ASSEMBLY INSTRUCTIONS

1. U36 AND U37 MUST BE ELECTRICALLY ISOLATED, BUT THERMALLY CONNECTED FROM TOP LAYER GROUND PLANE.
2. PUT A JUMPER WIRE BETWEEN PINS 1 AND 2 OF U37, PIN 1 IS CONNECTED TO C59 AND C499.
3. INSTALL JUMPER WIRES BETWEEN THE FOLLOWING EPOINTS:
   A) E185 TO E188, E190 TO E130, E171 TO E166, E170 TO E164, E172 TO E168, E151 TO E156, E150 TO E154, E160 TO E158, E136 TO E186, E117 TO E118, E129 TO E126, E178 TO E175.
   (NOTE: ON THE ABOVE, THIS PROCEDURE TIES THE SHIELDS OF THE DETECTOR CABLES TO AGND)
   B) E197 TO E199, E200 TO E202, E194 TO E196, E191 TO E193, E206 TO E208, E203 TO E205, E212 TO E214, E209 TO E211, E218 TO E220, E215 TO E217, E224 TO E226, E221 TO E223, E230 TO E232, E227 TO E229, E236 TO E238, E233 TO E235.
   (NOTE: THIS TIES SERIAL CONTROL ON PREAMP ASIC'S TO GROUND, AGND)
   C) FOR U1 THROUGH U8, EACH OF THE FOLLOWING GROUPS OF CAPACITORS MUST BE SHORTED TOGETHER AND TIED TO THE NEAREST AGND VIA THROUGH THE LARGE VIAS ATTACHED TO THE CAPACITORS ON THE BOTTOM SIDE OF THE BOARD. MOST OF THE LARGE VIAS ARE LOCATED NEXT TO THE SILKSCREEN REFERENCE DESIGNATOR OF THE CAPACITOR:
   (SEE DETAIL A ON SHEET 1)
      I) U1 CAPACITORS: C231, C245, C259, C273, C287, C301, C315, C329.
      II) U2 CAPACITORS: C232, C246, C260, C274, C288, C302, C316, C330.
      III) U3 CAPACITORS: C233, C247, C261, C275, C289, C303, C317, C331.
      IV) U4 CAPACITORS: C234, C248, C262, C276, C290, C304, C318, C332.
      V) U5 CAPACITORS: C235, C249, C263, C277, C291, C305, C319, C333.
      VI) U6 CAPACITORS: C236, C250, C264, C278, C292, C306, C320, C334.
      VII) U7 CAPACITORS: C237, C251, C265, C279, C293, C307, C321, C335.
      VIII) U8 CAPACITORS: C24, C26, C28, C30, C32, C34, C36, C38.

ITEM	PART NO.	QTY.	DESCRIPTION
21	R74-R76,R78,R80,	13	RES., 0 OHM, CRCW0805-000, DALE
	R81,R84,R88,R97,		
	R145-R148		
22	R85,R109-R115	8	RES., 3, CRCW0805-3R0J, DALE
23	R86,R117-R122,	8	RES., 20, CRCW0805-200, DALE
	R150		
24	R89,R125-R131,	12	RES., 1, CRCW0805-1R0J, DALE
	R168-R171		
25	R90,R91,R174	3	RES., 120, CRCW0805-121J, DALE
26	R92	1	RES., 2.4K, CRCW0805-242J, DALE
27	R93-R96,R106,R107,	8	RES., 10K, CRCW0805-103J, DALE
	R172,R173		
28	R98	1	RES., 2K, CRCW0805-202J, DALE
29	R99,R138	2	RES., 22, CRCW0805-220J, DALE
30	R100	1	RES., 43K, CRCW0805-433J, DALE
31	R101,R149	2	RES., 1K, CRCW0805-102J, DALE
32	R105,R108,R133-	6	RES., (NOT USED)
	R136		
33	R132	1	RES., 0.1, RM2512, IRC
34	R158,R161-R167	8	RES., 51K, CRCW0805-513J, DALE
35	R159,R160	2	RES., 91, CRCW0805-910J, DALE
36	R175	1	RES., 360, CRCW0805-361J, DALE
37	RP1,RP2,RP12-RP19,	11	RES., 22, PRN110-16-22R0J, CMD
	U38		
38	RP3,U39-U42	5	RES., 10K, PRN110-16-1002J, CMD
39	RP4-RP11	8	RES., 100, PRN110-16-1000J, CMD
40	U1-U8	8	I.C., 8CHPREAMP, ORNL
41	U9-U12	4	I.C., SN74AHCT16245DL
42	U13	1	I.C., HS-2870-200MHZ, NEL FREQ CONT
43	U16-U20	5	I.C., 74ALS08, TI
44	U21	1	I.C., 74ALS32, TI
45	U22	1	I.C., 74ALS86, TI
46	U23,U24	2	I.C., AMUADC, ORNL
47	U25,U26	2	I.C., CRYS32, SPT2, SEIKO
48	U27,U28	2	I.C., DS2437S, DALLAS SEMI
49	U32-U34,V1	4	I.C., REF43GS, ANA DEV
50	U36	1	I.C., MIC29300-5.0BU, MICREL
51	U37	1	I.C., MIC29302BU, 5 PIN, MICREL
52	400-062 BGV	2	CARD EJECTOR, ELECTRO SPACE FABRICATION

ITEM	PART NO.	QTY.	DESCRIPTION
1		1	P.C.DETAIL
2		REF	SCHEMATIC
3	C2-C38,C48-C56,C65-	305	CAP., 0.1UF, C0805, KEMET
	C77,C98-C102,C105-		
	C335,C340,C342,		
	C557,C559-C565		
4	C39-C45,C57-C64,	37	CAP., 0.01UF, C0805, KEMET
	C78-C97,C103,C104		
5	C341,C343-C349,	24	CAP., 100UF, T491D, AVX
	C494,C528-C534,		
	C542-C549		
6	C439,C441,C442,	40	CAP., 6.8UF, T491B, AVX
	C445-C453,C461-		
	C488		
7	C440,C454-C460	8	CAP., 47UF, T491D, AVX
8	C443,C444	2	CAP., 4.7UF, T491B, AVX
9	C489,C490,C496,	9	CAP., 10.0UF, T491C, AVX
	C501-C506		
10	C495,C514,C536-	8	CAP., NU, T491D
	C541		
11	C497,C499,C550-	11	CAP., 22UF, T491C, AVX
	C556,C573,C574		
12	C558,C566-C572	8	CAP., 0.22UF, C0805, KEMET
13	D1	1	DIODE, LM385BD-2.5, NATL SEMI
14	E1-E18,E20-E26,E28-	201	EPOINT, PAD ONLY
	E68,E70-E77,E87-		
	E94,E108-E123,E126,		
	E127,E129-E148,		
	E150,E151,E154-		
	E160,E164-E172,		
	E175,E176,E178-E238		
15	F1	1	FUSE, RGE300, POLYFUSE
16	P1	1	CONN., 70230-111, BERG
17	P2	1	CONN., 905-72178F, BICC-VERO
18	R1,R102,R104,R139-	9	RES., 100, CRCW0805-101J, DALE
	R144		
19	R54-R61	8	RES., 5.1 MEG, CRCW0805-515J, DALE
20	R73,R77,R79,R82,	8	RES., 15, CRCW0805-150J, DALE
	R83,R87,R123,R124		

NOTES:

1. ASSEMBLE AND SOLDER PER IPC-6012, CLASS II.
2. MARK APPROXIMATELY AS SHOWN WITH CONTRASTING COLOR USING 1/8 INCH HIGH CHARACTERS.(COVER WITH CONFORMAL COAT)

REVISION LETTER	CLASS REVIEW	REVISIONS	DATE	CHANGED BY	CHECKED BY	APPROVED BY
E		ADDED CARD EJECTORS	6/22/00	GS		
D		BILL OF MATERIAL CHANGES.	4/18/00	GS		
C		VALUE OF R145-R148 WAS 1 OHM.	4/10/00	GS		
B		REDESIGNED	3-7-00	G.S.		
A		REDESIGNED	11-9-99	G.S.		
		ORIGINAL ISSUE				

LOS ALAMOS
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO 87545

CLASSIFICATION OF DRAWING: UNCL
PART: UNCL TITLE BLOCK: UNCL

TITLE
CROC
CATHODE READOUT
ASSEMBLY

	SIGNATURE	DATE	GROUP
ORIGINATED	M.CAFFERTY	4/26/99	NIS-4
DRAWN	G.R.	4/26/99	NIS-4
CHECKED			
PROJ. ENGR.			
APPROVED			
RELEASED			

.X= +/-____ 0.XX= +/-____ ANGULAR= +/-____
0.X= +/-____ 0.XXX= +/-____ FINISH= +/-____

SCALE	TOTAL SHEETS	DRAWING NO.	SIZE	SHEET NO.
2/1	2	10Y-226430	D2-B	