

**BLARH100
500-600MHz**

**TECHNICAL
MANUAL**

Version 003

Sadis BRUKER SPECTROSPIN

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This manual was written by

M.Dominique WURTZ

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Wissembourg, FRANCE
P/N: W1206071

Revised for BASH 2.0 by U. Roos - December 1996

Manual P/N: Z31238
DWG-No: 909 003

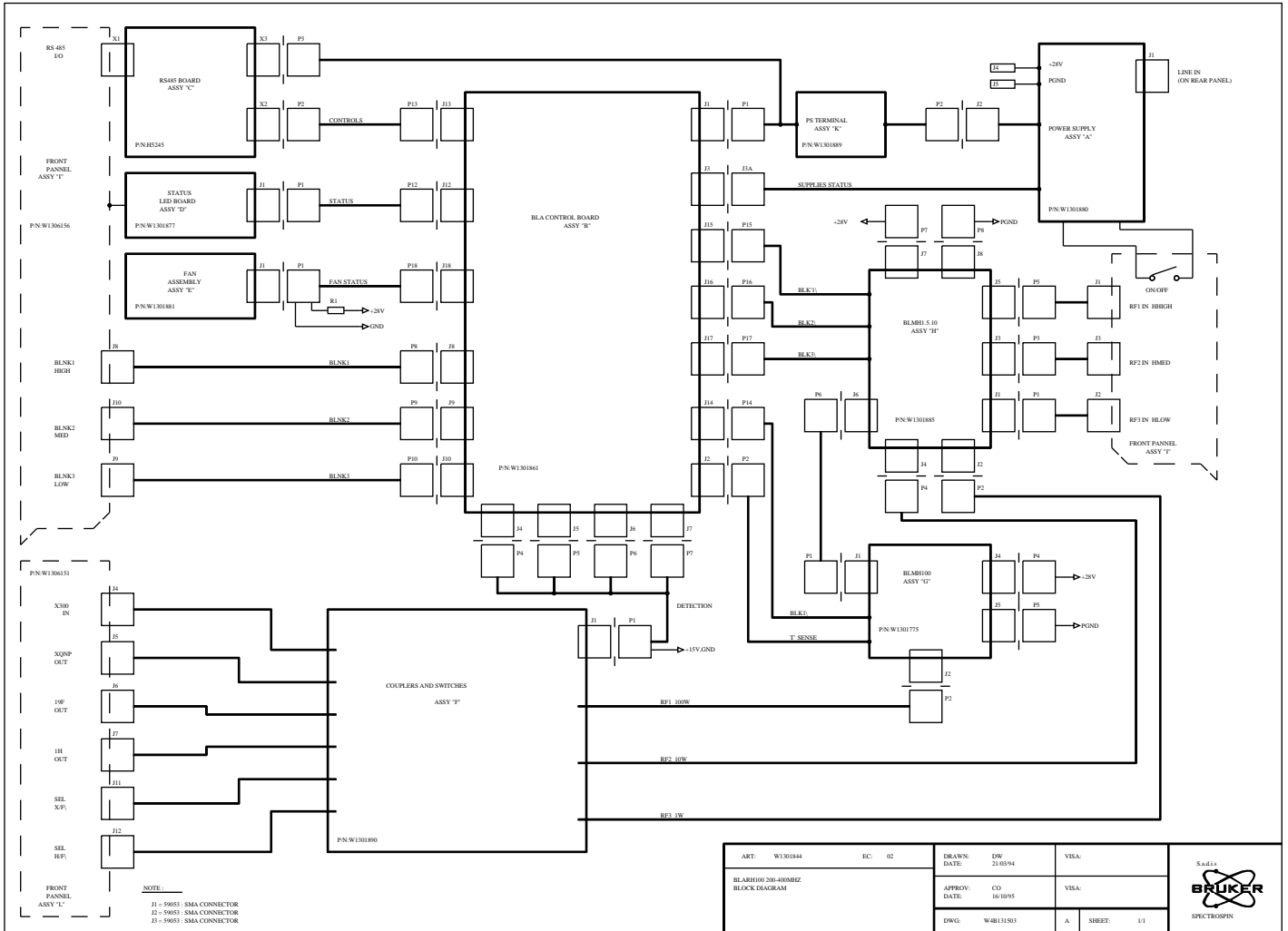
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Block diagram

1

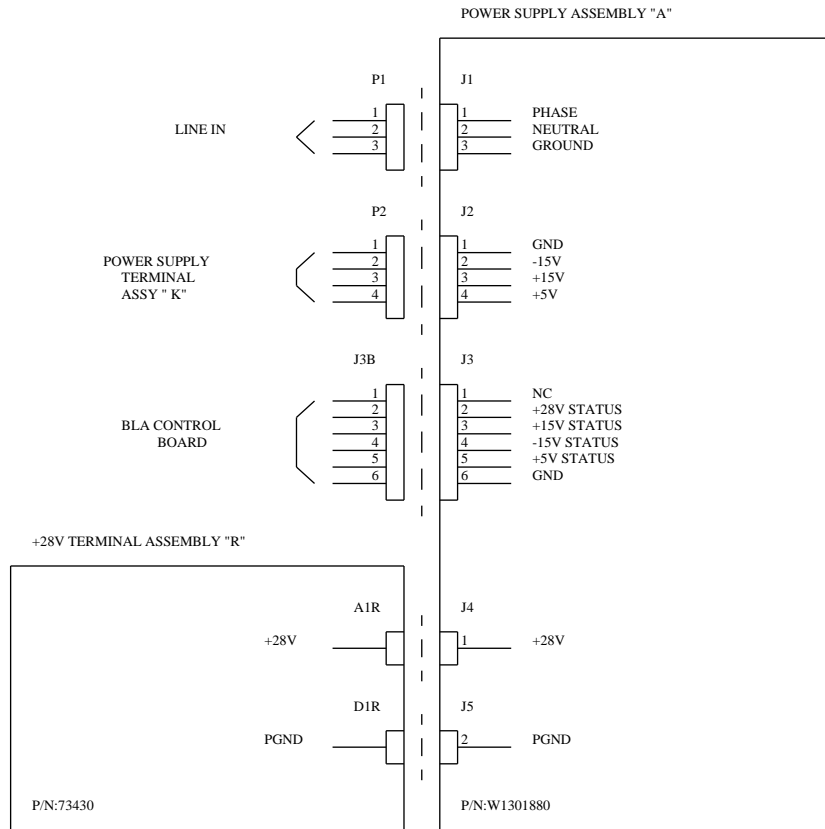
Figure 1.1. Block diagram



Power supply

2

Figure 2.1. Wiring diagram




ART: W1301880	EC:	DRAWN: DW	VISA:	 <p>S.a.d.i.s BRUKER SPECTROSPIN</p>
BLA POWER ASSEMBLY ASSY "A" INTERCONNECT DRAWING		DATE: 03/01/94	DATE: 01/06/94	
		APPROV: CO	VISA:	
		DATE: 01/06/94	DATE: 01/06/94	
		DWG: W4W131518	SHEET: 1/1	

Figure 2.2. Power supply diagram

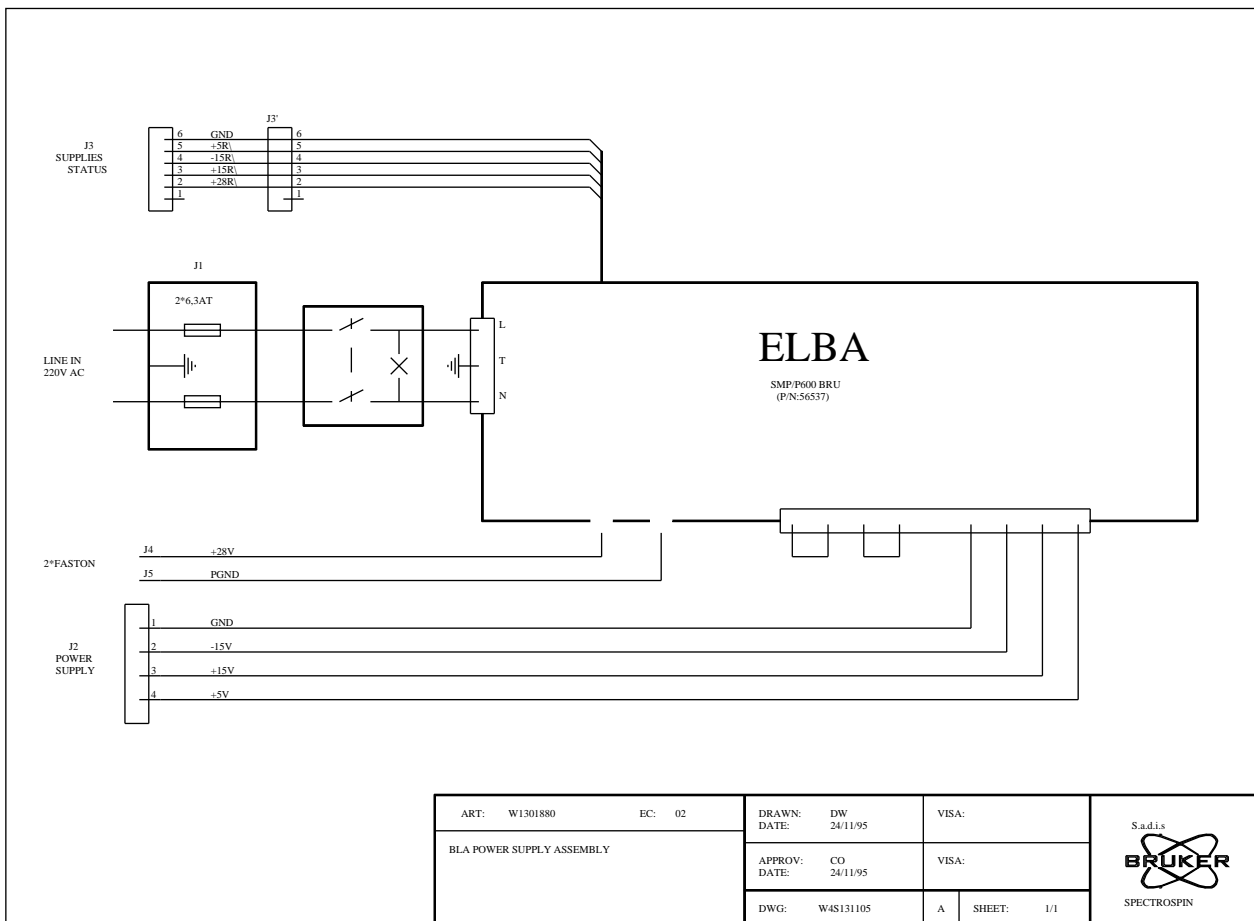
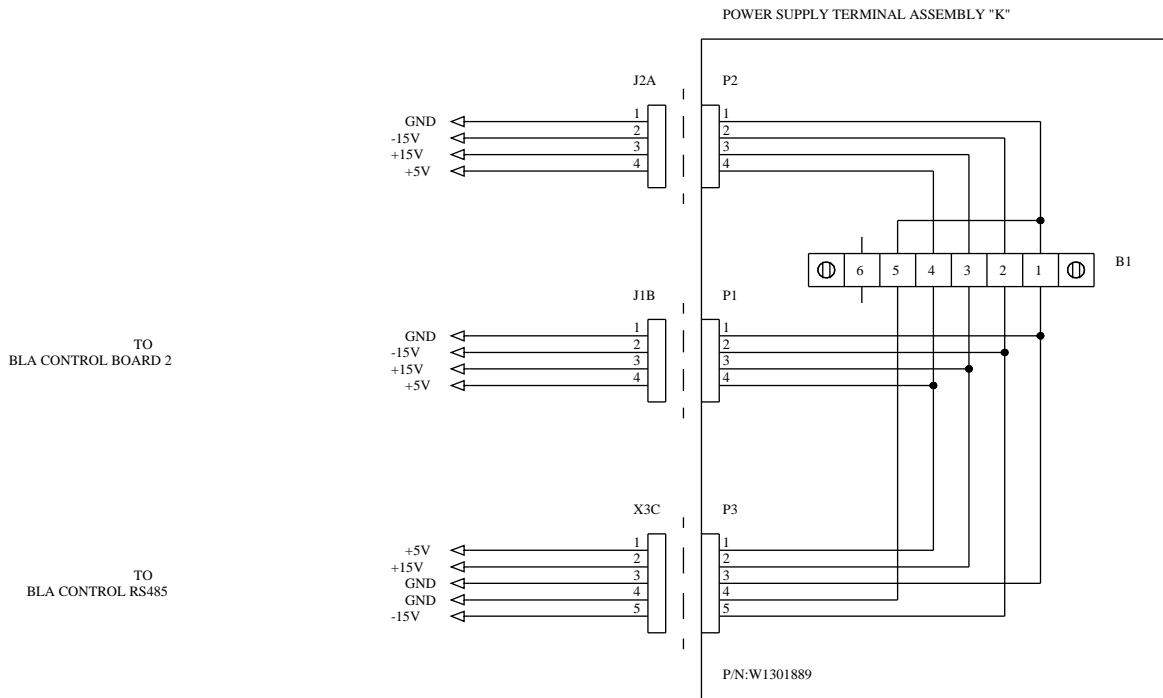


Figure 2.3. Power supply terminal



ART: W1301889	EC: 01	DRAWN: DW	VISA:	
BLA POWER SUPPLY TERMINAL ASSY "K" INTERCONNECT DRAWING		DATE: 06/05/93		
		APPROV: DATE:	VISA:	
		DWG: W4S131418	SHEET: 1/1	

Control board 2

3

Figure 3.1. Interconnect drawing sheet 1/3

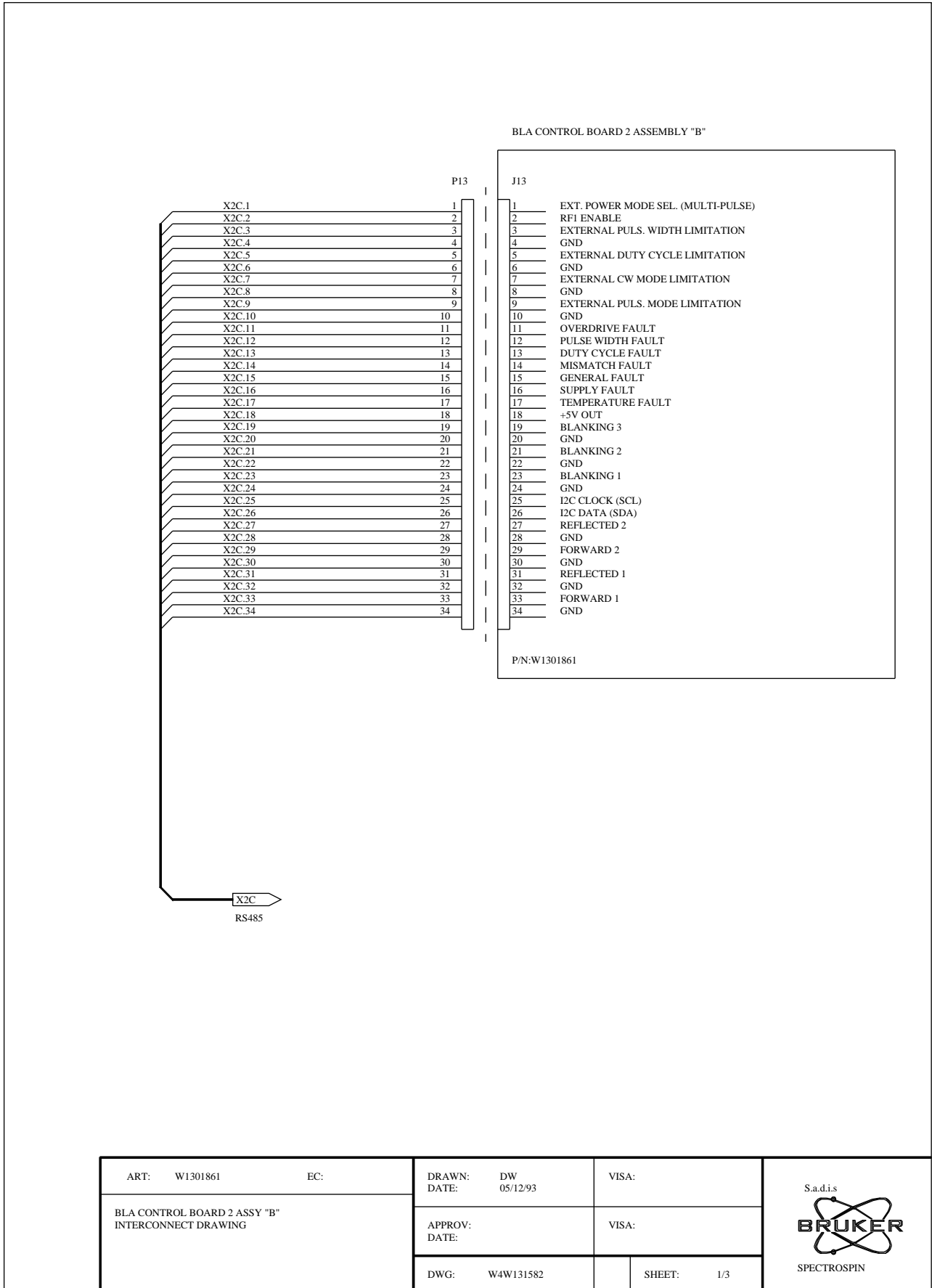
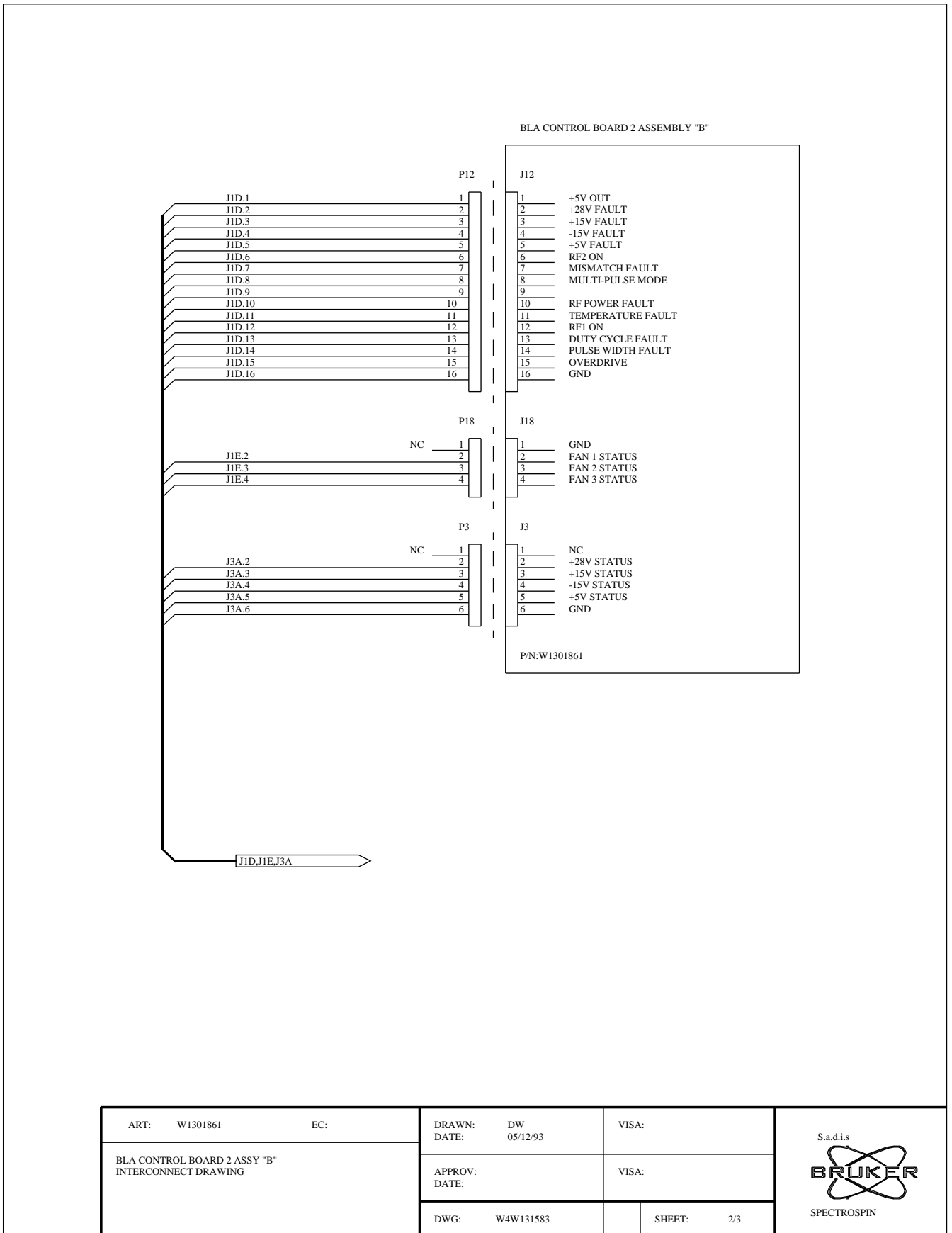


Figure 3.2. Interconnect drawing sheet 2/3




ART: W1301861	EC:	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
BLA CONTROL BOARD 2 ASSY "B" INTERCONNECT DRAWING		DATE: 05/12/93	VISA:	
		APPROV:	VISA:	
		DATE:	SHEET: 2/3	
		DWG: W4W131583		

Figure 3.3. Interconnect drawing sheet 3/3

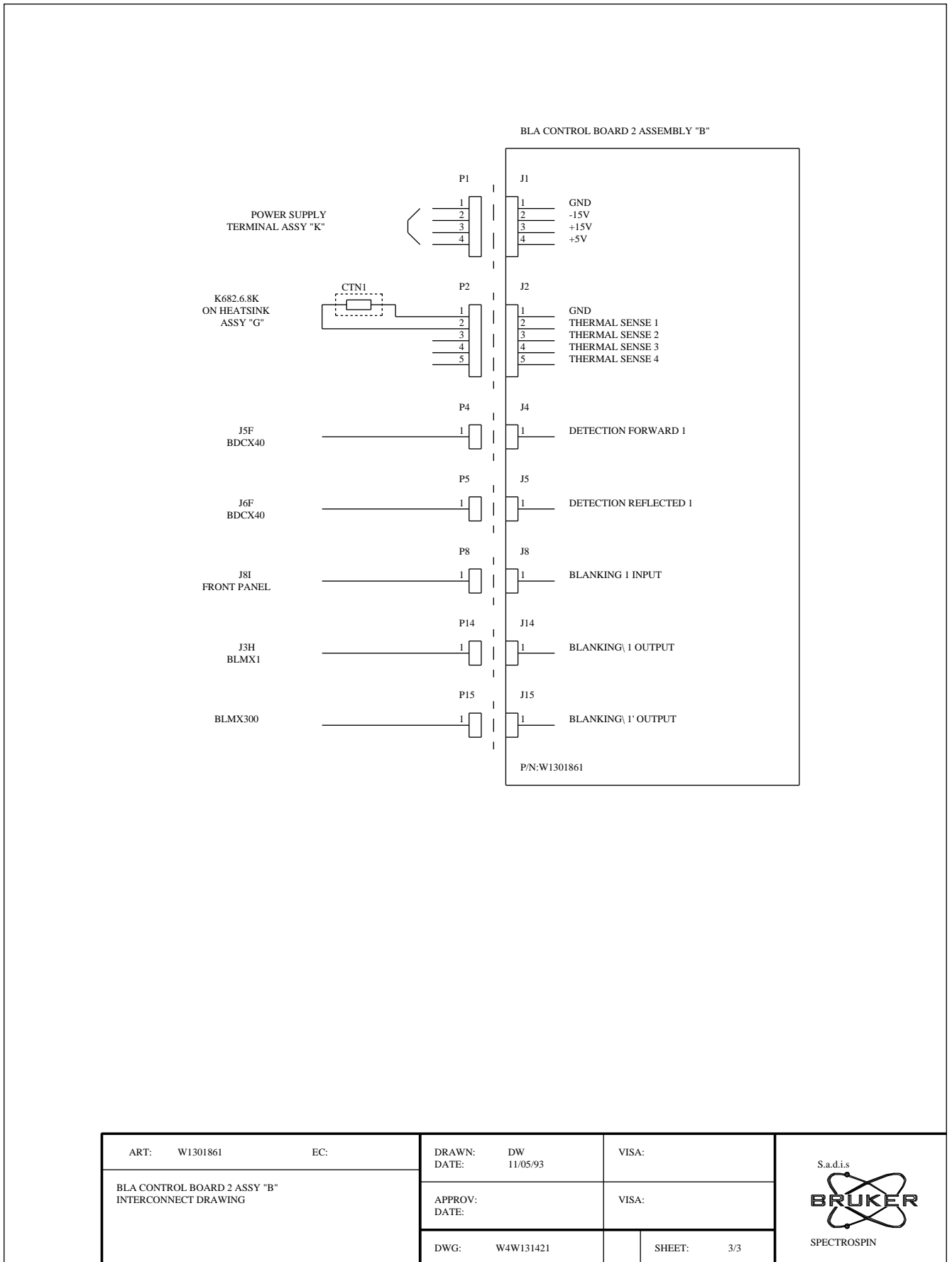


Figure 3.4. Control board top side

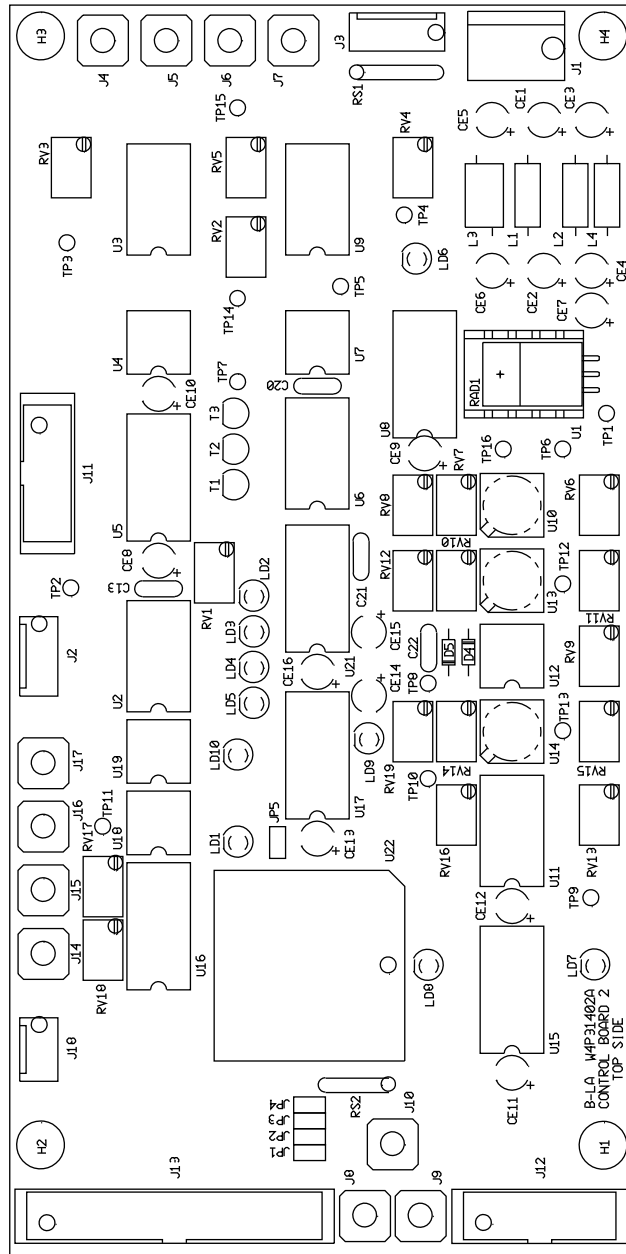


Figure 3.5. Control board bottom side

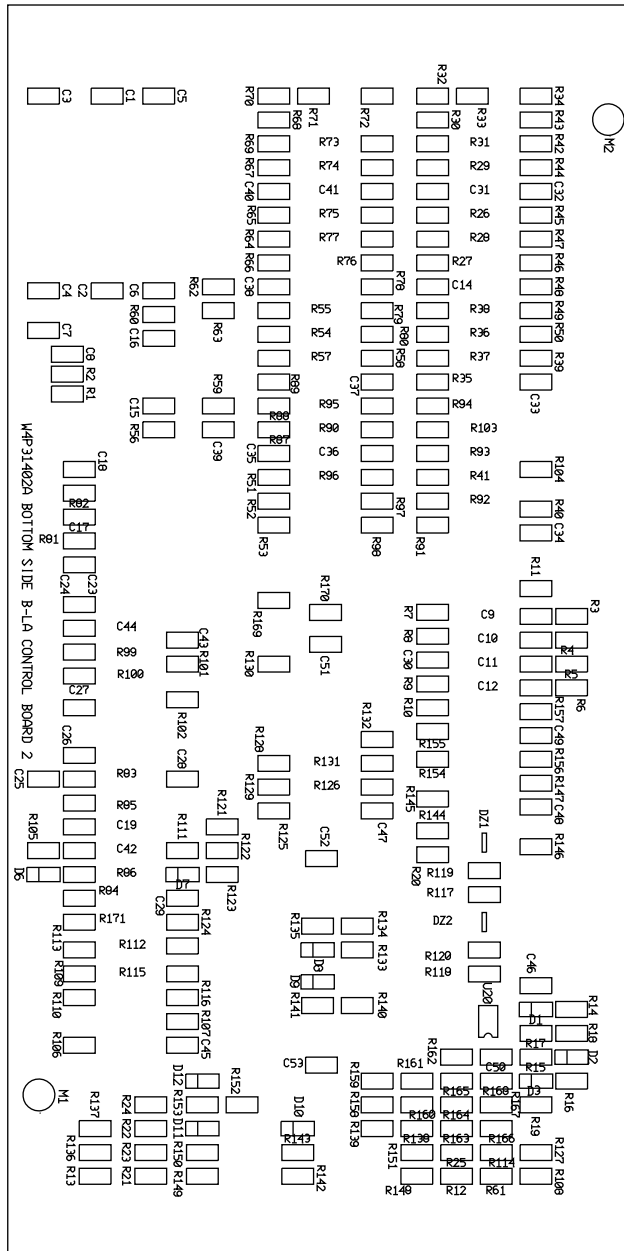


Figure 3.6. Control board 1/7 - power supply & reference

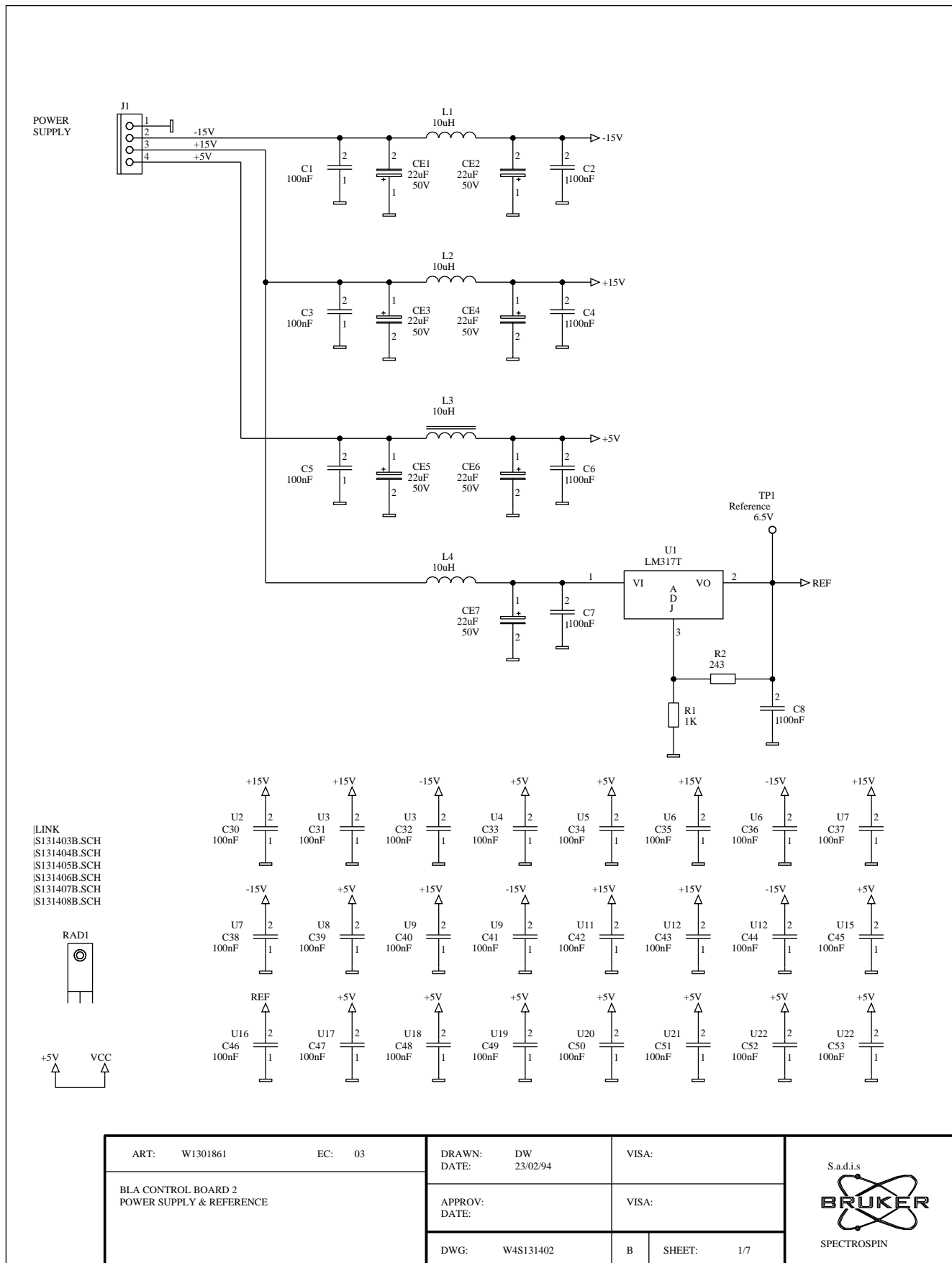


Figure 3.7. Control board 2/7 - Thermal sense, supply & fan control

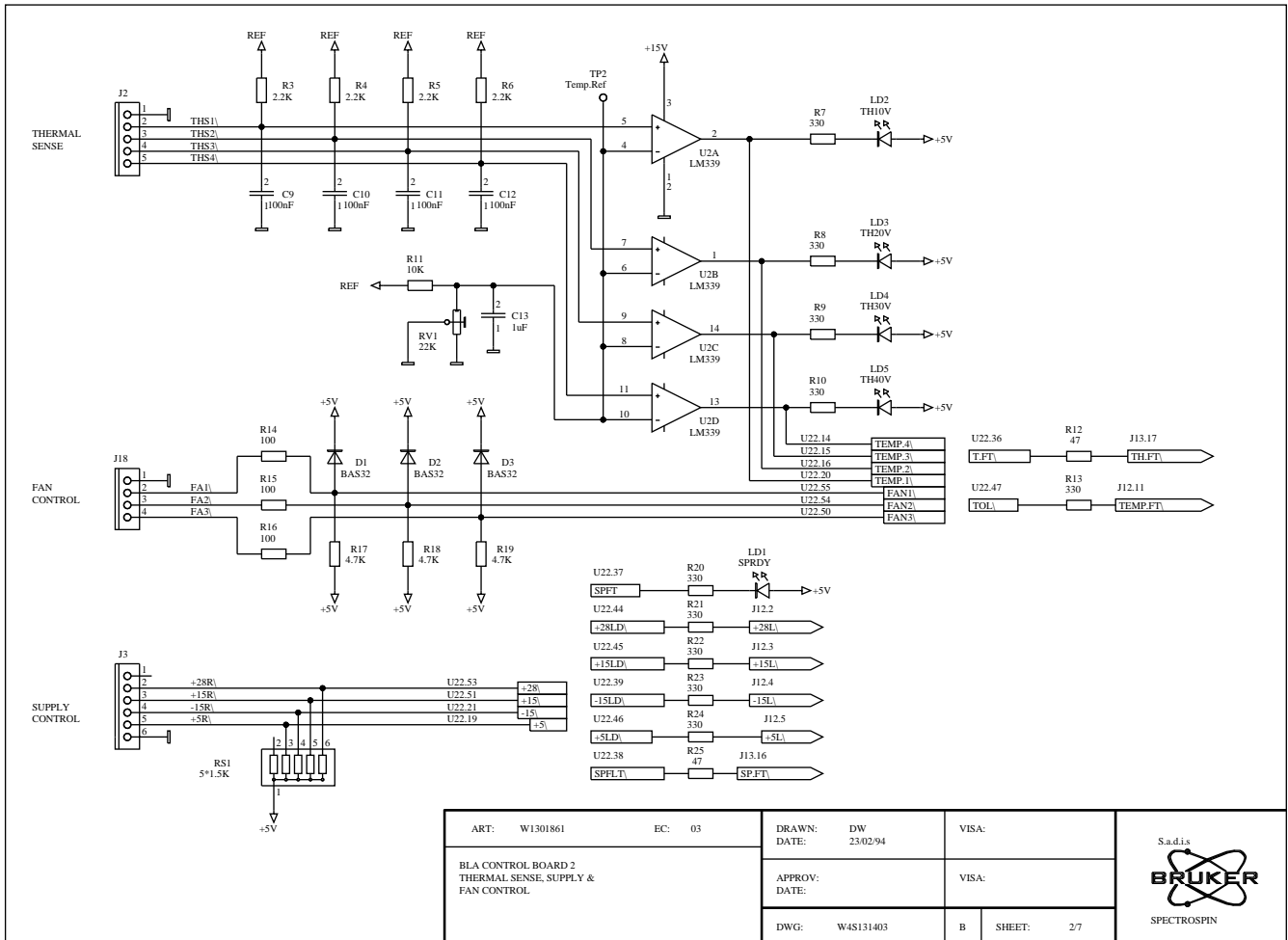
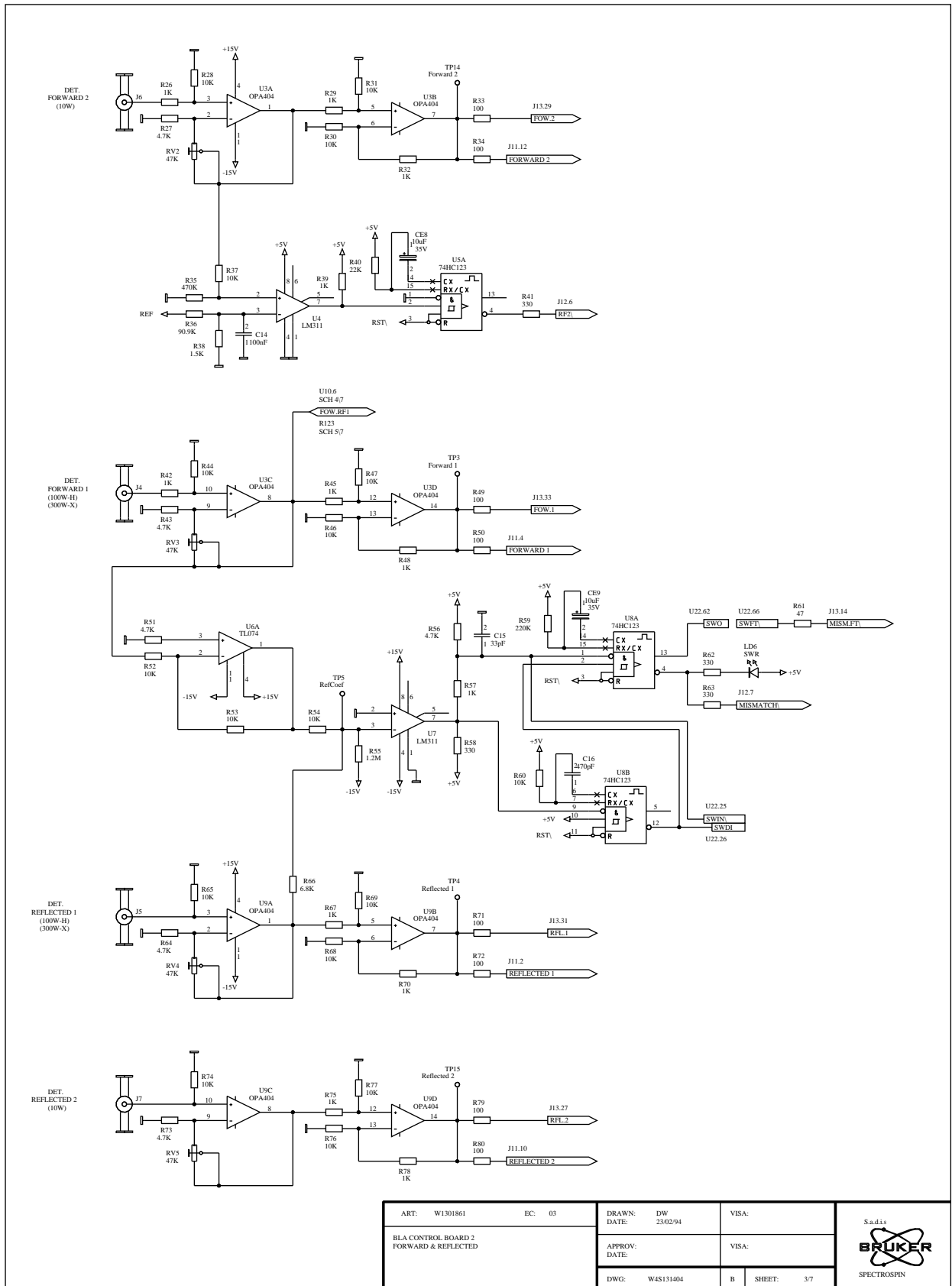


Figure 3.8. Control board 3/7 - Forward & reflected



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

Figure 3.9. Control board 4/7 - Duty cycle & pulse width limiter

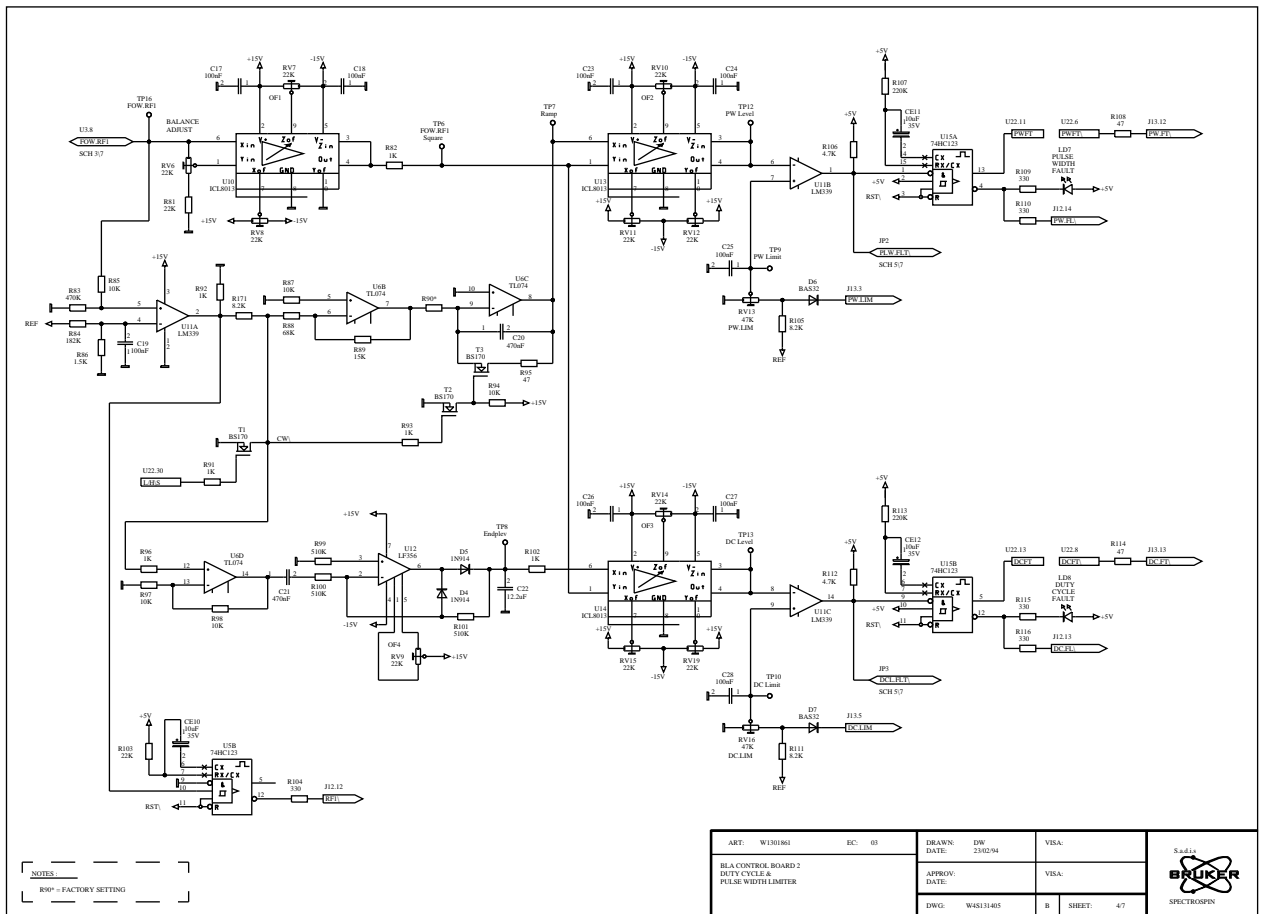
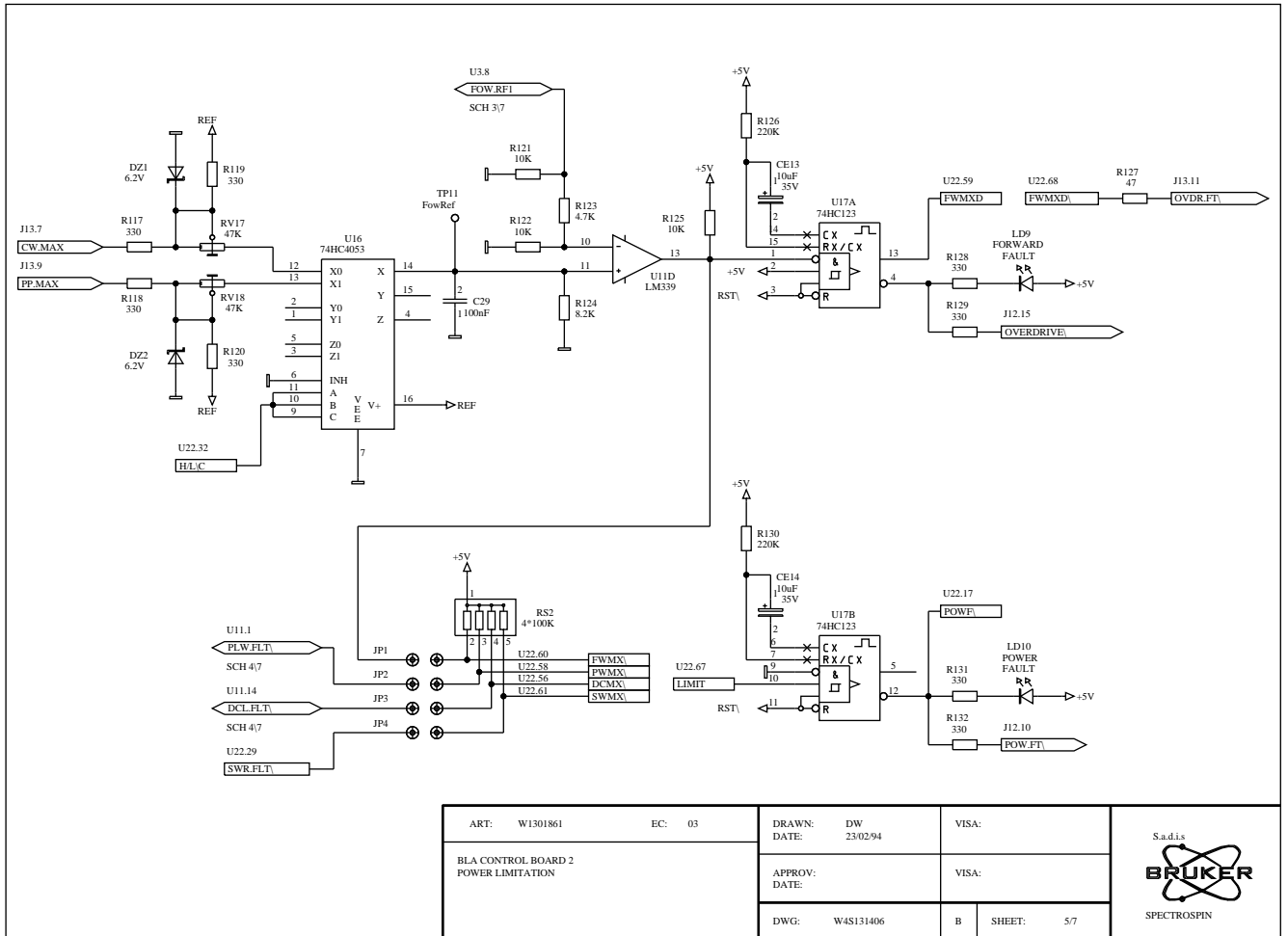


Figure 3.10. Control board 5/7 - Power limitation




ART: W1301861	EC: 03	DRAWN: DW 23/02/94	VISA:	
BLA CONTROL BOARD 2 POWER LIMITATION		APPROV: DATE:	VISA:	
		DWG: W48131406	B SHEET: 5/7	

Figure 3.11. Control board 6/7 - Blanking circuit

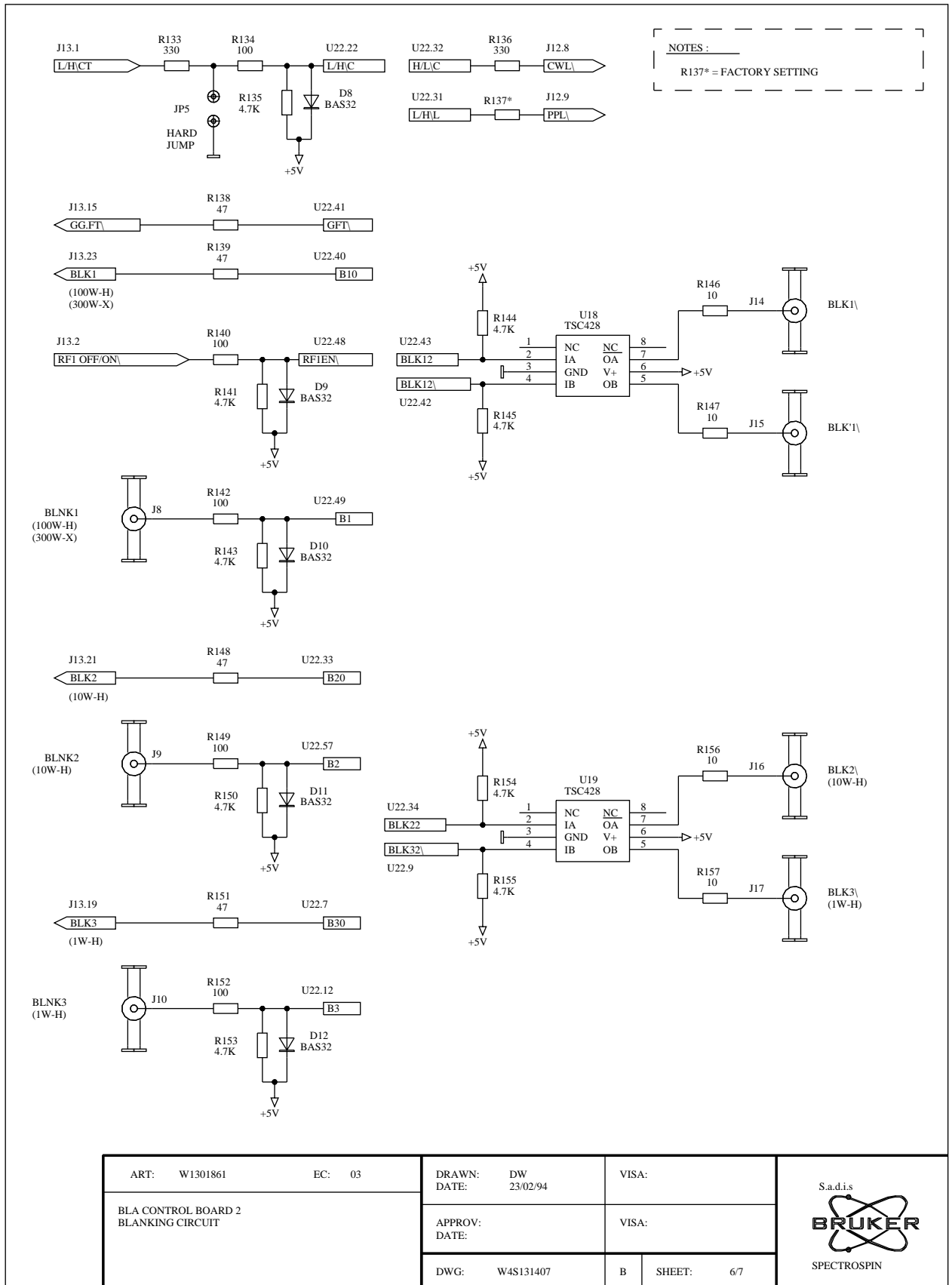


Figure 3.12. Control board 7/7 - Interconnection & pal

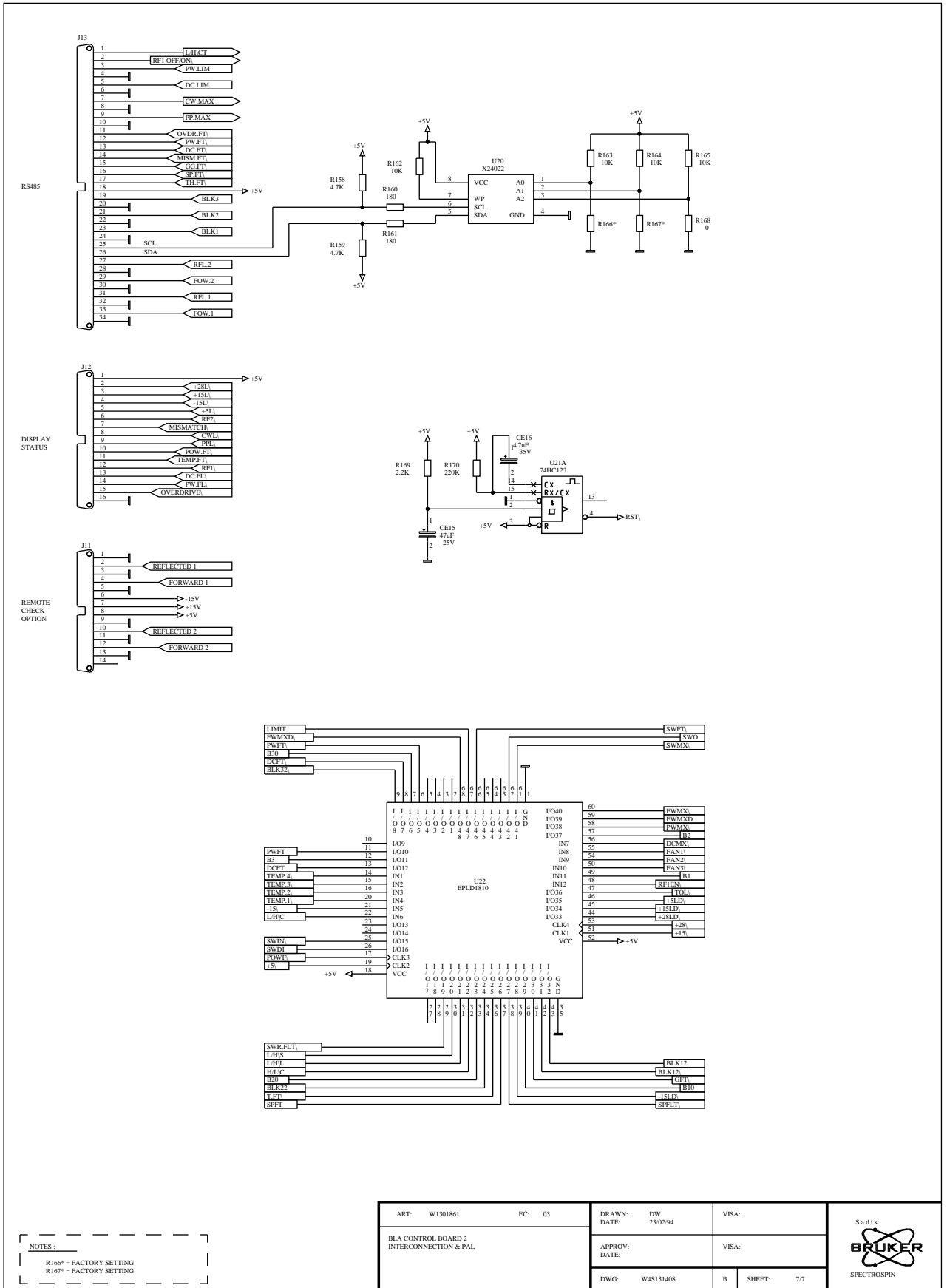
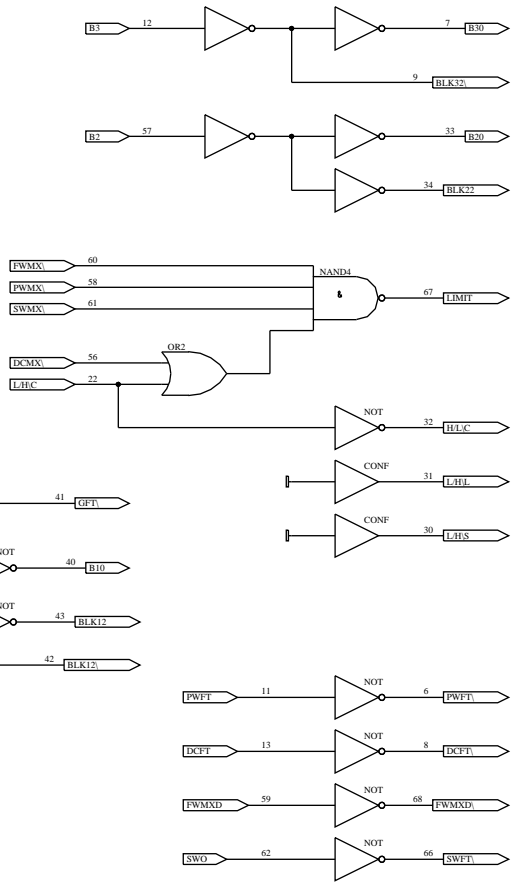
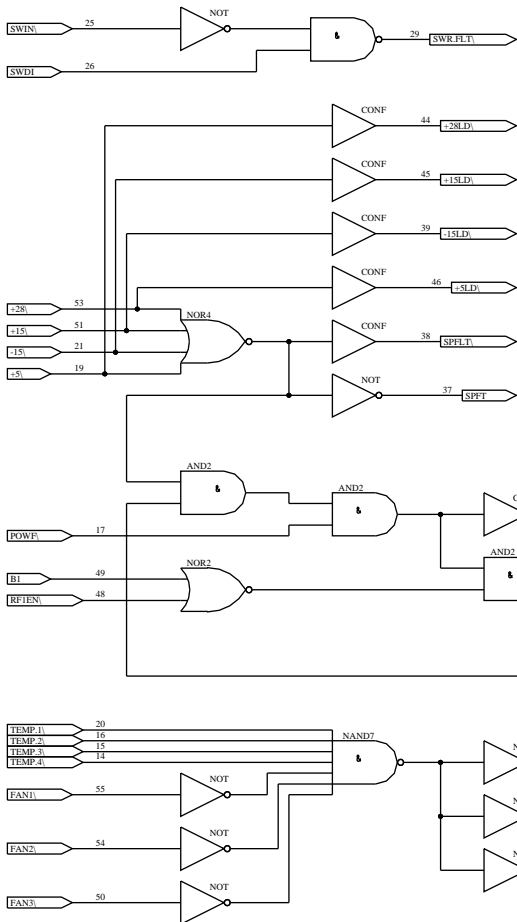
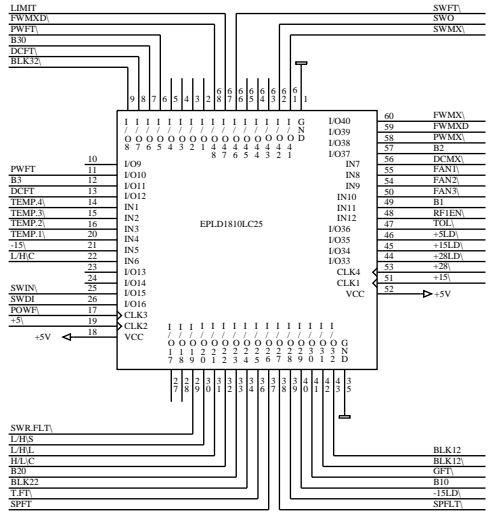


Figure 3.13. Pal interconnection

BLA02/01
02/11/93

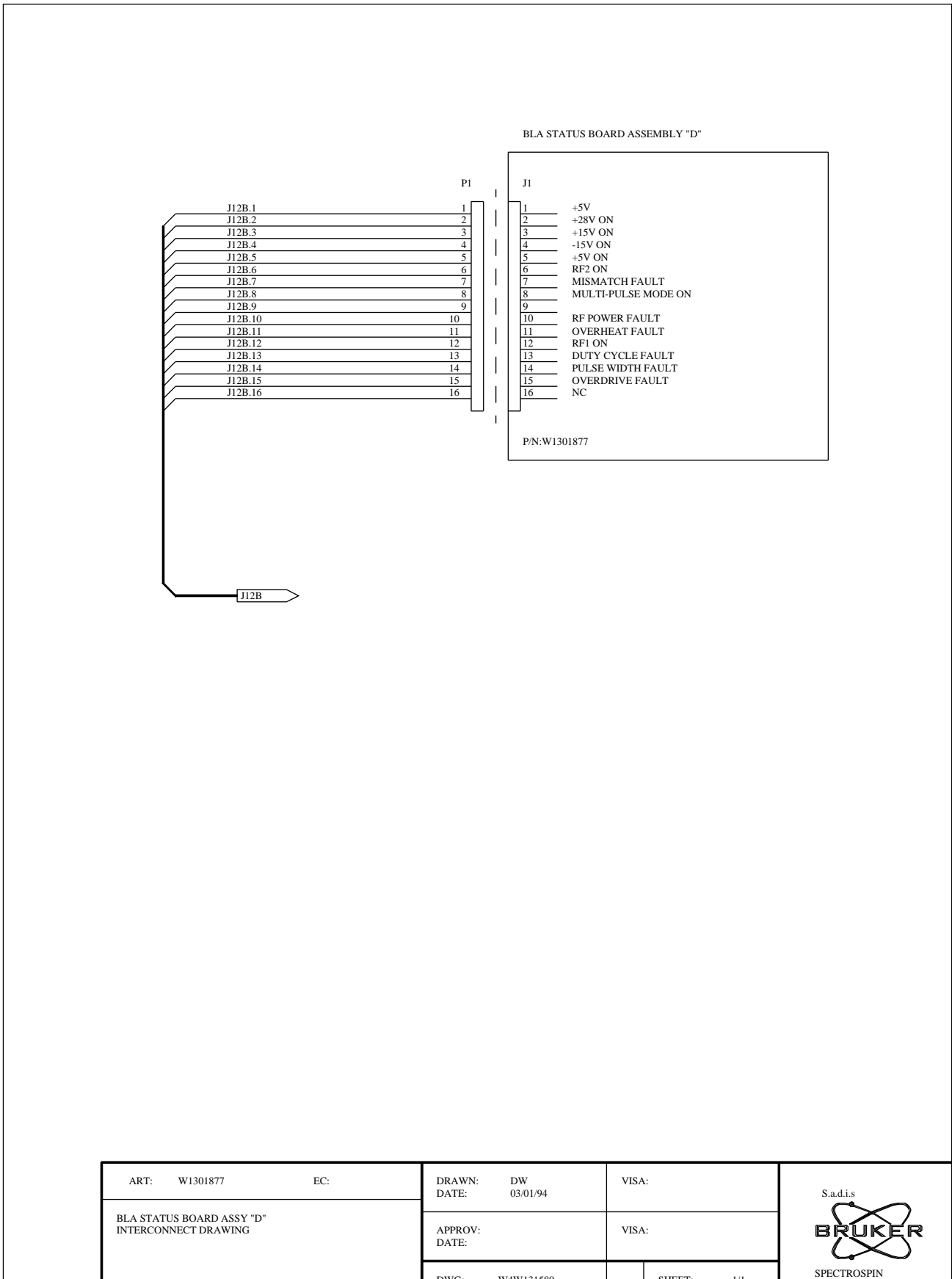


ART: W135653	EC: 02	DRAWN: DW	VISA:	
BLA02/01 PAL INTERCONNECTION		DATE: 02/11/93	VISA:	
		DWG: W4D131693	SHEET: 1/1	

Status board

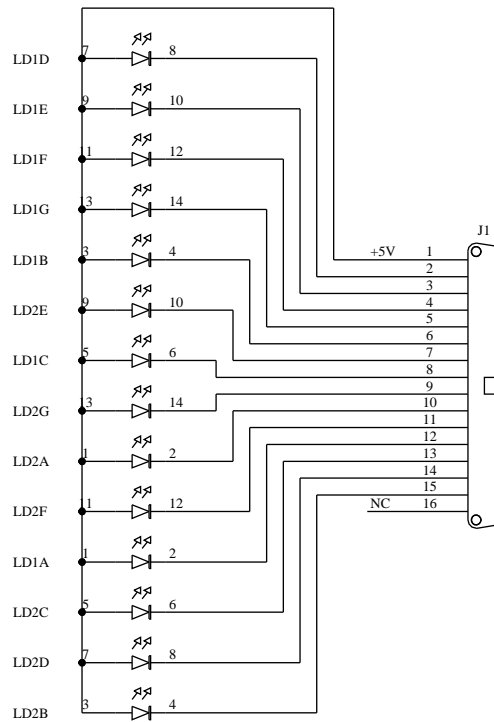
4

Figure 4.1. Interconnect drawing



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

Figure 4.2. Status led board




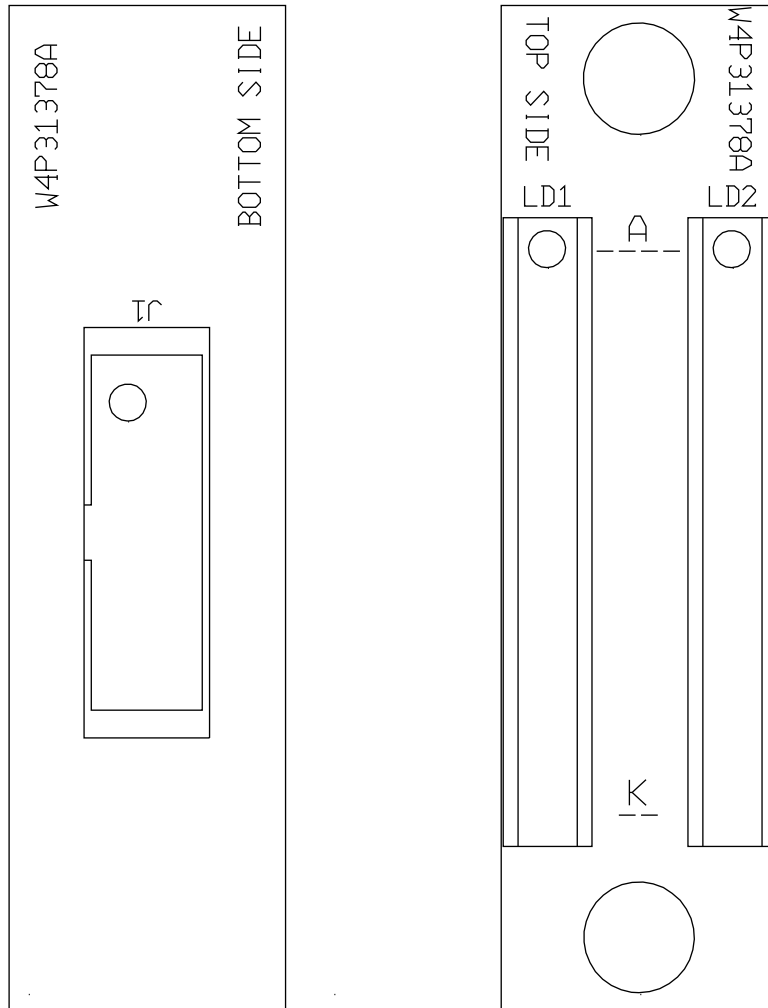
ART: W1301877	EC: 01	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
STATUS LED BOARD		DATE: 03/05/93	VISA:	
		APPROV: DATE:	VISA:	
		DWG: W4S131378	SHEET: 1/1	

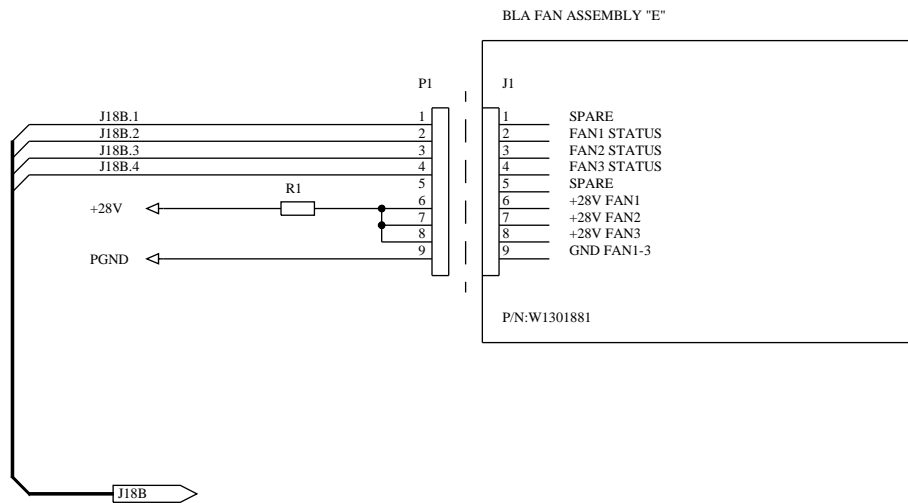
Figure 4.3. Status led board - location



Fan assembly

5

Figure 5.1. Interconnect drawing




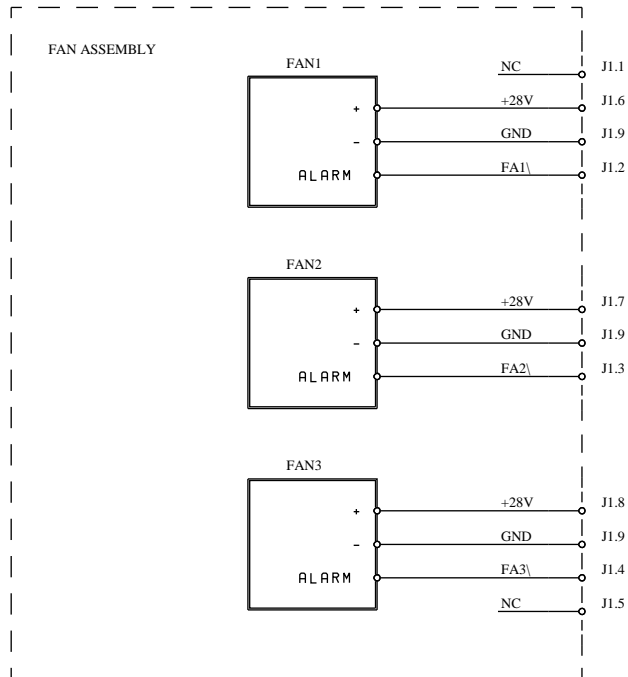

ART: W1301881	EC:	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
BLA FAN ASSY "E" INTERCONNECT DRAWING		DATE: 10/03/94		
		APPROV: DATE:	VISA:	
		DWG: W4W131423	A	SHEET: 1/1

Figure 5.2. Fan assembly



ART: W1301881	EC: 01	DRAWN: DW	VISA:	
FAN ASSEMBLY		DATE: 05/05/93		
		APPROV: DATE:	VISA:	
		DWG: W4S131424	SHEET: 1/1	

BLMH1/5/10

6

Figure 6.1. Interconnect diagram

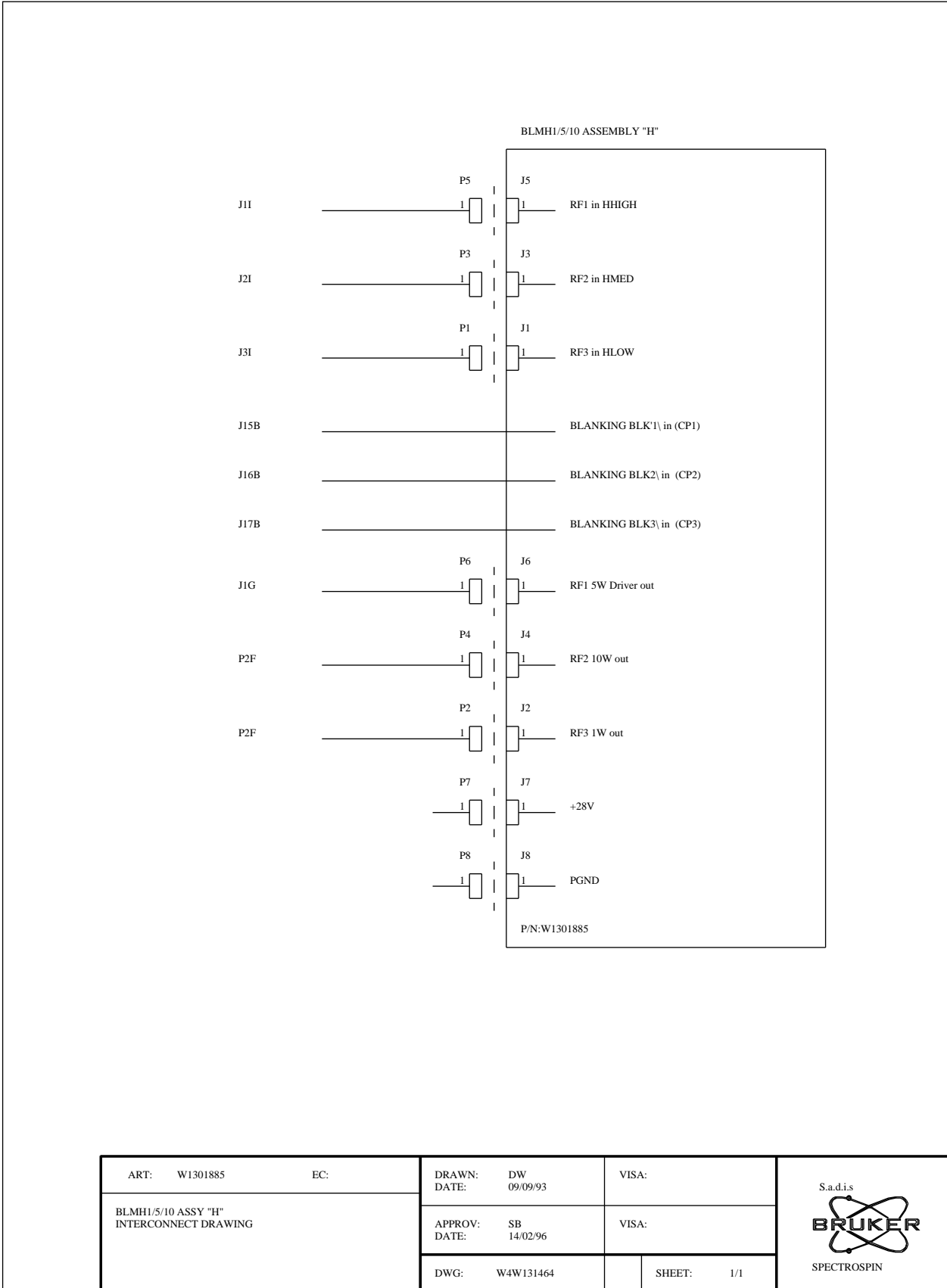


Figure 6.2. RF block diagram

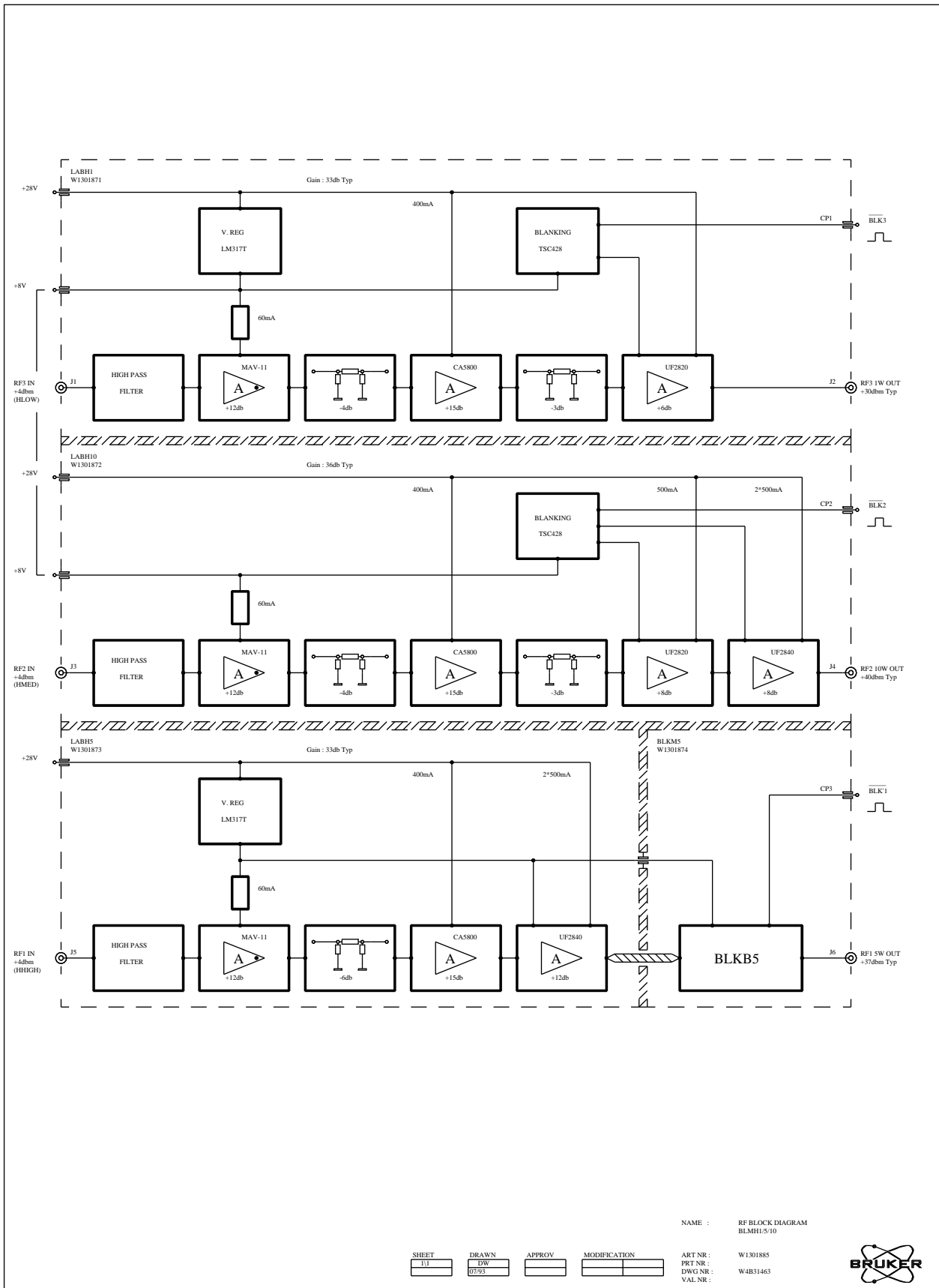
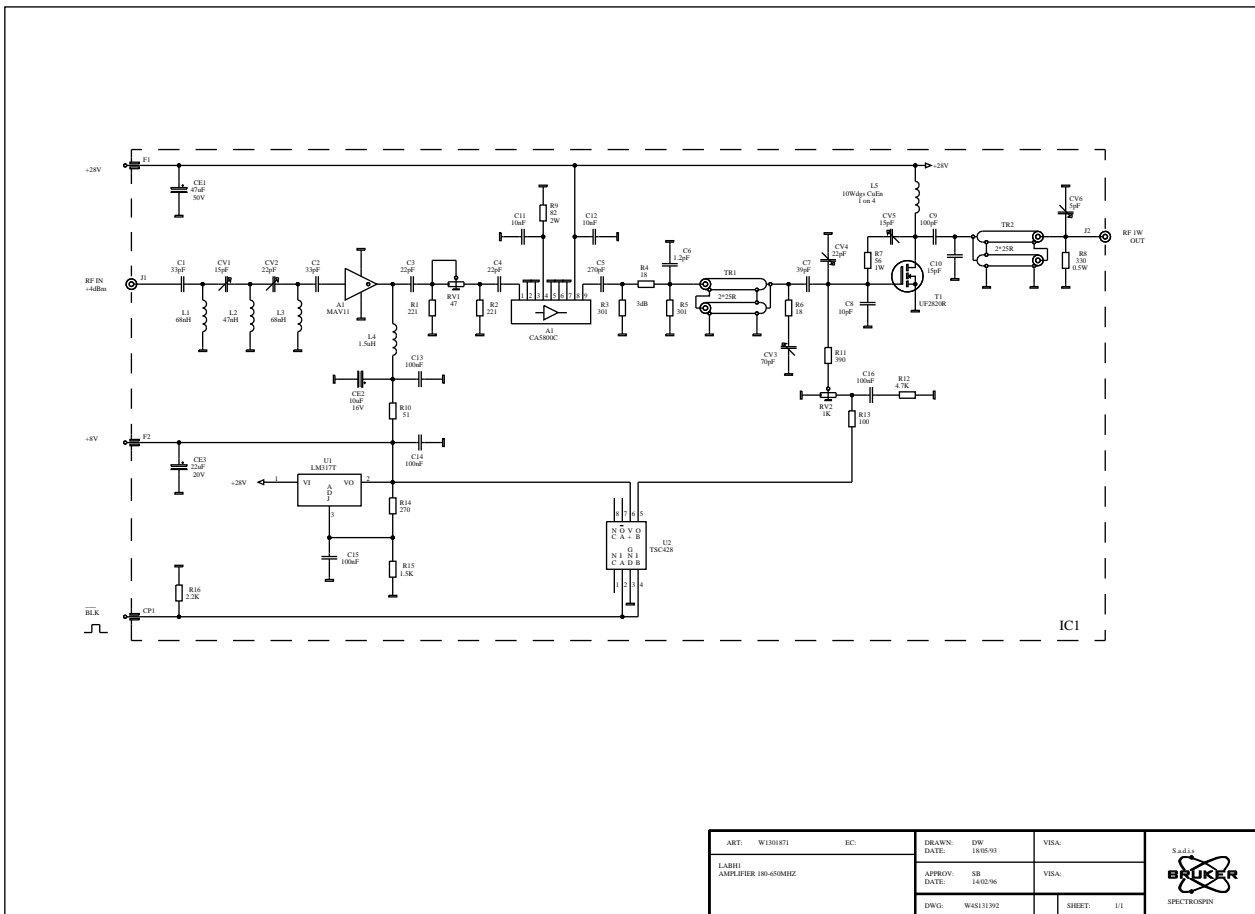


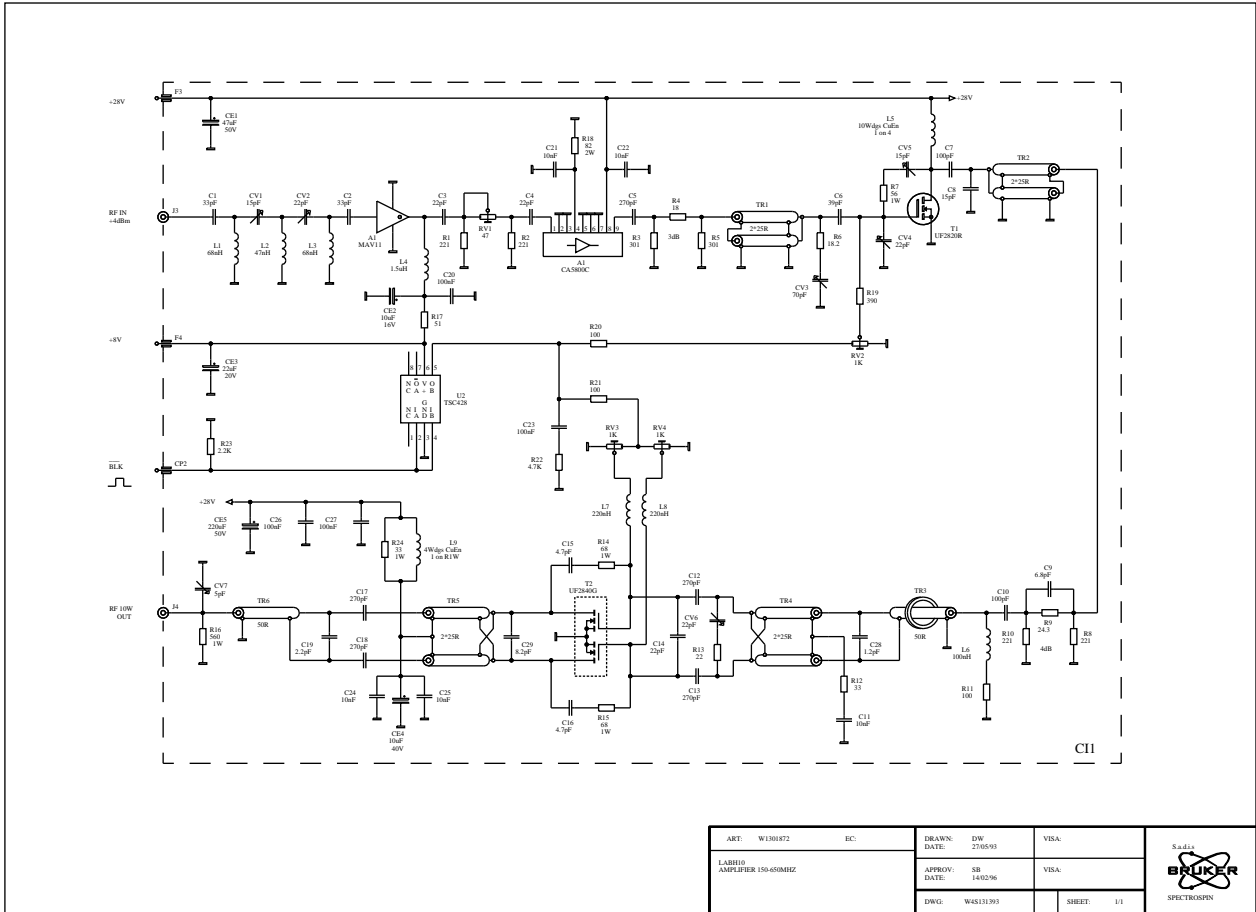
Figure 6.3. Amplifier 180-850 Mhz



ART: W1101871	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




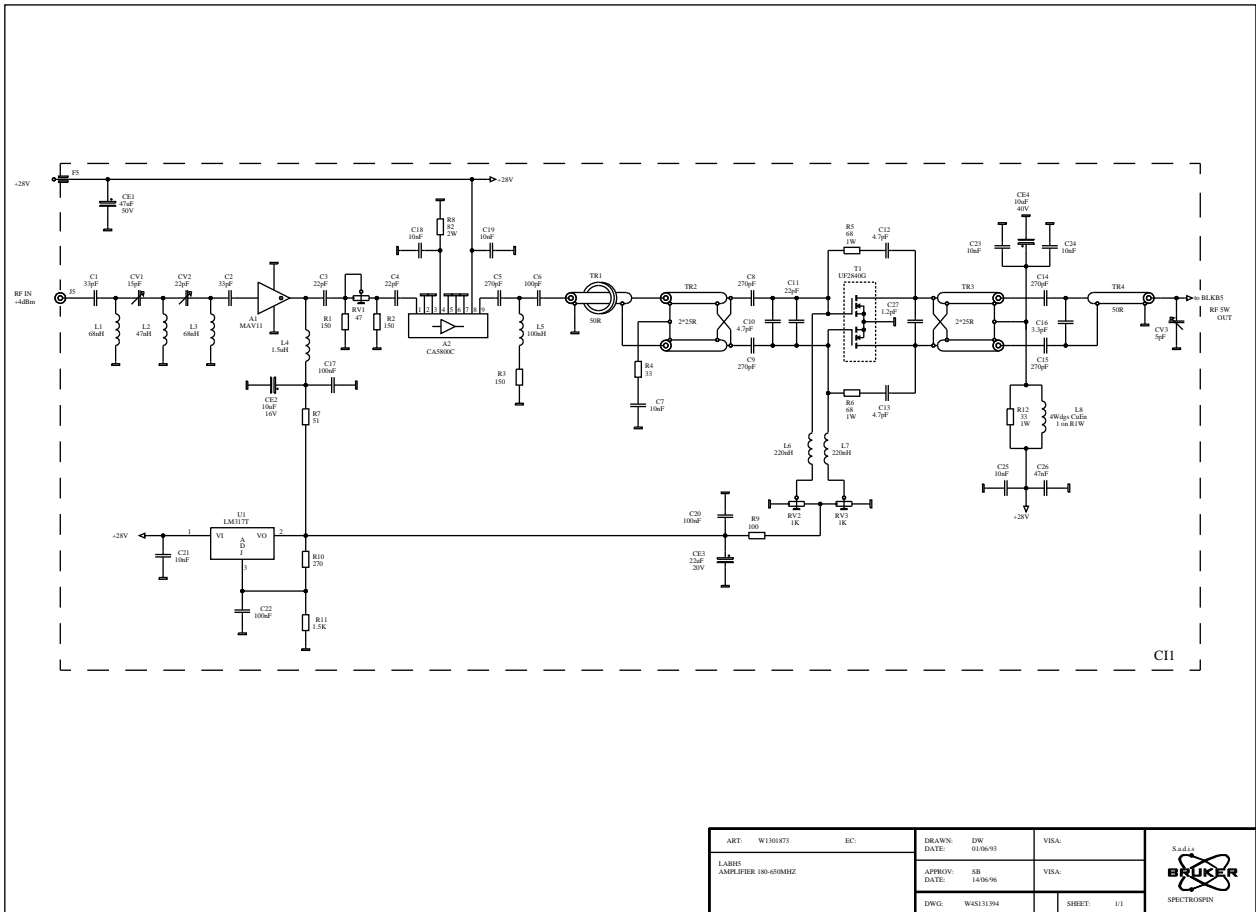
ART: W1101872	EC:	DRAWN: DW	27/05/93	VISA:	
LABH10 AMPLIFIER 150-650MHZ		APPROV: SB	14/02/96	VISA:	
		DWG: W48113/93		SHEET: 1/1	

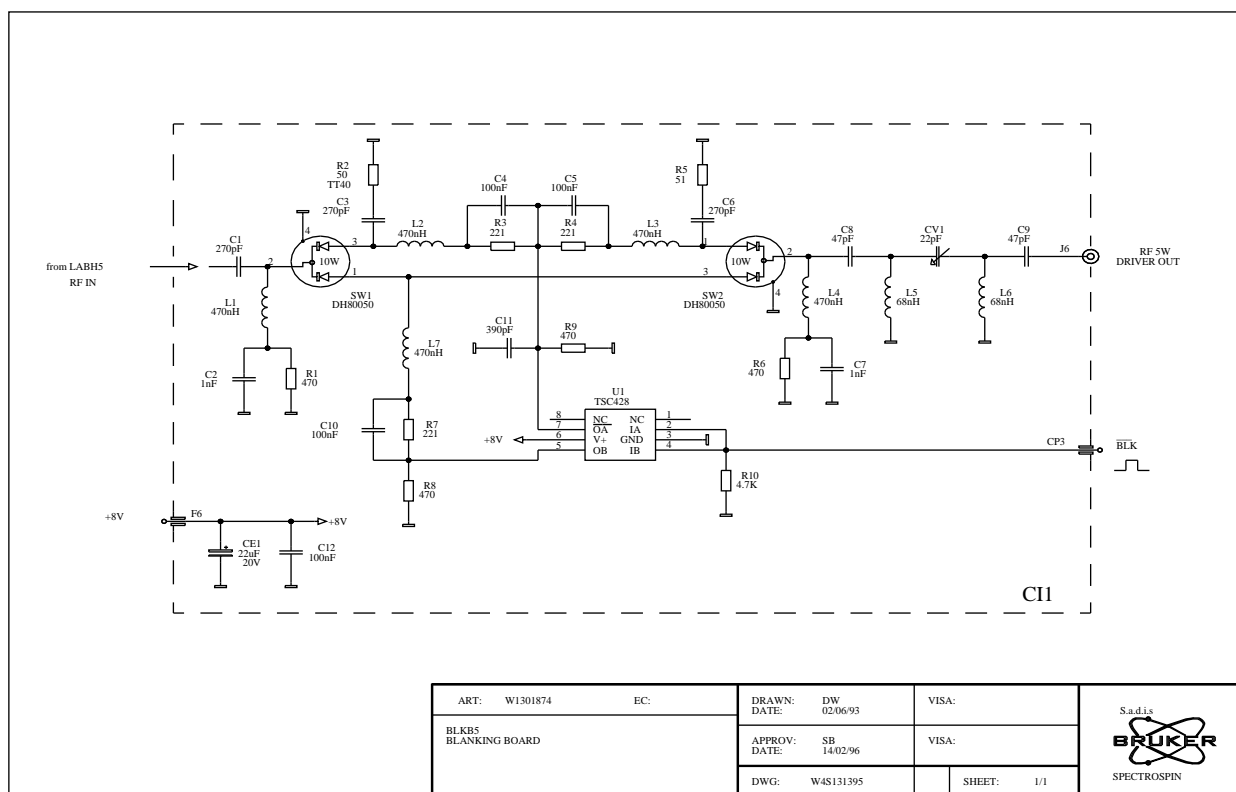
Figure 6.5. LABH5



ART: W1101873	EC:	DRAWN: DW	DATE: 01/06/93	VISA:
LABH5		APPROV: SB	DATE: 14/06/96	VISA:
AMPLIFIER 180-DEGREE		DWG: W4813194		SHEET: 1/1



Figure 6.6. Blanking board



***BLMH100 amplifier
module***

7

Figure 7.1. BLMH100 block diagram

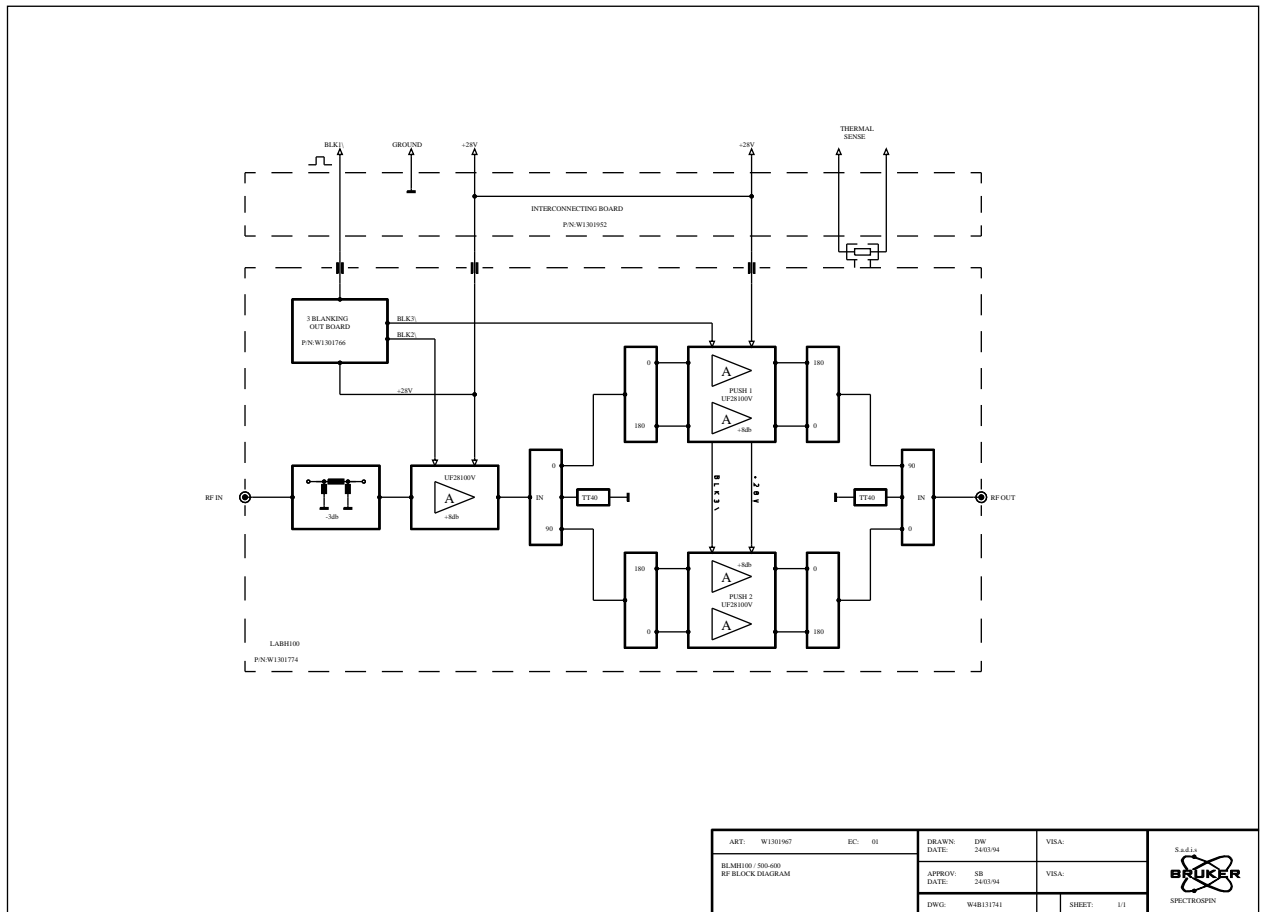


Figure 7.2. LABH100

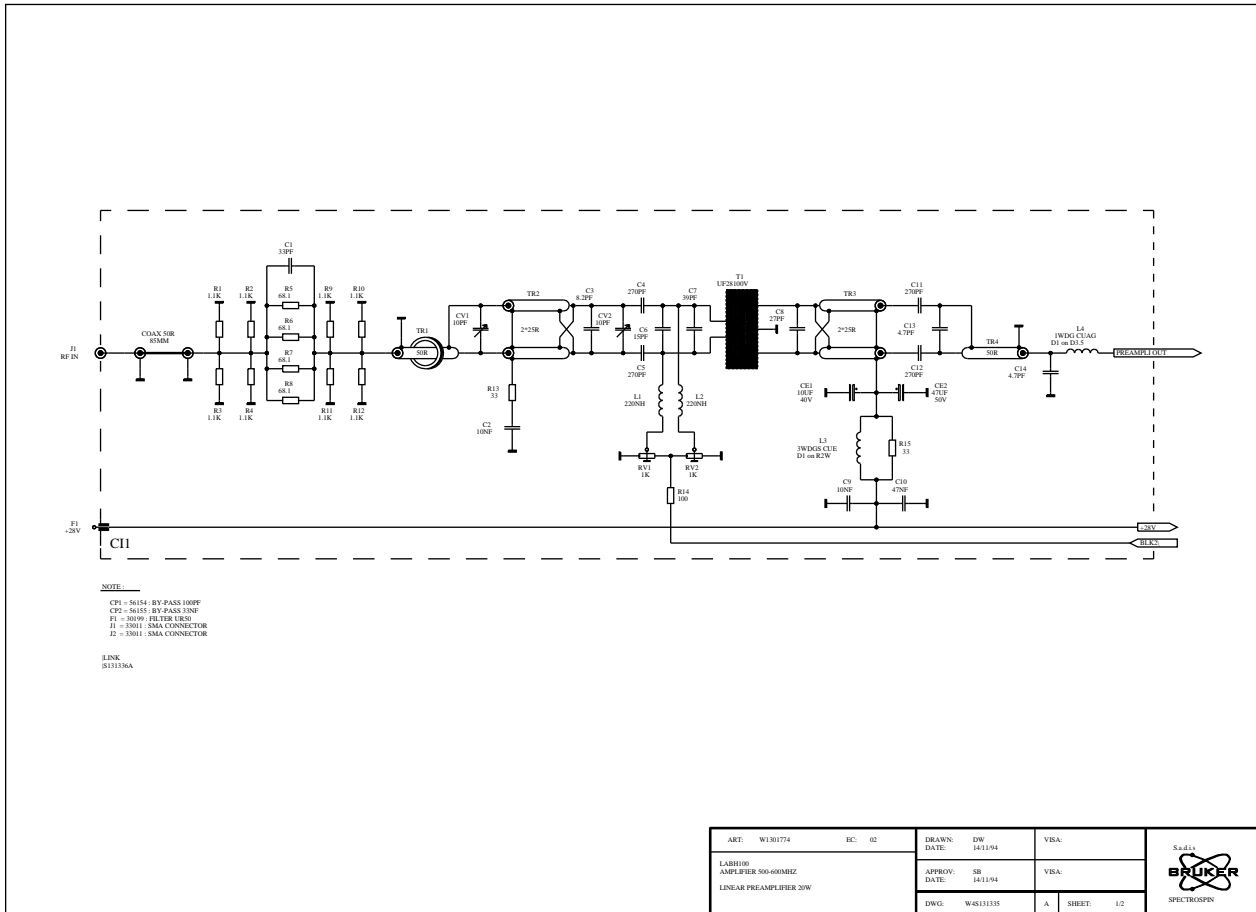


Figure 7.3. LABH100

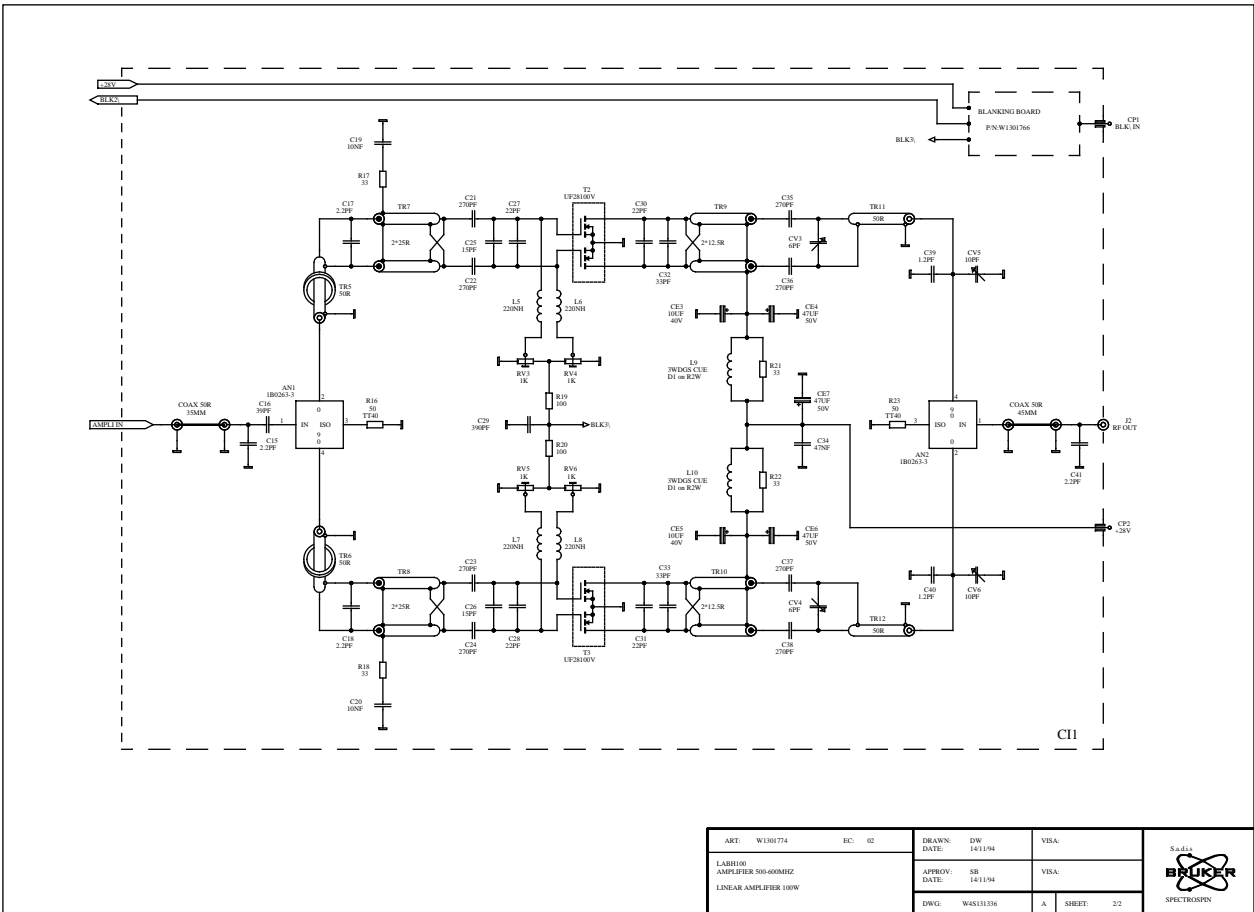


Figure 7.4. RF amplifier bias

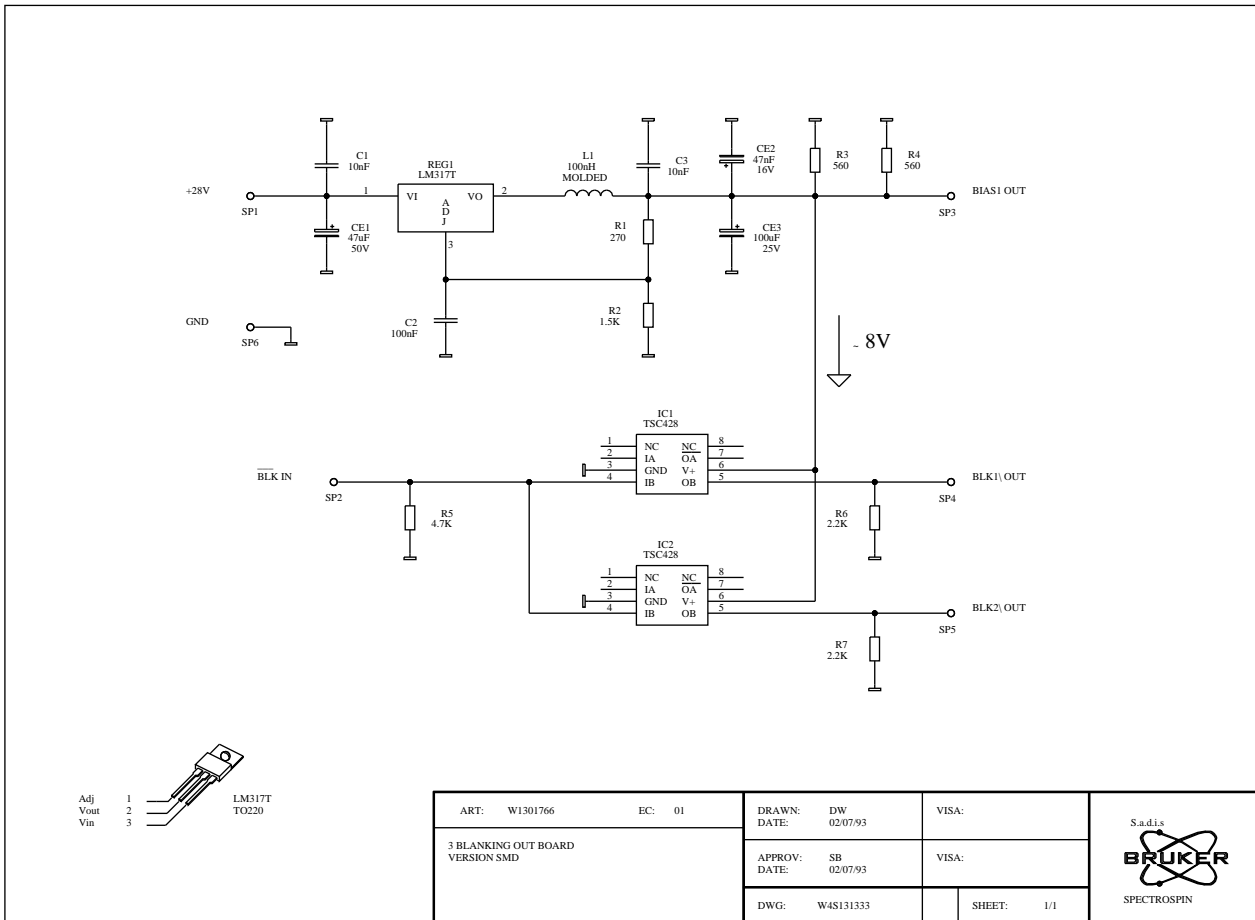
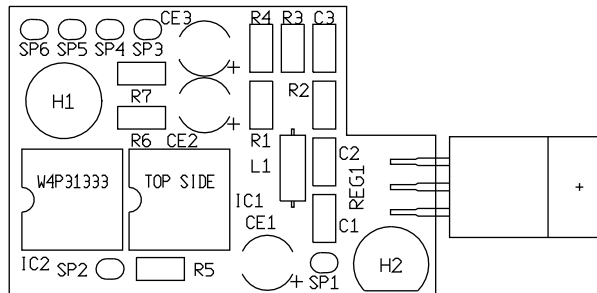
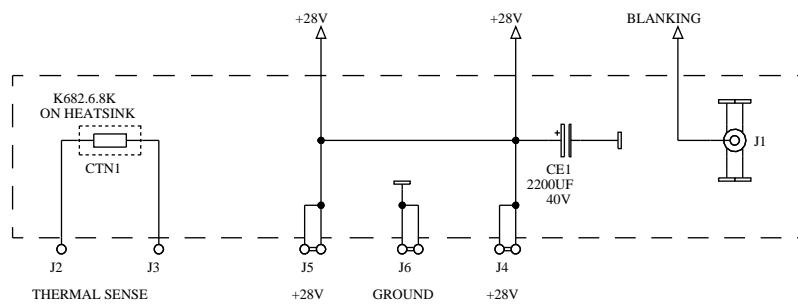


Figure 7.5. RF amplifier bias layout



Couplers, switches

Figure 8.1. Interconnecting board



NOTE :

CTN1 = 56521 : CTN 6K8 K682


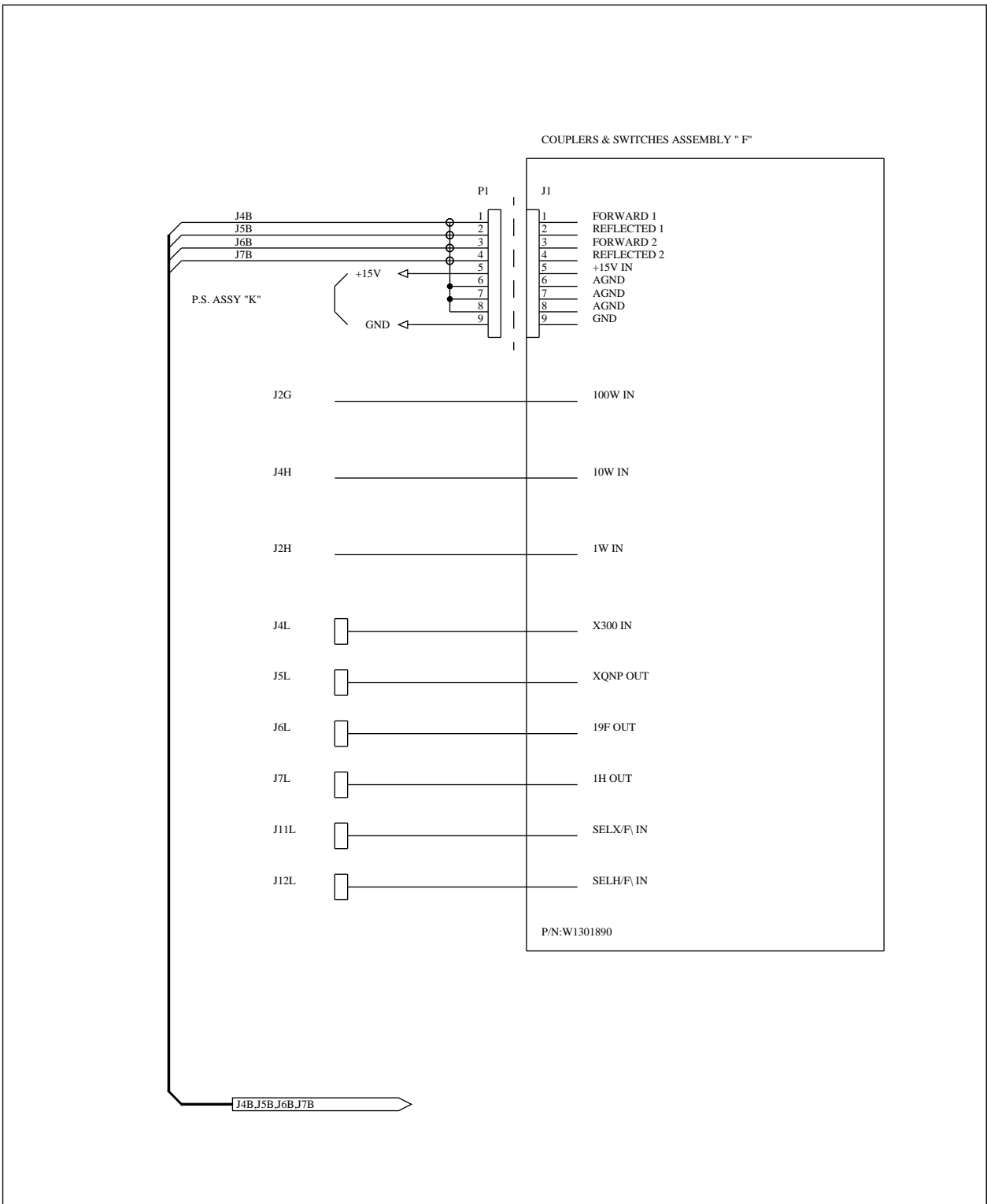
ART: W1301899	EC: 01	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
INTERCONNECTING BOARD		DATE: 02/03/94		
		APPROV: SB	VISA:	
		DATE: 17/05/95		
		DWG: W4S131703	SHEET: 1/1	

Figure 8.2. Couplers and switch assy "F" interconnecting




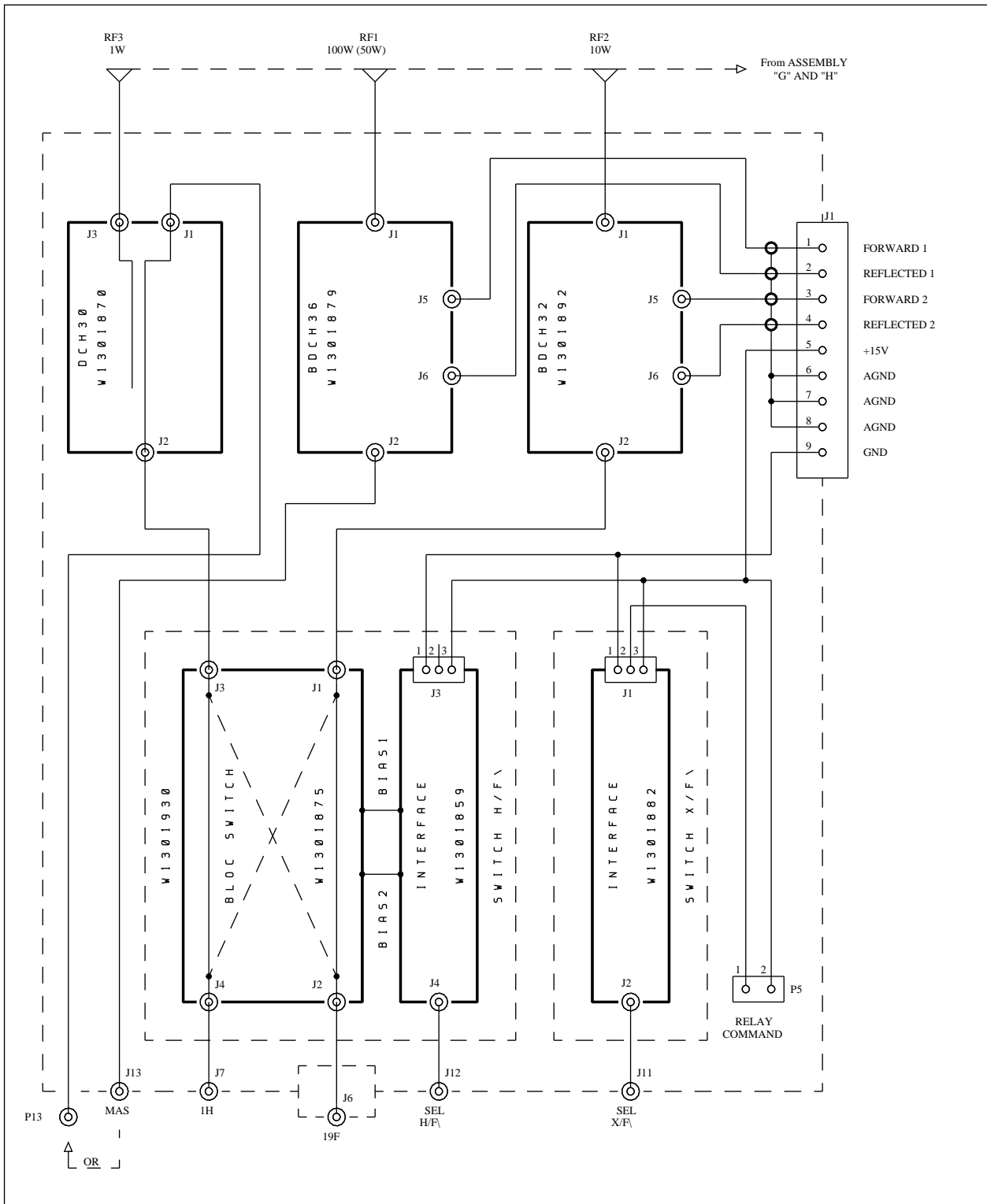
ART: W1301890	EC:	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
COUPLERS & SWITCHES ASSY "F" INTERCONNECT DRAWING		DATE: 13/07/93		
		APPROV: SB	VISA:	
		DATE: 15/02/96		
		DWG: W4W131461	SHEET: 1/1	

Figure 8.3. Couplers and switch block diagram



ART: W1301890	EC: 03	DRAWN: DW	DATE: 27/03/95	VISA:
COUPLERS & SWITCHES ASSEMBLY BLOCK DIAGRAM		APPROV: MW	DATE: 27/03/95	VISA:
		DWG: W4B131460	B	SHEET: 1/1


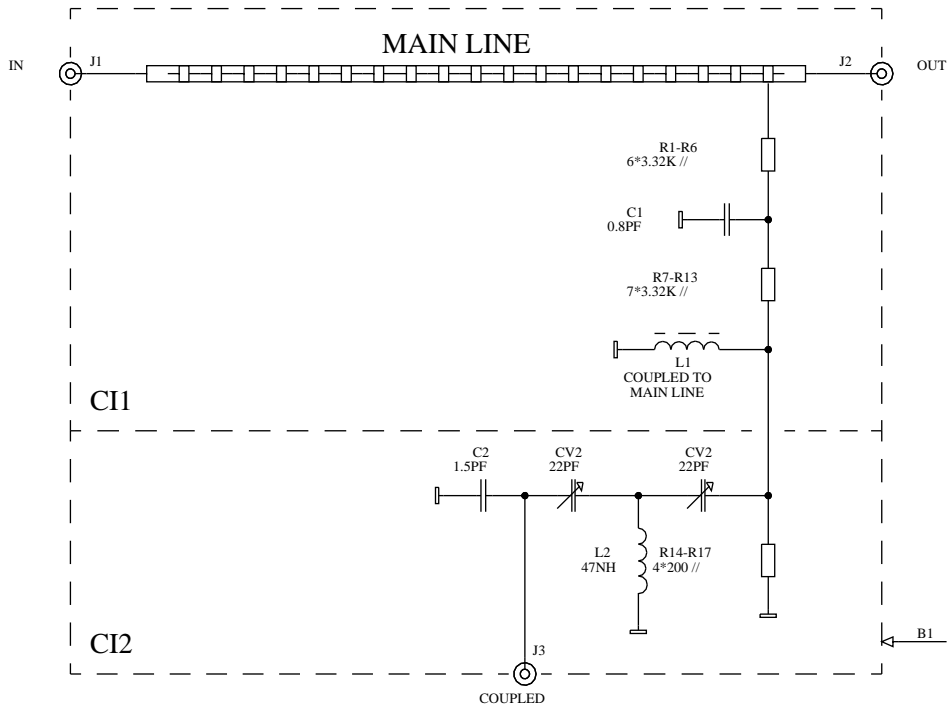
S.a.d.i.s

 SPECTROSPIN

Figure 8.4. DCH30 bidirectionnal coupler



ART: W1301870	EC: 02	DRAWN: DW	DATE: 16/03/94	VISA:
DCH30 DIRECTIONNAL COUPLER		APPROV: SB	DATE: 02/11/94	VISA:
(SMA.C-SMA)		DWG: W4S131389	A	SHEET: 1/1


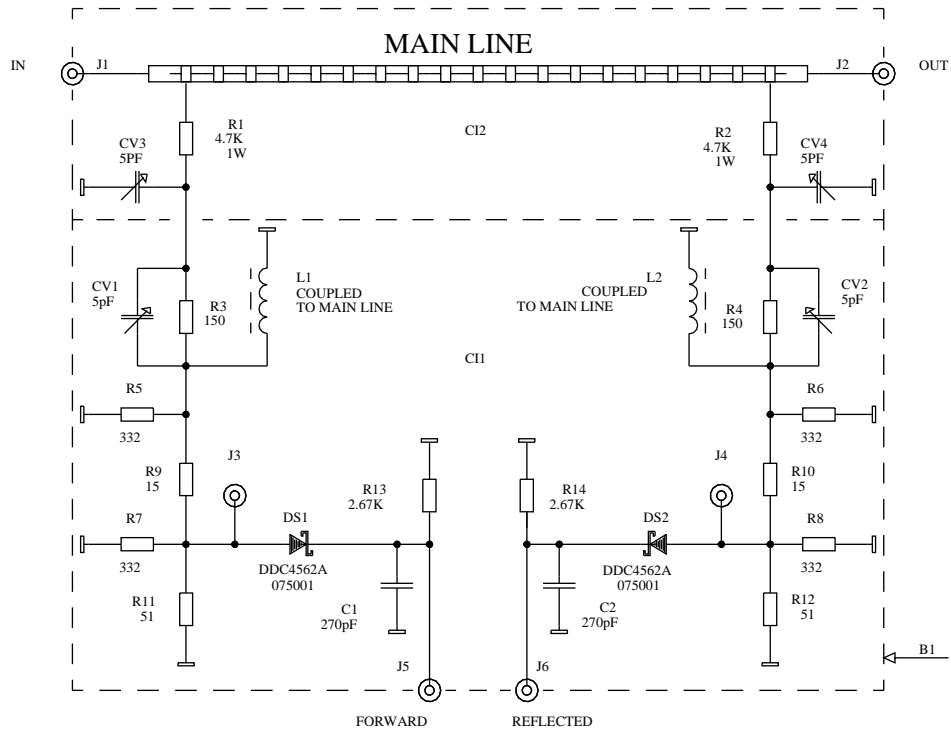
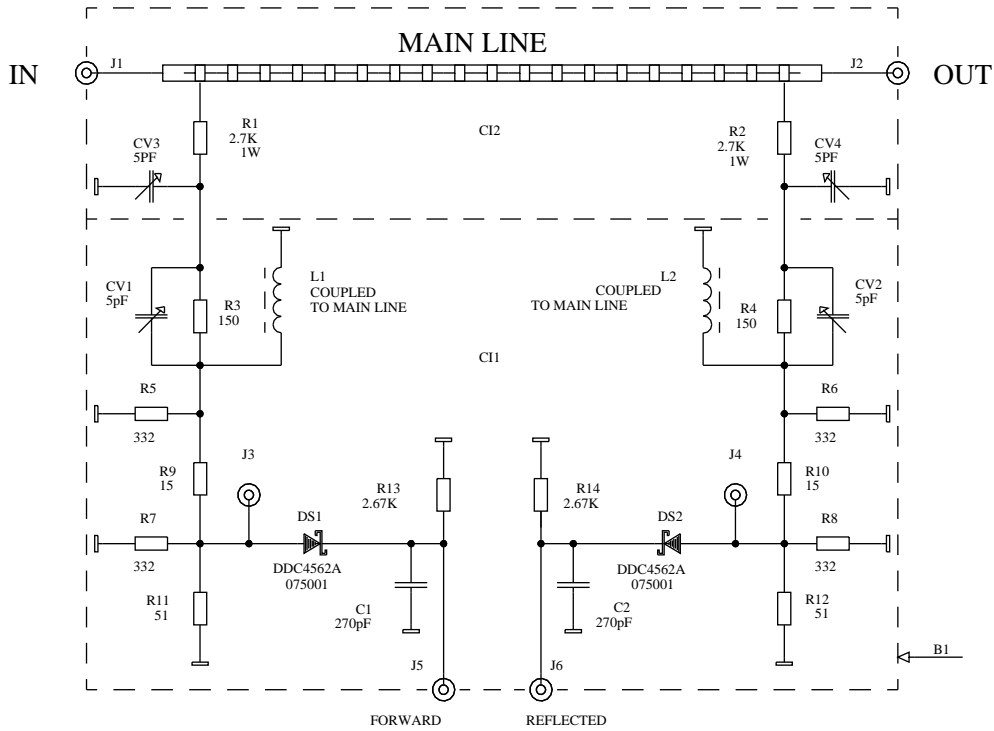
S.a.d.i.s

 SPECTROSPIN

Figure 8.5. BDCH36 bidirectionnal coupler



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

Figure 8.6. BDCH32 bidirectional coupler




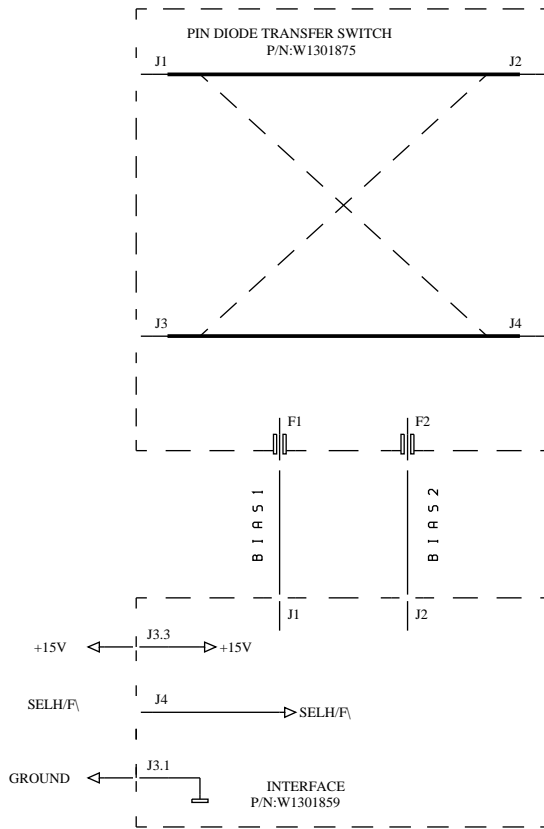
ART: W1301892	EC: 01	DRAWN: DW	DATE: 07/06/93	VISA:	S.a.d.i.s  SPECTROSPIN
BDCH32 BI-DIRECTIONAL COUPLER		APPROV: CO	DATE: 07/06/93	VISA:	
(SMB-SMA)		DWG: W4S131445		SHEET: 1/1	

Figure 8.7. pin transfer switch block diagram

TRUTH TABLE

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




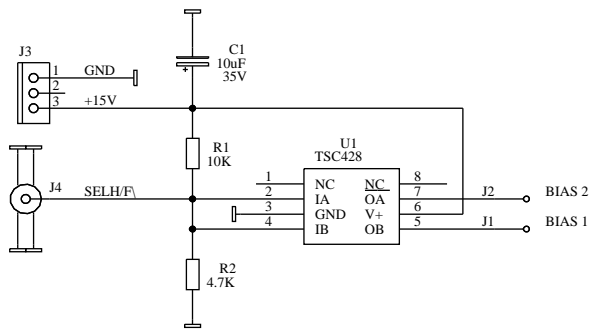
ART: W1301930	EC: 02	DRAWN: DW DATE: 09/10/95	VISA:	S.a.d.i.s  SPECTROSPIN
PIN DIODE TRANSFER SWITCH BLOCK DIAGRAM		APPROV: CO DATE: 10/10/95	VISA:	
		DWG: W4B131458	A SHEET: 1/1	

Figure 8.8. interface switch H/F




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

Figure 8.9. interface transfer switch H/F layout

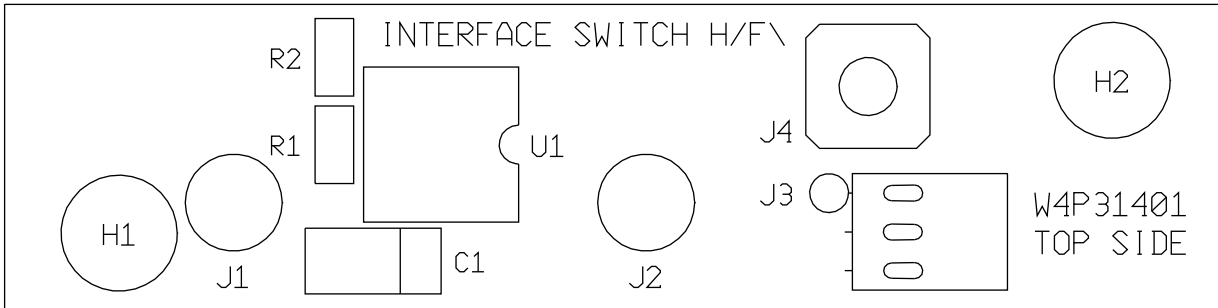
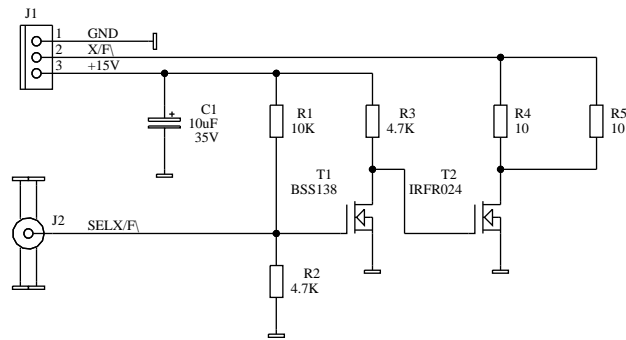



Figure 8.10. interface transfer switch



ART: W1301882	EC:	DRAWN: DW	VISA:	S.a.d.i.s  SPECTROSPIN
INTERFACE RELAY TRANFER SWITCH		DATE: 03/06/93	VISA:	
		APPROV: CO	VISA:	
		DATE: 15/02/96		
		DWG: W4S131417	SHEET: 1/1	

SBS controller

9

Figure 9.1. interconnect diagram

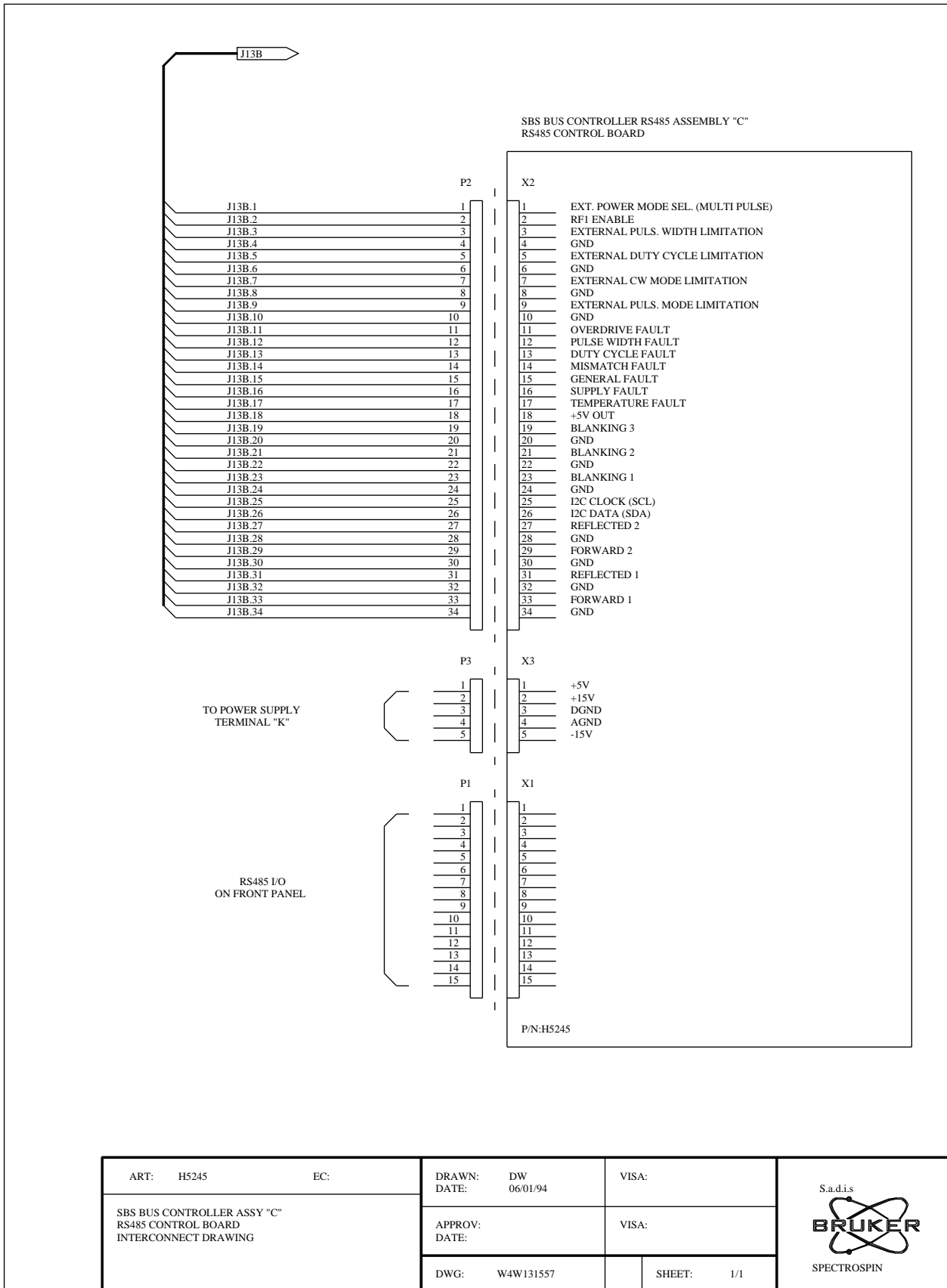


Figure 9.2. CPU board

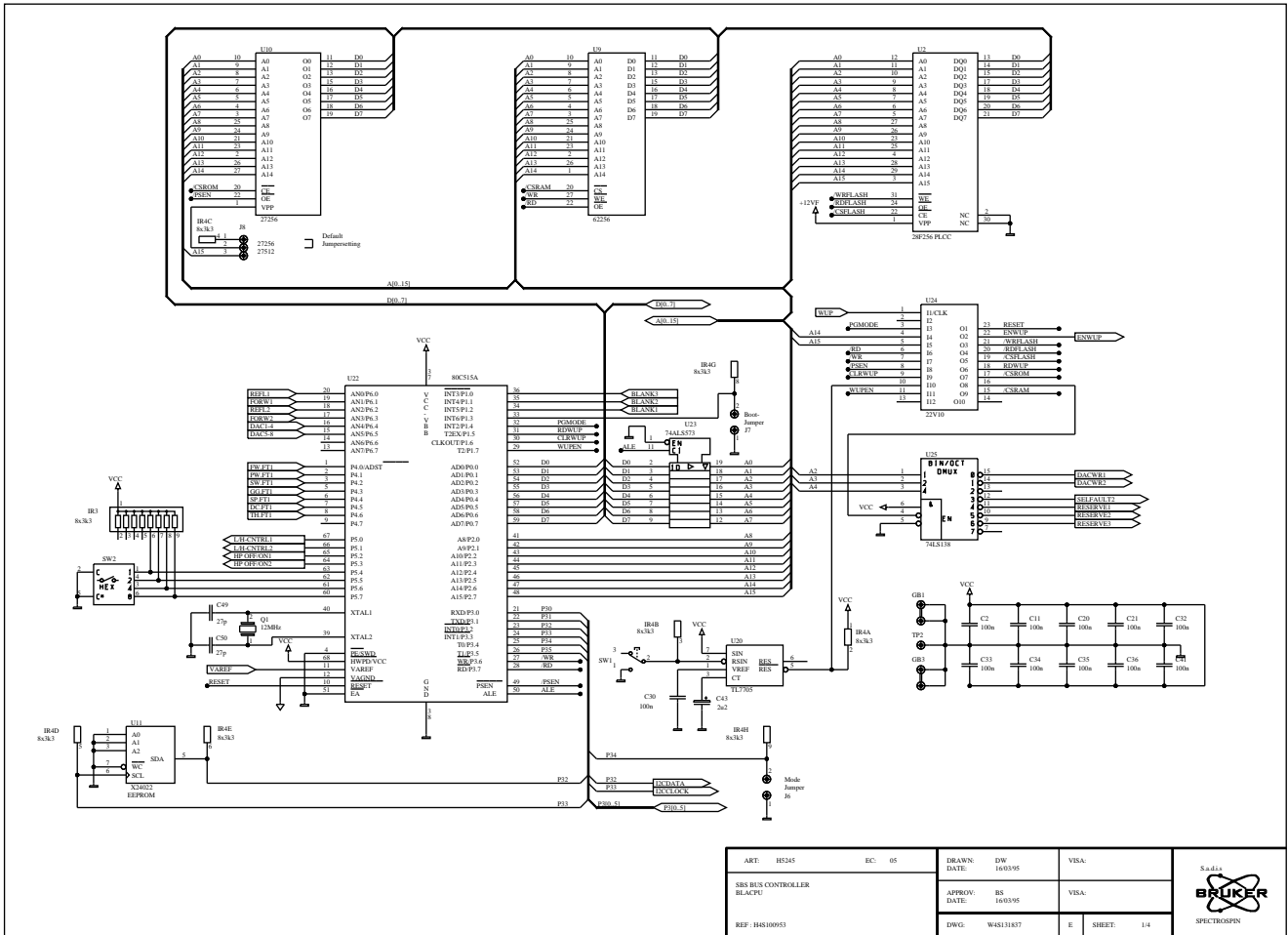


Figure 9.3. sbs controller dac

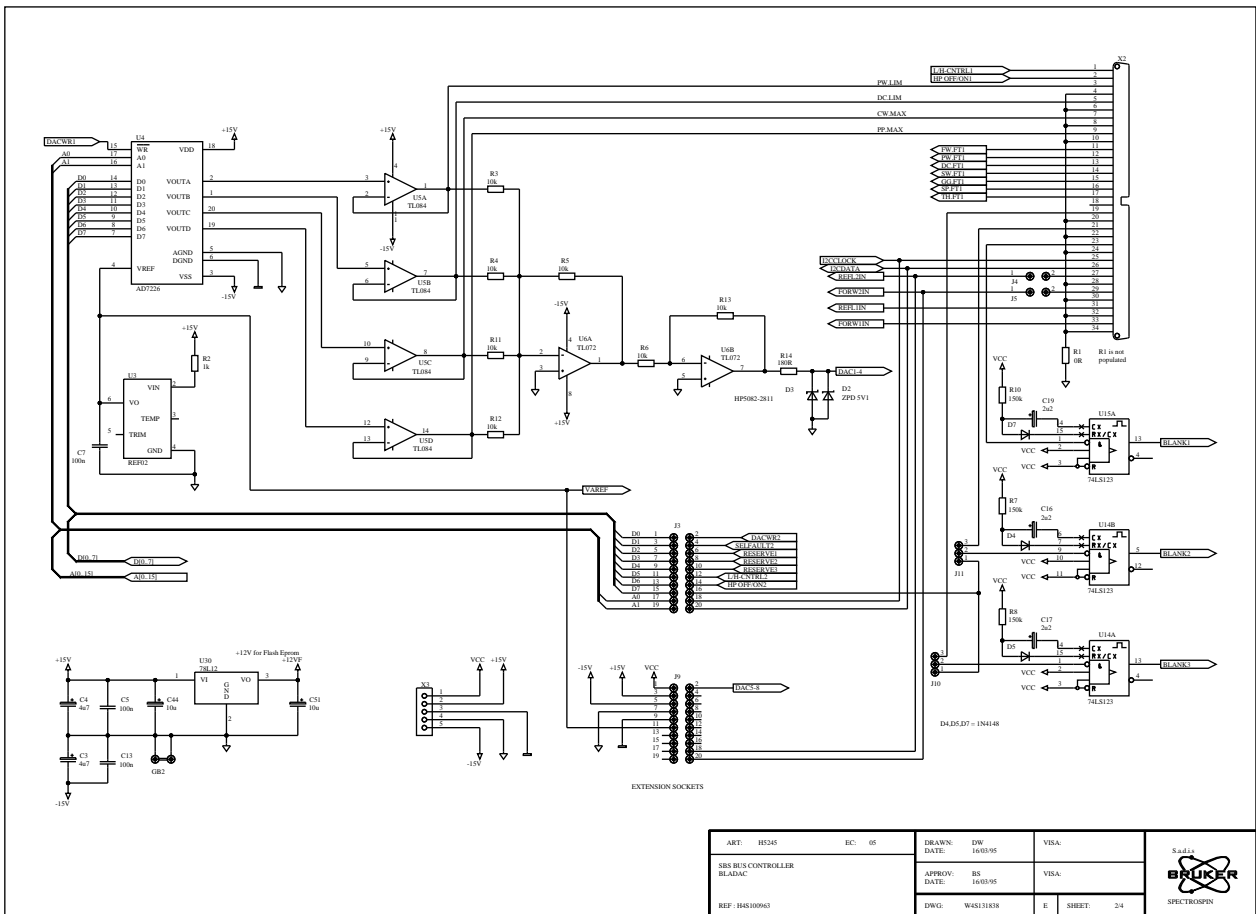


Figure 9.4. sbs controller driver rs485

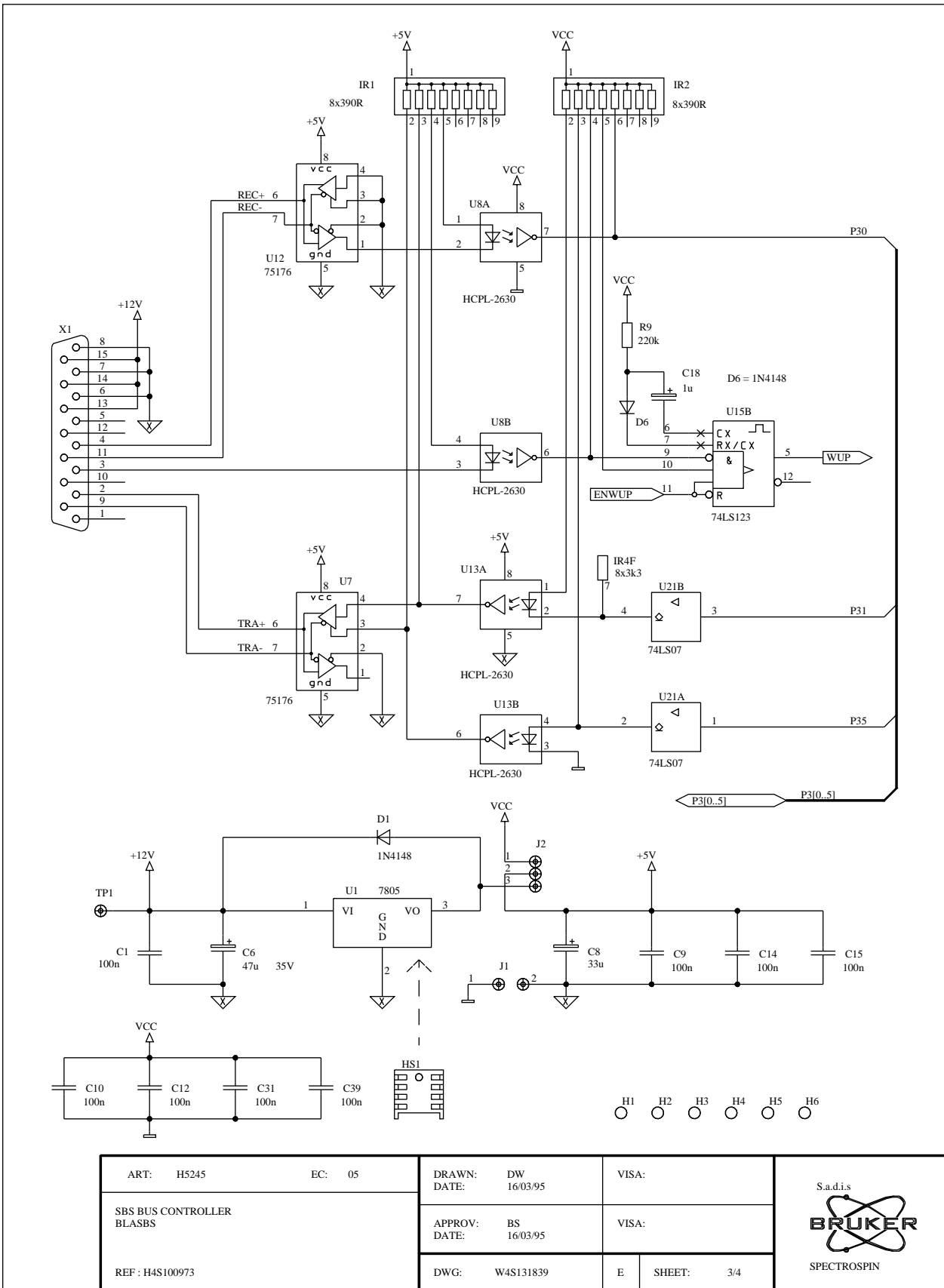
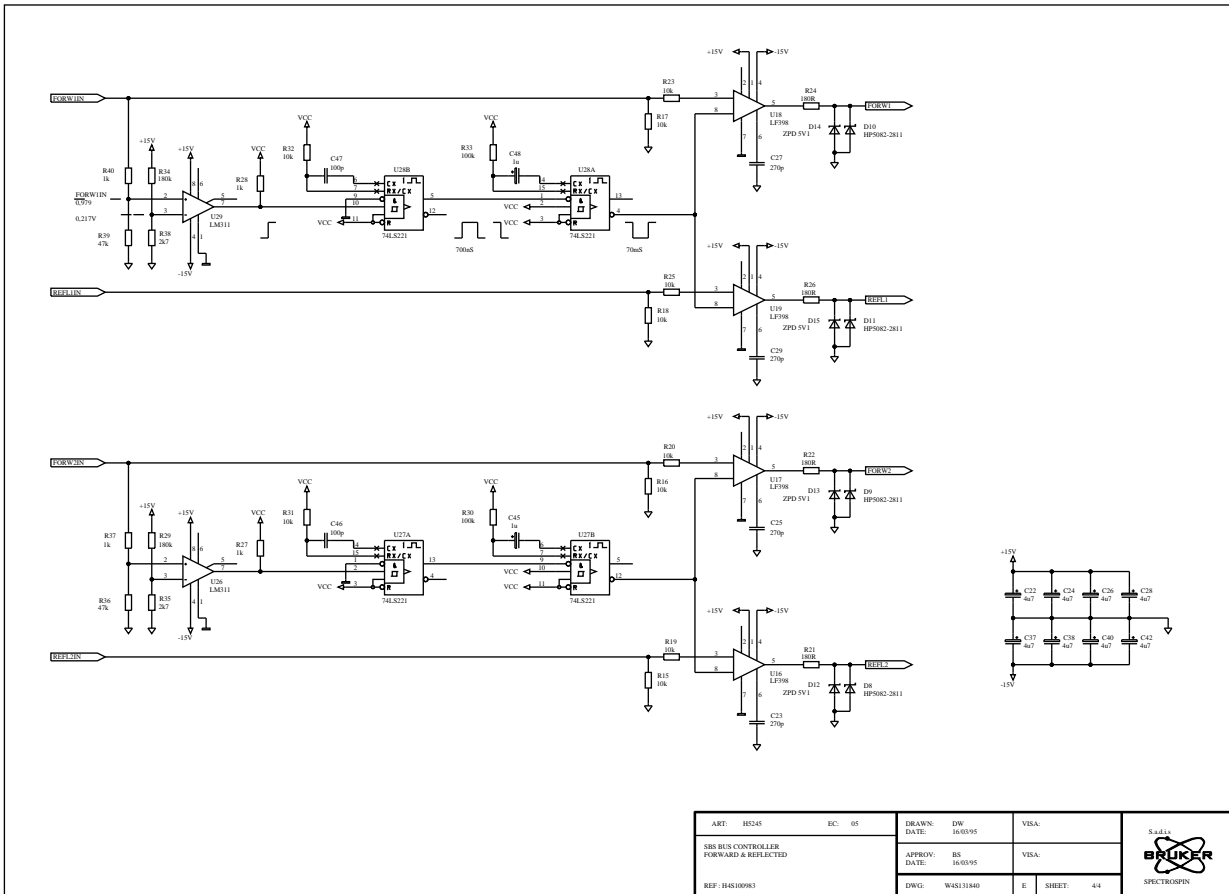



Figure 9.5. sbs controller sample/hold



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

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