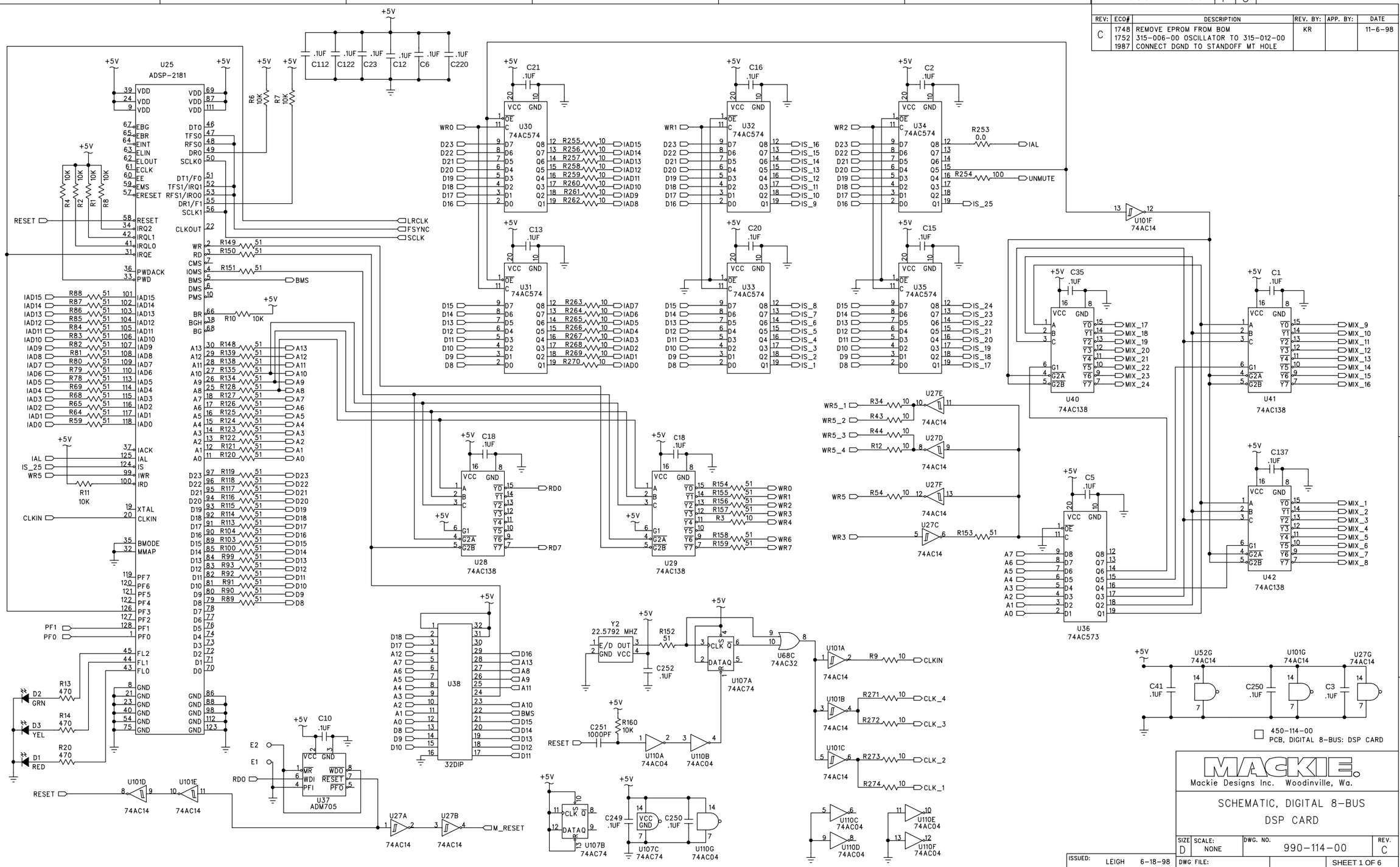
DWG. NO.	SHT	REV:
990-114-00	1	C

REV:	ECO#	DESCRIPTION	REV. BY:	APP. BY:	DATE
C	1748	REMOVE EPROM FROM BOM	KR		11-6-98
	1752	315-006-00 OSCILLATOR TO 315-012-00			
	1987	CONNECT DGND TO STANDOFF MT HOLE			



MACKIE.
Mackie Designs Inc. Woodinville, Wa.

SCHEMATIC, DIGITAL 8-BUS
DSP CARD

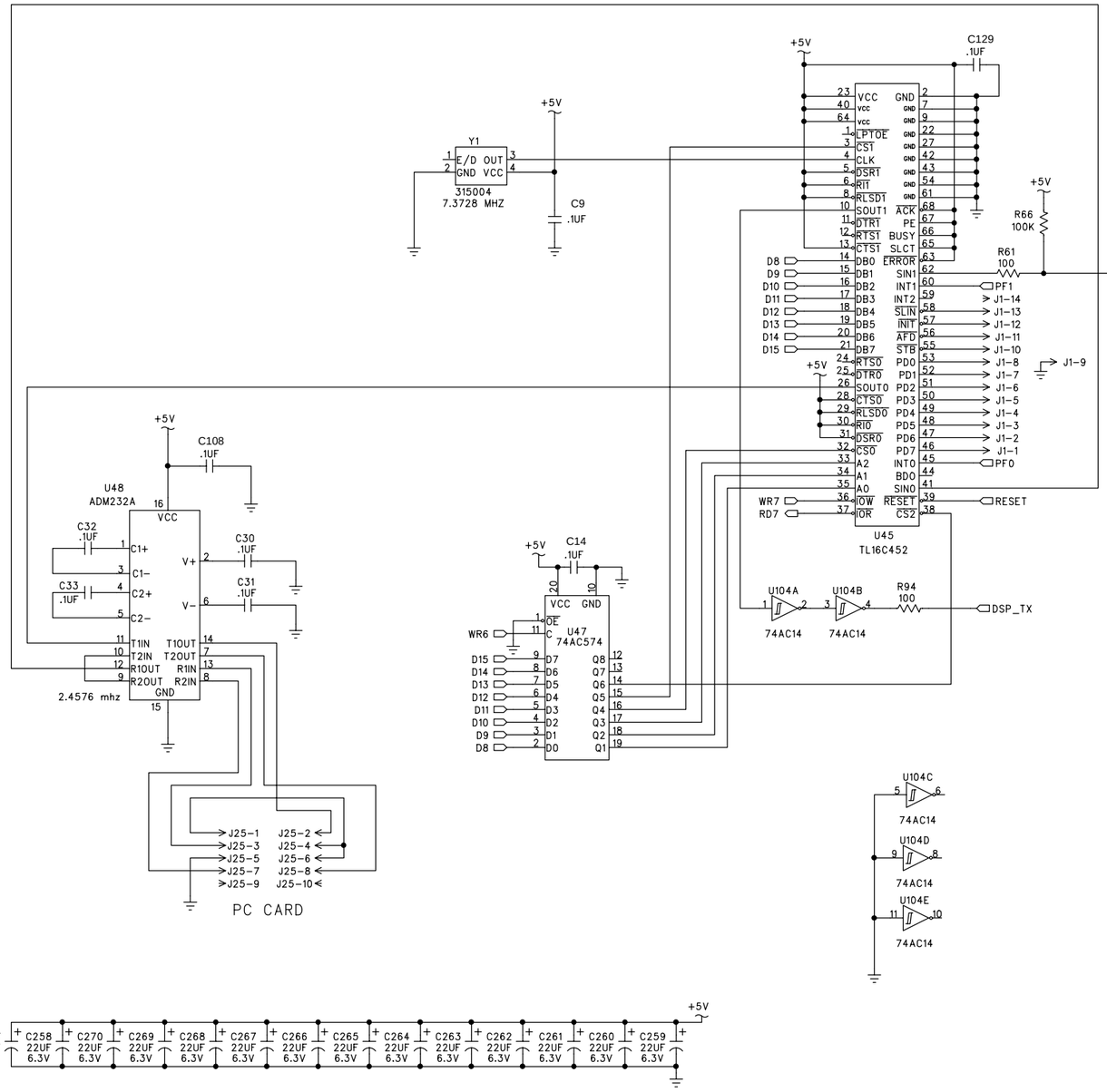
SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-114-00	C

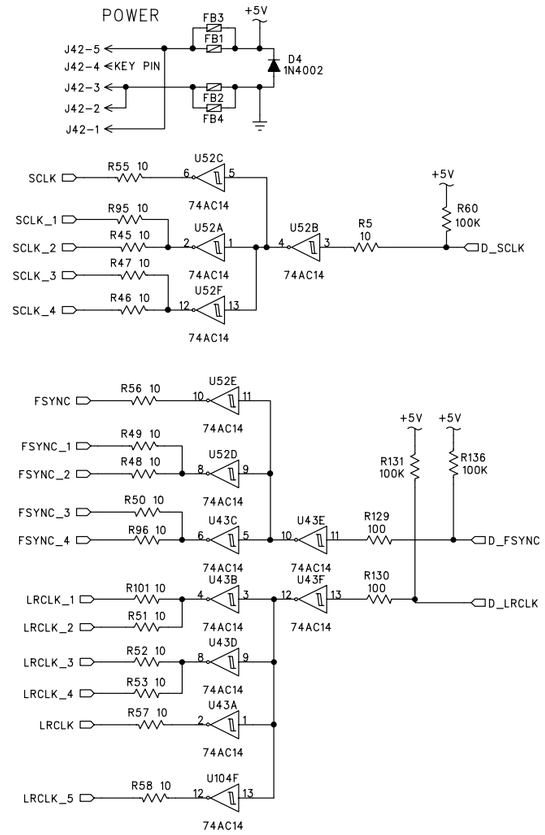
ISSUED: LEIGH 6-18-98 | DWG FILE: | SHEET 1 OF 6

ALL BOARDS

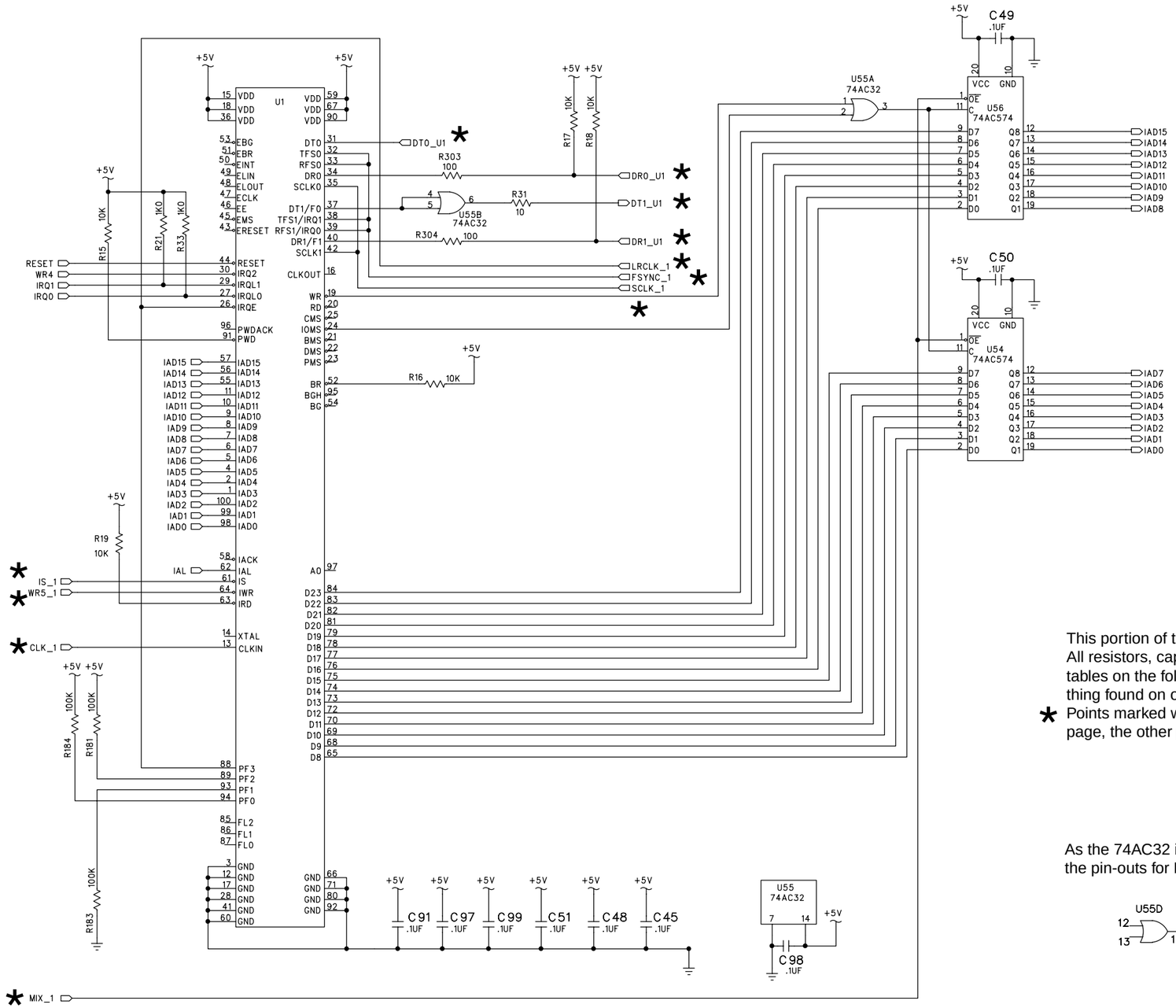
DWG. NO.	SHT	REV:
990-114-00	2	C

ECO#	REV:	DESCRIPTION	REV. BY:	APP. BY:	DATE





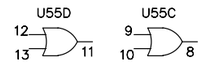
Mackie Designs Inc. Woodinville, Wa.	
SCHEMATIC, DIGITAL 8-BUS DSP CARD	
SIZE: D	SCALE: NONE
DWG. NO.	990-114-00
REV.	C
DWG FILE:	SHEET 2 OF 6



This portion of the DSP board repeats 24 times with only small variations.
All resistors, caps and ICs have different reference designators as shown in the tables on the following pages. Sadly, dear reader, they do not follow the usual 100's thing found on other boards.

* Points marked with an asterix also change label as shown in the table on the next page, the other points do not change label.

As the 74AC32 is shared with two DSP channels, the pin-outs for D and C are like this:



Mackie Designs Inc. Woodinville, Wa.

SCHEMATIC, DIGITAL 8-BUS
DSP CARD

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-114-00	C
DWG FILE:		SHEET 3 OF 6	

This table from Hull shows the difference in reference designators and labels between the DSP schematics. To use it, first look at the schematic showing U1 on the previous page and look for the component of interest. For example:

To find the resistor in the U17 circuit which does the same thing as R184 in the U1 circuit:

Look on the top row (U1) for R184 (circled) and then go down that column until you find the resistor for the U17 circuit, which is R623.

There are a few points:

Only the U1 circuit uses R21 and R33.

Only the U15 circuit has one less IC.

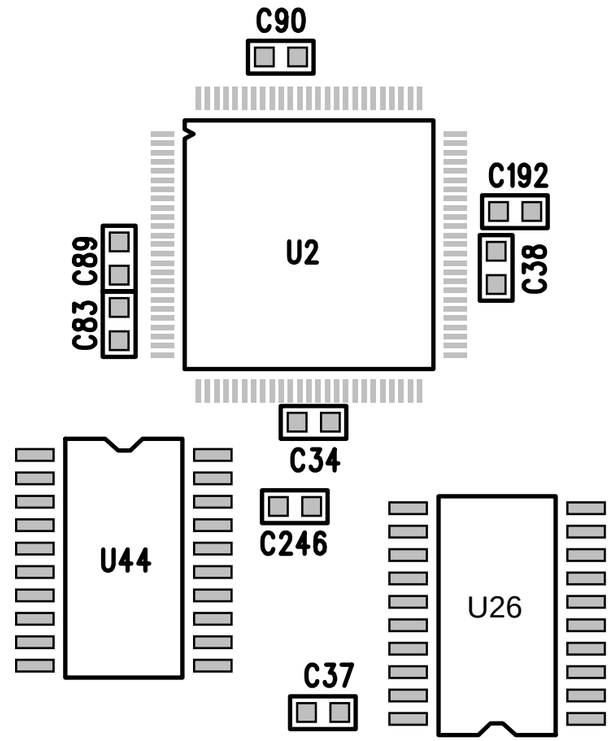
NC stands for No Connection, or not connected, or just plain not there.

NL stands for No Label, that is, the junction shown in the U1 schematic is still there but it has no label.

shown																													
	U1	U55B	U55A	U56	U54	R21	R33	R15	R19	R184	R181	R183	R303	R31	R304	R16	R17	R18	IS_1	WR5_1	CLK_1	MIX_1	DTO_U1	DRO_U1	DT1_U1	DR1_U1	LRCLK_1	FSYNC_1	SCLK_1
	U2	U49A	U49B	U44	U26	NC	NC	R22	R26	R186	R182	R185	R327	R32	R328	R23	R24	R25	IS_2	"	"	MIX_2	DTO_U2	DRO_U2	DT1_U2	DR1_U2	"	"	"
	U3	U55D	U55C	U50	U39	"	"	R35	R39	R42	R40	R41	R62	R67	R63	R36	R37	R38	IS_3	"	"	MIX_3	DTO_U3	DRO_U3	DT1_U3	DR1_U3	"	"	"
	U4	U49C	U49D	U57	U51	"	"	R70	R74	R77	R75	R76	R97	R102	R98	R71	R72	R73	IS_4	"	"	MIX_4	DTO_U4	DRO_U4	DT1_U4	DR1_U4	"	"	"
	U5	U53A	U53B	U60	U58	"	"	R105	R109	R112	R110	R111	R132	R137	R133	R106	R107	R108	IS_5	"	"	MIX_5	DTO_U5	DRO_U5	DT1_U5	DR1_U5	"	"	"
	U6	U59B	U59A	U63	U61	"	"	R140	R144	R147	R145	R146	R167	R172	R168	R141	R142	R143	IS_6	"	"	MIX_6	DTO_U6	DRO_U6	DT1_U6	DR1_U6	"	"	"
	U7	U53D	U53C	U66	U64	"	"	R175	R179	R188	R180	R187	R208	R213	R209	R176	R177	R178	IS_7	WR5_2	CLK_2	MIX_7	DTO_U7	DRO_U7	DT1_U7	DR1_U7	LRCLK_2	FSYNC_2	SCLK_2
	U8	U59C	U59D	U69	U67	"	"	R216	R220	R223	R221	R222	R243	R248	R244	R217	R218	R219	IS_8	"	"	MIX_8	DTO_U8	DRO_U8	DT1_U8	DR1_U8	"	"	"
	U9	U62A	U62B	U72	U70	"	"	R251	R340	R343	R341	R342	R363	R368	R364	R252	R338	R339	IS_9	"	"	MIX_9	DTO_U9	DRO_U9	DT1_U9	DR1_U9	"	"	"
	U10	U65A	U65B	U75	U73	"	"	R371	R375	R378	R376	R377	R398	R403	R399	R372	R373	R374	IS_10	"	"	MIX_10	DTO_U10	DRO_U10	DT1_U10	DR1_U10	"	"	"
	U11	U62C	U62D	U78	U76	"	"	R406	R410	R413	R411	R412	R433	R438	R434	R407	R408	R409	IS_11	"	"	MIX_11	DTO_U11	DRO_U11	DT1_U11	DR1_U11	"	"	"
	U12	U65C	U65D	U81	U79	"	"	R441	R445	R448	R446	R447	R468	R473	R469	R442	R443	R444	IS_12	"	"	MIX_12	DTO_U12	DRO_U12	DT1_U12	DR1_U12	"	"	"
	U13	U68A	U68B	U84	U82	"	"	R476	R480	R483	R481	R482	R503	R508	R504	R477	R478	R479	IS_13	WR5_3	CLK_3	MIX_13	DTO_U13	DRO_U13	DT1_U13	DR1_U13	LRCLK_3	FSYNC_3	SCLK_3
	U14	U71A	U71B	U87	U85	"	"	R511	R515	R518	R516	R517	R538	R543	R539	R512	R513	R514	IS_14	"	"	MIX_14	DTO_U14	DRO_U14	NL	NL	"	"	"
	U15	NC	U68D	U90	U88	"	"	R546	R550	R553	R551	R552	R573	NC	R574	R547	R548	R549	IS_15	"	"	MIX_15	DTO_U15	DRO_U15	NC	METER_DR	"	"	"
	U16	U71C	U71D	U93	U91	"	"	R581	R585	R588	R586	R587	R608	R613	R609	R582	R583	R584	IS_16	"	"	MIX_16	DTO_U16	DRO_U16	NL	NL	"	"	"
	U17	U74A	U74B	U96	U94	"	"	R616	R620	R623	R621	R622	R643	R648	R644	R617	R618	R619	IS_17	"	"	MIX_17	DTO_U17	DRO_U17	"	"	"	"	"
	U18	U77A	U77B	U99	U97	"	"	R651	R655	R658	R656	R657	R678	R683	R679	R652	R653	R654	IS_18	"	"	MIX_18	DTO_U18	DRO_U18	"	"	"	"	"
	U19	U74C	U74D	U102	U100	"	"	R686	R690	R693	R691	R692	R713	R718	R714	R687	R688	R689	IS_19	WR5_4	CLK_4	MIX_19	DTO_U19	DRO_U19	"	"	LRCLK_4	FSYNC_4	SCLK_4
	U20	U77C	U77D	U105	U103	"	"	R721	R725	R728	R726	R727	R748	R753	R749	R722	R723	R724	IS_20	"	"	MIX_20	DTO_U20	DRO_U20	"	"	"	"	"
	U21	U80A	U80B	U108	U106	"	"	R756	R760	R763	R761	R762	R783	R788	R784	R757	R758	R759	IS_21	"	"	MIX_21	DTO_U21	DRO_U21	"	"	"	"	"
	U22	U83A	U83B	U111	U109	"	"	R791	R795	R798	R796	R797	R818	R823	R819	R792	R793	R794	IS_22	"	"	MIX_22	DTO_U22	DRO_U22	"	"	"	"	"
	U23	U80C	U80D	U114	U112	"	"	R826	R830	R833	R831	R832	R853	R858	R854	R827	R828	R829	IS_23	"	"	MIX_23	DTO_U23	DRO_U23	"	"	"	"	"
	U24	U83C	U83D	U117	U115	"	"	R861	R865	R868	R866	R867	R888	R893	R889	R862	R863	R864	IS_24	"	"	MIX_24	DTO_U24	DRO_U24	"	"	"	"	"

These are the bypass capacitors for each IC (reading along the row), connected between ground and +5volts.
The schematic on sheet 3 shows the location of the caps for U1, U55, U56 and U54.
The portion of the PCB shown on this page is for U2, U44 and U26. The caps are grouped in the same pattern for most of the 24 repeats.
Look in the table to find the caps for other ICs.
You can also see which ICs go together, for example, U1 is used with U55, U56 and U54, reading along the row.

U1	C91	C97	C99	C51	C48	C45	U55	C98	U56	C49	U54	C50
U2	C89	C83	C34	C38	C192	C90	U49	C56	U44	C246	U26	C37
U3	C40	C28	C43	C27	C53	C65			U50	C54	U39	C55
U4	C60	C88	C245	C195	C201	C62			U57	C61	U51	C63
U5	C36	C185	C68	C186	C187	C59	U53	C72	U60	C69	U58	C70
U6	C67	C73	C244	C202	C203	C75	U59	C95	U63	C78	U61	C71
U7	C179	C169	C170	C107	C171	C58			U66	C86	U64	C84
U8	C79	C76	C92	C208	C209	C74			U69	C94	U67	C77
U9	C102	C177	C85	C176	C178	C57	U62	C100	U72	C110	U70	C103
U10	C218	C217	C93	C211	C210	C81	U65	C111	U75	C29	U73	C87
U11	C104	C101	C116	C106	C105	C66			U78	C119	U76	C118
U12	C237	C120	C39	C126	C124	C82			U81	C109	U79	C127
U13	C115	C161	C132	C114	C163	C158	U68	C133	U84	C117	U82	C135
U14	C238	C125	C243	C143	C173	C134	U71	C152	U87	C142	U85	C140
U15	C136	C113	C148	C160	C162	C52			U90	C166	U88	C151
U16	C235	C236	C96	C224	C219	C159			U93	C141	U91	C156
U17	C149	C150	C46	C154	C155	C47	U74	C165	U96	C182	U94	C164
U18	C167	C175	C157	C193	C194	C190	U77	C184	U99	C172	U97	C17
U19	C153	C147	C183	C146	C180	C168			U102	C198	U100	C199
U20	C225	C226	C240	C230	C231	C174			U105	C188	U103	C189
U21	C131	C181	C214	C197	C145	C42	U80	C200	U108	C215	U106	C196
U22	C227	C228	C241	C229	C232	C206	U83	C191	U111	C205	U109	C204
U23	C138	C121	C212	C139	C144	C44			U114	C213	U112	C223
U24	C207	C239	C242	C233	C234	C222			U117	C216	U115	C221
GND PIN	12	17	41	60	66	92	GND PIN	7	GND PIN	10	GND PIN	10
+5v PIN	15	18	36	59	67	90	+5v PIN	14	+5v PIN	20	+5v PIN	20



This pattern is repeated 24 times