

5	4/21/04	VALUE CHGS	N01454	WFB		
4	8/21/03	CHG'D 97- TO 99	N01236	REM		
3	4/21/03	PCB TO -02	N01178	REM		
2	9/16/02	ADDED -02 ASSY	N00971	REM		
1	7/9/02	ADDED W1-W11	N00882	REM		
0	5/28/02	CHG'D RAD INS CONTROL ISSUE				
Rev.	Date	DESC.	ECR(s)/ECN(s)	Chgd by	Appvd by	DATE
THE INFORMATION CONTAINED ON THIS DRAWING IS PROPRIETARY TO						
ST. LOUIS MUSIC, INC.						
			SLM Electronics			
			1901 Congressional Drive, St. Louis, MO 63146			
Signatures:		Date:				
Drawn: REM		5/28/02				
Checked:						
Released:						
Tolerance:	Drawing Size:	A	Drawing Title:	PWA - PREAMP		
	Drawing Type:	PL				
	Class Code:		Drawing No.:	07-109-PL		
	Scale:	N/A				

ASSEMBLY PART #

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
PWB1	06A109-02	1	PWB PREAMP		
C3	10-102-10	6	.001 uF 400V [10% TOL] WIMA MTLPOLY	0.001	
C5					
C19					
C26					
C45					
C54					
C6	10-103-10	2	.01 uF 400V [10% TOL] WIMA MTLPOLY	0.01	
C46					
C34	10-104-01	1	.1 uF RFI SUPPRESSOR CAP/NON-STOCK	0.1	
C33	10-104-10	6	.1uF 400V [10% TOL] WIMA MTLPOLY		
C36					
C41					
C49					
C51					
C52					
C53	10-105-01	1	1 uF 250Vdc 5% POLY	1	
C10	10-223-10	7	.022 uF 400V [10% TOL] WIMA MTLPOLY	0.022	
C14					
C15					
C21					
C23					
C25					
C27					
C13	10-471-52	6	470 pF 500V [10% TOL] Z5F DISK	470pF	
C16					
C47					
C56					
COPT1					
OPTC83					
C29	10-473-10	1	.047 uF 400V [10% TOL] WIMA MTLPOLY	0.047	
C44	10-684-21	1	.68uF 250V [10% TOL]	0.68	
C70	10A104-01	8	.1 uF 50V 10% X7R	0.1	
C71					
C72					
C73					
C74					
C79					
C80					
C81					
C75	10A473-11	2	.047 uF 100V 10% X7R	0.047	
C76					
C42	10F154-02	1	.15 uF 100V 10% RAD POLY FORMED	0.15	
C28	10R101-03	2	100 pF 1KV 10% DISK RADIAL TAPED	100 pF	
C58					
C55	10R102-02	1	.001 1KV Z5F DISC 10%	0.001	
C61	10R103-03	1	.01 uF 100V 10% RAD POLY	0.01	
C40	10R104-03	1	.1 uF 100V 10% RAD POLY	0.1	
C57	10R221-04	1	220 pF 400V 10% Z5F DISK RADIAL TAPED	220 pF	

PARTS LIST

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
C62	10R223-02	1	.022 uF 100V 10% RAD POLY	0.022	
C37	10R333-02	3	.033 uF 100V 10% RAD POLY	0.033	
C38					
C39					
C30	10R472-01	3	.0047 uF 100V 10% RAD POLY	0.0047	
C48					
C60					
C63	10R473-03	1	.047 uF 100V 10% RAD POLY	0.047	
C31	12-106-95	2	10 uF 450V 20% EL	10	
C43					
C64	12-109-10	2	10,000 uF 16V 20% EL	10000	
C65					
C9	12-476-42	4	47 uF 450V 20% EL	47	
C11					
C22					
C24					
C50	12R106-35	2	10 uF 35V 20% EL	10	
COPT3					
C1	12R108-12	7	1000 uF 16V 20% EL	1000	
C2					
C35					
C66					
C67					
C68					
C69					
C78	12R225-50	1	2.2 uF 50V 20% EL	2.2	
C32	12R226-50	1	22 uF 50V 20% EL	22	
C18	12R684-50	2	.68 uF 50V 20% EL	0.68	
C20					
J10	17-105-02	23	.1 ST POL LOCK MTSS100-2 HEADER	TO SWITCH	
J11					
J12					
J21				2 PIN HDR	
J22					
J23					
J24				2 P1N HDR	
J25				2 PIN HDR	
J26					
J27					
J28					
J29				2 PIN 2HDR	
J30				2 PIN HDR	
J31					
J32					
J33					
J34				2 P1N HDR	
J35				2 PIN HDR	
J36					
J37					
J38					

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
J39				2 PIN 2HDR	
J40				2 PIN HDR	
J5	17-105-05	4	.1 ST POL LOCK MTSS100-5 HEADER	TO POT BD & LEDS	
J8				TO LED & FOOTSWITCH JACK HEADER J9	
J9				TO FOOTSWITCH JACK	
J13				5 PIN HDR	
J3	17-309-10	1	.156 ST POL MPSS156-10-D HEADER	TO LOGIC SW BD	
J4	17-310-02	1	.156 ST POL MFSS156-2-D HEADER	0	
V1	17-451-09	7	9 PIN TOP PC MNT TUBE SOCKET	9-PIN	{Lable}
V2					
V3					
V4					
V5					
V6					
V7					
D21	21-224-01	1	RED LED RIGHT ANGLE	RED	0
D19	21-225-01	1	GREEN LED RIGHT ANGLE	GRN	
D20	21-226-01	1	YELLOW LED RIGHT ANGLE	YEL	
D1	21-541-01	2	1N5401 DIODE/MOTOROLA 3 AMP	1N5401	
D2					
D4	21A146-01	1	3.3V .4W ZENER 28 ohm Zz	1N746ARL	
D22	21A754-01	3	6.8V .5W ZENER 5 ohm Zz	1N754ARL	
D23					
D24					
D3	21A914-01	19	75V PIV 10mA/1V .5W	1N914	
D5					
D6					
D7					
D8					
D9					
D10					
D11					
D12					
D13					
D14					
D15					
D16					
D17					
D18					
D25					
D26					
D27					
D28					
IC1	37-413-01	2	CD4013 DUAL FLIP-FLOP CMOS 'D' TYPE	CD4013	
IC3					
Q10	37-705-02	1	LM78L05ACZ +5V .1A REGULATOR	7805	
IC2	37-714-01	1	74HC14 HEX INVERTER W/HYSTERESIS	74HC14	
J1	39-012-01	1	112APC JACK VERT.	112 APC	INPUT
SD13	47-980-01	3	1IN SOLDER MASK DISC	SOLDER DISC	0
SD14					

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
SD15					
SD1	47-980-05	12	1/2 IN SOLDER MASK DISC		
SD2					
SD3					
SD4					
SD5					
SD6					
SD7					
SD8					
SD9					
SD10					
SD11					
SD12					
OC1	66-101-01	9	VTL-5C3 VACTROL	VTL-5C3	
OC2					
OC3					
OC4					
OC5					
OC6					
OC7					
OC8					
OC9					
P1	70-105-22	5	1M LOG 15%@50% (10% TOL)	1M LOG	GAIN
P2					BASS
P3					TREBLE
P8					BASS
P13					
P6	70-254-22	4	250K AUDIO 5%@50% [10% TOL]	250K A	GAIN
P10					LEVEL
P11					GAIN
P15					LEVEL
P7	70-306-01	2	250K LINEAR [10% TOL]	250K L	TREBLE
P12					
P5	70-503-22	3	50K AUDIO 15%@50% (10% TOL)	50K A	LEVEL
P9					MID
P14					
P4	70-503-24	1	50K LINEAR W/DETENT [10% TOL]	50K L	
OPTC7	76-000-05	1	22 GA TINNED COPPER	0	0
R102	76-102-01	1	1K OHM .25W 5% RESISTOR	1K	
R99	76-103-01	8	10K OHM .25W 5% RESISTOR	10K	
R100					
R103					
R105					
R106					
R111					
R112					
R115					
R104	76-104-01	8	100K OHM .25W 5% RESISTOR	100K	
R107					
R108					

PARTS LIST

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
R113					
R114					
R116					
R117					
R118					
R98	76-105-01	1	1M OHM .25W 5% RESISTOR	1M	
R120	76-152-01	2	1.5K OHM .25W 5% RESISTOR	1.5K	
R121					
R32	76-222-01	2	2.2K OHM .25W 5% RESISTOR	2.2K	
R119					
R7	76-471-01	6	470 OHM .25W 5% RESISTOR	470	
R26					
R86					
R97					
R101					
R110					
R56	76-474-01	11	470K OHM .25W 5% RESISTOR	470K	
R57					
R59					
R60					
R64					
R68					
R69					
R84					
R85					
R87					
R88					
R52	77-010-03	7	1 OHM .5W 5% FLAME-PROOF	1	
R53					
R54					
R55					
R92					
R95					
R96					
R89	77-101-02	2	100 OHM .5W 1% RESISTOR	100	
R93					
R2	77-102-02	2	1K OHM .5W 1% RESISTOR	1K	
R19					
R47	77-103-02	2	10K OHM .5W 1% RESISTOR	10K	
R77					
R12	77-104-02	15	100K OHM .5W 1% RESISTOR	100K	
R20					
R24					
R27					
R29					
R37					
R39					
R41					
R48					
R63					

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
R70					
R71					
R75					
R76					
R83					
R8	77-105-02	5	1M OHM .5W 1% RESISTOR	1M	
R58					
R72					
R79					
R122					
R28	77-152-02	7	1.5K OHM .5W 1% RESISTOR	1.5K	
R38					
R42					
R49					
R61					
R62					
R73					
R11	77-222-02	2	2.21K OHM .5W 1% RESISTOR	2.21K	
R74					
R67	77-223-02	1	22.1K OHM .5W 1% RESISTOR	22.1K	
R1	77-224-02	7	221K OHM .5W 1% RESISTOR	221K	
R6					
R17					
R31					
R34					
R66					
R82					
R5	77-272-02	3	2.74K OHM .5W 1% RESISTOR	2.74K	
R25					
R33					
R21	77-333-02	4	33.2K OHM .5W 1% RESISTOR	33.2K	
R22					
R44					
R91					
R43	77-470-02	1	47.5 OHM .5W 1% RESISTOR	47.5	
R78	77-471-02	1	475 OHM .5W 1% RESISTOR	470	
R81	77-472-02	1	4.75K OHM .5W 1% RESISTOR	4.75K	
OPTR125	77-473-02	2	47.5K OHM .5W 1% RESISTOR	47.5K	
R46					
R4	77-474-02	8	475K OHM .5W 1% RESISTOR	475K	
R9					
R10					
R18					
R23					
R30					
R36					
R40					
R3	77-683-02	5	68.1K OHM .5W 1% RESISTOR	68.1K	
R45					
R90					

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
R94					
R109					
R16	78A103-21	6	10K 2W 5% MOX OR CF T&R	10K	
R35					
R50					
R51					
R65					
R80					
S1	88-108-01	3	5PST ROTARY RA PC MT	5PST	MID FREQ
S2					
S3					
L1	94-602-32	1	PC MT TAPPED INDUCTOR	TAPPED	0
Q5	96-013-01	3	MPSA13 NPN 30V 1.5W .5A DARLINGTON	MPS-A13	
Q7					
Q9					
Q2	96R013-01	1			
Q3	96R112-01	1	J112 N-CH -35Vdg -5Vgs(off) 50ohmRdsON	J112	
Q1	96R587-01	4	2N5087 PNP -50V 1.5W -50mA	2N5087	
Q4					
Q6					
Q8					
W11	97-010-03	1	5 PIN 11in .100 PITCH WHT 22G HARNESS	5PIN 11 INCH	
RC1A	99-195-15	2	5PIN 180MM RIBBON CABLE	LEOCO RIBBON	
RC4A					
W1	99-206-40	5	6IN SHIELDED PREP COAX CABLE	COAX	
W2					
W4					
W7					
W8					
W3	99-206-45	3	8IN SHIELDED PREP COAX CABLE		
W5					
W6					
W9	99-206-55	2	11IN SHIELDED PREP COAX CABLE		
W10					

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07-109-02

REVISION 5

ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
PWB1	06A109-02	1	PWB PREAMP		
C3	10-102-10	6	.001 uF 400V [10% TOL] WIMA MTLPOLY	0.001	
C5					
C19					
C26					
C45					
C54					
C6	10-103-10	2	.01 uF 400V [10% TOL] WIMA MTLPOLY	0.01	
C46					
C34	10-104-01	1	.1 uF RFI SUPPRESSOR CAP/NON-STOCK	0.1	
C33	10-104-10	6	.1uF 400V [10% TOL] WIMA MTLPOLY		
C36					
C41					
C49					
C51					
C52					
C53	10-105-01	1	1 uF 250Vdc 5% POLY	1	
C10	10-223-10	7	.022 uF 400V [10% TOL] WIMA MTLPOLY	0.022	
C14					
C15					
C21					
C23					
C25					
C27					
C13	10-471-52	6	470 pF 500V [10% TOL] Z5F DISK	470pF	
C16					
C47					
C56					
COPT1					
OPTC83					
C29	10-473-10	1	.047 uF 400V [10% TOL] WIMA MTLPOLY	0.047	
C44	10-684-21	1	.68uF 250V [10% TOL]	0.68	
C70	10A104-01	8	.1 uF 50V 10% X7R	0.1	
C71					
C72					
C73					
C74					
C79					
C80					
C81					
C75	10A473-11	2	.047 uF 100V 10% X7R	0.047	
C76					
C42	10F154-02	1	.15 uF 100V 10% RAD POLY FORMED	0.15	
C28	10R101-03	2	100 pF 1KV 10% DISK RADIAL TAPED	100 pF	
C58					
C55	10R102-02	1	.001 1KV Z5F DISC 10%	0.001	
C61	10R103-03	1	.01 uF 100V 10% RAD POLY	0.01	
C40	10R104-03	1	.1 uF 100V 10% RAD POLY	0.1	
C57	10R221-04	1	220 pF 400V 10% Z5F DISK RADIAL TAPED	220 pF	

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
C62	10R223-02	1	.022 uF 100V 10% RAD POLY	0.022	
C37	10R333-02	3	.033 uF 100V 10% RAD POLY	0.033	
C38					
C39					
C30	10R472-01	3	.0047 uF 100V 10% RAD POLY	0.0047	
C48					
C60					
C63	10R473-03	1	.047 uF 100V 10% RAD POLY	0.047	
C31	12-106-95	2	10 uF 450V 20% EL	10	
C43					
C64	12-109-10	1	10,000 uF 16V 20% EL	10000	
C9	12-476-42	4	47 uF 450V 20% EL	47	
C11					
C22					
C24					
C50	12R106-35	2	10 uF 35V 20% EL	10	
COPT3					
C1	12R108-12	7	1000 uF 16V 20% EL	1000	
C2					
C35					
C66					
C67					
C68					
C69					
C78	12R225-50	1	2.2 uF 50V 20% EL	2.2	
C32	12R226-50	1	22 uF 50V 20% EL	22	
C18	12R684-50	2	.68 uF 50V 20% EL	0.68	
C20					
J10	17-105-02	23	.1 ST POL LOCK MTSS100-2 HEADER	TO SWITCH	
J11					
J12					
J21				2 PIN HDR	
J22					
J23					
J24				2 P1N HDR	
J25				2 PIN HDR	
J26					
J27					
J28					
J29				2 PIN 2HDR	
J30				2 PIN HDR	
J31					
J32					
J33					
J34				2 P1N HDR	
J35				2 PIN HDR	
J36					
J37					
J38					
J39				2 PIN 2HDR	

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REVISION 5

ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
J40				2 PIN HDR	
J5	17-105-05	4	.1 ST POL LOCK MTSS100-5 HEADER	TO POT BD & LEDS	
J8				TO LED & FOOTSWITCH JACK HEADER J9	
J9				TO FOOTSWITCH JACK	
J13				5 PIN HDR	
J3	17-309-10	1	.156 ST POL MPSS156-10-D HEADER	TO LOGIC SW BD	
J4	17-310-02	1	.156 ST POL MFSS156-2-D HEADER	0	
V1	17-451-09	7	9 PIN TOP PC MNT TUBE SOCKET	9-PIN	{Lable}
V2					
V3					
V4					
V5					
V6					
V7					
D21	21-224-01	1	RED LED RIGHT ANGLE	RED	0
D19	21-225-01	1	GREEN LED RIGHT ANGLE	GRN	
D20	21-226-01	1	YELLOW LED RIGHT ANGLE	YEL	
D4	21A146-01	1	3.3V .4W ZENER 28 ohm Zz	1N746ARL	
D22	21A754-01	3	6.8V .5W ZENER 5 ohm Zz	1N754ARL	
D23					
D24					
D3	21A914-01	19	75V PIV 10mA/1V .5W	1N914	
D5					
D6					
D7					
D8					
D9					
D10					
D11					
D12					
D13					
D14					
D15					
D16					
D17					
D18					
D25					
D26					
D27					
D28					
IC1	37-413-01	2	CD4013 DUAL FLIP-FLOP CMOS 'D' TYPE	CD4013	
IC3					
Q10	37-705-02	1	LM78L05ACZ +5V .1A REGULATOR	7805	
IC2	37-714-01	1	74HC14 HEX INVERTER W/HYSTERESIS	74HC14	
J1	39-012-01	1	112APC JACK VERT.	112 APC	INPUT
SD13	47-980-01	3	1IN SOLDER MASK DISC	SOLDER DISC	0
SD14					
SD15					
SD1	47-980-05	12	1/2 IN SOLDER MASK DISC		
SD2					

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07-109-02

REVISION 5

ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
SD3					
SD4					
SD5					
SD6					
SD7					
SD8					
SD9					
SD10					
SD11					
SD12					
OC1	66-101-01	9	VTL-5C3 VACTROL	VTL-5C3	
OC2					
OC3					
OC4					
OC5					
OC6					
OC7					
OC8					
OC9					
P1	70-105-22	5	1M LOG 15% @50% (10% TOL)	1M LOG	GAIN
P2					BASS
P3					TREBLE
P8					BASS
P13					
P6	70-254-22	4	250K AUDIO 5% @50% [10% TOL]	250K A	GAIN
P10					LEVEL
P11					GAIN
P15					LEVEL
P7	70-306-01	2	250K LINEAR [10% TOL]	250K L	TREBLE
P12					
P5	70-503-22	3	50K AUDIO 15% @50% (10% TOL)	50K A	LEVEL
P9					MID
P14					
P4	70-503-24	1	50K LINEAR W/DETENT [10% TOL]	50K L	
OPTC7	76-000-05	3	22 GA TINNED COPPER	0	0
R94_					
R109_					
R102	76-102-01	1	1K OHM .25W 5% RESISTOR	1K	
R99	76-103-01	8	10K OHM .25W 5% RESISTOR	10K	
R100					
R103					
R105					
R106					
R111					
R112					
R115					
R104	76-104-01	8	100K OHM .25W 5% RESISTOR	100K	
R107					
R108					
R113					

ASSEMBLY PART #

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
R114					
R116					
R117					
R118					
R98	76-105-01	1	1M OHM .25W 5% RESISTOR	1M	
R120	76-152-01	2	1.5K OHM .25W 5% RESISTOR	1.5K	
R121					
R32	76-222-01	2	2.2K OHM .25W 5% RESISTOR	2.2K	
R119					
R7	76-471-01	6	470 OHM .25W 5% RESISTOR	470	
R26					
R86					
R97					
R101					
R110					
R56	76-474-01	11	470K OHM .25W 5% RESISTOR	470K	
R57					
R59					
R60					
R64					
R68					
R69					
R84					
R85					
R87					
R88					
R52	77-010-03	7	1 OHM .5W 5% FLAME-PROOF	1	
R53					
R54					
R55					
R92					
R95					
R96					
R89	77-101-02	2	100 OHM .5W 1% RESISTOR	100	
R93					
R2	77-102-02	2	1K OHM .5W 1% RESISTOR	1K	
R19					
R47	77-103-02	2	10K OHM .5W 1% RESISTOR	10K	
R77					
R12	77-104-02	16	100K OHM .5W 1% RESISTOR	100K	
R20					
R21_					
R24					
R27					
R29					
R37					
R39					
R41					
R44_					
R48					

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
R63					
R70					
R71					
R75					
R83					
R8	77-105-02	5	1M OHM .5W 1% RESISTOR	1M	
R58					
R72					
R79					
R122					
R28	77-152-02	8	1.5K OHM .5W 1% RESISTOR	1.5K	
R38					
R42					
R49					
R61					
R62					
R73					
R78_					
R11	77-222-02	2	2.21K OHM .5W 1% RESISTOR	2.21K	
R74					
R67	77-223-02	1	22.1K OHM .5W 1% RESISTOR	22.1K	
R1	77-224-02	7	221K OHM .5W 1% RESISTOR	221K	
R6					
R17					
R31					
R34					
R66					
R82					
R5	77-272-02	3	2.74K OHM .5W 1% RESISTOR	2.74K	
R25					
R33					
R22	77-333-02	2	33.2K OHM .5W 1% RESISTOR	33.2K	
R91					
R43	77-470-02	1	47.5 OHM .5W 1% RESISTOR	47.5	
R81	77-472-02	1	4.75K OHM .5W 1% RESISTOR	4.75K	
OPTR125	77-473-02	3	47.5K OHM .5W 1% RESISTOR	47.5K	
R46					
R76_					
R4	77-474-02	8	475K OHM .5W 1% RESISTOR	475K	
R9					
R10					
R18					
R23					
R30					
R36					
R40					
R3	77-683-02	3	68.1K OHM .5W 1% RESISTOR	68.1K	
R45					
R90					
OPTR123	78-010-01	1	1 OHM 5W 5% W/FEET	1	

ASSEMBLY PART #

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ITEM	P/N	TOTAL QTY	DESC	VALUE	LABEL
R16	78A103-21	6	10K 2W 5% MOX OR CF T&R	10K	
R35					
R50					
R51					
R65					
R80					
S1	88-108-01	3	5PST ROTARY RA PC MT	5PST	MID FREQ
S2					
S3					
L1	94-602-32	1	PC MT TAPPED INDUCTOR	TAPPED	0
Q5	96-013-01	3	MPSA13 NPN 30V 1.5W .5A DARLINGTON	MPS-A13	
Q7					
Q9					
Q2	96R013-01	1			
Q3	96R112-01	1	J112 N-CH -35Vdg -5Vgs(off) 50ohmRdsON	J112	
Q1	96R587-01	4	2N5087 PNP -50V 1.5W -50mA	2N5087	
Q4					
Q6					
Q8					
W11	97-010-03	1	5 PIN 11in .100 PITCH WHT 22G HARNESS	5PIN 11 INCH	
RC1A	99-195-15	2	5PIN 180MM RIBBON CABLE	LEOCO RIBBON	
RC4A					
W1	99-206-40	5	6IN SHIELDED PREP COAX CABLE	COAX	
W2					
W4					
W7					
W8					
W3	99-206-45	3	8IN SHIELDED PREP COAX CABLE		
W5					
W6					
W9	99-206-55	2	11IN SHIELDED PREP COAX CABLE		
W10					