

Low pass: 40-290Hz, Band pass: 320-2900Hz (1.0kHz center), High pass: 3.1kHz

Rev. 1

Item	QTY	Value	Designations	Type	Digikey part code	Note
1	5	10uF	C1,C2,C3,C23,C24	POLAR 0.1", =>25V	P5161-ND	DC filter, any radial type
	3	10uF	C15,C16,C17	Colour organ use, omit for audio signal out.		LED flashing response
	Ceramic cap is any type, radial X5R/X7R =>16V, bend leads to match spacing if necessary.					
2	5	1uF	C4,C5,C18,C20,C21	CER CAP 0.1", 105	445-173155-1-ND	
3	1	0.22uF	C6	CER CAP 0.2", 224	445-173377-1-ND	
4	2	0.01uF	C7,C8	CER CAP 0.2", 103		
5	3	0.01uF	C11,C12,C19	CER CAP 0.1", 103	445-173264-1-ND	
6	2	0.1uF	C9,C10	CER CAP 0.2", 104	445-173588-1-ND	
7	1	0.1uF	C22	CER CAP 0.1", 104		
8	1	0.022uF	C13	CER CAP 0.1", 223		optional 2x10nF caps
9	1	0.001uF	C14	CER CAP 0.1", 102		
10	2	0.001uF	Clin,Cmin (optional)	CER CAP 0.1", 103	Optional line/mic filter, solder line/mic leads.	
11	1	10k var	R1	TRIMMER 10K PIN	3362P-103LF-ND	optional 10k resistor
12	3	0R	R6,R7,R8	wire jumper	Use R34 if omit VRs	
		10k var	optional	TRIMMER 10K PIN	Band intensity or tone control	
13	1	1k var	R9	TRIMMER 1K PIN	3362P-102LF-ND	Output LED Voffset bias
	All resistor are axial 0.2", ±5%, 1/6W, <value>EBK-ND					
14	1	20k	R2	AXIAL 0.2", 2x10k	20kEBK-ND	optional 2x10k
15	3	15k	R3,R10,R20	AXIAL 0.2"	15kEBK-ND	
16	10	10k	R4,R13,R15,R17,R21, R37,R38,R40,R42,R43	AXIAL 0.2"		
17	2	10k	RMin,Rlin (optional)	AXIAL 0.2"	line/mic load, solder to leads	
18	1	100k	R5 (buffer signal gain)	AXIAL 0.2"	100/200k VR trimmer gain adj, bend pin2-3	
		220k	220k if using earphone	AXIAL 0.2", trimmer VR	optional adjustable gain	
19	3	100k	R26,R30,R33	AXIAL 0.2"	flashing response speed, 47k for fast	
20	2	56k	R11,R12	AXIAL 0.2"		
21	1	3.0k	R14	AXIAL 0.2"		
22	2	33k	R16,R19	AXIAL 0.2"		
23	1	5.6k	R18	AXIAL 0.2"		
24	2	47k	R22,R24	AXIAL 0.2"		
25	7	4.7k	R23,R27,R28,R31, R34,R35,R36	AXIAL 0.2"		
26	3	0R	R25,R29,R32	wire jumper, 100R	100EBK-ND	100R optional
27	1	1.0M	R39	AXIAL 0.2"		
28	1	220k	R41	AXIAL 0.2"		
29	1	78L05	REG1	5V 0.1A, TO-92	AS78L05ZTR-E1	any 78L05 type
30	1	78L08	REG2	8V 0.1A TO-92	78L08	78L09 optional
31	1	2N3904	Q4	TO-92, NPN, 40V, 0.2A	2N3904	
32	1	J175	Q5	TO-92, JFET P-Ch	J175	
33	2	1N4148	D1,D5	DIODE 0.2", axial		any type
	3	1N4148	D2,D3,D4	DIODE 0.2", axial	use OR wire for audio signal out use	
34	1	SW1	S1	SIP3, switch, 0.1" 3-pin, s	select line/microphone	
35	2	LM258	IC1,IC2	DIP8, through-hole		
36	1	LED	LED1-5	LED 5mm, any type	optional	
38	3	IRFZ14	Q1,Q2,Q3	TO-220, N-CH MOSFET	IRFZ*4, any MOSFET 4Vgs.	
39	1	MIC	MIC	Electret microphone	668-1296-ND	

Microphone circuit parts (R37,R38,R39,C18,C19,Q4). AGC level limit parts (D5,R42,C22,R40,R41,Q5,C23,R43=0R)

1. Standard line level (0.20V-2.0V) or microphone RGB 3-channel color organ. Use parts as listed.

2. Standard line level 3-channel audio bandpass filter. Use parts as listed.

-Omit RC filter/MOSFET side parts. Audio output at MOSFET gate (pin1).

-AGC level limit section (Q5/J175) maybe omitted if high input/output linearity is required.

-R25/29/32 use 10uF cap for audio signals at MOSFET gate (pin1)

-Tone control to 1-CH output. R25/29/32=100R. Connect Q1/2/3 pin 1s together. Add 10uF series to audio out.