

STUDER A812 TLS-4000

INTERFACE DOCUMENTATION

Interface number : 1.812.132.20

IF - Doc number : 10.27.0441

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1. Indicator LEDs

The two LEDs on the INTERFACE A812 serve as status indicators and for diagnosing possible errors.

DL 1 2 (viewed from the front)

- During initialization:

DL 1 2 (- LED dark, # LED flashes)

DL1	DL2	
#		(approx. 2 Hz): Error, RAM test
	#	(approx. 2 Hz): Error, EPROM checksum
#	#	(approx. 2 Hz): Error, SSDA test

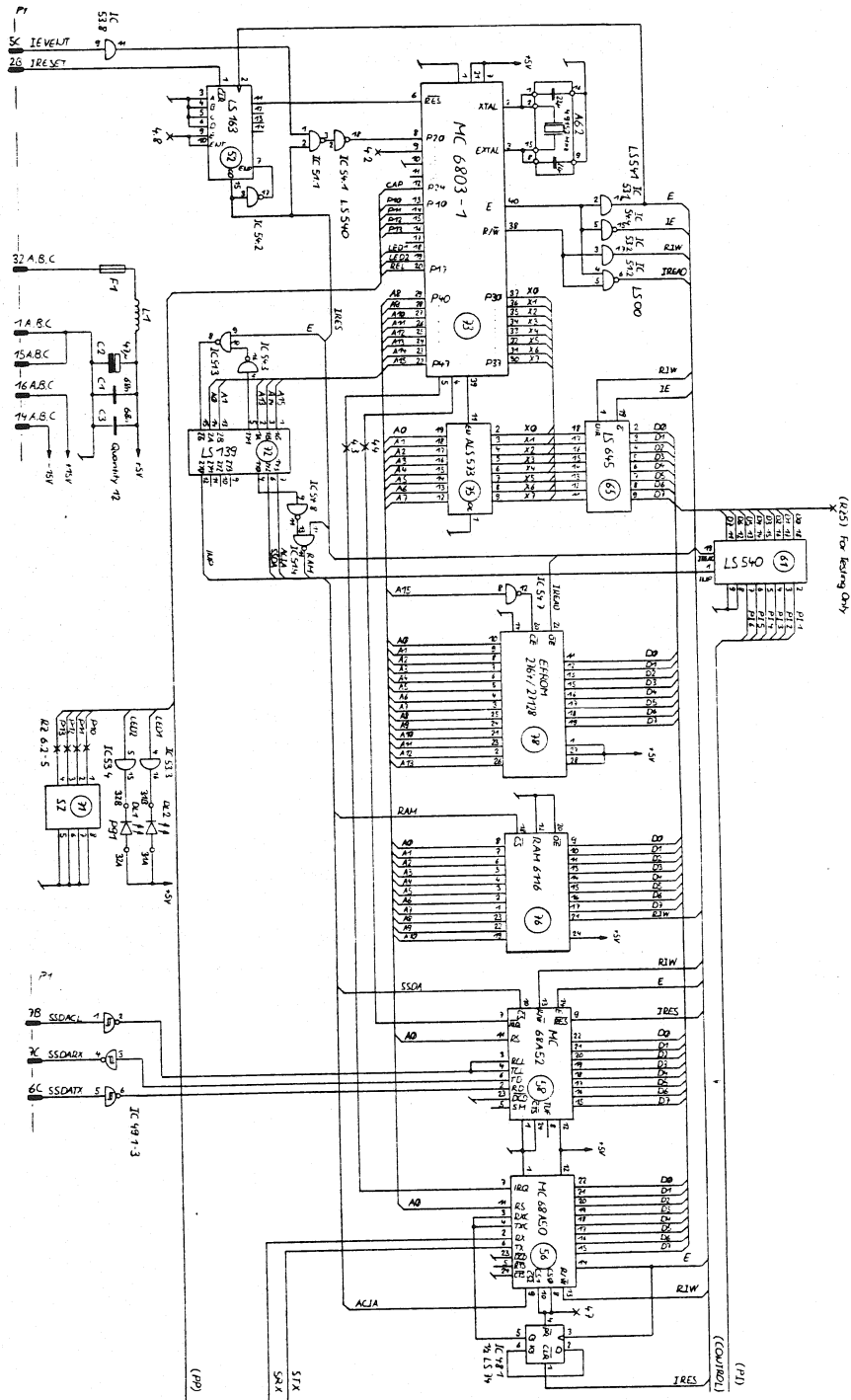
- During operation:

DL 1 2 (- LED dark, * LED lit)

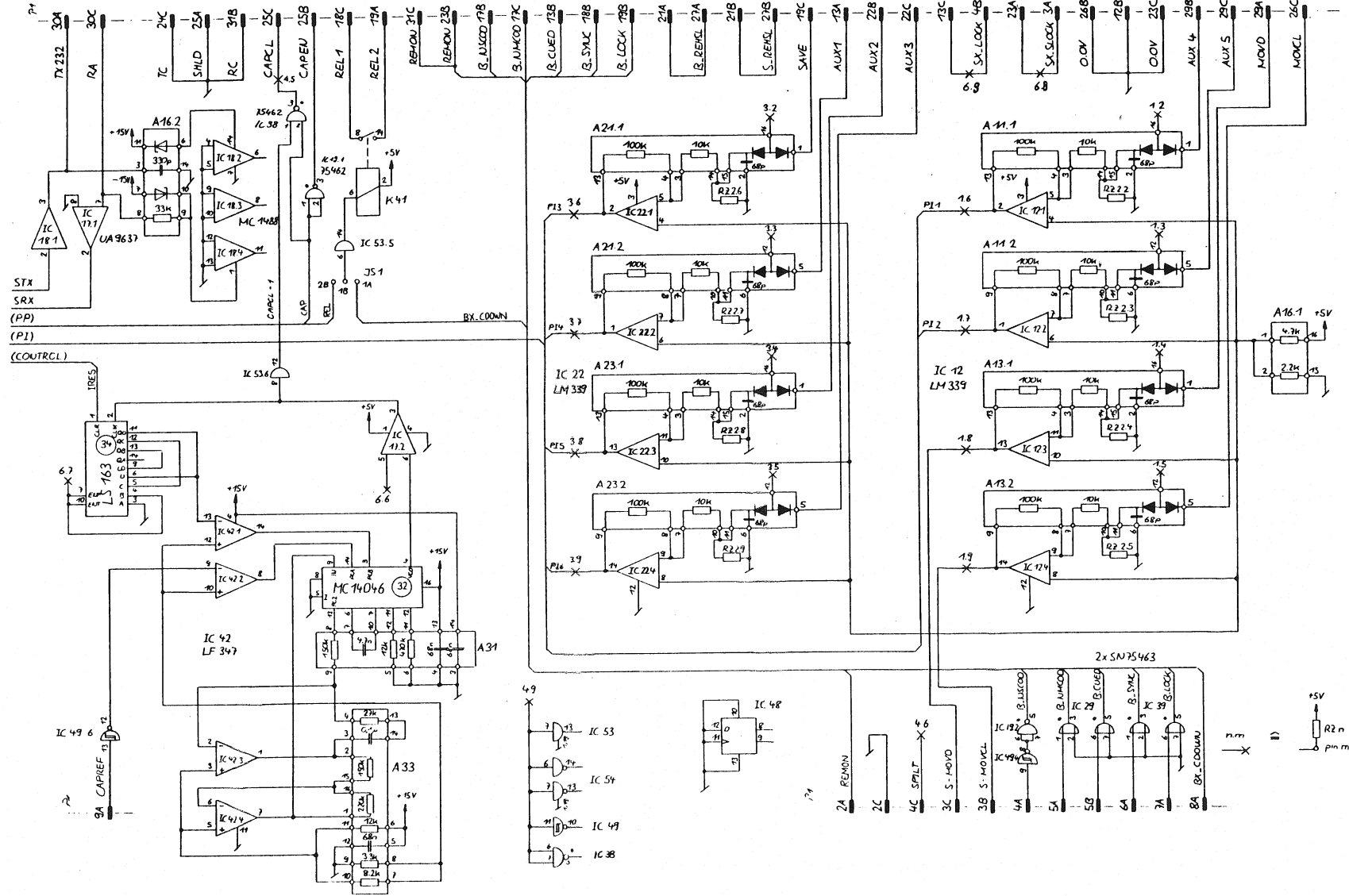
DL1	DL2	
*		DL1 flickers lightly: Interface operates with synchronizer
* -		DL1 is on or dark: Connection to MASTER defective or error in interface
	-	Serial connection to SLAVE is o.k.
	*	Serial connection to SLAVE is defective.

2. Service Instructions

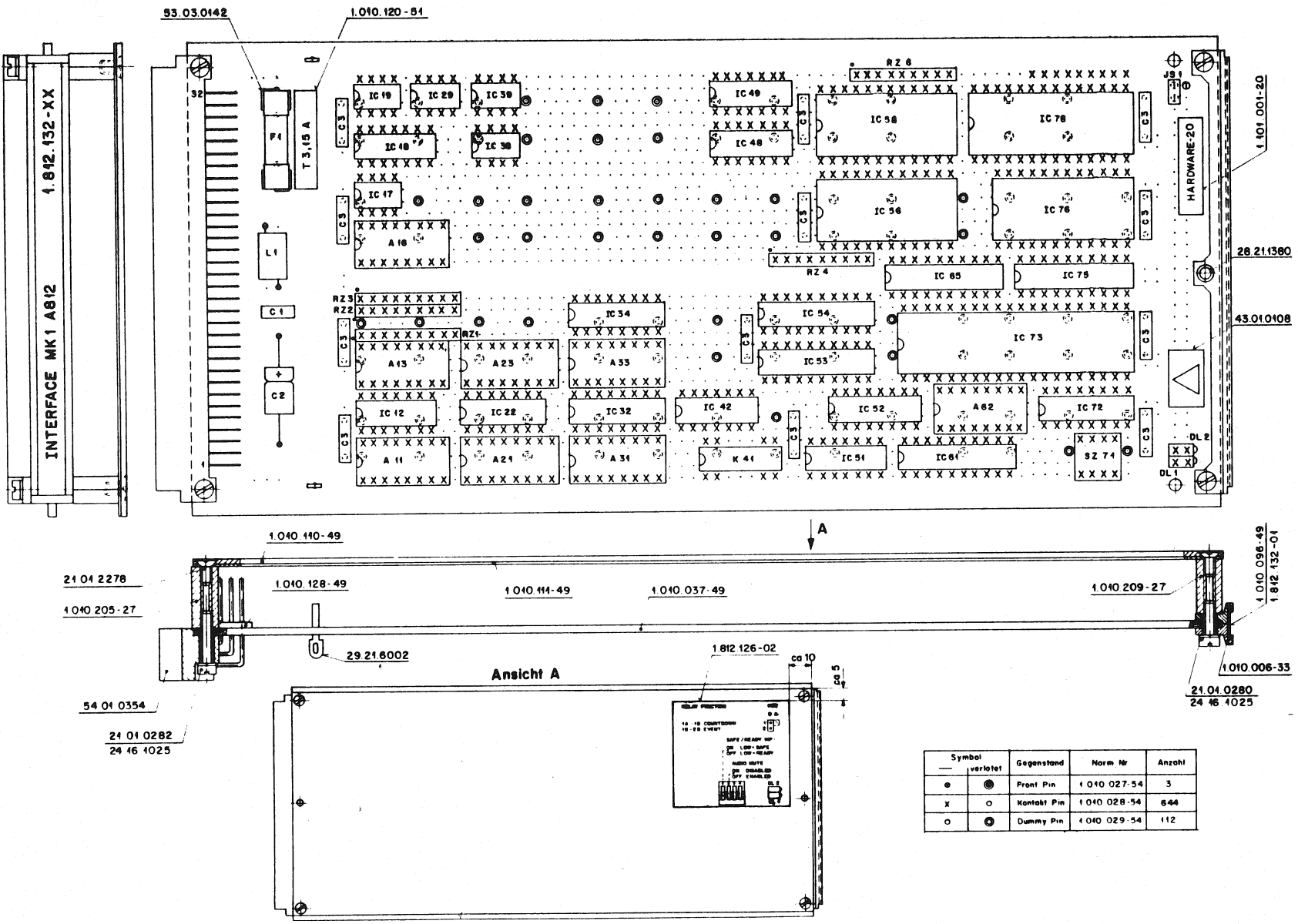
2.1 Diagrams



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2.2 Component arrangement



Symbol	verloter	Gegenstand	Norm Nr	Anzahl
e	●	Front Pin	1 040 027-54	3
x	○	Kontakt Pin	1 040 028-54	644
o	●	Dummy Pin	1 040 029-54	112

2.3 Component position list

IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.	IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
A....11		1.812.208.00		Assembly 406 - 11	St						
A....13		1.812.208.00		Assembly 406 - 11	St						
A....16		1.812.211.00		Assembly 126 - 16	St						
A....21		1.812.208.00		Assembly 406 - 11	St						
A....23		1.812.208.00		Assembly 406 - 11	St						
A....31		1.812.202.00		Assembly 120 - 45	St						
A....33		1.812.203.00		Assembly 120 - 35	St						
A....62		1.812.201.00		Assembly 106 - 62	St						
C....01		59.99.0205	68 n	-20% 63V, CER							
C....02		59.25.3470	47 u	-10% 16V, EL							
C....03		59.99.1200	.068 u	20% 63V, PE Quantity: 12							
DL....01		50.04.2107		LED red, 555-2007	Di						
DL....02		50.04.2107		LED red, 555-2007	Di						
F....01		51.01.0122	3.15 AT	250V, 5*20							
IC....12		50.11.0104		LN 339 AM, uA 339	,A						
IC....17		50.15.0114		uA 9637							
IC....18		50.15.0106		MC 1488 P, DS 1488	Not,NS						
IC....19		50.05.0227		SN 75 472 P, SN 75 462 JG							
IC....22		50.11.0104		LN 339 AM, uA 339	,A						
IC....29		50.05.0203		SN 75463 P							
IC....32		50.07.0046		MC 1 4046 BPC	,A						RCA,Ph,Not
IC....34		50.06.0163		SN 74 LS 163 AM							
IC....38		50.05.0227		SN 75 472 P, SN 75 462 JG							
IC....39		50.05.0203		SN 75463 P							
IC....42		50.09.0104		LF 347 N							
IC....48		50.06.0074		SN 74 LS 74 N							
IC....49		50.06.0014		SN 74 LS 14 N							
IC....51		50.06.0000		SN 74 LS 00 N							
IC....52		50.06.0163		SN 74 LS 163 AM							
IC....53		50.06.0541		SN 74 LS 541 N							
IC....54		50.06.0540		SN 74 LS 540 N							
IC....56		50.16.0101		MC 68A50 P, S 68A50	,A						Not,AMI
IC....58		50.16.0114		MC 68A52, HD 68A52	,A						Not,Hi

Note : Software release 1.812.967.20 (IC 78)
 CER = Ceramic, EL = Electrolytic, PE = Met. Polyester
 MANUFACTURERS : AMI = American Microsystems Inc.
 Di = Dialco
 Hi = Hitachi
 It = Intel
 Mot = Motorola
 NS = National Semiconductor
 OKI = OKI Semiconductor
 Ph = Philips
 RCA = Radio Corporation Of America
 St = Studer

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IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
IC....61		50.06.0540		SN 74 LS 540 N	
IC....65		50.06.0645		SN 74 LS 645 N	
IC....72		50.06.0139		SN 74 LS 139 N	
IC....73		50.16.0107		MC 6803P-1, HD 6803P-1	,A
IC....75		50.06.1573		SN 74ALS 573 N	
IC....76		50.14.0107		HM 6116 LP-4, HSN 512B-15	,A
IC....78		50.14.0125	*** Note	P-27128 A, HM 27128 AG25	,A
JS....01		54.01.0021		Jumper	
K....41		56.02.1003	5 V 1* A	100V/0.5A, Print	
L....01		62.01.0115		Wide Band HF-Choke	
P....01		54.01.0354		Card Connector 3 * 32 Euro Wrap	
RZ....01		57.88.4332	8 * 3.3K	5%, Single Line	
RZ....02		57.88.4103	8 * 10K	5%, Single Line	
RZ....03		57.88.4332	8 * 3.3K	5%, Single Line	
RZ....04		57.88.4332	8 * 3.3K	5%, Single Line	
RZ....06		57.88.4332	8 * 3.3K	5%, Single Line	
SZ....71		55.01.0164	4 * 0N	DIL-Switch	

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2.4 TLS 4000 MKI Interface STUDER A812

Pin assignment of slave remote connectors A and B

SLAVE REMOTE CONNECTOR A:

Pin	Signal	Type	Function
1	GND		0.0 V
2	-		
3	-		
4	TC		Transmit common
5	SHLD		Shield
6	CAPEN	oc. out	Capstan contr. enable
7	CAPCLK	9600 Hz	Capstan clock
8	-		
9	GND		0.0 V
10	MOVCLK		Move clock
11	(B. Rehrrs)		
12	S. REHRS		Rehearse command
13	-		
14	-		
15	-		
16	-		
17	MOVD		Move direction
18	AUX 4		
19	AUX 5		
20	TX 232		Transmit RS 232
21	-		
22	RA 232		Receive RS 232
23	-		
24	RC		Receive common
25	+24 V		Remote power on

signal types: oc. out output with external pullup resistor (+28V max.)

 switch in open collector or switch driving to ground

Pin assignment of slave remote connectors A and B**SLAVE REMOTE CONNECTOR B:**

Pin	Signal	Type	Function
1	0.0 V		GND Synchronizer
2	-		
3	AUX 1		
4	B_CUED	oc. out	CUED STATUS
5	SX_LOCK	switch in	Lock command
6	-		
7	B_NSCOD	oc. out	No Slave code
8	B_NMCO	oc. out	No Master code
9	-		
10	B_SYNC	oc. out	SYNC STATUS
11	REL 1		
12	REL 2		
13	B_LOCK	oc. out	Lock status
14	SAFE/RDY	switch in	Safe/Ready Input
15	-		
16	-		
17	-		
18	B_REHRS	oc. out	Rehearsal status
19	S_REHRS	Switch in	Rehearsal command
20	-		
21	-		
22	AUX 2		
23	AUX 3		
24	SX_SLOCK	switch in	Slow lock command
25	+24 V		Remote power on

signal types:

oc. out

output with external pullup resistor
(+28V max.)

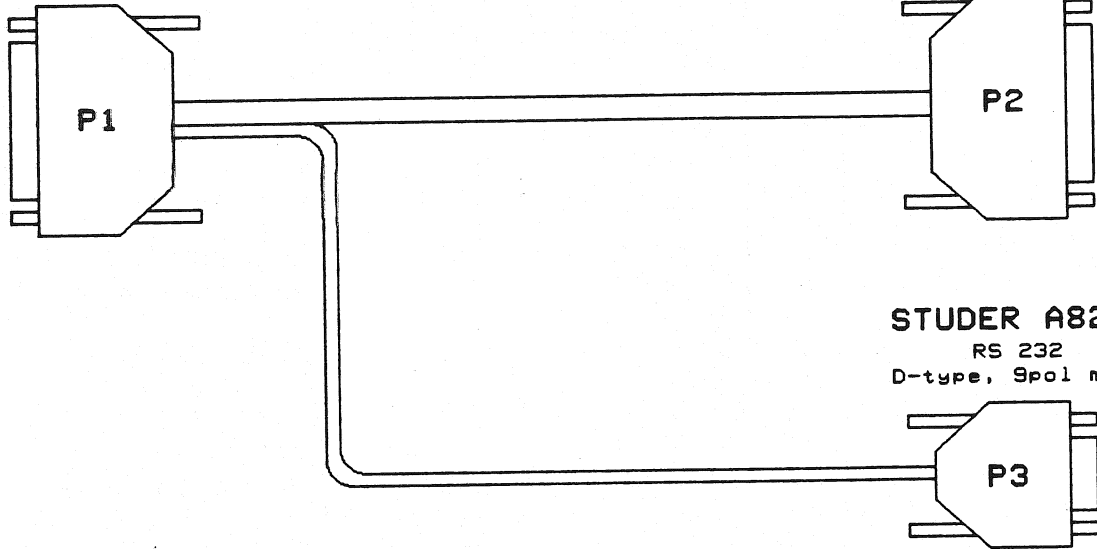
switch in

open collector or switch driving to ground

2.5 IF Cable Description

TLS 4000
SLAVE MACHINE
D-type, 25pol female

STUDER A820
SYNCHRONIZER
D-type, 25pol male



STUDER A820
RS 232
D-type, 9pol male

P1. 1	0.0V	P2. 1
6	CAPEN	5
7	CAPCL	13
10	MOUCL	7
12	S-REHSL	6
17	MOUD	10
18	SYENB	12
25	REMON	25
9	SCREEN	

20	TX232	P3. 8
22	RA	2
24	RC	9
	SCREEN	1

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STUDER	IF-KABEL MK1 A820	1.5M	Z	1.023.713.00	