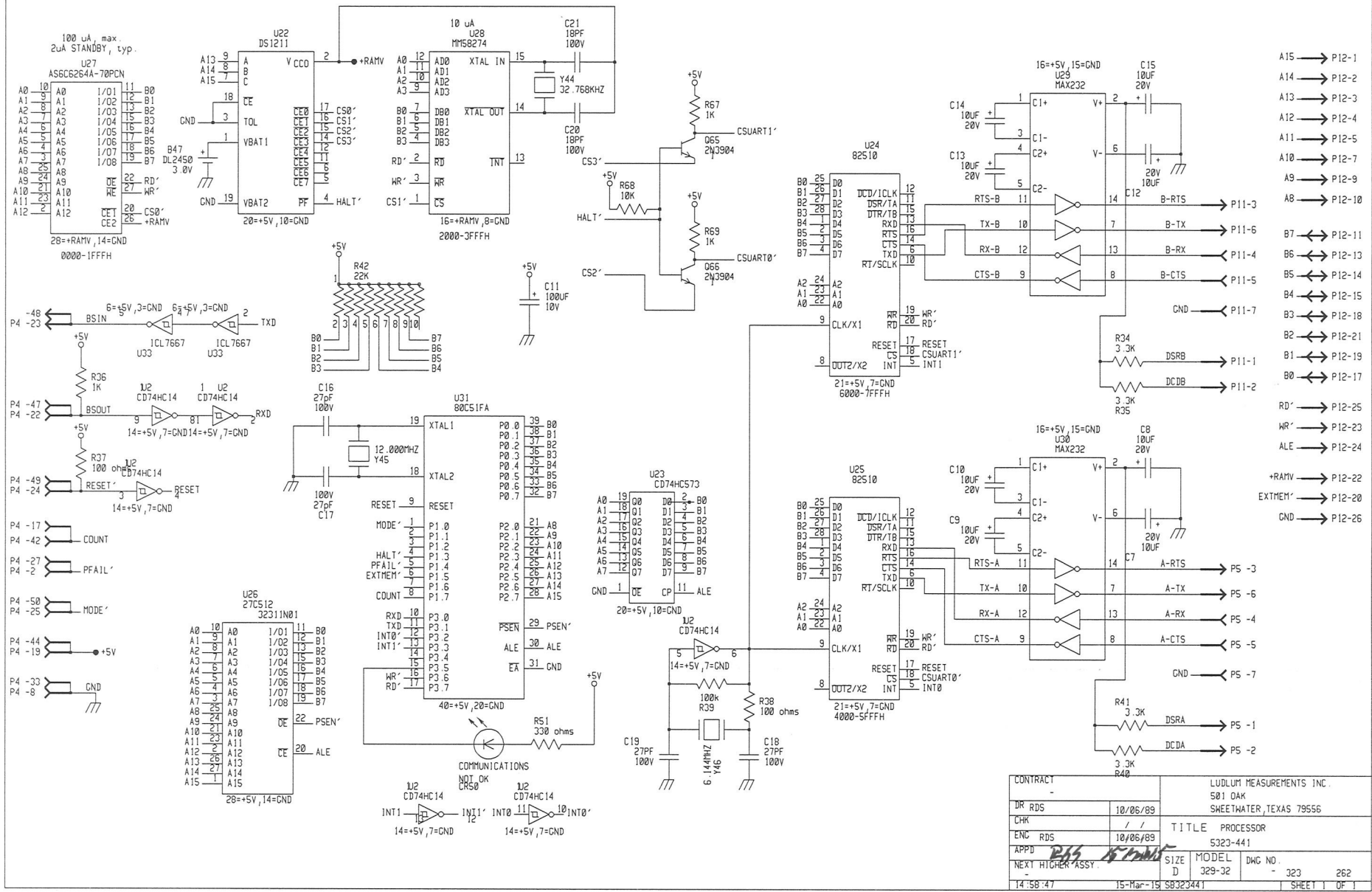
5323-440
01/30/90

(Handwritten signature)

 LUDLUM MEASUREMENTS, INC.		PO Box 810 501 Oak Street Sweetwater, TX 79556 U.S.A. 1-800-622-0828	
Title: QUAD COUNTER BOARD			
Drawn: RSS	10/18/89	Model: 329-32	
Design: RDS	10/01/89	Board#: 5323-440	
Approve: <i>RSS</i>	<i>12/22/18</i>	Rev: 1	
PCBA Drawing		SCALE: 1.05	Series Sheet
Print Date: 3/12/2018	8:24:20 AM	Bottom Overlay	323 261A
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EFF	AUTHORITY	ZONE	LTR	DESCRIPTION	DATE	APPROVED

REVISIONS



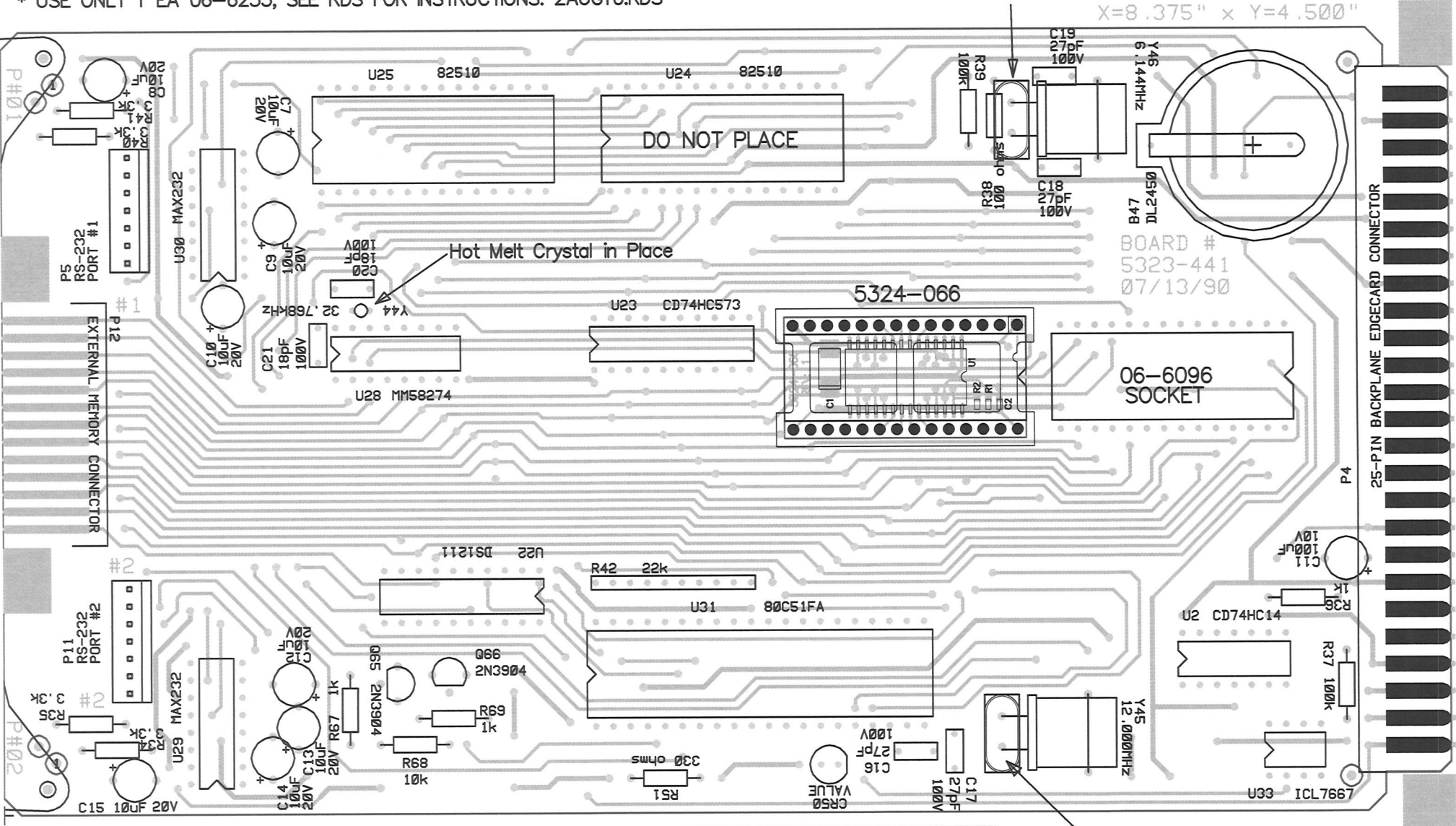
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- A14 → P12-2
- A13 → P12-3
- A12 → P12-4
- A11 → P12-5
- A10 → P12-7
- A9 → P12-9
- A8 → P12-10
- B7 ↔ P12-11
- B6 ↔ P12-13
- B4 ↔ P12-14
- B5 ↔ P12-15
- B3 ↔ P12-18
- B2 ↔ P12-21
- B1 ↔ P12-19
- B0 ↔ P12-17
- RD' → P12-25
- HR' → P12-23
- ALE → P12-24
- +RAMV → P12-22
- EXTMEM' → P12-20
- GND → P12-26


CONTRACT		LUDLUM MEASUREMENTS INC.	
DR RDS	10/06/89	501 DAK	
CHK	/ /	SWEETWATER, TEXAS 79556	
ENC RDS	10/06/89	TITLE	PROCESSOR
APPD	<i>RAS</i>	SIZE	323-441
NEXT HIGHER ASSY.		MODEL	329-32
		DWG NO.	- 323 262
14/58/47	15-Mar-19	SB323441	SHEET 0F 1

NOTES:

- * WHEN USING SHORT CRYSTAL USE 18-8992 SPACER.
- * PLACE SHRINK OVER MICRO-XTAL OR BETTER TO HOT MELT CRYSTAL (Y44) IN PLACE.
- * DO NOT PULL 06-6264. TO BE PROGRAMMED.
- * USE ONLY 1 EA 06-6253, SEE RDS FOR INSTRUCTIONS. 2AUG10.RDS

When using short crystal,
Use 18-8992 Spacer 423-175
Under Crystal





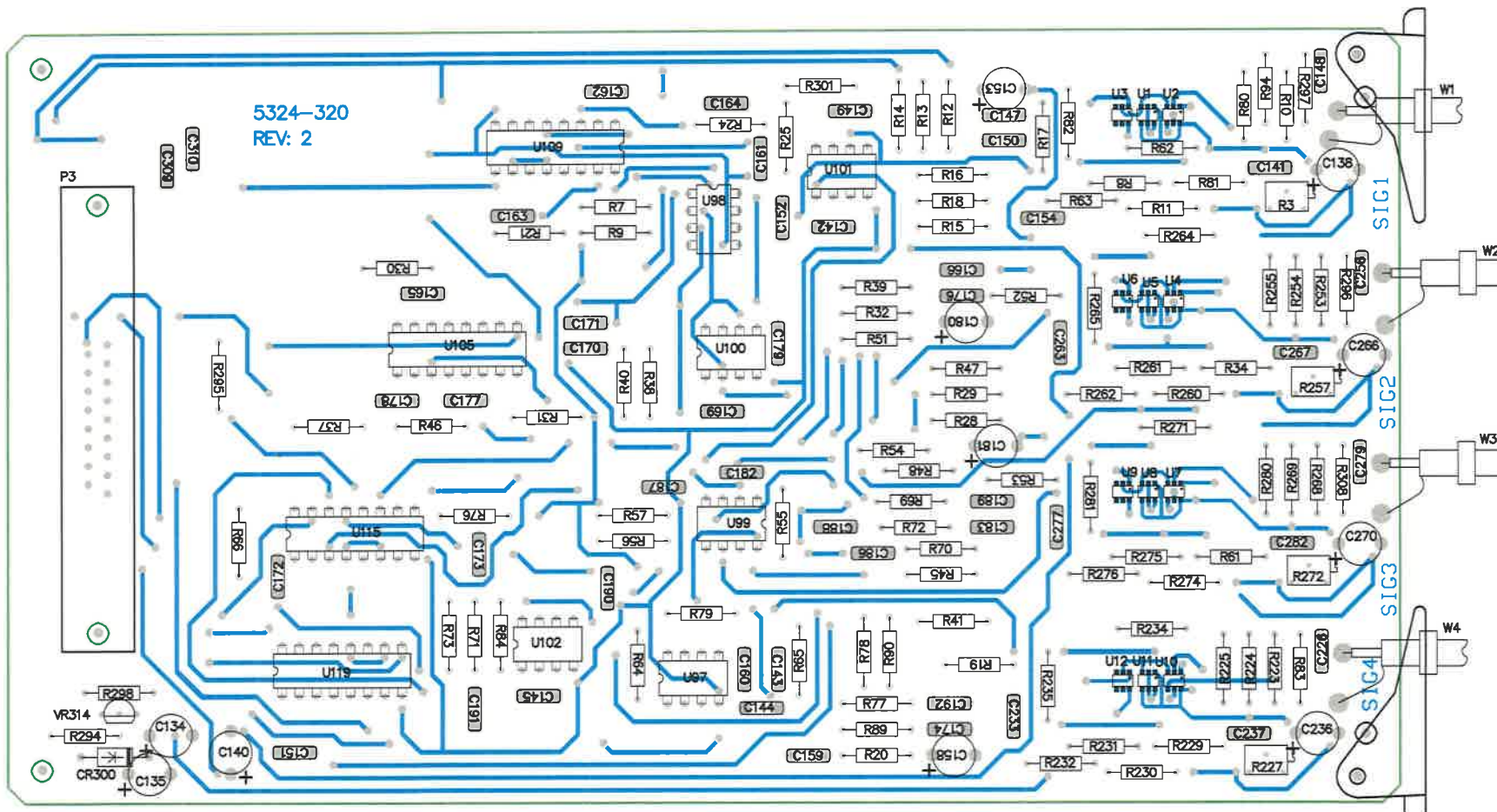
LUDLUM
MEASUREMENTS, INC.


PO Box 810
501 Oak Street
Sweetwater, TX 79556
U.S.A. 1-800-622-0828

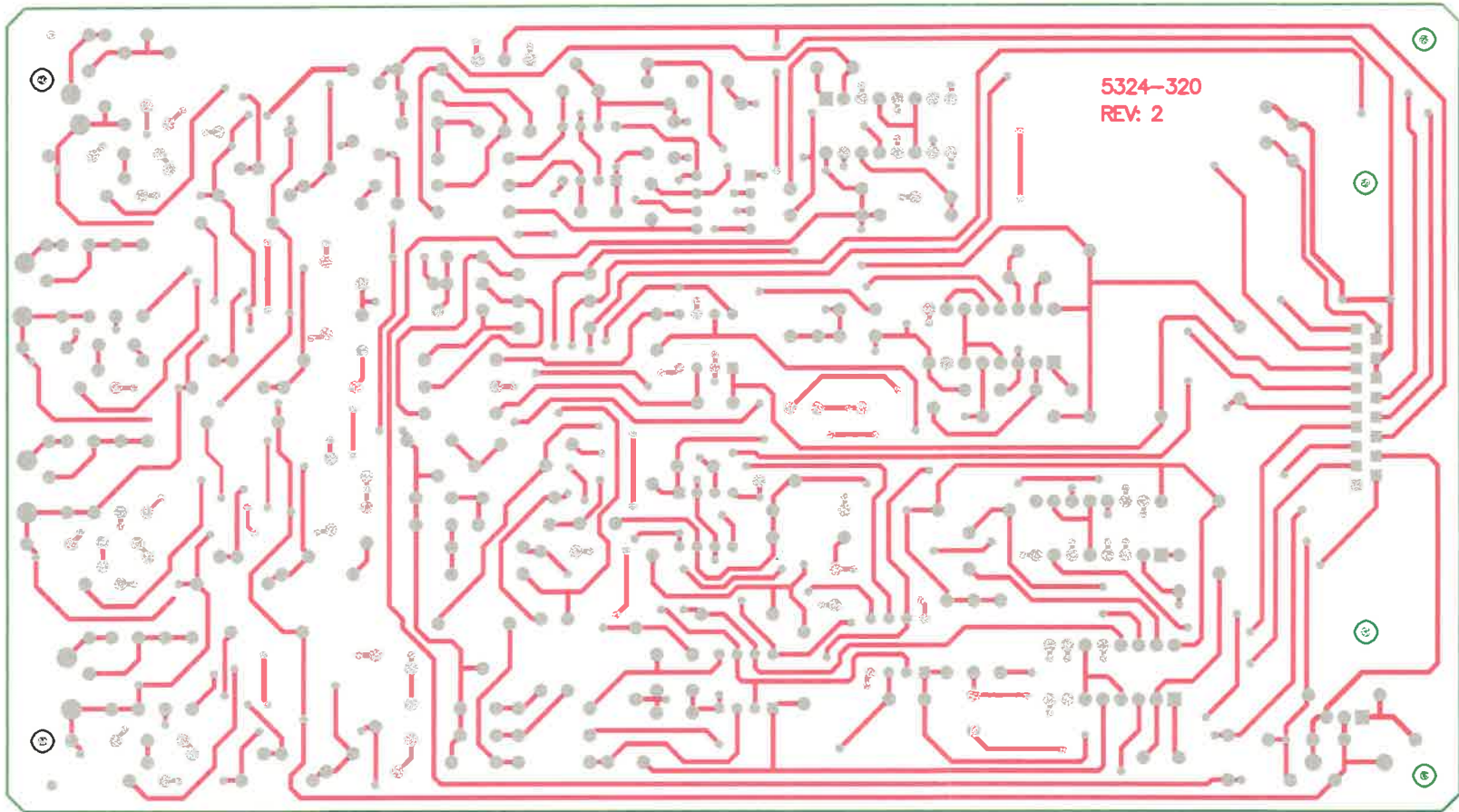
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Drawn: MRM	10/09/1989	Model: 329-32	
Design: MRM	10/09/1989	Board#: 5323-441	
Approve: <i>RDS</i>	<i>28 JAN 15</i>	Rev: 1	
Print Date:		SCALE: 1.00	Series Sheet
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When using short crystal,
Use 18-8992 Spacer 423-175
Under Crystal

DO NOT PLACE C142, C143, C145, C149, C152, C159, C169, C171, C179, C182, C186, and C188

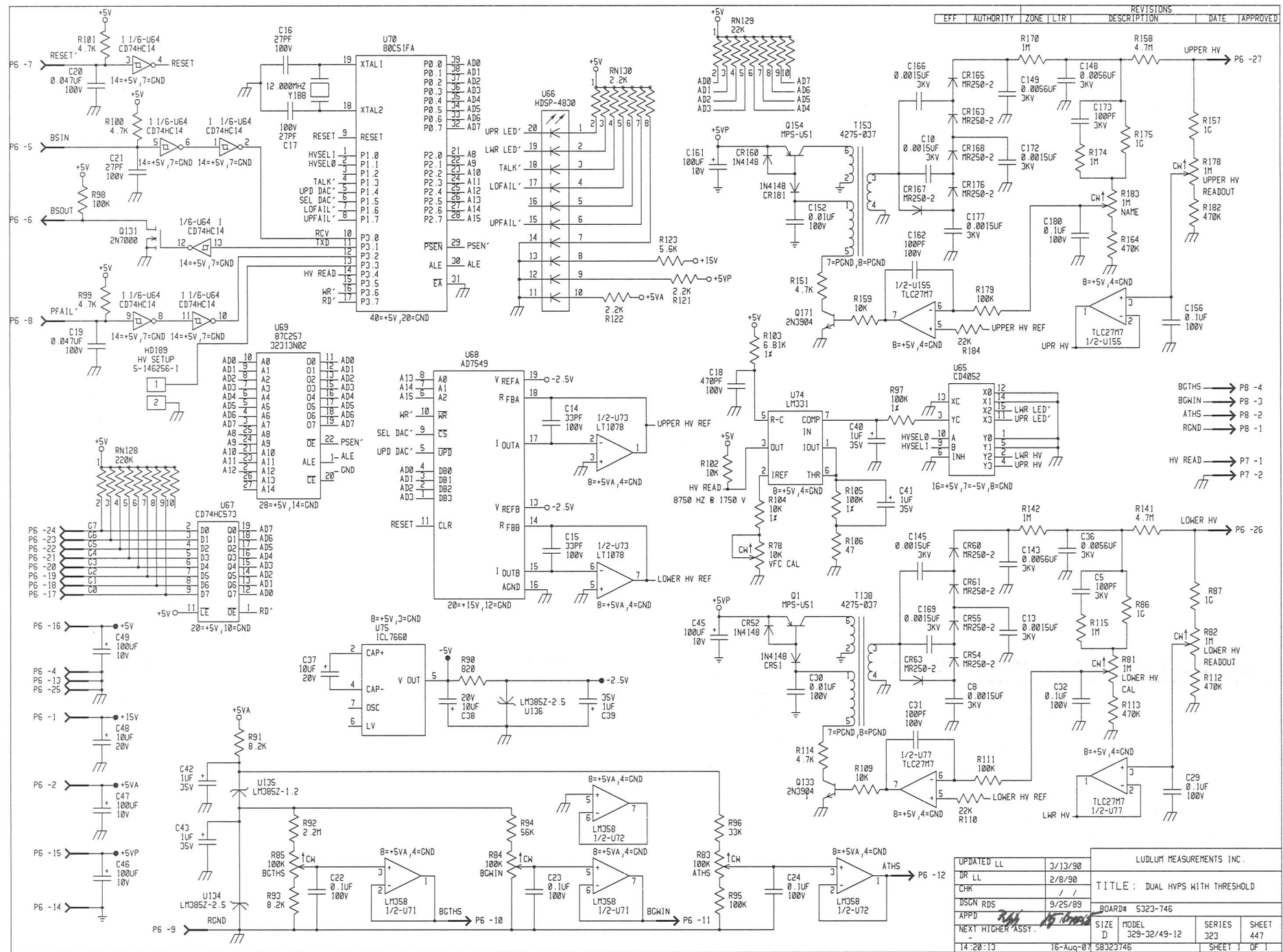


 LUDLUM MEASUREMENTS, INC.		PO Box 810 501 Oak Street Sweetwater, TX 79556 U.S.A. 1-800-622-0828	
		Title: QUAD AMPLIFIER	
Drawn: PAB	5/13/2020	Model: 329-32	
Design: RDS	5/13/2020	Board#: 5324-320	
Approve: <i>RDS 13/16/20</i>		Rev: 2	
PCBA Drawing		SCALE: 1.08	Series Sheet
Print Date: 5/13/2020 10:43:45 AM		Top Overlay	324 321
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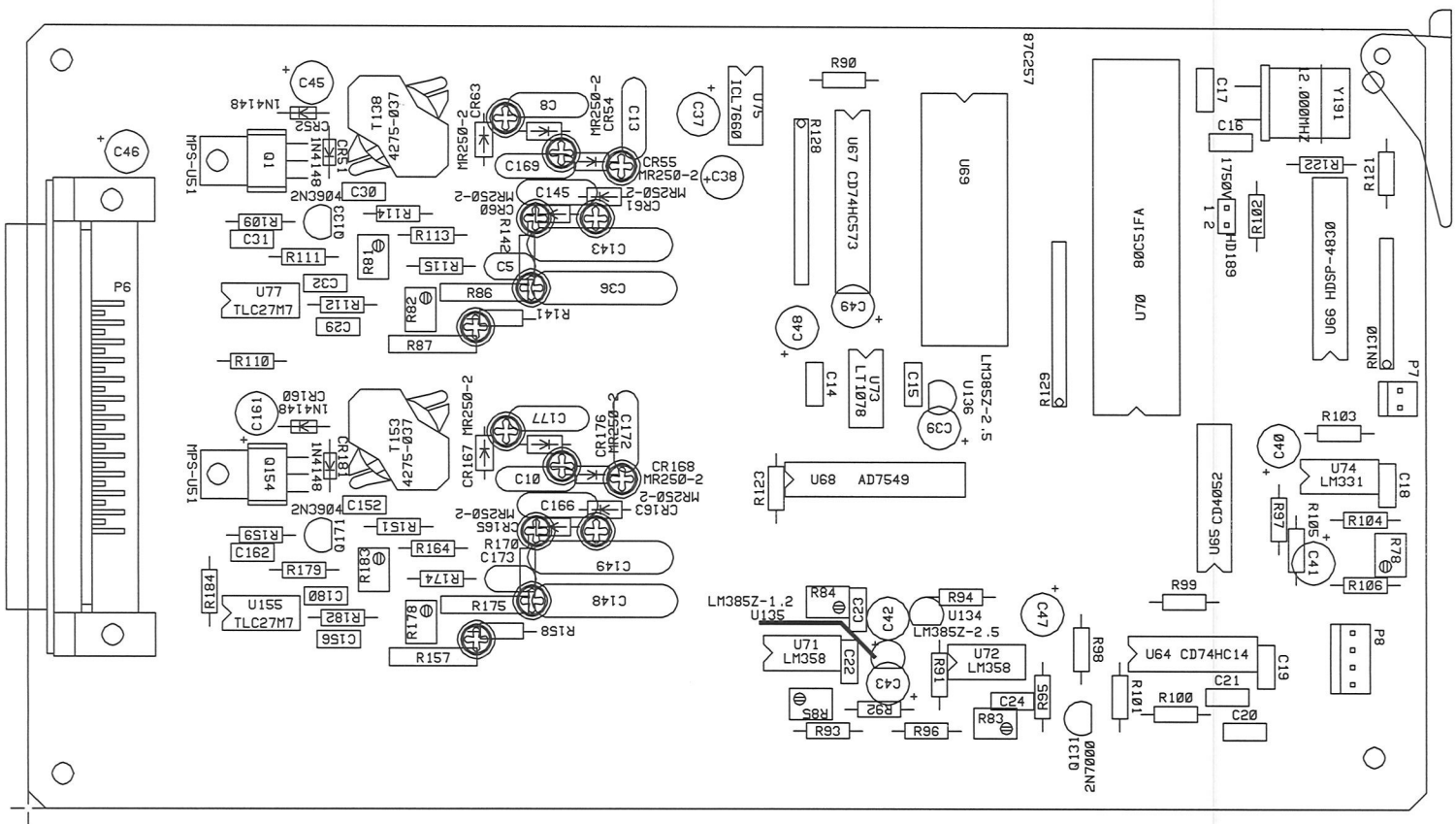
 LUDLUM MEASUREMENTS, INC.		PO Box 810 501 Oak Street Sweetwater, TX 79556 U.S.A. 1-800-622-0828	
Title: QUAD AMPLIFIER			
Drawn: PAB	5/13/2020	Model: 329-32	
Design: RDS	5/13/2020	Board#: 5324-320	
Approve: <i>RDS</i>	<i>13 May 20</i>	Rev: 2	
PCBA Drawing		SCALE: 1.08	Series Sheet
Print Date: 5/13/2020 10:43:50 AM		Bottom Overlay	324 321
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REV	EFF	AUTHORITY	ZONE	LT/R	DESCRIPTION	DATE	APPROVED
1							



- BGTHS → P6 -4
- BGWIN → P6 -3
- ATHS → P6 -2
- RCND → P6 -1
- HV READ → P7 -1
- UPR HV → P7 -2

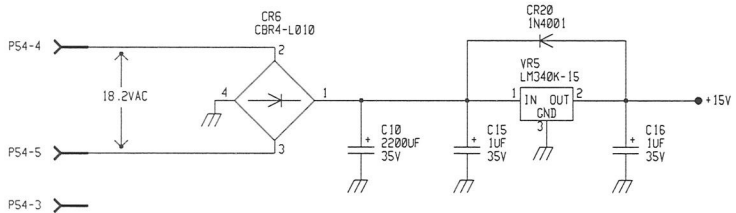
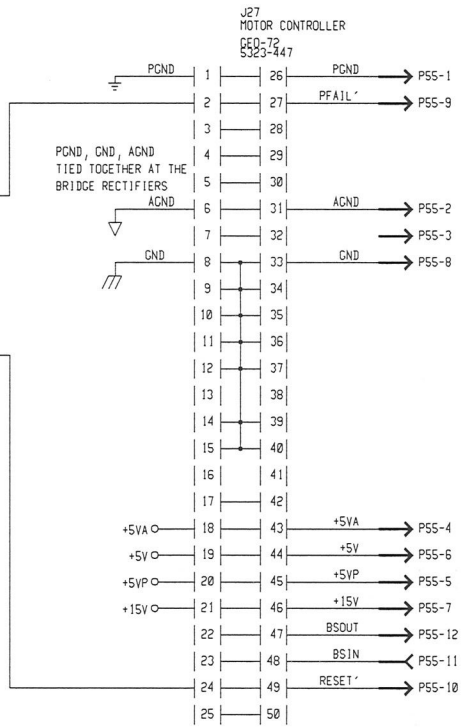
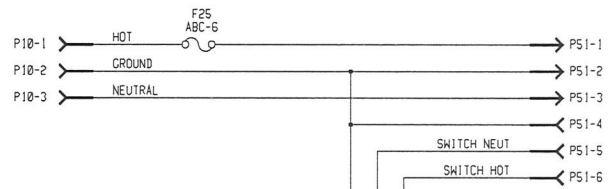
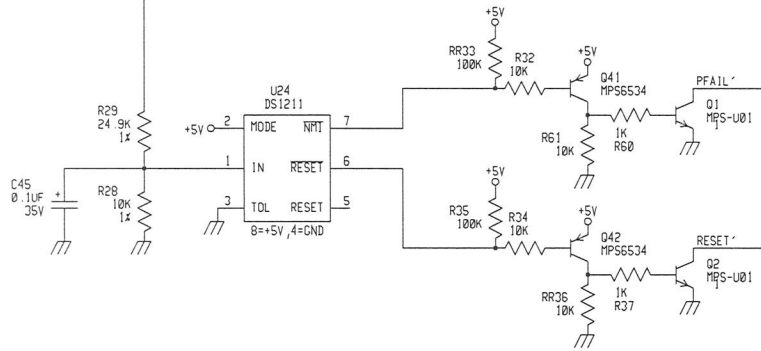
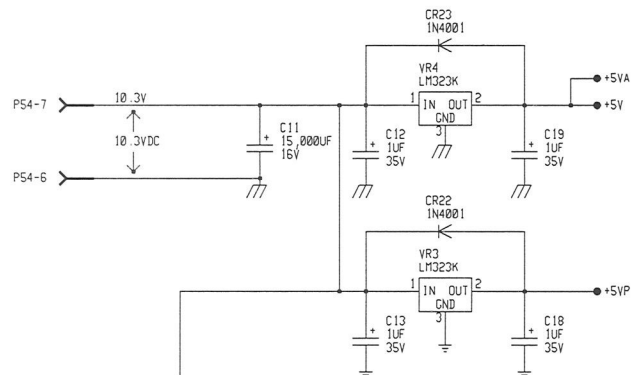
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DR LL	2/8/90	TITLE : DUAL HVPS WITH THRESHOLD			
CHK	/ /	BOARD# 5323-746			
DSGN RDS	9/25/89	SIZE	MODEL	SERIES	SHEET
APPD		D	329-32/49-12	323	447
NEXT HIGHER ASSY.		DATE	REV	BY	APP
		14:20:13	16-Aug-89	SB323746	



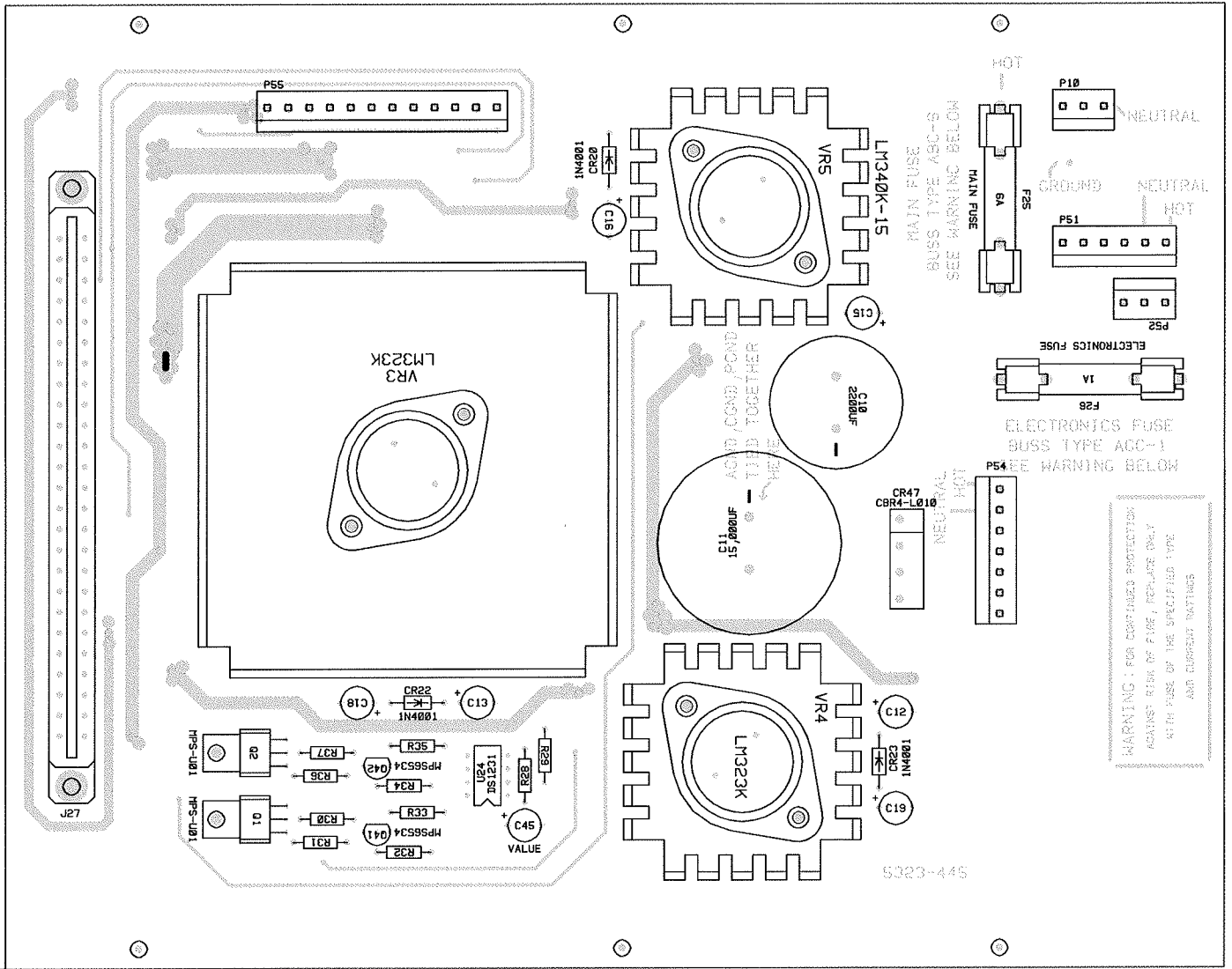
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DR	LL	12-FEB-90	TITLE: DUAL HVPS	
CHK	CKB	19-FEB-02	BOARD: 5323-746	
DGN	RDS	25-SEP-89	MODEL: 329-32	BS323746
APP	<i>[Signature]</i>			FILENAME:
COMPONENT		SOLDER		
11:47:15	19-feb-02	REVISION	SERIES	SHEET
OUTLINE	OUTLINE	1.0	323	721

VF

REVISONS						
EFF	AUTHORITY	ZONE	LTR	DESCRIPTION	DATE	APPROVED



UPDATED -	/ /	LUDLUM MEASUREMENTS INC.		
DR LL	3/1/90	TITLE : LVPS / MCL BACKPLANE		
CHK	/ /	BOARD# 5323-445		
DSCN RDS	3/1/90	SIZE D	MODEL 329-32	SERIES 323
APPD	<i>2.15</i>	SIZE D	MODEL 329-32	SERIES 323
NEXT HIGHER ASSY.		SIZE D	MODEL 329-32	SERIES 323
14:31:05	16-Aug-87	SB323445		SHEET 1 OF 1



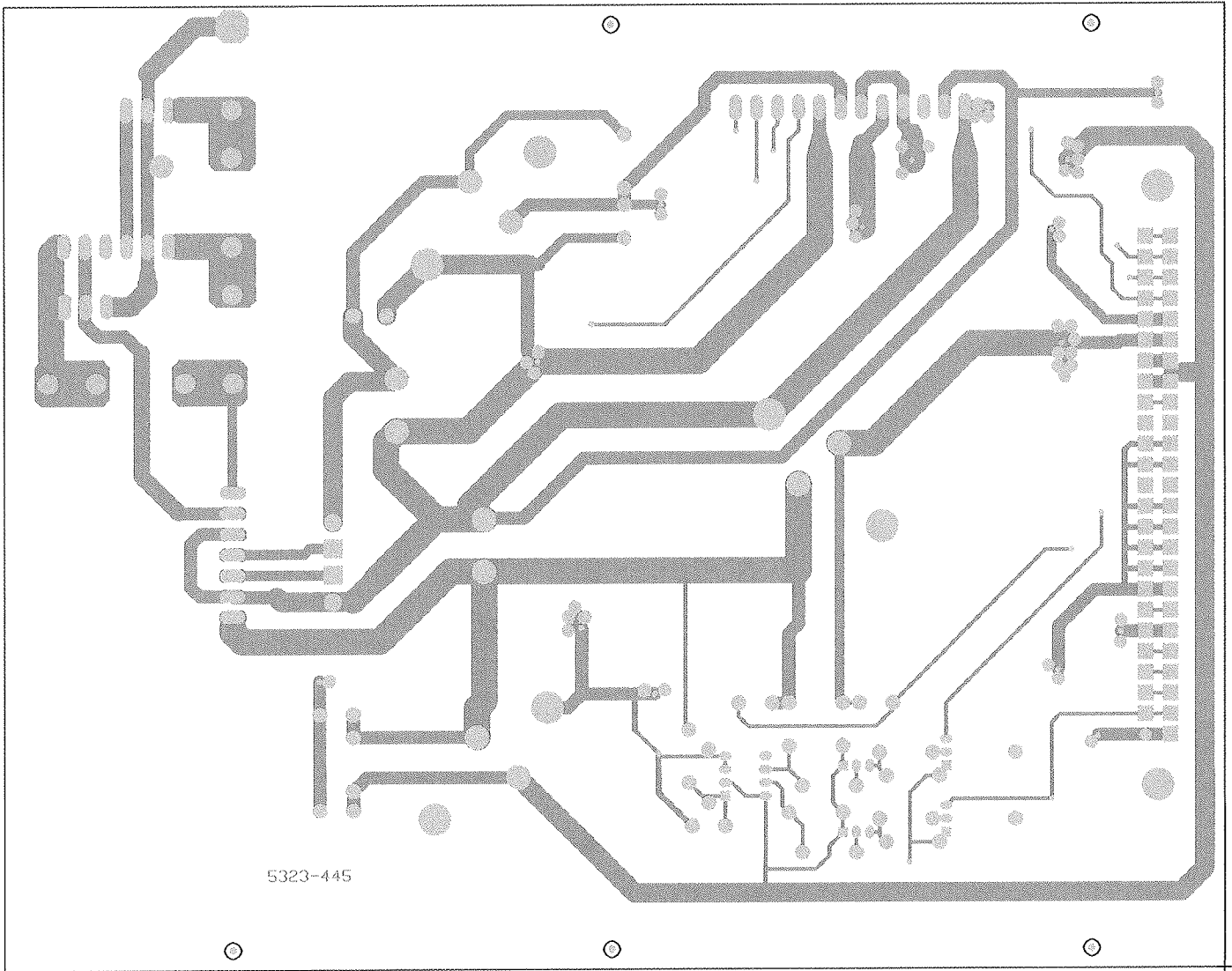
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LUDLUM MEASUREMENTS, INC.
 PO Box 810
 501 Oak Street
 Sweetwater, TX 79556
 U.S.A. 1-800-622-0828


Title: LVPS/MOTOR CONTROL BACKPLANE

Drawn: LL	10/10/90	Model: 329-32
Design: RDS	03/02/90	Board#: 5323-445
Approve: RDS	JCMARIS	Rev: 1
PCBA Drawing		SCALE: 1.05
Print Date: 3/19/2015	10:44:59 AM	Series 323
Top Overlay		Sheet 266A

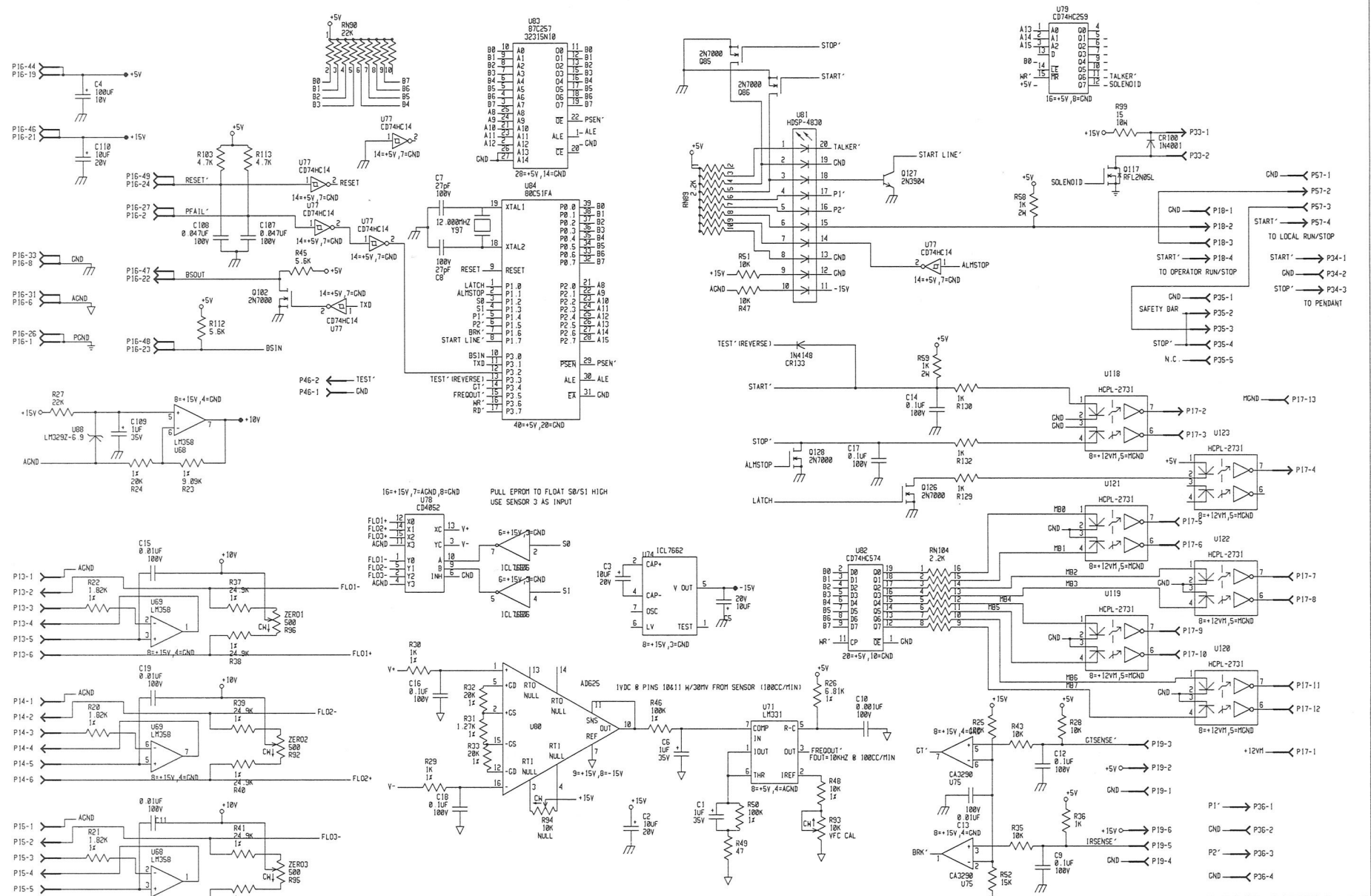
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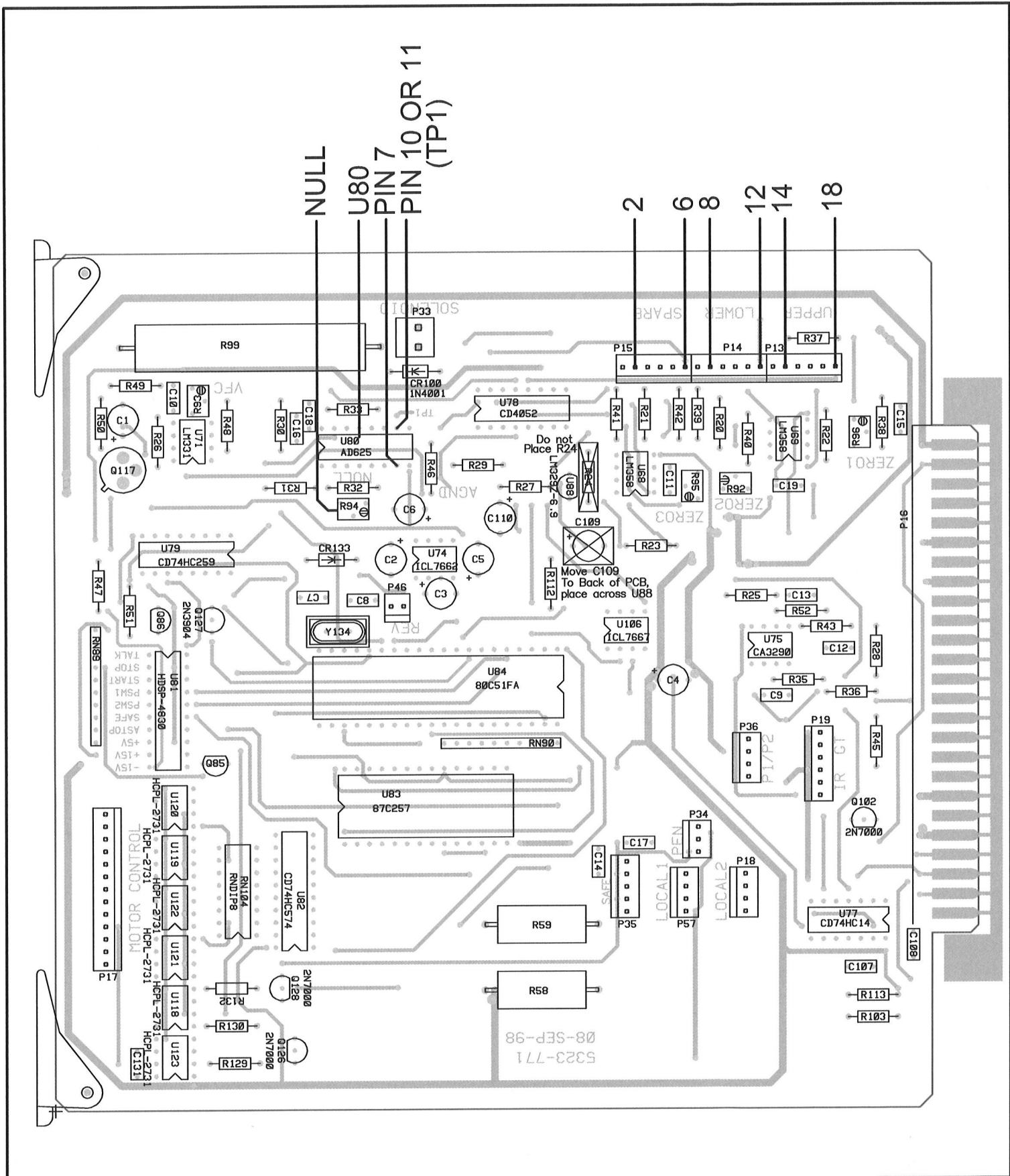
(Handwritten signature or mark)

 LUDLUM MEASUREMENTS, INC.		PO Box 810 501 Oak Street Sweetwater, TX 79556 U.S.A. 1-800-622-0828	
Title: LVPS/MOTOR CONTROL BACKPLANE			
Drawn: LL	10/10/90	Model: 329-32	
Design: RDS	03/02/90	Board#: 5323-445	
Approve: <i>RDS</i>	<i>19 MAR 15</i>	Rev: 1	
<i>PCBA Drawing</i>		SCALE: 1.05	Series Sheet
Print Date: 3/19/2015	10:45:02 AM	Bottom Overlay	323 266A
<small>W:\Projects\LMM 329-32\5323-445\Rev1\323445R1_Assy.PcbDoc</small>			

REVISIONS						
EFF	AUTHORITY	ZONE	LT/R	DESCRIPTION	DATE	APPROVED



UPDATED	-	LUBILUM MEASUREMENTS INC.			
DR RDS	10/10/89	TITLE : GAS/MOTOR CONTROL			
DSGN RDS	10/10/89	BOARD#	S323-771		
APPD		SIZE	C	MODEL	323
NEXT HIGHER ASS		DATE	3/29/92	SERIES	288
		DATE	11/31/88	SHEET	01



NULL
 U80
 PIN 7
 PIN 10 OR 11
 (TP1)

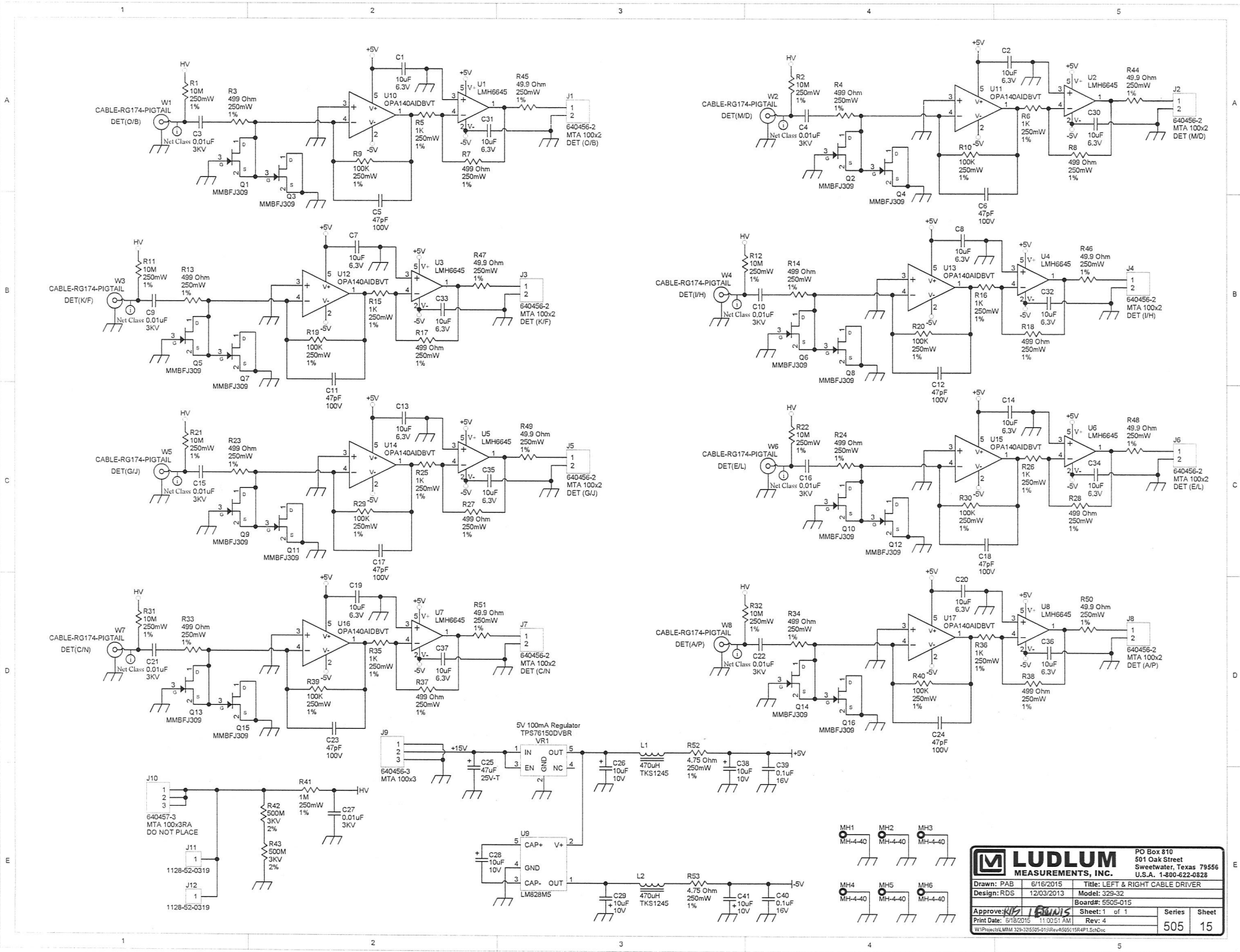
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 6
 8
 12
 14
 18

LUDLUM MEASUREMENTS, INC.
 PO Box 810
 501 Oak Street
 Sweetwater, TX 79556
 U.S.A. 1-800-622-0828

Title: GAS/MOTOR CONTROL BOARD

Drawn: SA	01/03/04	Model: 329-32
Design: RDS	1991	Board#: 5323-771
Approve: <i>RYS</i>	<i>12/26/15</i>	Rev: 1
PCBA Drawing		SCALE: 1.08
Print Date: 10/30/2015 1:13:06 PM	Top Overlay	Series Sheet 323 458

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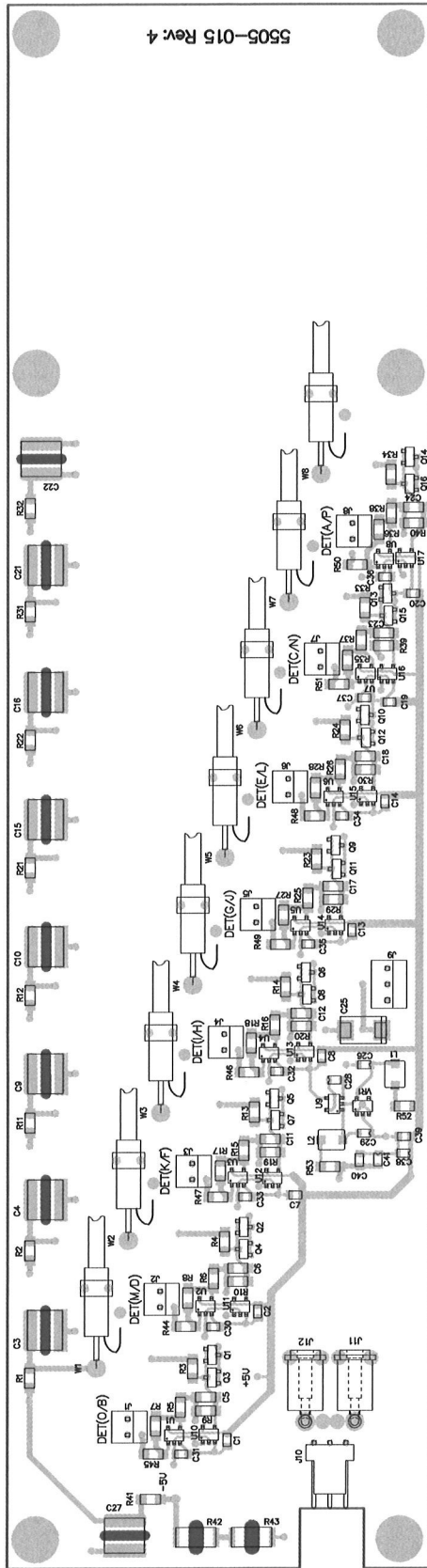


LUDLUM MEASUREMENTS, INC.
 PO Box 810
 501 Oak Street
 Sweetwater, Texas 79556
 U.S.A. 1-800-622-0828

Drawn: PAB	6/16/2015	Title: LEFT & RIGHT CABLE DRIVER
Design: RDS	12/03/2013	Model: 329-32
Approved: <i>[Signature]</i>	12/03/2013	Board#: 5505-015
Print Date: 6/18/2015 11:00:51 AM	Sheet: 1 of 1	Series
Rev: 4		Sheet
505		15

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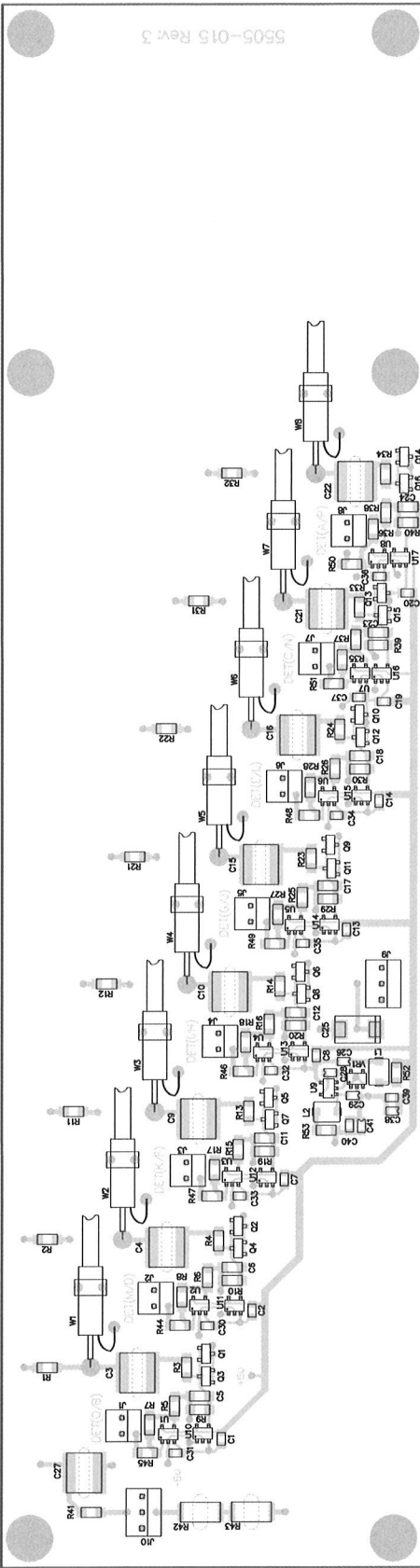
5505-015 Rev: 4



DO NOT PLACE J10

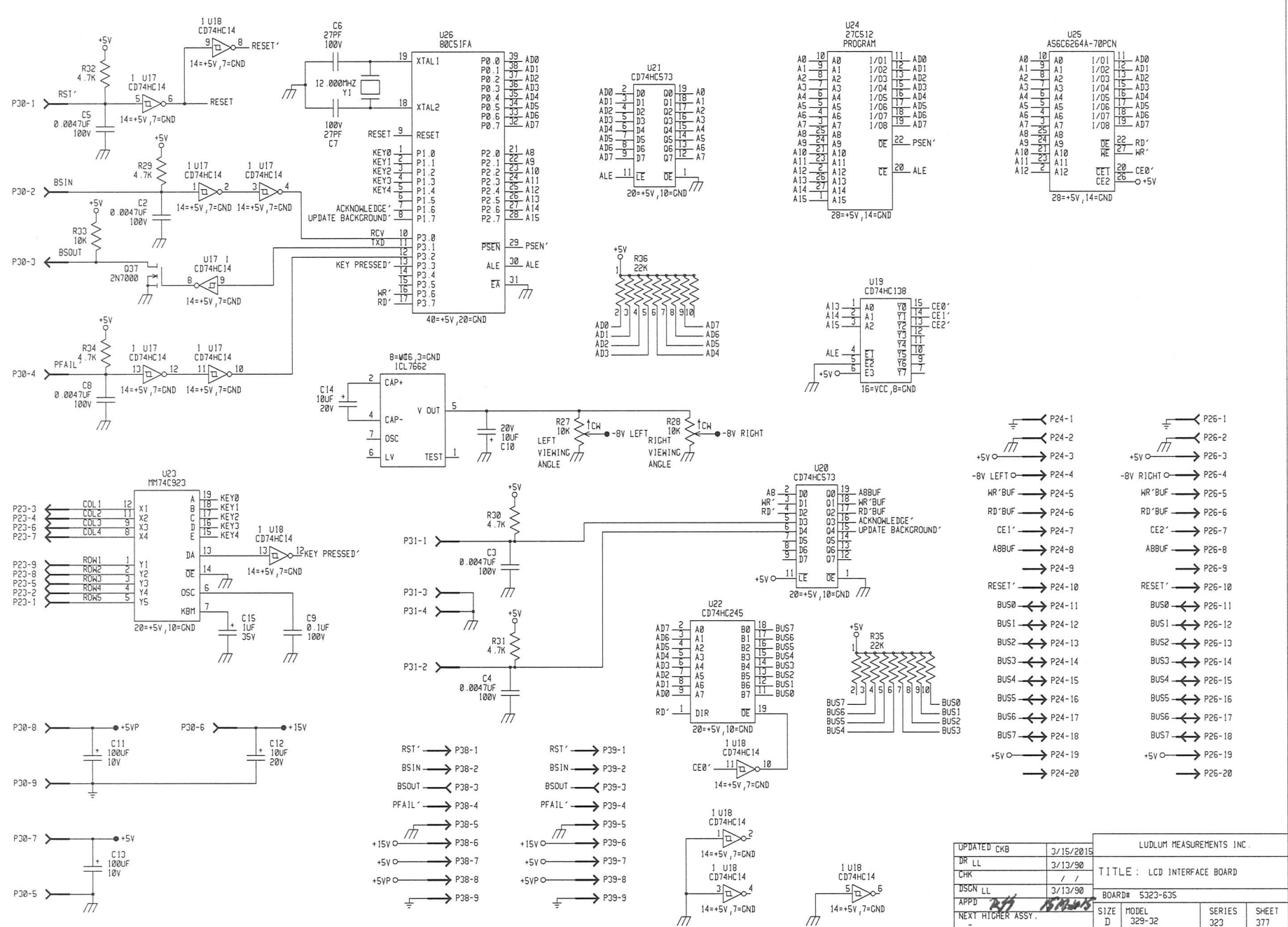
LUDLUM MEASUREMENTS, INC.
 PO Box 810
 501 Oak Street
 Sweetwater, TX 79556
 U.S.A. 1-800-622-0828

Title: LEFT & RIGHT CABLE DRIVER			
Drawn: PAB	6/16/2015	Model: 329-32	
Design: RDS	6/16/2015	Board#: 5505-015	
Approve: RDS	IKJUNIS	Rev: 4	
PCBA Drawing		SCALE: 0.92	Series Sheet
Print Date: 6/18/2015	8:40:55 AM	Top Overlay	505 16A



		PO Box 810 501 Oak Street Sweetwater, TX 79556 U.S.A. 1-800-622-0828	
		Title: LEFT & RIGHT CABLE DRIVER	
Drawn: ALC Design: RDS Approve: <i>[Signature]</i>	12/03/2013 12/03/2013 <i>[Signature]</i>	Model: 329-32 Board#: 5505-015 Rev: 3	Series Sheet 505 16A
PCBA Drawing Print Date: 12/4/2013 12:47:12 PM		SCALE: 0.90 Top Overlay	
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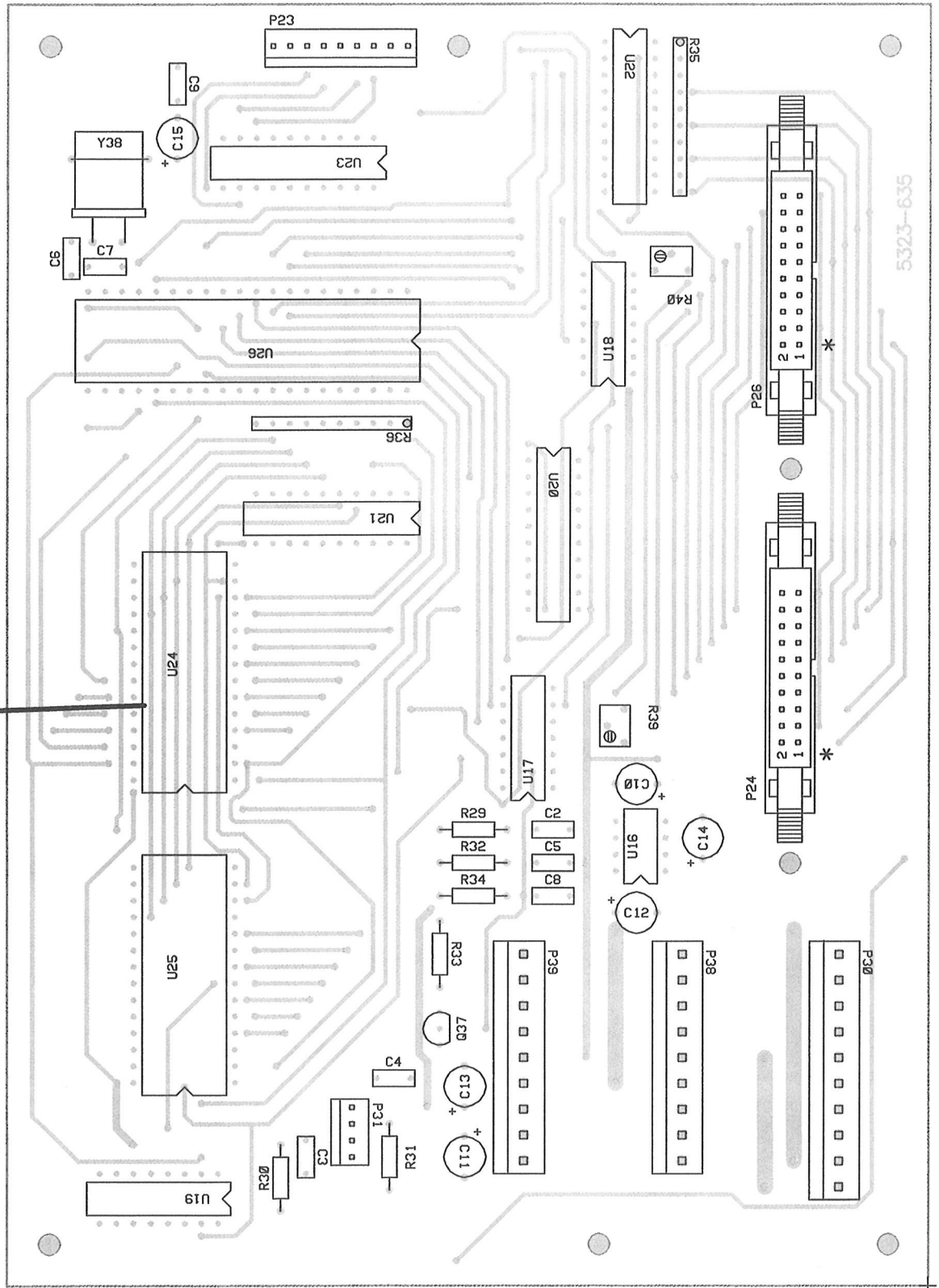
REVISIONS						
EFF	AUTHORITY	ZONE	LTR	DESCRIPTION	DATE	APPROVED



P24-1	P26-1
P24-2	P26-2
P24-3	P26-3
P24-4	P26-4
P24-5	P26-5
P24-6	P26-6
P24-7	P26-7
P24-8	P26-8
P24-9	P26-9
P24-10	P26-10
P24-11	P26-11
P24-12	P26-12
P24-13	P26-13
P24-14	P26-14
P24-15	P26-15
P24-16	P26-16
P24-17	P26-17
P24-18	P26-18
P24-19	P26-19
P24-20	P26-20

UPDATED CKB	3/15/2015	LUDLUM MEASUREMENTS INC.			
DR LL	3/13/90	TITLE : LCD INTERFACE BOARD			
CHK	/ /	BOARD# 5323-635			
DISCN LL	3/13/90	SIZE	MODEL	SERIES	SHEET
APPD	<i>RS</i>	D	329-32	323	377
NEXT HITCHER ASSY.					
15:00:13	15-Mar-19	58323635			

Place 06-6096 Socket
 Send 06-6264 27C512
 Along w/ Job to be programmed by Techs

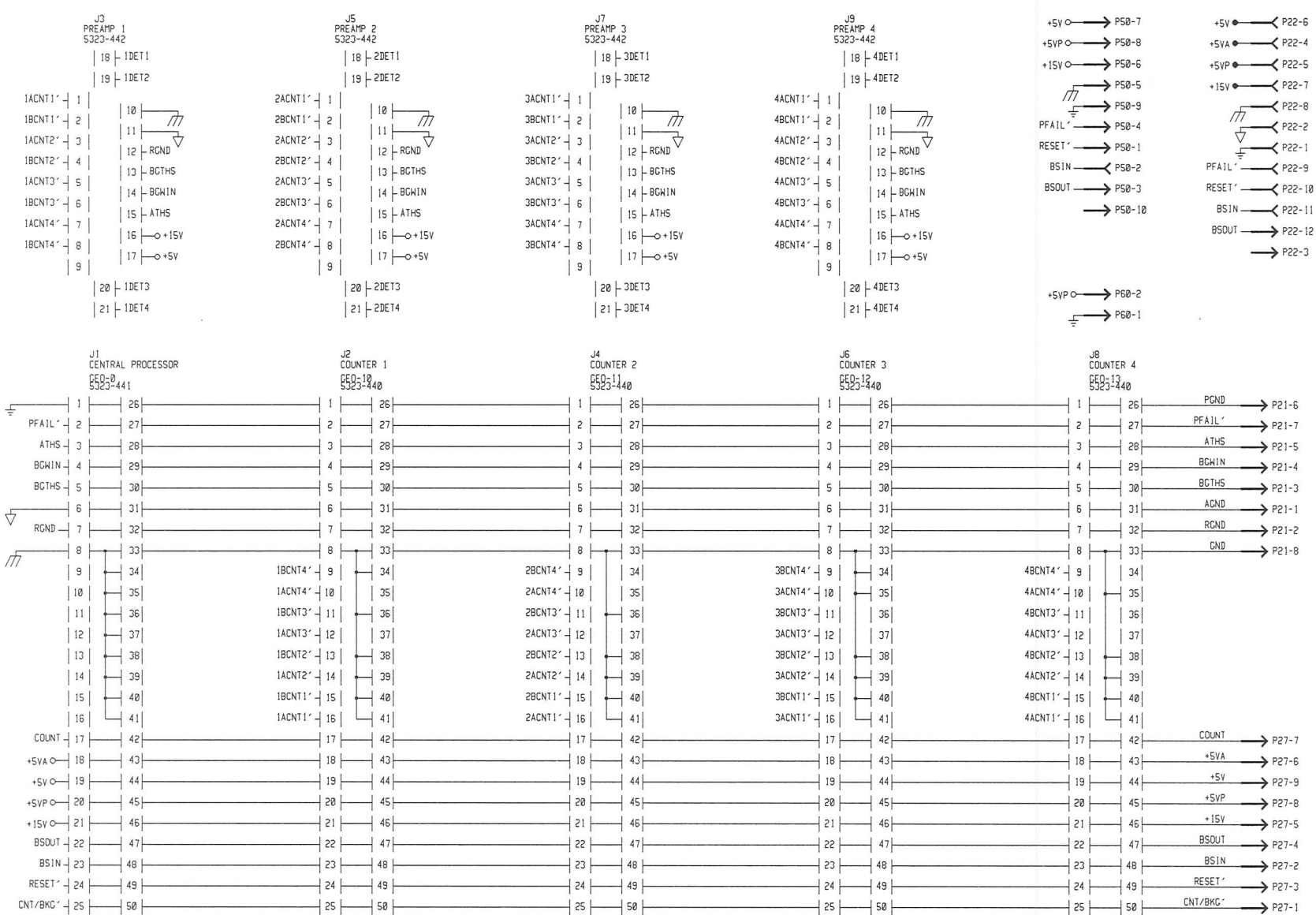


5323-635

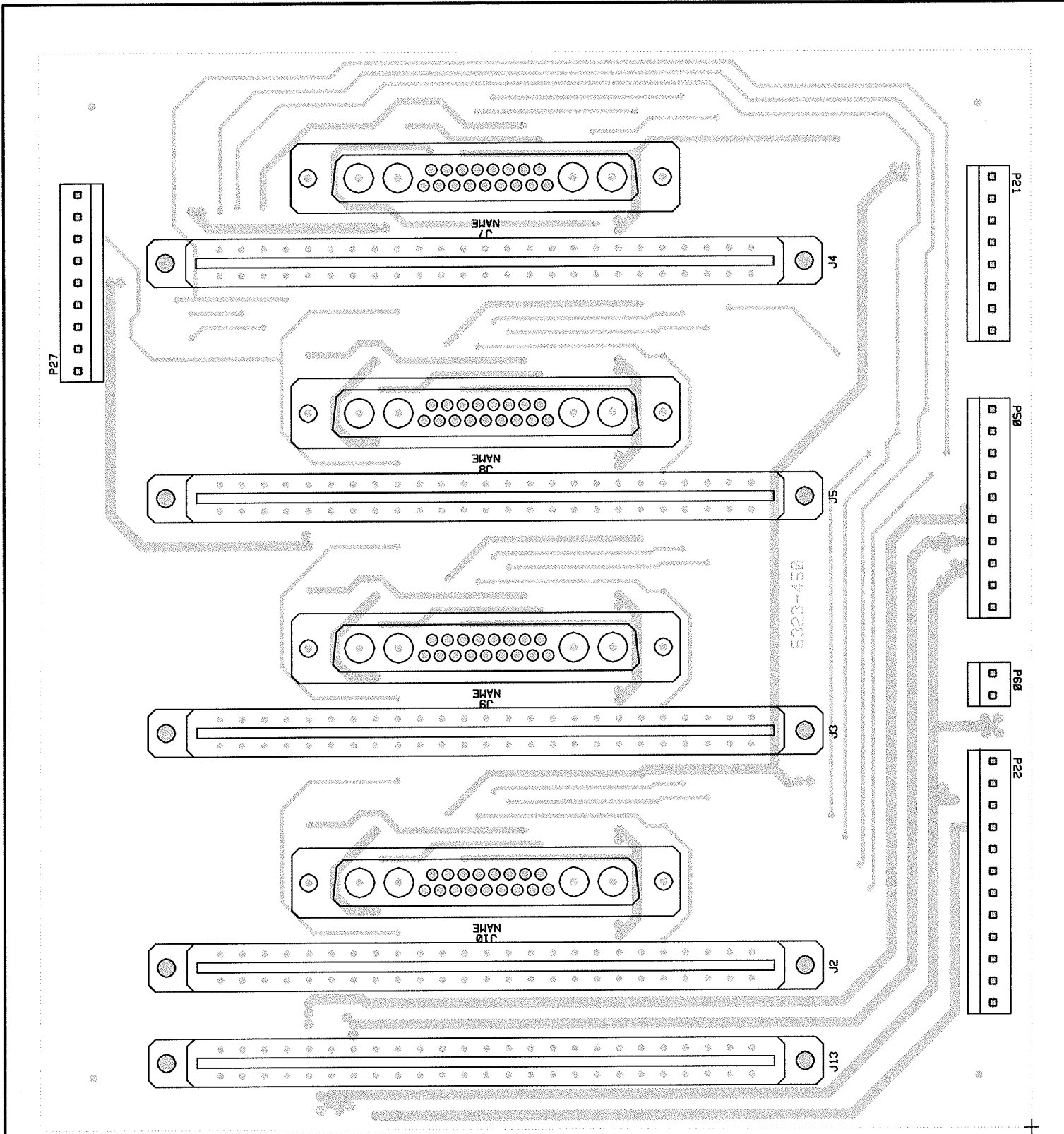
LUDDLUM MEASUREMENTS, INC.
 PO Box 810
 501 Oak Street
 Sweetwater, TX 79556
 U.S.A. 1-800-622-0828

Title: LCD Interface Board			
Drawn: LL	03/14/1990	Model: 329-32	
Design: LL	03/14/1990	Board#: 5323-635	
Approve: <i>AKS</i>	<i>20 Feb 15</i>	Rev: 1	
Print Date: 2/20/2015 9:36:06 AM		SCALE: 1.00	Series Sheet
		Top Overlay	323 377 A
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REVISIONS			
EFF	AUTHORITY	ZONE	LYR

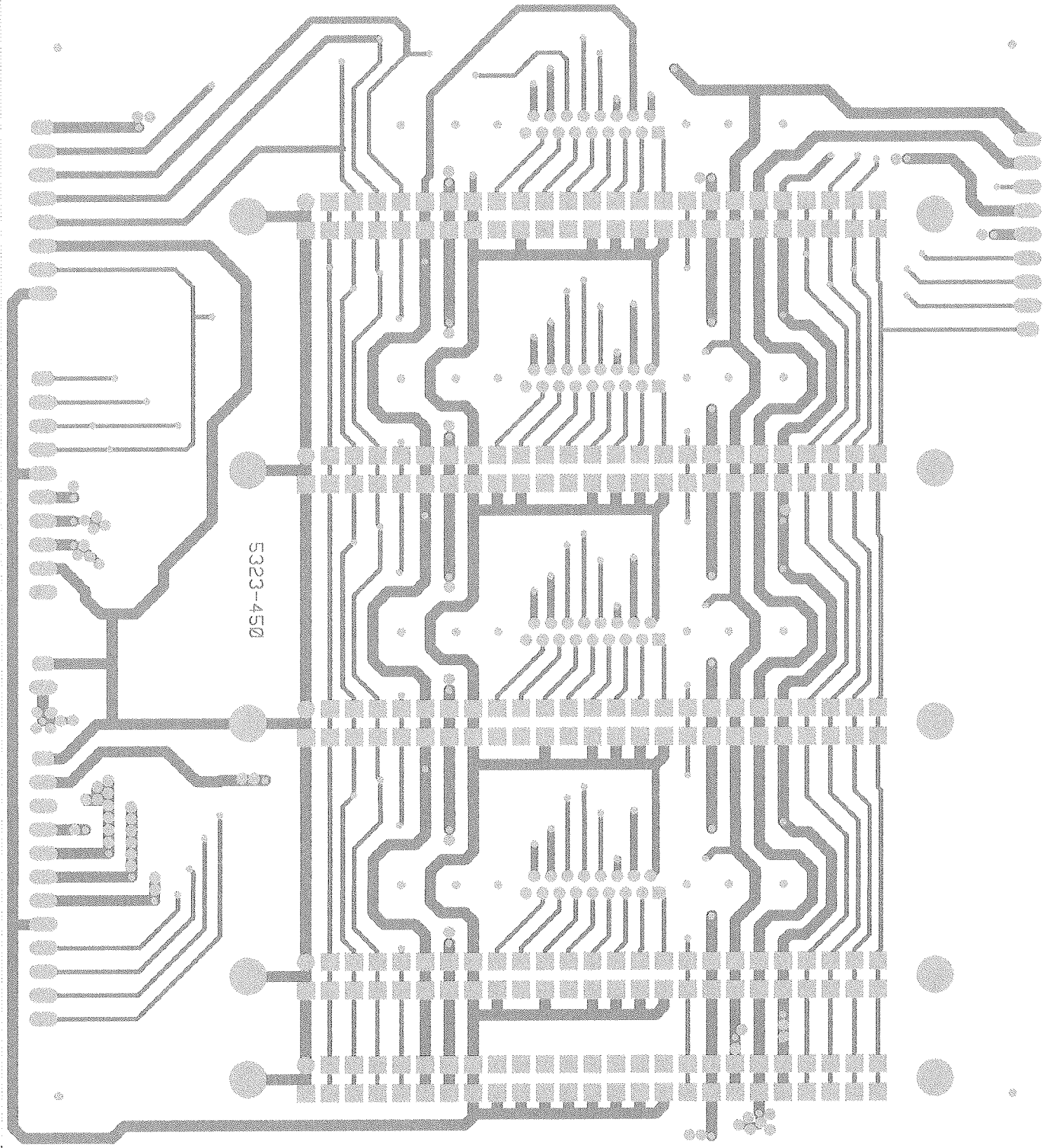


UPDATED	-	LUDLUM MEASUREMENTS INC.			
DR LL	2/23/90	TITLE: MAIN BACKPLANE /A			
BSCN RDS	9/27/89	BOARD# 5323-450			
APPD <i>RVS VGNARIS</i>		SIZE	MODEL	SERIES	SHEET
NEXT HIGHER ASSY.		C	329-32	323	271
13:16:29	26-Jun-03	58323450			SHEET 1 OF 1



2

 LUDLUM MEASUREMENTS, INC.		PO Box 810 501 Oak Street Sweetwater, TX 79556 U.S.A. 1-800-622-0828	
Title: MAIN BACKPLANE /A			
Drawn: LL	02/27/90	Model: 323-32	
Design: RDS	09/27/89	Board#: 5323-450	
Approve: <i>[Signature]</i>	<i>[Signature]</i>	Rev: 1	
PCBA Drawing		SCALE: 1.05	Series Sheet
Print Date: 2/12/2015	10:06:23 AM	Top Overlay	323 271A
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5323-450

②



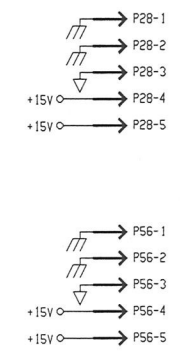
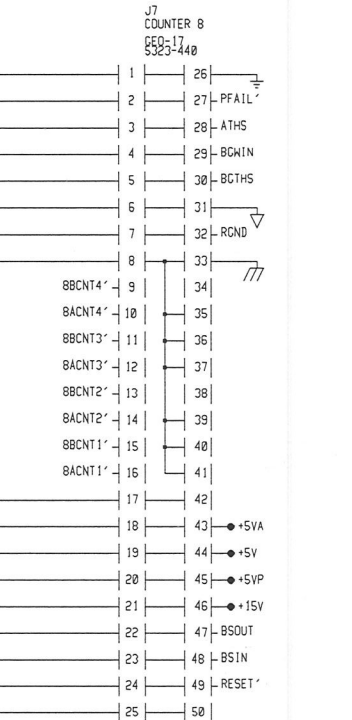
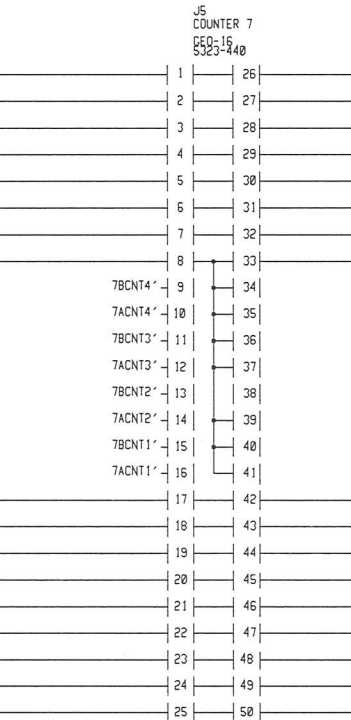
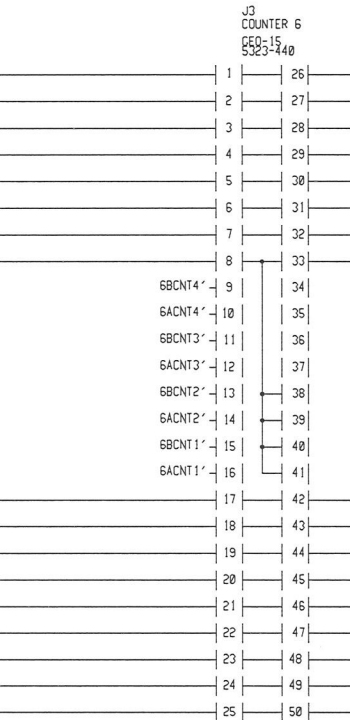
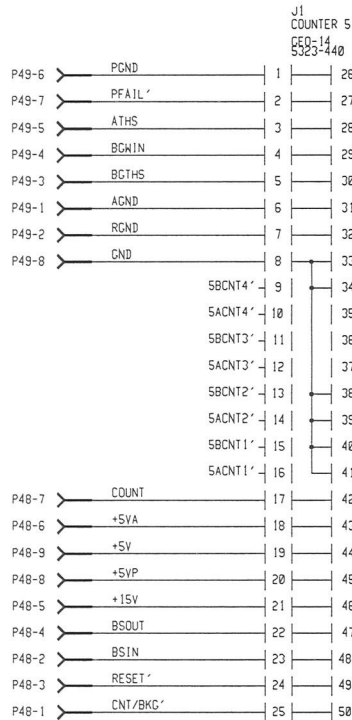
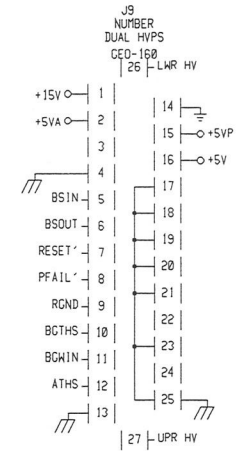
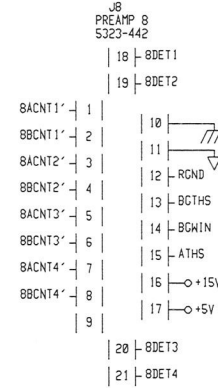
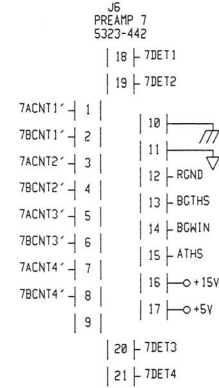
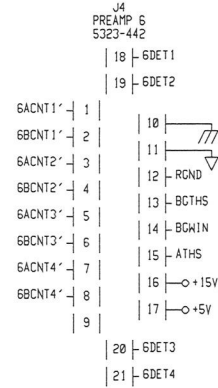
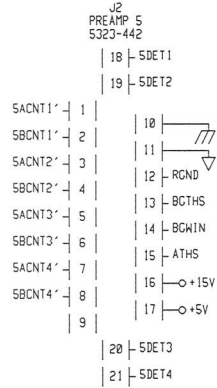
LUDLUM
MEASUREMENTS, INC.

PO Box 810
501 Oak Street
Sweetwater, TX 79556
U.S.A. 1-800-622-0828

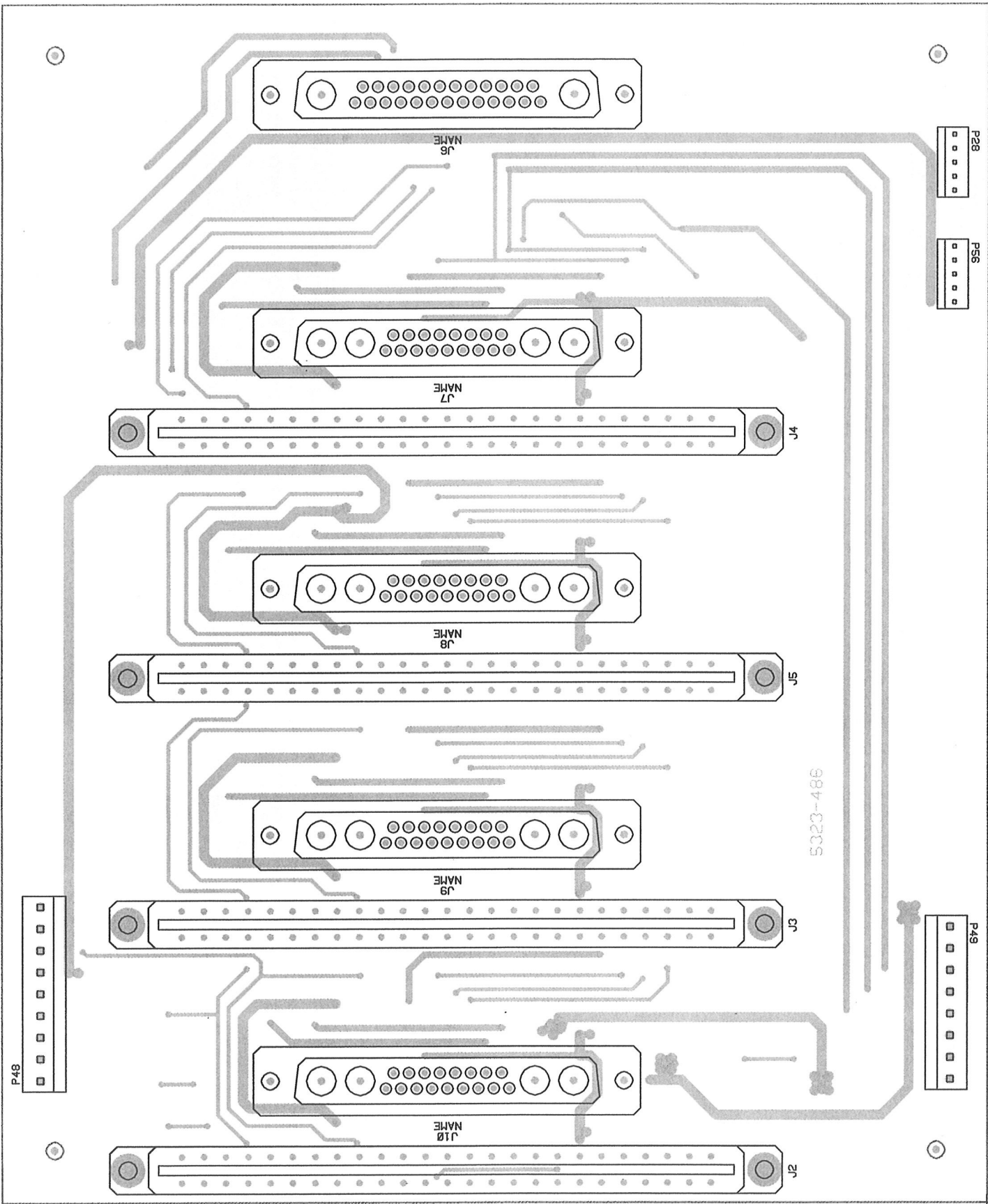
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Design: RDS	09/27/89	Board#: 5323-450	
Approve: RDS	19mar15	Rev: 1	
<i>PCBA Drawing</i>		SCALE: 1.05	Series Sheet
Print Date: 2/12/2015	10:06:26 AM	Bottom Overlay	323 271A

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EFF	AUTHORITY	ZONE	LR	REVISIONS	DATE	APPROVED
				DESCRIPTION		



UPDATED	-	LUDLUM MEASUREMENTS INC.			
DR LL	2/23/90	TITLE : MAIN BACKPLANE /B			
DSCN RDS	9/27/89	BOARD# 5323-486			
APPD <i>R/S</i>	<i>16 Mar 95</i>	SIZE	MODEL	SERIES	SHEET
NEXT HIGHER ASSY.		C	329-32	323	284
10-33-31	16-Mar-15	58323486		SHEET	1 OF 1

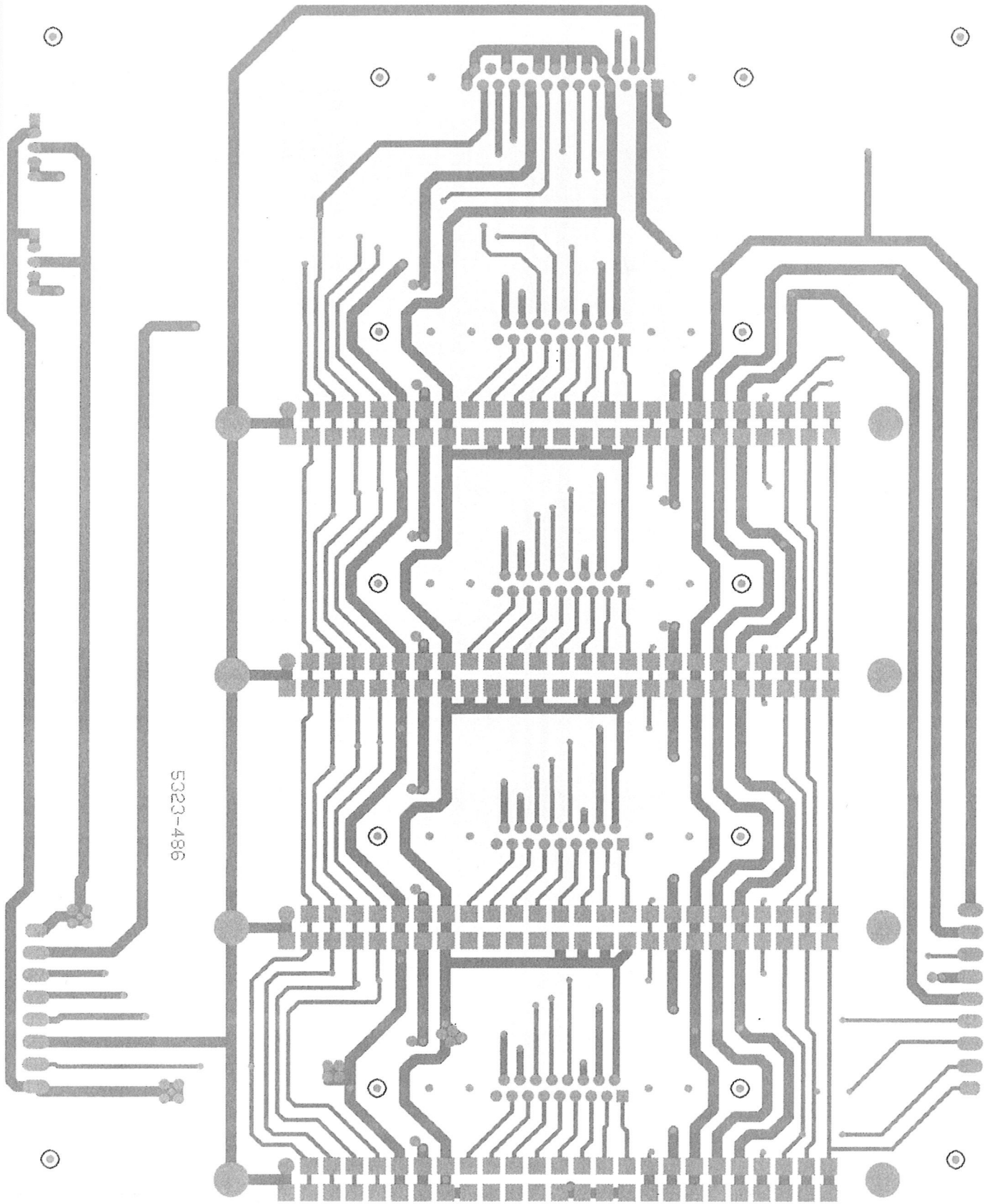


LUDLUM MEASUREMENTS, INC.
 PO Box 810
 501 Oak Street
 Sweetwater, TX 79556
 U.S.A. 1-800-622-0828

Title: MAIN BACKPLANE /B

Drawn: LL	02/23/90	Model: 329-32
Design: RDS	09/27/89	Board#: 5323-486
Approve: <i>RDS</i>	<i>19m aris</i>	Rev: 1
PCBA Drawing		SCALE: 1.05
Print Date: 3/19/2015 10:49:19 AM	Top Overlay	Series 323 Sheet 283A

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5323-486

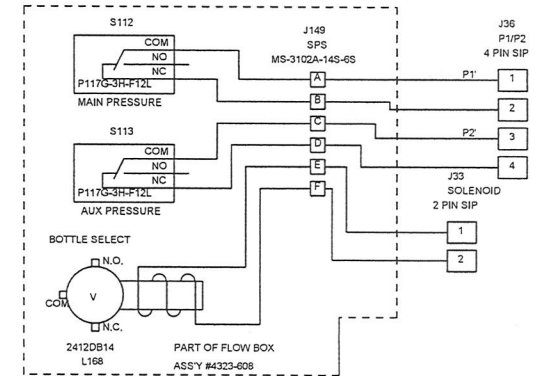
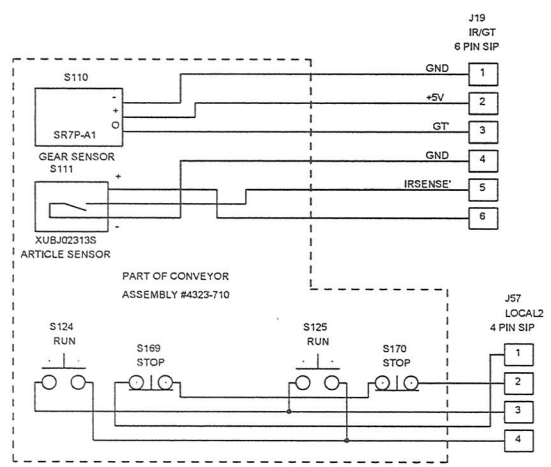
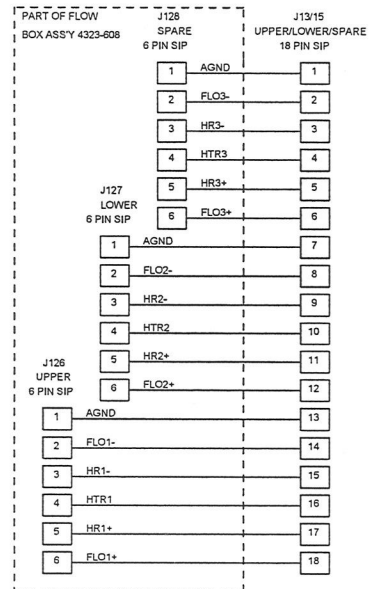
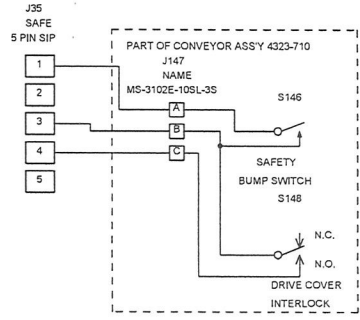
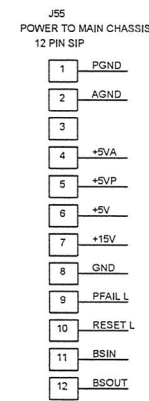
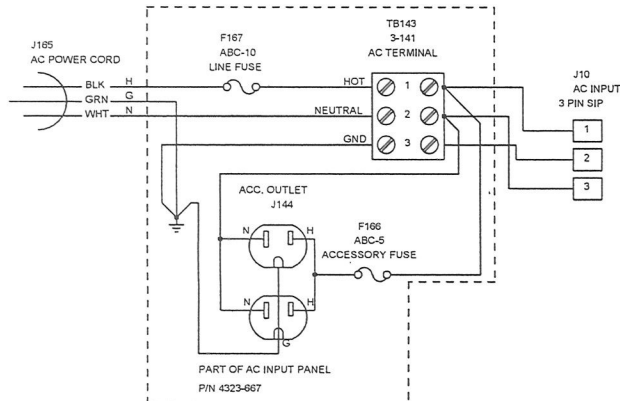
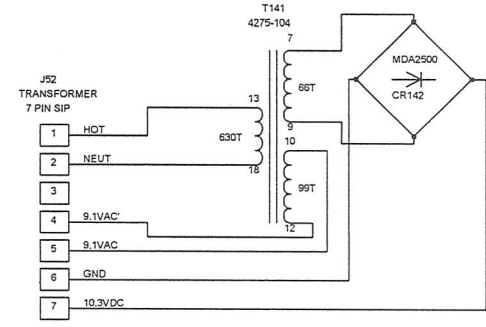
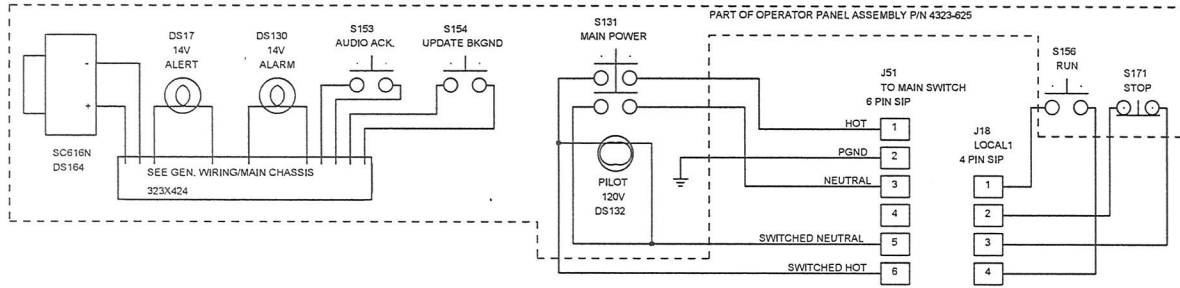


LUDLUM
MEASUREMENTS, INC.

PO Box 810
501 Oak Street
Sweetwater, TX 79556
U.S.A. 1-800-622-0828

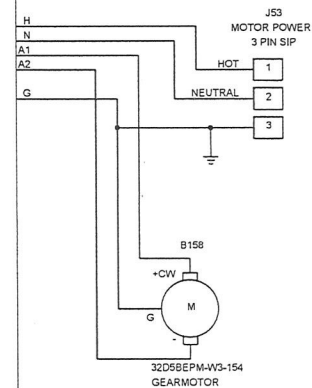
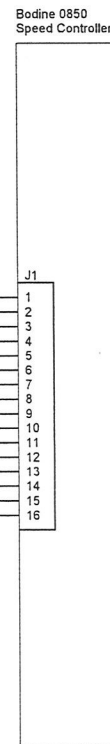
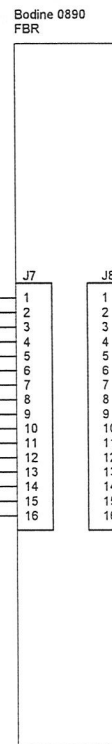
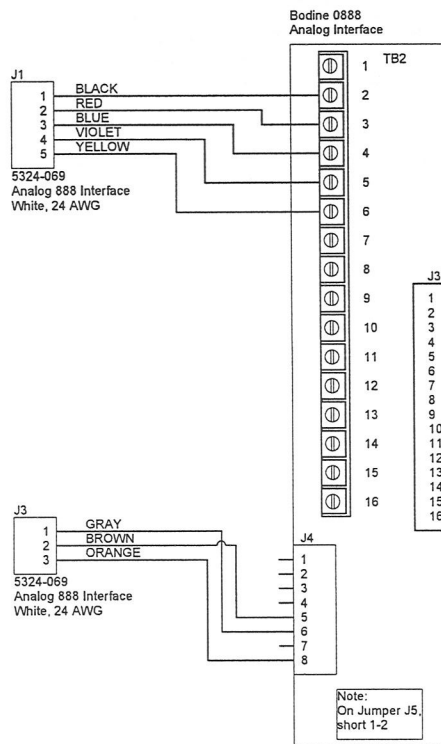
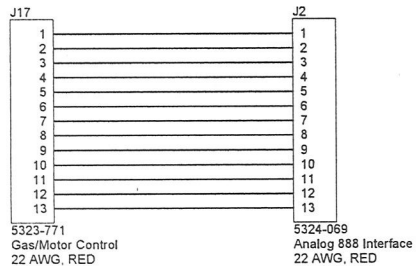
Title: MAIN BACKPLANE /B			
Drawn: LL	02/23/90	Model: 329-32	
Design: RDS	09/27/89	Board#: 5323-486	
Approve: <i>RN</i>	<i>JG</i>	Rev: 1	
PCBA Drawing		SCALE: 1.05	Series Sheet
Print Date: 3/19/2015	10:49:22 AM	Bottom Overlay	323 283A

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LUDLUM MEASUREMENTS, INC.		PO Box 810 501 Oak Street Sweetwater, Texas 79556 U.S.A. 1-800-622-0828	
Drawn: CKB	3/26/2015	Title: General Wiring/Motor Control	
Design: RDS	10/04/1990	Model: 329-32	
		Board#: 323-713	
Approved: <i>[Signature]</i>	Sheet: 1 of 2	Series	Sheet
Print Date: 3/26/2015 1:34:05 PM	Rev: 2	323	423
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PART OF MOTOR/CONTROL CHASSIS P/N 4323-1005



LUDLUM MEASUREMENTS, INC.		PO Box 810 501 Oak Street Sweetwater, Texas 79556 U.S.A. 1-800-622-0828	
Drawn: CKB	3/26/2015	Title: General Wiring/Motor Control	
Design: RDS	10/04/1990	Model: 329-32	
Approve: <i>KYS</i>		Board#: 323-713	
Print Date: 3/26/2015 1:34:06 PM	Rev: 2	Sheet: 2 of 2	Series: 323
W:\Projects\LMIM 329-32\323-713\Rev2\323713R2P2.SchDoc		Sheet: 2 of 2	Sheet: 423