

**BLARH100
200-400MHz**

**TECHNICAL
MANUAL**

Version 003

Sadis BRUKER SPECTROSPIN

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This manual was written by

M.Dominique WURTZ

© 28. Fevrier 1996: Sadis BRUKER SPECTROSPIN
Wissembourg, FRANCE
P/N: W1206071

Updated for BASH 2.0 by U. Roos - December 1996

P/N: Z31236
DWG-No: 907 003

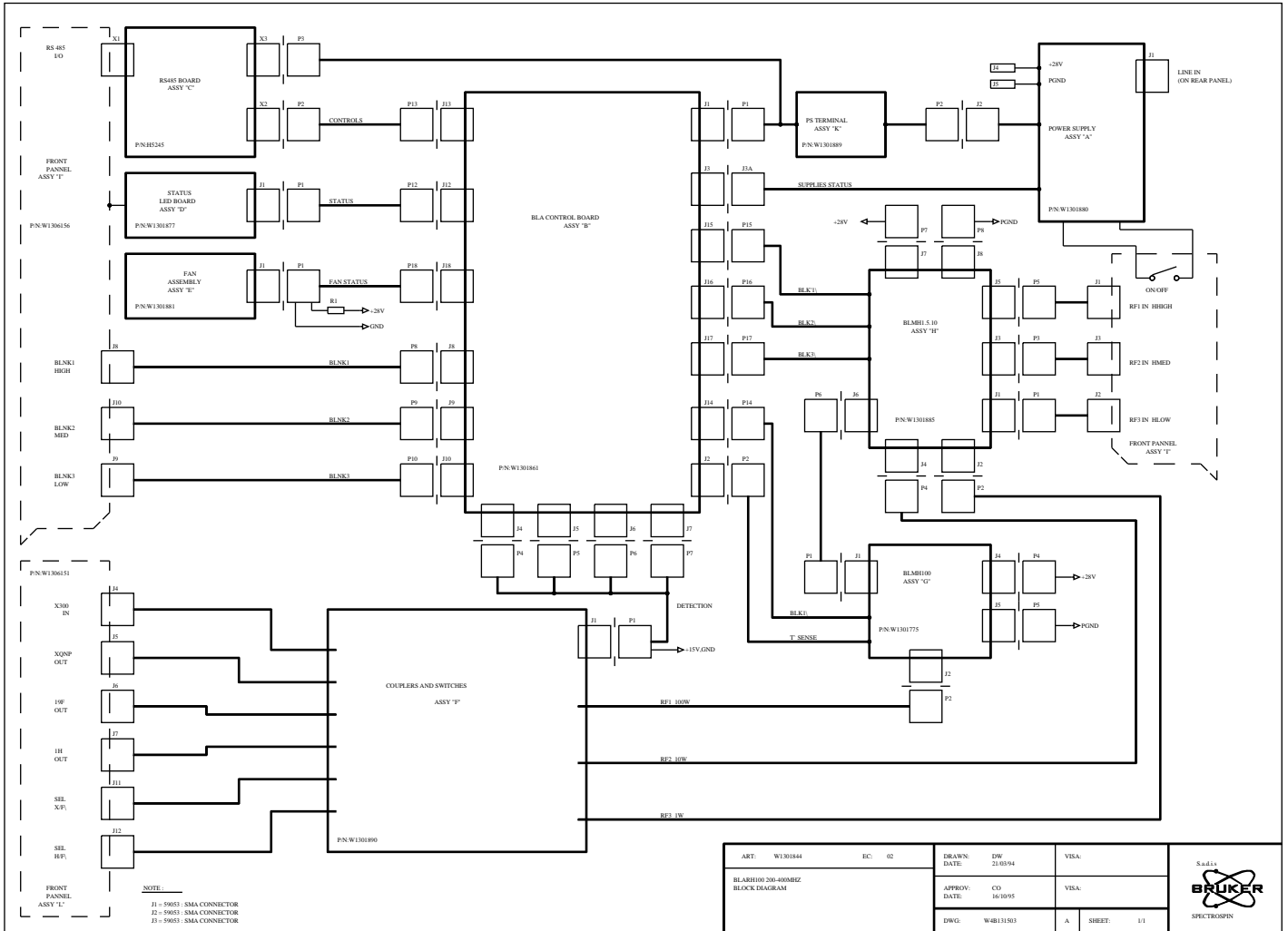
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Block diagram

1

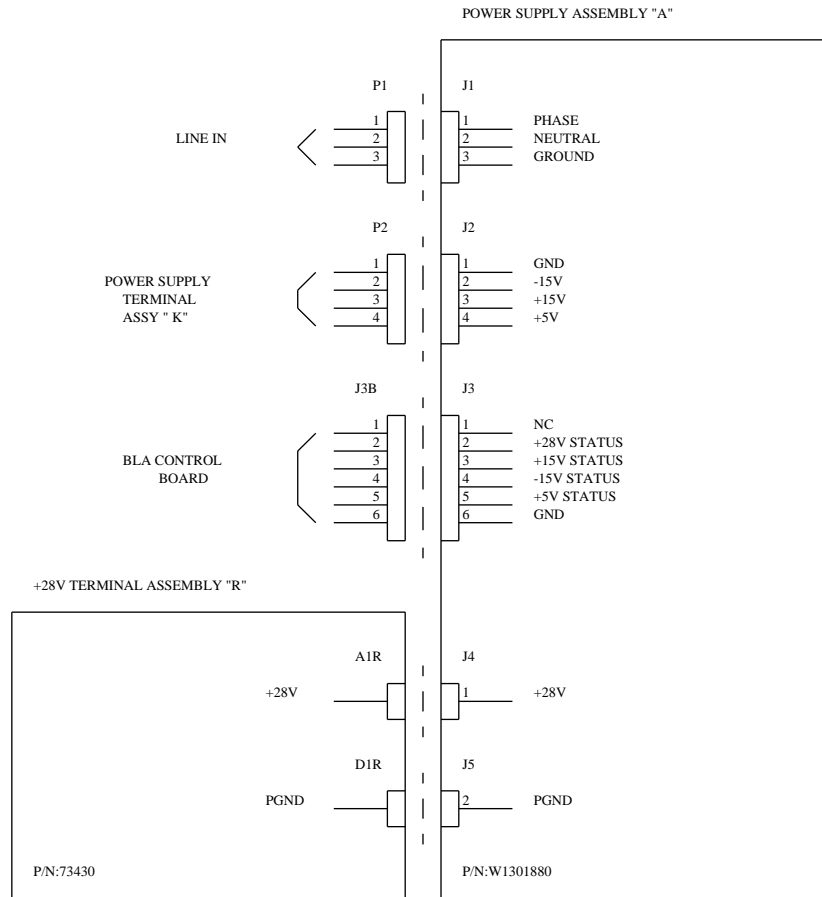
Figure 1.1. Block diagram



Power supply

2

Figure 2.1. Wiring diagram



ART: W1301880	EC:	DRAWN: DW	VISA:	S.a.d.i.s BRUKER
BLA POWER ASSEMBLY ASSY "A" INTERCONNECT DRAWING		DATE: 03/01/94		
		APPROV: CO	VISA:	
		DATE: 01/06/94		

Figure 2.2. Power supply diagram

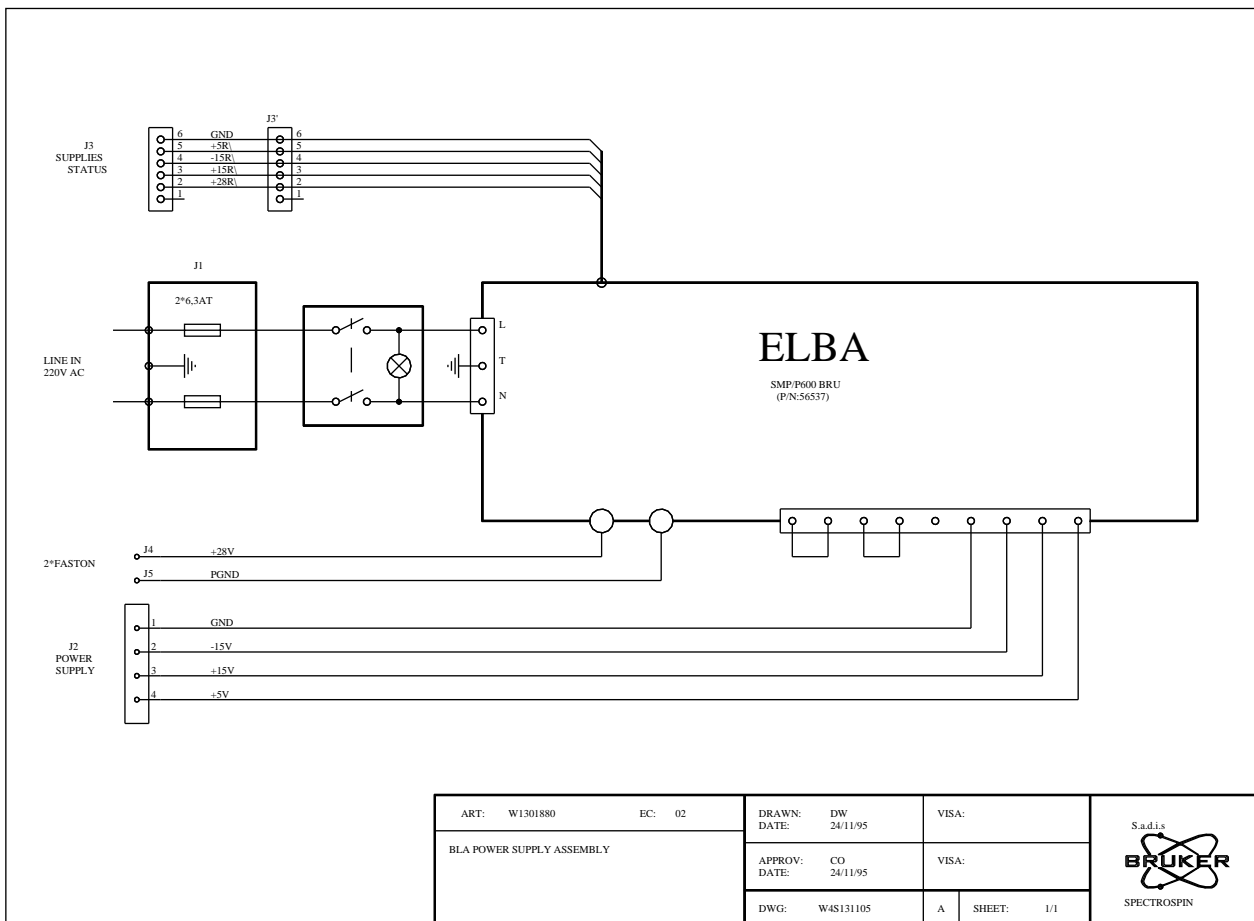
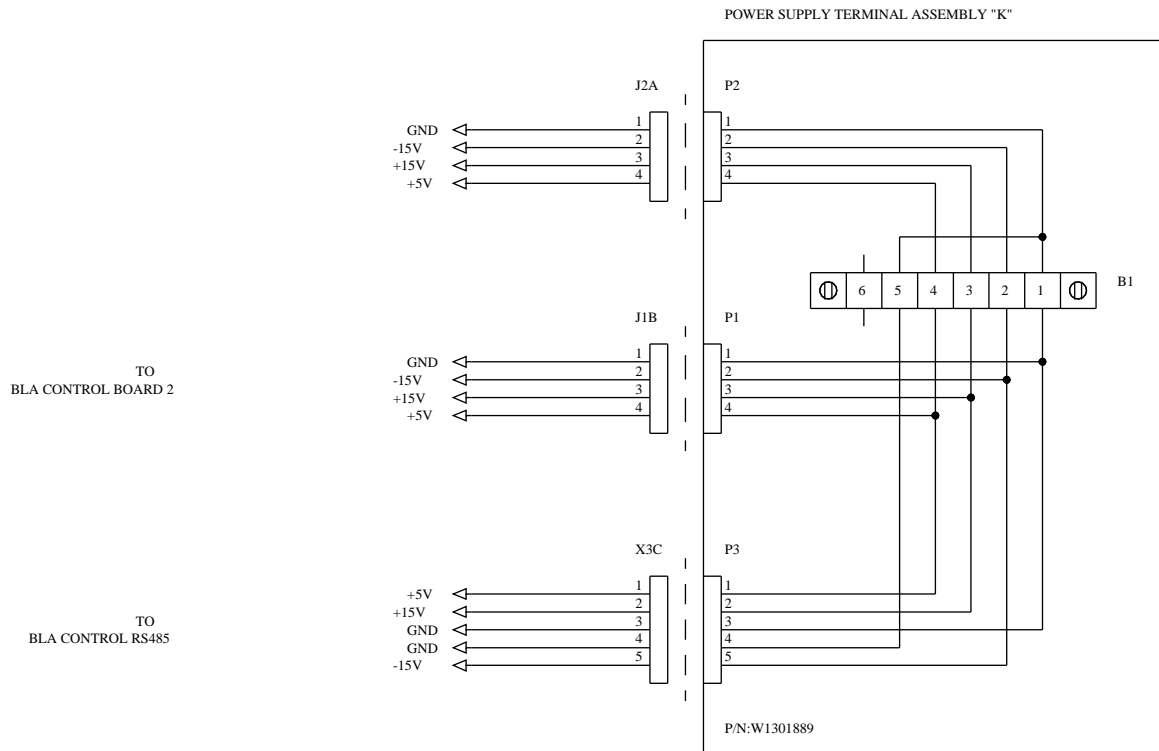


Figure 2.3. Power supply terminal



ART: W1301889	EC: 01	DRAWN: DW	VISA:	S.a.d.i.s BRUKER
BLA POWER SUPPLY TERMINAL ASSY "K" INTERCONNECT DRAWING		DATE: 06/05/93		
		APPROV:	VISA:	
		DATE:		

Control board 2

Figure 4.1. Interconnect drawing sheet 1/3

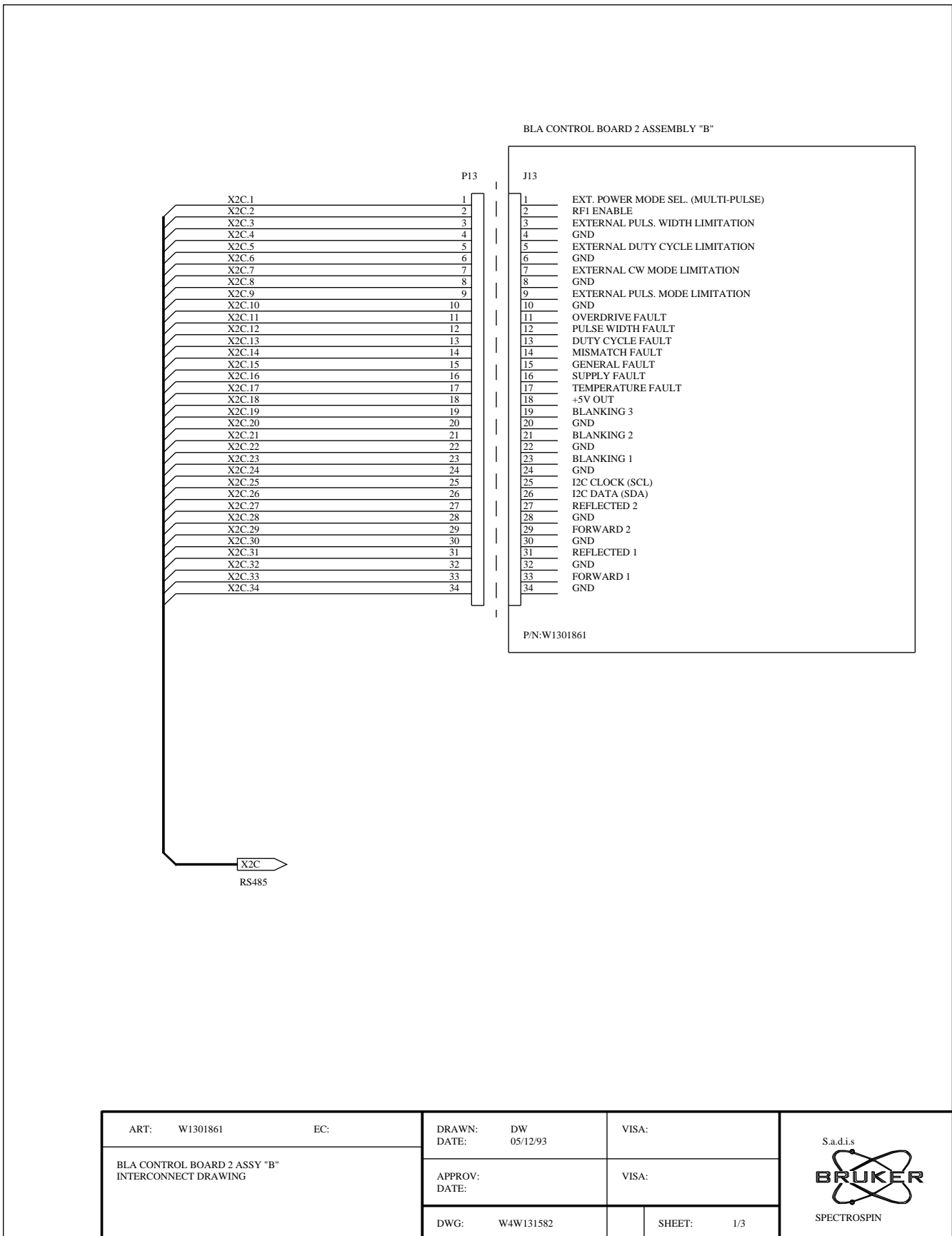
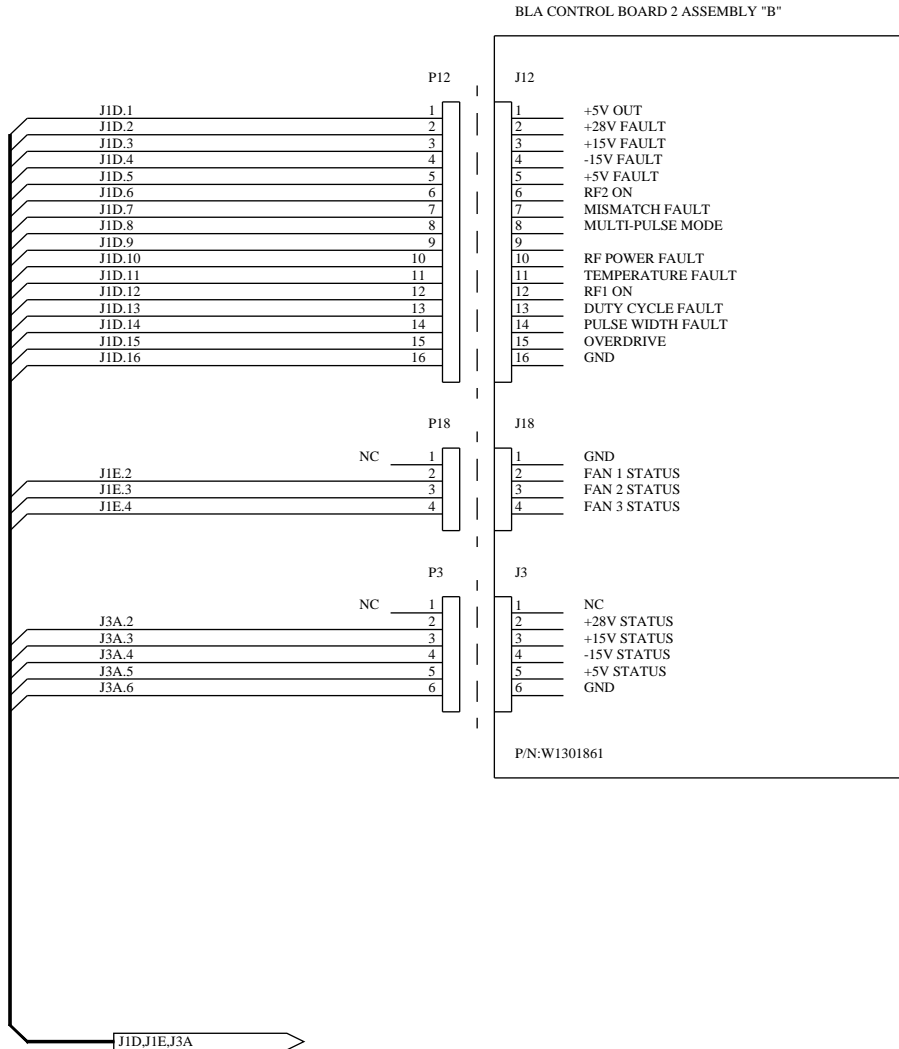


Figure 4.2. Interconnect drawing sheet 2/3



ART: W1301861	EC:	DRAWN: DW	DATE: 05/12/93	VISA:
BLA CONTROL BOARD 2 ASSY "B" INTERCONNECT DRAWING		APPROV:		VISA:
		DATE:		
DWG: W4W131583			SHEET: 2/3	

S.a.d.i.s

SPECTROSPIN

Figure 4.3. Interconnect drawing sheet 3/3

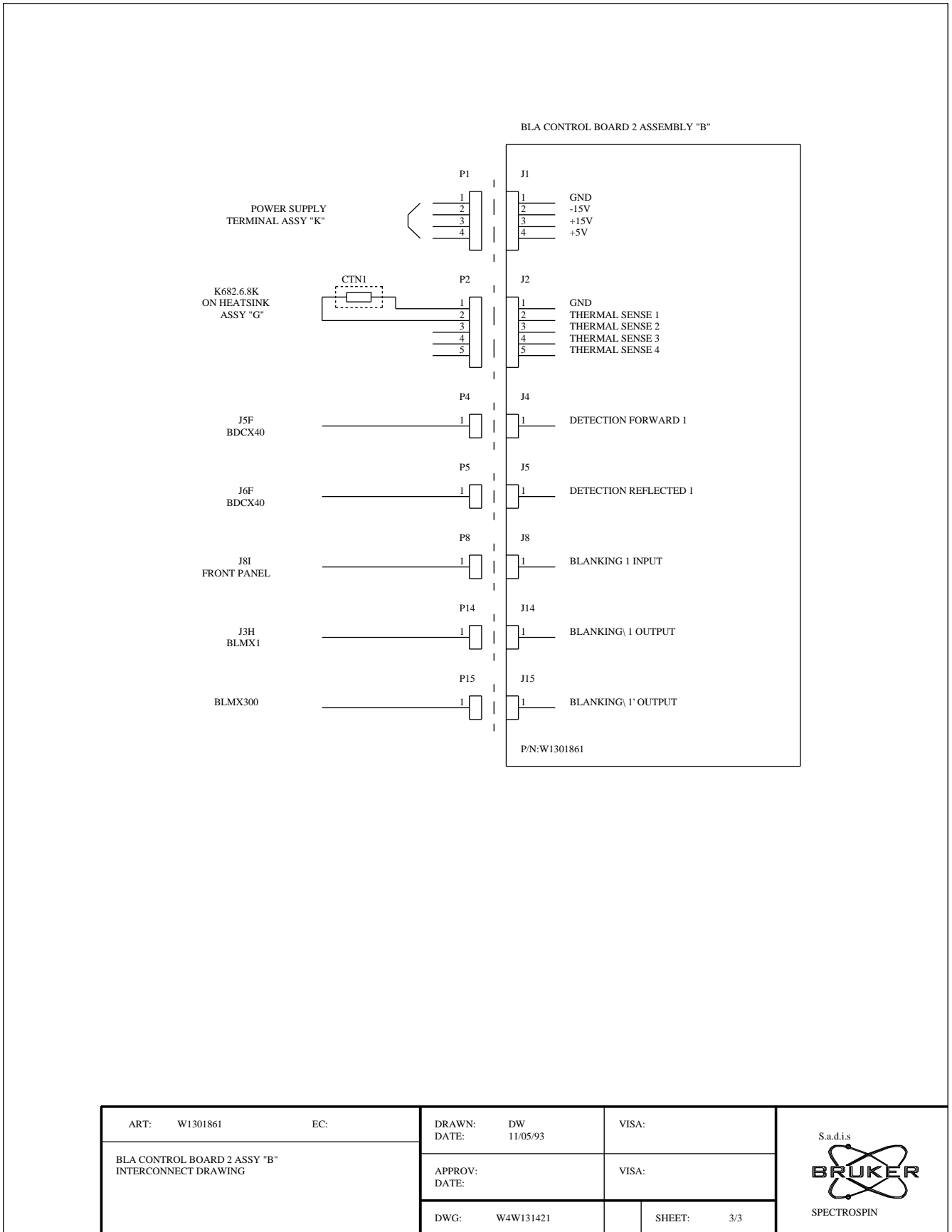


Figure 4.4. Control board top side

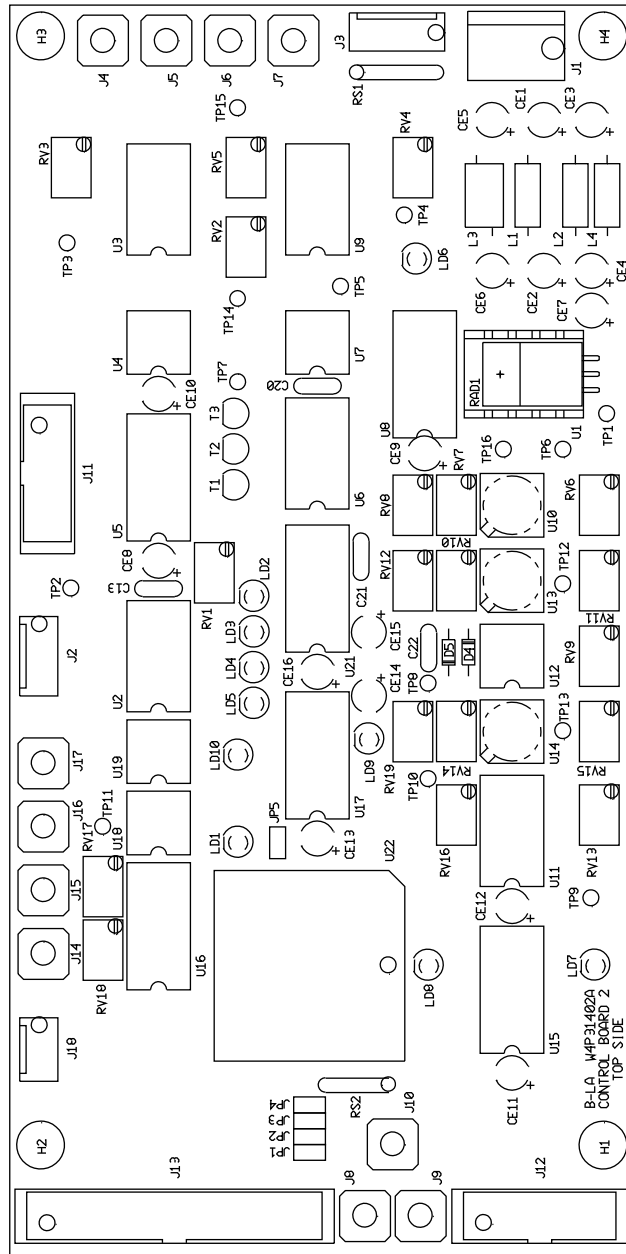


Figure 4.6. Control board 1/7 - power supply & reference

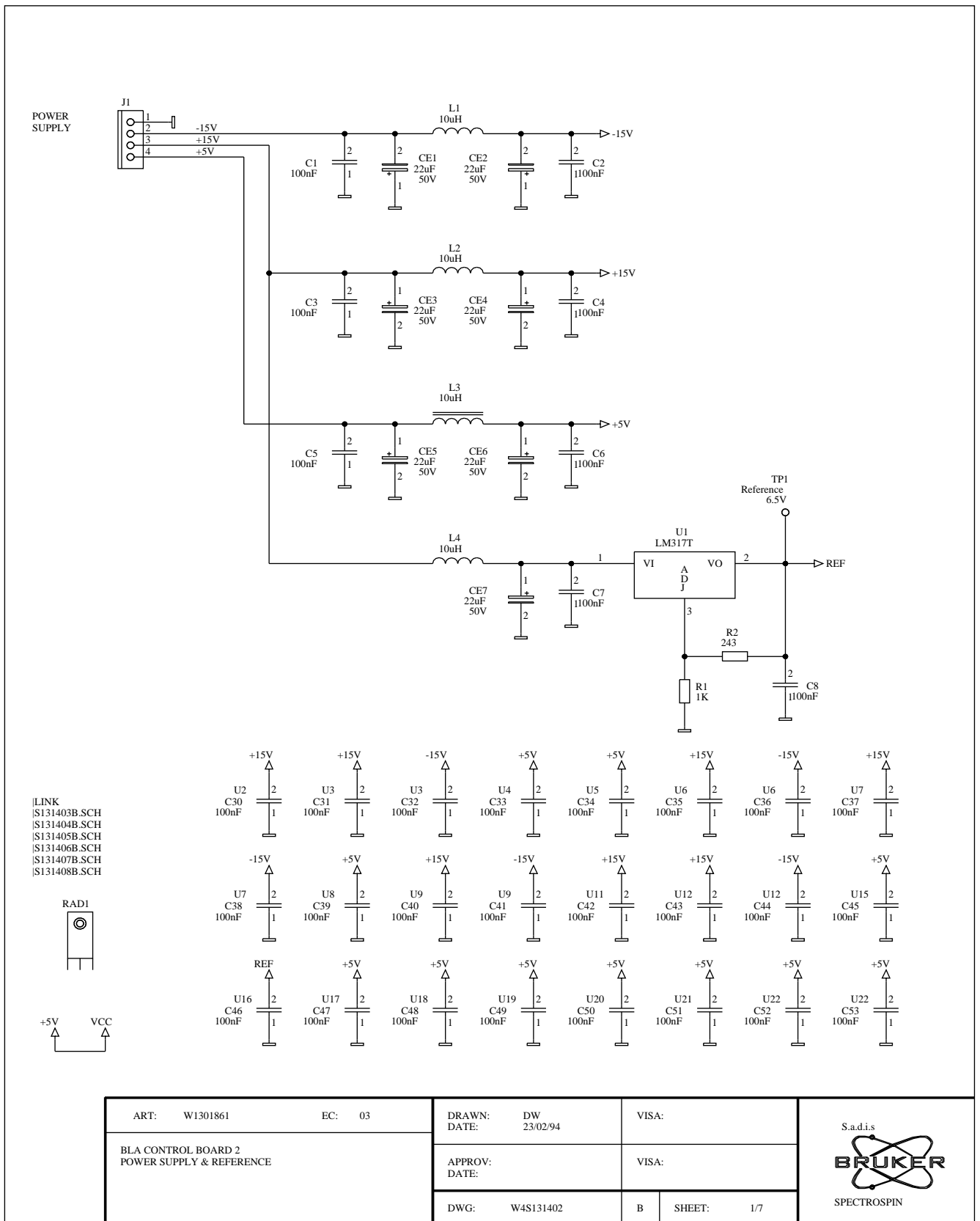


Figure 4.7. Control board 2/7 - Thermal sense, supply & fan control

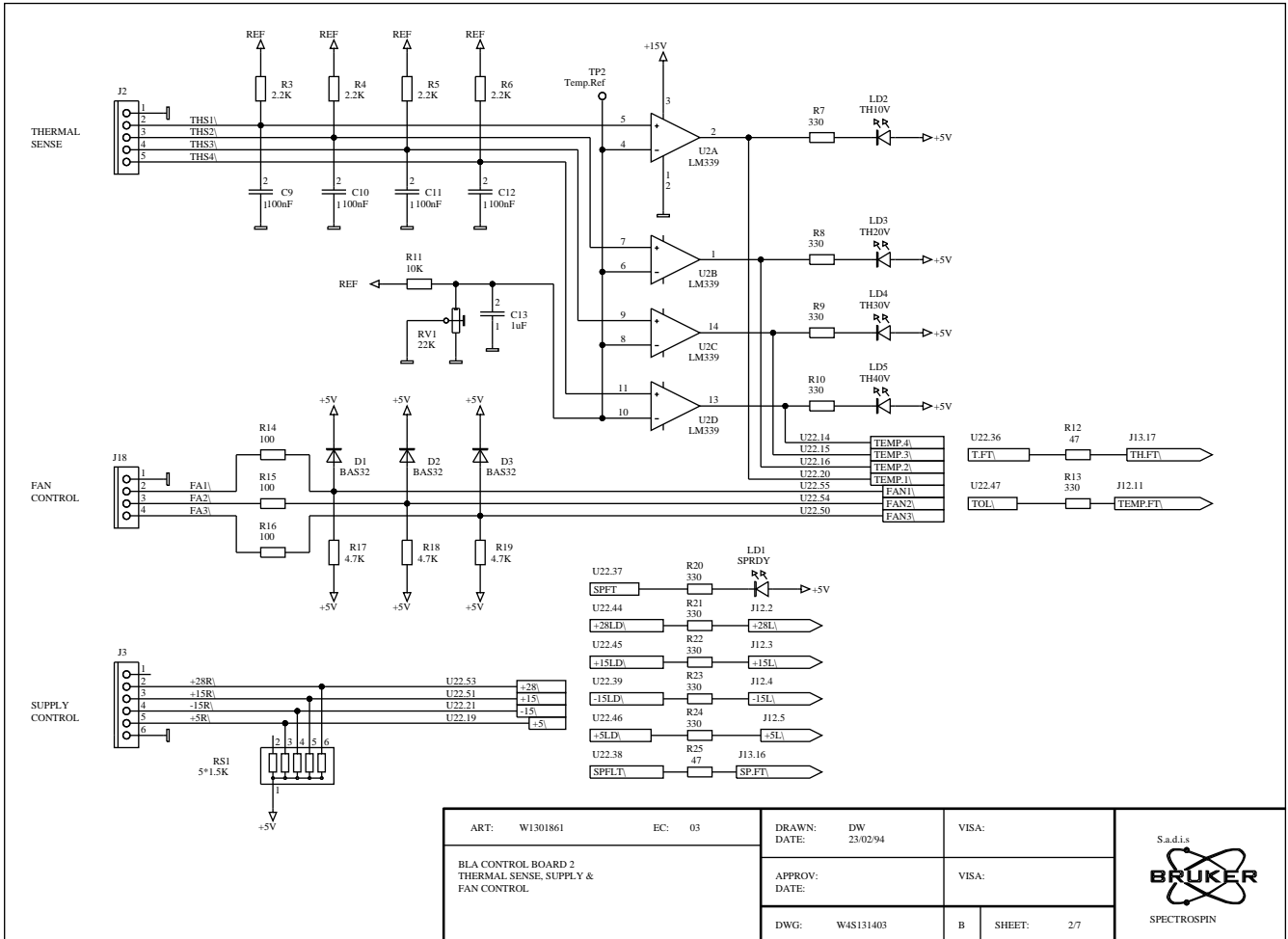
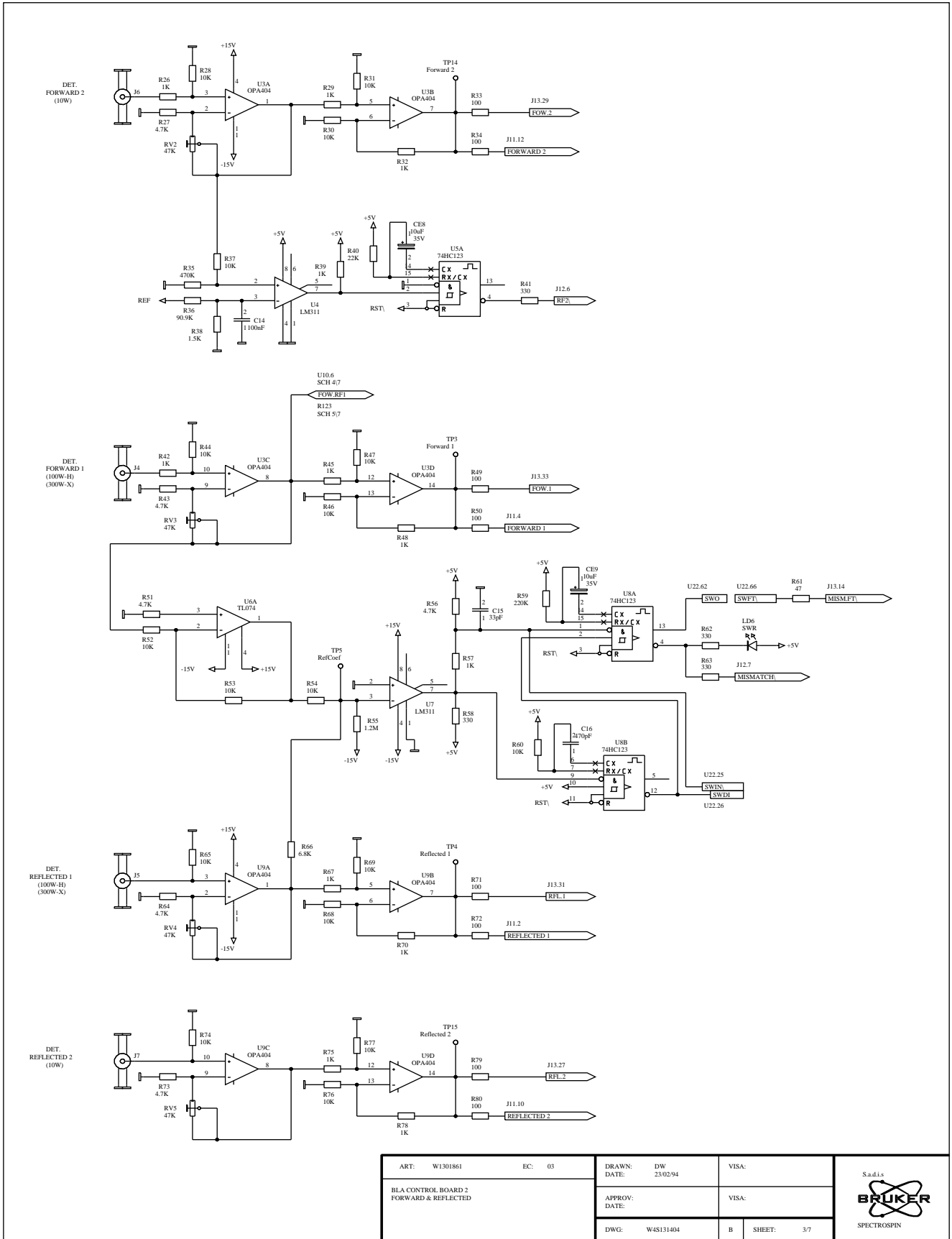


Figure 4.8. Control board 3/7 - Forward & reflected




ART: W1301861	EC: 03	DRAWN: DW DATE: 23/02/94	VISA:	S.ad.Lis  SPECTROSPIN
BLA CONTROL BOARD 2 FORWARD & REFLECTED		APPROV:	VISA:	
		DATE:		
DWG: W4S131404	B	SHEET: 3/7		

Figure 4.9. Control board 4/7 - Duty cycle & pulse width limiter

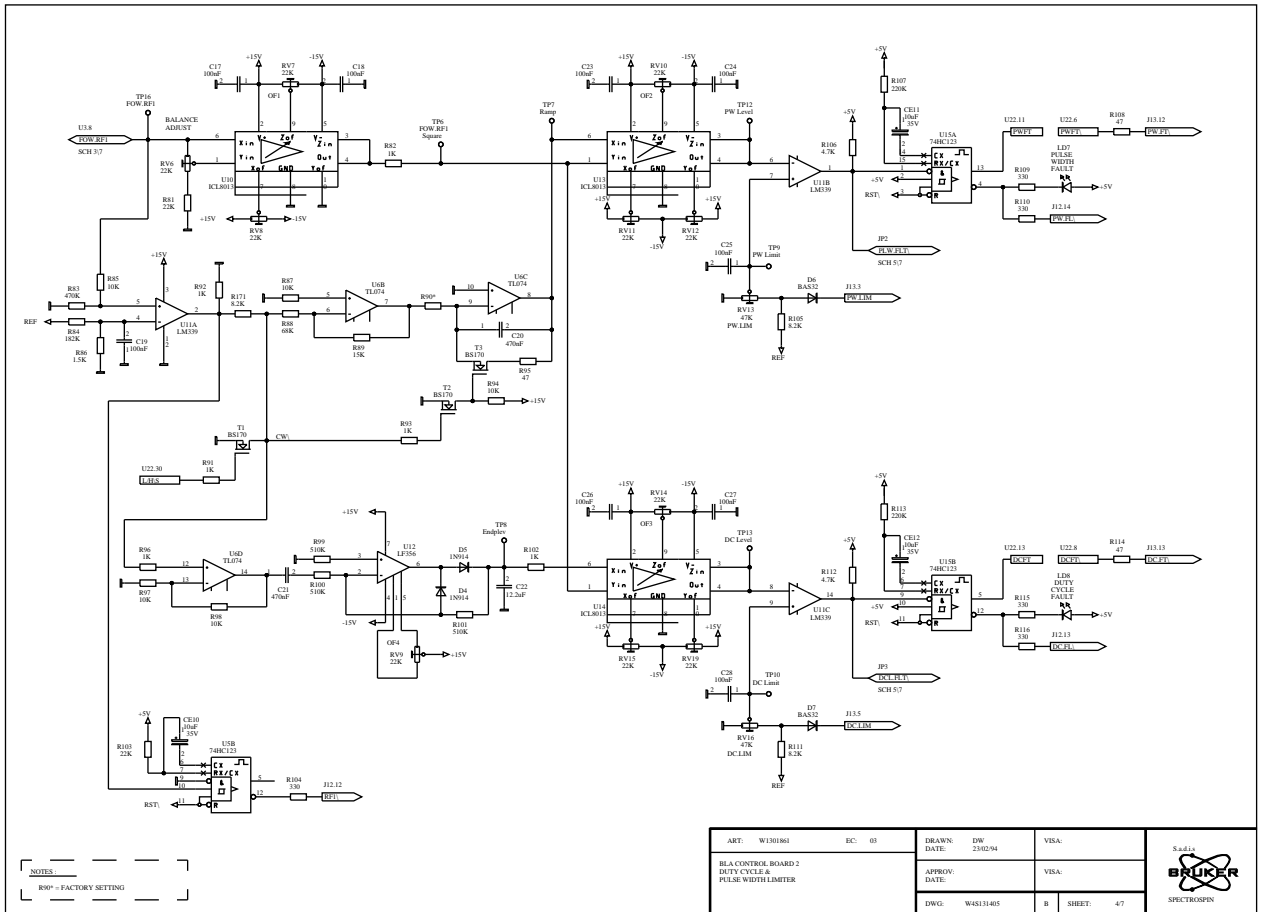


Figure 4.10. Control board 5/7 - Power limitation

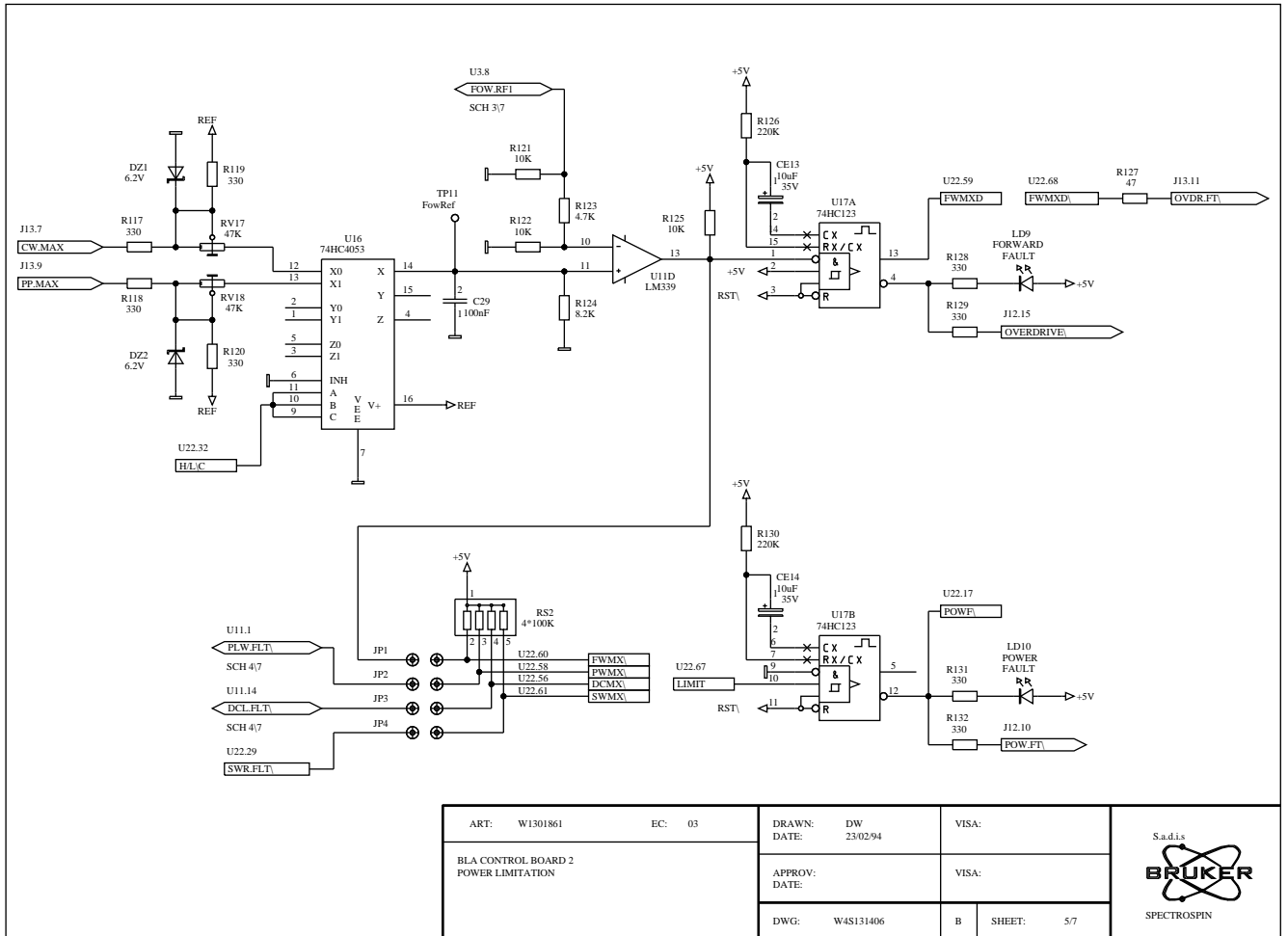


Figure 4.11. Control board 6/7 - Blanking circuit

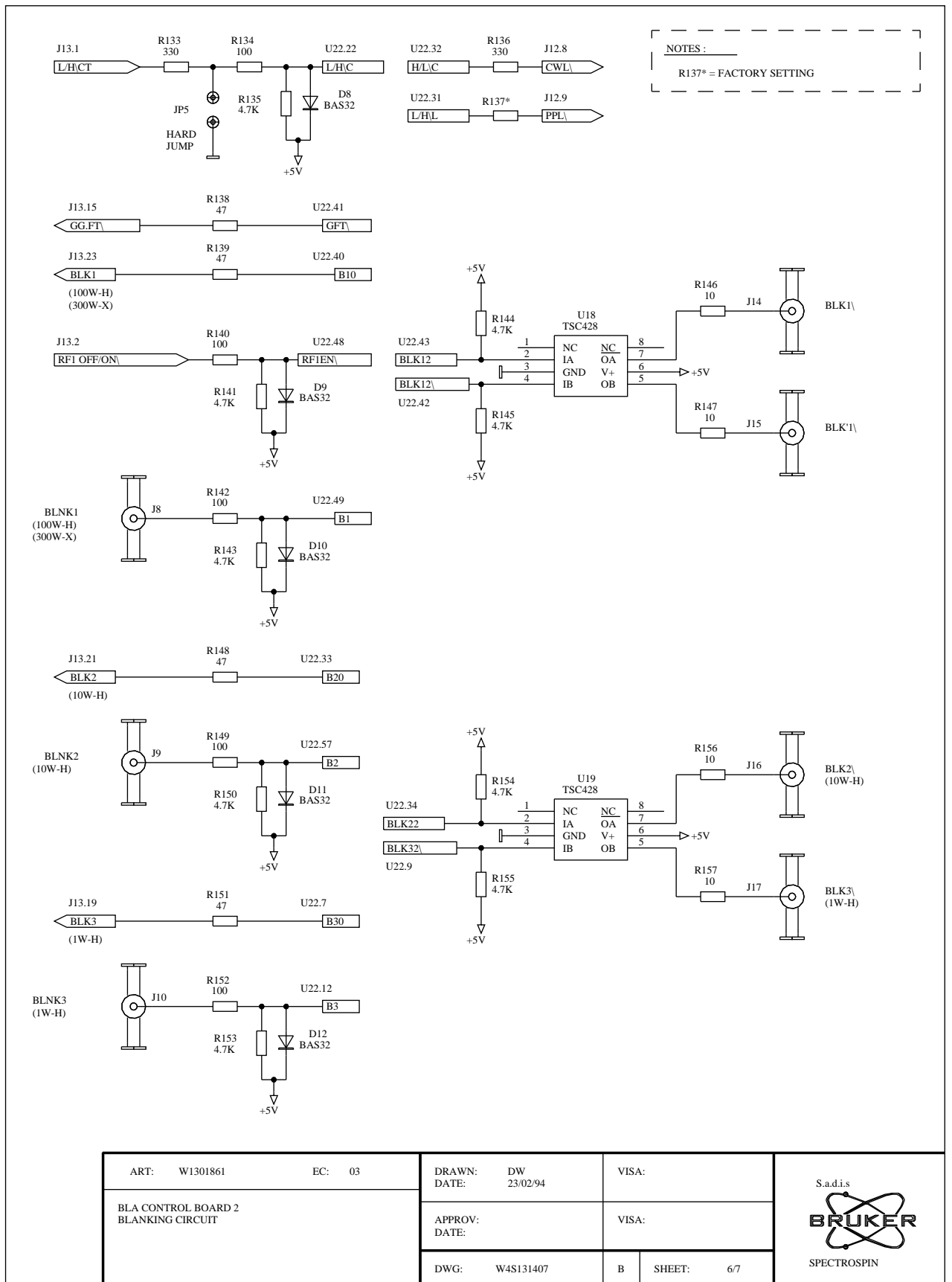


Figure 4.12. Control board 7/7 - Interconnection & pal

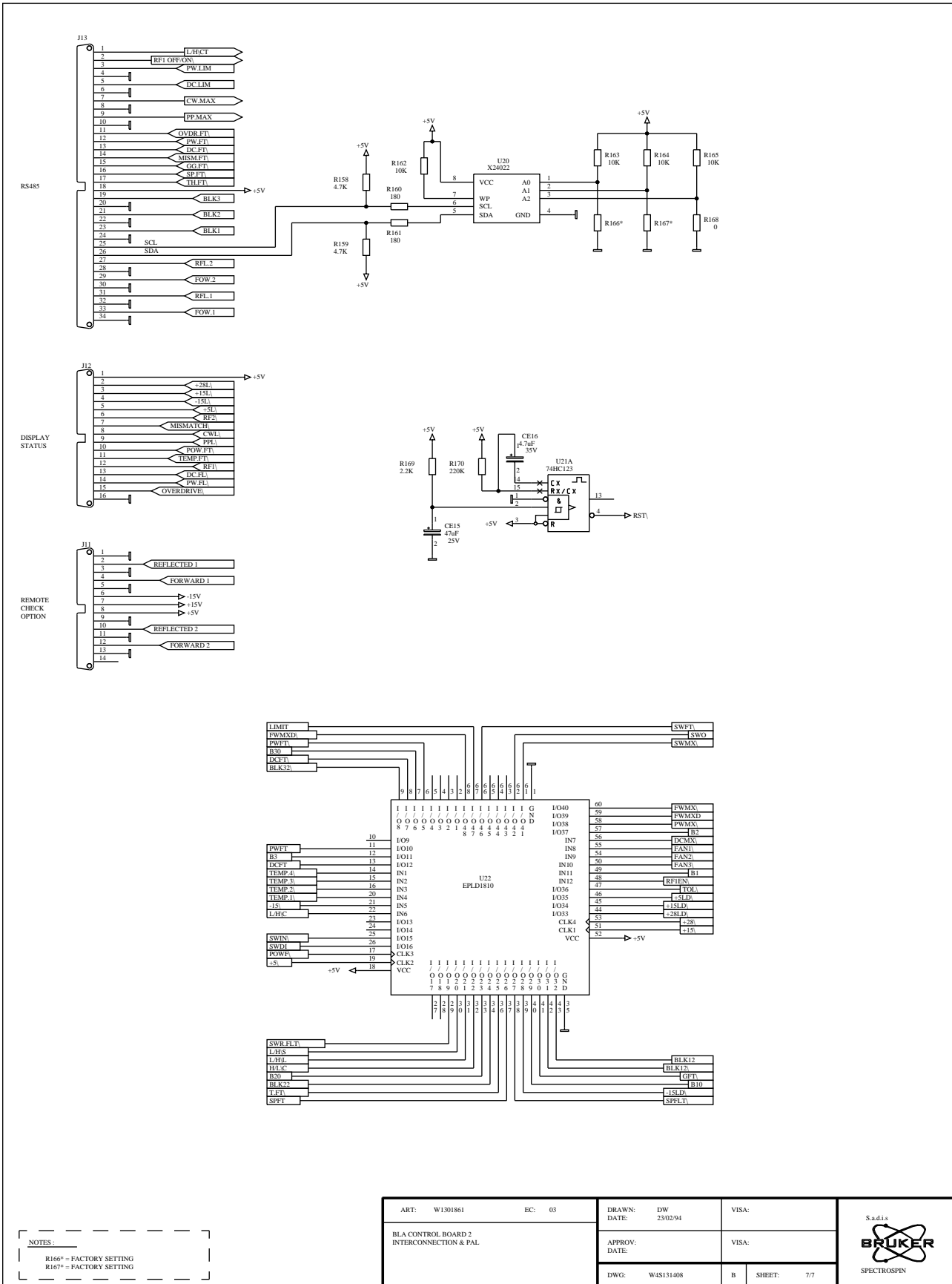
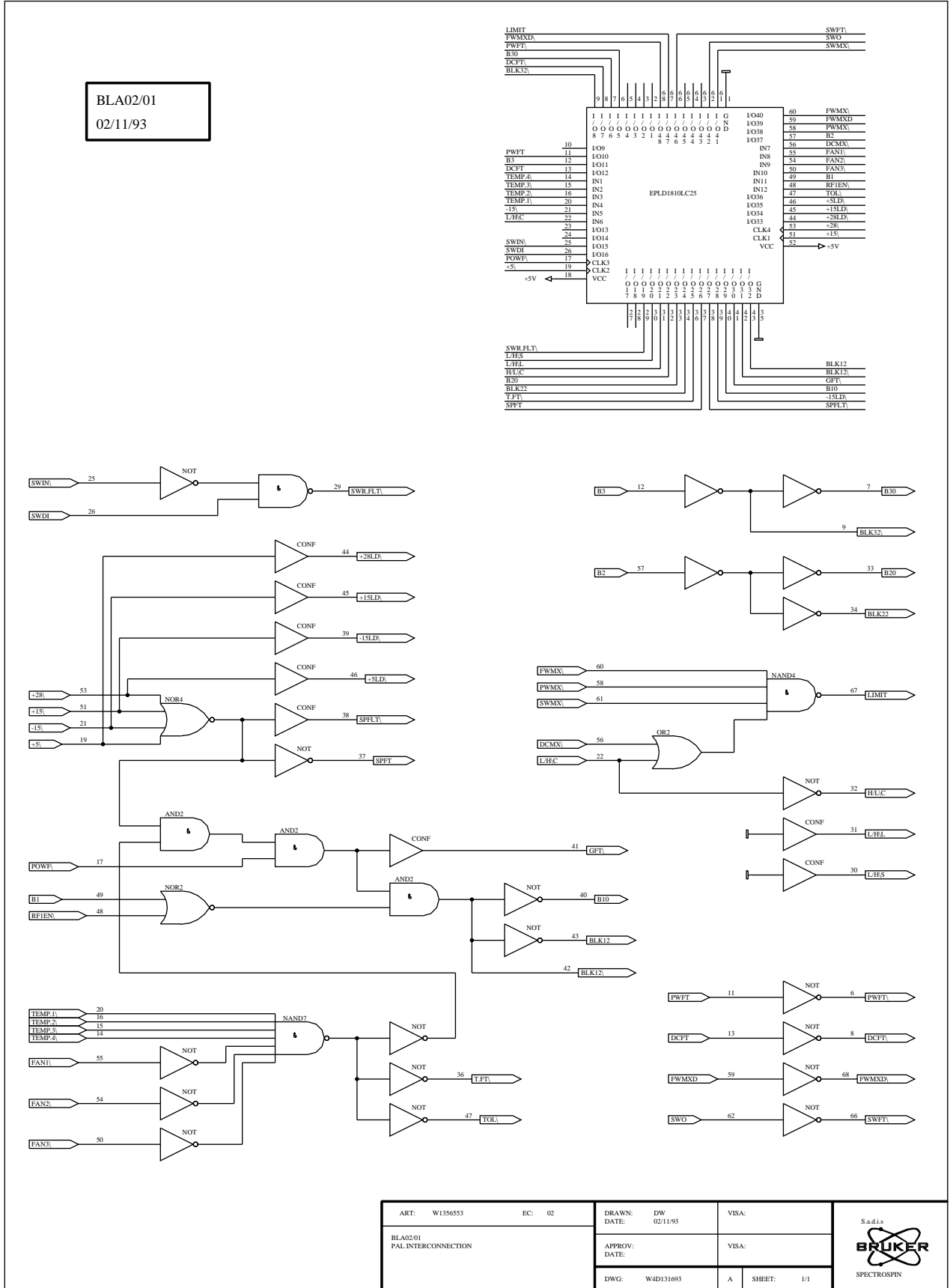


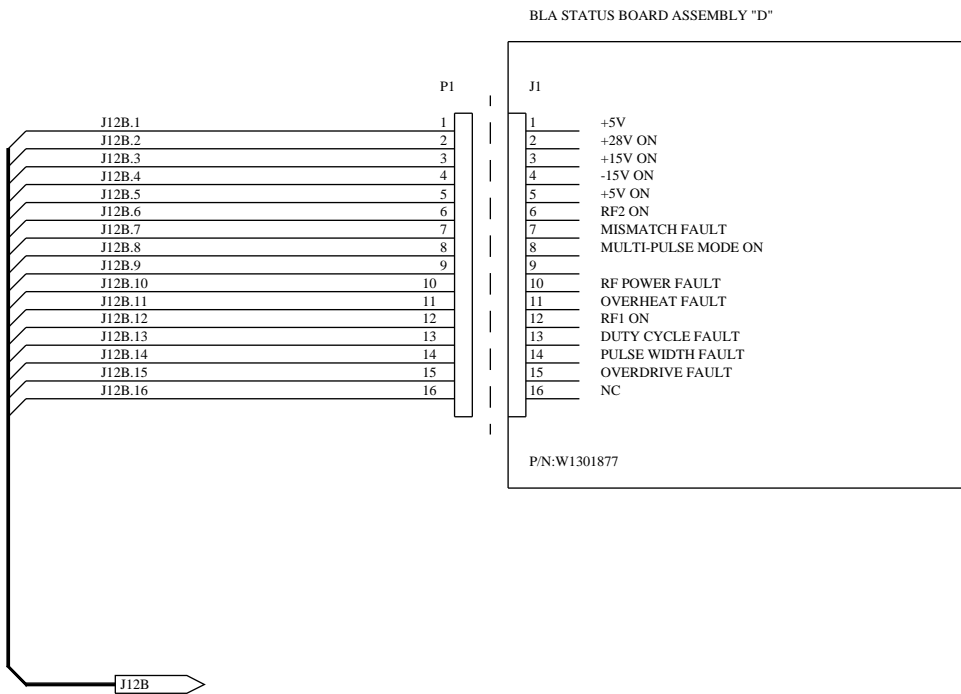
Figure 4.13. Pal interconnection



Status board

4

Figure 4.1. Interconnect drawing




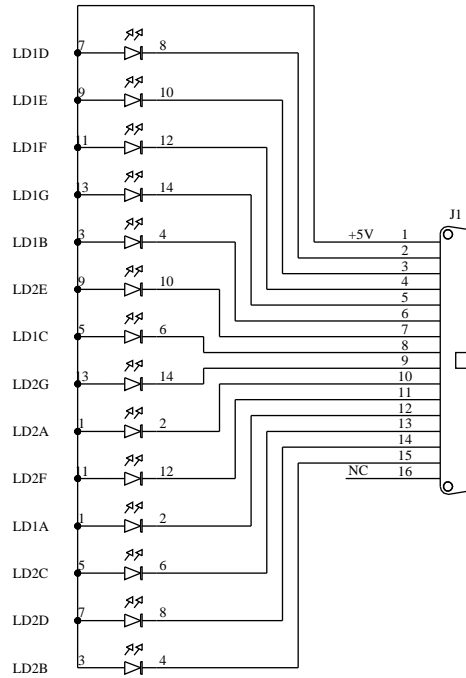
ART: W1301877	EC:	DRAWN: DW	VISA:	
BLA STATUS BOARD ASSY "D" INTERCONNECT DRAWING		DATE: 03/01/94		
		APPROV: DATE:	VISA:	
		DWG: W4W131580	SHEET: 1/1	

Figure 4.2. Status led board




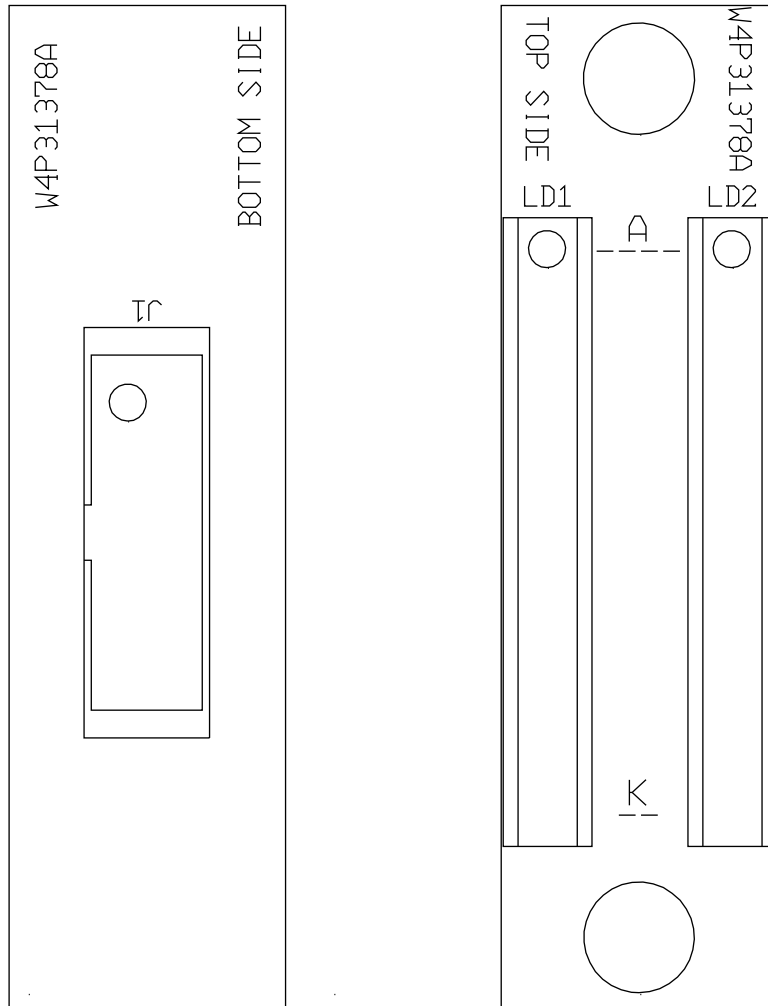
ART: W1301877	EC: 01	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
STATUS LED BOARD		DATE: 03/05/93	VISA:	
		APPROV: DATE:	VISA:	
		DWG: W4S131378	SHEET: 1/1	

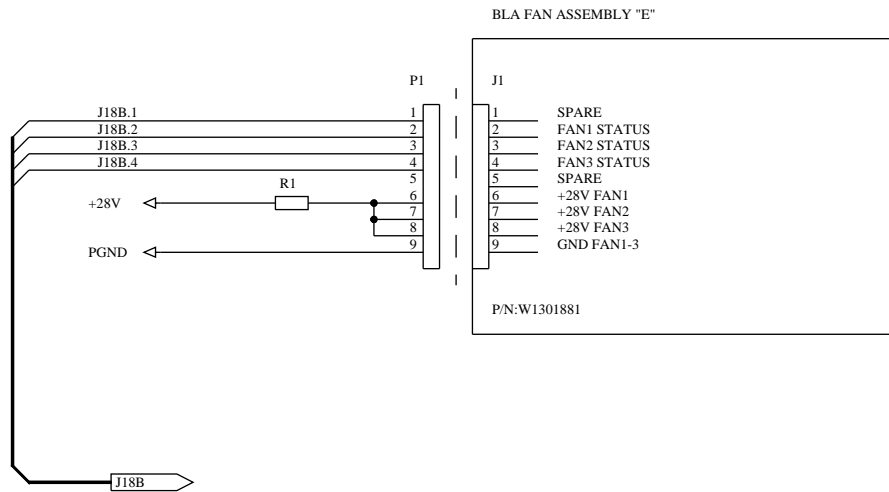
Figure 4.3. Status led board - location



Fan assembly

5

Figure 5.1. Interconnect drawing




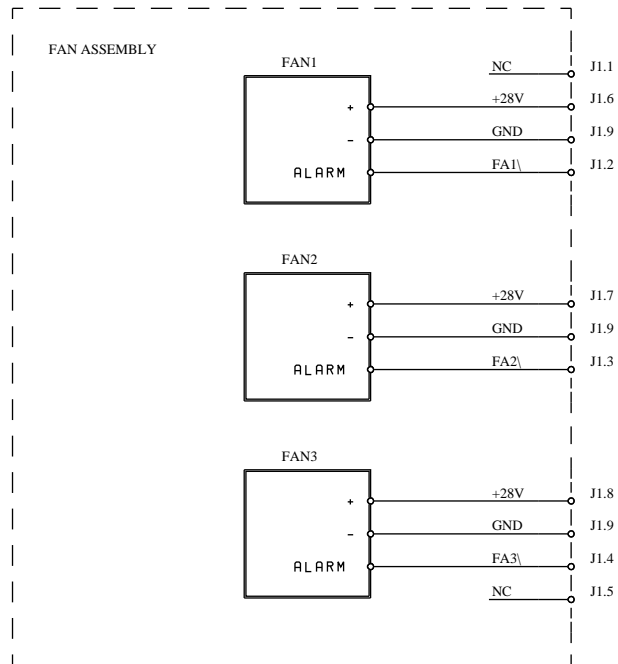

ART: W1301881	EC:	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
BLA FAN ASSY "E" INTERCONNECT DRAWING		DATE: 10/03/94	VISA:	
		APPROV: DATE:	VISA:	
		DWG: W4W131423	A SHEET: 1/1	

Figure 5.2. Fan assembly



ART: W1301881	EC: 01	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
FAN ASSEMBLY		DATE: 05/05/93	VISA:	
		APPROV: DATE:	VISA:	
		DWG: W4S131424	SHEET: 1/1	

BLMH1/5/10

6

Figure 6.1. Interconnect diagram

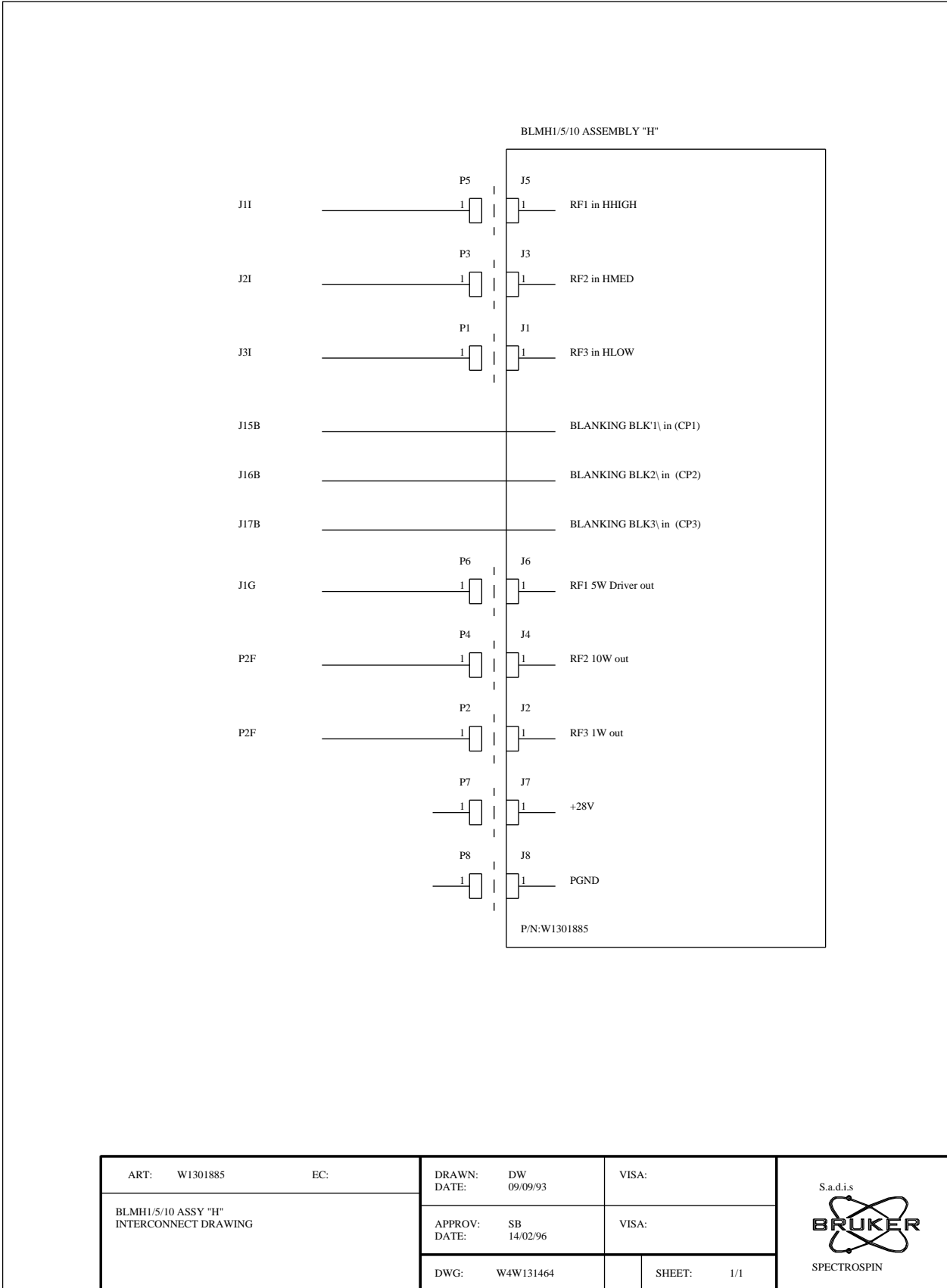


Figure 6.2. RF block diagram

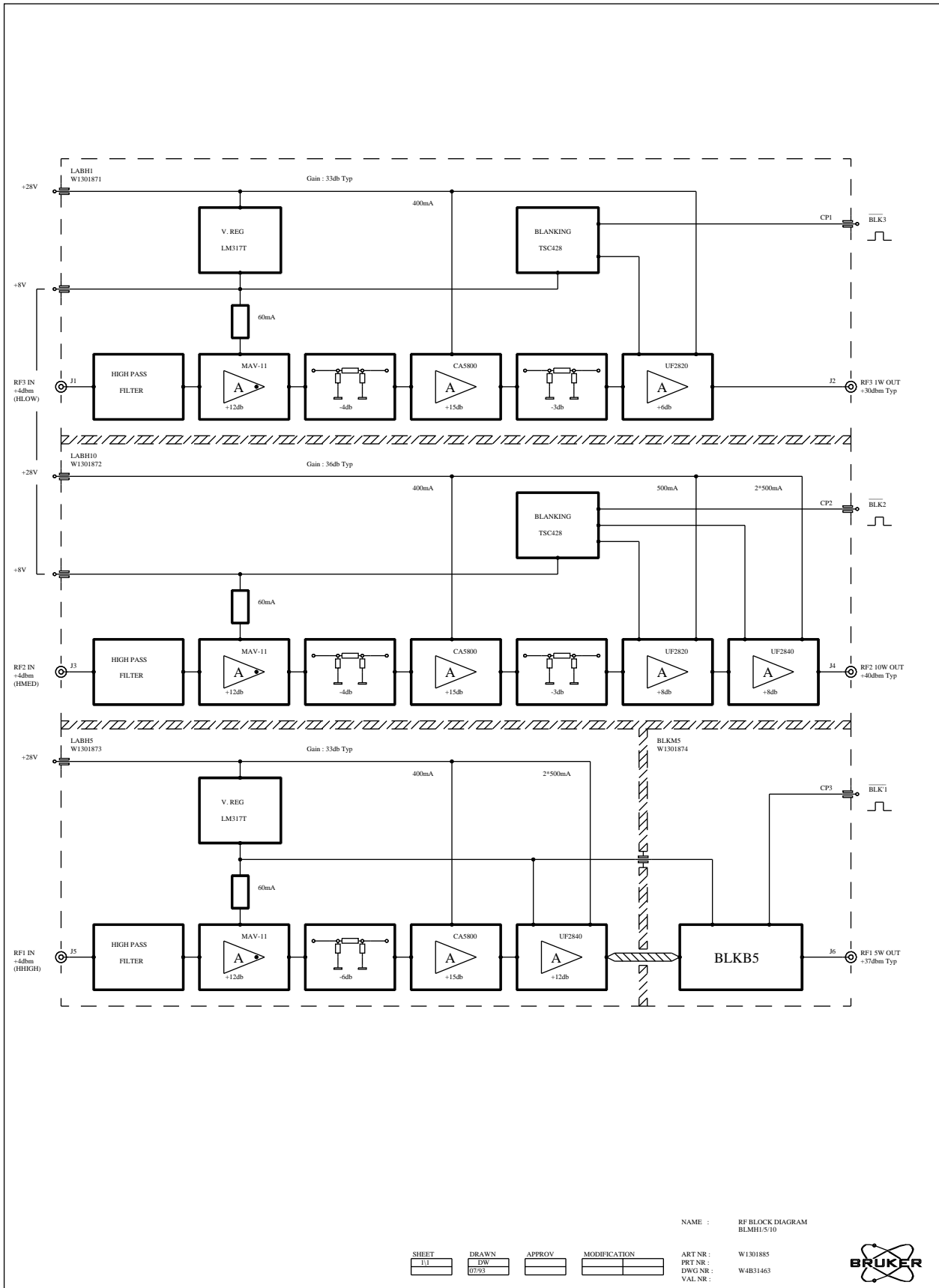
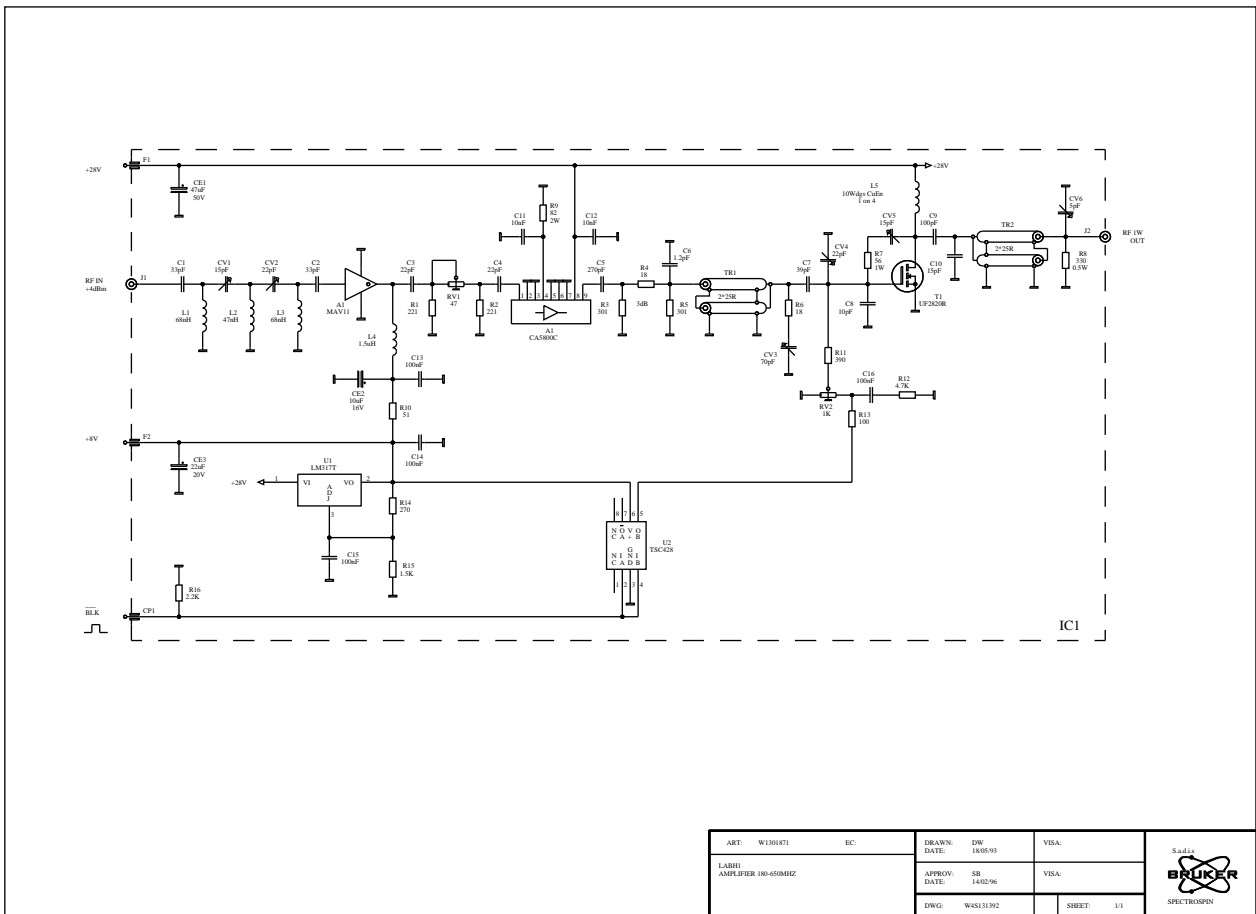


Figure 6.3. Amplifier 180-850 Mhz



ART: W11018T1	EC:	DRAWN: DW	DATE: 18/05/93	VISA:
LABEL: AMPLIFIER 180-850MHZ		APPROV: SB	DATE: 14/02/96	VISA:
		DWG: W48131392		SHEET: 1/1



Figure 6.4. LABH10

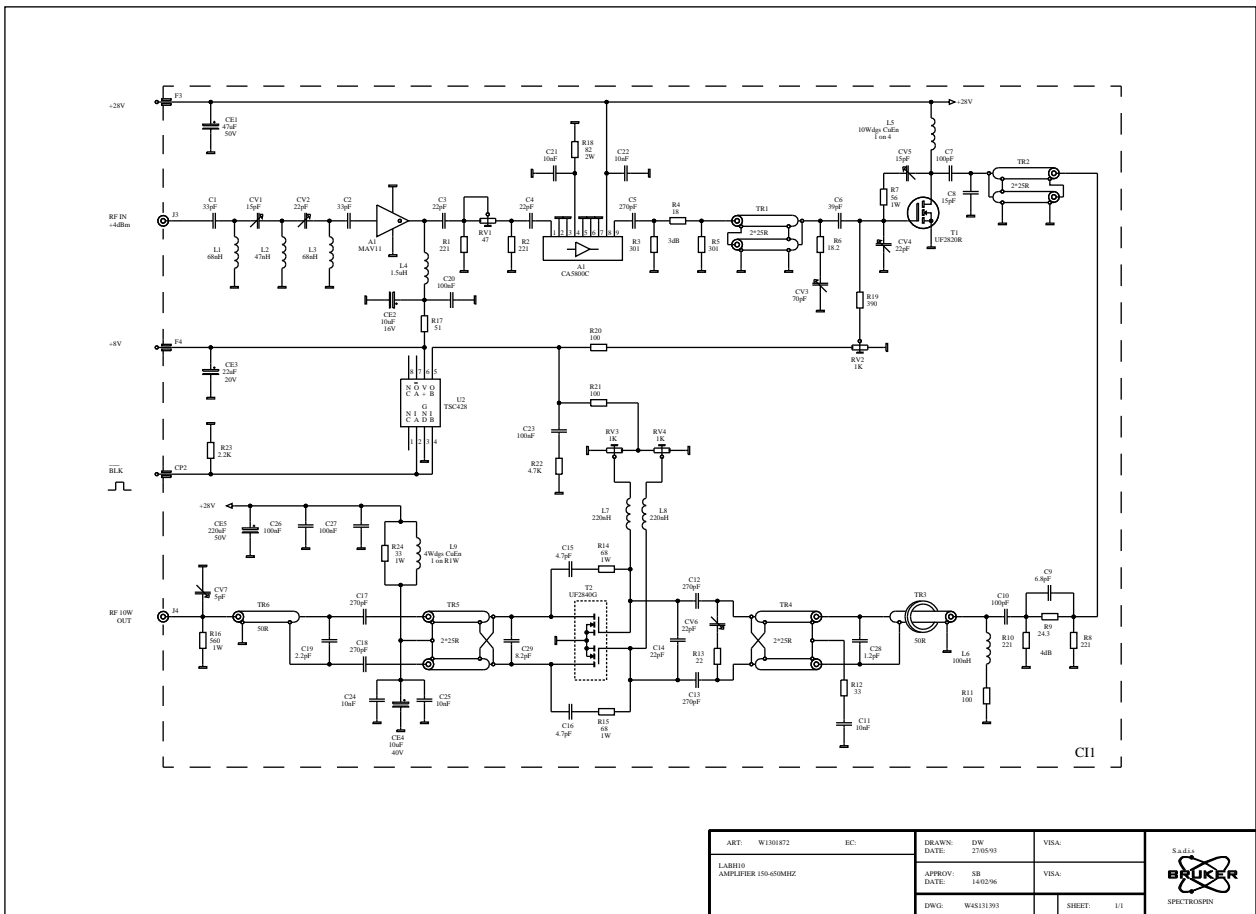
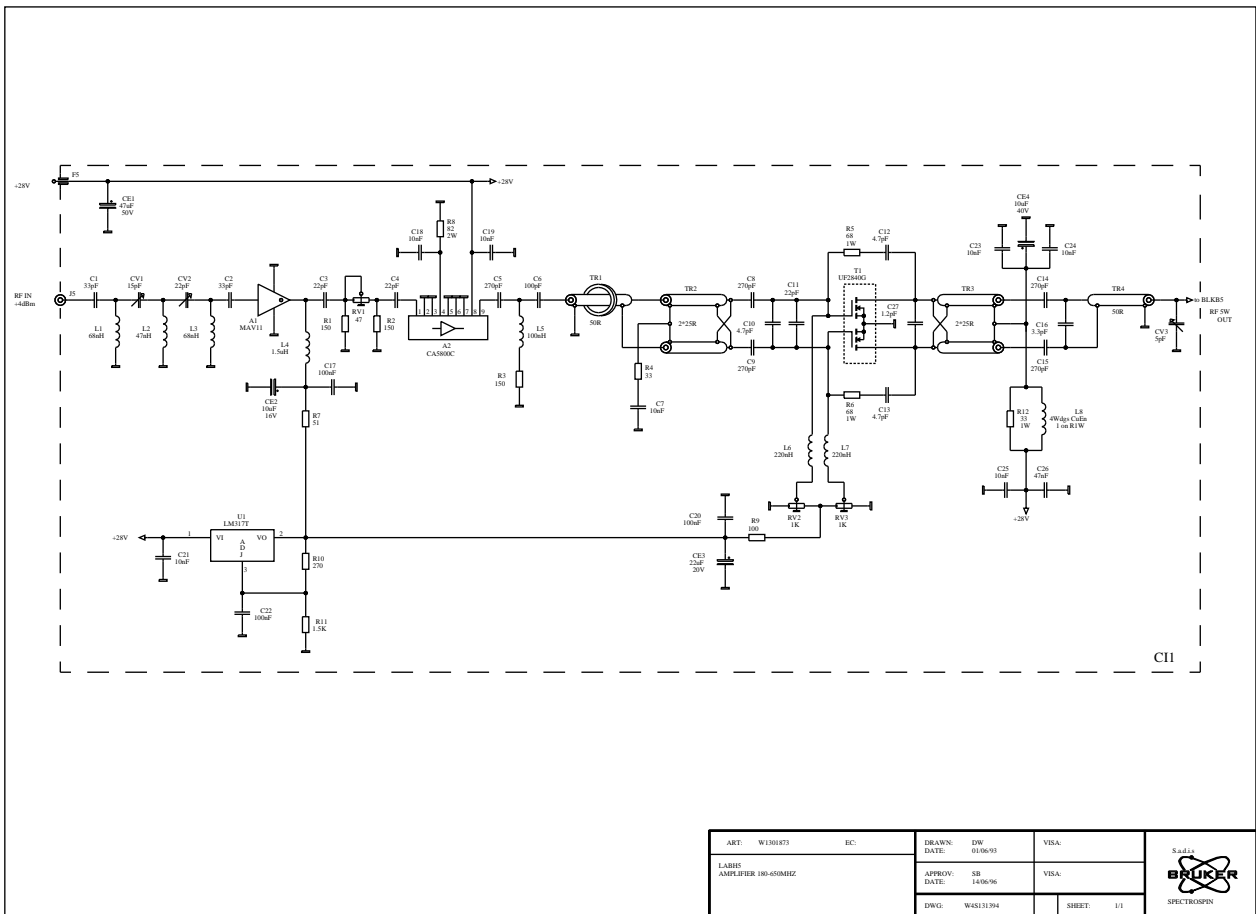


Figure 6.5. LABH5




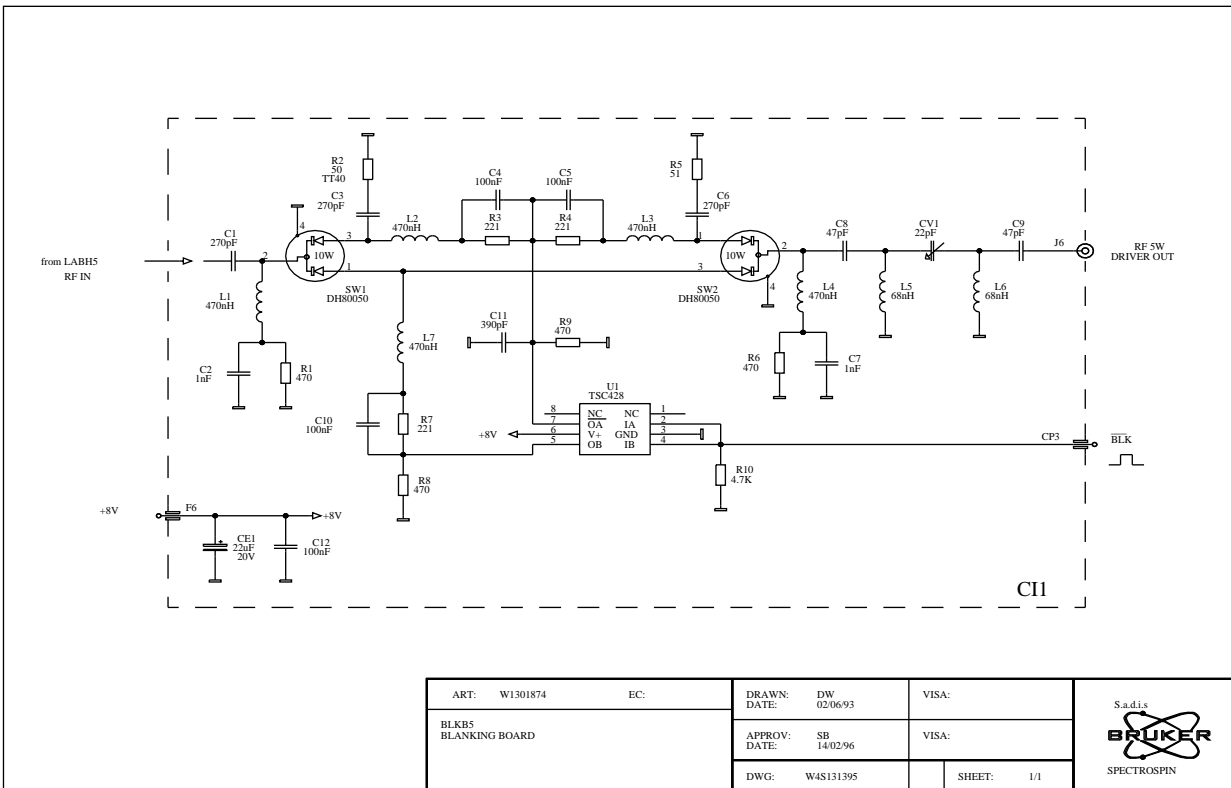
ART: W1101873	EC:	DRAWN: DW	VISA:	
LABH5 AMPLIFIER 180-DEGREE		DATE: 01/06/93		
		APPROV: SB	VISA:	
		DATE: 14/06/96		
		DWG: W48131394	SHEET: 1/1	

Figure 6.6. Blanking board



ART: W1301874	EC:	DRAWN: DW	DATE: 02/06/93	VISA:
BLKB5 BLANKING BOARD		APPROV: SB	DATE: 14/02/96	VISA:
		DWG: W4S131395		SHEET: 1/1



BLMH100 amplifier module

Figure 7.1. Wiring diagram

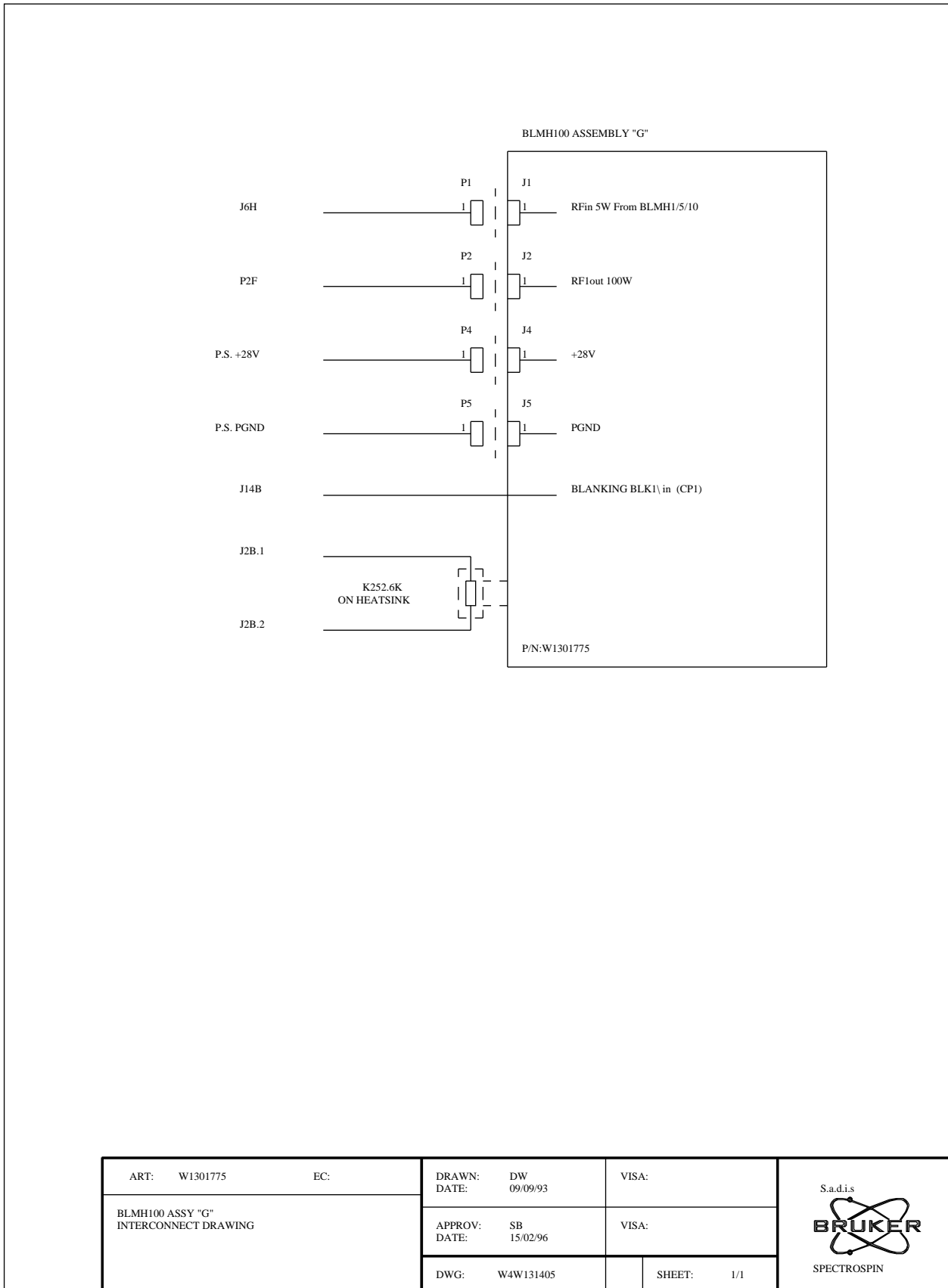
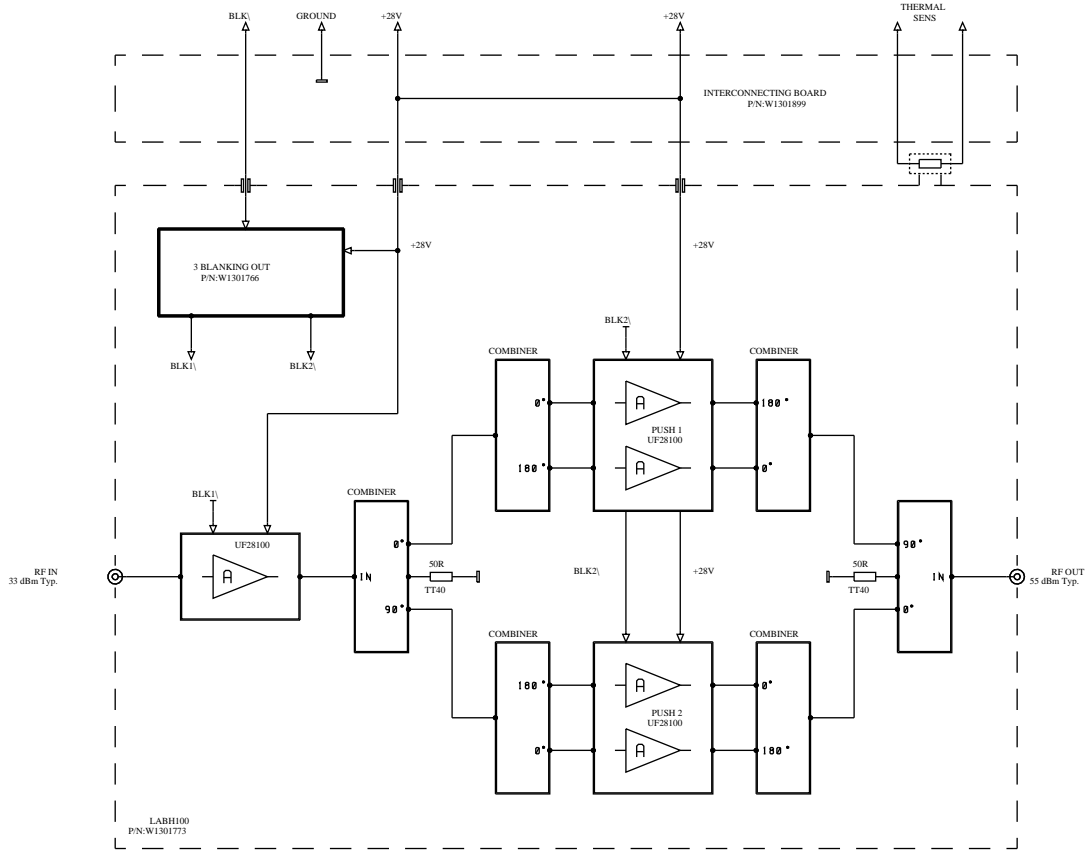


Figure 7.2. Block diagram




ART: W1301775	EC: 01	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
RF AMPLIFIER MODULE BLMH100 200-400MHZ 100W LINEAR		DATE: 07/07/92	VISA:	
		APPROV: SB	VISA:	
		DATE: 18/05/95		
		DWG: W4B131320	SHEET: 1/1	

Figure 7.3. LABH100

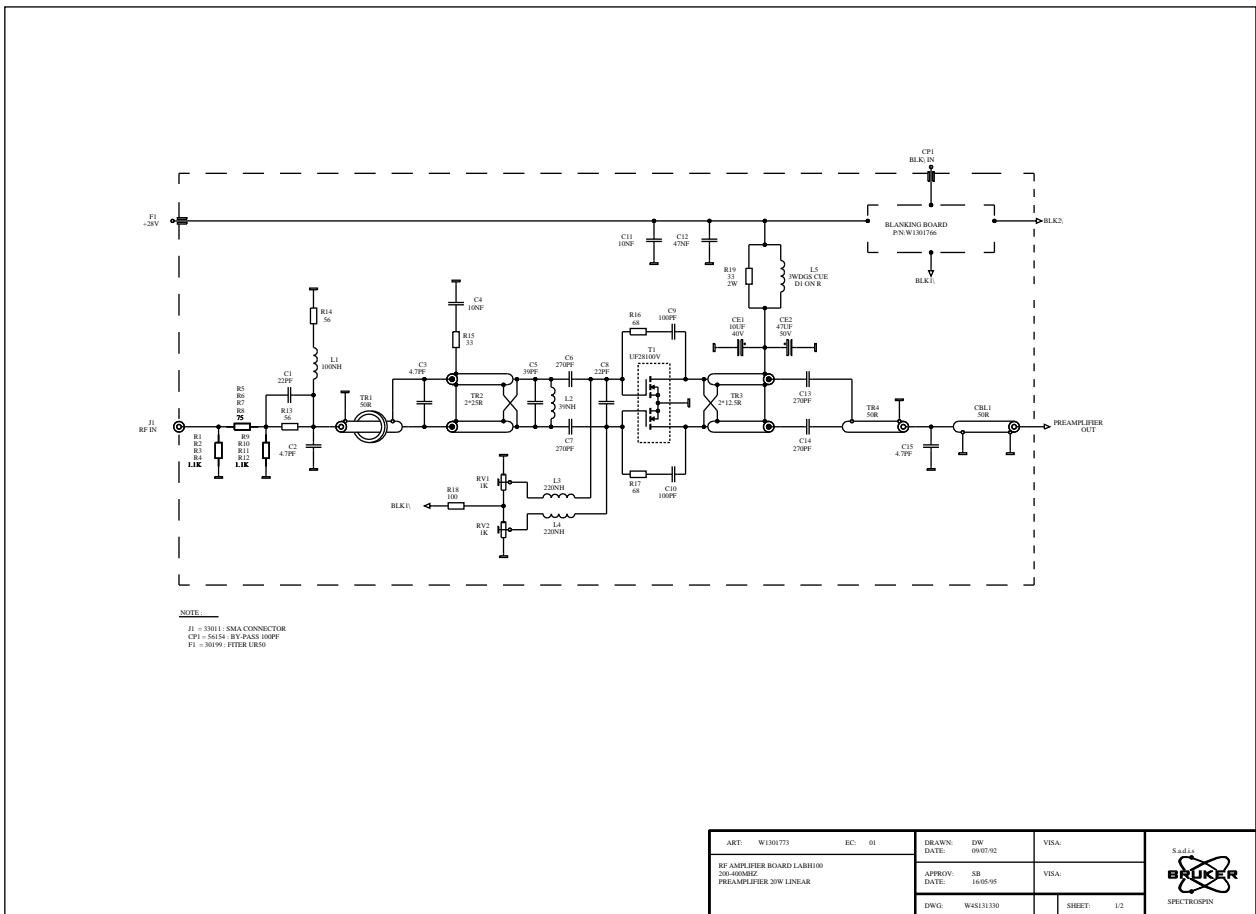


Figure 7.4. LABH100

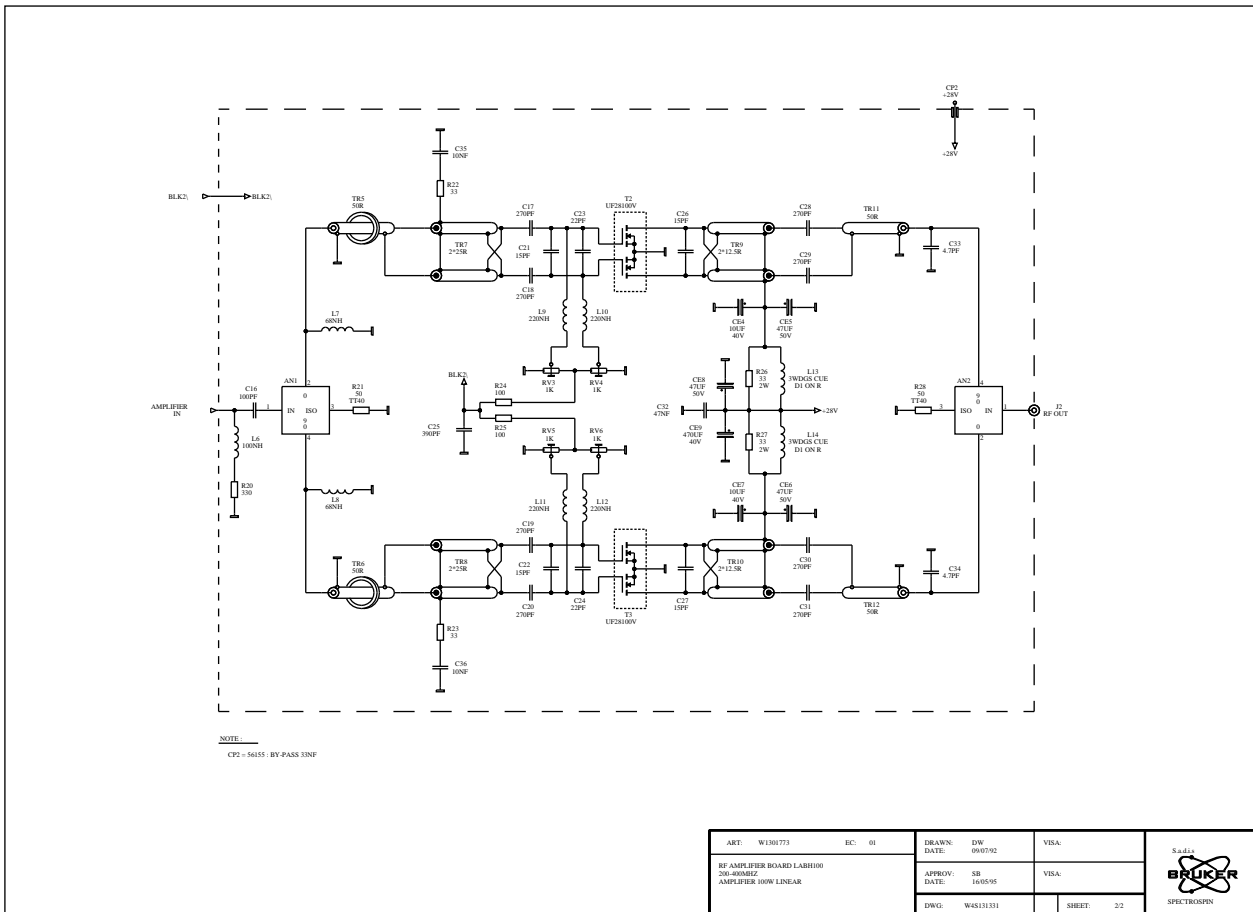


Figure 7.5. RF amplifier bias

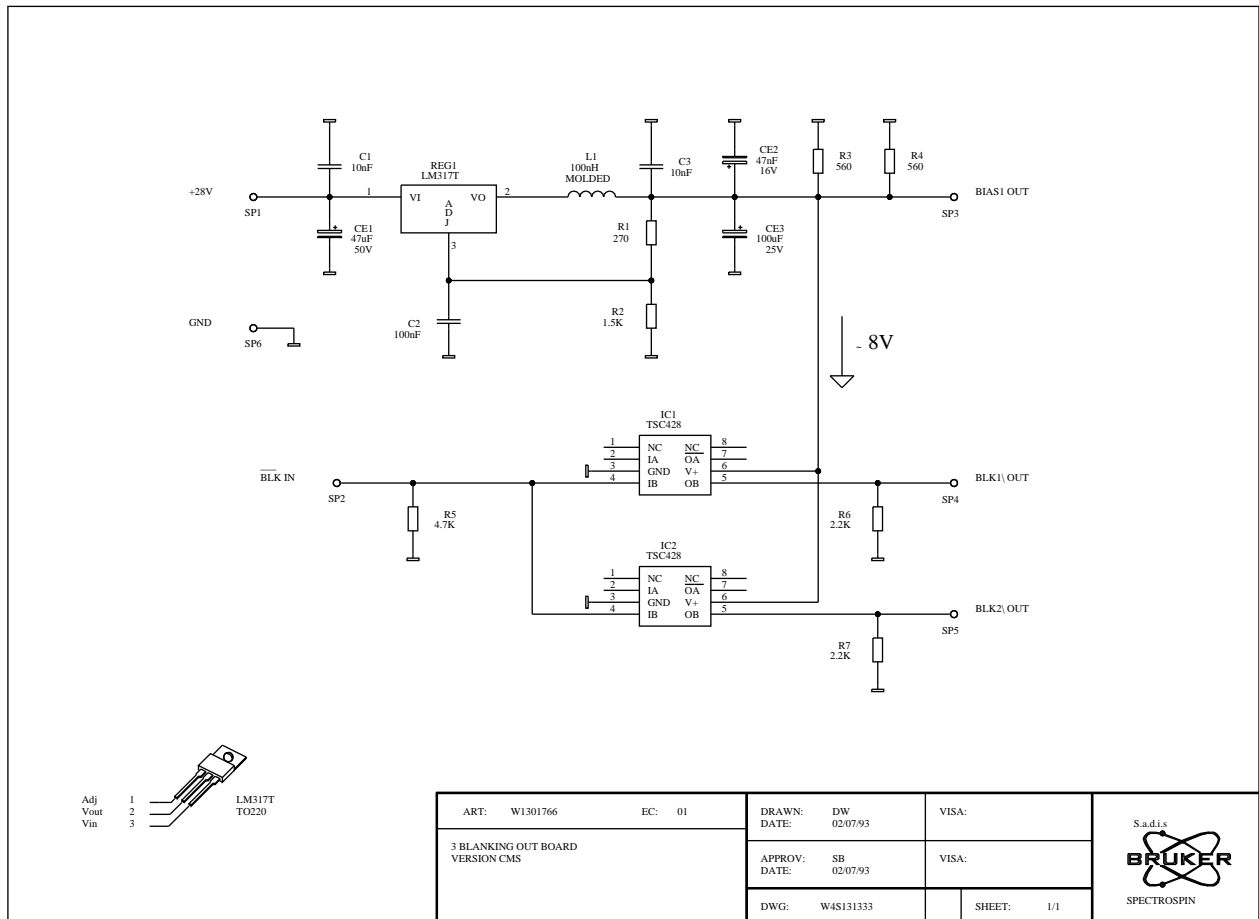


Figure 7.6. RF amplifier bias layout

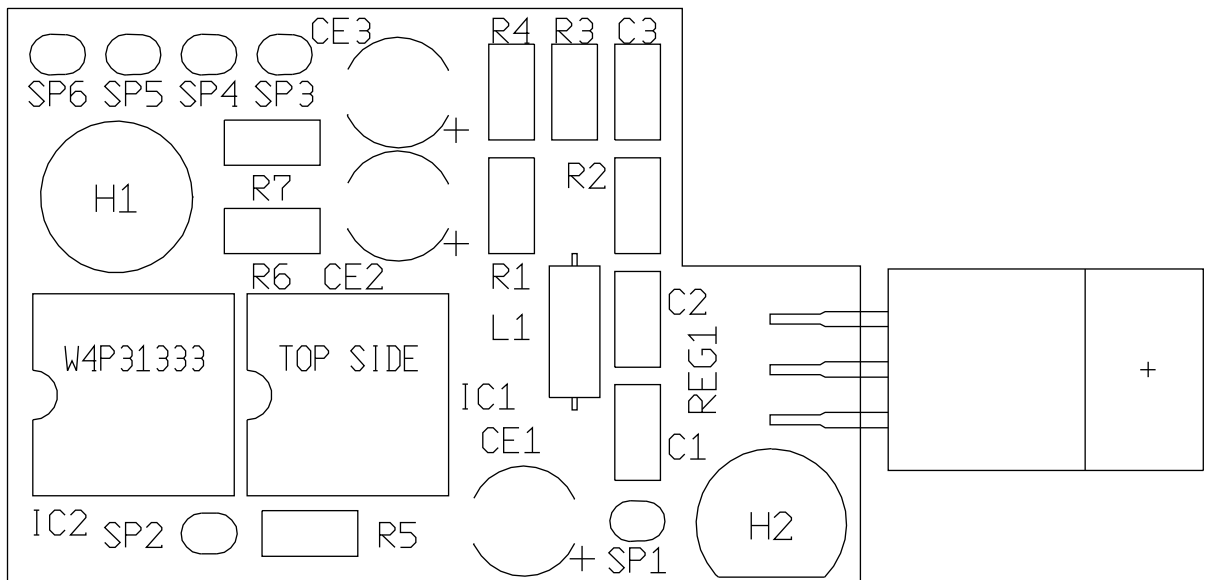
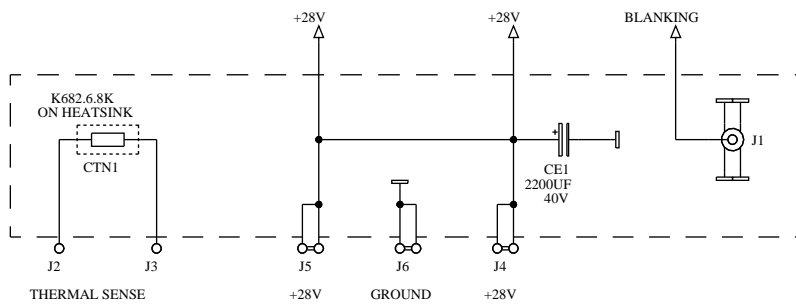


Figure 7.7. Interconnecting board



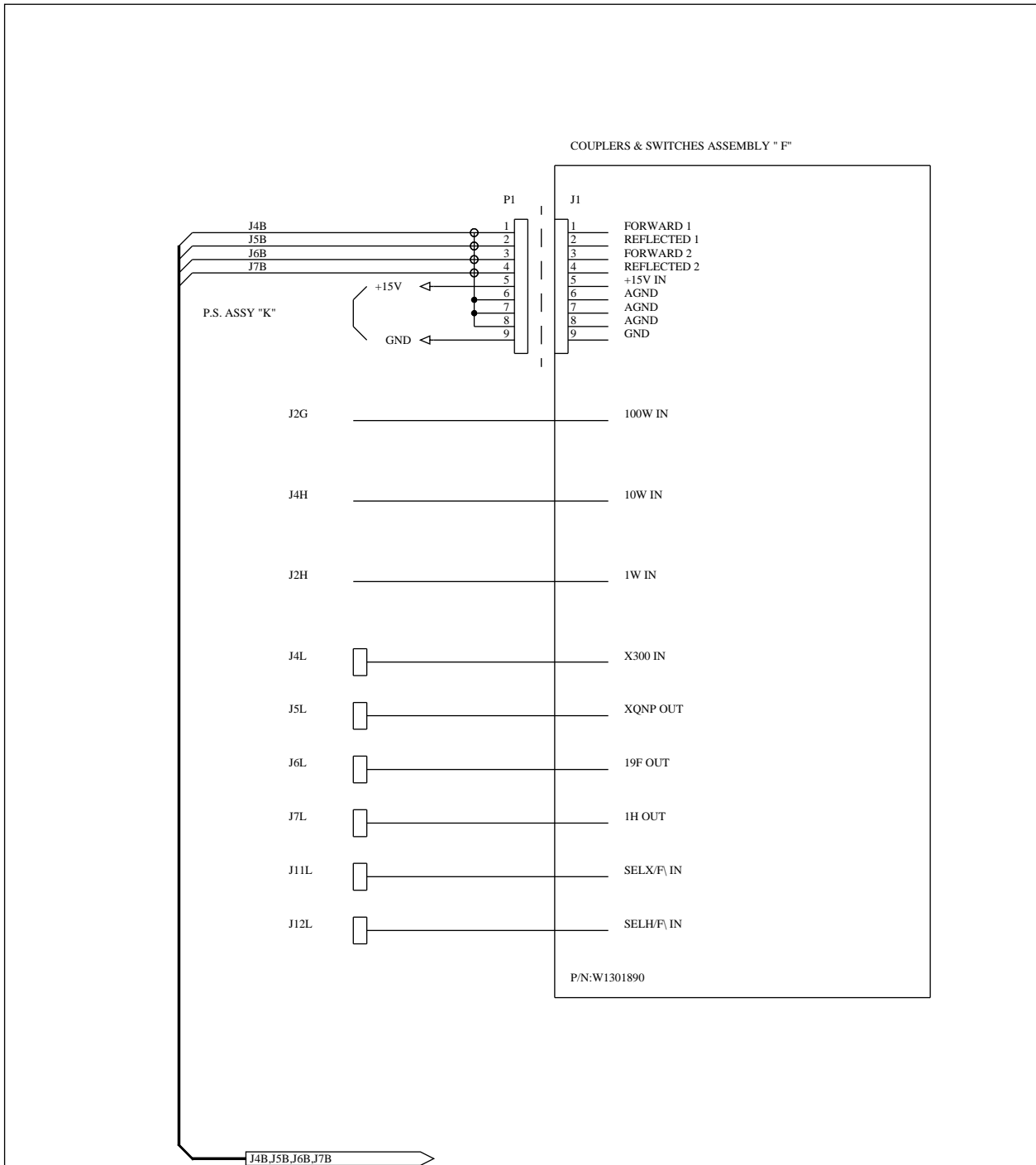
NOTE:

CTN1 = 56521 : CTN 6K8 K682

ART: W1301899	EC: 01	DRAWN: DW	DATE: 02/03/94	VISA:	S.a.d.i.s BRUKER SPECTROSPIN
INTERCONNECTING BOARD		APPROV: SB	DATE: 17/05/95	VISA:	
		DWG: W4S131703		SHEET: 1/1	

Couplers and switches

Figure 8.1. Couplers and switches assy "F"



ART: W1301890	EC:	DRAWN: DW	VISA:	
COUPLERS & SWITCHES ASSY "F" INTERCONNECT DRAWING		DATE: 13/07/93		
		APPROV: SB	VISA:	
		DATE: 15/02/96		
		DWG: W4W131461	SHEET: 1/1	

Figure 8.2. Couplers and switches assembly

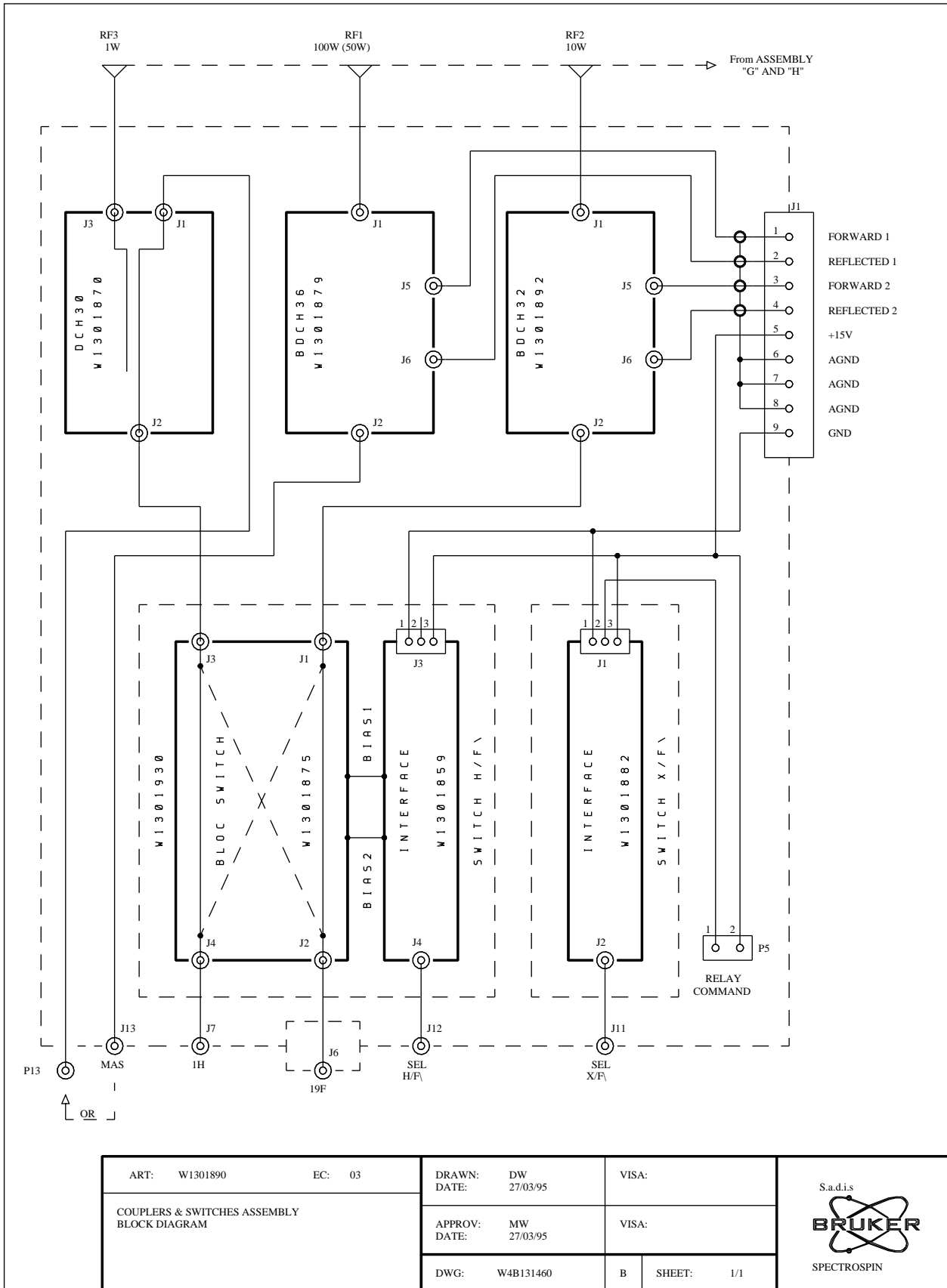
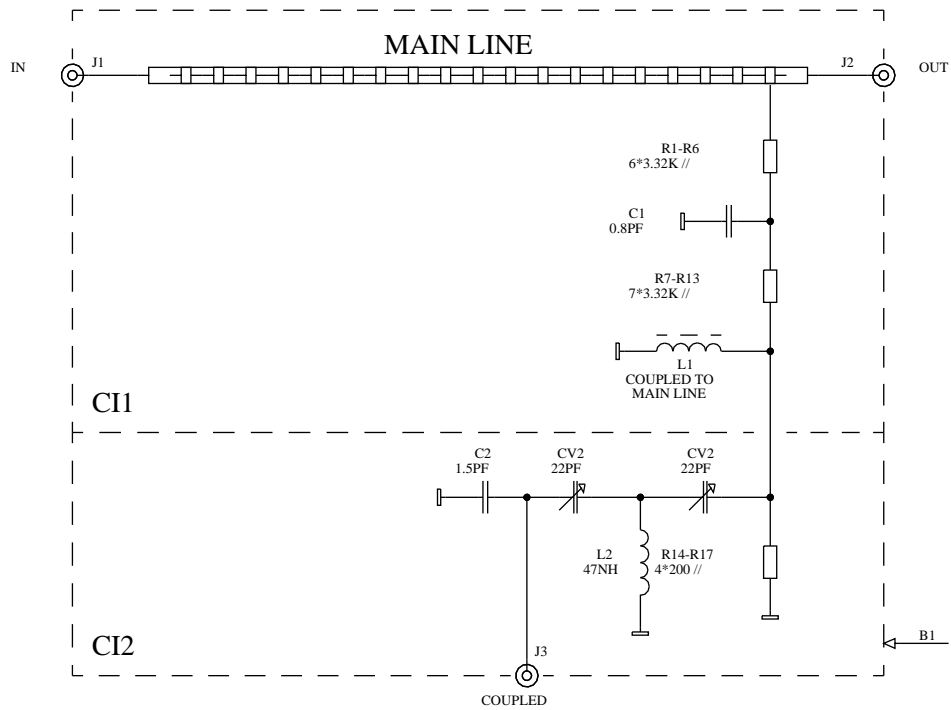
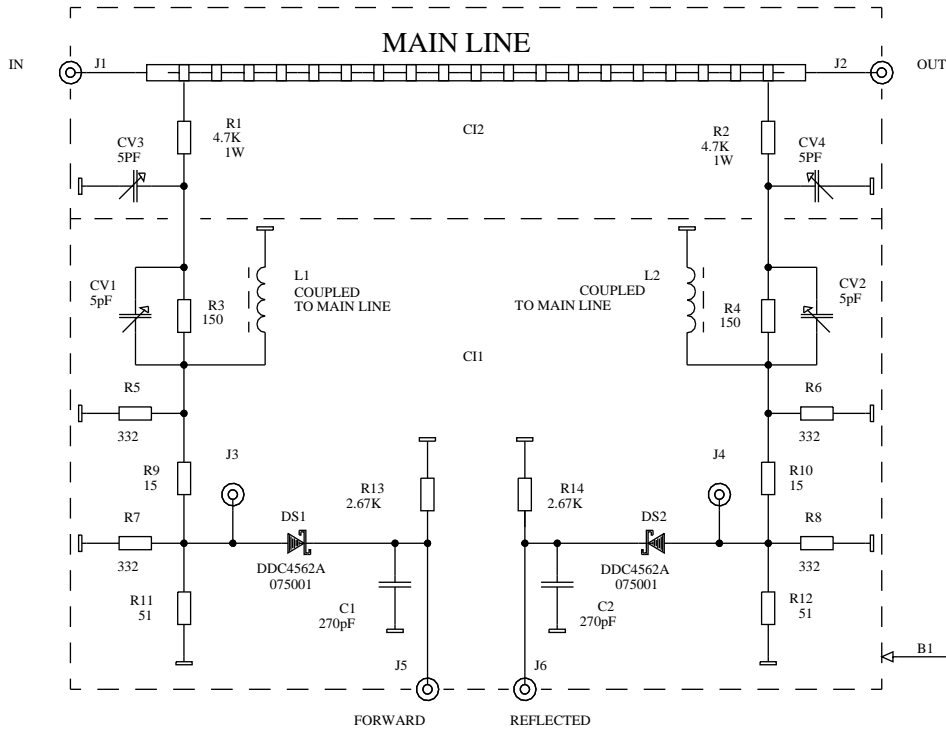


Figure 8.3. DCH30 coupler



ART: W1301870	EC: 02	DRAWN: DW	VISA:	S.a.d.i.s BRUKER SPECTROSPIN
DCH30 DIRECTIONAL COUPLER		DATE: 16/03/94	VISA:	
(SMA.C-SMA)		APPROV: SB	VISA:	
		DATE: 02/11/94	A	SHEET: 1/1
		DWG: W4S131389		

Figure 8.4. BDCH36 coupler




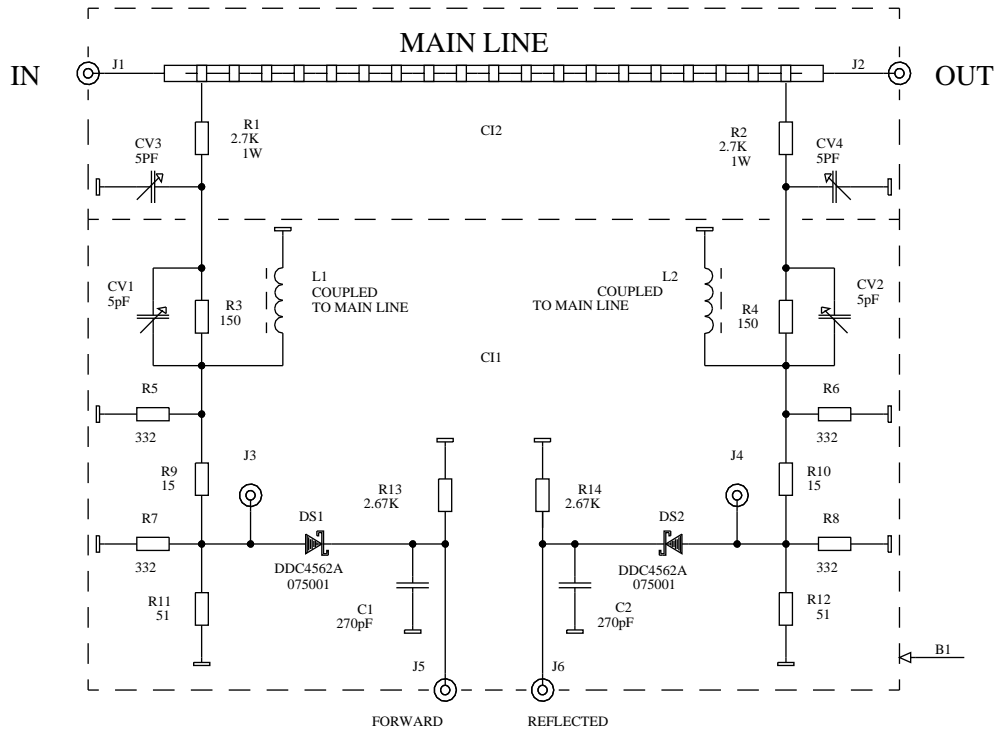
ART: W1301879	EC: 01	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
BDCH36 BI-DIRECTIONAL COUPLER		DATE: 07/06/93	VISA:	
(SMB-SMA)		APPROV: DATE:	SHEET: 1/1	
		DWG: W4S131444		

Figure 8.5. BDCH32 bidirectionnal coupler




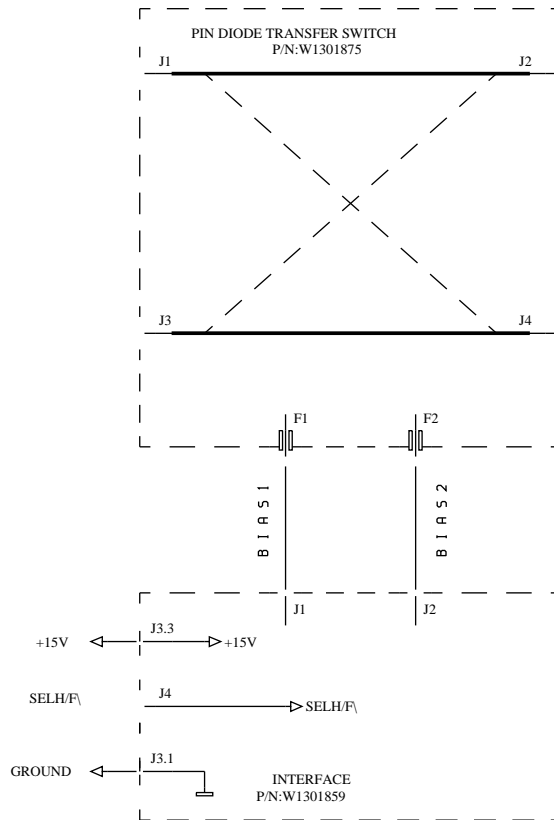
ART: W1301892	EC: 01	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
BDCH32 BI-DIRECTIONAL COUPLER		DATE: 07/06/93	VISA:	
(SMB-SMA)		APPROV: CO	VISA:	
		DATE: 07/06/93		
		DWG: W4S131445	SHEET: 1/1	

Figure 8.6. Output switch for DMX system

TRUTH TABLE

SELH/F\	BIAS1	BIAS2	RF CONTINUITY
0	0V	50mA	J1 ↔ J4 ; J3 ↔ J2
1	50mA	0V	J1 ↔ J2 ; J3 ↔ J4



ART: W1301930	EC: 02	DRAWN: DW	VISA:	S.a.d.i.s SPECTROSPIN
PIN DIODE TRANSFER SWITCH BLOCK DIAGRAM		DATE: 09/10/95	VISA:	
		APPROV: CO	VISA:	
		DATE: 10/10/95	A	SHEET: 1/1
		DWG: W4B131458		

Figure 8.7. Pin diode transfer switch

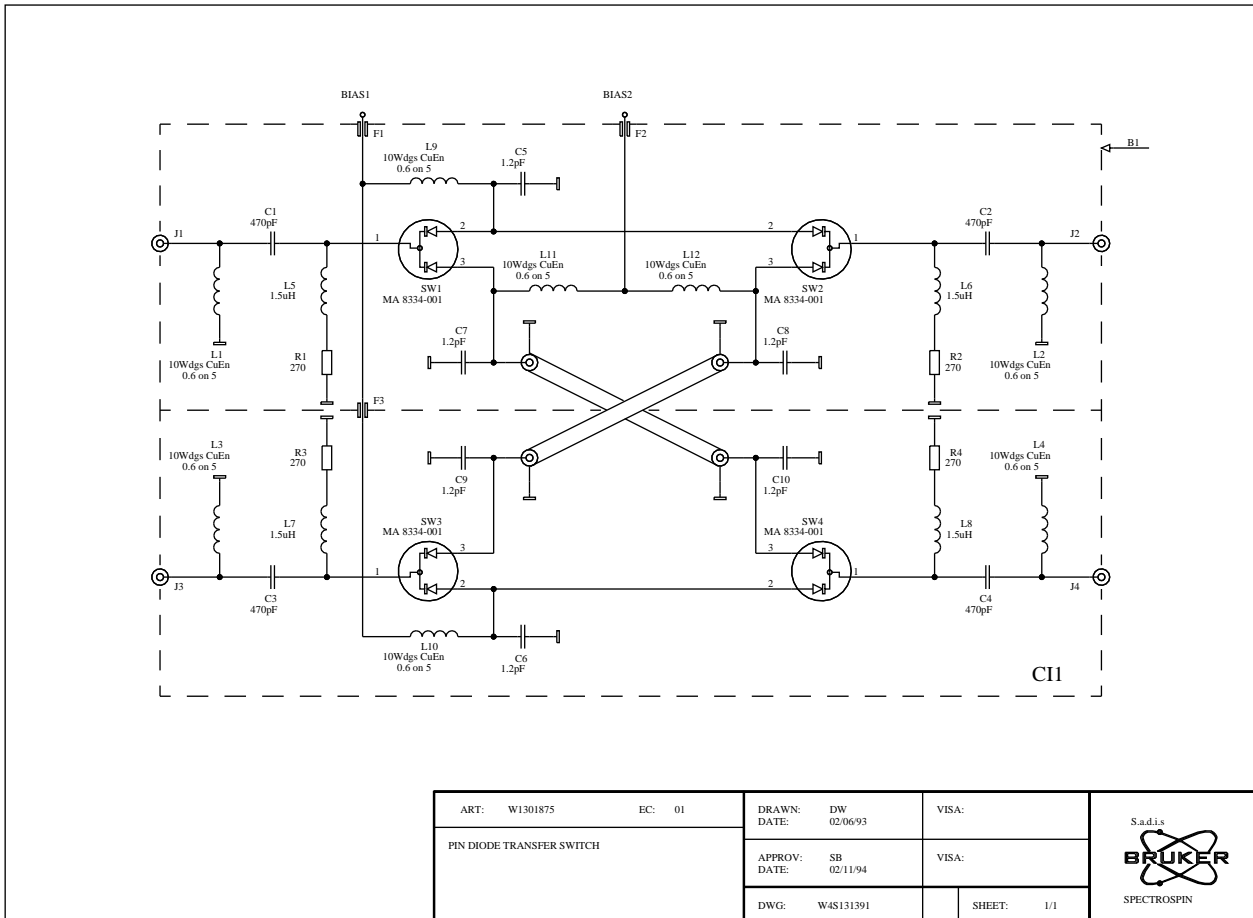
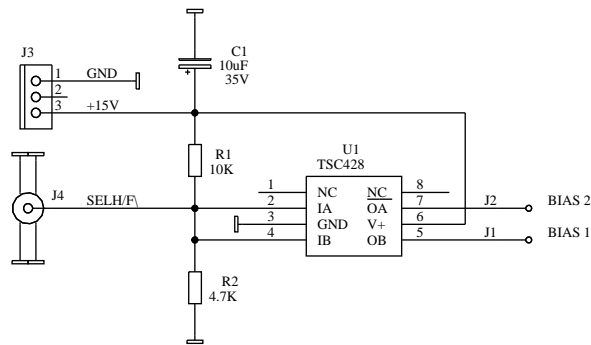


Figure 8.8. Interface switch H/F




ART: W1301859	EC: 01	DRAWN: DW DATE: 22/04/93	VISA:	S.a.d.i.s  SPECTROSPIN
INTERFACE SWITCH H/F		APPROV: CO DATE: 01/06/94	VISA:	
		DWG: W4S131401	SHEET: 1/1	

Figure 8.9. Interface switch H/F layout

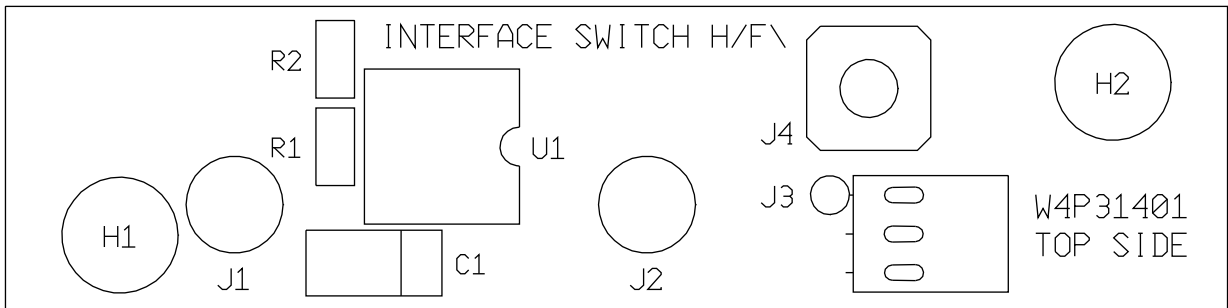
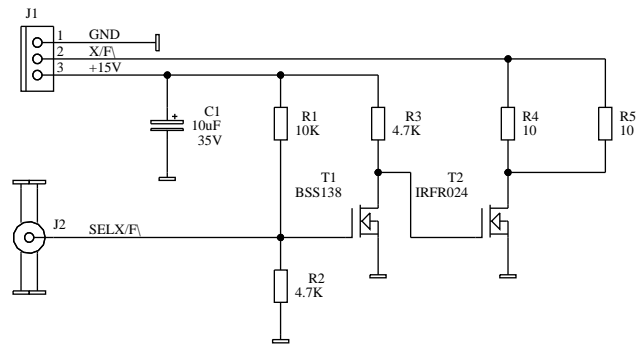


Figure 8.10. Interface relay switch




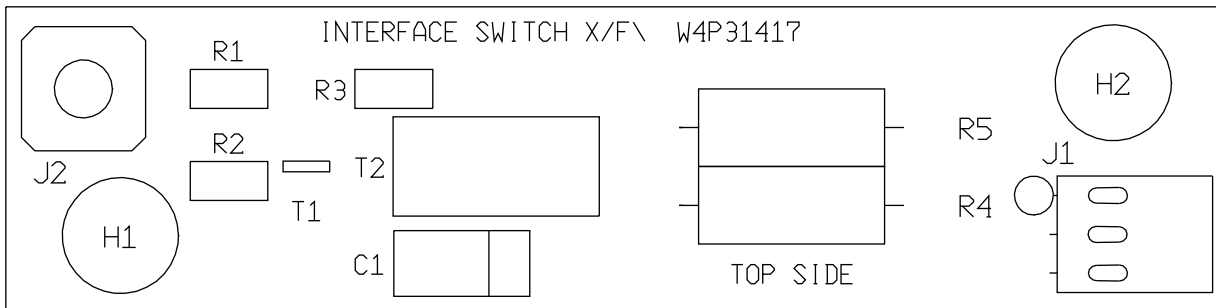
ART: W1301882	EC:	DRAWN: DW	VISA:	
INTERFACE RELAY TRAFER SWITCH		DATE: 03/06/93		
		APPROV: CO	VISA:	
		DATE: 15/02/96		
		DWG: W4S131417	SHEET: 1/1	

Figure 8.11. Interface switch layout



SBS controller

9

Figure 9.1. interconnect diagram

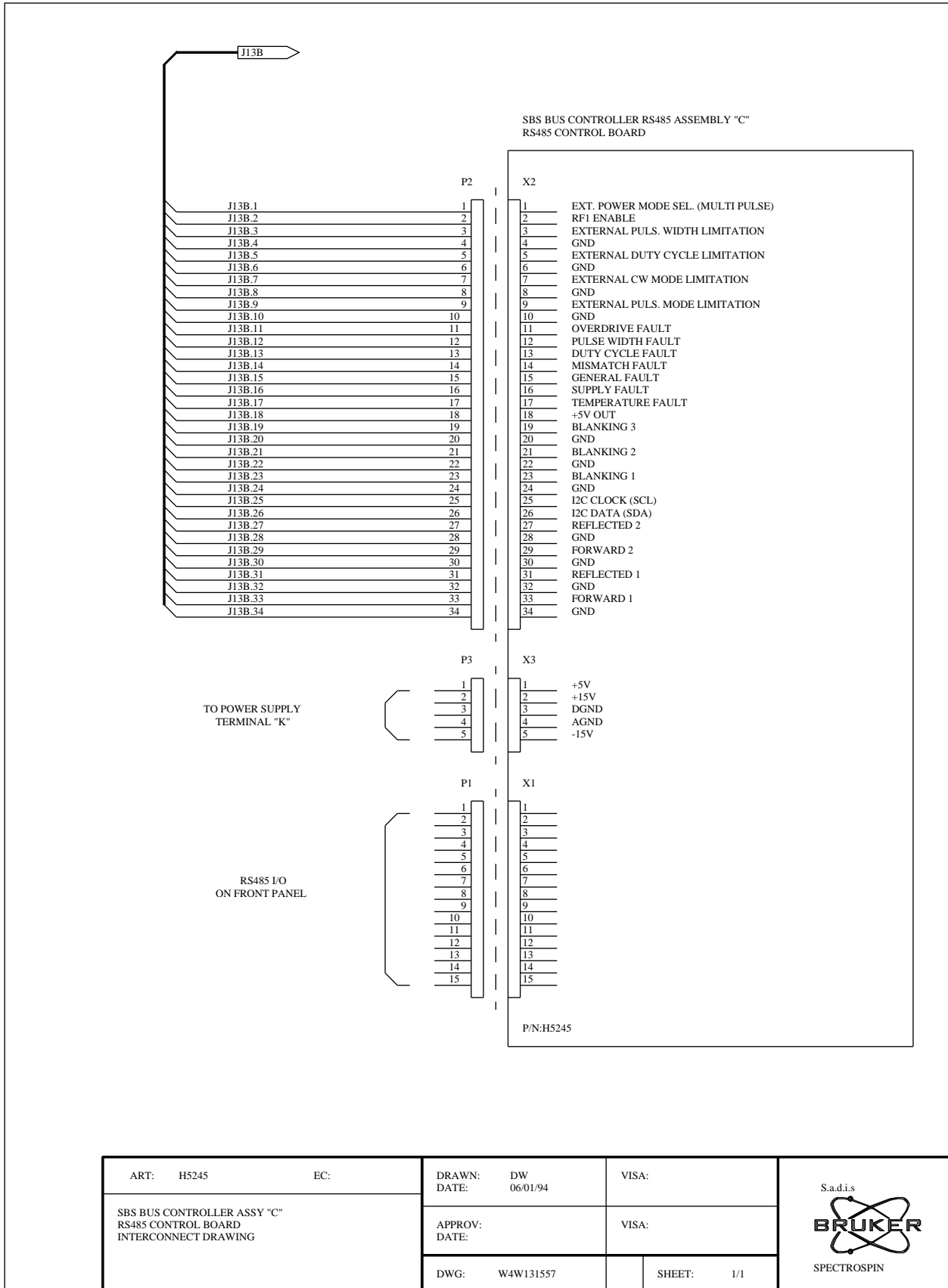
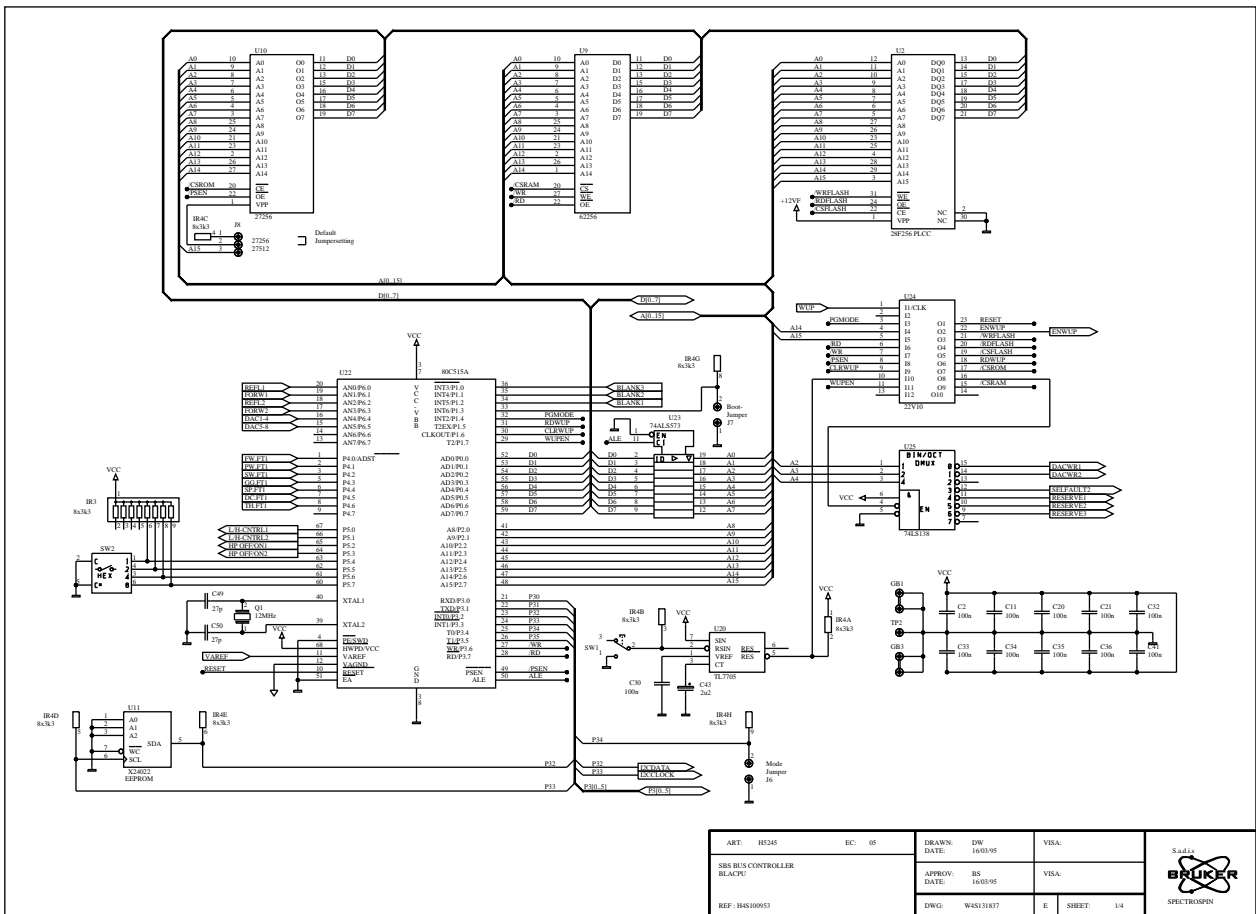


Figure 9.2. CPU board



ART: H2345	EC: 05	DRAWN: DW 16/03/95	VISA:
SBS BUS CONTROLLER BLACPU		APPROV: BS 16/03/95	VISA:
REF: H4810053		DWG: W4811K17	E. SHEET 1/4



Figure 9.4. sbs controller driver rs485

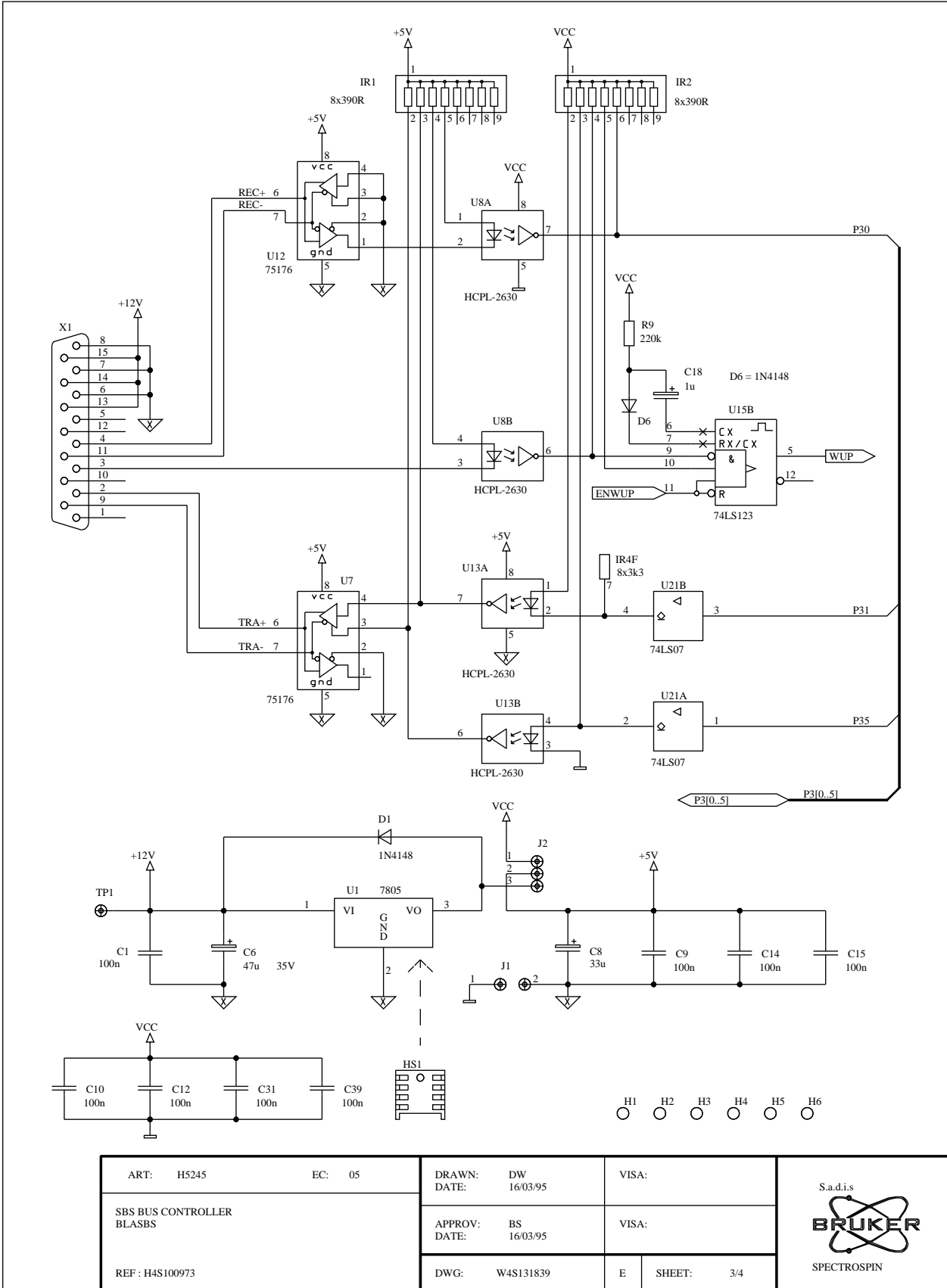
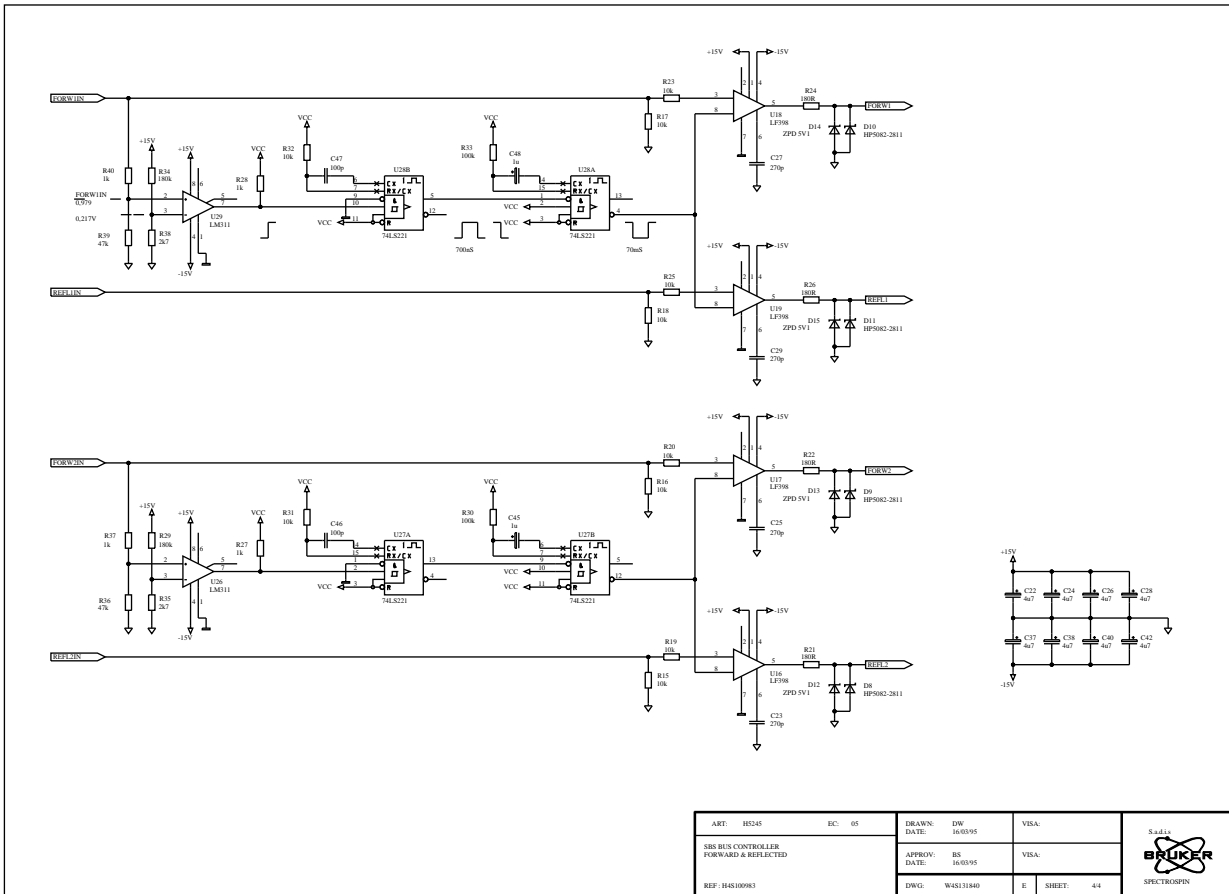



Figure 9.5. sbs controller sample/hold



ART: H5245	EC: 05	DRAWN: DW	16/03/95	VISA:	 SADIS BRUKER SPECTROSPIN
SBS BUS CONTROLLER FORWARD & REFLECTED		APPROV: BS	16/03/95	VISA:	
REF: H46100963		DWG: W46111440	E. SHEET: 4/4		

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