

# SERVICE MANUAL

for

Systemline Zone Splitter (ZSB3)

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## 1.0 PREPARING UNIT FOR REPAIR

To access the PCB for repair, servicing or software update purposes, the unit is dismantled thus: turn the unit upside down and locate the position of the four pozi screws. Undo all of these and retain.

Ease the top of the unit off, taking care not to move the LED's protruding through the front of the unit.

Locate the four screws holding the PCB in and remove and retain these. Ease the PCB out, making sure that the connectors do not snag on the holes.

The unit is now ready for repair.

NOTE: To remove the software, in the case of a software upgrade, use a suitable IC extraction tool.

## 2.0 CIRCUIT DESCRIPTION

This device is essentially a remote control two way parallel speaker switch. Its operation is determined by the DMS display module connected to the J1 input. U1 is a uController programmed to decode dedicated IR codes generated by the DMS when the 'A' & 'B' speaker buttons are depressed. Speaker relays RL1 & RL2 are activated by transistors Q1 & Q2.

The relays are normally OFF unless an IR command has been received from the DMS module. Because the Zone Splitter does not contain any non-volatile memory, the DMS transmits the speaker settings as they last were when the system was powered down. The internal software logic of the DMS also ensures that it is not possible for the zone splitter to turn both sets of speakers OFF while the controller is ON.

OR gate (U2:A) is used as an IR data mixer. This allows signals from the control device in the other half of the split zone to pass through to the controller. Note: Only the DMS connected to J1 will have control over the speaker selection.

For details of the PCB, items list and circuit diagram please refer to Appendix B.

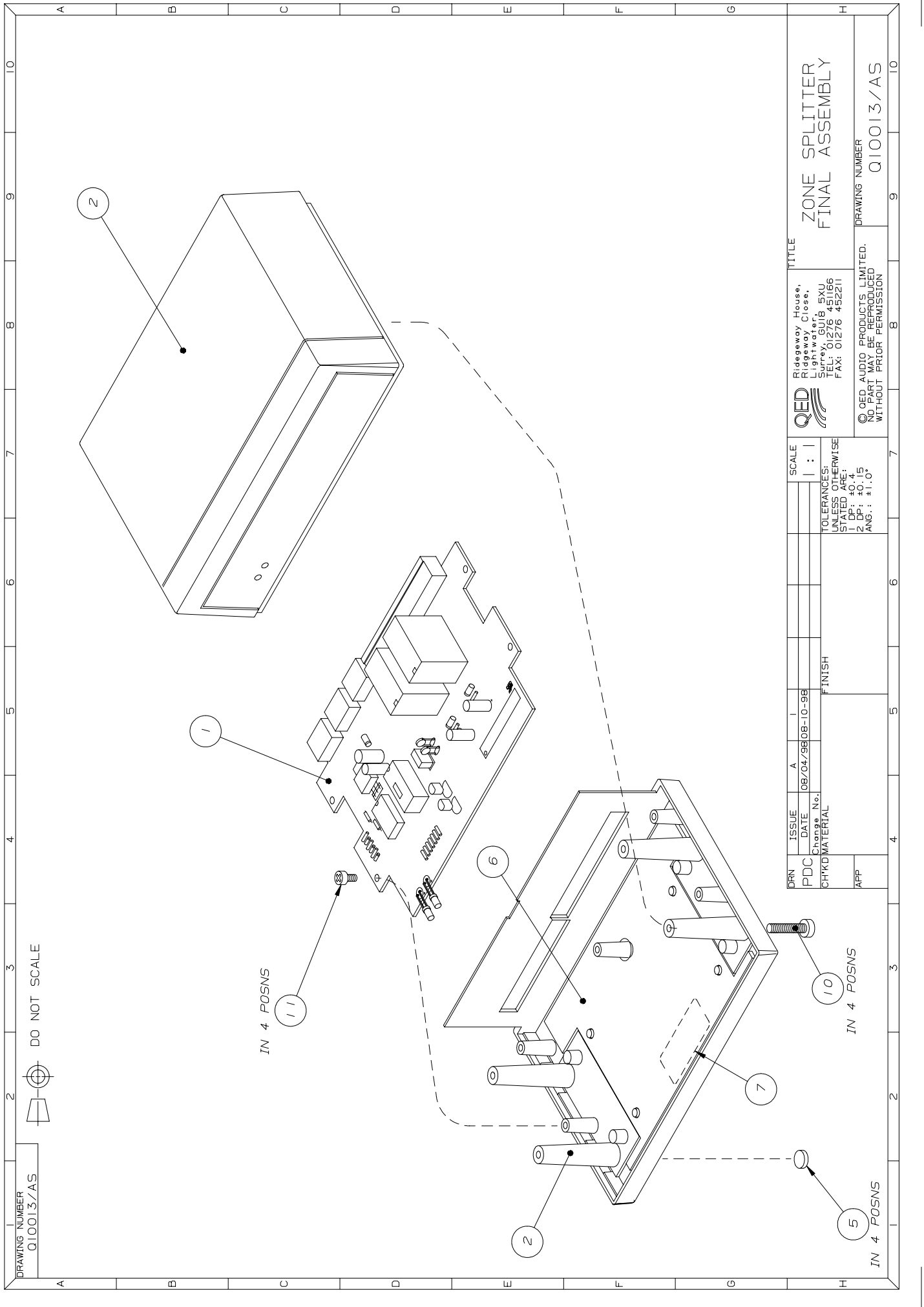
## 3.0 UNIT RE-ASSEMBLY

Locate the PCB over the four holes, taking care to ensure that the connectors protrude through the rear panel, and re-secure using the screws. Ensure that the screws are done up tight.

Carefully place the top back on and ensure that the LED's protrude through the front panel correctly. If necessary plug the unit in to ensure that the LED's are visible. Turn carefully upside down and refit the original screws.

# APPENDIX A

## Zone Splitter Main Assembly



DRAWING NUMBER  
Q10013/AS

DO NOT SCALE

DRN	ISSUE	A	SCALE		TITLE	
PDC	DATE	08/04/98	1	1	ZONE SPLITTER FINAL ASSEMBLY	
CHKD	Change No.	10-98	TOLERANCES: UNLESS OTHERWISE STATED ARE: 2 DP: ±0.15 ANG.: ±1.0°		DRAWING NUMBER Q10013/AS	
APP	MATERIAL	FINISH	NO PART MAY BE REPRODUCED WITHOUT PRIOR PERMISSION			

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# Drawing Number: Q10013/IL

Items List for: Q10013/AS  
 ZONE SPLITTER FINAL ASSEMBLY

Approved for Production: \_\_\_\_\_



Issue: 2

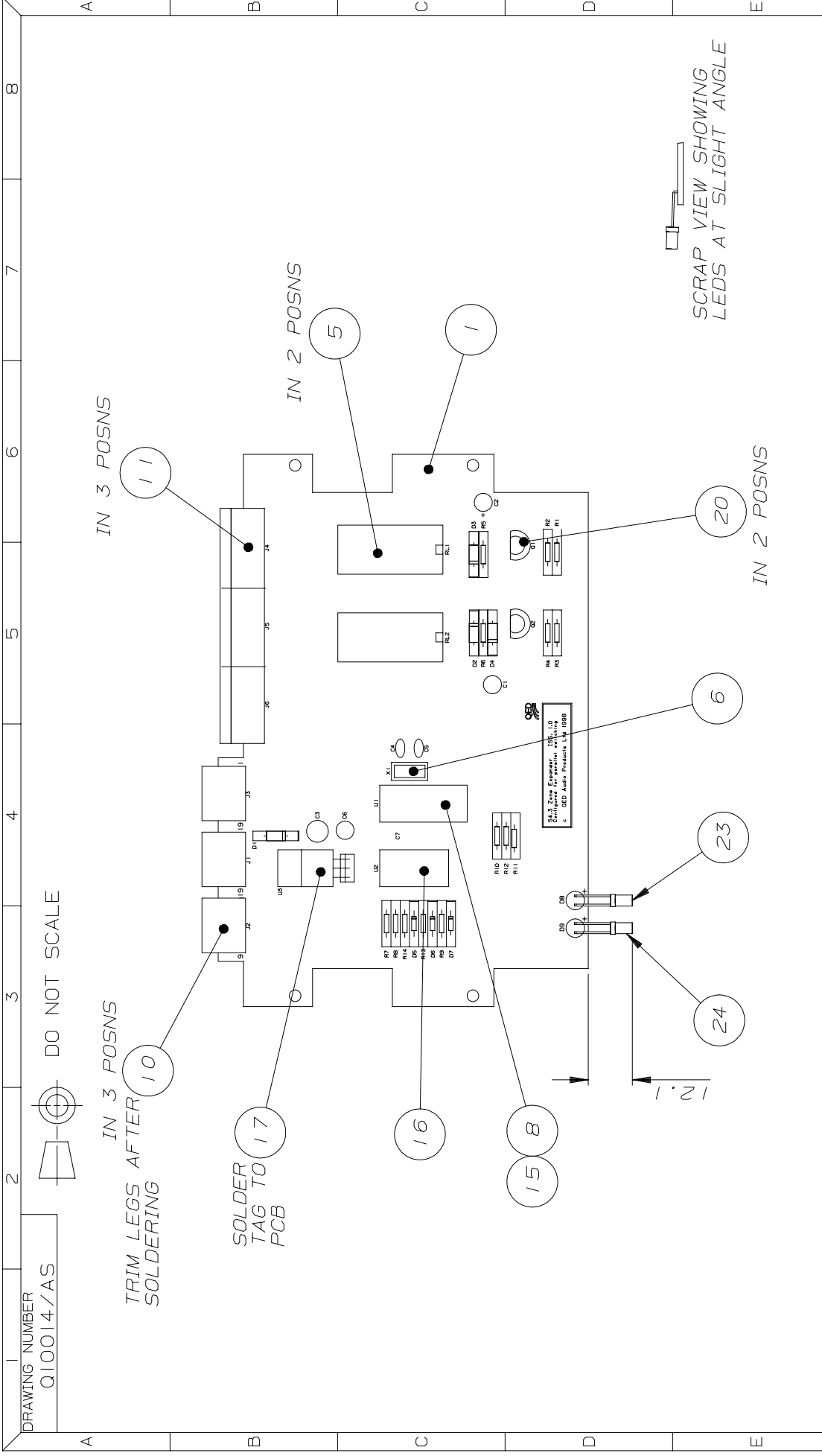
Date: 19/05/1999

Change Number: CR00034

Item No.	Part No.	Description	Manf. Part No.	Qty	Iss	Remarks
A	Q10016/CD	ZONE SPLITTER CIRCUIT DIAGRAM		REF	A	
B	Q10013/SW	SOFTWARE FOR ZONE SPLITTER		REF	A	
C						
1	WR049	ZONE SPLITTER PCB ASSEMBLY		1	A	DRG REF Q10014/AS
2	ZENC022	ZONE SPLITTER CASE		1	A	DRG REF Q10015/DE
3						
4						
5	ZMIS003	MA / MB FEET		4		
6	ZMET003	MB CASE PLATE		1		
7	ZINS402	TESTED AND INSPECTED LABEL		1		
8						
9						
10	ZSRW006	4 X 3/4" PAN HEAD S. TAP ZINC		4		
11	ZSRW025	4 X 3/8 SELF TAP POZI BRIGHT	AZ127040X0024D	4		
12						
13						
14	ZINS010	ZONE SPLITTER LABEL		1		
15						
16						
17	ZPLA012	CAT 5 CONNECTOR	1300106426	3		TO BE BAGGED IN ITEM 19
18	ZPLA049	2 WAY PLUG IMO STYLE	BU9502	6		TO BE BAGGED IN ITEM 19
19	ZCAR012	4 X 6 POLY BAG	46500	1		
20						
21						
22						

# APPENDIX B

## Zone Splitter PCB Assembly



DRN	ISSUE	A	B	1	2	3	SCALE	TITLE	
PDC	DATE	08/04/98	26-05-98	11-09-98	18/11/98	19-05-99	1 : 1	Ridgeway House, Ridgeway Close, Surrey, GU18 5XU TEL: 01276 451166 FAX: 01276 452211	
CH'KD	Change No.	CRO0018					CRO0034	TOLERANCES: UNLESS OTHERWISE STATED ARE: 1 DP: ±0.4 2 DP: ±0.15 ANG.: ±1.0°	ZONE SPLITTER PCB ASSEMBLY
APP	MATERIAL	FINISH						NO PART MAY BE REPRODUCED WITHOUT PRIOR PERMISSION	DRAWING NUMBER Q10014/AS

# Drawing Number: Q10014/IL

Items List for: Q10014/AS

ZONE SPLITTER PCB ASSEMBLY

Approved for Production: \_\_\_\_\_



Issue: 3

Date: 09/10/1998

Change Number: CR00018

Item No.	Part No.	Description	Manf. Part No.	Qty	Iss	Remarks
A	Q10016/CD	ZONE SPLITTER CIRCUIT DIAGRAM		REF	A	
B	Q10014/TS	ZONE SPLITTER TEST SPEC		REF	A	
C	Q10014/AR	ZONE SPLITTER PCB ARTWORKS		REF	A	
1	ZPCB120	ZONE SPLITTER PCB		1	A	
2						
3						
4						
5	ZRLA002	2PCO 5A MAINS RELAY		2		RL1, RL2
6	ZSC1116	4Mhz CERAMIC RESONATOR		1		X1
7						
8	ZSKA008	18 WAY I.C. SOCKET	634018	1		Use in Position Q1
9						
10	ZSKA040	6 WAY S-LINE SOCKET R/A MALE		3		J1 - J3
11	ZSKA063	4 WAY R/A SOCKET IMO STYLE	ST0804	3		J4 - J6
12						
13						
14						
15	ZSCI088	PIC 16C54B-04P		1		U1
16	ZSCI011	HEF4071BP DIL14	385-591	1		U2
17	ZSCR005	REGULATOR LM7805CV (T0220)	418340F	1		U3
18						
19						
20	ZSCT022	BC546 TRANSISTOR SIGNAL		2		Q1, Q2
21	ZSCD042	IN4005 DIODE	IN4005S	4		D1 - D4
22	ZSCZ038	BZX55C5V1 ZENER 500mW	BZX55C5V1	3		D5 - D7
23	ZSCL039	3MM FLAT TOP YELLOW LED	SUY14D	1		D8

# Drawing Number: Q10014/IL

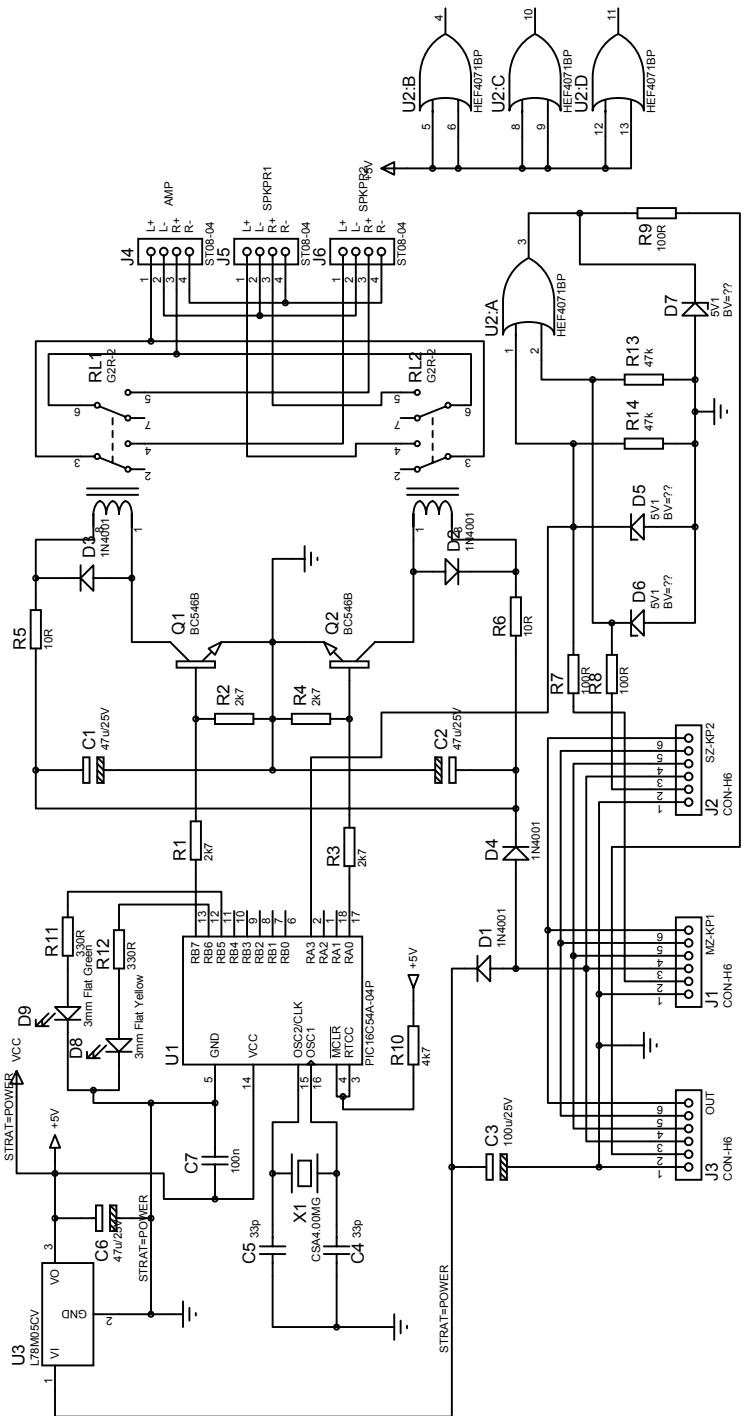
Items List for: Q10014/AS  
 ZONE SPLITTER PCB ASSEMBLY

Approved for Production: \_\_\_\_\_



Issue: 3 Date: 09/10/1998 Change Number: CR00018

Item No.	Part No.	Description	Manf. Part No.	Qty	Iss	Remarks
24	ZSCL050	3MM FLAT TOP GREEN LED		1		D9
25						
26						
27						
28	ZCAP019	850C 47uF 20% R.E. 16V 5mm	53019	3		C1, C2, C6
29	ZCAP026	850C 100uF 20% R.E. 25V	53030	1		C3
30	ZCAP016	33Pf CERAMIC 5MM		2		C4, C5
31	ZCAP057	100nF 5MM BOXED POLYESTER	71013	1		C7
32						
33						
34						
35	ZRES036	2K7 1% 0.25W M.F. RESISTOR		4		R1 - R4
36	ZRES002	10R 1% 0.25W M.F. RESISTOR		2		R5, R6
37	ZRES014	100R 1% 0.25W M.F. RESISTOR		3		R7 - R9
38	ZRES042	4K7 1% 0.25W M.F. RESISTOR		1		R10
39	ZRES020	330R 1% 0.25W M.F. RESISTOR		2		R11, R12
40	ZRES058	47K 1% 0.25W M.F. RESISTOR		2		R13, R14
41						
42						
43						
44						
45						
46						
47						
48						



No: Q10014/CD  
 File: Q10014CD-1.DSN  
 Rev: 1.0  
 Modified: 24/04/2001  
 Page: 1/1

**ZONE EXPANDER (PAR)**  
 Drawn by: Steve Privat

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