

Series II - Bill of Materials

revision: I
date: 21-Jun-05

Optional part depending on power level of TV or FM

Item	Qty	Components	Description	Tolerance	Package	Equivalency
1	1	BZ101	BUZZER, magnetic, 5V, single tone		SMD CT-1205C	CUI CT-1205C
2	2	C101, C105	CAPACITOR, electrolytic, 100uF, 63V	<=20%	SMT (Panasonic VS "G" size)	Panasonic ECE-V1JA101P, NIC NACEW101M63V10x10.5
3	2	C102, C106	CAPACITOR, electrolytic, 330uF, 35V	<=20%	SMT (Panasonic VS "G" size)	Panasonic ECE-V1VA331P, NIC NACEW331M35V10x10.5
4	21	C103, C104, C107, C112, C113, C115, C116, C118, C119, C120, C121, C123, C124, C125, C126, C128, C129, C130, C131, C133, C134	CAPACITOR, ceramic, 0.01uF, 63V	<=20%	SMT 0805	Digikey C0805C103K5RACTU
5	7	C108, C111, C140, C143, C144, C145, C146	CAPACITOR, ceramic, 0.1uF, 25V	<=20%	SMT 1206	Utech GMC31X7R104K50NT
6	2	C109, C110	CAPACITOR, electrolytic, 100uF, 25V	<=20%	SMT (Panasonic VS "E" size)	Panasonic ECE-V1EA101UP
7	7	C114, C117, C122, C127, C132, C135, C147	CAPACITOR, tantalum, 1uF, 16V	<=20%	SMT 3216	Sprague 293D105X9035B2T
8	1	CR101	CLOCK, ceramic resonator, 4.000 MHz, w/caps	f <= 0.5% C <= 20%	Through hole, 3-position, 0.1" spacing	ECS Inc. ZTT-4.00MG
9	1	D101	TV Power Amplifier: DIODE, TVS, 600 watts, Vwm=30V, Vbr min=33.3		SMB	Crydom SMBJ30A; GI SMBJ30A
10	1	D101	FM Power Amplifier: DIODE, TVS, 600 watts, Vwm=48V, Vbr min=53.3		SMB	Crydom SMBJ48A; GI SMBJ48A
11	2	D102, D103	DIODE, schottky, If=3A, Vr=60V		SMC	International Rectifier 30BQ060
12	1	D104	DIODE, rectifier, If=1A, Vr=200V		SMA	Diodes Inc S1D-13
13	2	D108, D109	DIODE, TVS, 600 watts, Vwm=5.0V, Vbr min=6.4		SMB	Crydom SMBJ5.0A; GI SMBJ5.0A
14	1	D110	DIODE, LED, RED, clear or diffused		SMT 1206	Lumex SML-LX1206IW
15	1	F101	FUSE, resettable, Ihold=0.75A, Itrip=1.5A, Vmax=72V		0.23" lead spacing, 20AWG leads	Raychem RXE075; Bourns MF-R075
16	3	F105, F106, F107	FUSE, resettable, Ihold=0.14A, Itrip=0.34A, Vmax=60V		miniSMD	Raychem miniSMDC014-2
17	1	J101	CONNECTOR, 4-position plug, 180 degree wire entry, 90 degree screw access, 5.08mm		0.2" spacing	Wieland 25.340.3453, Weco 10.808.104
18	1	J101	CONNECTOR, 4-position header, pluggable, vertical, closed, 5.08mm		Through hole, 0.2" spacing	Wieland 25.350.3453, Weco 20.806.128
19	2	J102, J106	CONNECTOR, breakout header strip, 3-position, 0.1", square post		Through hole, 0.1" spacing	Molex 22-28-4300; Samtec TSW-130-05-T-S
20	1	J105	CONNECTOR, breakout header strip, 2-position, 0.1", square post		Through hole, 0.1" spacing	Molex 22-28-4300; Samtec TSW-130-05-T-S
21	3	J102, J105, J106	CONNECTOR, 2-position post shunts		0.1" spacing	AMP 382811-6; Samtec SNT-100-BK-T
22	1	J103	CONNECTOR, 5-position plug, 180 degree wire entry, 90 degree screw access, 5.08mm		0.2" spacing	Wieland 25.340.3553.0
23	1	J103	CONNECTOR, 5-position header, 0.1", vertical		Through hole 0.2" spacing	Wieland 25.350.3553.0
24	2	J107, J108	CONNECTOR, 3-position plug, 180 degree wire entry, 90 degree screw access, 5.08mm		0.2" spacing	Wieland 25.340.3353, Weco 10.808.103
25	2	J107, J108	CONNECTOR, 3-position header, pluggable, vertical, closed, 5.08mm		Through hole, 0.2" spacing	Wieland 25.350.3353, Weco 20.806.127
26	1	J109	CONNECTOR, terminal strip, 16-position		Through hole, 0.1" spacing	Samtec TSW-116-18-T-S
27	1	J109	CONNECTOR, socket strip, 16-position		Through hole, 0.1" spacing	Samtec SSW-116-03-T-S
28	1	K101	RELAY, DPDT, 5V, 2Adc contact, SMD		Relay - Aromat - TX SA	Aromat TX2SA-5V
29	1	L101	INDUCTOR, 680uH, Irms=0.4A, DCR=2.02 ohms		SMT	JW Miller 3316-681M
30	10	L102, L105, L106, L107, L108, L109, L110, L111, L112, L113	INDUCTOR, 0.01uH, Imax=0.45A, DCR=0.13 ohms	+/- 10%	SMT 1210	KOA KL32TE010K
31	1	L103	INDUCTOR, 680uH, Irms=1.3A, DCR=0.2 ohms		SMT (Talema S5)	Talema SWS-0.85-680
32	1	LCD101	20 X 4 character liquid crystal display, LED backlit		4-40 pem mount (4)	Varitronix 20464K
33	1	PCB101	Series II, revision H printed circuit board, soldermask, silkscreen, FR4			Alberta Printed Circuits, MPC, GRM, Enigma, ...
34	2	Q101, Q102	TRANSISTOR, NPN, Ic=1A, Vce=40V		SMT SOT-23	Fairchild MMBT2222A; Zetex FMMT2222A; Diodes Inc MMBT2222A-7
35	1	R101	RESISTOR, 4.7 ohm, 1/2 watt, carbon film	5%	SMT 2010	Panasonic ERJ-12ZYJ4R7U
36	1	R102	RESISTOR, 15.0 ohm, 1/10 watt, thick film	1%	SMD 0805	Panasonic ERJ-6ENF15R0V
37	1	R103	RESISTOR, 75.0 ohm, 1/10 watt, thick film	1%	SMD 0805	Digikey MCR10EZHF1001, Panasonic ERJ-6ENF75R0V
38	11	R104, R105, R106, R109, R110, R111, R112, R115, R116, R132, R134	RESISTOR, 1.00 kohm, 1/10 watt, thick film	1%	SMD 0805	Panasonic ERJ-6ENF1001V
39	4	R107, R108, R113, R114	RESISTOR, 10.0 kohm, 1/10 watt, thick film	1%	SMD 0805	Panasonic ERJ-6ENF1002V

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40	1	R117	RESISTOR, 4.99 kohm, 1/10 watt, thick film	1%	SMD 0805	Panasonic ERJ-6ENF4991V
41	1	R124	RESISTOR, 13 kohm, 1/8 watt	1%	SMD 0805	Rohm MCR10EZHF1302
42	4	R125, R127, R126, R128	RESISTOR, 1 kohm, 1/8 watt	1%	SMD 0805	Rohm MCR10EZHF1001
43	1	R129	RESISTOR, 121 kohm, 1/8 watt	1%	SMD 0805	Rohm MCR10EZHF1213
44	1	R130	RES, 2.15 kohm, 1/10 watt, thick film	1%	SMD 0805	Rohm MCR10EZHF2151
45	1	R131	RES, 120 ohm, 1/10 watt, thick film	1%	SMD 0805	Panasonic ERJ-6ENF1200V
46	2	U101, U102	TV Power Amplifier: REGULATOR, switching, 5Vdc, 3A, fosc=52kHz		SMD TO-263-5	National LM2576S-5.0
47	2	U101, U102	FM Power Amplifier: REGULATOR, switching, 5Vdc, 3A, fosc=52kHz		SMD TO-263-5	National LM2576HVS-5.0
48	1	U104	REGULATOR, inverter, 100mA		SMD SOIC-8	National LM2660M; Analog Devices ADM8660, Maxxim MAX660
49	2	U105, U106	OPTOISOLATOR, dual, Viso=5300Vac		SMD DIP8	Fairchild MCT6S
50	1	U108	OP AMP, quad, low voltage		SMD SOIC-14	National LMV324M
51	1	U109	REFERENCE, 2.50V (for TV PA >= 250Wpk)	+/-0.2%	SMD SOT-23	National LM4040BIM3-2.5
52	1	U110	ADC, 10-bit, 10-channel		SMD SOIC-20	Analog Devices AD7812YR
53	2	U111, U112	LOGIC, 8-bit shift register with latches		SMD SOIC-16	Fairchild MM74HC595M; On Semi MC74HC595AD; Phillips 74HC595D
54	1	U113	SUPERVISOR, n-channel, open drain, internal pullup resistor		SMD SOT-23	MCP130T-450I
55	1	U114	MICROCONTROLLER, OTP, 4k, 22 I/O lines		Through hole DIP-28	Microchip PIC16C63A-04/SP
56	1	J111	Connector, socket, 28-position, DIP, 0.3" spacing		Through hole DIP-28	Jameco 112299CL or equivalent
57	1	U115	MEMORY, 8k X 8, EEPROM, SPI		SMD SOIC-8	Microchip 25LC640I/SN
58	1	VR101	do not stuff			
59	4	VR102, VR103, VR104, VR105	RES, variable, 10 kohm, 1-turn, 3mm		SMD Bourns TC33	Bourns TC33X-2-103E