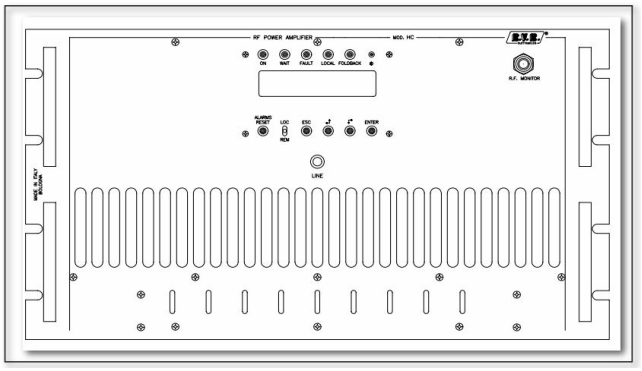
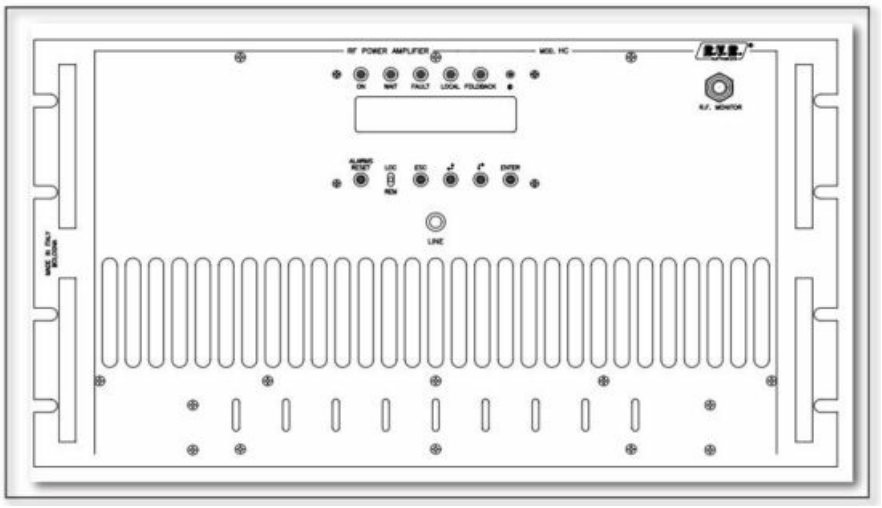


R V R Elettronica HC5 LCD FM Transmitter Broadcast Systems User Manual

Contents

R V R Elettronica HC5 LCD FM Transmitter Broadcast Systems User Manual

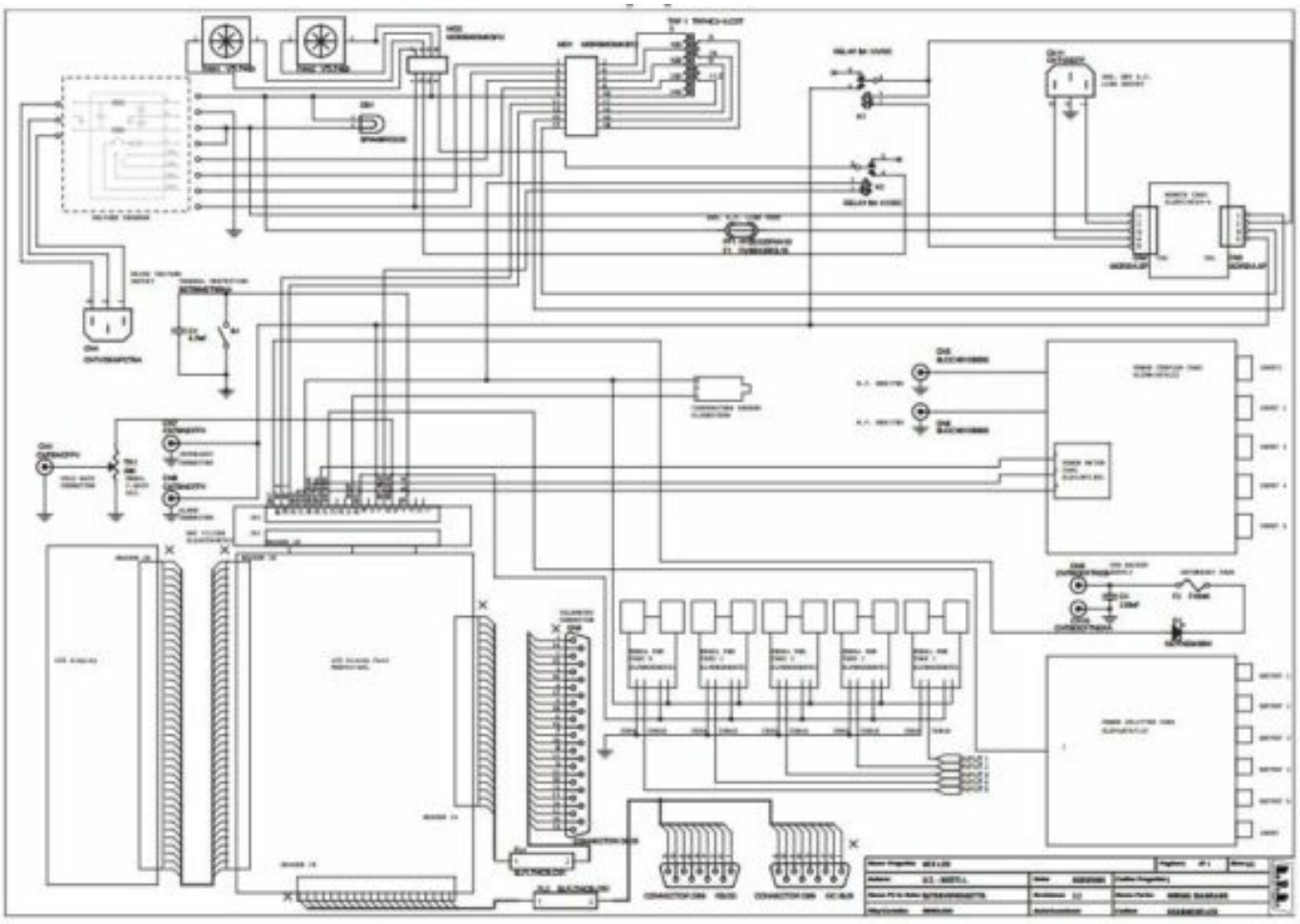


Volume 2: Technical Appendix

Manufactured by R.V.R. ELETTRONICA Italy

Appendix A Component layouts, schematics,
This part of the manual contains the technical details about the different boards of the HC5 LCD. This appendix is composed of the following sections:

Wiring Diagrams

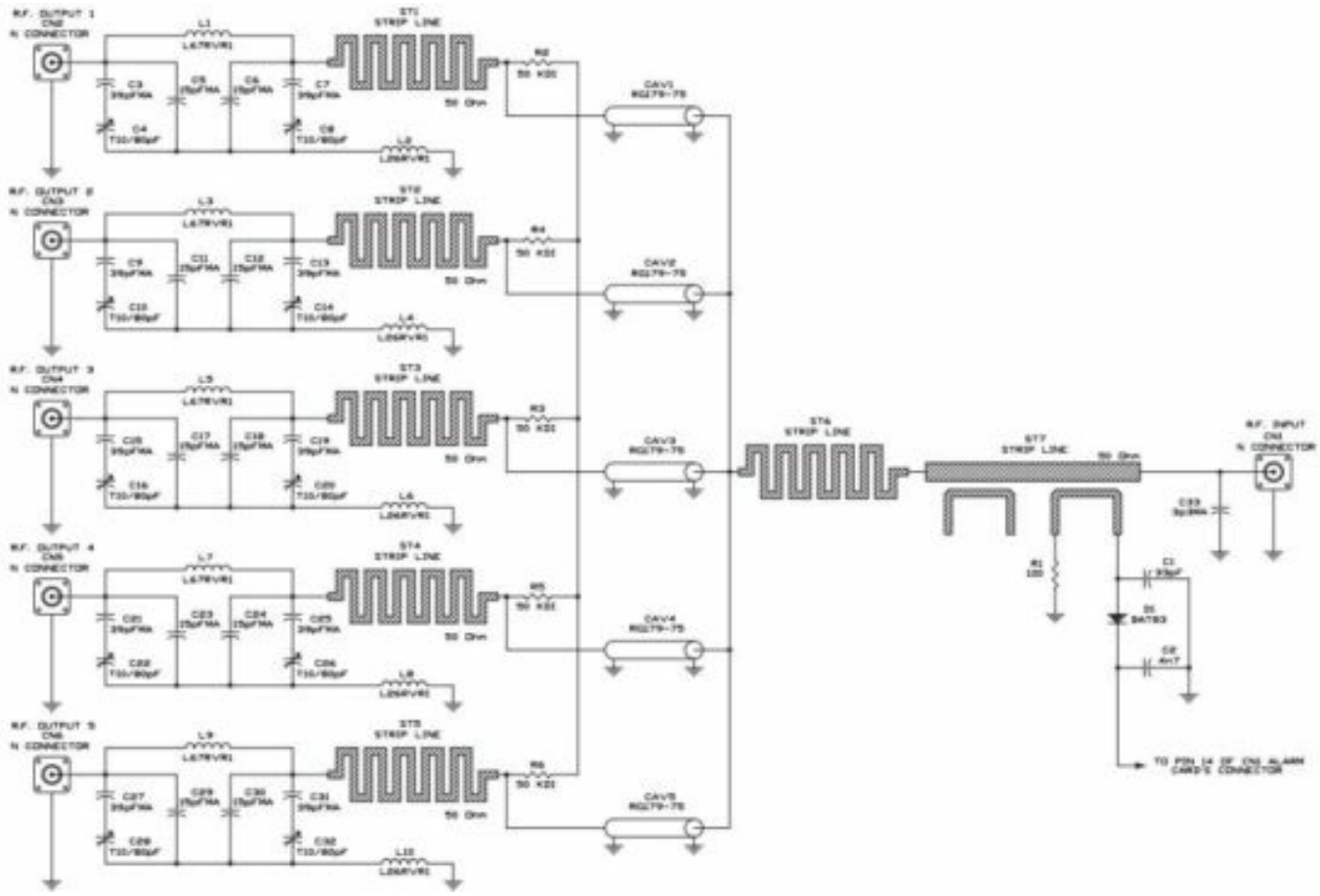


KCABHC5/1LCD
Revised: 03/03/06
Revision: 2.2
U.T. - Rev. J.Berti

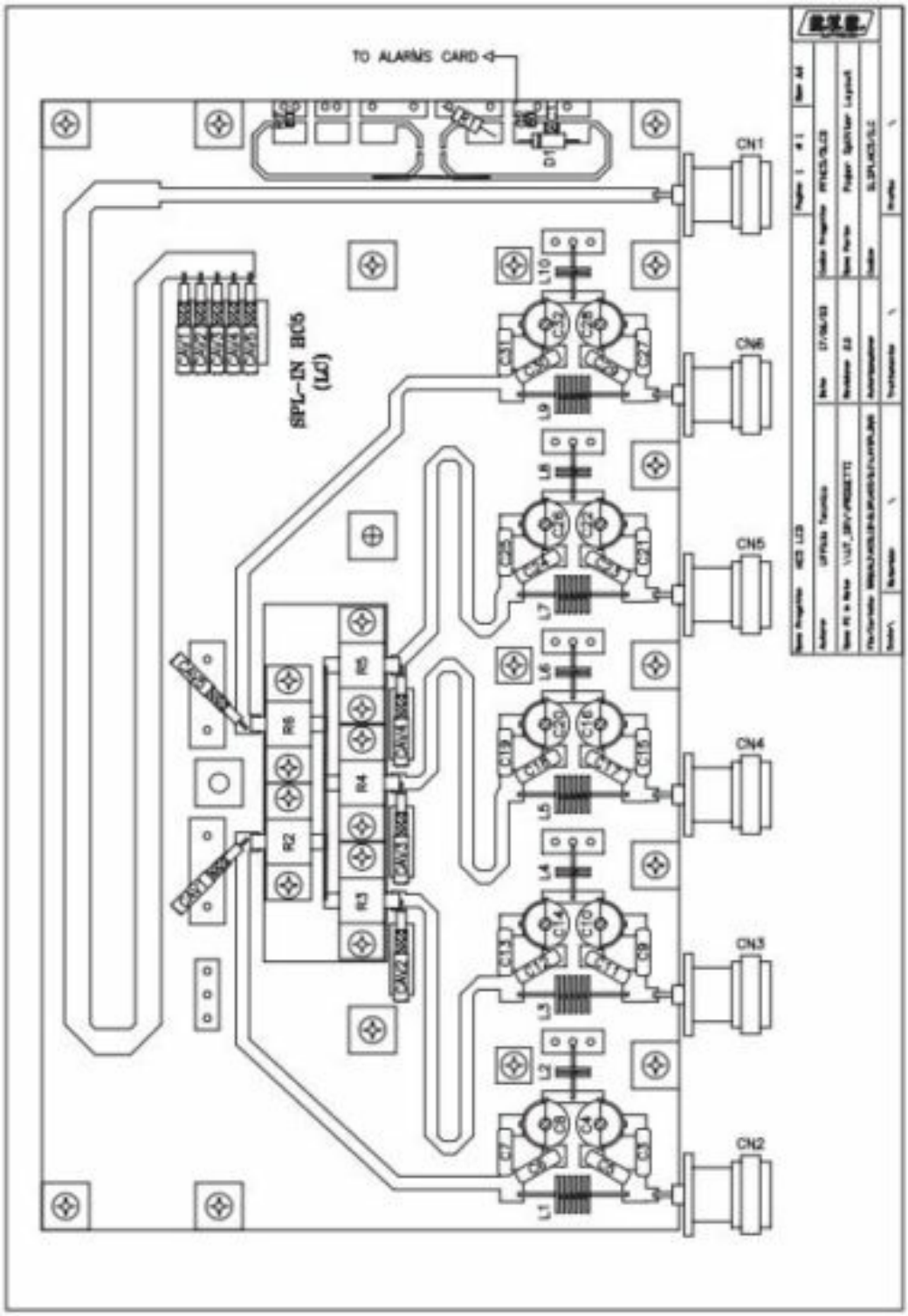
Item	Quantity	Reference	Part
1	3	CN1, CN7, CN8	CNTBNCFPV
2	1	CN6	CONNECTOR DB25
3	1	C1	4.7nF
4	1	C2	220nF
5	1	CN2	MORSVL5P
6	1	CN3	MORSVL4P
7	1	CN4	CNTVDEMPCT6A
8	2	CN5, CN6	SLCCX01D0050
9	1	CN9	CNTBOCF7ROS
10	1	CN10	CNTBOCF7NERA
11	1	CN11	CNTVDEFP
12	1	DS1	SPIA06RO220
13	1	D1	DIZ1N53495W
14	2	FAN1, FAN2	VTL7400
15	1	FL1	SLFLTHC5LC01
16	1	FL2	SLFLTHC5LC02
17	1	F1	FUS5X20R3,15
18	1	F2	FX040
19	1	TR1	20K
20	2	K1, K2	RELAY 8A 12VDC
21	2	MO1, MO2	MORSWDMK3/12
22	1	PF1	PFS5X20PAN10
23	1	S1	SETBIMET90NA
24	1	TRF 1	TRFHC2-1LCDT

Power Splitter & Ext. Phase Adj.

SLSPLHC5/1LC



Nome Progetto: HC5 LCD				Pagina: 1 di 1	Size: A2
Autore: Ufficio Tecnico		Data: 17/06/03		Codice Progetto: PFHC5/5LCD	
Nome PC in Rete: \\UT_SRV\PROGETTI		Revisione: 2.0		Nome Parte: POWER SPLITTER W. EXT. PHASE ADJ.	
File/Cartella: MANUALI\HC5LCD\SLSPLHC5/1LC\SCHSPL1.DWG		Autorizzazione:		Codice: SLSPLHC5/1LC	
Scala: /	Materiale: /		Trattamento: /		Profilo: /

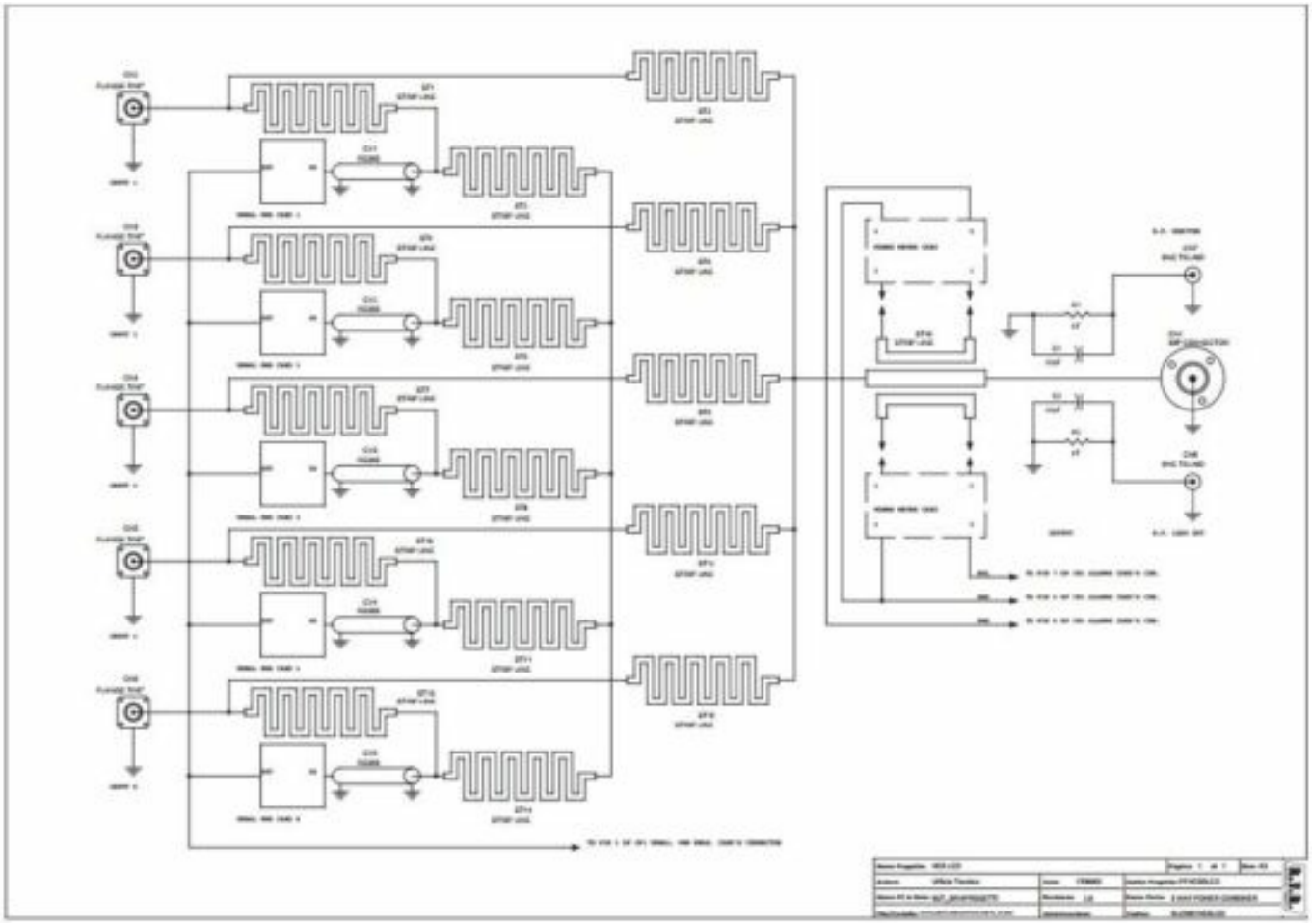

TO ALARMS CARD
SPL-IN BUS
(LF)
CN1
CN6
CN5
CN4
CN3
CN2
R2
R6
R4
R2
R3

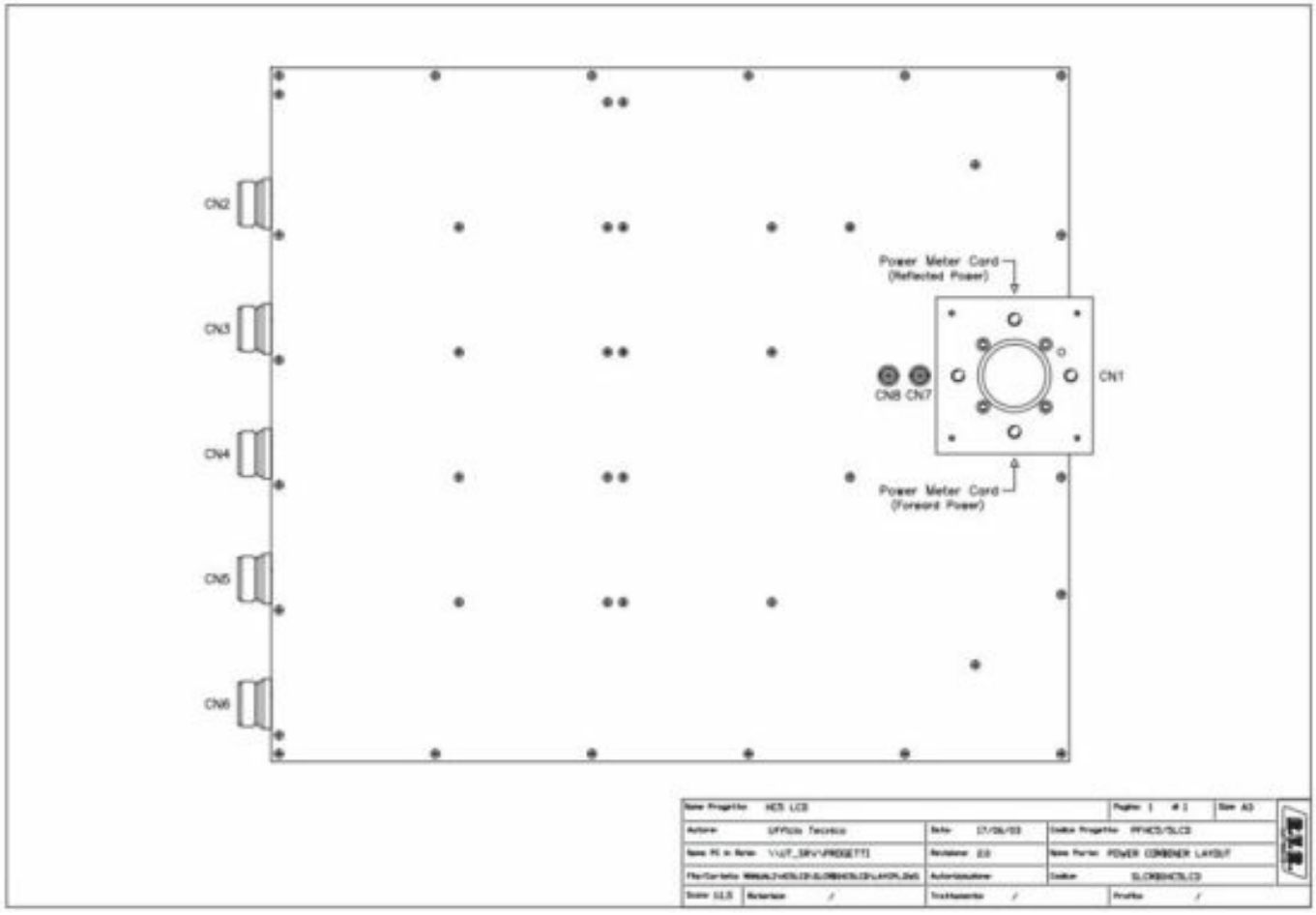
HYBRID POWER SPLITTER - Bill Of Materials

Item	Q.ity	Reference	Part	DESCRIPTION
1	5	R2,R3,R4,R5,R6	50 KDI	RES. DI TERM. (KDI)
2	1	R1	100	RESISTOR 1/4W 5%
3	1	C33	3P3HQ	CERAMIC CAPACITOR HQ
4	10	C4,C8,C10,C14,C16,C20, C22,C26,C28,C32	T10/80PF	TRIMMER CAPACITOR
5	10	C5,C6,C11,C12,C17,C18, C23,C24,C29,C30	15PFHQ	CERAMIC CAPACITOR HQ
6	10	C3,C7,C9,C13,C15,C19,C21, C25,C27,C31	39PFHQ	CERAMIC CAPACITOR HQ
7	1	C1	33PF	CERAMIC CAPACITOR NP0
8	1	C2	4N7	CERAMIC CAPACITOR
9	5	L2,L4,L6,L8,L10	L26RVR1	6 SP DIA 7 RAME SMAL 1.0mm
10	5	L1,L3,L5,L7,L9	L67RVR1	6 SP DIA 7 RAME SMAL 1.0mm
11	5	CAV1,CAV2,CAV3,CAV4,CAV5	COAX CABLE	RG179 75 Ohm
12	6	CN1,CN2,CN3,CN4,CN5,CN6	CNTNFPFLPI	CONN. N A TELAIO
13	1	D1	BAT83	HOT CARRIER DIODE
14	7	ST1,ST2,ST3,ST4,ST5,ST6, ST7	STRIP LINE	STRIP LINE

Power Combiner

SLCMB1HC5LCD



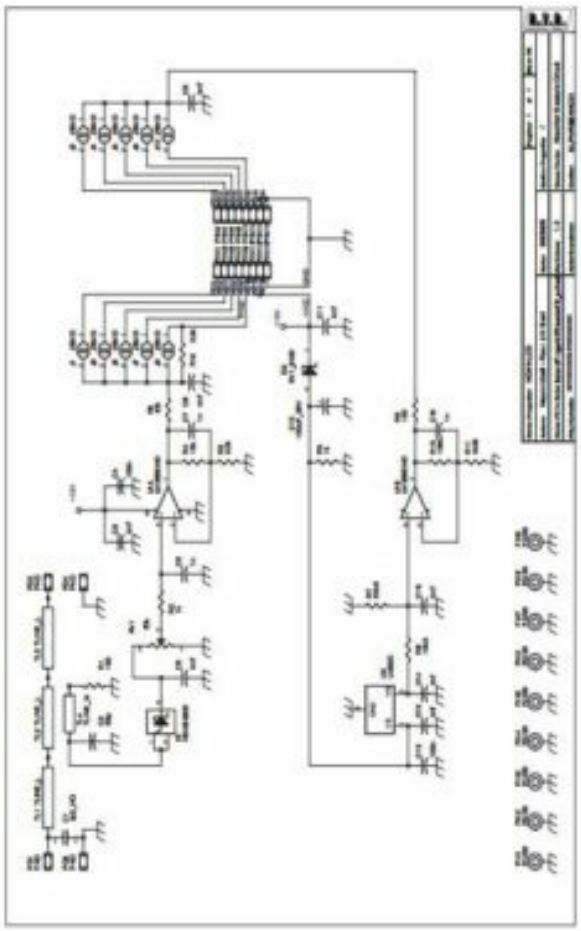

CN2
CN3
CN4
CN5
CN6
Power Meter Cord
(Reflected Power)
CN8 CN7
CN1
Power Meter Cord
(Forward Power)

5 WAY POWER COMBINER - Bill Of Materials

Item	Q.ty	Reference	Part	DESCRIPTION
1	2	R1,R2	47	RESISTOR 1/4W 5%
2	2	C1,C2	22PF	CERAMIC CAPACITOR NP0
3	5	CV1,CV2,CV3,CV4,CV5	RG303	COAX CABLE RG303
4	2	CN7,CN8	BNC TELAIO	CONN. BNC A TELAIO
5	5	CN2,CN3,CN4,CN5,CN6	CNT16FPBR	FLANGE 7/16"
6	1	CN1	FL158CU024/B	FLANGE 1 5/8"
7	16	ST1,ST2,ST3,ST4,ST5,ST6, ST7,ST8,ST9,ST10,ST11, ST12,ST13,ST14,ST15,ST16	STRIP LINE	

Unbal Power Card

SLPWRSENHC01

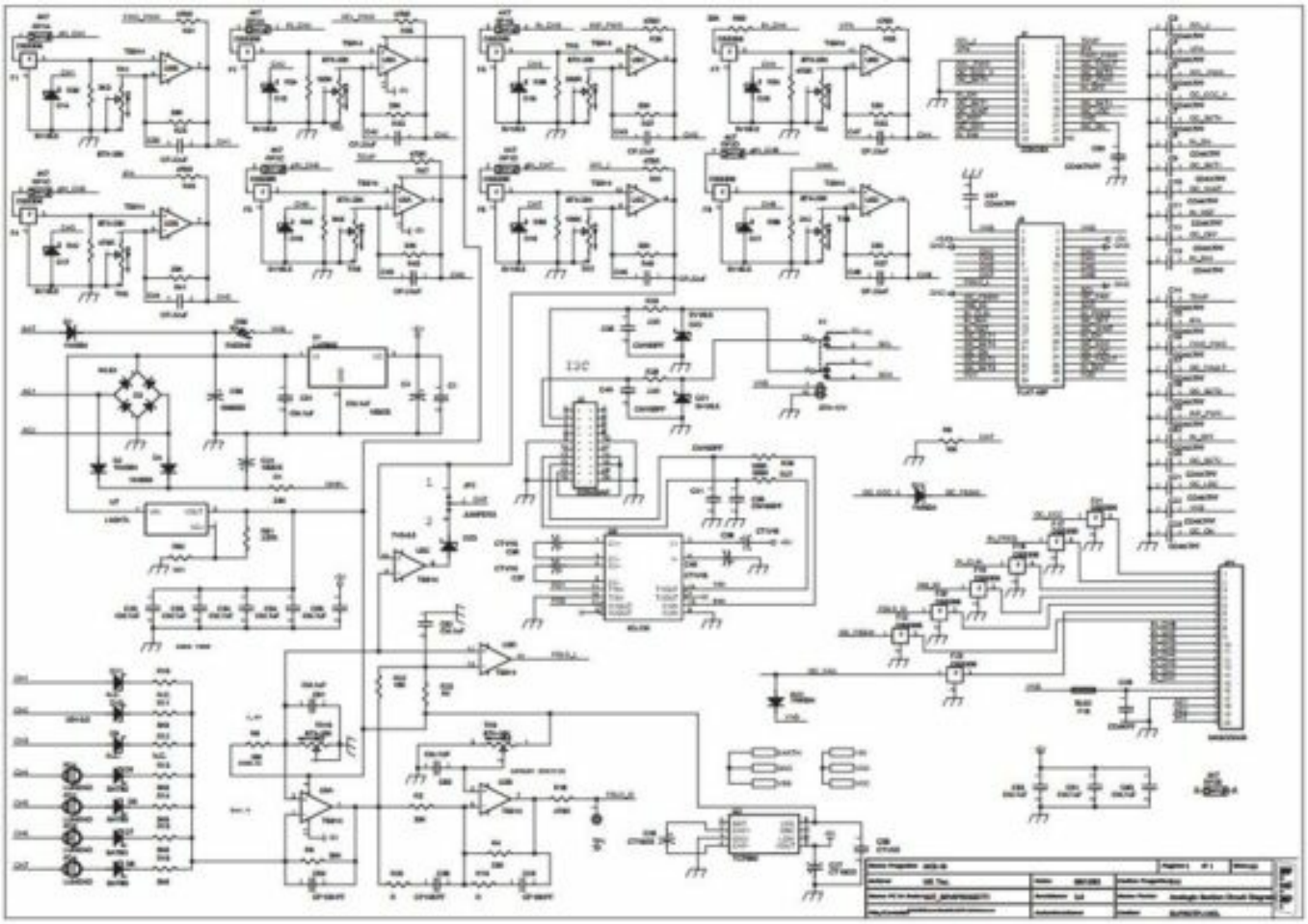


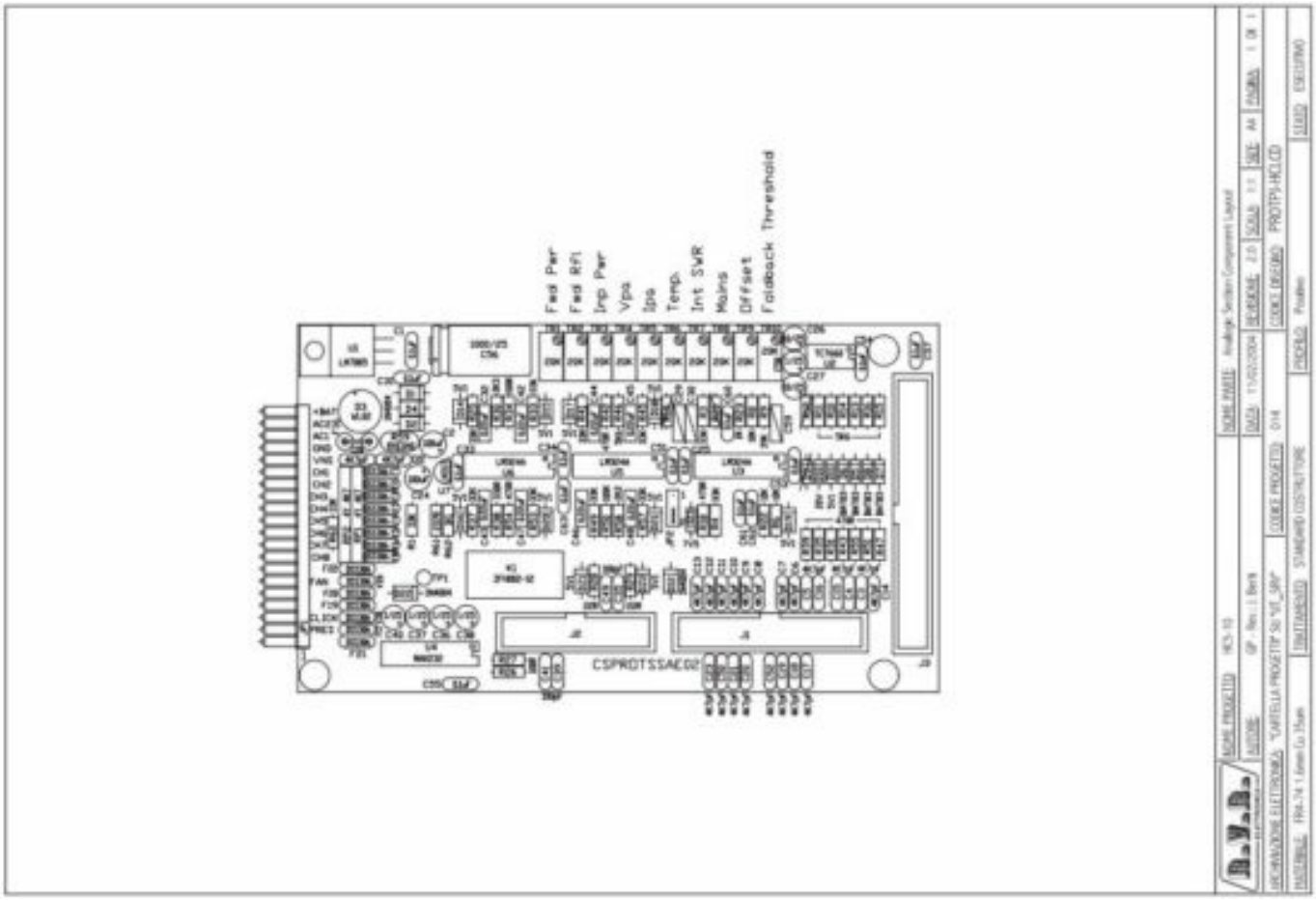
Absorber Measure Circuit Revised: Monday, September 26, 2005
SLPWRSENHC01 Revision: 1.0
HC4/4-LCD
/
Mauro Ucelli - Rev.: J.H. Berti

Item	Quantity	Reference	Part	
1	1	C1	2p2_HQ	(CSMD_HQ): Chip alto Q 2.2pF
2	1	C2	33p	(0805/0603): Cond. SMT 33pF 0805 o 0603
3	8	C3, C5, C8, C9, C11, C13, C14, C15	4n7	(0805/0603): Cond. SMT 4.7nF 0805 o 0603
4	2	C4, C12	100n	(0805/0603): Cond. SMT 100nF 0805 o 0603
5	3	C6, C7, C16	1n	(0805/0603): Cond. SMT 1nF 0805 o 0603
6	1	C10	100uF_35V	(CES6.3X8): Cond. elettrolitico alluminio SMT 100uF 35V
7	1	D1	HSMS2800	(SOT-23): Diodo SMT HSMS2800
8	1	D2	5V1_SMD	(MINIMELF): Diodo Zener SMT 5.1V
9	9	FIX1, FIX2, FIX3, FIX4, FIX5, FIX6, FIX7, FIX8, FIX9	FIX35	(FIX35): Non è un componente
10	10	J1, J2, J3, J4, J5, J6, J7, J8, J9, J10	JSMD	(JSMD): Non è un componente
11	4	PD1, PD2, PD3, PD4	PAD	(PD): Non è un componente
12	1	PD5	PIN1	(PD): Non è un componente
13	1	PD6	PIN2	(PD): Non è un componente
14	1	PD7	PIN3	(PD): Non è un componente
15	1	PD8	PIN4	(PD): Non è un componente
16	1	PD9	PIN5	(PD): Non è un componente
17	1	PD10	PIN6	(PD): Non è un componente
18	1	PD11	PIN7	(PD): Non è un componente
19	1	PD12	PIN8	(PD): Non è un componente
20	1	PD13	PIN9	(PD): Non è un componente
21	1	PD14	PIN10	(PD): Non è un componente
22	1	PD15	PIN11	(PD): Non è un componente
23	1	PD16	PIN12	(PD): Non è un componente
24	1	PD17	PIN13	(PD): Non è un componente
25	1	PD18	PIN14	(PD): Non è un componente
26	1	PD19	PIN15	(PD): Non è un componente
27	1	PD20	PIN16	(PD): Non è un componente
28	1	RV1	50k	(3296V): Trimmer resistivo multigiri vite in testa
29	3	R1, R3, R9	100	(0805/0603): Res. SMT 100 Ohm 1%
30	2	R2, R6	1k	(0805/0603): Res. SMT 1k 1%
31	1	R4	10k	(0805/0603): Res. SMT 10k 1%
32	2	R5, R12	2.2k	(0805/0603): Res. SMT 2.2k 1%
33	1	R7	64k9	(0805/0603): Res. SMT 64.9k 1%
34	2	R8, R10	10k0	(0805/0603): Res. SMT 10k 1%
35	1	R11	4k99	(0805/0603): Res. SMT 4.99k 1%
36	3	TL1, TL2, TL3	TLINE_L	
37	1	TL4	TLINE_M	
38	1	U1	LM358SMD	(SO-8): IC SMT LM358
39	1	U2	LM50C	(SOT-23): IC SMT LM50C

CPU Section (Analogic Section Circuit)

PROTPJ-HCL





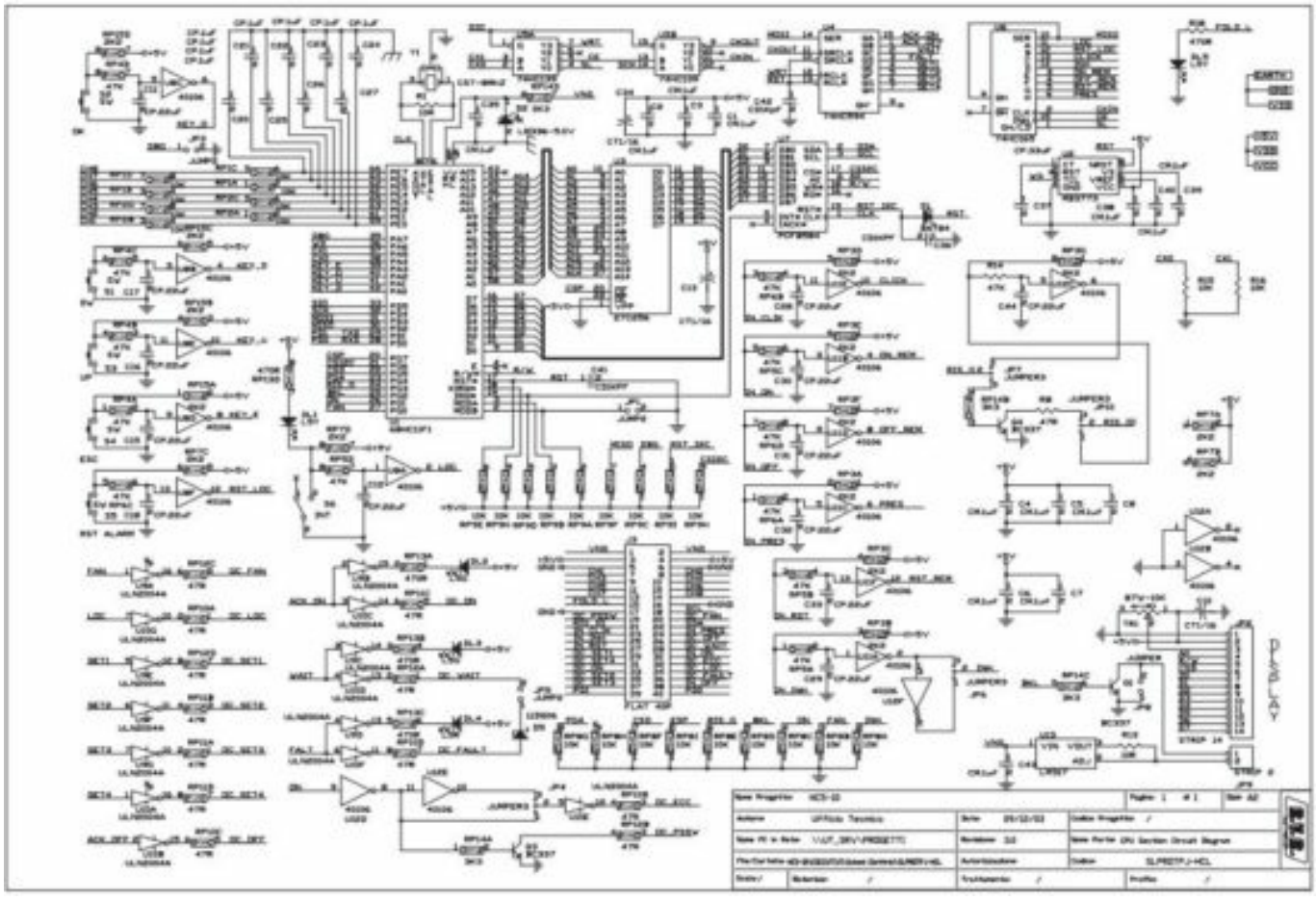
CPU Section (Analogic Section Circuit)
PROTPJ-HCL

CPU Analog Section
SLPROTPJ-HCL
Version: 2.2 Date: 04/06/03

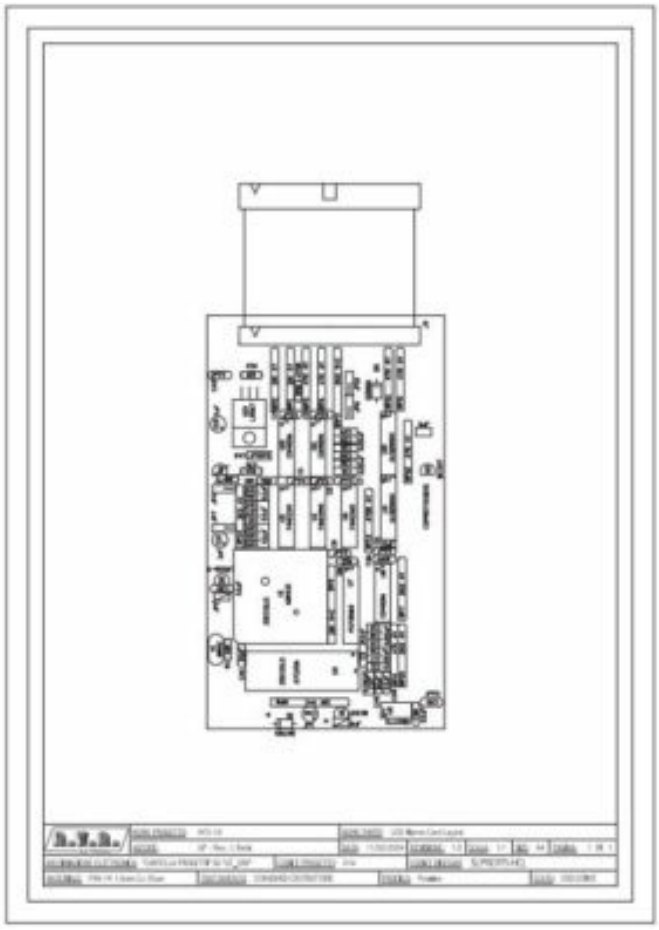
Item	Q.ty	Reference	Part
1	13	C1,C25,C31,C33,C34,C51,C53,C54,C55,C60,C61,C62,C63	CM.1uF
2	2	C24,C2	100/25
3	23	C3,C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C14,C15,C16,C17, C18,C19,C29,C21,C22,C23,C52,C57	CD4K7PF
4	2	C26,C27	CT10/25
5	1	C28	CD4KPF
6	8	C32, C42, C43, C44, C45, C46, C47, C48	CP.22uF
7	4	C35, C39, C41, C49	CM100PF
8	4	C36, C37, C38, C40	CT1/16
9	1	C50	CD4K7KPF
10	1	C58	1000/35
11	1	C58	CT1/25
12	1	C59	CP1OKPF
13	1	DZ1, DZ2, D14, D15, D16, D17, D18, D19, D20, D21	5V1/0.5
14	10	DZ3	7V5-0.5
15	1	D1, D2, D4, D12, D22	1N4004
16	5	D3	WL02
17	1	D5, D6, D7, D8	BAT83
18	4	R10, R12, D9, D11	N.C.
19	4	D10	20V-0.5
20	1	F1, F2, F3, F4, F5, F6, F7, F8, F17, F18, F19, F20, F21, F22, F23	DSS306
21	15	F16	BL02
22	1	JP1	MASCON20
23	1	JP2	JUMPER3
24	1	J1	CON26A
25	1	J2	CON29AP
26	1	J3	FLAT 40P
27	1	K1	ZPH-12V
28	1	PD1, PD2, PD3, PD4	LUNENO
29	4	RP1, RP2	4K7
30	2	R1, R3, R4, R25, R33, R37, R41, R45, R49, R53, R57, R60	33K
31	12	R6, R8, R22	10K
32	3	R9	39K
33	1	R11, R13, R14, R15, R16, R46	5K6
34	6	R18, R31, R35, R39, R42, R43, R47, R51, R54, R55	470R
35	10	R19, R20	R
36	2	R23	1M
37	1	R26, R27	100R
38	2	R28, R29	22R
39	2	R30	3K3
40	1	R50, R34	100K
41	2	R36	330R
42	1	R58	2K2
43	1	R59	RXE040
44	1	R61	237R
45	1	R62	1K1
46	1	TP1	TP
47	1	C29	CD4KPF
48	8	C32, C42, C43, C44, C45, C46, C47, C48	CP.22uF
49	10	TR1, TR2, TR3, TR4, TR5, TR6, TR7, TR8, TR9, TR10	BTX-20K
50	1	U1	LM7805
51	1	U2	TC7660
52	3	U3, U5, U6	TS914
53	1	U4	ICL232
54	1	U7	LM317L

CPU Section (CPU Section Circuit)

PROTPJ-HCL



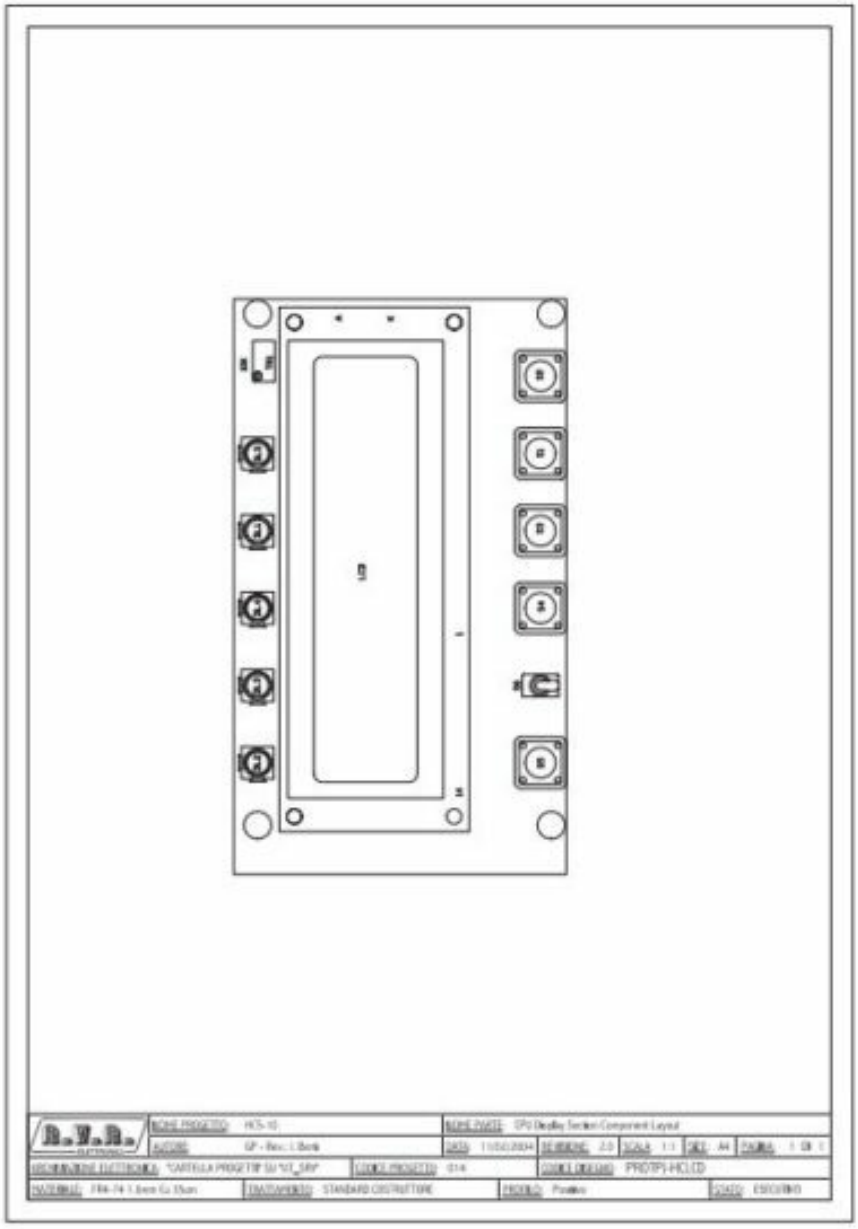
CPU Section (CPU Section Circuit)
PROTPJ-HCL



Scheda CPU
SLPROTPJ-HCL
Versione: 2.2

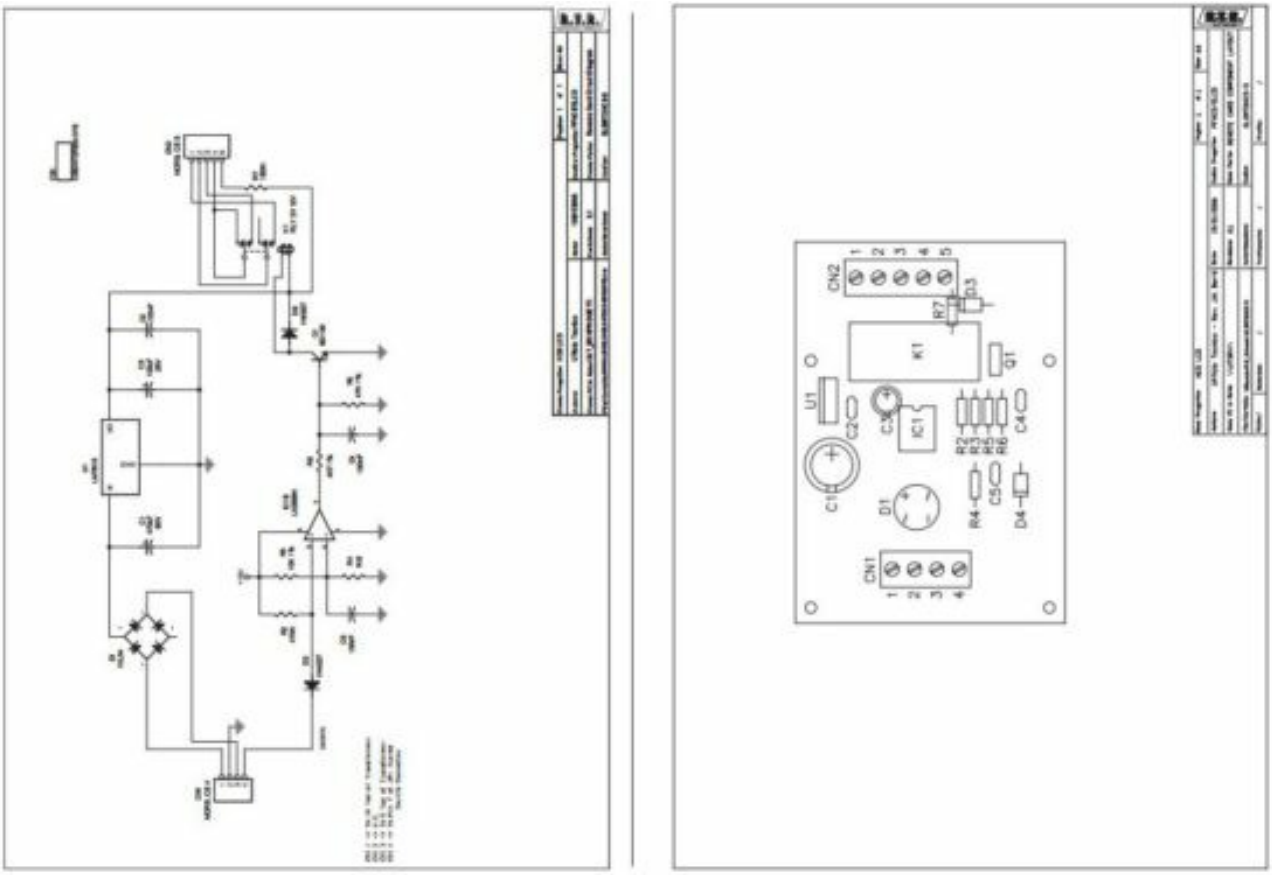
Item	Q.ty	Reference	Description
1	13	C1,C2,C3,C4,C5,C6,C7,C8,C36,C38,C39,C40,C43	CM-1UF
2	3	C10,C13,C34	CT-Y10
3	13	C11,C12,C15,C16,C17,C18,C28,C29,C30,C31,C32,C33,C44	CP-220UF
4	8	C26,C21,C22,C23,C24,C25,C26,C27	CP-1UF
5	3	C36, C41, C42	CD-10PF
7	2	DL1, DL5	LSY
8	2	DL2, DL3	LSG
9	1	DL4	LSR
10	1	D1	BAT84
11	1	D2	LM336-5.0V
12	1	D5	11DQ06
13	3	JP1, JP3, JP5	JUMP2
14	1	JP2	STRIP 14
15	4	JP4, JP6, JP7, JP10	JUMPER3
16	1	JP8	JUMPER
17	1	JP9	STRIP 2
18	1	J3	FLAT 48P
19	3	Q1, Q3, Q4	BC337
20	8	RP1, RP2, RP8, RP9, R15, R16	10K
21	3	RP3, RP7, RP15	2K2
22	4	RP4, RP5, RP6, R14	47K
23	4	R8, RP10, RP11, RP12	47R
24	2	RP13, R18	470R
25	1	RP14	3K3
26	1	R1	10M
27	1	R13	10R
28	5	S1, S2, S3, S4, S5	SW
29	1	S6	INT
30	1	TR1	87Y9-10K
31	1	U1	68HC11F1
32	1	U2	MB3773
33	1	U3	27C256
34	1	U4	74HC594
35	1	U5	74HC139
36	1	U6	74HC165
37	1	U7	PCF8584
38	3	U8, U11, U12	4D106
39	2	U9, U10	ULN2004A
40	1	U13	LM317
41	1	Y1	CST-8MHZ

CPU Section (Display Section Circuit)
PROTPJ-HCL



Remote Card

SLSMT2HC5-5



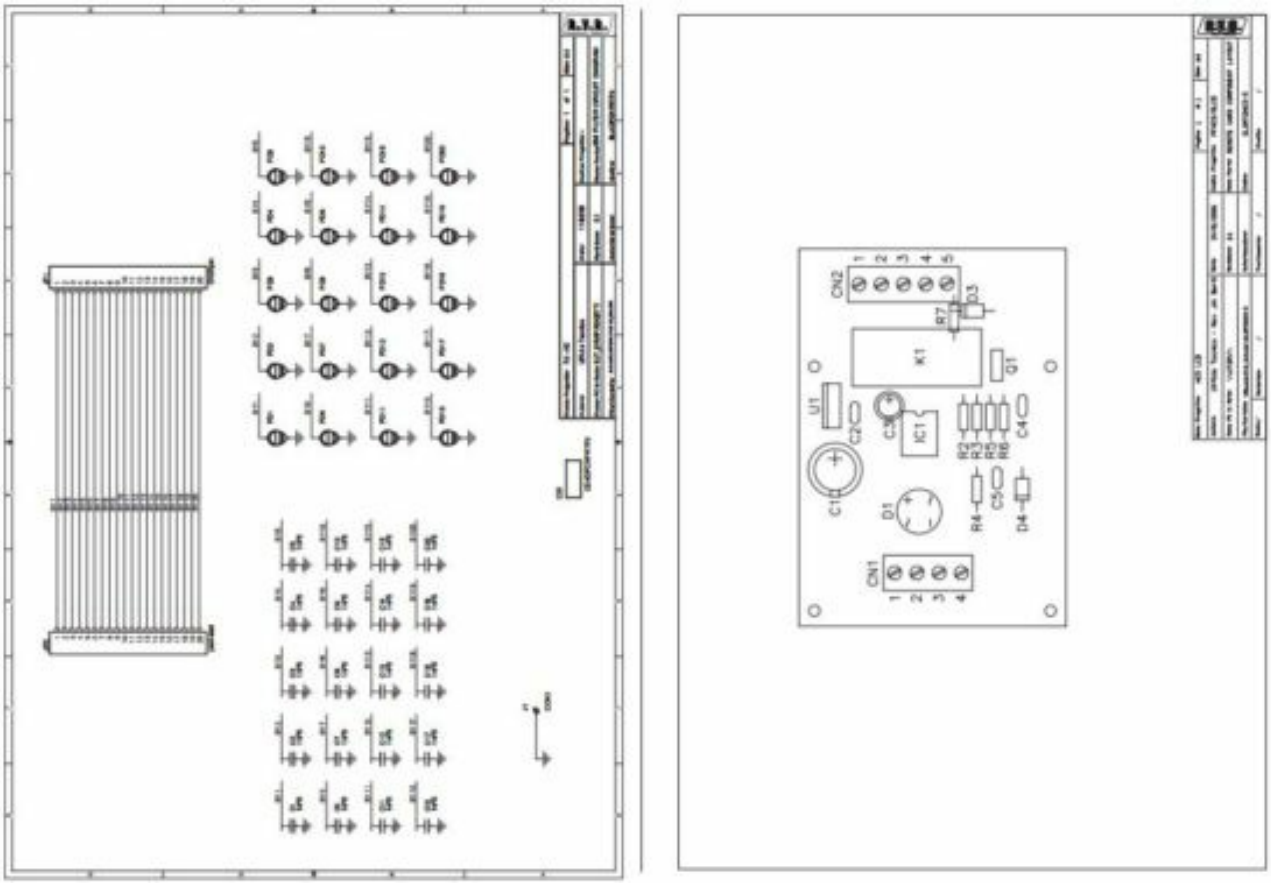
Remote Card
SLSMT2HC5-5

Remote Card Circuit Diagram Revised: Thursday, January 19, 2006
SLSMT2HC5-5 Revision: 2.1
HC5 LCD
PFHC5/5LCD
Ufficio Tecnico

Item	Quantity	Reference	Part	
1	1	CN1	MORS. CS 4	CONN. MASCHIO CS 4 VIE PHOENIX
2	1	CN2	MORS. CS 5	CONN. MASCHIO CS 5 VIE PHOENIX
3	1	CS1	CSSMT2REMOTE	CIRCUITO STAMPATO
4	1	C1	470uF	COND.EL.AL.V. 470MF 35V P5,08 20%
5	1	C3	100uF	COND.EL.AL.V. 100MF 25V P2,54 20%
6	3	C2, C4, C5	100nF	COND.MULTISTR.100NF 20% 5,08MM 50V
7	1	D1	WL04	PONTE RADDRIZZATORE MODELLO WL02
8	2	D2, D3	1N4007	DIODO AL SILICIO 1000V 1AMP. 1N4007
9	1	IC1	LM358N	CIRC. INT. LINEARE LM358N
10	1	K1	RLY 2V 12V	RELAY DUAL IN LINE 2V 12V 5A ERMET.
11	1	Q1	BD139	TRANSISTOR BD139
12	1	R2	470K	RES. STRATO METALLICO 1/4W 1% 470K
13	1	R3	10K 1%	RES. STRATO METALLICO 1/4W 1% 10K
14	1	R4	1K8	RES. STRATO METALLICO 1/4W 1% 1K8
15	1	R5	4K7 1%	RES. STRATO METALLICO 1/4W 1% 4K7
16	1	R6	47K 1%	RES. STRATO METALLICO 1/4W 1% 47K
17	1	R7	150H	RES. STRATO METALLICO 1/4W 1% 150H
18	1	U1	LM7815	CIRC. INT. LINEARE 7815 1A (TO220)

EMI Filter

SLADPCNPRTPJ

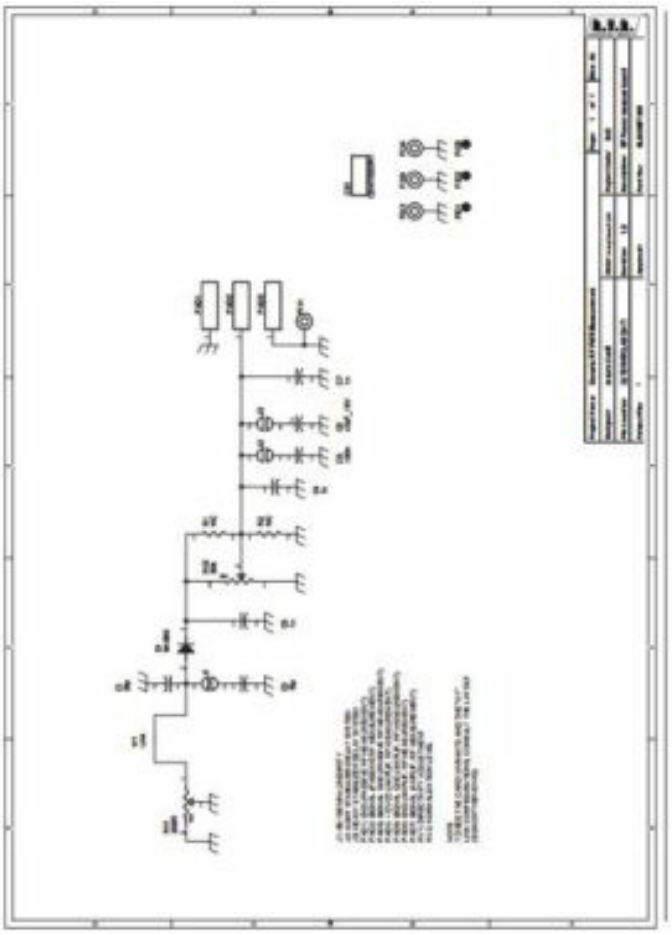


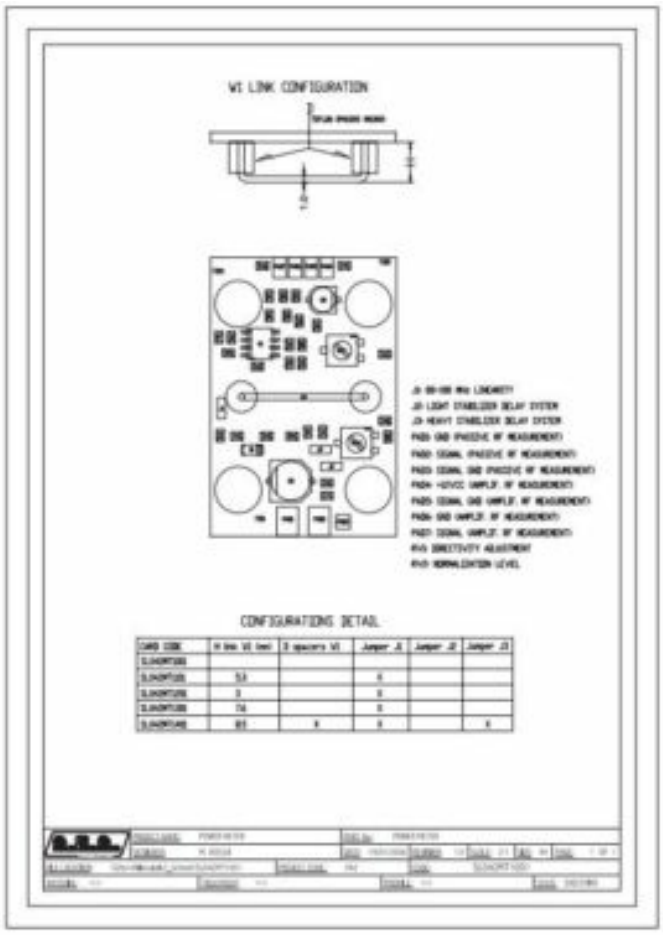
EMI Filter
SLADPCNPRTPJ

Remote Card Circuit Diagram Revised: Thursday, January 19, 2006
SLSMT2HC5-5 Revision: 2.1
HC5 LCD
PFHC5/5LCD
Ufficio Tecnico

Item	Quantity	Reference	Part	
1	1	CN1	MORS. CS 4	CONN. MASCHIO CS 4 VIE PHOENIX
2	1	CN2	MORS. CS 5	CONN. MASCHIO CS 5 VIE PHOENIX
3	1	CS1	CSSMT2REMOTE	CIRCUITO STAMPATO
4	1	C1	470uF	COND.EL.AL.V. 470MF 35V P5,08 20%
5	1	C3	100uF	COND.EL.AL.V. 100MF 25V P2,54 20%
6	3	C2, C4, C5	100nF	COND.MULTISTR.100NF 20% 5,08MM 50V
7	1	D1	WL04	PONTE RADDRIZZATORE MODELLO WL02
8	2	D2, D3	1N4007	DIODO AL SILICIO 1000V 1AMP. 1N4007
9	1	IC1	LM358N	CIRC. INT. LINEARE LM358N
10	1	K1	RLY 2V 12V	RELAY DUAL IN LINE 2V 12V 5A ERMET.
11	1	Q1	BD139	TRANSISTOR BD139
12	1	R2	470K	RES. STRATO METALLICO 1/4W 1% 470K
13	1	R3	10K 1%	RES. STRATO METALLICO 1/4W 1% 10K
14	1	R4	1K8	RES. STRATO METALLICO 1/4W 1% 1K8
15	1	R5	4K7 1%	RES. STRATO METALLICO 1/4W 1% 4K7
16	1	R6	47K 1%	RES. STRATO METALLICO 1/4W 1% 47K
17	1	R7	150H	RES. STRATO METALLICO 1/4W 1% 150H
18	1	U1	LM7815	CIRC. INT. LINEARE 7815 1A (TO220)

Power Meter Card

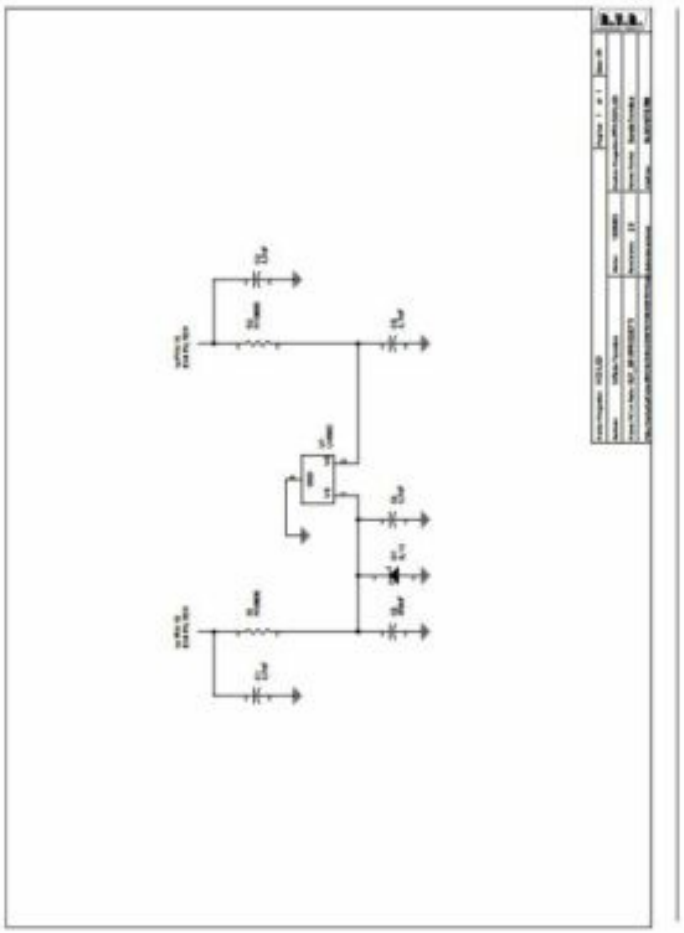


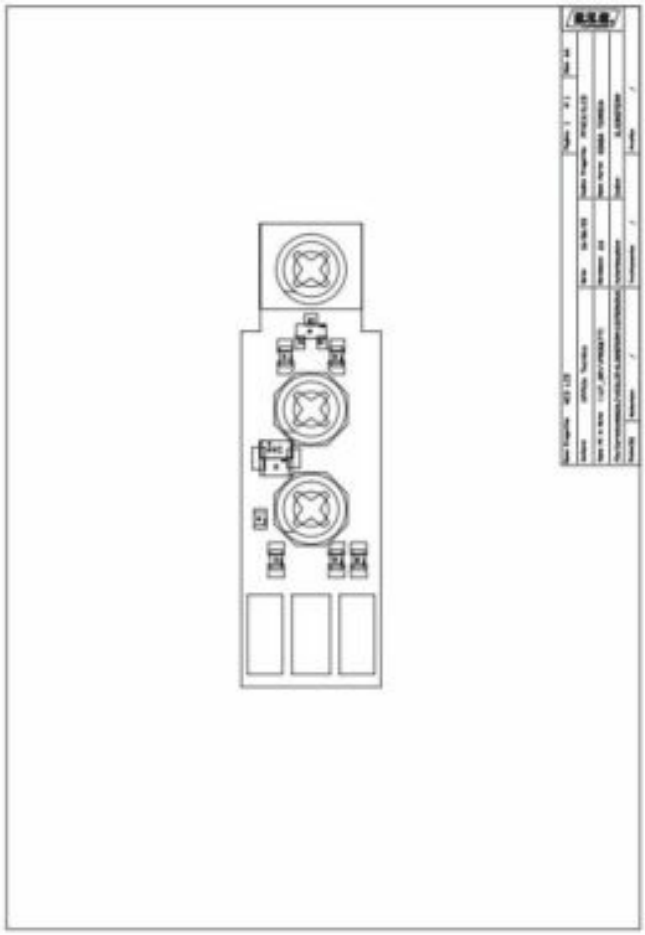


RF Power measure board
SL042MT1001
Revision: 1.0
Generic RF PWR Measurement
042
Mauro Ucelli
19/01/2006

Item	Quantity	Reference	Part	Description	Code1
1	1	CS1	CSMT0037R1	Printed Circuit Board	CSMT0037R1
2	1	C1	33p	SMD 0805 COG Capacitor	CCC085330JCC
3	1	C2	15p	SMD 0805 COG Capacitor	CCC085150JCC
4	3	C3,C4,C7	1n	SMD 0805 Capacitor	CCC085102JNC
5	1	C5	47uF_16V	Elect. SMD d. 6.3mm Cap.	CES476C160
6	1	C6	100n	SMD 0805 Capacitor	CCC085104KXC
7	1	D1	BAS83	MINIMELF SMD Diode	DHCBAS83
8	3	FID1,FID2,FID3	FID		
9	4	FIX1,FIX2,FIX3,FIX4	FIX35	Fixing Hole 3.5mm	
10	3	J1,J2,J3	JSMD	SMD Pad to solder	
11	3	PAD1,PAD2,PAD3	PAD		
12	1	RV1	200R	Trimmer SMD	RVT4X4H0200V
13	1	RV2	50k	Trimmer SMD	RVT4X4K0050V
14	2	R1,R2	NC	SMD 0805 Res.	
15	1	W1	Link	Wire to solder	See the Layout

Power Meter Card



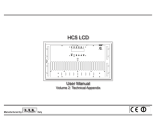


Sonda Termica
SLSONDTERM
Revision: 2.0
Ufficio Tecnico
17/06/03

Item	Quantity	Reference	Part	Description
1	4	C1,C2,C4,C5	4,7nF	Cond. SMD 0805
2	1	C3	470nF	Cond. SMD 1206
3	1	D1	9,1V	MINIMELF SMD Zener Diode
4	2	R1,R2	R10805	Res. SMD 0805
5	1	U1	LM50C	Temperature sensor

Read More About This Manual & Download PDF:

Documents / Resources

	R V R Elettronica HC5 LCD FM Transmitter Broadcast Systems [pdf] User Manual HC5 LCD FM Transmitter Broadcast Systems, HC5 LCD, FM Transmitter Broadcast Systems, Broadcast Systems