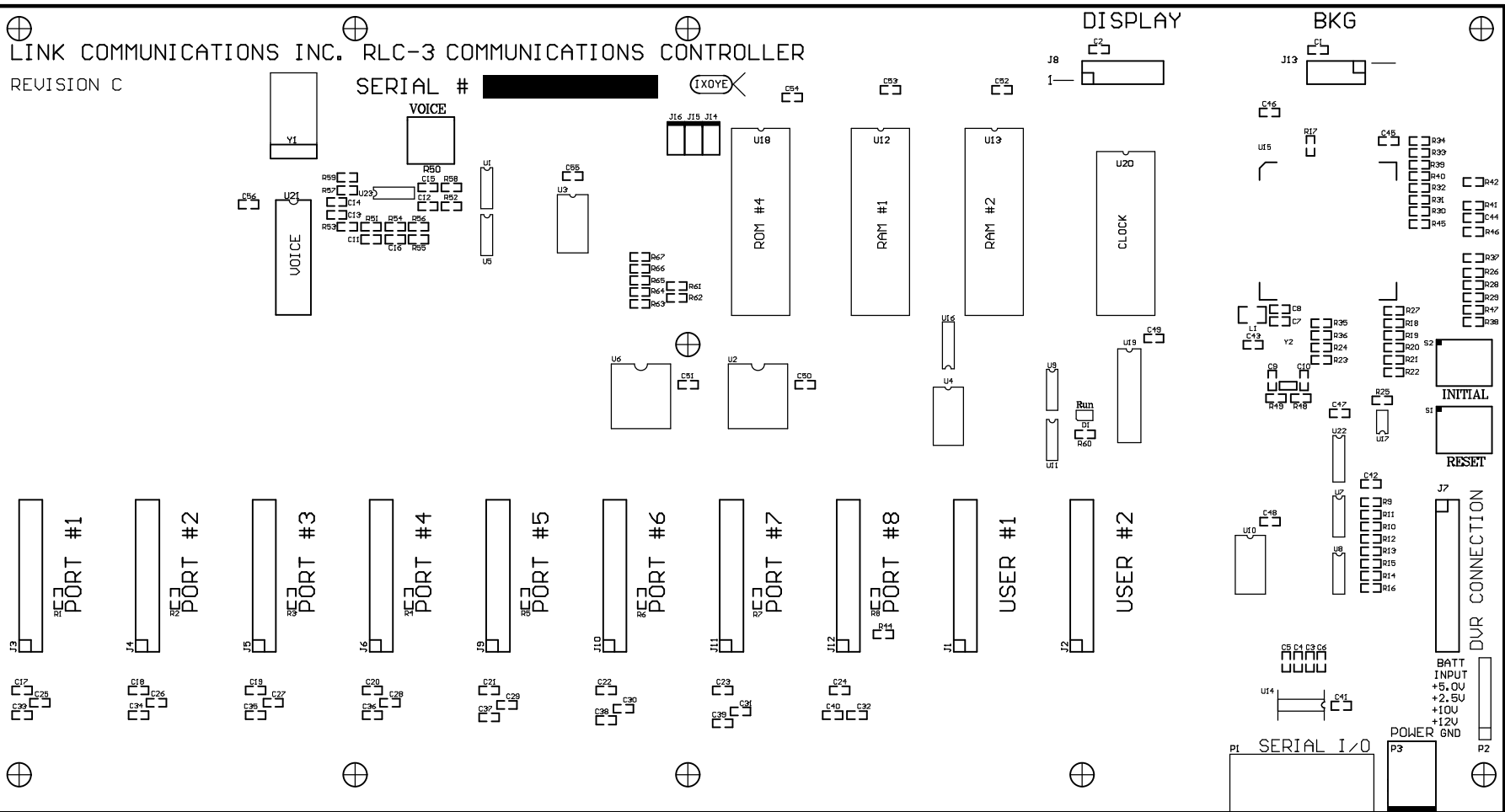


LINK COMMUNICATIONS INC. RLC-3 COMMUNICATIONS CONTROLLER
 REVISION C

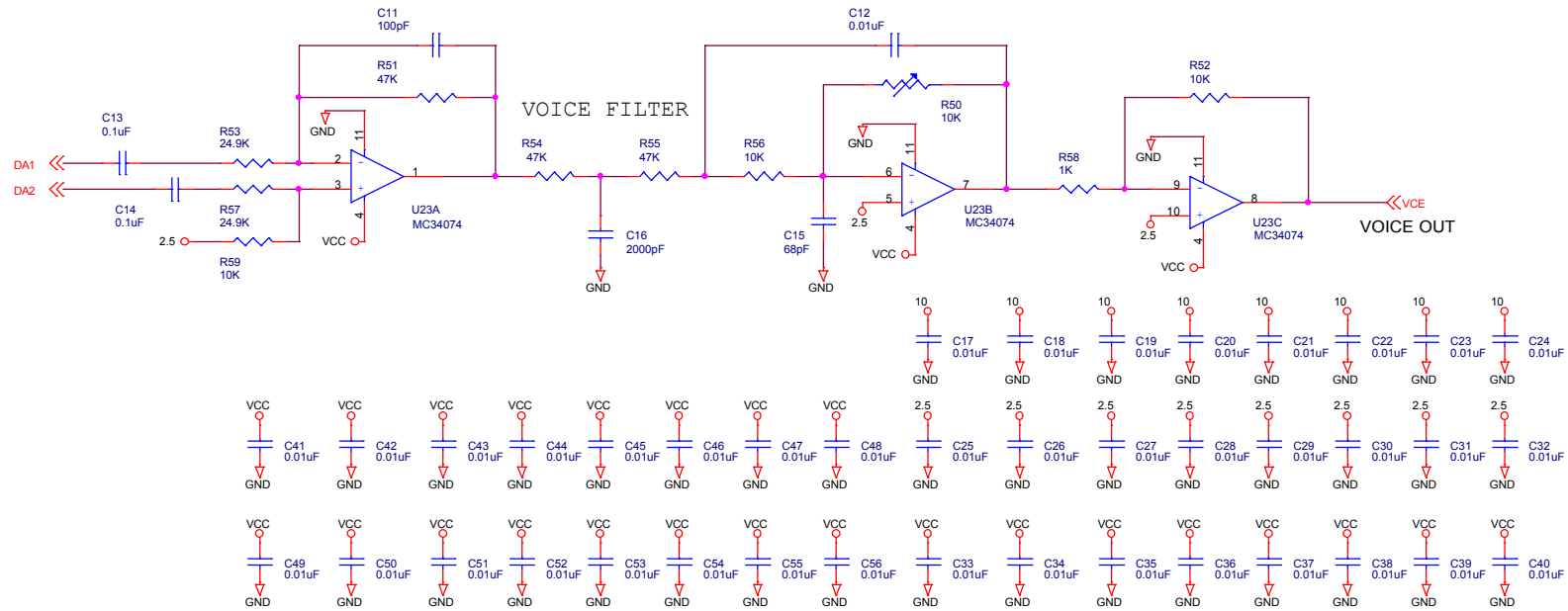


DISPLAY

BKG

DVR CONNECTION

BATT INPUT
 +5.0V
 +2.5V
 +10V
 +12V
 GND



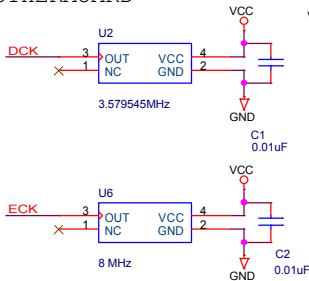
LINK COMMUNICATIONS
RLC-3 REPEATER CONTROLLER



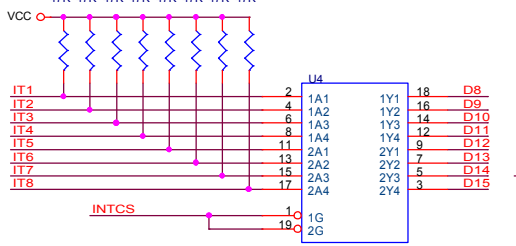
LINK COMMUNICATIONS, INC.
1035 Cerise Rd., Billings, Montana 59101
PHONE: (406) 245-5002 FAX: (406) 245-4889

DRAWING RLC-3	DATE January 20, 2004	REVISION C	SHEET 1
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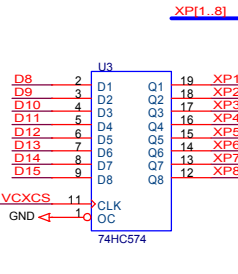
MOTHERBOARD



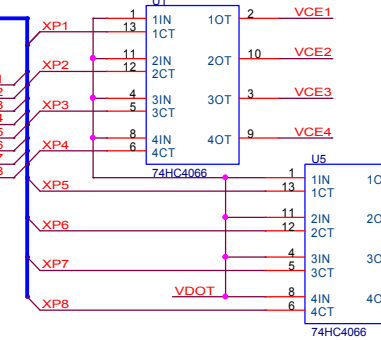
R1 R2 R3 R4 R5 R6 R7 R8
47K 47K 47K 47K 47K 47K 47K



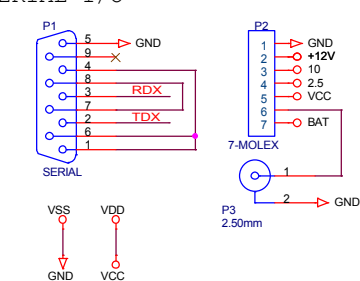
CARD SERVICE REQUEST



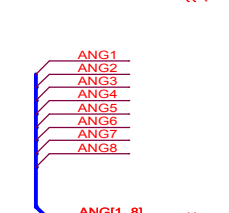
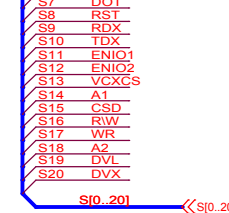
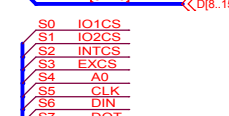
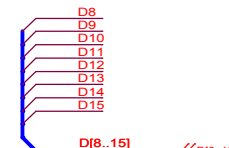
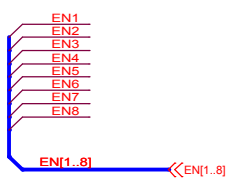
XP1..8



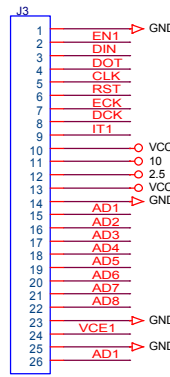
SERIAL I/O



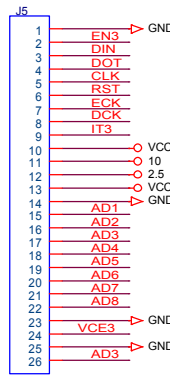
PORT 1



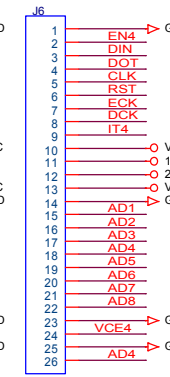
PORT 2



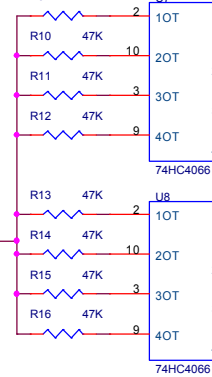
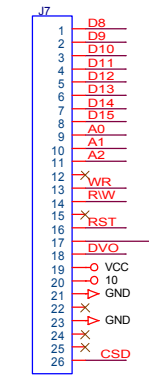
PORT 3



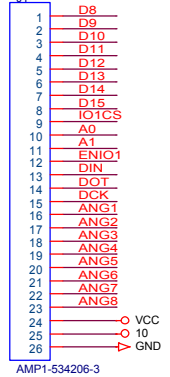
PORT 4



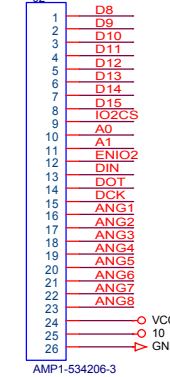
DVR CROSS POINT



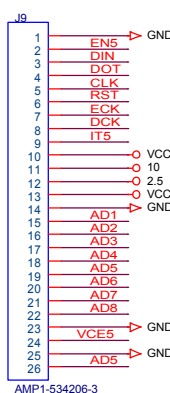
USER I/O #1



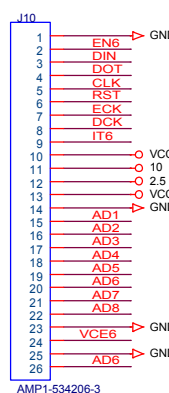
USER I/O #2



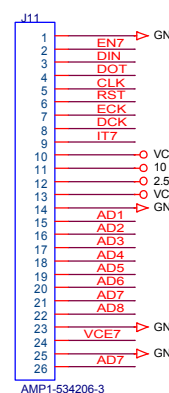
PORT 5



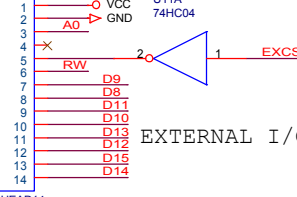
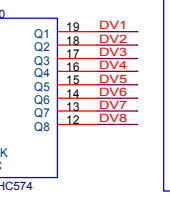
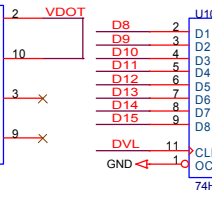
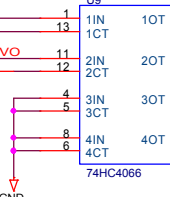
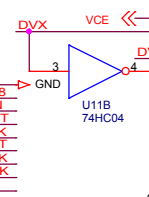
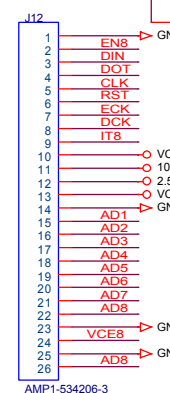
PORT 6



PORT 7



PORT 8



RLC-3 Backplane Board

LINK COMMUNICATIONS, INC.
 1035 Cerise Rd., Billings, Montana 59101
 PHONE: (406) 245-5002 FAX: (406) 245-4889

DRAWING RLC-3	DATE January 20, 2004	REVISION C	SHEET 3
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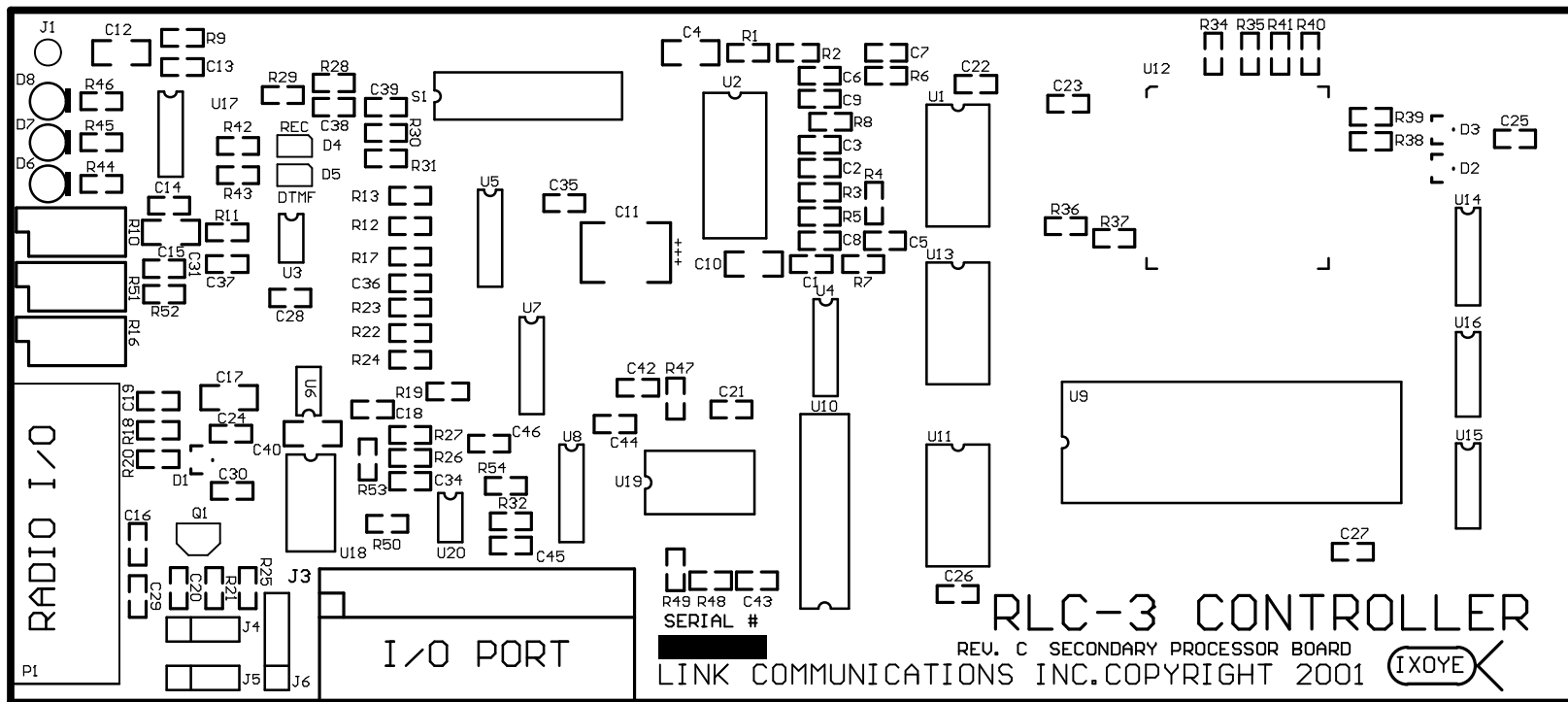
1: Revised: Tuesday, January 20, 2004
 2: RLC-3 Revision: C
 3:
 4:
 5:
 6:
 7:
 8:
 9:

10: Bill Of Materials January 20,2004 13:42:25 Page1

11:	12: Item	Quantity	Reference	Part
13:	<hr/>			
14:				
15:	1	43	C1,C2,C12,C17,C18,C19,	0.01uF
16:			C20,C21,C22,C23,C24,C25,	
17:			C26,C27,C28,C29,C30,C31,	
18:			C32,C33,C34,C35,C36,C37,	
19:			C38,C39,C40,C41,C42,C43,	
20:			C44,C45,C46,C47,C48,C49,	
21:			C50,C51,C52,C53,C54,C55,	
22:			C56	
23:	2	7	C3,C4,C5,C6,C8,C13,C14	0.1uF
24:	3	1	C7 1uF	
25:	4	2	C9,C10 22pF	
26:	5	1	C11 100pF	
27:	6	1	C15 68pF	
28:	7	1	C16 2000pF	
29:	8	1	D1 LED	
30:	9	11	J1,J2,J3,J4,J5,J6,J7,J9,	AMP1-534206-3
31:			J10,J11,J12	
32:	10	1	J8 HEAD14	
33:	11	1	J13 HEAD10	
34:	12	3	J14,J15,J16 JUMP	
35:	13	1	L1 10uH	
36:	14	1	P1 SERIAL	
37:	15	1	P2 7-MOLEX	
38:	16	1	P3 2.50mm	
39:	17	45	R1,R2,R3,R4,R5,R6,R7,R8,	47K
40:			R9,R10,R11,R12,R13,R14,	
41:			R15,R16,R17,R18,R19,R20,	
42:			R21,R22,R23,R24,R25,R26,	
43:			R27,R28,R29,R30,R31,R32,	
44:			R33,R34,R35,R36,R37,R38,	
45:			R39,R40,R41,R42,R51,R54,	
46:			R55	
47:	18	2	R58,R44 1K	
48:	19	13	R45,R46,R50,R52,R56,R59,	10K
49:			R61,R62,R63,R64,R65,R66,	
50:			R67	
51:	20	1	R47 4.99K	
52:	21	1	R48 10M	
53:	22	1	R49 330K	
54:	23	2	R57,R53 24.9K	
55:	24	1	R60 510	
56:	25	2	S1,S2 PUSHSW	
57:	26	5	U1,U5,U7,U8,U9 74HC4066	
58:	27	1	U2 3.579545MHz	
59:	28	2	U10,U3 74HC574	
60:	29	1	U4 74HC244	
61:	30	1	U6 8 MHz	
62:	31	1	U11 74HC04	
63:	32	2	U13,U12 DS1245Y	
64:	33	1	U14 MAX232	

c:\cadence\design files\designs\rlc3\rlc3_rev.c.bom

65: 34	1	U15	68HC16Z1
66: 35	2	U16,U22	74HC138
67: 36	1	U17	DS1232
68: 37	1	U18	27C040
69: 38	1	U19	DS1221
70: 39	1	U20	DS1286
71: 40	1	U21	TSP53C30
72: 41	1	U23	MC34074
73: 42	1	Y1	3.2768 Mhz
74: 43	1	Y2	32.768 KHZ
75:			

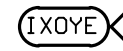


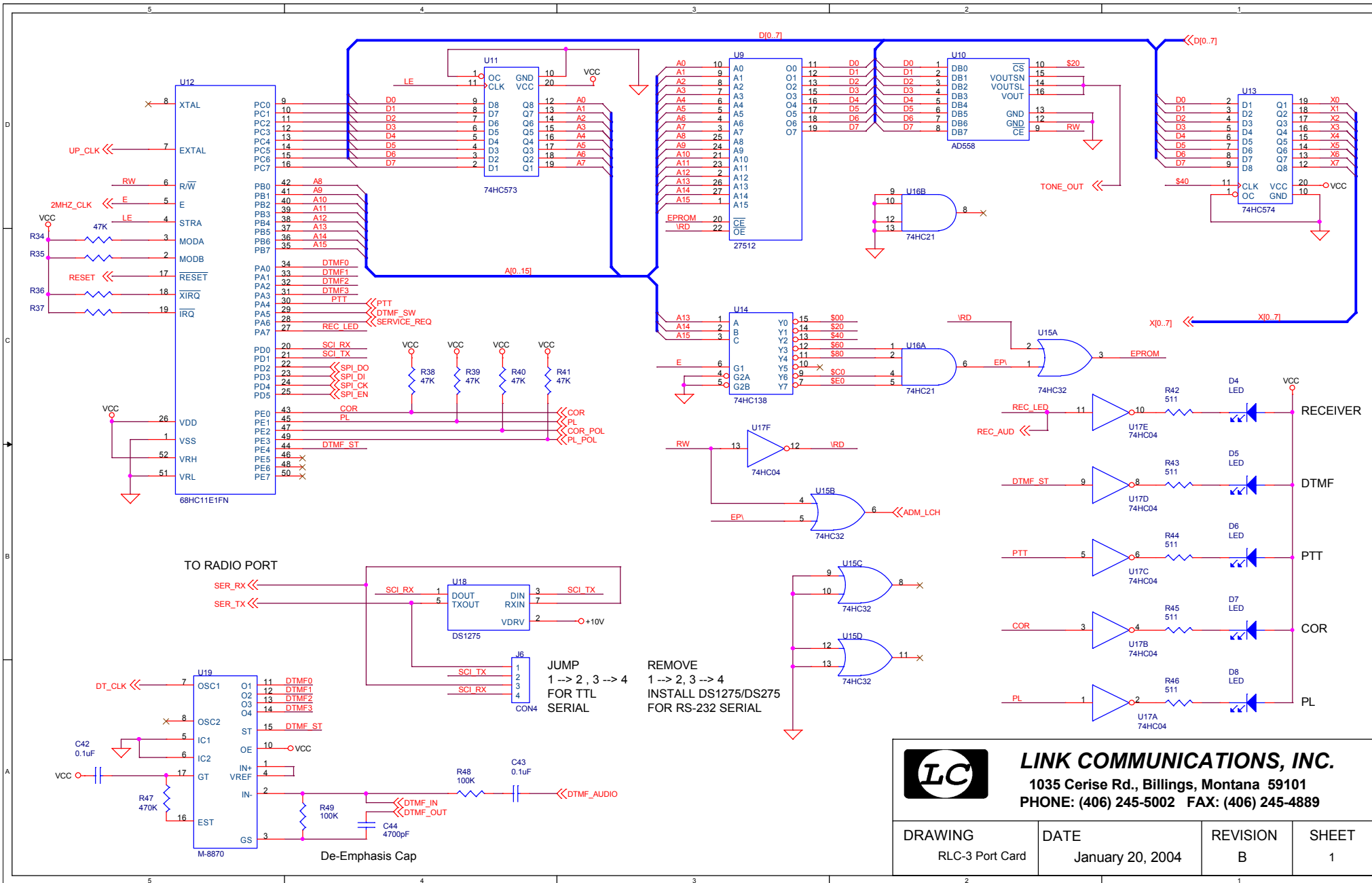

 R49 R48 C43
 SERIAL #

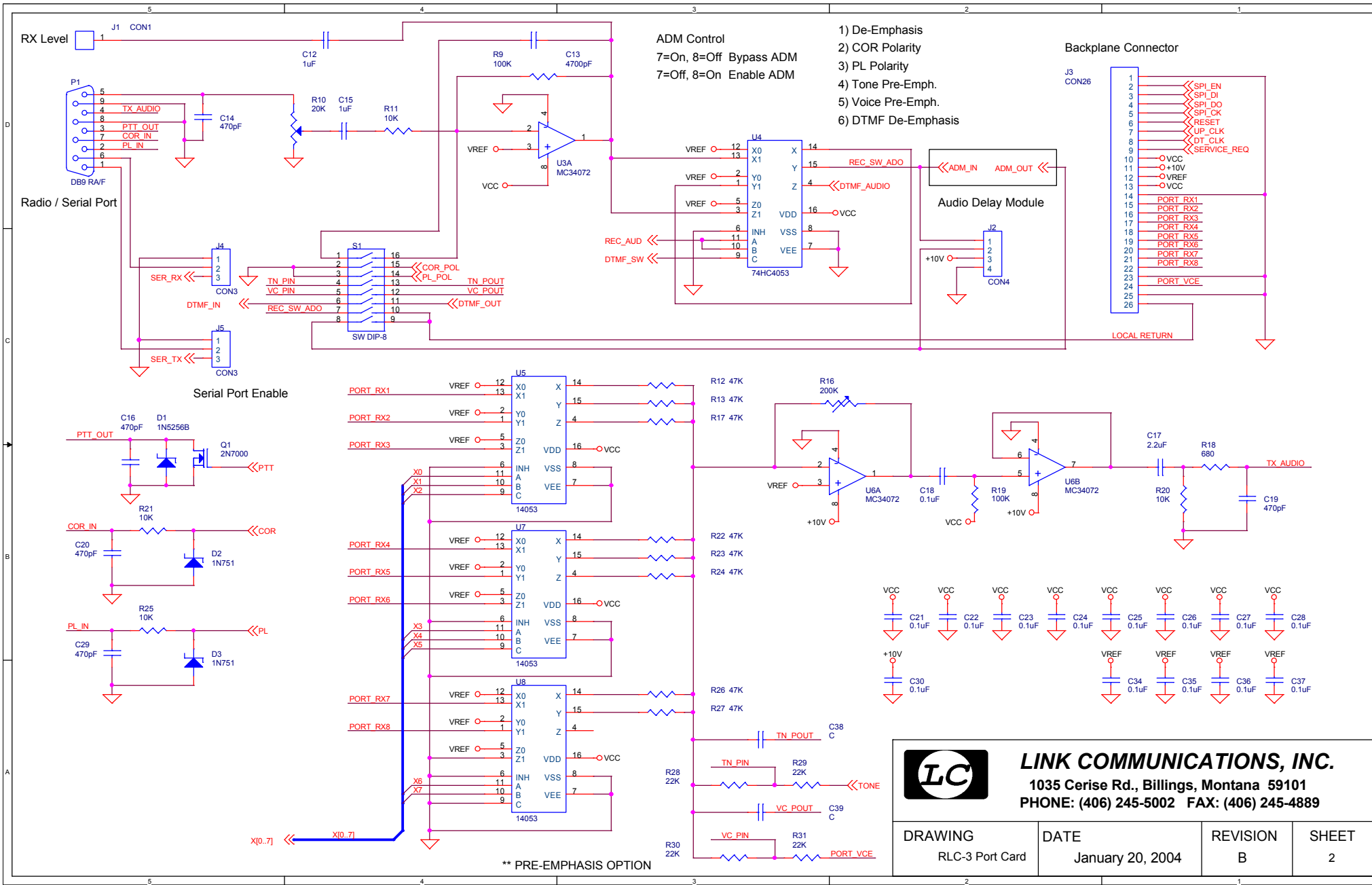

RLC-3 CONTROLLER

REV. C SECONDARY PROCESSOR BOARD

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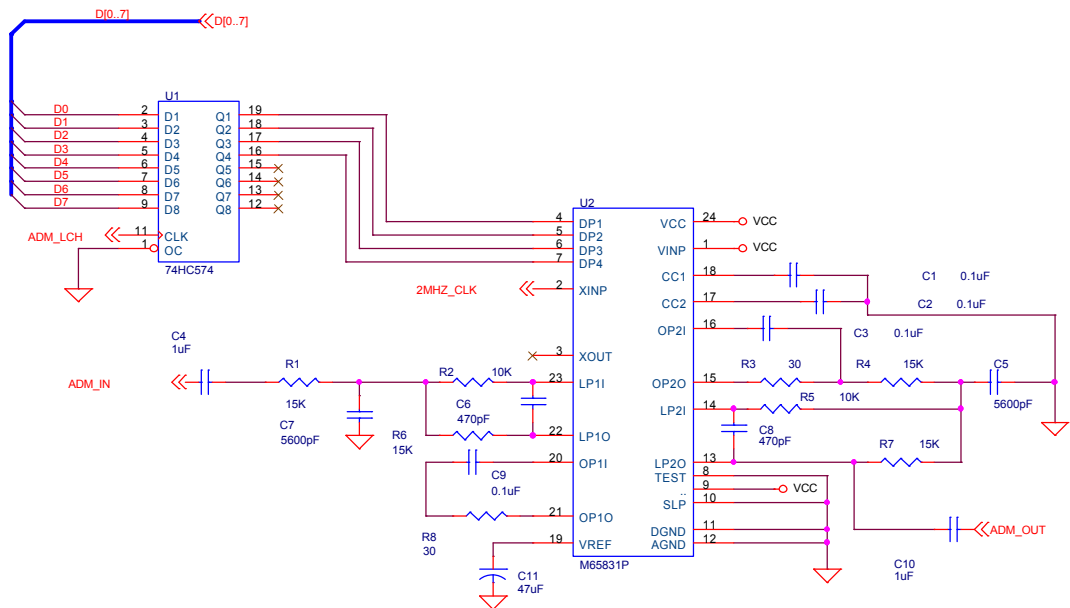






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DRAWING RLC-3 Port Card	DATE January 20, 2004	REVISION B	SHEET 2
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**LINK COMMUNICATIONS INC.
DIGITAL AUDIO DELAY MODULE**

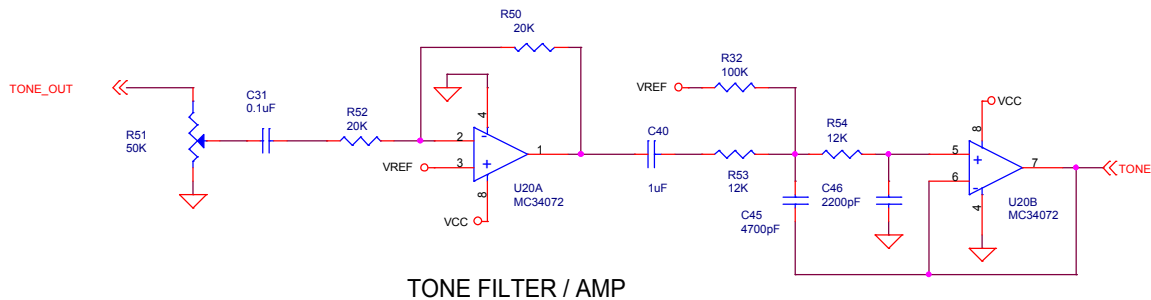
Delay Time: 12.3mS .. 196.8mS

THD = 0.5% typical

Dynamic Range -92dB..-95dB typical

Delay Times

S1	S2	S3	S4	DELAY
0	0	0	0	12.3mS
0	0	0	1	24.6mS
0	0	1	0	36.9mS
0	0	1	1	49.2mS
0	1	0	0	61.5mS
0	1	0	1	73.8mS
0	1	1	0	86.1mS
0	1	1	1	98.4mS
1	0	0	0	110.7mS
1	0	0	1	123.0mS
1	0	1	0	135.3mS
1	0	1	1	147.6mS
1	1	0	0	159.9mS
1	1	0	1	172.2mS
1	1	1	0	184.5mS
1	1	1	1	196.8mS



LINK COMMUNICATIONS, INC.

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DRAWING
RLC-3 Port Card

DATE
January 20, 2004

REVISION
B

SHEET
3

1: Revised: Tuesday, January 20, 2004
 2: RLC-3 Port Card Revision: B
 3:
 4:
 5:
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 7:
 8:
 9:
 10: Bill Of Materials January 20,2004 13:41:25 Page1
 11:
 12: Item Quantity Reference Part
 13: _____
 14:
 15: 1 21 C1,C2,C3,C9,C18,C21,C22, 0.1uF
 16: C23,C24,C25,C26,C27,C28,
 17: C30,C31,C34,C35,C36,C37,
 18: C42,C43
 19: 2 5 C4,C10,C12,C15,C40 1uF
 20: 3 2 C7,C5 5600pF
 21: 4 7 C6,C8,C14,C16,C19,C20, 470pF
 22: C29
 23: 5 1 C11 47uF
 24: 6 3 C13,C44,C45 4700pF
 25: 7 1 C17 2.2uF
 26: 8 2 C39,C38 C
 27: 9 1 C46 2200pF
 28: 10 1 D1 1N5256B
 29: 11 2 D3,D2 1N751
 30: 12 5 D4,D5,D6,D7,D8 LED
 31: 13 1 J1 CON1
 32: 14 2 J6,J2 CON4
 33: 15 1 J3 CON26
 34: 16 2 J4,J5 CON3
 35: 17 1 P1 DB9 RA/F
 36: 18 1 Q1 2N7000
 37: 19 4 R1,R4,R6,R7 15K
 38: 20 6 R2,R5,R11,R20,R21,R25 10K
 39: 21 2 R8,R3 30
 40: 22 5 R9,R19,R32,R48,R49 100K
 41: 23 3 R10,R50,R52 20K
 42: 24 16 R12,R13,R17,R22,R23,R24, 47K
 43: R26,R27,R34,R35,R36,R37,
 44: R38,R39,R40,R41
 45: 25 1 R16 200K
 46: 26 1 R18 680
 47: 27 4 R28,R29,R30,R31 22K
 48: 28 5 R42,R43,R44,R45,R46 511
 49: 29 1 R47 470K
 50: 30 1 R51 50K
 51: 31 2 R54,R53 12K
 52: 32 1 S1 SW DIP-8
 53: 33 2 U13,U1 74HC574
 54: 34 1 U2 M65831P
 55: 35 3 U3,U6,U20 MC34072
 56: 36 1 U4 74HC4053
 57: 37 3 U5,U7,U8 14053
 58: 38 1 U9 27512
 59: 39 1 U10 AD558
 60: 40 1 U11 74HC573
 61: 41 1 U12 68HC11E1FN
 62: 42 1 U14 74HC138
 63: 43 1 U15 74HC32
 64: 44 1 U16 74HC21

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65: 45	1	U17	74HC04
66: 46	1	U18	DS1275
67: 47	1	U19	M-8870
68:			