
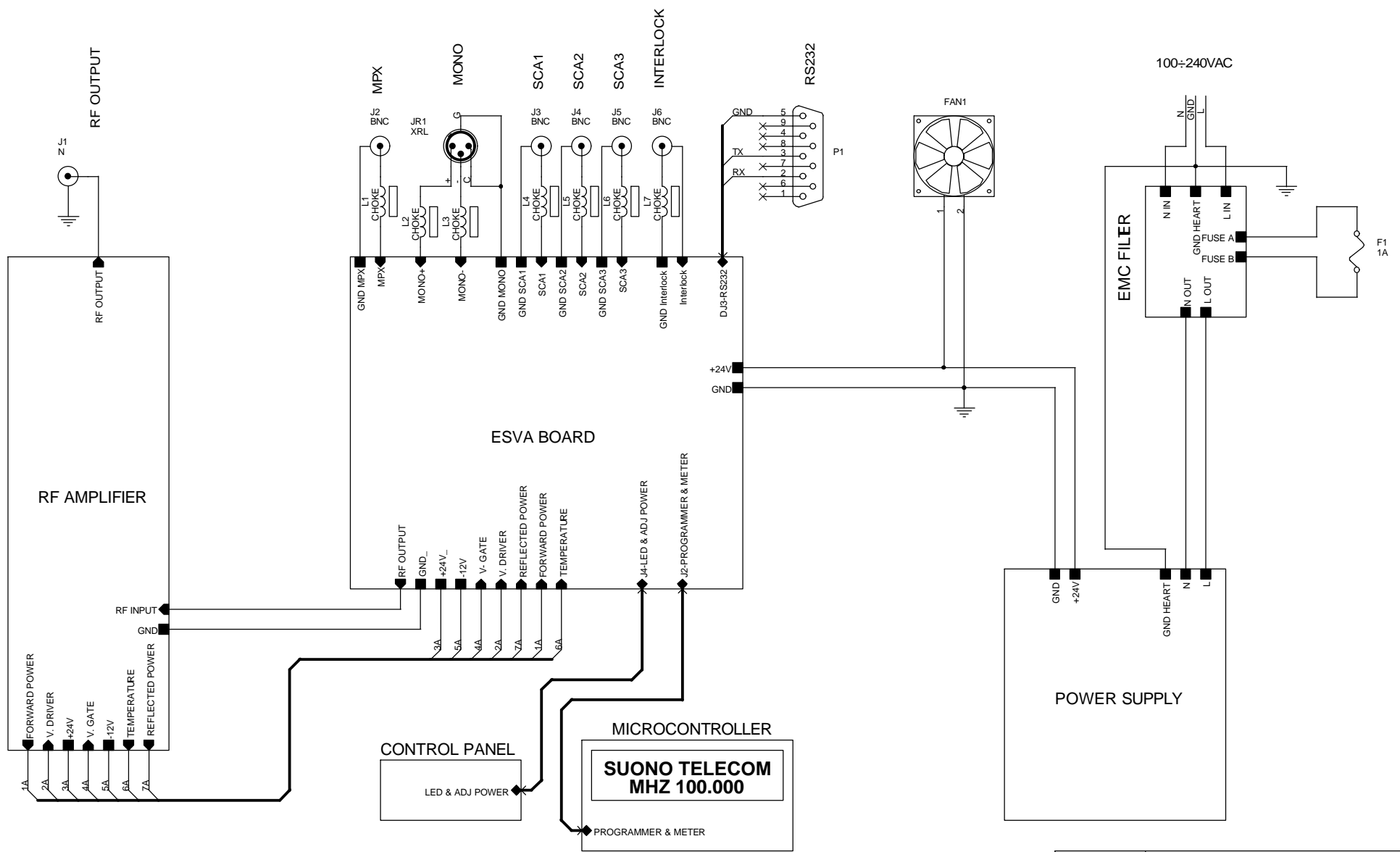


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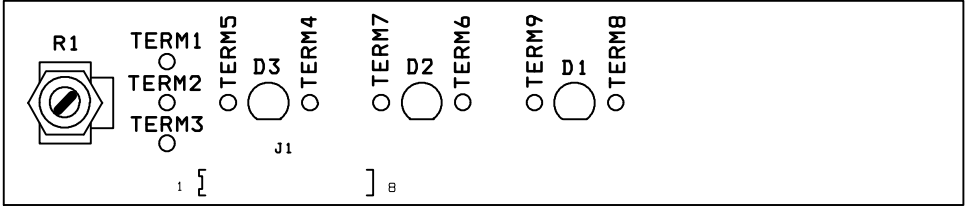
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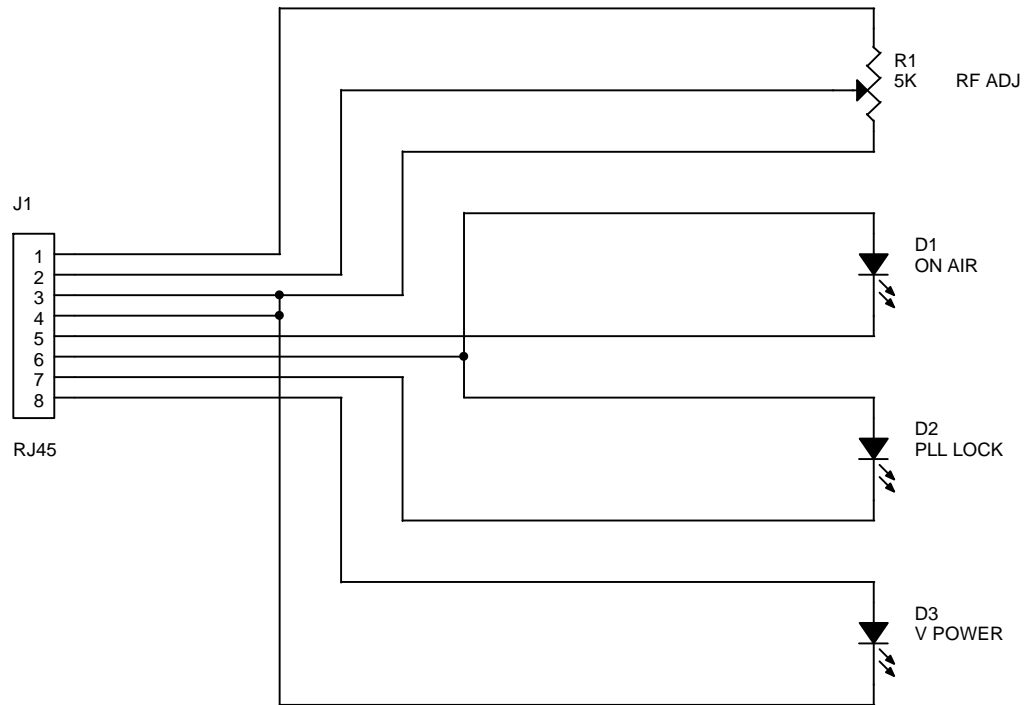
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Title				
FUNCTIONAL SCHEMATIC				
Size	Document Number			Rev
B	Mod. ESVA			1.0
Date:	Monday, October 15, 2001	Sheet	1	of 1



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<b>GENERAL SCHEMATIC</b>			
Title Size B	Document Number Mod. ESVA	Rev 1.0	Date: Thursday, December 27, 2001 Sheet 1 of 7




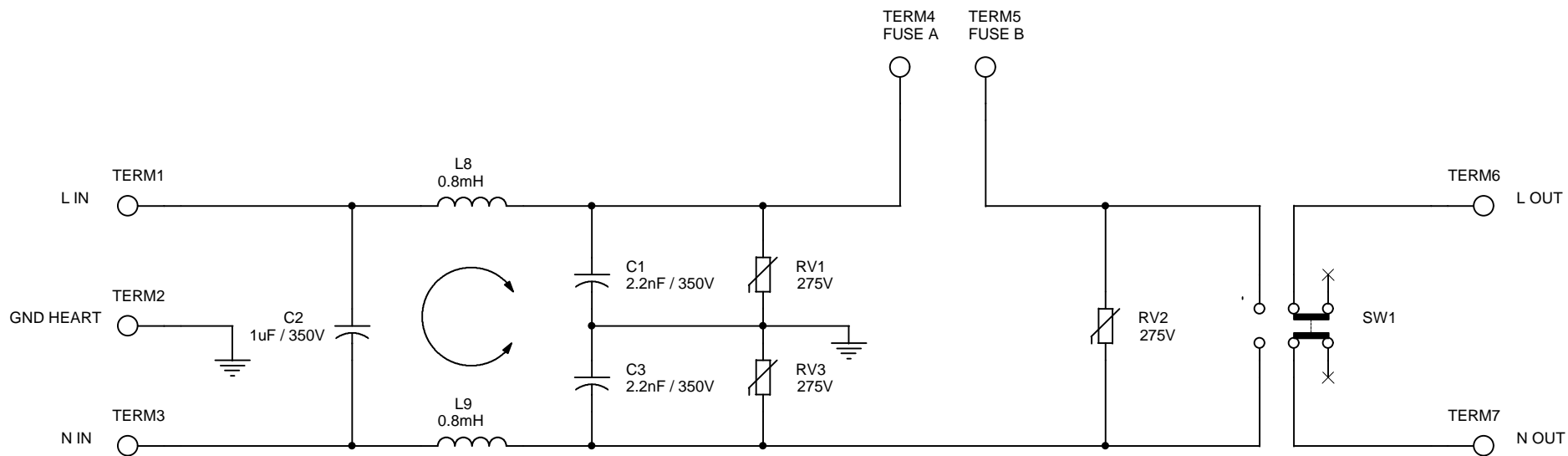


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Title			
FRONTAL PANEL			
Size	Document Number		Rev
A	Mod. ESVAFP1		1.0
Date:	Thursday, July 12, 2001	Sheet	1 of 1

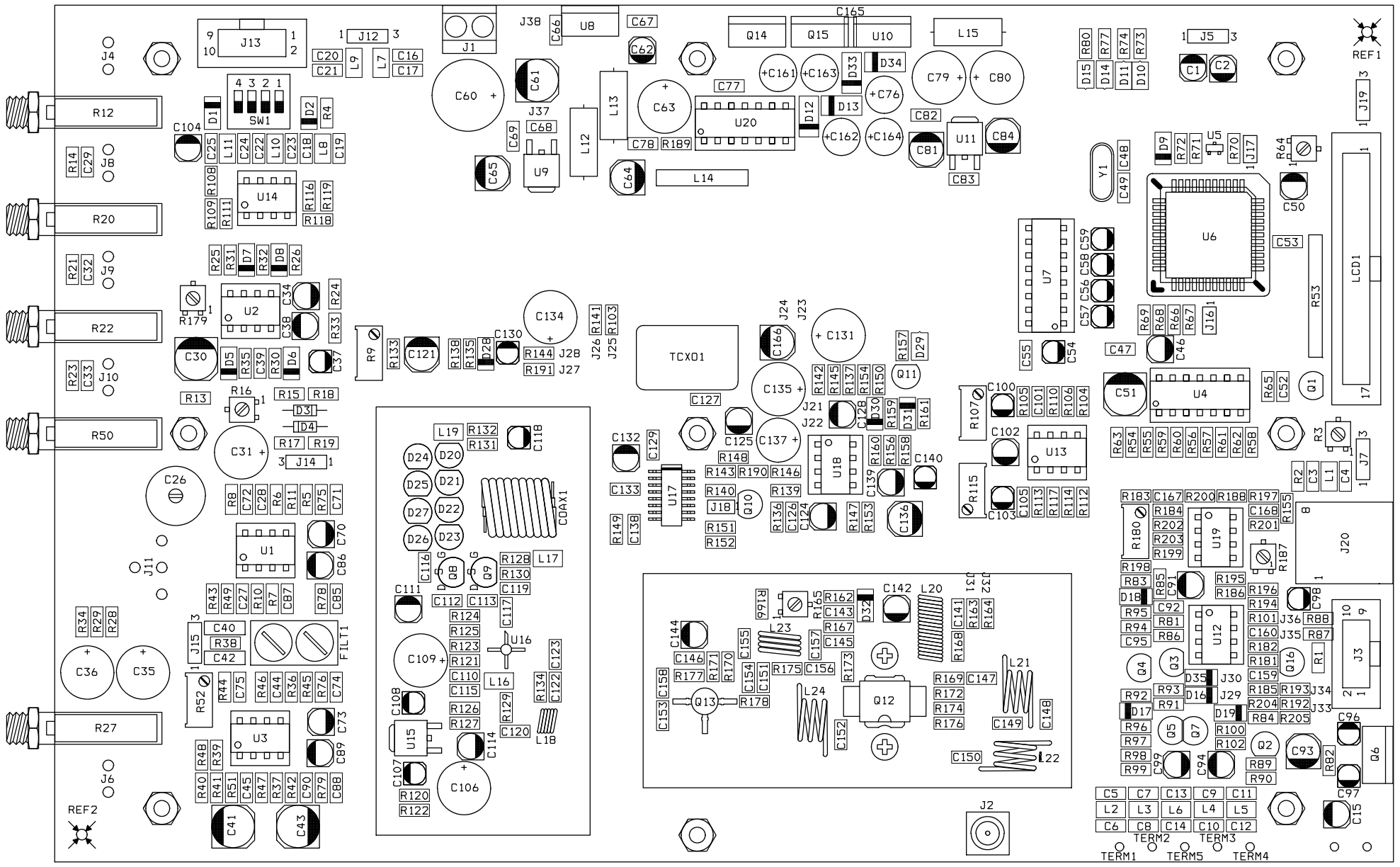


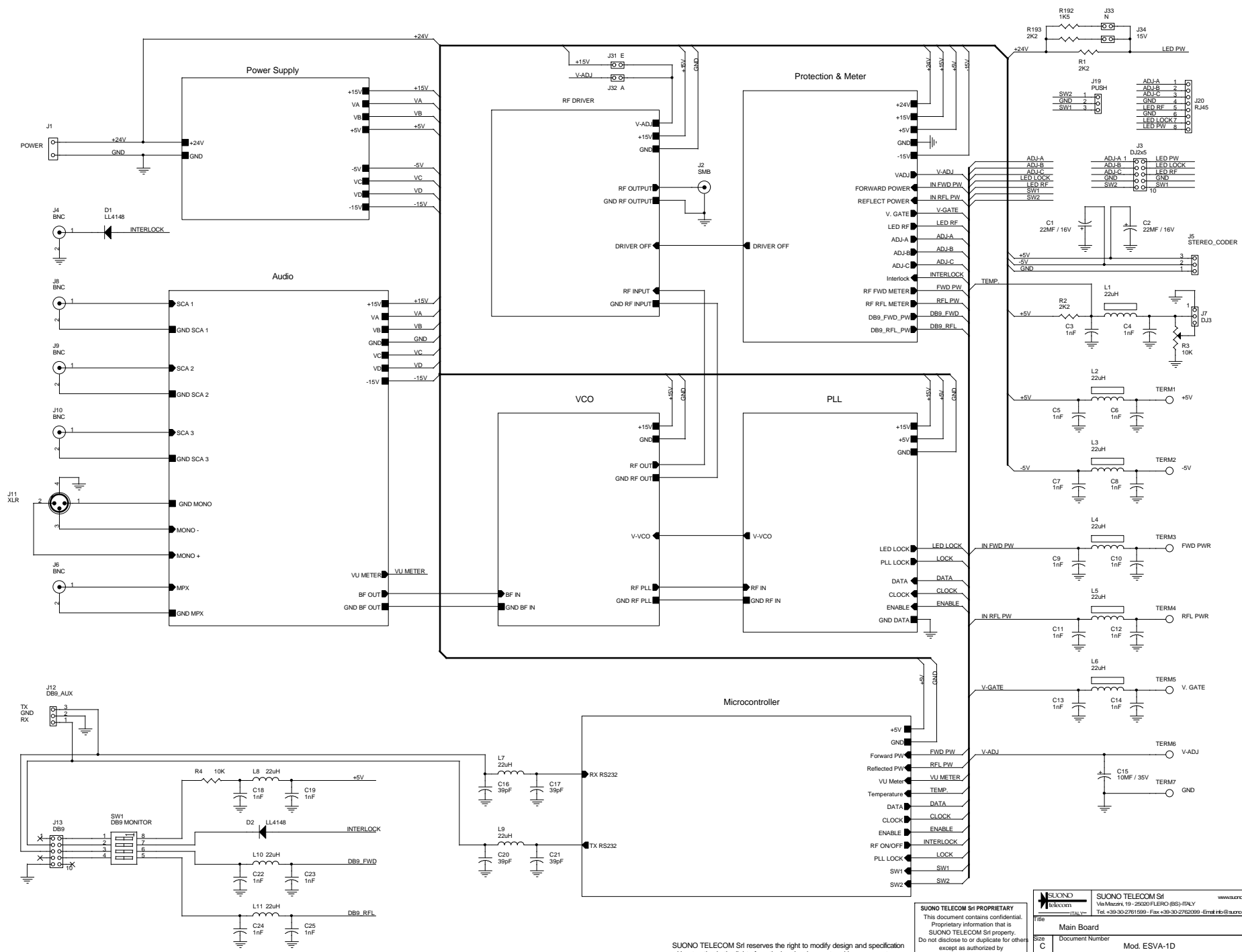
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Title			
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Size	Document Number		Rev
A	Mod. ESVA-EMC		1.0
Date:	Thursday, December 27, 2001	Sheet	7 of 7

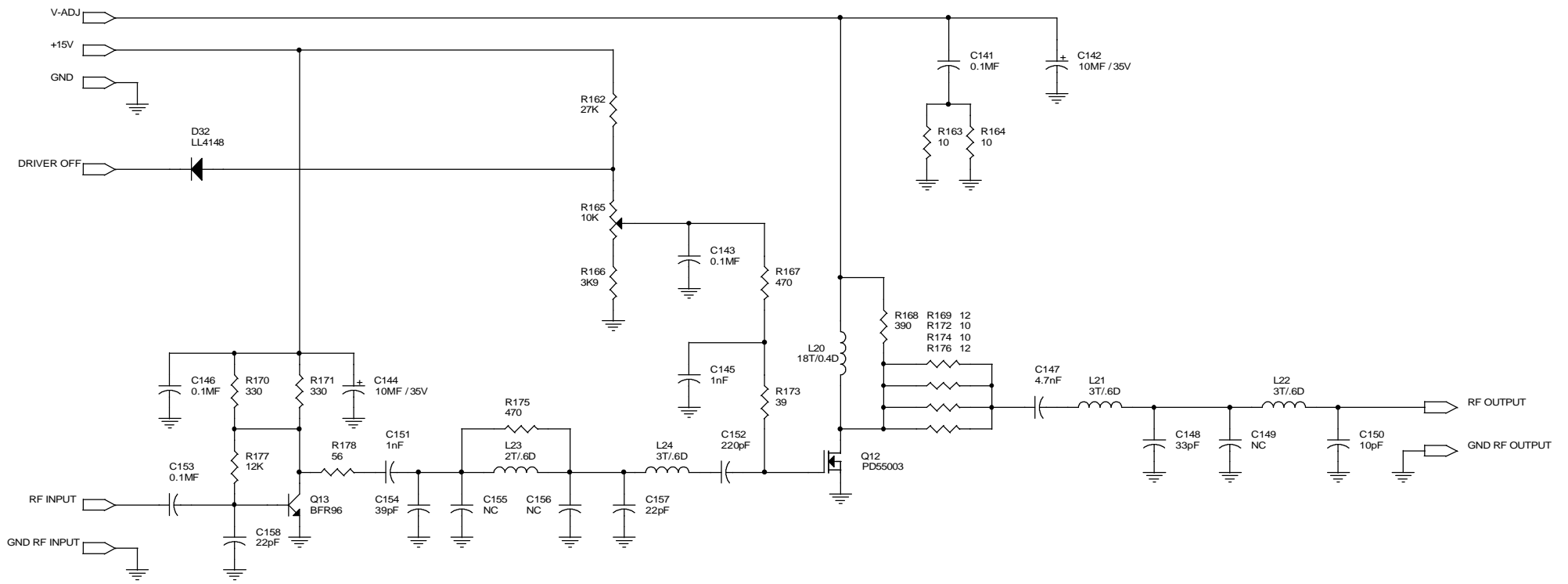




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<b>Main Board</b>				
Size	C	Document Number	Mod. ESVA-1D	Rev
Page	Monday, November 08, 2004	Sheet	1	of 8

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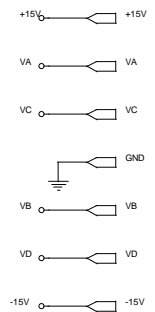
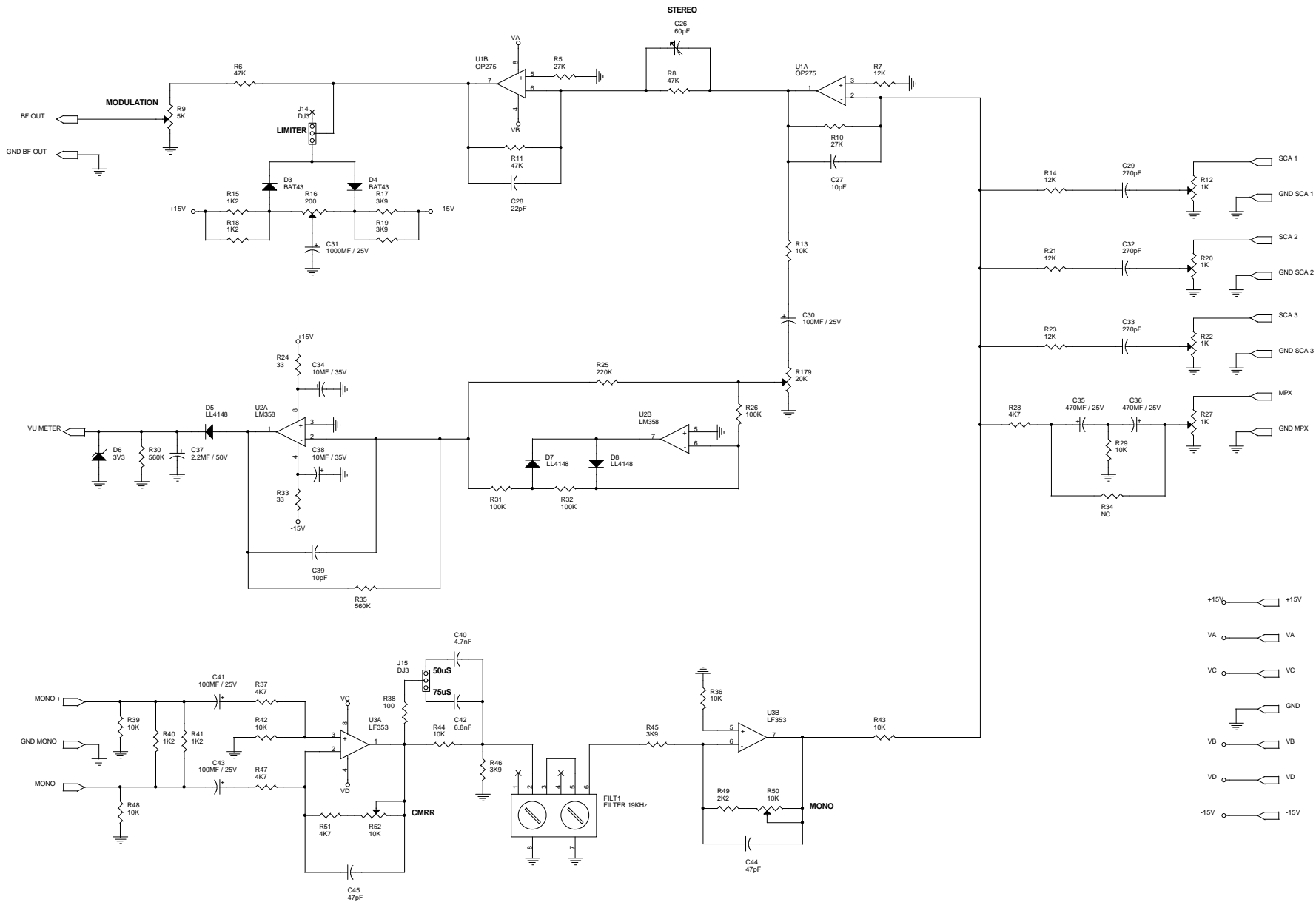


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Title <b>RD Driver</b>			
Size <b>B</b>	Document Number	Mod. <b>ESVA-1D RFD</b>	Rev <b>1.0</b>
Date: <b>Monday, November 08, 2004</b>	Sheet <b>1</b>	of	<b>1</b>

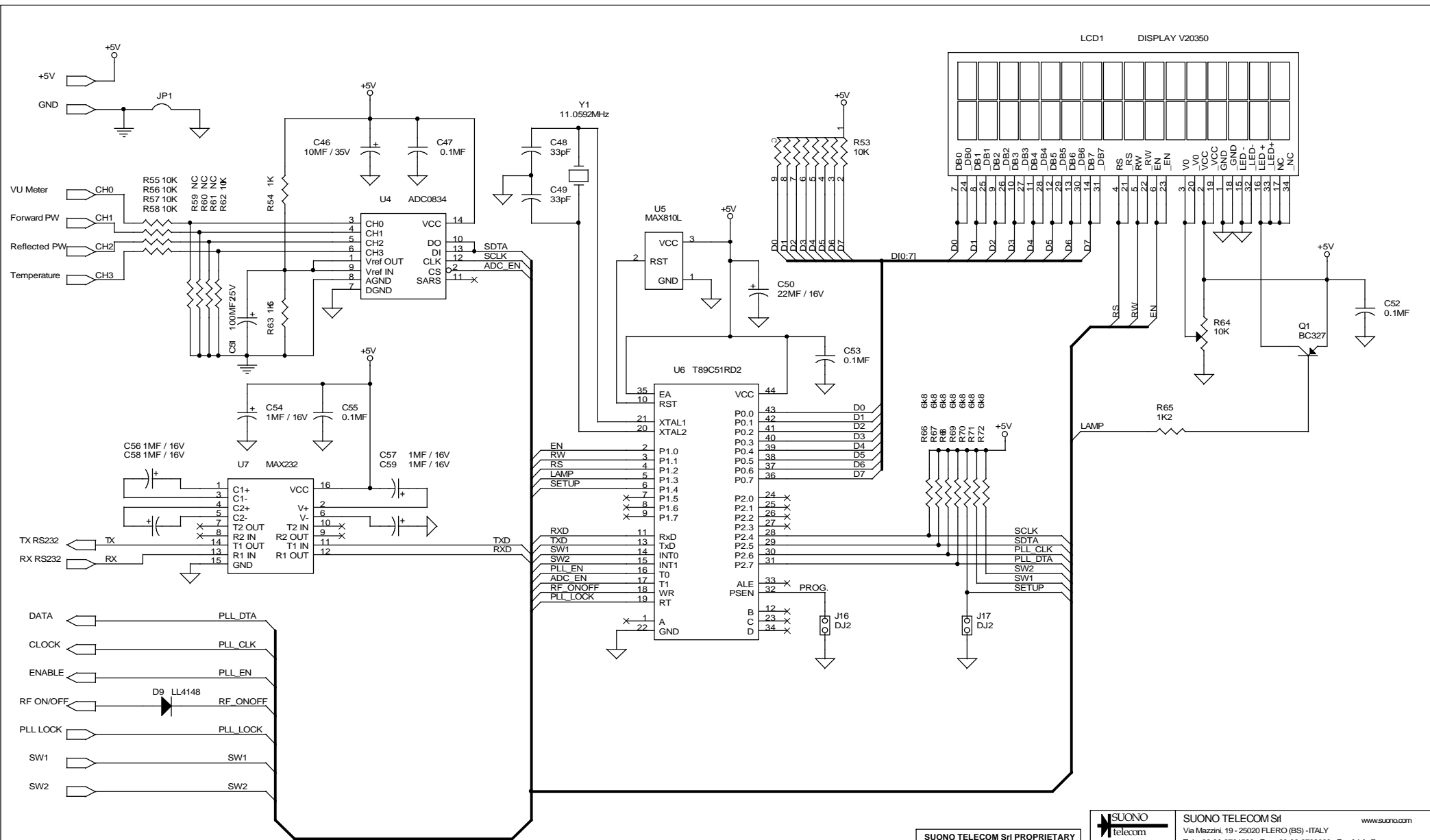




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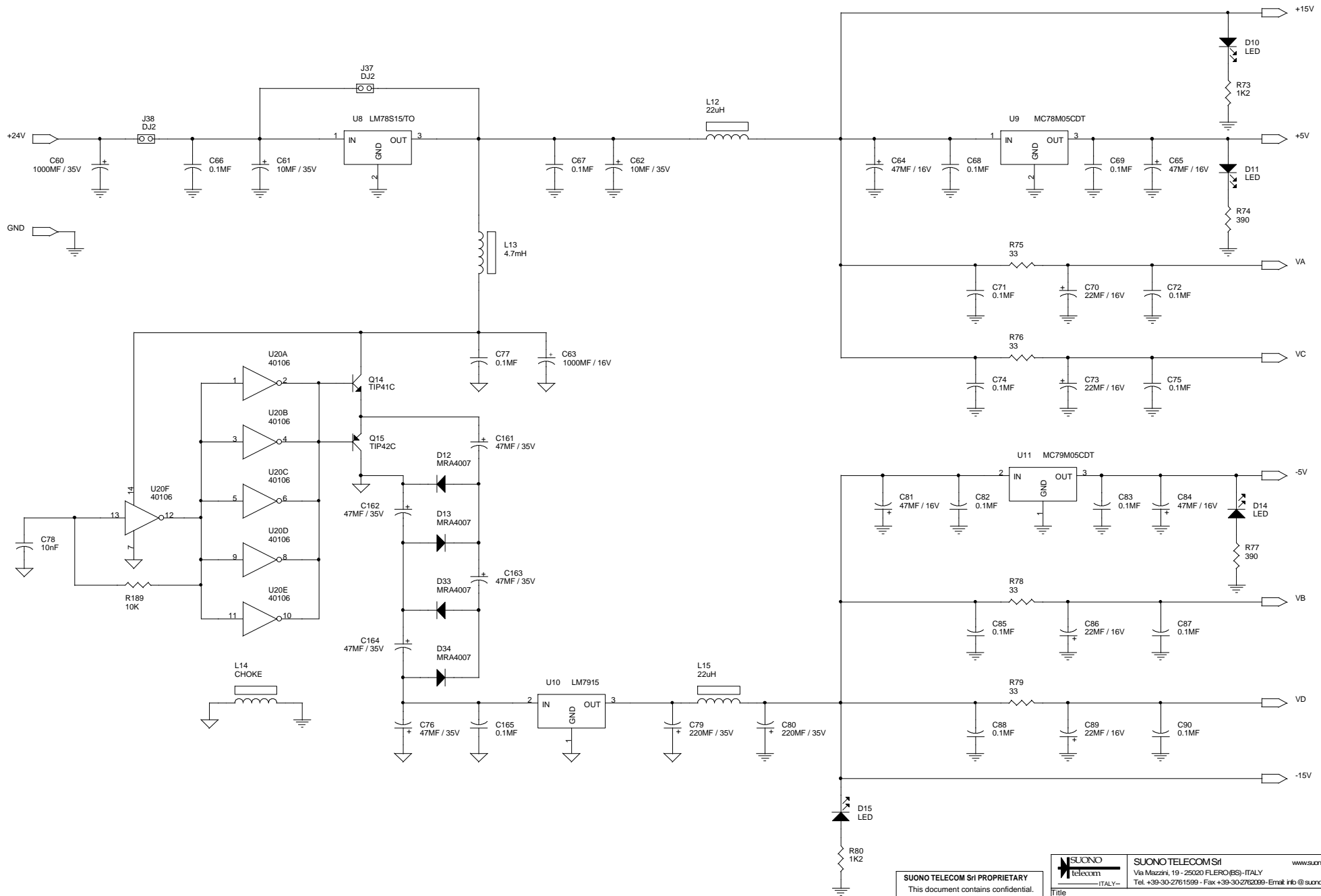
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<b>Audio Inputs</b>			
Size	Document Number		Rev
C	Mod. ESVA-1D AUD		1.0
Page	Monday, November 08, 2004		Sheet 2 of 8



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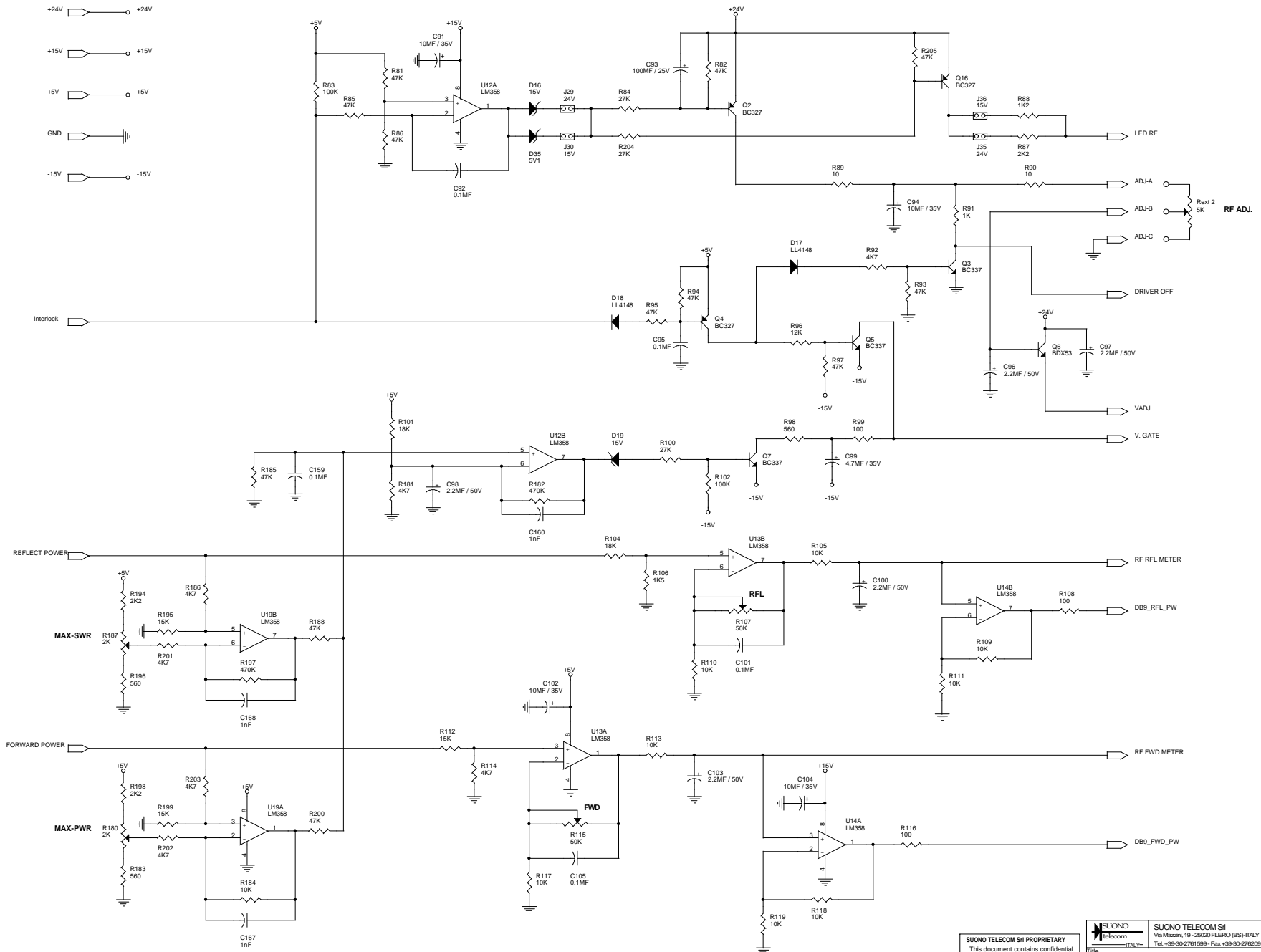
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Title: <b>Microcontroller</b>			
Size: <b>B</b>	Document Number	Mod. ESVA-1D MIC	
Date:	Monday, November 08, 2004	Sheet: <b>3</b>	of <b>8</b>
			Rev: <b>1.0</b>



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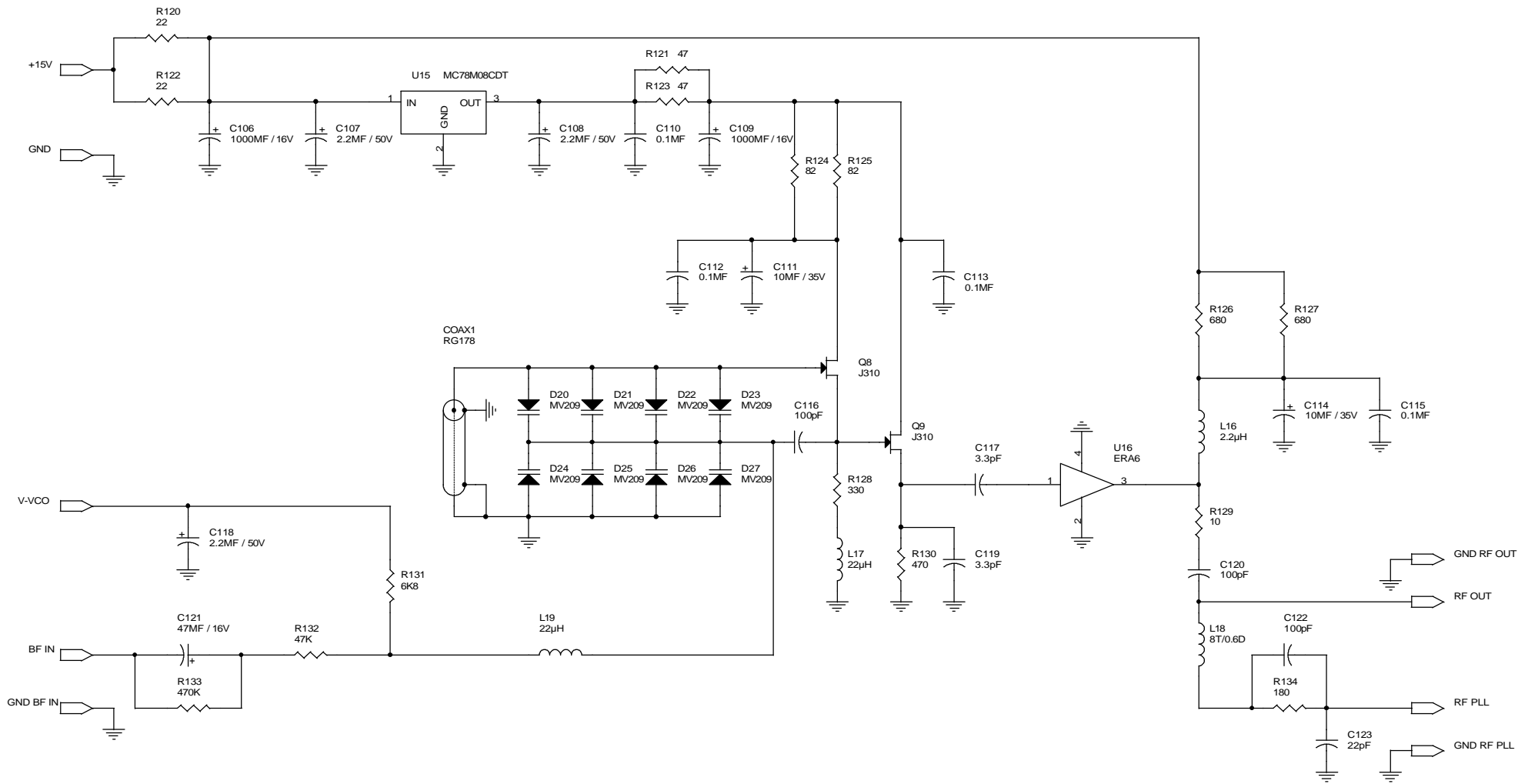
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<b>Title</b> Power Supply			
<b>Size</b> A3	<b>Document Number</b> ESVA-1D PWD	<b>Rev</b> 1.0	
<b>Date:</b> Monday, November 08, 2004 <b>Sheet</b> 4 <b>of</b> 8			



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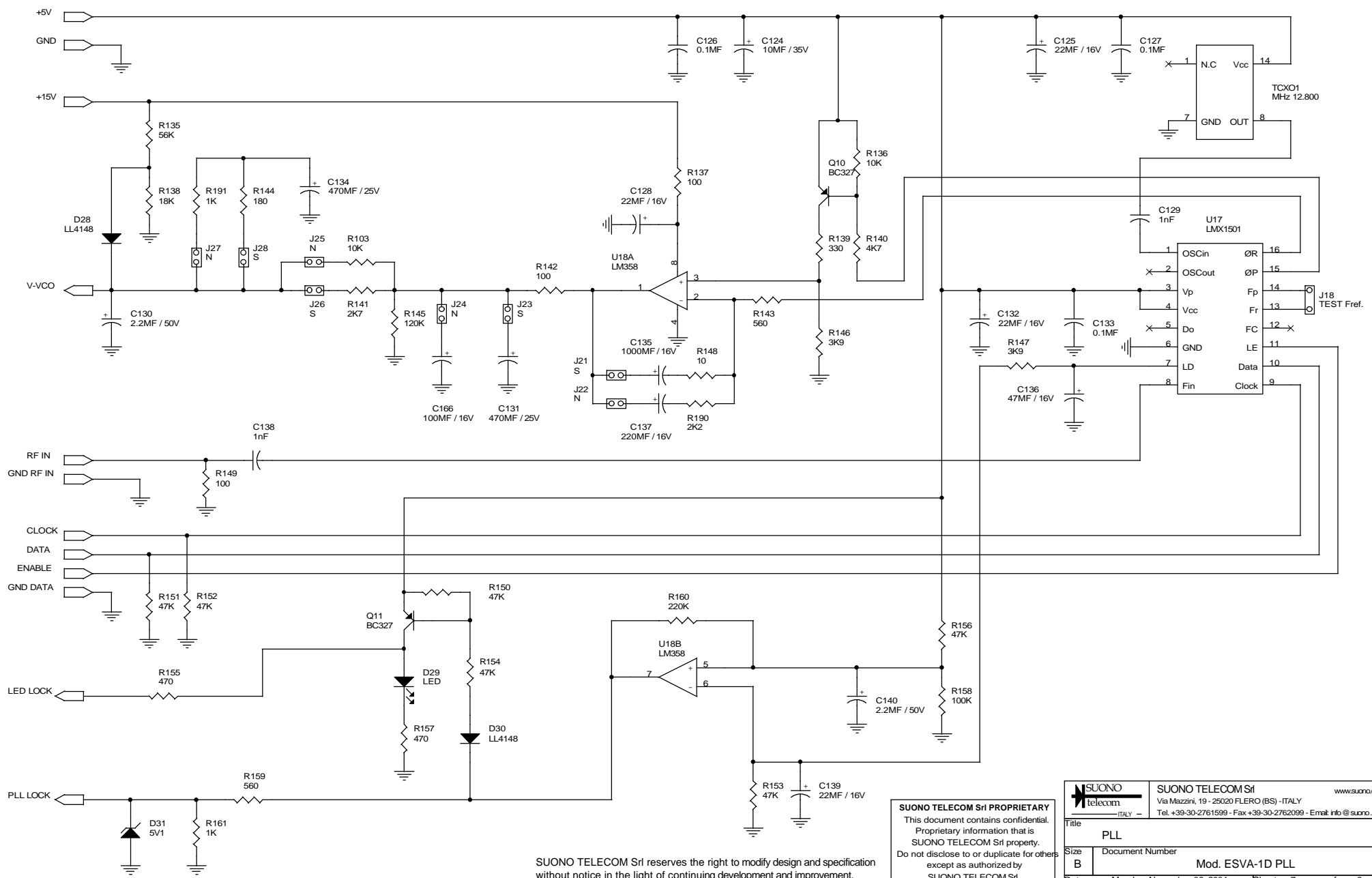
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<b>Protection &amp; Meter</b>				
Title Size C	Document Number Mod. ESVA.1D PRM	Rev 1.0		
Page: Monday, November 08, 2004 Sheet 5 of 8				



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Title: <b>VCO</b>			
Size: <b>B</b>	Document Number: <b>Mod. ESVA-1D VCO</b>	Rev: <b>1.0</b>	
Date: <b>Monday, November 08, 2004</b>	Sheet: <b>6</b>	of <b>8</b>	



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Title: PLL			
Size: B	Document Number: Mod. ESVA-1D PLL	Rev: 1.0	
Date: Monday, November 08, 2004	Sheet: 7	of 8	

Part List Schematic : ESVA-1D

Rif.	Value	Remarks	Description	Code
C1	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C2	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C3	1nF		SMD Multilayer Ceramic Capacitor	
C4	1nF		SMD Multilayer Ceramic Capacitor	
C5	1nF		SMD Multilayer Ceramic Capacitor	
C6	1nF		SMD Multilayer Ceramic Capacitor	
C7	1nF		SMD Multilayer Ceramic Capacitor	
C8	1nF		SMD Multilayer Ceramic Capacitor	
C9	1nF		SMD Multilayer Ceramic Capacitor	
C10	1nF		SMD Multilayer Ceramic Capacitor	
C11	1nF		SMD Multilayer Ceramic Capacitor	
C12	1nF		SMD Multilayer Ceramic Capacitor	
C13	1nF		SMD Multilayer Ceramic Capacitor	
C14	1nF		SMD Multilayer Ceramic Capacitor	
C15	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C16	39pF		SMD Multilayer Ceramic Capacitor	
C17	39pF		SMD Multilayer Ceramic Capacitor	
C18	1nF		SMD Multilayer Ceramic Capacitor	
C19	1nF		SMD Multilayer Ceramic Capacitor	
C20	39pF		SMD Multilayer Ceramic Capacitor	
C21	39pF		SMD Multilayer Ceramic Capacitor	
C22	1nF		SMD Multilayer Ceramic Capacitor	
C23	1nF		SMD Multilayer Ceramic Capacitor	
C24	1nF		SMD Multilayer Ceramic Capacitor	
C25	1nF		SMD Multilayer Ceramic Capacitor	
C26	60pF		Trimmer Polyethylene Film Capacitor	
C27	10pF		SMD Multilayer Ceramic Capacitor	
C28	22pF		SMD Multilayer Ceramic Capacitor	
C29	270pF		SMD Multilayer Ceramic Capacitor	
C30	100MF	16V	SMD Aluminium Electrolytic Capacitor	
C31	1000MF	25V	Aluminium Electrolytic Capacitor	
C32	270pF		SMD Multilayer Ceramic Capacitor	
C33	270pF		SMD Multilayer Ceramic Capacitor	
C34	10MF	35V	Aluminium Electrolytic Capacitor	
C35	470MF	35V	Aluminium Electrolytic Capacitor	
C36	470MF	35V	Aluminium Electrolytic Capacitor	
C37	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C38	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C39	10pF		SMD Multilayer Ceramic Capacitor	
C40	4.7nF		Polyester Capacitor	
C41	100MF	25V	SMD Aluminium Electrolytic Capacitor	
C42	6.8nF		Polyester Capacitor	
C43	100MF	25V	SMD Aluminium Electrolytic Capacitor	
C44	47pF		SMD Multilayer Ceramic Capacitor	
C45	47pF		SMD Multilayer Ceramic Capacitor	
C46	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C47	0.1MF		SMD Multilayer Ceramic Capacitor	
C48	33pF		SMD Multilayer Ceramic Capacitor	
C49	33pF		SMD Multilayer Ceramic Capacitor	

Rif.	Value	Remarks	Description	Code
C50	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C51	100MF	25V	SMD Aluminium Electrolytic Capacitor	
C52	0.1MF		SMD Multilayer Ceramic Capacitor	
C53	0.1MF		SMD Multilayer Ceramic Capacitor	
C54	1MF / 16V		SMD Aluminium Electrolytic Capacitor	
C55	0.1MF		SMD Multilayer Ceramic Capacitor	
C56	1MF	16V	SMD Aluminium Electrolytic Capacitor	
C57	1MF	16V	SMD Aluminium Electrolytic Capacitor	
C58	1MF	16V	SMD Aluminium Electrolytic Capacitor	
C59	1MF	16V	SMD Aluminium Electrolytic Capacitor	
C60	1000MF	35V	Aluminium Electrolytic Capacitor	
C61	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C62	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C63	1000MF	16V	Aluminium Electrolytic Capacitor	
C64	47MF	16V	SMD Aluminium Electrolytic Capacitor	
C65	47MF	16V	SMD Aluminium Electrolytic Capacitor	
C66	0.1MF		SMD Multilayer Ceramic Capacitor	
C67	0.1MF		SMD Multilayer Ceramic Capacitor	
C68	0.1MF		SMD Multilayer Ceramic Capacitor	
C69	0.1MF		SMD Multilayer Ceramic Capacitor	
C70	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C71	0.1MF		SMD Multilayer Ceramic Capacitor	
C72	0.1MF		SMD Multilayer Ceramic Capacitor	
C73	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C74	0.1MF		SMD Multilayer Ceramic Capacitor	
C75	0.1MF		SMD Multilayer Ceramic Capacitor	
C76	47MF	35V	Aluminium Electrolytic Capacitor	
C77	0.1MF		SMD Multilayer Ceramic Capacitor	
C78	10nF		SMD Multilayer Ceramic Capacitor	
C79	220MF	35V	Aluminium Electrolytic Capacitor	
C80	220MF	35V	Aluminium Electrolytic Capacitor	
C81	47MF	16V	SMD Aluminium Electrolytic Capacitor	
C82	0.1MF		SMD Multilayer Ceramic Capacitor	
C83	0.1MF		SMD Multilayer Ceramic Capacitor	
C84	47MF	16V	SMD Aluminium Electrolytic Capacitor	
C85	0.1MF		SMD Multilayer Ceramic Capacitor	
C86	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C87	0.1MF		SMD Multilayer Ceramic Capacitor	
C88	0.1MF		SMD Multilayer Ceramic Capacitor	
C89	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C90	0.1MF		SMD Multilayer Ceramic Capacitor	
C91	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C92	0.1MF		SMD Multilayer Ceramic Capacitor	
C93	100MF	25V	Aluminium Electrolytic Capacitor	
C94	10MF	35V	Aluminium Electrolytic Capacitor	
C95	0.1MF		SMD Multilayer Ceramic Capacitor	
C96	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C97	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C98	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C99	4.7MF	35V	SMD Aluminium Electrolytic Capacitor	
C100	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C101	0.1MF		SMD Multilayer Ceramic Capacitor	



Rif.	Value	Remarks	Description	Code
C102	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C103	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C104	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C105	0.1MF		SMD Multilayer Ceramic Capacitor	
C106	1000MF	16V	Aluminium Electrolytic Capacitor	
C107	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C108	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C109	1000MF	16V	Aluminium Electrolytic Capacitor	
C110	0.1MF		SMD Multilayer Ceramic Capacitor	
C111	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C112	0.1MF		SMD Multilayer Ceramic Capacitor	
C113	0.1MF		SMD Multilayer Ceramic Capacitor	
C114	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C115	0.1MF		SMD Multilayer Ceramic Capacitor	
C116	100pF		SMD Multilayer Ceramic Capacitor	
C117	3.3pF		SMD Multilayer Ceramic Capacitor	
C118	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C119	3.3pF		SMD Multilayer Ceramic Capacitor	
C120	100pF		SMD Multilayer Ceramic Capacitor	
C121	47MF	16V	SMD Aluminium Electrolytic Capacitor	
C122	100pF		SMD Multilayer Ceramic Capacitor	
C123	22pF		SMD Multilayer Ceramic Capacitor	
C124	10MF	35V	SMD Multilayer Ceramic Capacitor	
C125	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C126	0.1MF		SMD Multilayer Ceramic Capacitor	
C127	0.1MF		SMD Multilayer Ceramic Capacitor	
C128	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C129	1nF		SMD Multilayer Ceramic Capacitor	
C130	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C131	470MF	16V	Aluminium Electrolytic Capacitor	
C132	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C133	0.1MF		SMD Multilayer Ceramic Capacitor	
C134	470MF	16V	Aluminium Electrolytic Capacitor	
C135	1000MF	16V	Aluminium Electrolytic Capacitor	
C136	47MF	16V	SMD Aluminium Electrolytic Capacitor	
C137	220MF	16V	Aluminium Electrolytic Capacitor	
C138	1nF		SMD Multilayer Ceramic Capacitor	
C139	22MF	16V	SMD Aluminium Electrolytic Capacitor	
C140	2.2MF	50V	SMD Aluminium Electrolytic Capacitor	
C141	0.1MF		SMD Multilayer Ceramic Capacitor	
C142	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C143	0.1MF		SMD Multilayer Ceramic Capacitor	
C144	10MF	35V	SMD Aluminium Electrolytic Capacitor	
C145	1nF		SMD Multilayer Ceramic Capacitor	
C146	0.1MF		SMD Multilayer Ceramic Capacitor	
C147	4.7nF		SMD Multilayer Ceramic Capacitor	
C148	33pF		SMD Multilayer Ceramic Capacitor	
C149	NC		NC	
C150	10pF		SMD Multilayer Ceramic Capacitor	
C151	1nF		SMD Multilayer Ceramic Capacitor	
C152	220pF		SMD Multilayer Ceramic Capacitor	
C153	0.1MF		SMD Multilayer Ceramic Capacitor	

Rif.	Value	Remarks	Description	Code
C154	39pF		SMD Multilayer Ceramic Capacitor	
C155	NC		NC	
C156	NC		NC	
C157	22pF		SMD Multilayer Ceramic Capacitor	
C158	22pF		SMD Multilayer Ceramic Capacitor	
C159	0.1MF		SMD Multilayer Ceramic Capacitor	
C160	1nF		SMD Multilayer Ceramic Capacitor	
C161	47MF	35V	Aluminium Electrolytic Capacitor	
C162	47MF	35V	Aluminium Electrolytic Capacitor	
C163	47MF	35V	Aluminium Electrolytic Capacitor	
C164	47MF	35V	Aluminium Electrolytic Capacitor	
C165	0.1MF		SMD Multilayer Ceramic Capacitor	
C166	100MF	16V	SMD Aluminium Electrolytic Capacitor	
C167	1nF		SMD Multilayer Ceramic Capacitor	
C168	1nF		SMD Multilayer Ceramic Capacitor	
L1	22uH		SMD Inductor	
L2	22uH		SMD Inductor	
L3	22uH		SMD Inductor	
L4	22uH		SMD Inductor	
L5	22uH		SMD Inductor	
L6	22uH		SMD Inductor	
L7	22uH		SMD Inductor	
L8	22uH		SMD Inductor	
L9	22uH		SMD Inductor	
L10	22uH		SMD Inductor	
L11	22uH		SMD Inductor	
L12	22uH		Suppression Choke	
L13	4.7mH		Suppression Choke	
L14	CHOKE		Suppression Choke	
L15	22uH		Suppression Choke	
L16	2.2uH		SMD Inductor	
L17	22uH		SMD Inductor	
L18	8T/0.6D		Enamelled Copper Wire	
L19	22uH		SMD Inductor	
L20	18T/0.4D		Enamelled Copper Wire	
L21	3T/.6D		Tinned Copper Wire	
L22	3T/.6D		Tinned Copper Wire	
L23	2T/.6D		Enamelled Copper Wire	
L24	3T/.6D		Tinned Copper Wire	
R1	2K2	1/4W	SMD Thick Film Resistor	
R2	2K2	1/4W	SMD Thick Film Resistor	
R3	10K	1/4W	SMD Cermet Skeleton Trimmer Resistor	
R4	10K	1/4W	SMD Thick Film Resistor	
R5	27K	1/4W	SMD Thick Film Resistor	
R6	47K	1/4W	SMD Thick Film Resistor	
R7	12K	1/4W	SMD Thick Film Resistor	
R8	47K	1/4W	SMD Thick Film Resistor	
R9	5K	1/4W	Multi Turn Cermet Trimmer Resistor	
R10	27K	1/4W	SMD Thick Film Resistor	
R11	47K	1/4W	SMD Thick Film Resistor	

Rif.	Value	Remarks	Description	Code
R12	1K	1/4W	Multi Turn Cermet Trimmer Resistor Panel Mount	
R13	10K	1/4W	SMD Thick Film Resistor	
R14	12K	1/4W	SMD Thick Film Resistor	
R15	1K2	1/4W	SMD Thick Film Resistor	
R16	200	1/4W	SMD Cermet Skeleton Trimmer Resistor	
R17	3K9	1/4W	SMD Thick Film Resistor	
R18	1K2	1/4W	SMD Thick Film Resistor	
R19	3K9	1/4W	SMD Thick Film Resistor	
R20	1K	1/4W	Multi Turn Cermet Trimmer Resistor Panel Mount	
R21	12K	1/4W	SMD Thick Film Resistor	
R22	1K	1/4W	Multi Turn Cermet Trimmer Resistor Panel Mount	
R23	12K	1/4W	SMD Thick Film Resistor	
R24	33	1/4W	SMD Thick Film Resistor	
R25	220K	1/4W	SMD Thick Film Resistor	
R26	100K	1/4W	SMD Thick Film Resistor	
R27	1K	1/4W	Multi Turn Cermet Trimmer Resistor Panel Mount	
R28	4K7	1/4W	SMD Thick Film Resistor	
R29	10K	1/4W	SMD Thick Film Resistor	
R30	560K	1/4W	SMD Thick Film Resistor	
R31	100K	1/4W	SMD Thick Film Resistor	
R32	100K	1/4W	SMD Thick Film Resistor	
R33	33	1/4W	SMD Thick Film Resistor	
R34	NC	1/4W	SMD Thick Film Resistor	
R35	560K	1/4W	SMD Thick Film Resistor	
R36	10K	1/4W	SMD Thick Film Resistor	
R37	4K7	1/4W	SMD Thick Film Resistor	
R38	100	1/4W	SMD Thick Film Resistor	
R39	10K	1/4W	SMD Thick Film Resistor	
R40	1K2	1/4W	SMD Thick Film Resistor	
R41	1K2	1/4W	SMD Thick Film Resistor	
R42	10K	1/4W	SMD Thick Film Resistor	
R43	10K	1/4W	SMD Thick Film Resistor	
R44	10K	1/4W	SMD Thick Film Resistor	
R45	3K9	1/4W	SMD Thick Film Resistor	
R46	3K9	1/4W	SMD Thick Film Resistor	
R47	4K7	1/4W	SMD Thick Film Resistor	
R48	10K	1/4W	SMD Thick Film Resistor	
R49	2K2	1/4W	SMD Thick Film Resistor	
R50	10K	1/4W	Multi Turn Cermet Trimmer Resistor Panel Mount	
R51	4K7	1/4W	SMD Thick Film Resistor	
R52	10K	1/4W	Multi Turn Cermet Trimmer Resistor	
R53	10K	1/4W	SMD Thick Film Resistor	
R54	1K	1/4W	SMD Thick Film Resistor	
R55	10K	1/4W	SMD Thick Film Resistor	
R56	10K	1/4W	SMD Thick Film Resistor	
R57	10K	1/4W	SMD Thick Film Resistor	
R58	10K	1/4W	SMD Thick Film Resistor	
R59	NC		NC	
R60	NC		NC	
R61	NC		NC	
R62	10K	1/4W	SMD Thick Film Resistor	
R63	1K5	1/4W	SMD Thick Film Resistor	

Rif.	Value	Remarks	Description	Code
R64	10K	1/4W	SMD Cermet Skeleton Trimmer Resistor	
R65	1K2	1/4W	SMD Thick Film Resistor	
R66	6k8	1/4W	SMD Thick Film Resistor	
R67	6k8	1/4W	SMD Thick Film Resistor	
R68	6k8	1/4W	SMD Thick Film Resistor	
R69	6k8	1/4W	SMD Thick Film Resistor	
R70	6k8	1/4W	SMD Thick Film Resistor	
R71	6k8	1/4W	SMD Thick Film Resistor	
R72	6k8	1/4W	SMD Thick Film Resistor	
R73	1K2	1/4W	SMD Thick Film Resistor	
R74	390	1/4W	SMD Thick Film Resistor	
R75	33	1/4W	SMD Thick Film Resistor	
R76	33	1/4W	SMD Thick Film Resistor	
R77	390	1/4W	SMD Thick Film Resistor	
R78	33	1/4W	SMD Thick Film Resistor	
R79	33	1/4W	SMD Thick Film Resistor	
R80	1K2	1/4W	SMD Thick Film Resistor	
R81	47K	1/4W	SMD Thick Film Resistor	
R82	47K	1/4W	SMD Thick Film Resistor	
R83	100K	1/4W	SMD Thick Film Resistor	
R84	27K	1/4W	SMD Thick Film Resistor	
R85	47K	1/4W	SMD Thick Film Resistor	
R86	47K	1/4W	SMD Thick Film Resistor	
R87	2K2	1/4W	SMD Thick Film Resistor	
R88	1K2	1/4W	SMD Thick Film Resistor	
R89	10	1/4W	SMD Thick Film Resistor	
R90	10	1/4W	SMD Thick Film Resistor	
R91	1K	1/4W	SMD Thick Film Resistor	
R92	4K7	1/4W	SMD Thick Film Resistor	
R93	47K	1/4W	SMD Thick Film Resistor	
R94	47K	1/4W	SMD Thick Film Resistor	
R95	47K	1/4W	SMD Thick Film Resistor	
R96	12K	1/4W	SMD Thick Film Resistor	
R97	47K	1/4W	SMD Thick Film Resistor	
R98	560	1/4W	SMD Thick Film Resistor	
R99	100	1/4W	SMD Thick Film Resistor	
R100	27K	1/4W	SMD Thick Film Resistor	
R101	18K	1/4W	SMD Thick Film Resistor	
R102	100K	1/4W	SMD Thick Film Resistor	
R103	10K	1/4W	SMD Thick Film Resistor	
R104	18K	1/4W	SMD Thick Film Resistor	
R105	10K	1/4W	SMD Thick Film Resistor	
R106	1K5	1/4W	SMD Thick Film Resistor	
R107	50K	1/4W	Multi Turn Cermet Trimmer Resistor	
R108	100	1/4W	SMD Thick Film Resistor	
R109	10K	1/4W	SMD Thick Film Resistor	
R110	10K	1/4W	SMD Thick Film Resistor	
R111	10K	1/4W	SMD Thick Film Resistor	
R112	15K	1/4W	SMD Thick Film Resistor	
R113	10K	1/4W	SMD Thick Film Resistor	
R114	4K7	1/4W	SMD Thick Film Resistor	
R115	50K	1/4W	Multi Turn Cermet Trimmer Resistor	

Rif.	Value	Remarks	Description	Code
R116	100	1/4W	SMD Thick Film Resistor	
R117	10K	1/4W	SMD Thick Film Resistor	
R118	10K	1/4W	SMD Thick Film Resistor	
R119	10K	1/4W	SMD Thick Film Resistor	
R120	22	1/4W	SMD Thick Film Resistor	
R121	47	1/4W	SMD Thick Film Resistor	
R122	22	1/4W	SMD Thick Film Resistor	
R123	47	1/4W	SMD Thick Film Resistor	
R124	82	1/4W	SMD Thick Film Resistor	
R125	82	1/4W	SMD Thick Film Resistor	
R126	680	1/4W	SMD Thick Film Resistor	
R127	680	1/4W	SMD Thick Film Resistor	
R128	330	1/4W	SMD Thick Film Resistor	
R129	10	1/4W	SMD Thick Film Resistor	
R130	470	1/4W	SMD Thick Film Resistor	
R131	6K8	1/4W	SMD Thick Film Resistor	
R132	47K	1/4W	SMD Thick Film Resistor	
R133	470K	1/4W	SMD Thick Film Resistor	
R134	180	1/4W	SMD Thick Film Resistor	
R135	56K	1/4W	SMD Thick Film Resistor	
R136	10K	1/4W	SMD Thick Film Resistor	
R137	100	1/4W	SMD Thick Film Resistor	
R138	18K	1/4W	SMD Thick Film Resistor	
R139	330	1/4W	SMD Thick Film Resistor	
R140	4K7	1/4W	SMD Thick Film Resistor	
R141	2K7	1/4W	SMD Thick Film Resistor	
R142	100	1/4W	SMD Thick Film Resistor	
R143	560	1/4W	SMD Thick Film Resistor	
R144	180	1/4W	SMD Thick Film Resistor	
R145	120K	1/4W	SMD Thick Film Resistor	
R146	3K9	1/4W	SMD Thick Film Resistor	
R147	3K9	1/4W	SMD Thick Film Resistor	
R148	10	1/4W	SMD Thick Film Resistor	
R149	100	1/4W	SMD Thick Film Resistor	
R150	47K	1/4W	SMD Thick Film Resistor	
R151	47K	1/4W	SMD Thick Film Resistor	
R152	47K	1/4W	SMD Thick Film Resistor	
R153	47K	1/4W	SMD Thick Film Resistor	
R154	47K	1/4W	SMD Thick Film Resistor	
R155	470	1/4W	SMD Thick Film Resistor	
R156	47K	1/4W	SMD Thick Film Resistor	
R157	470	1/4W	SMD Thick Film Resistor	
R158	100K	1/4W	SMD Thick Film Resistor	
R159	560	1/4W	SMD Thick Film Resistor	
R160	220K	1/4W	SMD Thick Film Resistor	
R161	1K	1/4W	SMD Thick Film Resistor	
R162	27K	1/4W	SMD Thick Film Resistor	
R163	10	1/4W	SMD Thick Film Resistor	
R164	10	1/4W	SMD Thick Film Resistor	
R165	10K	1/4W	SMD Cermet Skeleton Trimmer Resistor	
R166	3K9	1/4W	SMD Thick Film Resistor	
R167	470	1/4W	SMD Thick Film Resistor	

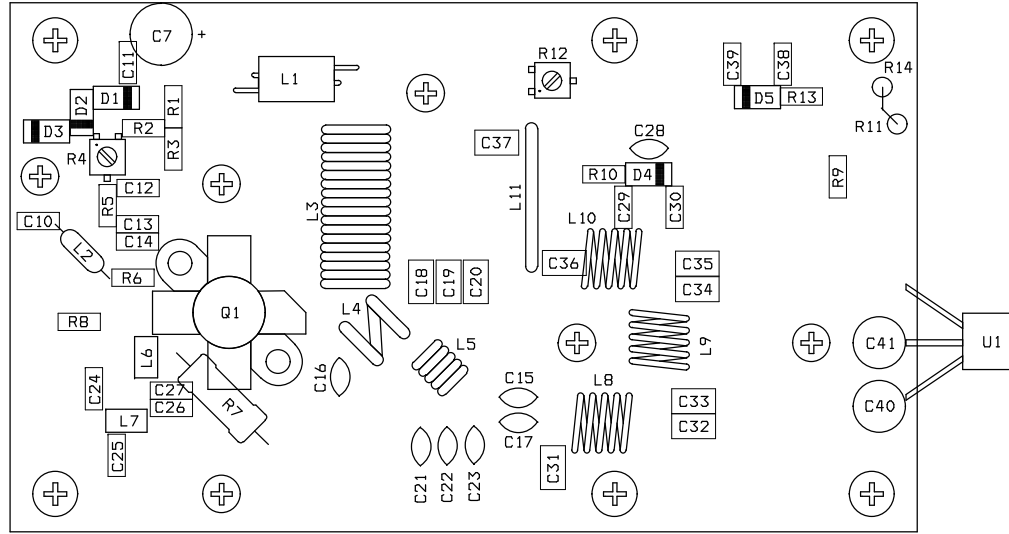
Rif.	Value	Remarks	Description	Code
R168	390	1/4W	SMD Thick Film Resistor	
R169	12	1/4W	SMD Thick Film Resistor	
R170	330	1/4W	SMD Thick Film Resistor	
R171	330	1/4W	SMD Thick Film Resistor	
R172	10	1/4W	SMD Thick Film Resistor	
R173	39	1/4W	SMD Thick Film Resistor	
R174	10	1/4W	SMD Thick Film Resistor	
R175	470	1/4W	SMD Thick Film Resistor	
R176	12	1/4W	SMD Thick Film Resistor	
R177	12K	1/4W	SMD Thick Film Resistor	
R178	56	1/4W	SMD Thick Film Resistor	
R179	20K	1/4W	SMD Cermet Skeleton Trimmer Resistor	
R180	2K	1/4W	Multi Turn Cermet Trimmer Resistor	
R181	4K7	1/4W	SMD Thick Film Resistor	
R182	470K	1/4W	SMD Thick Film Resistor	
R183	560	1/4W	SMD Thick Film Resistor	
R184	10K	1/4W	SMD Thick Film Resistor	
R185	47K	1/4W	SMD Thick Film Resistor	
R186	4K7	1/4W	SMD Thick Film Resistor	
R187	2K	1/4W	SMD Cermet Skeleton Trimmer Resistor	
R188	47K	1/4W	SMD Thick Film Resistor	
R189	10K	1/4W	SMD Thick Film Resistor	
R190	2K2	1/4W	SMD Thick Film Resistor	
R191	1K	1/4W	SMD Thick Film Resistor	
R192	1K5	1/4W	SMD Thick Film Resistor	
R193	2K2	1/4W	SMD Thick Film Resistor	
R194	2K2	1/4W	SMD Thick Film Resistor	
R195	15K	1/4W	SMD Thick Film Resistor	
R196	560	1/4W	SMD Thick Film Resistor	
R197	470K	1/4W	SMD Thick Film Resistor	
R198	2K2	1/4W	SMD Thick Film Resistor	
R199	15K	1/4W	SMD Thick Film Resistor	
R200	47K	1/4W	SMD Thick Film Resistor	
R201	4K7	1/4W	SMD Thick Film Resistor	
R202	4K7	1/4W	SMD Thick Film Resistor	
R203	4K7	1/4W	SMD Thick Film Resistor	
R204	27K	1/4W	SMD Thick Film Resistor	
R205	47K	1/4W	SMD Thick Film Resistor	
D1	LL4148		SMD Low Power Signal Diode	
D2	LL4148		SMD Low Power Signal Diode	
D3	BAT43		Diode Schottky	
D4	BAT43		Diode Schottky	
D5	LL4148		SMD Low Power Signal Diode	
D6	3V3		SMD Diode Zener	
D7	LL4148		SMD Low Power Signal Diode	
D8	LL4148		SMD Low Power Signal Diode	
D9	LL4148		SMD Low Power Signal Diode	
D10	LED	YELLOW	SMD Light Emitting Diode	
D11	LED	YELLOW	SMD Light Emitting Diode	
D12	MRA4007		Medium Power Signal Diode	
D13	MRA4007		Medium Power Signal Diode	

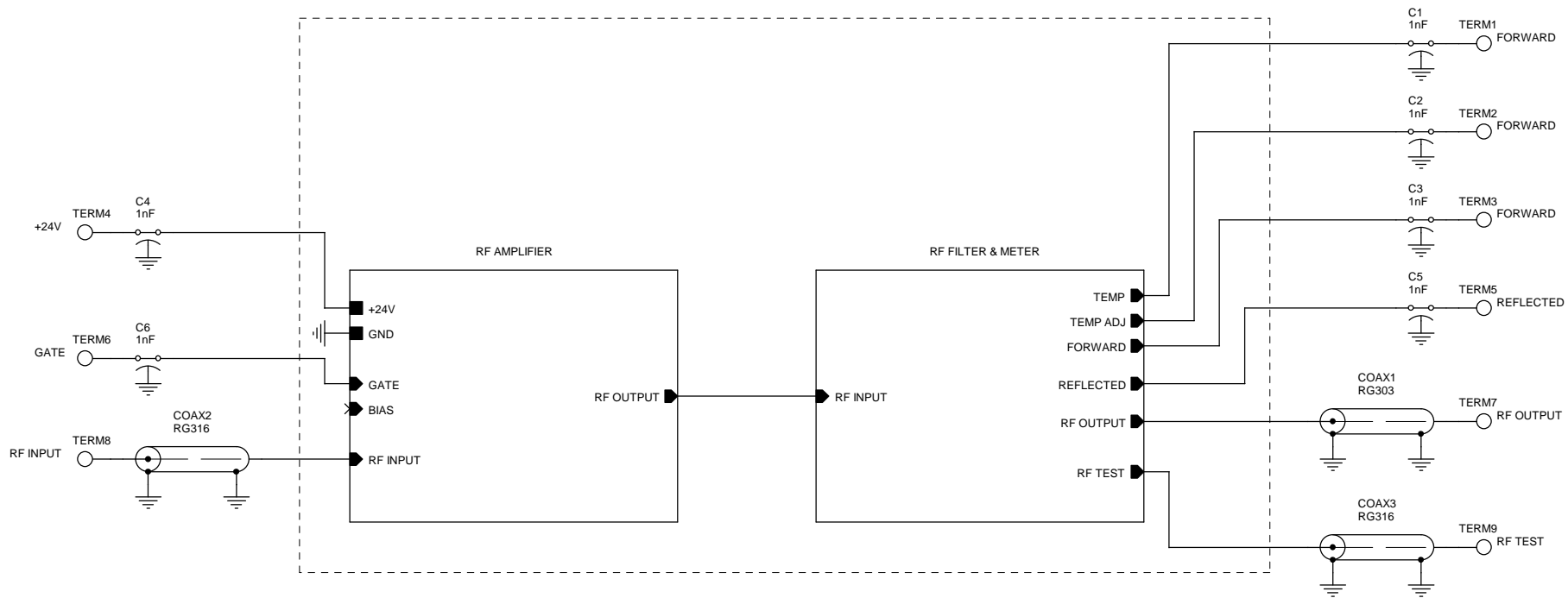
Rif.	Value	Remarks	Description	Code
D14	LED	YELLOW	SMD Light Emitting Diode	
D15	LED	YELLOW	SMD Light Emitting Diode	
D16	15V		SMD Diode Zener	
D17	LL4148		SMD Low Power Signal Diode	
D18	LL4148		SMD Low Power Signal Diode	
D19	15V		SMD Diode Zener	
D20	MV209		Tuning Diode	
D21	MV209		Tuning Diode	
D22	MV209		Tuning Diode	
D23	MV209		Tuning Diode	
D24	MV209		Tuning Diode	
D25	MV209		Tuning Diode	
D26	MV209		Tuning Diode	
D27	MV209		Tuning Diode	
D28	LL4148		SMD Low Power Signal Diode	
D29	LED	GREEN	SMD Light Emitting Diode	
D30	LL4148		SMD Low Power Signal Diode	
D31	5V1		SMD Diode Zener	
D32	LL4148		SMD Low Power Signal Diode	
D33	MRA4007		Medium Power Signal Diode	
D34	MRA4007		Medium Power Signal Diode	
D35	5V1		SMD Diode Zener	
Q1	BC327		Low Power Bipolar Transistor	
Q2	BC327		Low Power Bipolar Transistor	
Q3	BC337		Low Power Bipolar Transistor	
Q4	BC327		Low Power Bipolar Transistor	
Q5	BC337		Low Power Bipolar Transistor	
Q6	BDX53		Medium Power Bipolar Transistor	
Q7	BC337		Low Power Bipolar Transistor	
Q8	J310		JFET	
Q9	J310		JFET	
Q10	BC327		Low Power Bipolar Transistor	
Q11	BC327		Low Power Bipolar Transistor	
Q12	PD55003		LDMOS	
Q13	BFR96		RF Bipolar Transistor	
Q14	TIP41C		Medium Power Bipolar Transistor	
Q15	TIP42C		Medium Power Bipolar Transistor	
Q16	BC327		Low Power Bipolar Transistor	
U1	OP275		Operational Amplifier	
U2	LM358		Operational Amplifier	
U3	LF353		Operational Amplifier	
U4	ADC0834		A/D Converter	
U5	MAX810L		Special Function Integrated Circuit	
U6	T89C51RD2		Microcontroller	
U7	MAX232		Special Function Integrated Circuit	
U8	LM78S15/TO		Fixed Voltage Regulator	
U9	MC78M05CDT		Fixed Voltage Regulator	
U10	LM7915		Fixed Voltage Regulator	
U11	MC79M05CDT		Fixed Voltage Regulator	
U12	LM358		Operational Amplifier	

Rif.	Value	Remarks	Description	Code
U13	LM358		Operational Amplifier	
U14	LM358		Operational Amplifier	
U15	MC78M08CDT		Fixed Voltage Regulator	
U16	ERA6		Operational Amplifier	
U17	LMX1501		Special Function Integrated Circuit	
U18	LM358		Operational Amplifier	
U19	LM358		Operational Amplifier	
U20	CD40106		Logic Integrated Circuit	
Y1	11.0592MHz		Quartz Crystal	
TCXO1	MHz 12.800		Crystal Oscillator Module	
LCD1	DISPLAY		Male PCB Mounting Header	
SW1	DB9 MONITOR		Microswitcher	
FILT1	FILTER 19KHz		Filter TOKO	
COAX1	RG178		Coaxial Cable	
J1	POWER		PCB Mounting Terminal Block	
J2	SMB		SMB PCB Jack - 50 Ohm	
J3	DJ2x5		Male PCB Mounting Header	
J4	NC			
J5	STEREO		PCB Pin Strip Header	
J6	NC			
J7	DJ3		PCB Pin Strip Header	
J8	NC			
J9	NC			
J10	NC			
J11	NC			
J12	DB9_AUX		PCB Pin Strip Header	
J13	DB9		Male PCB Mounting Header	
J14	DJ3		PCB Pin Strip Header	
J15	DJ3		PCB Pin Strip Header	
J16	DJ2		PCB Pin Strip Header	
J17	DJ2		PCB Pin Strip Header	
J18	TEST Fref.		PCB Pin Strip Header	
J19	PUSH		PCB Pin Strip Header	
J20	RJ45		RJ45 PCB Socket	
J21	S		Jumper for setting	
J22	N		Jumper for setting	
J23	S		Jumper for setting	
J24	N		Jumper for setting	
J25	N		Jumper for setting	
J26	S		Jumper for setting	
J27	N		Jumper for setting	
J28	S		Jumper for setting	
J29	24V		Jumper for setting	
J30	15V		Jumper for setting	
J31	E		Jumper for setting	
J32	A		Jumper for setting	
J33	N		Jumper for setting	
J34	15V		Jumper for setting	
J35	24V		Jumper for setting	



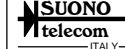


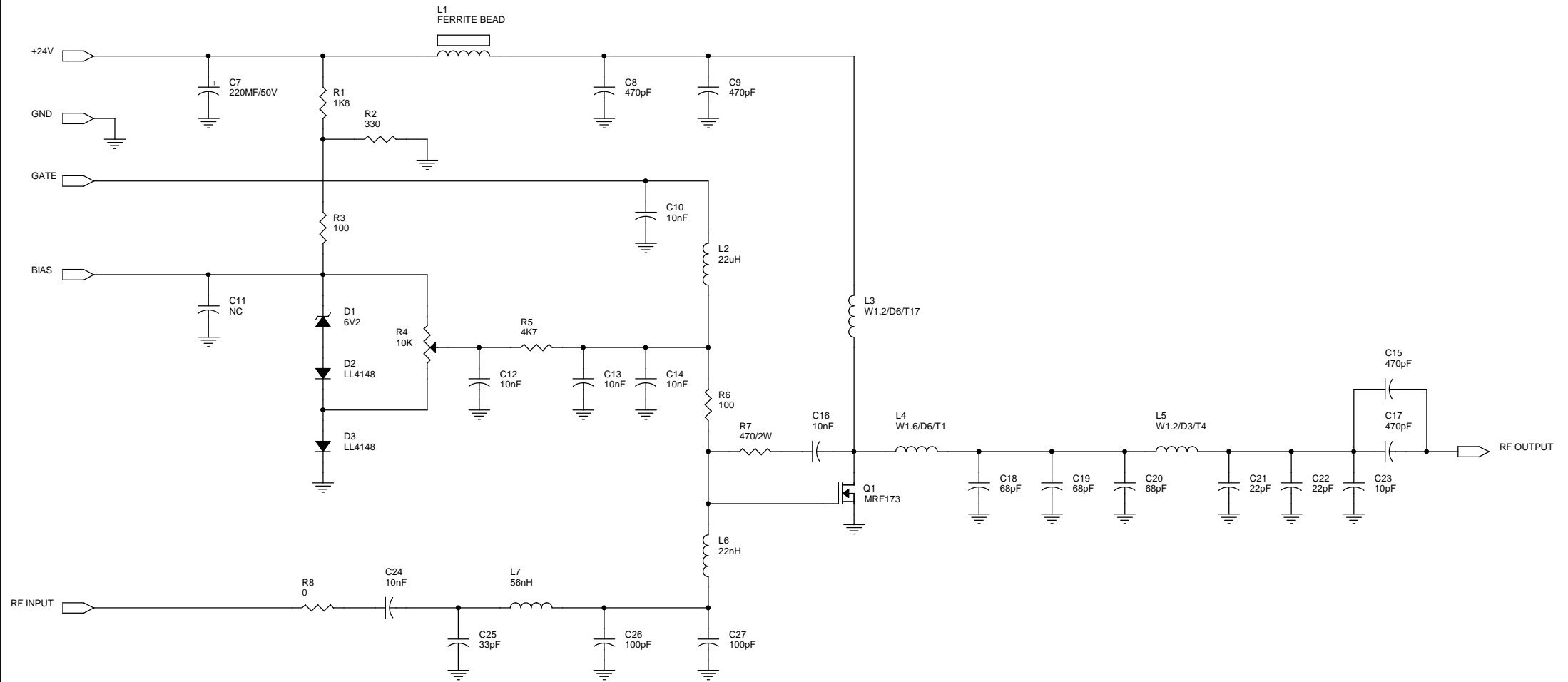




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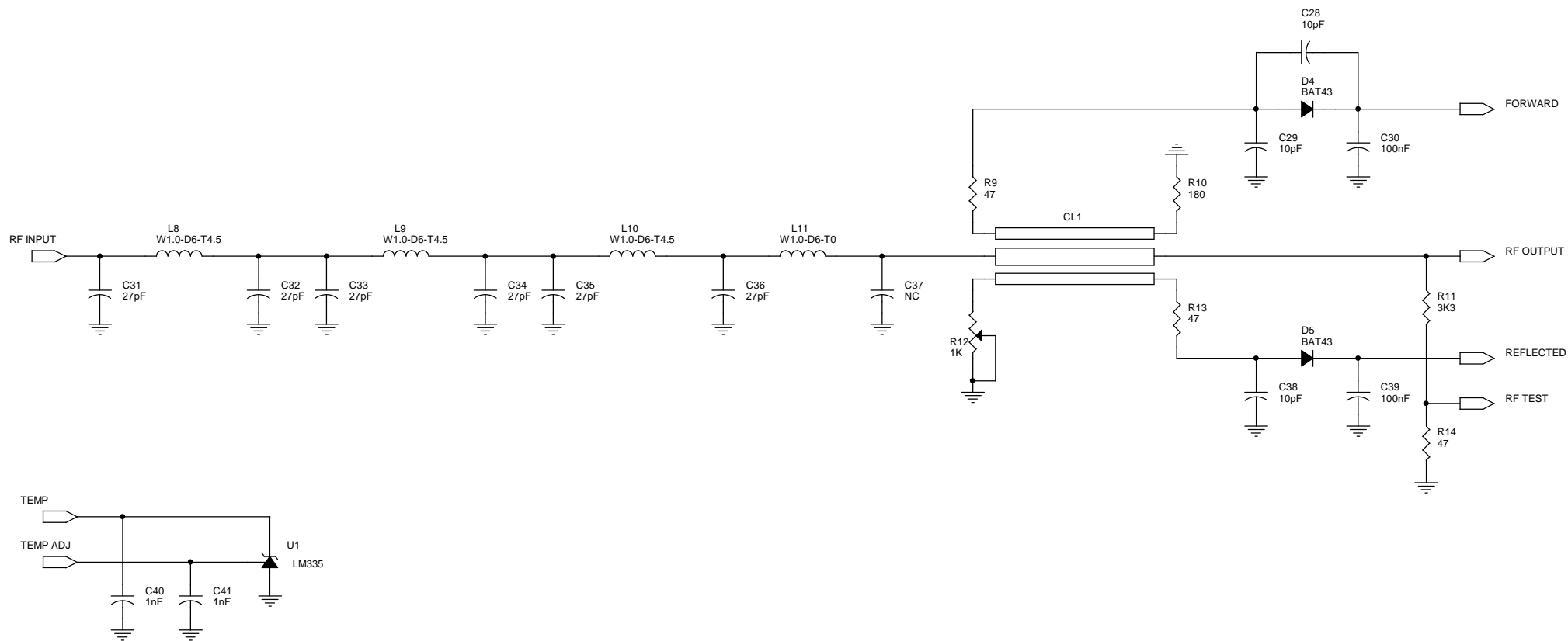
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Date: Friday, January 30, 2009		Sheet	1 of 3



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RF AMPLIFIER 20W - FILTER			
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B	Mod. 20WFMA-2		1.0
Date: Friday, January 30, 2009		Sheet 3 of 3	

Part List Schematic : RF AMPLIFIER FM 20W

Rif.	Value	Remarks	Description	Code
C1	1nF		SMD Multilayer Ceramic Capacitor	
C2	1nF		SMD Multilayer Ceramic Capacitor	
C3	1nF		SMD Multilayer Ceramic Capacitor	
C4	1nF		SMD Multilayer Ceramic Capacitor	
C5	1nF		SMD Multilayer Ceramic Capacitor	
C6	1nF		SMD Multilayer Ceramic Capacitor	
C7	220MF/50V		Aluminium Electrolytic Capacitor	
C8	470pF		SMD Multilayer Ceramic Capacitor	
C9	470pF		SMD Multilayer Ceramic Capacitor	
C10	10nF		SMD Multilayer Ceramic Capacitor	
C11	NC			
C12	10nF		SMD Multilayer Ceramic Capacitor	
C13	10nF		SMD Multilayer Ceramic Capacitor	
C14	10nF		SMD Multilayer Ceramic Capacitor	
C15	470pF		SMD Multilayer Ceramic Capacitor	
C16	10nF		SMD Multilayer Ceramic Capacitor	
C17	470pF		SMD Multilayer Ceramic Capacitor	
C18	68pF		SMD Ceramic ATC Capacitor	
C19	68pF		SMD Ceramic ATC Capacitor	
C20	68pF		SMD Ceramic ATC Capacitor	
C21	22pF		Ceramic Disc Capacitor NPO	
C22	22pF		Ceramic Disc Capacitor NPO	
C23	10pF		Ceramic Disc Capacitor NPO	
C24	10nF		Ceramic Disc Capacitor NPO	
C25	33pF		Ceramic Disc Capacitor NPO	
C26	100pF		Ceramic Disc Capacitor NPO	
C27	100pF		Ceramic Disc Capacitor NPO	
C28	10pF		Ceramic Disc Capacitor NPO	
C29	10pF		Ceramic Disc Capacitor NPO	
C30	100nF		SMD Multilayer Ceramic Capacitor	
C31	27pF		SMD Ceramic ATC Capacitor	
C32	27pF		SMD Ceramic ATC Capacitor	
C33	27pF		SMD Ceramic ATC Capacitor	
C34	27pF		SMD Ceramic ATC Capacitor	
C35	27pF		SMD Ceramic ATC Capacitor	
C36	27pF		SMD Ceramic ATC Capacitor	
C37	NC			
C38	10pF		Ceramic Disc Capacitor NPO	
C39	100nF		SMD Multilayer Ceramic Capacitor	
C40	1nF		SMD Multilayer Ceramic Capacitor	
C41	1nF		SMD Multilayer Ceramic Capacitor	
L1	FERRITE BEAD		Ferrite Drum Cored Inductor	
L2	22uH		SMD Inductor	
L3	W1.2/D6/T17		Enamelled Copper Wire	
L4	W1.6/D6/T1		Enamelled Copper Wire	
L5	W1.2/D3/T4		Enamelled Copper Wire	
L6	22nH		SMD Inductor	
L7	56nH		SMD Inductor	

