

NHRC REPEATER CONTROLLERS

NHRC-6 Repeater Controller

Bill Of Materials

Revised: Monday, June 17, 2002

Revision: A

NHRC Repeater Controllers

444 Micol Road

Pembroke, NH 03275

603-485-2248

Item	Qty.	Ref.	Schematic Value	Description	Mfg.	Mfg. P/N	Notes
1	9	C1,C2,C3,C5,C13,C15,C16,C19,C23	1uF	1uF 16V Tantalum Cap	Panasonic	ECS-F1CE105K	
2	2	C14,C4	0.0068uF	0.0068uF 50V X7R Ceramic Radial Cap	Panasonic	ECU-S1H682KBA	
3	12	C6,C9,C10,C11,C12,C17,C18,C20,C21,C22,C26,C29	0.1uF	0.1uF 50V Z5U Ceramic Radial Cap	Panasonic	ECU-S1H104MEA	
4	1	C7	220uF	220uF 25V Aluminum Radial Electrolytic Cap	Panasonic	ECA-1EM221	
5	1	C8	22uF	22uF 25V Aluminum Radial Electrolytic Cap	Panasonic	ECA-1EM220	
6	4	C24,C25,C27,C28	33pF	33pF 100V C0G Ceramic Radial Cap	Panasonic	ECU-S2A330JCA	
7	1	D1	1N4002	1A 100V Silicon Rectifier	Diodes Inc	1N4002	
8	3	D2,D3,D6	LED	Red T1¼ LED	Lite-On	LTL-4203	
9	4	D4,D5,D7,D8	LED	Green T1¼ LED	Lite-On	LTL-4233	
10	2	D10,D9	LED	Yellow T1¼ LED	Lite-On	LTL-4253	
11	1	F1	1/2 A	1.1A Polyswitch	Raychem	RUE110	
12	2	JP1,JP2	2 WAY JUMPER	3 Circuit Header, .100" Straight	Molex	22-03-2031	
13	2	JP3,JP4	JUMPER	2 Circuit Header, .100" Straight	Molex	22-03-2021	
14	2	J2,J1	CONNECTOR DB9F	DB9F Right Angle Connector 0.318" PCB mount	NorComp	182-009-212-531	
15	1	J3	POWER JACK	Coaxial Power Jack, Right Angle PCB mount	Switchcraft	RAPC712	
16	2	J4,J5	HEADER 4	4 Circuit Header, .100" Straight w/ lock	Molex	22-23-2041	
17	3	Q1,Q2,Q3	IRF510	N Channel HEXFET	IRF	IRF510	
18	4	Q4,Q5,Q6,Q7	2N3904	NPN Transistor	Fairchild	2N3904	
19	2	Q8,Q9	2N7000	N Channel MOSFET	Fairchild	2N7000	
20	1	RP1	10K	10K x 4 Isolated Resistor Pack	Bourns	4608X-102-103	
21	1	RP2	10K	10K x 8 Bussed Resistor Pack	Bourns	4609X-101-103	
21	8	R1,R5,R6,R8,R17,R21,R27,R29	10K	10K ¼W 5% Carbon Film Resistor	Yaego	CFR-25JB 10K	
23	1	RP3	470	470 x 9 Bussed Resistor Pack	Bourns	4610X-101-471	
24	2	R22,R2	11.3K	11.3K ¼W 1% Metal Film Resistor	Yaego	MFR-25FBF 11K3	
25	2	R3,R23	93.1K	93.1K ¼W 1% Metal Film Resistor	Yaego	MFR-25FBF 93K1	
26	6	R4,R9,R10,R16,R18,R24	22K	22K ¼W 5% Carbon Film Resistor	Yaego	CFR-25JB 22K	
27	6	R7,R15,R30,R31,R32,R33	100K	100K ¼W 5% Carbon Film Resistor	Yaego	CFR-25JB 100K	
28	2	R11,R19	33K	33K ¼W 5% Carbon Film Resistor	Yaego	CFR-25JB 33K	
29	2	R12,R20	0	Zero Ohm ¼W Jumper	Yaego	ZOR-25-B	
30	3	R13,R14,R25	100	100 ¼W 5% Carbon Film Resistor	Yaego	CFR-25JB 100R	
31	2	R28,R26	470K	470K ¼W 5% Carbon Film Resistor	Yaego	CFR-25JB 470K	
32	1	R34	1.2K	1.2K ¼W 5% Carbon Film Resistor	Yaego	CFR-25JB 1K2	

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33	2	U1,U3	TL064		Quad JFET Input Op-Amp	TI	TL064CN	
34	1	U2	MAX4066		Quad SPST Analog Switch	Maxim	MAX4066	
35	1	U4	LM7805CT		5V 1.0A Voltage Regulator	Nat'l Semi	LM340T-5.0	
36	1	U5	PIC16F876-20/SP		Microcontroller w/ 8K Flash Memory	Microchip	PIC16F876-20/SP	
37	2	U6,U7	M-8870-01		DTMF Decoder	Teltone	M-8870-01	
38	4	VR1,VR2,VR5,VR6	10K	POT	10K 6mm Carbon Trimpot	Panasonic	EVN-D8AA03B14	
39	2	VR7,VR3	20K	POT	20K 6mm Carbon Trimpot	Panasonic	EVN-D8AA03B24	
40	2	VR8,VR4	200K	POT	200K 6mm Carbon Trimpot	Panasonic	EVN-D8AA03B25	
41	1	Y1	16MHz		16MHz Crystal	ECS	ECS-160-20-4	
42	1	Y2	3.579MHz		3.579545MHz Crystal	ECS	ECS-35-17-4	
Additional Items								
43	1				NHRC-6 PCB rev B	NHRC	NHRC-6 PCB rev B	
44	1				28 Pin DIP Socket	Mill-Max	110-99-328-41-001	
45	2				18 Pin DIP Socket	Mill-Max	110-99-318-41-001	
46	3				14 Pin DIP Socket	Mill-Max	110-99-314-41-001	
47	2				4 Circuit Housing, .100" w/ lock and polarizer	Molex	22-01-3047	
48	8				Crimp Terminal for Molex Housing	Molex	08-50-0114	
49	4				Shorting Jumpers	3M	929950-00-I	