LINEAR STANDARD COMPONENTS LIBRARY

Schematic Symbols

Preliminary

July 1985

p-cad®
PERSONAL CAD SYSTEMS INC.

000-0091-00

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OVERVIEW

This manual and the three Linear Standard Components Schematic Symbol Diskettes comprise the P-CAD Linear Standard Components Schematic Symbols Library. The library has been developed at the request of our users, and we welcome any suggestions for improvements or additions.

The library diskettes contain the following files for use with the PC-CAPS schematic capture program:

- Layer structure file, LAYS.SCH
- Standard-size drawing sheet files, ASIZE.SCH through ESIZE.SCH
- Component files

Storage of these files in a practical and efficient directory structure is discussed in the next section of this manual. The following section, "Creating a Design", tells you how to use the files with PC-CAPS.

The remainder of the manual is devoted to lists of components by sequence and function, component pin sequences, and component plots.

DIRECTORY STRUCTURE

For more efficient storage and easier access to the library, P-CAD recommends that you store the library components within a directory structure tailored to your particular applications and design methods. An example of an efficient directory structure is shown in Figure 1.

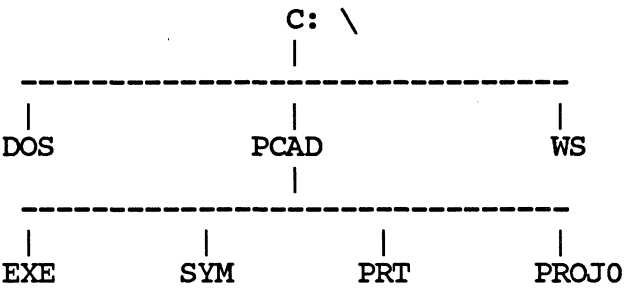


Figure 1. Sample Directory Structure

In this example, symbols are stored in the SYM directory and parts are stored in the PRT directory. For each symbol there is a corresponding part in the Linear Standard Components Packaged Parts Library.

CREATING A DESIGN

To use the library in a design, run PC-CAPS. Instructions are given in the Tutorial section of your PC-CAPS User's Manual. When the menu is displayed, select FILE/LOAD and load the layer structure. You can load LAYS.SCH or one of the standard-size drawing sheet files, ASIZE.SCH through ESIZE.SCH.

Layer Structure

The following layer structure, LAYS.SCH, is a standard P-CAD layer structure and was used to create the library components.

Layer	Name	Pen	Status	Use
1	WIRES	1	OFF	Interconnecting wires
2	BUS	1	OFF	Interconnecting busses/wires
3	GATE	2	ABL	Gate geometry/symbol
4	IEEE	2	OFF	Not used
5	PINFUN	3	OFF	Not used
6	PINNUM	1	ABL	Pin numbers
7	PINNAM	6	ABL	Pin names

Layer	Name	Pen	Status	Use
8	PINCON	4	ABL	Pin connections (dot)
9	REFDES	2	ABL	Reference Designator
10	ATTR	6	OFF	Not used
11	SDOT	1	OFF	Not used
12	DEVICE	5	ABL	Device Name

Drawing Sheets

The standard-size drawing sheet files, ASIZE.SCH through ESIZE.SCH, were created using the LAYS.SCH layer structure. When loaded, they provide the correct layer structure for the library plus a standard-size drawing sheet border.

Components

When you have loaded your layer structure or drawing sheet file, you can enter the symbols, wires, text, instances, and net names. Complete instructions are given in the Tutorial section of your PC-CAPS User's Manual. Each PC-CAPS component contains the electrical "intelligence" required to create schematics and extract data.

COMPONENT LIST BY SEQUENCE

The component filename is the component number plus the extension .SYM; for example, AD7530.SYM. "Plot Page" refers to the plots in the last section of this manual.

COMPONENT LIST BY FUNCTION

The component filename is the component number plus the extension .SYM; for example, LM304H.SYM.

Voltage Regulators

LM304H	Negative regulator
LM305AH	Voltage regulator
LM376N	Voltage regulator
LM309H	5-volt regulator
LM309K	5-volt regulator
LM317H	3-terminal adjustable regulator
LM317K	3-terminal adjustable regulator
LM317T	3-terminal adjustable regulator
LM317MP	3-terminal adjustable regulator
LM323K	3-amp, 5-volt positive regulator
LM325AN	Voltage regulator
LM326H	Voltage regulator
LM337H	3-terminal adjustable negative regulator
LM337K	3-terminal adjustable negative regulator

Voltage Regulators (Cont'd)

LM337T	3-terminal adjustable negative regulator
LM337MP	3-terminal adjustable negative regulator
LM338K	5-amp adjustable power regulator
LM340AK	Series 3-terminal positive regulator
LM340AT	Series 3-terminal positive regulator
LM340LAH	1-series 3-terminal positive regulator
LM340LAZ	1-series 3-terminal positive regulator
LM345K	Negative 3-amp regulator
LM350K	3-amp adjustable power regulator
LM350T	3-amp adjustable power regulator
LM396K	10-amp adjustable voltage regulator
LM317LZ	3-terminal adjustable regulator
LM320LZ	Series 3-terminal negative regulator

Voltage Regulators (Cont'd)

LM320MLP	Series 3-terminal negative regulator
LM330T	3-terminal positive regulator
LM337LZ	3-terminal adjustable regulator
LM341P5	Series 3-terminal positive regulator
LM341P12	Series 3-terminal positive regulator
LM341P15	Series 3-terminal positive regulator
LM342P5	Series 3-terminal positive regulator
LM342P12	Series 3-terminal positive regulator
LM342P15	Series 3-terminal positive regulator
LM723CN	Voltage regulator
LM3524J	Regulating pulse width modulator
LM3524N	Regulating pulse width modulator
LM7805CT	Series voltage regulator
LM7812CT	Series voltage regulator

Voltage Regulators (Cont'd)

LM7815CT	Series voltage regulator
LM7805CK	Series voltage regulator
LM7812CK	Series voltage regulator
LM7815CK	Series voltage regulator
(LM)78L05ACH	Series 3-terminal positive regulator
(LM)78L12ACH	Series 3-terminal positive regulator
(LM)78L15ACH	Series 3-terminal positive regulator
(LM)78L05ACZ	Series 3-terminal positive regulator
(LM)78L12ACZ	Series 3-terminal positive regulator
(LM)78L15ACZ	Series 3-terminal positive regulator
(LM)78M05CP	Series 3-terminal positive regulator
(LM)78M12CP	Series 3-terminal positive regulator
(LM)78M15CP	Series 3-terminal positive regulator
LM7905CK	Series 3-terminal negative regulator

Voltage Regulators (Cont'd)

LM7912CK	Series 3-terminal negative regulator
LM7915CK	Series 3-terminal negative regulator
LM7905CT	Series 3-terminal negative regulator
LM7912CT	Series 3-terminal negative regulator
LM7915CT	Series 3-terminal negative regulator
(LM)79L05ACZ	Series 3-terminal negative regulator
(LM)79L12ACZ	Series 3-terminal negative regulator
(LM)79L15ACZ	Series 3-terminal negative regulator
(LM)79M05CH	Series 3-terminal negative regulator
(LM)79M12CH	Series 3-terminal negative regulator
(LM)79M15CH	Series 3-terminal negative regulator
(LM)79M05CP	Series 3-terminal negative regulator

Voltage Regulators (Cont'd)

(LM)79M12CP	Series 3-terminal negative regulator
(LM)79M15CP	Series 3-terminal negative regulator

Voltage References

LM313H	Reference diode
LM329H	Precision reference
LM329Z	Precision reference
LM336Z25	2.5-volt reference diode
LM336H25	2.5-volt reference diode
LM336Z50	5.0-volt reference diode
LM336H50	5.0-volt reference diode
LM385Z12	MicroPower voltage reference diode
LM385H12	MicroPower voltage reference diode
LM385Z25	MicroPower voltage reference diode
LM385H25	MicroPower voltage reference diode
LM339AH	Precision reference

Operational Amplifiers/Buffers

LF347N	Wide-bandwidth quad JFET input operational amplifier
LF355N	Monolithic JFET input operational amplifier
LF356N	Monolithic JFET input operational amplifier
LF351N	Wide-bandwidth JFET input operational amplifier
LF353N	Wide-bandwidth dual JFET input operational amplifier
LF400C	Fast settling JFET input operational amplifier
LM10CN	operational amplifier and voltage reference
LM11CLN	Operational amplifier
LM301AN	Operational amplifier
LM302H	Voltage follower
LM307N	Operational amplifier
LM308N	Operational amplifier
LM308AN	Operational amplifier
LM310N	Voltage follower
LM318N	Operational amplifier

Operational Amplifiers/Buffers (Cont'd)

LM324AN	Low-power quad operational amplifier
LM343H	High-voltage operational amplifier
LM344H	High-voltage, high slew rate operational amplifier
LM346N	Programmable quad operational amplifier
LM149N	Series quad 741 operational amplifier
LM358N	Low-power dual operational amplifier
LM359N	Dual high-speed programmable, current mode (Norton) amplifier
LM392N	Low-power operational amplifier/voltage comparator
LM725CN	(Instrumentation) operational amplifier
LM741CN	Operational amplifier
LM748CN	Operational amplifier
LM1458N	Dual operational amplifier
LM3900N	Quad amplifier
LM3301N	Quad amplifier

Operational Amplifiers/Buffers (Cont'd)

LM3401N	Quad amplifier
LM363D	Precision instrumentation amplifier

Voltage Comparators

LM319N	High-speed dual comparator
LM339AN	Low-power low-offset voltage quad comparator
LM360N	High-speed differential comparator
LM361N	High-speed differential comparator
LM393AN	Low-power low-offset voltage dual comparator
LM311N	Voltage comparator

Analog Switches

LF13201D	4 normally closed switches
LF13202D	4 normally open switches
LF13508D	8-channel analog multiplexer
LF13509D	4-channel differential analog multiplexer

Sample and Hold

LF398AN	Monolithic sample and hold circuit

A/D and D/A Converters

AD7530	10-bit binary multiplying D/A converter
AD7531	12-bit binary multiplying D/A converter
ADB1200	12-bit binary A/D building block
ADC0800	8-bit A/D converter
ADC0801	8-bit microprocessor compatible A/D converter
ADC0802	8-bit microprocessor compatible A/D converter
ADC0803	8-bit microprocessor compatible A/D converter
ADC0804	8-bit microprocessor compatible A/D converter
ADC0805	8-bit microprocessor compatible A/D converter
ADC0808	8-bit microprocessor compatible A/D converter with 8-channel multiplexer

A/D and D/A Converters (Cont'd)

ADC0809	8-bit microprocessor compatible A/D converter with 8-channel multiplexer
ADC0816	8-bit microprocessor compatible A/D converter with 16-channel multiplexer
ADC0817	8-bit microprocessor compatible A/D converter with 16-channel multiplexer
ADC0833	8-bit serial I/O A/D converter with 4-channel multiplexer
ADC1021	10-bit microprocessor compatible A/D converter
ADC1080	12-bit successive approximation A/D converter
ADC1280	12-bit successive approximation A/D converter
DAC0808	8-bit D/A converter
DAC0830	8-bit microprocessor compatible double-buffered D/A converter
DAC0831	8-bit microprocessor compatible double-buffered D/A converter

A/D and D/A Converters (Cont'd)

DAC0832	8-bit microprocessor compatible double-buffered D/A converter
DAC1000	Microprocessor compatible double-buffered D/A converter
DAC1001	Microprocessor compatible double-buffered D/A converter
DAC1002	Microprocessor compatible double-buffered D/A converter
DAC1006	Microprocessor compatible double-buffered D/A converter
DAC1007	Microprocessor compatible double-buffered D/A converter
DAC1008	Microprocessor compatible double-buffered D/A converter
DAC1022	10-bit binary multiplying D/A converter
DAC1222	12-bit binary multiplying D/A converter
DAC1201	12-bit D/A converter
DAC1208	12-bit microprocessor compatible, double-buffered D/A converter

A/D and D/A Converters (Cont'd)

DAC1219	12-bit binary multiplying D/A converter
LM331AN	Precision voltage-to-frequency converter

Industrial Blocks

LM322H	Precision timer
LM322N	Precision timer
LM3905N	Precision timer
LM334H	3-terminal adjustable current source
LM334Z	3-terminal adjustable current source
LM555CN	Timer
LM555CH	Timer
LM556CN	Dual timer
LM565CN	Phase-locked loop
LM565CH	Phase-locked loop
LM566CN	Voltage controlled oscillator
LM567CN	Tone decoder
LM567CH	Tone decoder
LM733CN	Differential video amplifier

Industrial Blocks (Cont'd)

LM733CH	Differential video amplifier
LM3911N	Temperature controller
LM3914N	Dot/bar display driver
LM3915N	Dot/bar display driver
LM3916N	Dot/bar display driver
MF10CN	Universal Monolithic dual-switched capacitor filter

Audio/Radio Circuits (Cont'd)

LM377N	Dual 2-Watt audio amplifier
LM378N	Dual 4-Watt audio amplifier
LM379S	Dual 6-Watt audio amplifier
LM380N-8	Audio power amplifier
LM381AN	Low-noise dual preamplifier
LM382N	Low-noise dual preamplifier
LM383AT	7-Watt audio power amplifier
LM386N	Low-voltage audio power amplifier
LM387AN	Low-noise dual preamplifier
LM388N	1.5-Watt audio power amplifier

Audio/Radio Circuits (Cont'd)

LM389N	Low-voltage audio power amplifier with NPN transistor array
LM390N	1-Watt battery-operated audio power amplifier
LM391N	Audio power driver
LM1035	Dual DC-operated tone/volume/balance circuit
LM1037	Dual 4-channel analog switch
LM1038	Dual 4-channel analog switch
LM1310	Phase-locked loop FM stereo demodulator
LM1391N	Phase-locked loop block
LM1496N	Balanced modulator/demodulator
LM1496H	Balanced modulator/demodulator
LM1965	Advanced FM IF system
LM3011H	Wide-band amplifier
LM3089N	FM receiver IF system

Transistor/Diode Arrays

LM394H	Supermatch pair
LM395H	Ultra-reliable power transistor
LM395K	Ultra-reliable power transistor
LM3045N	Transistor array
LM3046N	Transistor array
LM3086N	Transistor array
LM3146N	High-voltage transistor array

COMPONENT PIN SEQUENCES

The component filename is the component number plus the extension .SYM; for example, LM304H.SYM.

LM304H:	ADJ	REF	REFSUP
	COMP	UNREGIN	CURRLIM
	BOOSTER	REGOUT	GND
LM305AH:	CURRLIM	BOOSTOUT	UNREGIN
	GND	REFBY	FEEDBK
	COMPDOWN	REGOUT	
LM376N:	CURRLIM	BOOSTOUT	UNREGIN
	GND	REFBY	FEEDBK
	REGOUT	COMP	
LM309H:	VIN	GND	VOUT
LM309K:	VIN	GND	VOUT
LM317H:	VIN	ADJ	VOUT
LM317K:	VIN	ADJ	VOUT
LM317T:	VIN	ADJ	VOUT
LM317MP:	VIN	ADJ	VOUT
LM323K:	VIN	GND	VOUT
LM325AN:	+BOOST	+VIN	VIN
	CURRLIM	SENSE	VOUT
	BOOST	REF	GND
	+CURRLIM	+SENSE	

COMPONENT PIN SEQUENCES (Cont'd)

LM326H:	+CURRLIM -VIN BOOST +SENSE	+BOOST CURRLIM REF	+VIN VOUT GND
LM337H:	VIN	ADJ	VOUT
LM337K:	VIN	ADJ	VOUT
LM337T:	VIN	ADJ	VOUT
LM337MP:	VIN	ADJ	VOUT
LM338K:	VIN	ADJ	VOUT
LM340AK:	VIN	GND	VOUT
LM340AT:	VIN	GND	VOUT
LM340LAH:	VIN	GND	VOUT
LM340LAZ:	VIN	GND	VOUT
LM345K:	VIN	GND	VOUT
LM350K:	VIN	ADJ	VOUT
LM350T:	VIN	ADJ	VOUT
LM396K:	VIN	ADJ	VOUT
LM317LZ:	VIN	ADJ	VOUT
LM320LZ:	VIN	GND	VOUT
LM320MLP:	VIN	GND	VOUT

COMPONENT PIN SEQUENCES (Cont'd)

LM330T:	VIN	GND	VOUT
LM337LZ:	VIN	ADJ	VOUT
LM341P5:	VIN	GND	VOUT
LM341P12:	VIN	GND	VOUT
LM341P15:	VIN	GND	VOUT
LM342P5:	VIN	GND	VOUT
LM342P12:	VIN	GND	VOUT
LM342P15:	VIN	GND	VOUT
LM723CN:	CURRLIM	CURSENS	INVIN
	NONINVIN	VREF	V-
	VZ	VOUT	VC
	V+	FREQCOMP	
LM3524J:	IN-	IN+	OSCOUT
	+CLSEN	-CLSEN	RT
	CT	GND	COMP
	SHTDN	E-A	C-A
	C-B	E-B	VIN
	VREF		
LM3524N:	IN-	IN+	OSCOUT
	+CLSEN	-CLSEN	RT
	CT	GND	COMP
	SHTDN	E-A	C-A
	C-B	E-B	VIN
	VREF		
LM7805CT:	VIN	GND	VOUT

COMPONENT PIN SEQUENCES (Cont'd)

LM7812CT:	VIN	GND	VOUT
LM7815CT:	VIN	GND	VOUT
LM7805CK:	VIN	GND	VOUT
LM7812CK:	VIN	GND	VOUT
LM7815CK:	VIN	GND	VOUT
78L05ACH:	VIN	GND	VOUT
78L12ACH:	VIN	GND	VOUT
78L15ACH:	VIN	GND	VOUT
78L05ACZ:	VIN	GND	VOUT
78L12ACZ:	VIN	GND	VOUT
78L15ACZ:	VIN	GND	VOUT
78M05CP:	VIN	GND	VOUT
78M12CP:	VIN	GND	VOUT
78M15CP:	VIN	GND	VOUT
LM7905CK:	VIN	GND	VOUT
LM7912CK:	VIN	GND	VOUT
LM7915CK:	VIN	GND	VOUT
LM7905CT:	VIN	GND	VOUT
LM7912CT:	VIN	GND	VOUT

COMPONENT PIN SEQUENCES (Cont'd)

LM7915CT:	VIN	GND	VOUT
79L05ACZ:	VIN	GND	VOUT
79L12ACZ:	VIN	GND	VOUT
79L15ACZ:	VIN	GND	VOUT
79M05CH:	VIN	GND	VOUT
79M12CH:	VIN	GND	VOUT
79M15CH:	VIN	GND	VOUT
79M05CP:	VIN	GND	VOUT
79M12CP:	VIN	GND	VOUT
79M15CP:	VIN	GND	VOUT
LM313H:	V+	V-	
LM329H:	V+	V-	
LM329Z:	V+	V-	
LM336Z25:	V+	V-	ADJ
LM336H25:	V+	V-	ADJ
LM336Z50:	V+	V-	ADJ
LM336H50:	V+	V-	ADJ
LM385Z12:	V+	V-	

COMPONENT PIN SEQUENCES (Cont'd)

LM385H12:	V+	V-	
LM385Z25:	V+	V-	
LM385H25:	V+	V-	
LM399AH:	+	-	V-
	V+		
LF347N:	OUT	IN-	IN+
	V+	V-	
LF355N:	OUT	IN-	IN+
	V+	V-	BAL1
	BAL2		
LF356N:	OUT	IN-	IN+
	V+	V-	BAL1
	BAL2		
LF351N:	OUT	IN-	IN+
	V+	V-	BAL1
	BAL2		
LF353N:	OUT	IN-	IN+
	V+	V-	
LF400C:	OUT	IN-	IN+
	V+	V-	RCL
	ADJ1	ADJ2	
LM10CN:	REFOUT	AMPIN-	AMPIN+
	V-	BALANCE	AMPOUT
	V+	REFFBK	

COMPONENT PIN SEQUENCES (Cont'd)

LM11CLN:	OUT	IN-	IN+
	V+	V-	BAL1
	BAL2	COMP	
LM301AN:	OUT	IN-	IN+
	V+	V-	BAL/COMP
	BAL	COMP	
LM302H:	OUT	IN+	V+
	V-	BOOSTER	BAL1
	BAL2		
LM307N:	OUT	IN-	IN+
	V+	V-	
LM308N:	OUT	IN-	IN+
	V+	V-	COMP1
	COMP2		
LM308AN:	OUT	IN-	IN+
	V+	V-	COMP1
	COMP2		
LM310N:	OUT	IN+	V+
	V-	BAL1	BAL2
	BOOSTER		
LM318N:	OUT	IN-	IN+
	V+	V-	BAL/COM1
	BAL/COM3	COMP2	
LM324AN:	OUT	IN-	IN+
	V+	GND	
LM343H:	OUT	IN-	IN+
	V+	V-	OFFNULL1
	OFFNULL2		

COMPONENT PIN SEQUENCES (Cont'd)

LM344H:	OUT	IN-	IN+
	V+	V-	BAL/COMP
	BAL	COMP	
LM346N:	OUT1	IN1-	IN1+
	V+	IN2+	IN2-
	OUT2	SETABD	SETC
	OUT3	IN3-	IN3+
	V-	IN4+	IN4-
	OUT4		
LM149N:	OUT	IN-	IN+
	V-	V+	
LM358N:	OUT	V+	GND
	IN-	IN+	
LM359N:	OUT	IN-	IN+
	V+	GND	ISETOUT
	ISETIN	COMP	
LM392N:	OUTA	INA-	INA+
	GND	INB+	INB-
	OUTB	V+	
LM725CN:	OUT	IN-	IN+
	V+	V-	COMP
	OFFNULL1	OFFNULL2	
LM741CN:	OUT	IN-	IN+
	V+	V-	OFFNULL1
	OFFNULL2		
LM748CN:	OUT	IN-	IN+
	V+	V-	BAL
	COMP1	COMP2	

COMPONENT PIN SEQUENCES (Cont'd)

LM1458N:	OUT	IN-	IN+
	V+	V-	
LM3900N:	OUT	IN-	IN+
	GND	V+	
LM3301N:	OUT	IN-	IN+
	GND	V+	
LM3401N:	OUT	IN-	IN+
	GND	V+	
LM363D:	OUT	IN-	IN+
	V+	V-	VOS
	VOS2	G100	G1000
	GR	REF	SENSE
	COMP1	COMP2	SHIELD-
	SHIELD+		
LM319N:	OUT	IN-	IN+
	GND	V+	V-
LM339AN:	OUT	IN-	IN+
	V+	GND	
LM360N:	IN-	IN+	V+
	V-	GND	OUT1
	OUT2		
LM361N:	IN-	IN+	V+
	V-	GND	OUT1
	OUT2	STROBE1	STROBE2
	VCC		
LM393AN:	OUT	V+	GND
	IN-	IN+	

COMPONENT PIN SEQUENCES (Cont'd)

LM311N:	OUT	IN-	IN+
	V+	V-	BALANCE
	BALANC2	GND	
LF13201D:	S	IN	V-
	V+	D	VR
LF13202D:	S	IN	V-
	V+	D	VR
LF13508D:	A0	EN	-VEE
	S1	S2	S3
	S4	D	S8
	S7	S6	S5
	VCC	GND	A2
	A1		
LF13509D:	A0	EN	-VEE
	S1A	S2A	S3A
	S4A	DA	DB
	S4B	S3B	S2B
	S1B	VCC	GND
	A1		
LF398AN:	V+	ADJ	IN
	V-	OUT	REF
	CH	LOGIC	
AD7530:	GND	A1	A2
	A3	A4	A5
	A6	A7	A8
	A9	A10	VREF
	RFB	V+	IOUT1
	IOUT2		

COMPONENT PIN SEQUENCES (Cont'd)

AD7531:	GND	A1	A2
	A3	A4	A5
	A6	A7	A8
	A9	A10	A11
	A12	VREF	RFB
	V+	IOUT1	IOUT2
ADB1200:	VGG	COMP	RU-
	PD/RU+	OC	RR
	GND	P~/S	SCLK
	CLK	SC	EOC
	OE'	D12	D11
	D10	D9	D8
	D7	D6	D5
	D4	D3	D2
	D1	OR	VSS
	POL/SDO		
ADC0800:	SC	VSS	VREF
	R-N	VIN	OE
	VGG	VDD	CLK
	DB0	DB1	DB2
	DB3	DB4	DB5
	DB6	DB7	SENSE
ADC0801:	CS'	RD'	WR'
	CLKIN	V+	AGND
	VREF	DGND	DB7
	DB6	DB5	DB4
	DB3	DB2	DB1
	DB0	CLKR	VCC
	INTR'		

COMPONENT PIN SEQUENCES (Cont'd)

ADC0802:	CS'	RD'	WR'
	CLKIN	V+	V-
	AGND	VREF	DGND
	DB7	DB6	DB5
	DB4	DB3	DB2
	DB1	DB0	CLKR
	VCC	INTR'	
ADC0803:	CS'	RD'	WR'
	CLKIN	V+	V-
	AGND	VREF	DGND
	DB7	DB6	DB5
	DB4	DB3	DB2
	DB1	DB0	CLKR
	VCC	INTR'	
ADC0804:	CS'	RD'	WR'
	CLKIN	V+	V-
	AGND	VREF	DGND
	DB7	DB6	DB5
	DB4	DB3	DB2
	DB1	DB0	CLKR
	VCC	INTR'	
ADC0805:	CS'	RD'	WR'
	CLKIN	V+	V-
	AGND	VREF	DGND
	DB7	DB6	DB5
	DB4	DB3	DB2
	DB1	DB0	CLKR
	VCC	INTR'	

COMPONENT PIN SEQUENCES (Cont'd)

ADC0808:	CLK	VREF-	VREF+
	START	ALE	ADDA
	ADDB	ADDC	VCC
	GND	IN0	IN1
	IN2	IN3	IN4
	IN5	IN6	IN7
	DB0	DB1	DB2
	DB3	DB4	DB5
	DB6	DB7	EOC
	OE		
ADC0809:	CLK	VREF-	VREF+
	START	ALE	ADDA
	ADDB	ADDC	VCC
	GND	IN0	IN1
	IN2	IN3	IN4
	IN5	IN6	IN7
	DB0	DB1	DB2
	DB3	DB4	DB5
	DB6	DB7	EOC
	OE		
ADC0816:	VCC	VREF+	CLK
	START	ALE	COMP
	EXP	OE	IN0
	IN1	IN2	IN3
	IN4	IN5	IN6
	IN7	IN8	IN9
	IN10	IN11	IN12
	IN13	IN14	IN15
	ADDA	ADDB	ADDC
	ADDD	VREF-	GND
	DB0	DB1	DB2
	DB3	DB4	DB5
	DB6	DB7	EOC
	MULTOUT		

COMPONENT PIN SEQUENCES (Cont'd)

ADC0817:	VCC	VREF+	CLK
	START	ALE	COMP
	EXP	OE	IN0
	IN1	IN2	IN3
	IN4	IN5	IN6
	IN7	IN8	IN9
	IN10	IN11	IN12
	IN13	IN14	IN15
	ADDA	ADDB	ADDC
	ADDD	VREF-	GND
	DB0	DB1	DB2
	DB3	DB4	DB5
	DB6	DB7	EOC
	MULTOUT		
ADC0833:	CS'	CLK	CH0
	CH1	CH2	CH3
	VCC	V+	DGND
	AGND	SARS	DI
	DO	VREF	
ADC1021:	CS'	WR'	CLKR
	CLKIN	DGND	VCC
	AGND	BIT9	BIT8
	BIT7	BIT6	BIT5
	BIT4	BIT3	BIT2
	BIT1	BIT0	INTR'
	RD'	VREF	V+
	V-	O-BUF1	O-BUF2

COMPONENT PIN SEQUENCES (Cont'd)

ADC1080:	START	EXCLKIN	CLKINH
	CYCLE	STAT	CLK
	DGND	COMP	20VIN
	10VIN	AGND	VS
	-VS	REFOUT	OFFOUT
	ADJ	VCC	SERIAL
	LSB12	BIT11	BIT10
	BIT9	BIT8	BIT7
	BIT6	BIT5	BIT4
	BIT3	BIT2	MSB1
	MSB1'		
ADC1280:	START	EXCLKIN	CLKINH
	CYCLE	STAT	CLK
	DGND	COMP	20VIN
	10VIN	AGND	VS
	-VS	REFOUT	OFFOUT
	ADJ	VCC	SERIAL
	LSB12	BIT11	BIT10
	BIT9	BIT8	BIT7
	BIT6	BIT5	BIT4
	BIT3	BIT2	MSB1
	MSB1'		
DAC0808:	A8	A7	A6
	A5	A4	A3
	A2	A1	GND
	VCC	COMP	VEE
	IOUT	V+	V-
DAC0830:	VREF	DI7	DI6
	DI5	DI4	DI3
	DI2	DI1	DI0
	ILE	CS'	WR1'
	WR2'	XFER'	DGND
	VCC	AGND	RFB
	IOUT1	IOUT2	

COMPONENT PIN SEQUENCES (Cont'd)

DAC0831:	VREF	DI7	DI6
	DI5	DI4	DI3
	DI2	DI1	DI0
	ILE	CS'	WR1'
	WR2'	XFER'	DGND
	VCC	AGND	RFB
	IOUT1	IOUT2	
DAC0832:	VREF	DI7	DI6
	DI5	DI4	DI3
	DI2	DI1	DI0
	ILE	CS'	WR1'
	WR2'	XFER'	DGND
	VCC	AGND	RFB
	IOUT1	IOUT2	
DAC1000:	VREF	DI9	DI8
	DI7	DI6	DI5
	DI4	DI3	DI2
	DI1	DI0	CS'
	WR1'	WR2'	XFER'
	GND	VCC	RFB
	IOUT1	IOUT2	BY1/BY2~
	LJ/RJ~		
DAC1001:	VREF	DI9	DI8
	DI7	DI6	DI5
	DI4	DI3	DI2
	DI1	DI0	CS'
	WR1'	WR2'	XFER'
	GND	VCC	RFB
	IOUT1	IOUT2	BY1/BY2~
	LJ/RJ~		

COMPONENT PIN SEQUENCES (Cont'd)

DAC1002:	VREF	DI9	DI8
	DI7	DI6	DI5
	DI4	DI3	DI2
	DI1	DI0	CS'
	WR1'	WR2'	XFER'
	GND	VCC	RFB
	IOUT1	IOUT2	BY1/BY2~
	LJ/RJ~		
DAC1006:	VREF	DI9	DI8
	DI7	DI6	DI5
	DI4	DI3	DI2
	DI1	DI0	CS'
	XFER'	GND	VCC
	RFB	IOUT1	IOUT2
	WR'	BY1/BY2~	
DAC1007:	VREF	DI9	DI8
	DI7	DI6	DI5
	DI4	DI3	DI2
	DI1	DI0	CS'
	XFER'	GND	VCC
	RFB	IOUT1	IOUT2
	WR'	BY1/BY2~	
DAC1008:	VREF	DI9	DI8
	DI7	DI6	DI5
	DI4	DI3	DI2
	DI1	DI0	CS'
	XFER'	GND	VCC
	RFB	IOUT1	IOUT2
	WR'	BY1/BY2~	

COMPONENT PIN SEQUENCES (Cont'd)

DAC1022:	A10	A9	A8
	A7	A6	A5
	A4	A3	A2
	A1	V+	VREF
	RFB		
DAC1222:	A10	A9	A8
	A7	A6	A5
	A4	A3	A2
	A1	V+	VREF
	GND	IOUT2	IOUT1
	RFB	A12	A11
DAC1201:	2-1	2-2	2-3
	2-4	2-5	2-6
	2-7	2-8	2-9
	2-10	2-11	2-12
	COMP	VREFIN	ADJ
	-15V	+15V	GND
	OFFSET	+5V	VOUT
	CUROUT	FBK	VREFOUT
DAC1208:	DI11	DI10	DI9
	DI8	DI7	DI6
	DI5	DI4	DI3
	DI2	DI1	DI0
	CS'	WR1'	XFER'
	WR2'	DGND	AGND
	VCC	VREF	RFB
	IOUT1	IOUT2	BY1/BY2~
DAC1219:	GND	A1	A2
	A3	A4	A5
	A6	A7	A8
	A9	A10	A11
	A12	VCC	VREF
	RFB	IOUT1	IOUT2

COMPONENT PIN SEQUENCES (Cont'd)

LM331AN:	VCC	CURREF	GND
	R/C	THD	COMP
	CUROUT	FREQOUT	
LM322H:	LOGIC	TRIGGER	VREF
	R/C	GND	ADJ
	V+	BOOST	COLLECT
	EMITTER		
LM322N:	BOOST	V+	VREF
	ADJ	R/C	GND
	TRIGGER	LOGIC	EMITTER
	COLLECT		
LM3905N:	V+	VREF	R/C
	GND	TRIGGER	LOGIC
	EMITTER	COLLECT	
LM334H:	V-	R	V+
LM334Z:	V-	R	V+
LM555CN:	VCC	THD	CONT
	GND	TRIGGER	RESET
	DISCHARG	OUT	
LM555CH:	GND	TRIGGER	OUT
	RESET	CONT	THD
	DISCHARG	VCC	
LM556CN:	THD	CONT	RESET
	OUT	TRIGGER	GND
	DISCHARG	VCC	

COMPONENT PIN SEQUENCES (Cont'd)

LM565CN:	+VCC	TIMECAP	TIMERES
	VCOIN	IN3	IN2
	-VCC	OUT	ROUT
	CONT		
LM565CH:	-VCC	VCOIN	TIMERES
	TIMECAP	+VCC	IN1
	IN2	VCOOUT	REFOUT
	CONTROL		
LM566CN:	VCC	TIMECAP	TIMERES
	MODIN	GND	SOUT
	TOUT		
LM567CN:	V+	TIMERES	TIMECAP
	GND	IN	LOOPFIL
	OUTFIL	OUT	
LM567CH:	OUTFIL	LOOPFIL	IN
	V+	TIMERES	TIMECAP
	GND	OUT	
LM733CN:	IN1	IN2	G2B
	G1B	V-	OUT2
	OUT1	V+	G1A
	G2A		
LM733CH:	IN1	IN2	G2B
	G1B	V-	OUT2
	OUT1	V+	G1A
	G2A		
LM3911N:	IN	V-	OUT
	V+		

COMPONENT PIN SEQUENCES (Cont'd)

LM3914N:	RHI	ROUT	RADJ
	V+	RLO	SIGIN
	V-	MODE	LED1
	LED2	LED3	LED4
	LED5	LED6	LED7
	LED8	LED9	LED10
LM3915N:	RHI	ROUT	RADJ
	V+	RLO	SIGIN
	V-	MODE	LED1
	LED2	LED3	LED4
	LED5	LED6	LED7
	LED8	LED9	LED10
LM3916N:	RHI	ROUT	RADJ
	V+	RLO	SIGIN
	V-	MODE	LED1
	LED2	LED3	LED4
	LED5	LED6	LED7
	LED8	LED9	LED10
MF10CN:	S1A	VA+	VD+
	INVA	AGND	CLKA
	CL	LSH	CLKB
	INVB	HPB	S1B
	BPB	LPB	LPA
	BPA	HPA	VD-
	VA-	SA/B	
LM377N:	OUT	V+	FBK
	BIAS	IN	GND1
	GND2	GND3	
LM378N:	OUT	V+	FBK
	BIAS	IN	GND1
	GND2	GND3	

COMPONENT PIN SEQUENCES (Cont'd)

LM379S:	OUT	FBK	IN
	VCC	V+	SIGGND
	PWRGND		
LM380N-8:	OUT	IN-	IN+
	VS	BYPASS	GND1
	GND2		
LM381AN:	OUT	IN+	IN-DIFF
	IN-SE	VCC	GND
	COMP1	COMP2	
LM382N:	OUT	IN+	IN-
	VCC	GND	GAIN1
	GAIN2	GAIN3	
LM383AT:	OUT	IN-	IN+
	GND	VS	
LM386N:	OUT	VS	BYPASS
	GAIN1	GAIN2	GND
	IN-	IN+	
LM387AN:	OUT	GND	IN-
	IN+	VCC	
LM388N:	OUT	IN-	IN+
	VS	BYPASS	GND1
	GND2	GND3	GND4
	GND5	GND6	GAIN1
	GAIN2	BOOTSTRP	

COMPONENT PIN SEQUENCES (Cont'd)

LM389N:	VS	BYPASS	GAIN1
	GAIN2	C3	C2
	C1	B1	B2
	B3	E1	E2
	E3	IN-	GND1
	GND2	IN+	OUT
LM390N:	OUT	IN-	IN+
	VS	BYPASS	GND1
	GND2	GND3	GND4
	GND5	GND6	GAIN1
	GAIN2	BOOTSTRP	
LM391N:	IN-	IN+	SHTDWN
	SINK	SENSE	SOURCE
	-SOA	+SOA	RIPPLEC
	V+	V-	BIAS1
	BIAS2	COMPC	-ILIM
	+ILIM		
LM1035:	BAL	VOL	IN1
	IN2	VCC	TCAP1
	TCAP2	TCONT	LOUD
	BCONT	BCAP1	BCAP2
	GND1	GND2	ZENER
	OUT1	OUT2	DECOUPLE
	BYPASS1	BYPASS2	
LM1037:	OUT1	OUT2	2A
	2B	2C	2D
	VBIAS	1D	1C
	1B	1A	V-
	CONT2	CONT1	CONT4
	CONT3	V+	MUTEINH

COMPONENT PIN SEQUENCES (Cont'd)

LM1038:	OUT1	OUT2	IN1
	IN2	IN3	IN4
	IN5	IN6	IN7
	IN8	BIAS	GND
	VS	MUTEINH	MUTE
	DATAIN1	DATAIN2	CE
LM1310:	PS	COMPIN	LAMP
	GND	THD1	THD2
	PILOT	PHSEIN	FIL1
	FIL2	VCOCONT	OUT1
	OUT2	OUT3	
LM1391N:	REGVOL	OSCTIM	DUTCYCNT
	GND	SYNCIN	S.T.IN
	PHDETOUT	OUT	
LM1496N:	-CARRIN	+CARRIN	-SIGIN
	+SIGIN	BIAS	V-
	GAINADJ1	GAINADJ2	-OUT
	+OUT		
LM1496H:	+SIGIN	GAINADJ1	GAINADJ2
	-SIGIN	BIAS	+OUT
	+CARRIN	-CARRIN	-OUT
	V-		
LM1965:	V+	QUADCOIL	IFIN
	BUFDCUPL	BUFIN	BUFGND
	AGCIN	THDADJ	MUTFIL
	MUTDISBL	PWRGND	IFDCUPL1
	IFDCUPL2	REGOUT	IFOUT
	BUFOUT	AGCOUT	MTROUT
	AUDIOOUT	AFTOUT	

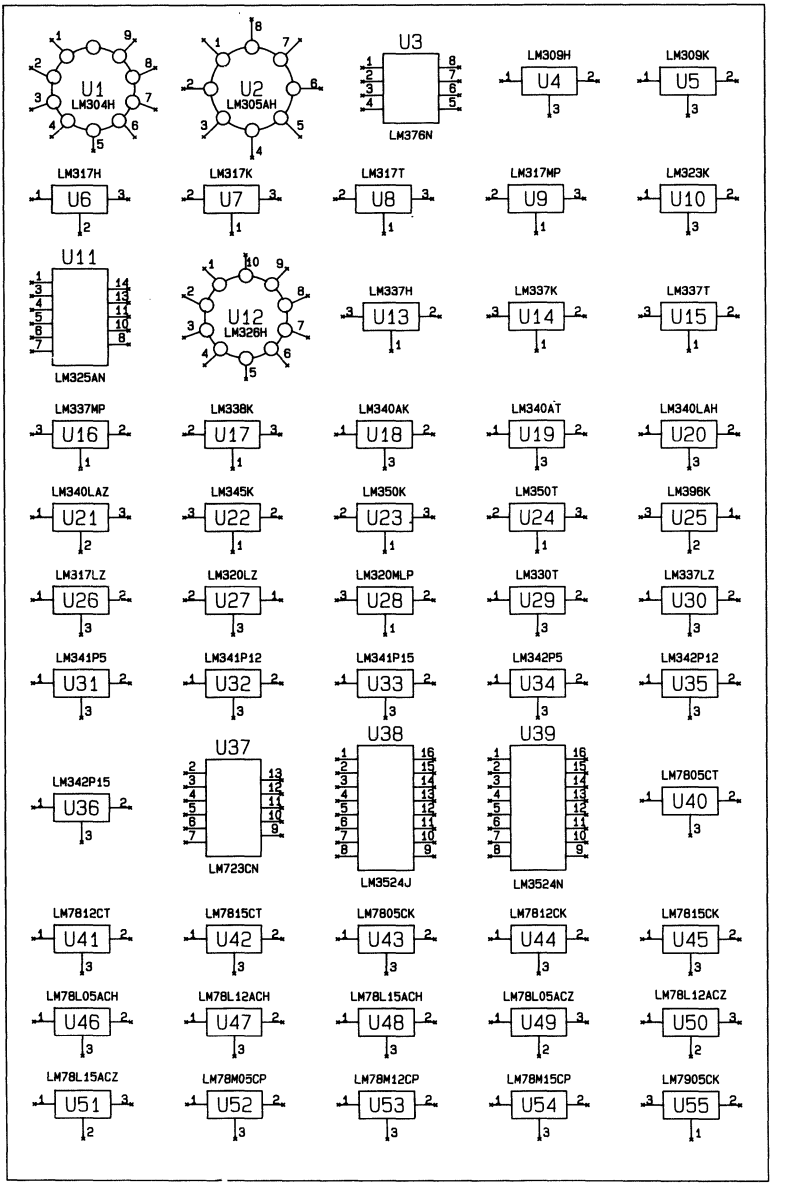
COMPONENT PIN SEQUENCES (Cont'd)

LM3011H:	OUT	GND	IN-
	IN+	VCC	BYPASS1
	BYPASS2		
LM3089N:	IFOUT	REFBIAS	AGC
	MUTELOG	TUNEMETR	AUDIOOUT
	AFCOUT	QUADIN	VCC
	IFIN	DECOUPLE	IFBIAS
	GND	IFGND	MUTEIN
LM394H:	B2	B1	C1
	C2	E1	E2
LM395H:	B	C	E
LM395K:	B	C	E
LM3045N:	Q1C	Q1B	Q1E
	Q2B	Q2C	Q3B
	Q3E	Q3C	Q4B
	Q4E	Q4C	Q5B
	Q5E	Q5C	
LM3046N:	Q1C	Q1B	Q1E
	Q2B	Q2C	Q3B
	Q3E	Q3C	Q4B
	Q4E	Q4C	Q5B
	Q5E	Q5C	
LM3086N:	Q1C	Q1B	Q1E
	Q2B	Q2C	Q3B
	Q3E	Q3C	Q4B
	Q4E	Q4C	Q5B
	Q5E	Q5C	

COMPONENT PIN SEQUENCES (Cont'd)

LM3146N:	Q1C	Q1B	Q1E
	Q2B	Q2C	Q3B
	Q3E	Q3C	Q4B
	Q4E	Q4C	Q5B
	Q5	Q5C	

COMPONENT PLOTS



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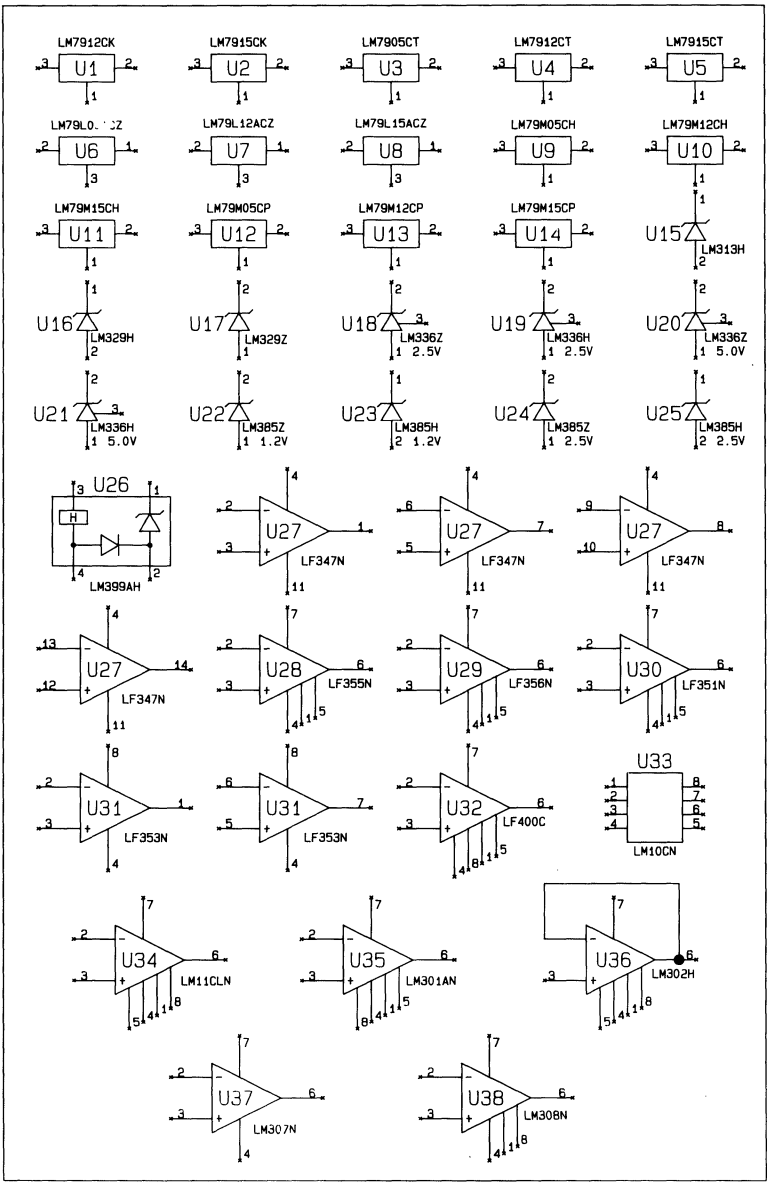

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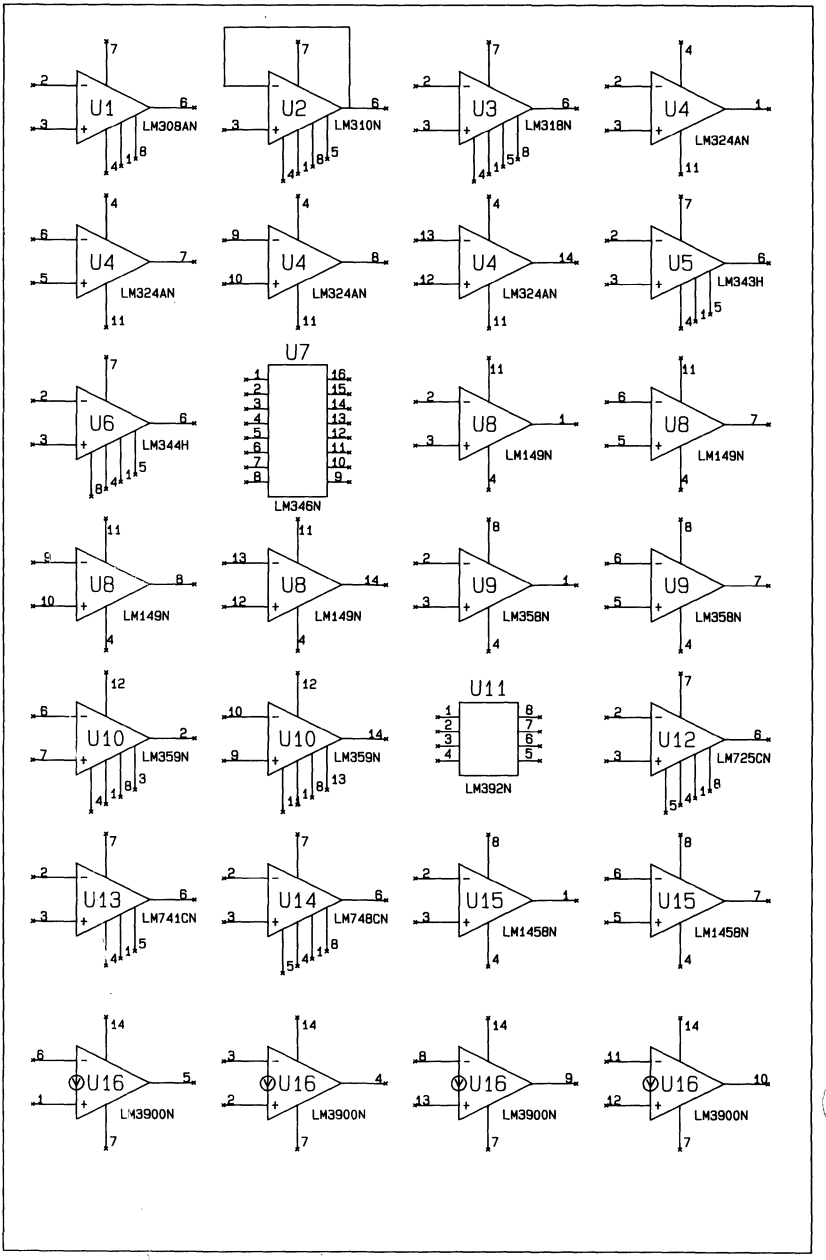

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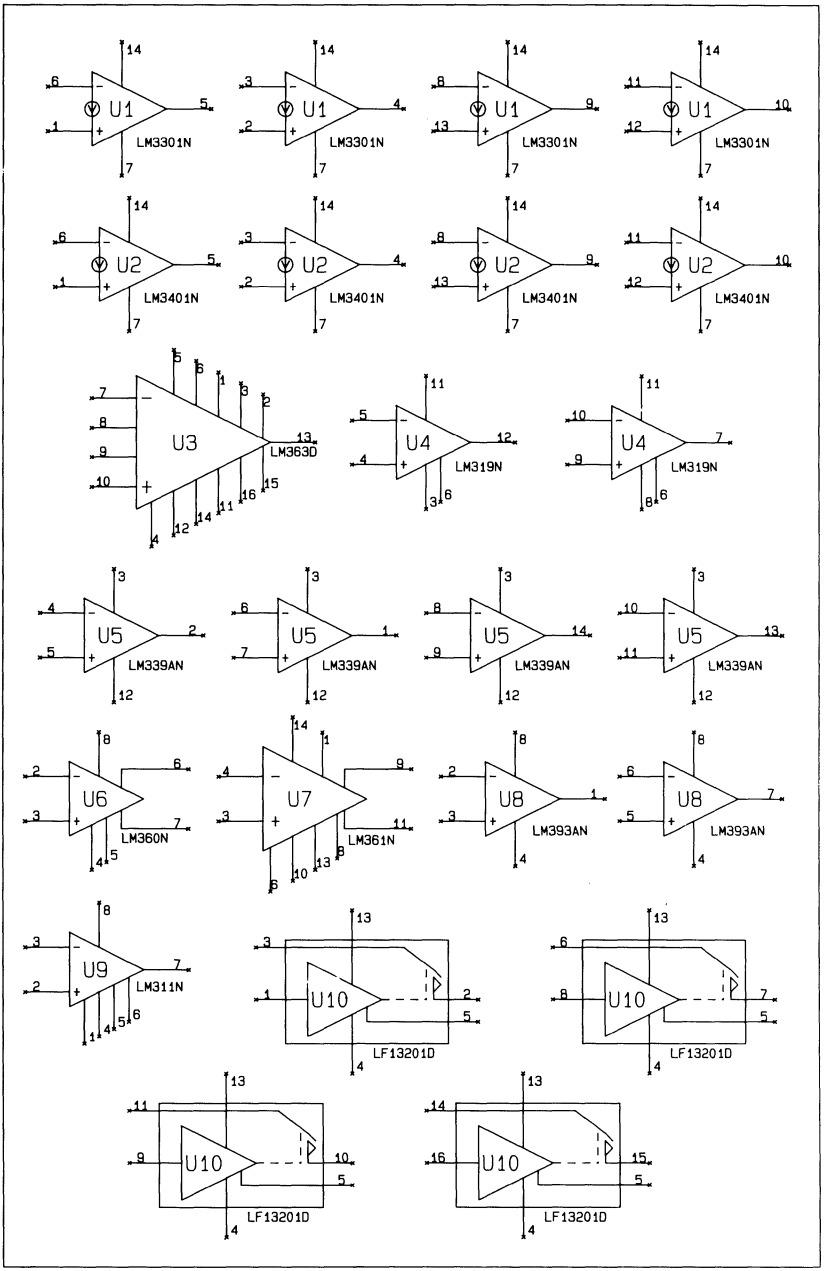

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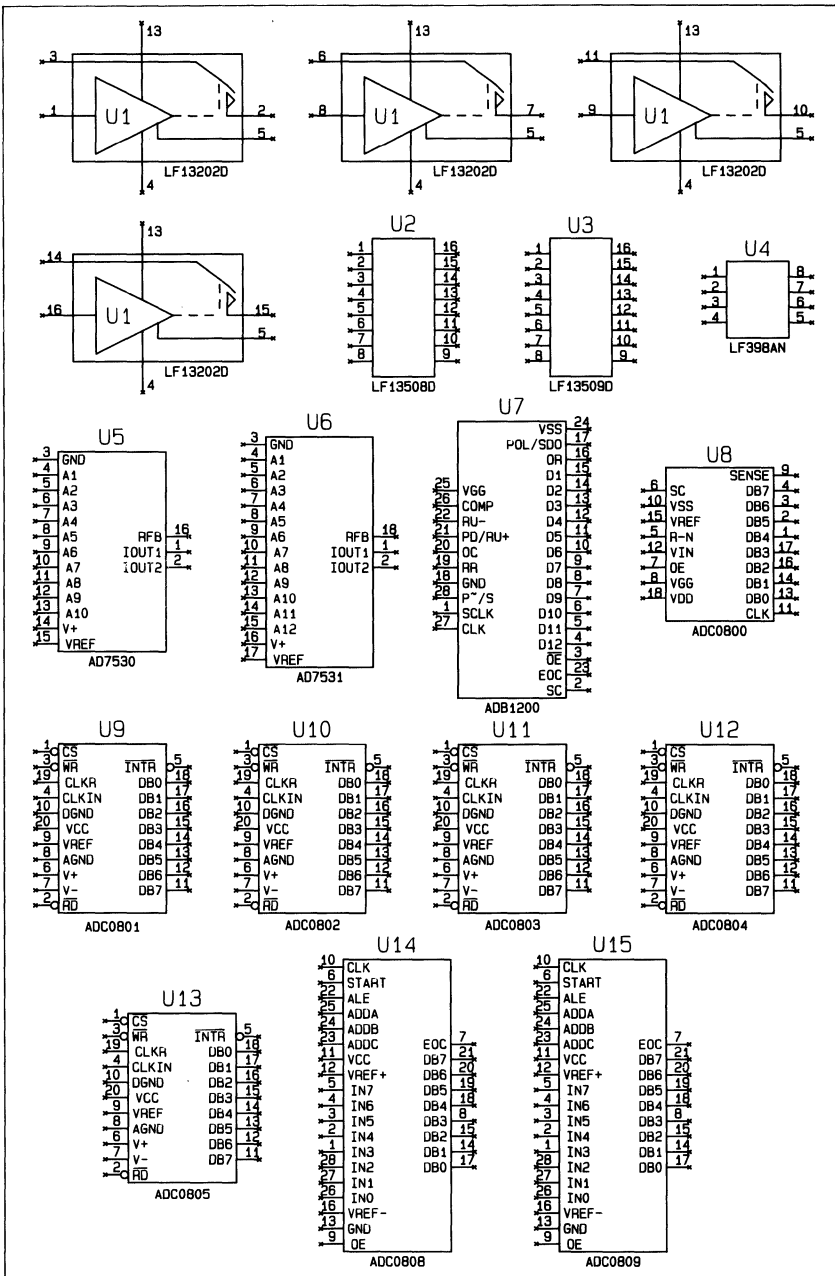
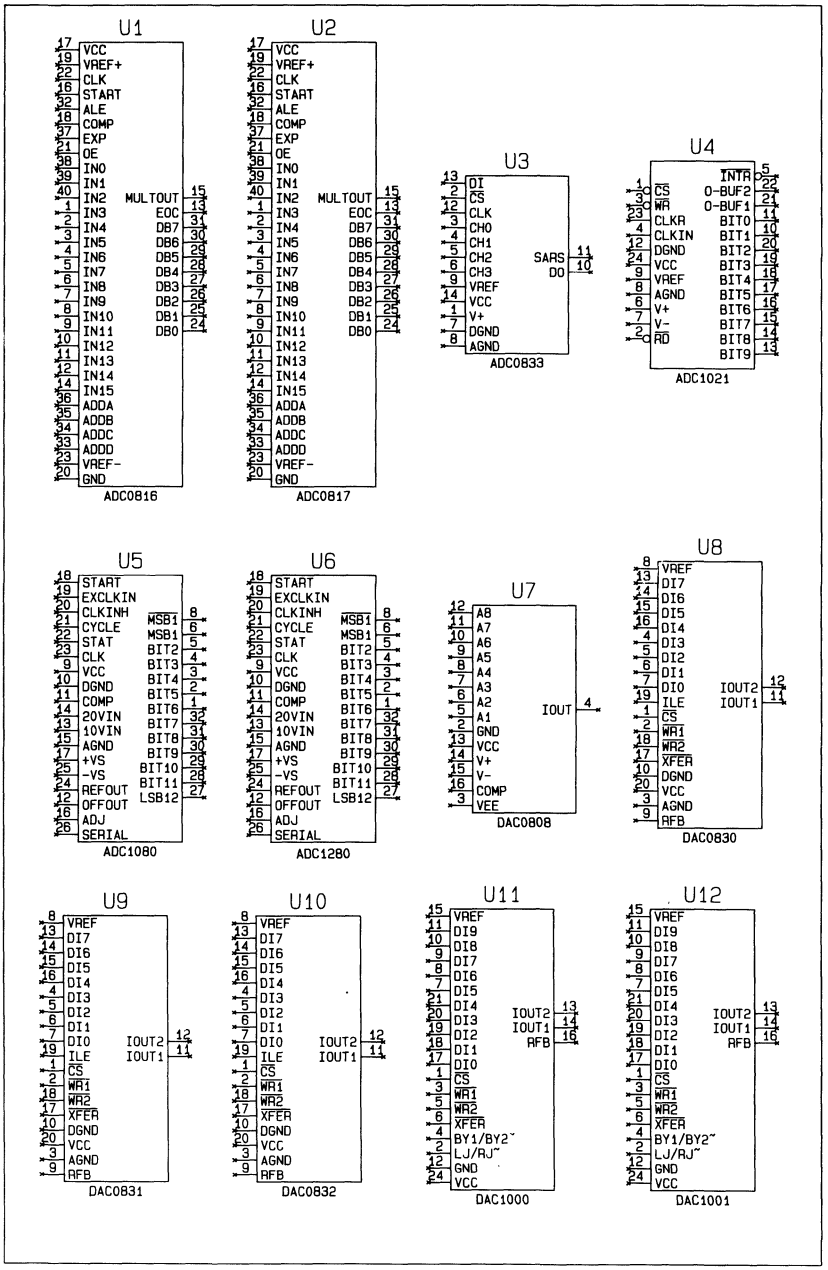


COMPONENT PLOTS (Cont'd)



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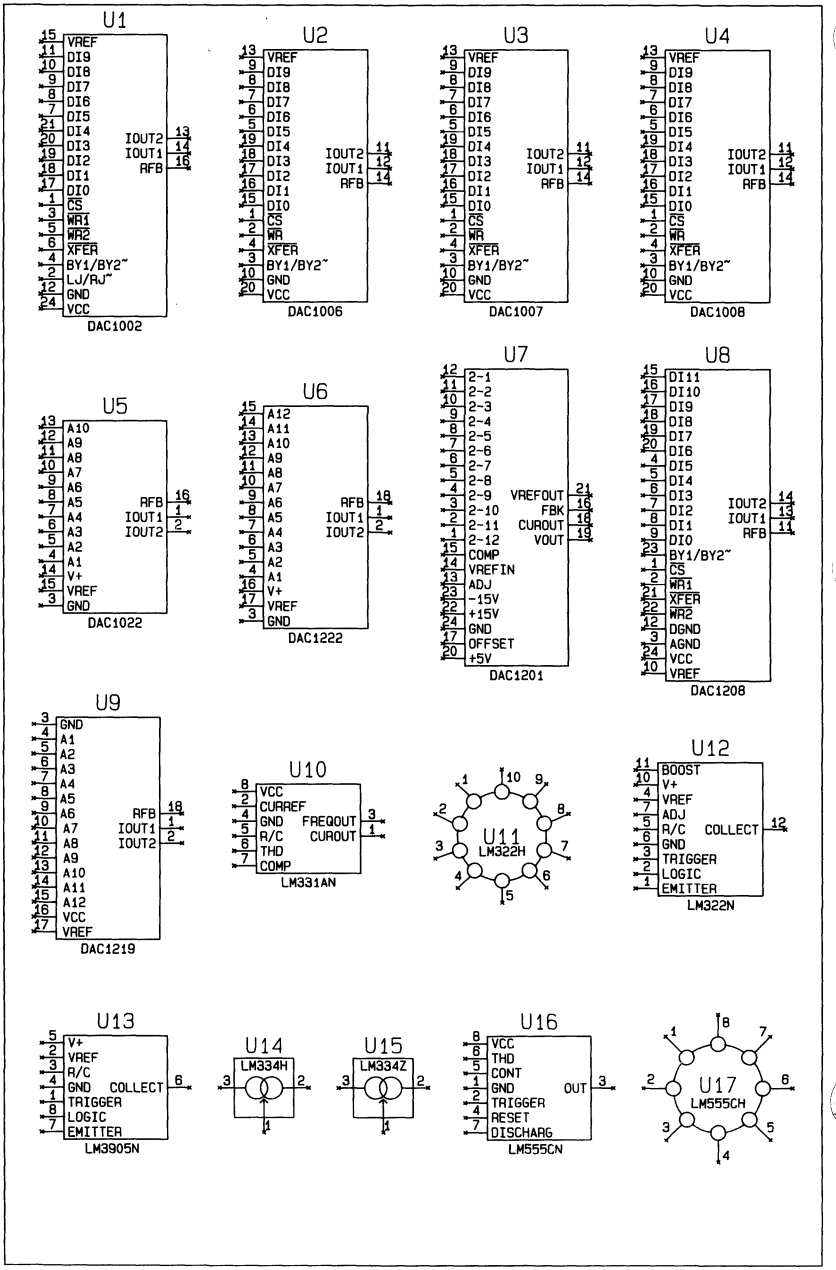
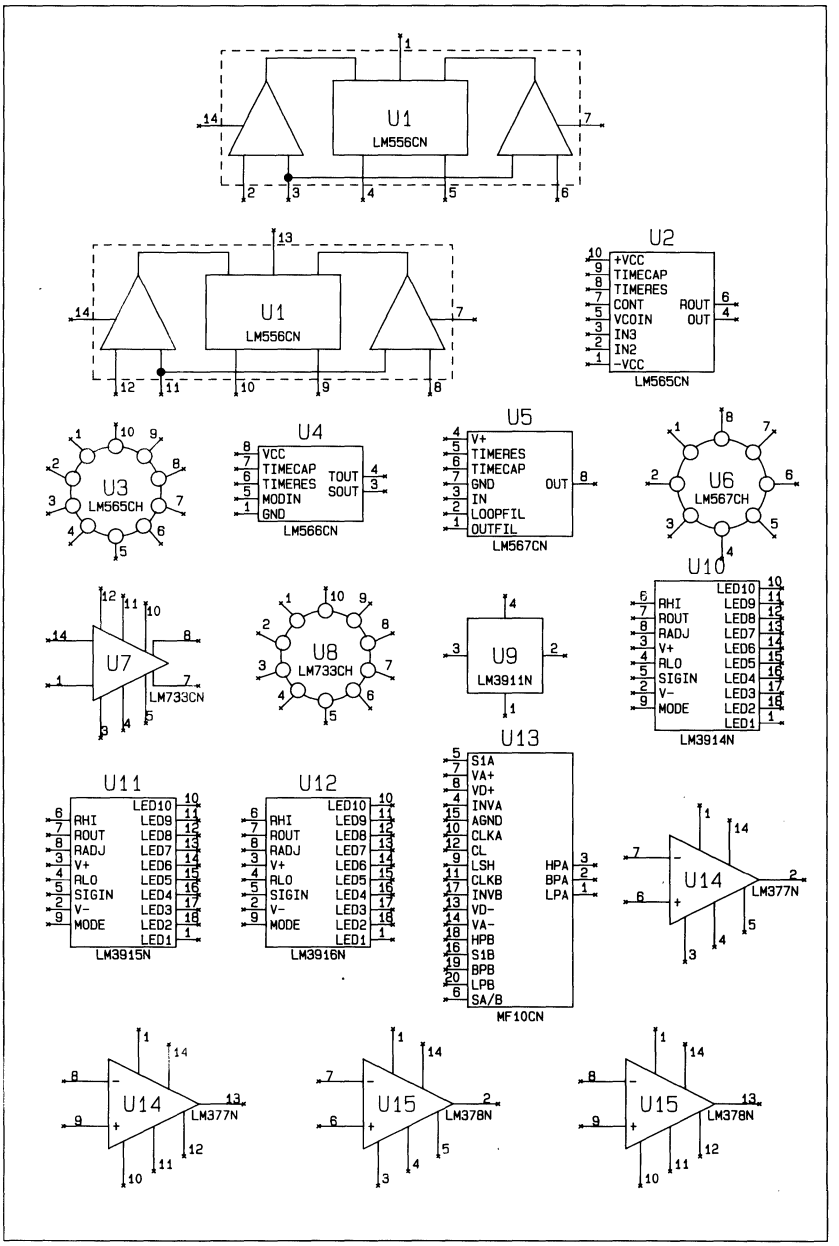


COMPONENT PLOTS (Cont'd)



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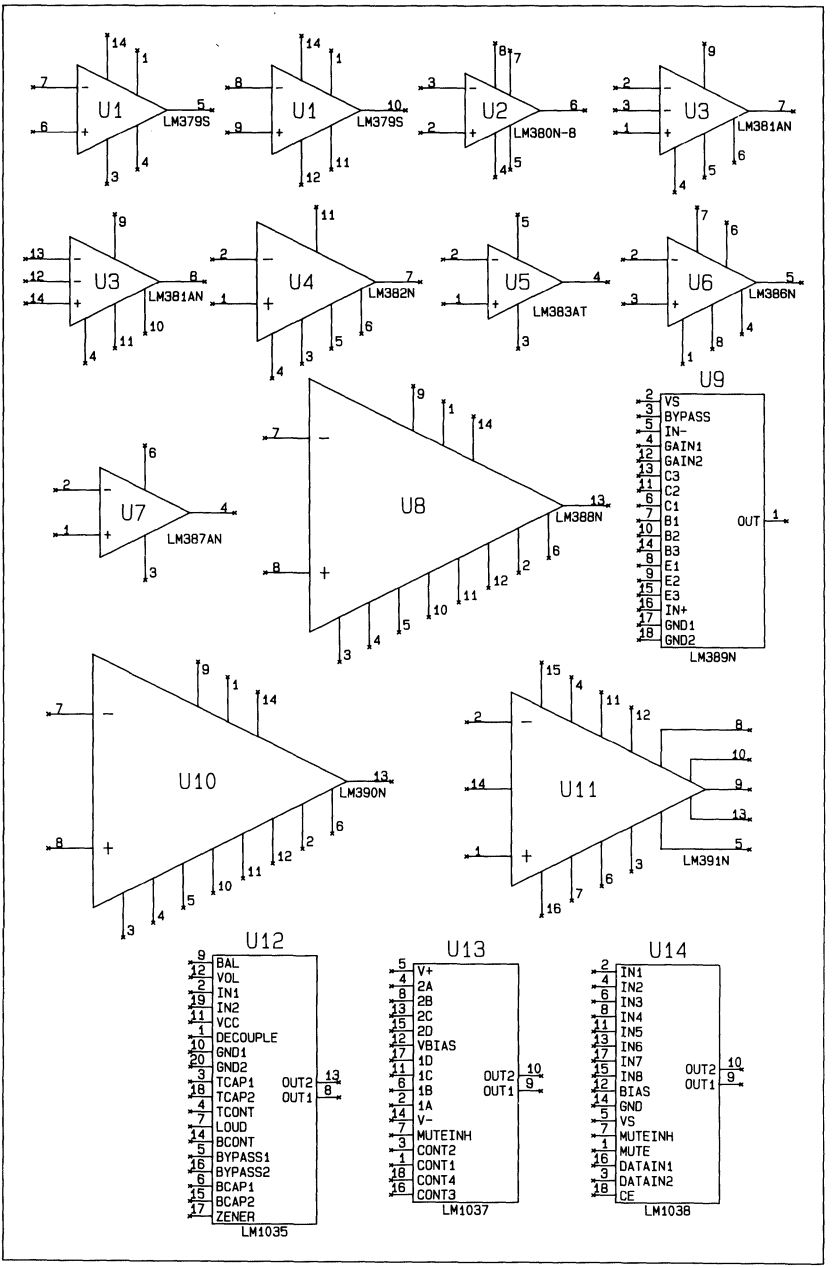

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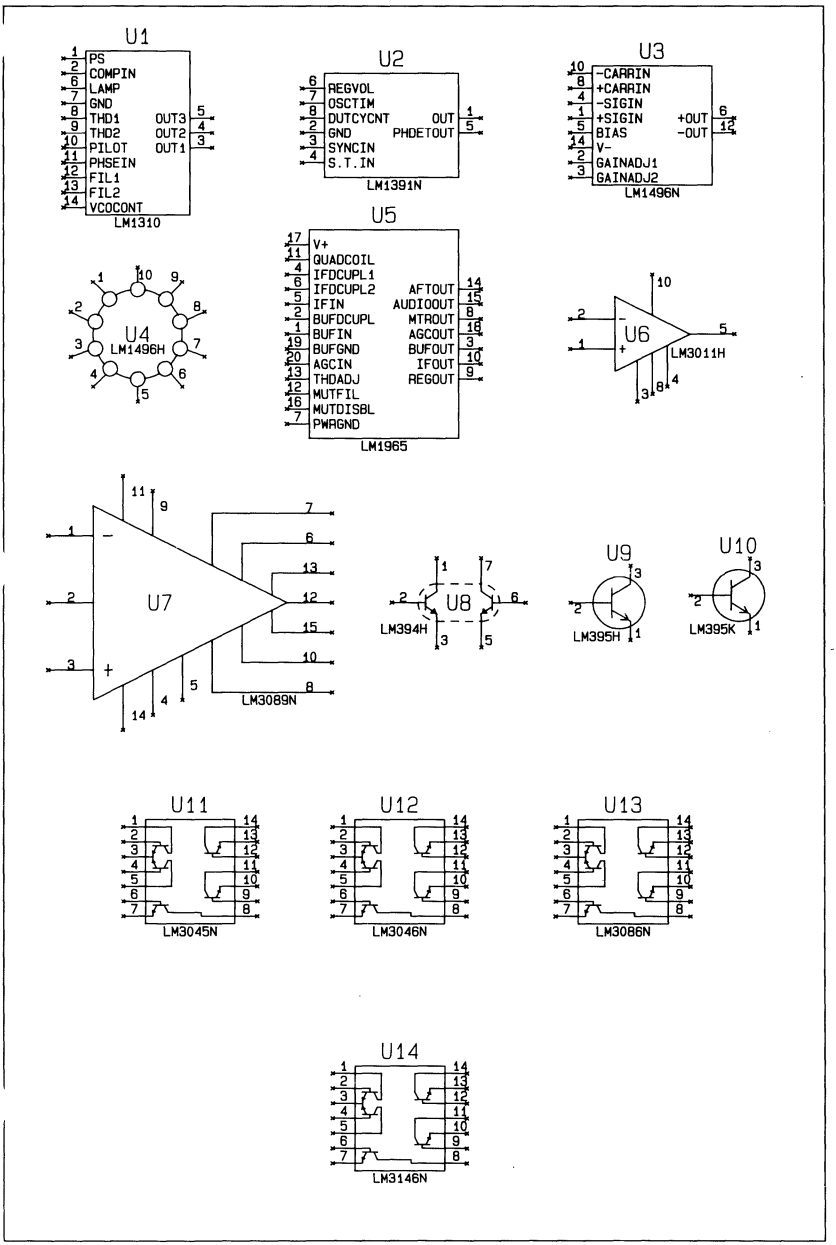

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