

000 ADC

Line Item	Quantity	Reference Designators	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Description	Value	Package	Part Type	Assembly Location
1	4	C1, C3, C4, C18	Panasonic	ECE-A1VKS100	Mouser	667-ECE-A1VKS100	Aluminum Electrolytic Capacitors - Leaded 10UF 35V KS RADIAL	10 u	0	Through Hole	PCB Top
2	13	C2, C5, C6, C7, C8, C9, C10, C11	Vishay / Sprague	1C10Z5U104M050B	Mouser	75-1C10Z5U104M050B	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts Z5U 20% 2.5mm L/S	0.1 u	0	Through Hole	PCB Top
3	2	D1, D2	Fairchild Semiconductor	1N4001	Mouser	512-1N4001	Rectifiers Vr/50V Io/1A T/R	0	DO-41	Through Hole	PCB Top
4	10	D3, D4, D5, D6, D7, D8, D9, D10	STMicroelectronics	1N5711	Mouser	511-1N5711	Schottky Diodes & Rectifiers 15mA 70 Volt	0	DO-35	Through Hole	PCB Top
5	2	FB1, FB2	Fair-Rite	2743001111	Mouser	623-2743001111	EMI Filter Beads, Chips & Arrays 43 BEAD ON LEAD Z=68 OHM @ 100MHz	0	0	Through Hole	PCB Top
6	4	J1, J2, J3, J4	Wenzhou QingPu	PJ302M	Thonk	MECH_JK_PJ302M	Right angled 3.5mm Jack Sockets w/Knurled Nuts, No Washers	0	0	Through Hole	PCB Top / Frontpanel
7	1	J5	0	0	Futurlec	IDCMH16	16 Pin Shrouded Male Headers IDC	0	0	Through Hole	PCB Top
8	3	R1, R4, R16	KOA Speer	MF1/4DCT52R1002F	Mouser	660-MF1/4DCT52R1002F	Metal Film Resistors - Through Hole 10Kohms 1% 100PPM	10K	0	Through Hole	PCB Top
9	4	R2, R5, R8, R40	KOA Speer	MF1/4DCT52R4990F	Mouser	660-MF1/4DCT52R4990F	Metal Film Resistors - Through Hole 1/4W 499 ohm 1% 500 OHM 1%	499	0	Through Hole	PCB Top
10	2	R3, R10	KOA Speer	MF1/4DCT52R4992F	Mouser	660-MF1/4DCT52R4992F	Metal Film Resistors - Through Hole 49.9Kohms 1% 100PPM	49.9K	0	Through Hole	PCB Top
11	2	R6, R18	KOA Speer	MF1/4DCT52R4991F	Mouser	660-MF1/4DCT52R4991F	Metal Film Resistors - Through Hole 4.99Kohms 1% 100PPM	4.99K	0	Through Hole	PCB Top
12	32	R7, R9, R12, R13, R14, R15, R17	KOA Speer	MF1/4DCT52R1001F	Mouser	660-MF1/4DCT52R1001F	Metal Film Resistors - Through Hole 1Kohms 1% 100PPM	1K	0	Through Hole	PCB Top
13	1	R39	KOA Speer	MF1/4DCT52R1003F	Mouser	660-MF1/4DCT52R1003F	Metal Film Resistors - Through Hole 100Kohms 1% 100PPM	100K	0	Through Hole	PCB Top
14	3	R42, R44, R46	KOA Speer	MF1/4DCT52R3901F	Mouser	660-MF1/4DCT52R3901F	Metal Film Resistors - Through Hole 3.9Kohms 1% 100PPM	3.9K	0	Through Hole	PCB Top
15	2	R7-GAIN1, R9-BIAS1	0	0	Thonk	Mech_Pot_Alpha	Right Angle B10K Alpha 9mm Potentiometer	B10K	0	Through Hole	PCB Top / Frontpanel
16	6	U1, U2, U3, U5, U6, U7	Texas Instruments	LM6172IN/NOPB	Mouser	926-LM6172IN/NOPB	Operational Amplifiers - Op Amps Dual High Speed,Low Pwr Amp	0	DIP-8	Through Hole	PCB Top
17	1	U4	ON Semiconductor / Fairchild	MC78L05ABPX	Mouser	512-MC78L05ABPX	Linear Voltage Regulators Pos Voltage Reg 3Term 0.1a	0	TO-92	Through Hole	PCB Top
18	1	U8	Texas Instruments	SN74HC148N	Mouser	595-SN74HC148N	Encoders, Decoders, Multiplexers & Demultiplexers 8-to-3 Line Priority		DIP-16	Through Hole	PCB Top
19	1	U9	ON Semiconductor / Fairchild	MC79L05ACP	Mouser	512-MC79L05ACP	Linear Voltage Regulators 5V 100mA Negative		TO-92	Through Hole	PCB Top
20	1	0	LZX Industries	LZX-CSTL0-PCB	LZX Industries	LZX-CSTL0-PCB	LZX Industries Castle 000 ADC PCB	0	0	Fabricated	0
21	1	0	LZX Industries	LZX-CSTL0-FPN	LZX Industries	LZX-CSTL0-FPN	LZX Industries Castle 000 ADC Frontpanel	0	0	Fabricated	0

001 DAC

Line Item	Quantity	Reference Designators	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Description	Value	Package	Part Type	Assembly Location
1	2	C2, C6	Panasonic	ECE-A1VKS100	Mouser	667-ECE-A1VKS100	Aluminum Electrolytic Capacitors - Leaded 10UF 35V KS RADIAL	10 u	0	Through Hole	PCB Top
2	2	C3, C7	Vishay / Sprague	1C10Z5U104M050B	Mouser	75-1C10Z5U104M050B	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts Z5U 20% 2.5mm L/S	0.1 u	0	Through Hole	PCB Top
3	2	D1, D2	Fairchild Semiconductor	1N4001	Mouser	512-1N4001	Rectifiers Vr/50V Io/1A T/R	0	DO-41	Through Hole	PCB Top
4	2	FB1, FB2	Fair-Rite	2743001111	Mouser	623-2743001111	EMI Filter Beads, Chips & Arrays 43 BEAD ON LEAD Z=68 OHM @ 100MHz	0	0	Through Hole	PCB Top
5	8	J1, J2, J3, J4, J5, J6, J7, J8	Wenzhou QingPu	PJ302M	Thonk	MECH_JK_PJ302M	Right angled 3.5mm Jack Sockets w/Knurled Nuts, No Washers	0	0	Through Hole	PCB Top / Frontpanel
6	1	J10	0	0	Futurlec	IDCMH16	16 Pin Shrouded Male Headers IDC	0	0	Through Hole	PCB Top
7	2	R1, R15	KOA Speer	MF1/4DCT52R1001F	Mouser	660-MF1/4DCT52R1001F	Metal Film Resistors - Through Hole 1Kohms 1% 100PPM	1K	0	Through Hole	PCB Top
8	2	R2, R16	KOA Speer	MF1/4DCT52R4990F	Mouser	660-MF1/4DCT52R4990F	Metal Film Resistors - Through Hole 1/4W 499 ohm 1% 500 OHM 1%	499	0	Through Hole	PCB Top
9	8	R3, R4, R5, R6, R7, R8, R11, R14	KOA Speer	MF1/4DCT52R1002F	Mouser	660-MF1/4DCT52R1002F	Metal Film Resistors - Through Hole 10Kohms 1% 100PPM	10K	0	Through Hole	PCB Top
10	4	R9, R10, R12, R13	KOA Speer	MF1/4DCT52R4991F	Mouser	660-MF1/4DCT52R4991F	Metal Film Resistors - Through Hole 4.99Kohms 1% 100PPM	4.99K	0	Through Hole	PCB Top
11	1	U2	Texas Instruments	LM6172IN/NOPB	Mouser	926-LM6172IN/NOPB	Operational Amplifiers - Op Amps Dual High Speed,Low Pwr Amp	0	DIP-8	Through Hole	PCB Top
12	1	0	LZX Industries	LZX-CSTL1-PCB	LZX Industries	LZX-CSTL1-PCB	LZX Industries Castle 001 DAC PCB	0	0	Fabricated	0
13	1	0	LZX Industries	LZX-CSTL1-FPN	LZX Industries	LZX-CSTL1-FPN	LZX Industries Castle 001 DAC Frontpanel	0	0	Fabricated	0

010 Clock VCO

Line Item	Quantity	Reference Designators	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Description	Value	Package	Part Type	Assembly Location
1	6	C1, C3, C4, C5, C8, C9	Vishay / Sprague	1C10Z5U104M050B	Mouser	75-1C10Z5U104M050B	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts Z5U 20% 2.5mm L/S	0.1 u	0	Through Hole	PCB Top
2	3	C2, C6, C10	Panasonic	ECE-A1VKS100	Mouser	667-ECE-A1VKS100	Aluminum Electrolytic Capacitors - Leaded 10UF 35V KS RADIAL	10 u	0	Through Hole	PCB Top
3	1	C14	TDK	FK16C0G1H104J	Mouser	810-FK16C0G1H104J	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts C0G +/-5%		0	Through Hole	PCB Top
4	1	C11	Vishay / BC Components	K102J15C0GF53L2	Mouser	594-K102J15C0GF53L2	Multilayer Ceramic Capacitors MLCC - Leaded 1000pF 50volts 5% C0G 2.5mm LS	1n	0	Through Hole	PCB Top
5	1	C12	Vishay / Sprague	1C10C0G470J050B	Mouser	75-1C10C0G470J050B	Multilayer Ceramic Capacitors MLCC - Leaded 47pF 50volts C0G 5% 5.0mm L/S	47p	0	Through Hole	PCB Top
6	2	D1, D2	Fairchild Semiconductor	1N4001	Mouser	512-1N4001	Rectifiers Vr/50V Io/1A T/R	0	DO-41	Through Hole	PCB Top
7	3	D3, D4, D5	ON Semiconductor / Fairchild	1N4148	Mouser	512-1N4148	Diodes - General Purpose, Power, Switching 100V Io/200mA	0	DO-35	Through Hole	PCB Top
8	2	FB1, FB2	Fair-Rite	2743001111	Mouser	623-2743001111	EMI Filter Beads, Chips & Arrays 43 BEAD ON LEAD Z=68 OHM @ 100MHz	0	0	Through Hole	PCB Top
9	1	J1	0	0	Futurlec	IDCMH16	16 Pin Shrouded Male Headers IDC	0	0	Through Hole	PCB Top
10	3	J2, J3, J4	Wenzhou QingPu	PJ302M	Thonk	MECH_JK_PJ302M	Right angled 3.5mm Jack Sockets w/Knurled Nuts, No Washers	0	0	Through Hole	PCB Top / Frontpanel
11	2	Q1, Q2	ON Semiconductor / Fairchild	2N3904BU	Mouser	512-2N3904BU	Bipolar Transistors - BJT NPN Transistor General Purpose	0	TO-92	Through Hole	PCB Top
12	2	R1, R14	KOA Speer	MF1/4DCT52R1003F	Mouser	660-MF1/4DCT52R1003F	Metal Film Resistors - Through Hole 100Kohms 1% 100PPM	100K	0	Through Hole	PCB Top
13	2	R2, R18	KOA Speer	MF1/4DCT52R4990F	Mouser	660-MF1/4DCT52R4990F	Metal Film Resistors - Through Hole 1/4W 499 ohm 1% 500 OHM 1%	499	0	Through Hole	PCB Top
14	4	R3, R13, R17, R19	KOA Speer	MF1/4DCT52R1001F	Mouser	660-MF1/4DCT52R1001F	Metal Film Resistors - Through Hole 1Kohms 1% 100PPM	1K	0	Through Hole	PCB Top
15	2	R4, R16	KOA Speer	MF1/4DCT52R3901F	Mouser	660-MF1/4DCT52R3901F	Metal Film Resistors - Through Hole 3.9Kohms 1% 100PPM	3.9K	0	Through Hole	PCB Top
16	5	R5, R8, R10, R11, R12	KOA Speer	MF1/4DCT52R1002F	Mouser	660-MF1/4DCT52R1002F	Metal Film Resistors - Through Hole 10Kohms 1% 100PPM	10K	0	Through Hole	PCB Top
17	2	R7, R20	KOA Speer	MF1/4DCT52R4991F	Mouser	660-MF1/4DCT52R4991F	Metal Film Resistors - Through Hole 4.99Kohms 1% 100PPM	4.99K	0	Through Hole	PCB Top
18	1	R15	KOA Speer	MF1/4DCT52R4702F	Mouser	660-MF1/4DCT52R4702F	Metal Film Resistors - Through Hole 47Kohms 1% 100PPM	47K	0	Through Hole	PCB Top
19	1	R21	Yageo	MFR-25FRF52-4M7	Mouser	603-MFR-25FRF52-4M7	Metal Film Resistors - Through Hole 4.7M OHM 1/4W 1%	4.7M	0	Through Hole	PCB Top
20	2	R6-CV, R9-Freq	0	0	Thonk	Mech_Pot_Alpha	Right Angle B10K Alpha 9mm Potentiometer	B10K	0	Through Hole	PCB Top / Frontpanel
21	1	S1	E-Switch	100SP1T1B1M2QEH	Mouser	612-100-A1121	Toggle Switches SPDT ON-ON PC MNT	0	0	Through Hole	PCB Top / Frontpanel
22	1	S2	E-Switch	100SP3T1B1M1QEH	Mouser	612-100-C1111	Toggle Switches SPDT ON-OFF-ON SLDR	0	0	Through Hole	PCB Top / Frontpanel
23	1	U1	ON Semiconductor / Fairchild	MC78L05ABPX	Mouser	512-MC78L05ABPX	Linear Voltage Regulators Pos Voltage Reg 3Term 0.1a	0	TO-92	Through Hole	PCB Top
24	1	U2	Texas Instruments	CD4046BE	Mouser	595-CD4046BE	Phase Locked Loops - PLL PLL w/ VCO	0	DIP-16	Through Hole	PCB Top
25	2	U3, U4	Texas Instruments	LM6172IN/NOPB	Mouser	926-LM6172IN/NOPB	Operational Amplifiers - Op Amps Dual High Speed,Low Pwr Amp	0	DIP-8	Through Hole	PCB Top
26	1	0	LZX Industries	LZX-CSTL2-PCB	LZX Industries	LZX-CSTL2-PCB	LZX Industries Castle 010 Clock VCO PCB	0	0	Fabricated	0
27	1	0	LZX Industries	LZX-CSTL2-FPN	LZX Industries	LZX-CSTL2-FPN	LZX Industries Castle 010 Clock VCO Frontpanel	0	0	Fabricated	0

011 Shift Register

Line Item	Quantity	Reference Designators	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Description	Value	Package	Part Type	Assembly Location
1	4	C1, C2, C4, C13	Panasonic	ECE-A1VKS100	Mouser	667-ECE-A1VKS100	Aluminum Electrolytic Capacitors - Leaded 10UF 35V KS RADIAL	10 u	0	Through Hole	PCB Top
2	9	C3, C5, C6, C7, C8, C9, C10, C	Vishay / Sprague	1C10Z5U104M050B	Mouser	75-1C10Z5U104M050B	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts Z5U 20% 2.5mm L/S	0.1 u	0	Through Hole	PCB Top
3	2	D1, D2	Fairchild Semiconductor	1N4001	Mouser	512-1N4001	Rectifiers Vr/50V Io/1A T/R	0	DO-41	Through Hole	PCB Top
4	6	D3, D4, D5, D6, D7, D8	STMicroelectronics	1N5711	Mouser	511-1N5711	Schottky Diodes & Rectifiers 15mA 70 Volt	0	DO-35	Through Hole	PCB Top
5	2	FB1, FB2	Fair-Rite	2743001111	Mouser	623-2743001111	EMI Filter Beads, Chips & Arrays 43 BEAD ON LEAD Z=68 OHM @ 100MHz	0	0	Through Hole	PCB Top
6	7	J1, J2, J3, J4, J6, J7, J8	Wenzhou QingPu	PJ302M	Thonk	MECH_JK_PJ302M	Right angled 3.5mm Jack Sockets w/Knurled Nuts, No Washers	0	0	Through Hole	PCB Top / Frontpanel
7	1	J5	0	0	Futurlec	IDCMH16	16 Pin Shrouded Male Headers IDC	0	0	Through Hole	PCB Top
8	7	R1, R2, R3, R4, R12, R14, R16	KOA Speer	MF1/4DCT52R4990F	Mouser	660-MF1/4DCT52R4990F	Metal Film Resistors - Through Hole 1/4W 499 ohm 1% 500 OHM 1%	499	0	Through Hole	PCB Top
9	14	R5, R6, R7, R8, R17, R18, R19,	KOA Speer	MF1/4DCT52R1001F	Mouser	660-MF1/4DCT52R1001F	Metal Film Resistors - Through Hole 1Kohms 1% 100PPM	1K	0	Through Hole	PCB Top
10	1	R9	KOA Speer	MF1/4DCT52R1002F	Mouser	660-MF1/4DCT52R1002F	Metal Film Resistors - Through Hole 10Kohms 1% 100PPM	10K	0	Through Hole	PCB Top
11	4	R10, R11, R13, R15	KOA Speer	MF1/4DCT52R1003F	Mouser	660-MF1/4DCT52R1003F	Metal Film Resistors - Through Hole 100Kohms 1% 100PPM	100K	0	Through Hole	PCB Top
12	4	R21, R23, R25, R27	KOA Speer	MF1/4DCT52R3901F	Mouser	660-MF1/4DCT52R3901F	Metal Film Resistors - Through Hole 3.9Kohms 1% 100PPM	3.9K	0	Through Hole	PCB Top
13	4	U1, U3, U4, U5	Texas Instruments	LM6172IN/NOPB	Mouser	926-LM6172IN/NOPB	Operational Amplifiers - Op Amps Dual High Speed,Low Pwr Amp	0	DIP-8	Through Hole	PCB Top
14	1	U2	ON Semiconductor / Fairchild	MC78L05ABPX	Mouser	512-MC78L05ABPX	Linear Voltage Regulators Pos Voltage Reg 3Term 0.1a	0	TO-92	Through Hole	PCB Top
15	1	U6	Texas Instruments	CD4015BE	Mouser	595-CD4015BE	Counter Shift Registers Dual 4-Stage Static	0	DIP-16	Through Hole	PCB Top
16	1	0	LZX Industries	LZX-CSTL3-PCB	LZX Industries	LZX-CSTL3-PCB	LZX Industries Castle 011 Shift Register PCB	0	0	Fabricated	0
17	1	0	LZX Industries	LZX-CSTL3-FPN	LZX Industries	LZX-CSTL3-FPN	LZX Industries Castle 011 Shift Register Frontpanel	0	0	Fabricated	0

100 Multi Gate

Line Item	Quantity	Reference Designators	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Description	Value	Package	Part Type	Assembly Location
1	4	C1, C2, C3, C15	Panasonic	ECE-A1VKS100	Mouser	667-ECE-A1VKS100	Aluminum Electrolytic Capacitors - Leaded 10UF 35V KS RADIAL	10 u	0	Through Hole	PCB Top
2	13	C4, C5, C6, C7, C8, C9, C10, C1	Vishay / Sprague	1C10Z5U104M050B	Mouser	75-1C10Z5U104M050B	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts Z5U 20% 2.5mm L/S	0.1 u	0	Through Hole	PCB Top
3	2	D1, D2	Fairchild Semiconductor	1N4001	Mouser	512-1N4001	Rectifiers Vr/50V Io/1A T/R	0	DO-41	Through Hole	PCB Top
4	4	D3, D4, D5, D6	STMicroelectronics	1N5711	Mouser	511-1N5711	Schottky Diodes & Rectifiers 15mA 70 Volt	0	DO-35	Through Hole	PCB Top
5	2	FB1, FB2	Fair-Rite	2743001111	Mouser	623-2743001111	EMI Filter Beads, Chips & Arrays 43 BEAD ON LEAD Z=68 OHM @ 100MHz	0	0	Through Hole	PCB Top
6	8	J1, J2, J3, J4, J5, J6, J8, J9	Wenzhou QingPu	PJ302M	Thonk	MECH_JK_PJ302M	Right angled 3.5mm Jack Sockets w/Knurled Nuts, No Washers	0	0	Through Hole	PCB Top / Frontpanel
7	1	J7	0	0	Futurlec	IDCMH16	16 Pin Shrouded Male Headers IDC	0	0	Through Hole	PCB Top
8	5	R1, R7, R16, R17, R19	KOA Speer	MF1/4DCT52R1003F	Mouser	660-MF1/4DCT52R1003F	Metal Film Resistors - Through Hole 100Kohms 1% 100PPM	100K	0	Through Hole	PCB Top
9	8	R2, R3, R4, R5, R6, R8, R18, R2	KOA Speer	MF1/4DCT52R4990F	Mouser	660-MF1/4DCT52R4990F	Metal Film Resistors - Through Hole 1/4W 499 ohm 1% 500 OHM 1%	499	0	Through Hole	PCB Top
10	1	R15	KOA Speer	MF1/4DCT52R1002F	Mouser	660-MF1/4DCT52R1002F	Metal Film Resistors - Through Hole 10Kohms 1% 100PPM	10K	0	Through Hole	PCB Top
11	16	R9, R10, R11, R12, R13, R14, R	KOA Speer	MF1/4DCT52R1001F	Mouser	660-MF1/4DCT52R1001F	Metal Film Resistors - Through Hole 1Kohms 1% 100PPM	1K	0	Through Hole	PCB Top
12	6	R24, R26, R28, R30, R32, R34	KOA Speer	MF1/4DCT52R3901F	Mouser	660-MF1/4DCT52R3901F	Metal Film Resistors - Through Hole 3.9Kohms 1% 100PPM	3.9K	0	Through Hole	PCB Top
13	4	U1, U3, U4, U8	Texas Instruments	LM6172IN/NOPB	Mouser	926-LM6172IN/NOPB	Operational Amplifiers - Op Amps Dual High Speed,Low Pwr Amp	0	DIP-8	Through Hole	PCB Top
14	1	U2	ON Semiconductor / Fairchild	MC78L05ABPX	Mouser	512-MC78L05ABPX	Linear Voltage Regulators Pos Voltage Reg 3Term 0.1a	0	TO-92	Through Hole	PCB Top
15	3	U5, U6, U7	Texas Instruments	SN74HC00N	Mouser	595-SN74HC00N	Logic Gates Quad 2-Input NAND	0	DIP-14	Through Hole	PCB Top
16	1	U9	Texas Instruments	TL072IP	Mouser	595-TL072IP	Operational Amplifiers - Op Amps Dual JFET In Low N	0	DIP8	Through Hole	PCB Top
17	1	0	LZX Industries	LZX-CSTL4-PCB	LZX Industries	LZX-CSTL4-PCB	LZX Industries Castle 100 Multi Gate PCB	0	0	Fabricated	0
18	1	0	LZX Industries	LZX-CSTL4-FPN	LZX Industries	LZX-CSTL4-FPN	LZX Industries Castle 100 Multi Gate Frontpanel	0	0	Fabricated	0

101 Quad Gate

Line Item	Quantity	Reference Designators	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Description	Value	Package	Part Type	Assembly Location
1	4	C1, C2, C3, C15	Panasonic	ECE-A1VKS100	Mouser	667-ECE-A1VKS100	Aluminum Electrolytic Capacitors - Leaded 10UF 35V KS RADIAL	10 u	0	Through Hole	PCB Top
2	11	C4, C5, C6, C7, C8, C9, C10, C11	Vishay / Sprague	1C10Z5U104M050B	Mouser	75-1C10Z5U104M050B	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts Z5U 20% 2.5mm L/S	0.1 u	0	Through Hole	PCB Top
3	2	D1, D2	Fairchild Semiconductor	1N4001	Mouser	512-1N4001	Rectifiers Vr/50V Io/1A T/R	0	DO-41	Through Hole	PCB Top
4	8	D3, D4, D5, D6, D7, D8, D9, D10	STMicroelectronics	1N5711	Mouser	511-1N5711	Schottky Diodes & Rectifiers 15mA 70 Volt	0	DO-35	Through Hole	PCB Top
5	2	FB1, FB2	Fair-Rite	2743001111	Mouser	623-2743001111	EMI Filter Beads, Chips & Arrays 43 BEAD ON LEAD Z=68 OHM @ 100MHz	0	0	Through Hole	PCB Top
6	8	J1, J2, J3, J4, J6, J7, J8, J9	Wenzhou QingPu	PJ302M	Thonk	MECH_JK_PJ302M	Right angled 3.5mm Jack Sockets w/Knurled Nuts, No Washers	0	0	Through Hole	PCB Top / Frontpanel
7	1	J5	0	0	Futurlec	IDCMH16	16 Pin Shrouded Male Headers IDC	0	0	Through Hole	PCB Top
8	8	R1, R4, R6, R7, R19, R21, R23, R24	KOA Speer	MF1/4DCT52R4990F	Mouser	660-MF1/4DCT52R4990F	Metal Film Resistors - Through Hole 1/4W 499 ohm 1% 500 OHM 1%	499	0	Through Hole	PCB Top
9	16	R2, R3, R8, R9, R10, R11, R13, R14	KOA Speer	MF1/4DCT52R1001F	Mouser	660-MF1/4DCT52R1001F	Metal Film Resistors - Through Hole 1Kohms 1% 100PPM	1K	0	Through Hole	PCB Top
10	4	R5, R12, R32, R34	KOA Speer	MF1/4DCT52R3901F	Mouser	660-MF1/4DCT52R3901F	Metal Film Resistors - Through Hole 3.9Kohms 1% 100PPM	3.9K	0	Through Hole	PCB Top
11	1	R16	KOA Speer	MF1/4DCT52R1002F	Mouser	660-MF1/4DCT52R1002F	Metal Film Resistors - Through Hole 10Kohms 1% 100PPM	10K	0	Through Hole	PCB Top
12	5	R17, R18, R20, R22, R24	KOA Speer	MF1/4DCT52R1003F	Mouser	660-MF1/4DCT52R1003F	Metal Film Resistors - Through Hole 100Kohms 1% 100PPM	100K	0	Through Hole	PCB Top
13	4	U1, U3, U5, U7	Texas Instruments	LM6172IN/NOPB	Mouser	926-LM6172IN/NOPB	Operational Amplifiers - Op Amps Dual High Speed,Low Pwr Amp	0	DIP-8	Through Hole	PCB Top
14	1	U2	ON Semiconductor / Fairchild	MC78L05ABPX	Mouser	512-MC78L05ABPX	Linear Voltage Regulators Pos Voltage Reg 3Term 0.1a	0	TO-92	Through Hole	PCB Top
15	1	U4	Texas Instruments	TL072IP	Mouser	595-TL072IP	Operational Amplifiers - Op Amps Dual JFET In Low N	0	DIP8	Through Hole	PCB Top
16	1	U6*	Texas Instruments	CD4070BE	Mouser	595-CD4070BE	Logic Gates Quad Exclusive	0	DIP-14	Through Hole	PCB Top
17	1	0	LZX Industries	LZX-CSTL5-PCB	LZX Industries	LZX-CSTL5-PCB	LZX Industries Castle 101 Quad Gate PCB	0	0	Fabricated	0
18	1	0	LZX Industries	LZX-CSTL5-FPN	LZX Industries	LZX-CSTL5-FPN	LZX Industries Castle 101 Quad Gate Frontpanel	0	0	Fabricated	0
		*U6 Alternates									
	1	U6	Texas Instruments	CD4011BE	Mouser	595-CD4011BE	Logic Gates Quad 2-Input NAND	0	DIP-14	Through Hole	PCB Top
	1	U6	Texas Instruments	CD4001BE	Mouser	595-CD4001BE	Logic Gates Quad 2-Input NOR	0	DIP-13	Through Hole	PCB Top

110 Counter

Line Item	Quantity	Reference Designators	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Description	Value	Package	Part Type	Assembly Location
1	12	C1, C3, C5, C6, C7, C8, C9, C10	Vishay / Sprague	1C10Z5U104M050B	Mouser	75-1C10Z5U104M050B	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts Z5U 20% 2.5mm L/S	0.1 u	0	Through Hole	PCB Top
2	4	C2, C4, C15, C16	Panasonic	ECE-A1VKS100	Mouser	667-ECE-A1VKS100	Aluminum Electrolytic Capacitors - Leaded 10UF 35V KS RADIAL	10 u	0	Through Hole	PCB Top
3	2	D1, D2	Fairchild Semiconductor	1N4001	Mouser	512-1N4001	Rectifiers Vr/50V Io/1A T/R	0	DO-41	Through Hole	PCB Top
4	6	D3, D4, D5, D6, D7, D8	STMicroelectronics	1N5711	Mouser	511-1N5711	Schottky Diodes & Rectifiers 15mA 70 Volt	0	DO-35	Through Hole	PCB Top
5	2	FB1, FB2	Fair-Rite	2743001111	Mouser	623-2743001111	EMI Filter Beads, Chips & Arrays 43 BEAD ON LEAD Z=68 OHM @ 100MHz	0	0	Through Hole	PCB Top
6	8	J1, J2, J3, J4, J5, J7, J8, J9	Wenzhou QingPu	PJ302M	Thonk	MECH_JK_PJ302M	Right angled 3.5mm Jack Sockets w/Knurled Nuts, No Washers	0	0	Through Hole	PCB Top / Frontpanel
7	1	J6	0	0	Futurlec	IDCMH16	16 Pin Shrouded Male Headers IDC	0	0	Through Hole	PCB Top
8	8	R1, R2, R3, R4, R5, R14, R16, R	KOA Speer	MF1/4DCT52R4990F	Mouser	660-MF1/4DCT52R4990F	Metal Film Resistors - Through Hole 1/4W 499 ohm 1% 500 OHM 1%	499	0	Through Hole	PCB Top
9	16	R6, R7, R8, R9, R10, R19, R20, R	KOA Speer	MF1/4DCT52R1001F	Mouser	660-MF1/4DCT52R1001F	Metal Film Resistors - Through Hole 1Kohms 1% 100PPM	1K	0	Through Hole	PCB Top
12	5	R23, R25, R27, R29, R31	KOA Speer	MF1/4DCT52R3901F	Mouser	660-MF1/4DCT52R3901F	Metal Film Resistors - Through Hole 3.9Kohms 1% 100PPM	3.9K	0	Through Hole	PCB Top
10	1	R11	KOA Speer	MF1/4DCT52R1002F	Mouser	660-MF1/4DCT52R1002F	Metal Film Resistors - Through Hole 10Kohms 1% 100PPM	10K	0	Through Hole	PCB Top
11	4	R12, R13, R15, R17	KOA Speer	MF1/4DCT52R1003F	Mouser	660-MF1/4DCT52R1003F	Metal Film Resistors - Through Hole 100Kohms 1% 100PPM	100K	0	Through Hole	PCB Top
13	4	U1, U3, U5, U6	Texas Instruments	LM6172IN/NOPB	Mouser	926-LM6172IN/NOPB	Operational Amplifiers - Op Amps Dual High Speed,Low Pwr Amp	0	DIP-8	Through Hole	PCB Top
14	1	U2	ON Semiconductor / Fairchild	MC78L05ABPX	Mouser	512-MC78L05ABPX	Linear Voltage Regulators Pos Voltage Reg 3Term 0.1a	0	TO-92	Through Hole	PCB Top
15	1	U4	Texas Instruments	TL072IP	Mouser	595-TL072IP	Operational Amplifiers - Op Amps Dual JFET In Low N	0	DIP8	Through Hole	PCB Top
16	1	U7	Texas Instruments	SN74HC191N	Mouser	595-SN74HC191N	Counter ICs 4-Bit Sync UpDn Bnry	0	DIP-16	Through Hole	PCB Top
17	1	0	LZX Industries	LZX-CSTL6-PCB	LZX Industries	LZX-CSTL6-PCB	LZX Industries Castle 110 Counter PCB	0	0	Fabricated	0
18	1	0	LZX Industries	LZX-CSTL6-FPN	LZX Industries	LZX-CSTL6-FPN	LZX Industries Castle 110 Counter Frontpanel	0	0	Fabricated	0

111 D Flip Flop

Line Item	Quantity	Reference Designators	Manufacturer	Manufacturer P/N	Vendor	Vendor P/N	Description	Value	Package	Part Type	Assembly Location
1	4	C1, C2, C3, C4	Panasonic	ECE-A1VKS100	Mouser	667-ECE-A1VKS100	Aluminum Electrolytic Capacitors - Leaded 10UF 35V KS RADIAL	10 u	0	Through Hole	PCB Top
2	10	C6, C8, C10, C11, C12, C13, C14	Vishay / Sprague	1C10Z5U104M050B	Mouser	75-1C10Z5U104M050B	Multilayer Ceramic Capacitors MLCC - Leaded 0.1uF 50volts Z5U 20% 2.5mm L/S	0.1 u	0	Through Hole	PCB Top
3	2	D1, D2	Fairchild Semiconductor	1N4001	Mouser	512-1N4001	Rectifiers Vr/50V Io/1A T/R	0	DO-41	Through Hole	PCB Top
4	10	D3, D4, D5, D6, D7, D8, D9, D10	STMicroelectronics	1N5711	Mouser	511-1N5711	Schottky Diodes & Rectifiers 15mA 70 Volt	0	DO-35	Through Hole	PCB Top
5	2	FB1, FB2	Fair-Rite	2743001111	Mouser	623-2743001111	EMI Filter Beads, Chips & Arrays 43 BEAD ON LEAD Z=68 OHM @ 100MHz	0	0	Through Hole	PCB Top
6	8	J1, J2, J3, J5, J6, J7, J8, J9	Wenzhou QingPu	PJ302M	Thonk	MECH_JK_PJ302M	Right angled 3.5mm Jack Sockets w/Knurled Nuts, No Washers	0	0	Through Hole	PCB Top / Frontpanel
8	1	J4	0	0	Futurlec	IDCMH16	16 Pin Shrouded Male Headers IDC	0	0	Through Hole	PCB Top
9	8	R1, R2, R3, R10, R12, R14, R16, R18, R19, R20	KOA Speer	MF1/4DCT52R4990F	Mouser	660-MF1/4DCT52R4990F	Metal Film Resistors - Through Hole 1/4W 499 ohm 1% 500 OHM 1%	499	0	Through Hole	PCB Top
10	16	R4, R5, R6, R17, R18, R19, R20	KOA Speer	MF1/4DCT52R1001F	Mouser	660-MF1/4DCT52R1001F	Metal Film Resistors - Through Hole 1Kohms 1% 100PPM	1K	0	Through Hole	PCB Top
11	1	R7	KOA Speer	MF1/4DCT52R1002F	Mouser	660-MF1/4DCT52R1002F	Metal Film Resistors - Through Hole 10Kohms 1% 100PPM	10K	0	Through Hole	PCB Top
12	6	R8, R9, R11, R13, R15, R31	KOA Speer	MF1/4DCT52R1003F	Mouser	660-MF1/4DCT52R1003F	Metal Film Resistors - Through Hole 100Kohms 1% 100PPM	100K	0	Through Hole	PCB Top
13	3	R22, R24, R26	KOA Speer	MF1/4DCT52R3901F	Mouser	660-MF1/4DCT52R3901F	Metal Film Resistors - Through Hole 3.9Kohms 1% 100PPM	3.9K	0	Through Hole	PCB Top
14	4	U1, U3, U5, U6	Texas Instruments	LM6172IN/NOPB	Mouser	926-LM6172IN/NOPB	Operational Amplifiers - Op Amps Dual High Speed,Low Pwr Amp	0	DIP-8	Through Hole	PCB Top
15	1	U2	ON Semiconductor / Fairchild	MC78L05ABPX	Mouser	512-MC78L05ABPX	Linear Voltage Regulators Pos Voltage Reg 3Term 0.1a	0	TO-92	Through Hole	PCB Top
16	1	U4	Texas Instruments	TL072IP	Mouser	595-TL072IP	Operational Amplifiers - Op Amps Dual JFET In Low N	0	DIP8	Through Hole	PCB Top
17	1	U7	Texas Instruments	SN74HC174N	Mouser	595-SN74HC174N	Flip Flops Hex w/ Clear	1	DIP-16	Through Hole	PCB Top
18	1	0	LZX Industries	LZX-CSTL8-PCB	LZX Industries	LZX-CSTL8-PCB	LZX Industries Castle 111 D Flip Flops PCB	0	0	Fabricated	0
19	1	0	LZX Industries	LZX-CSTL8-FPN	LZX Industries	LZX-CSTL8-FPN	LZX Industries Castle 111 D Flip Flops Frontpanel	0	0	Fabricated	0