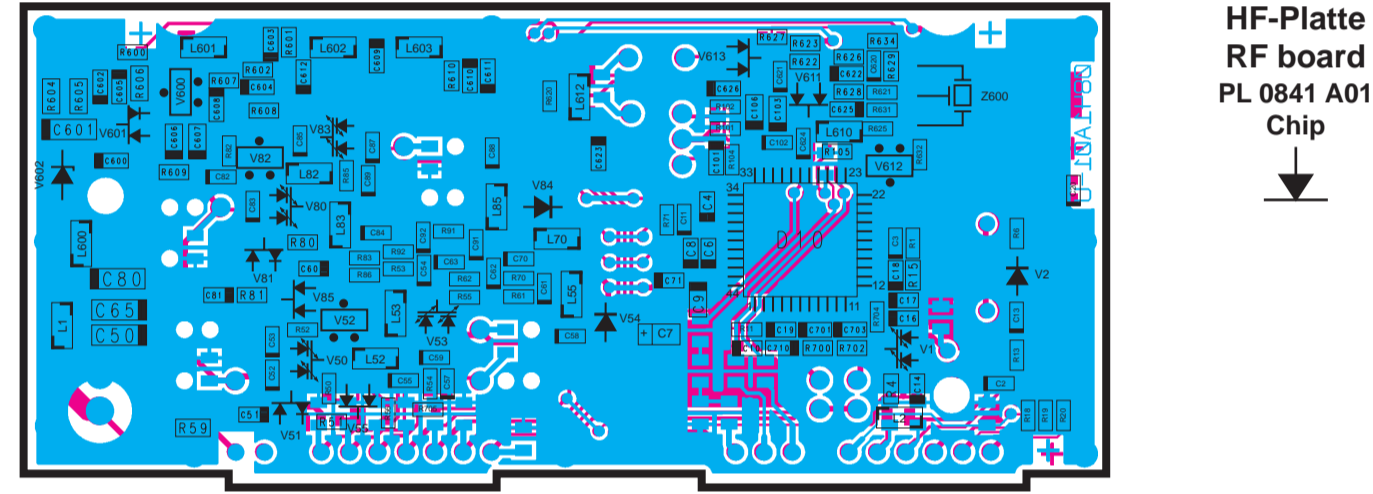
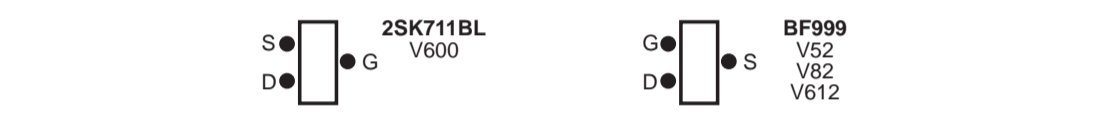
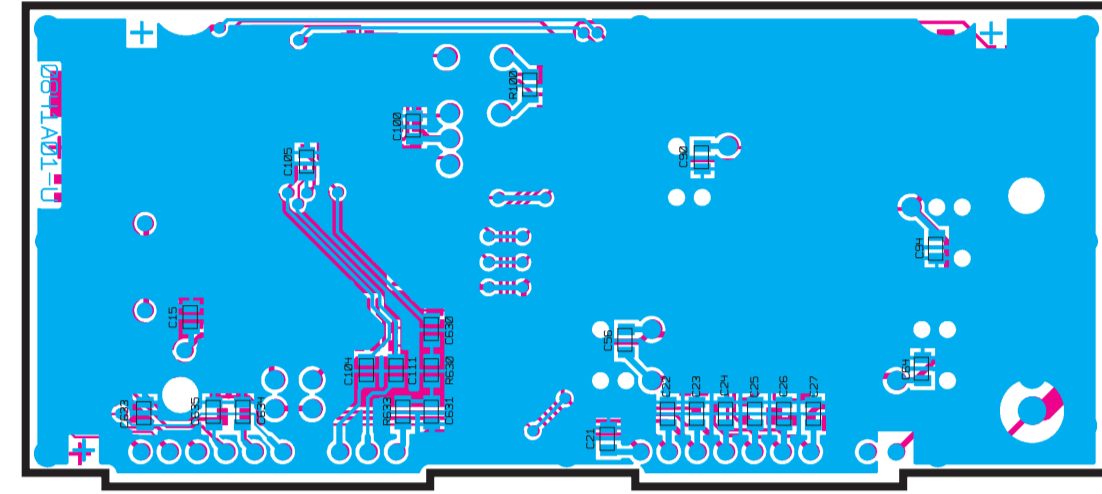


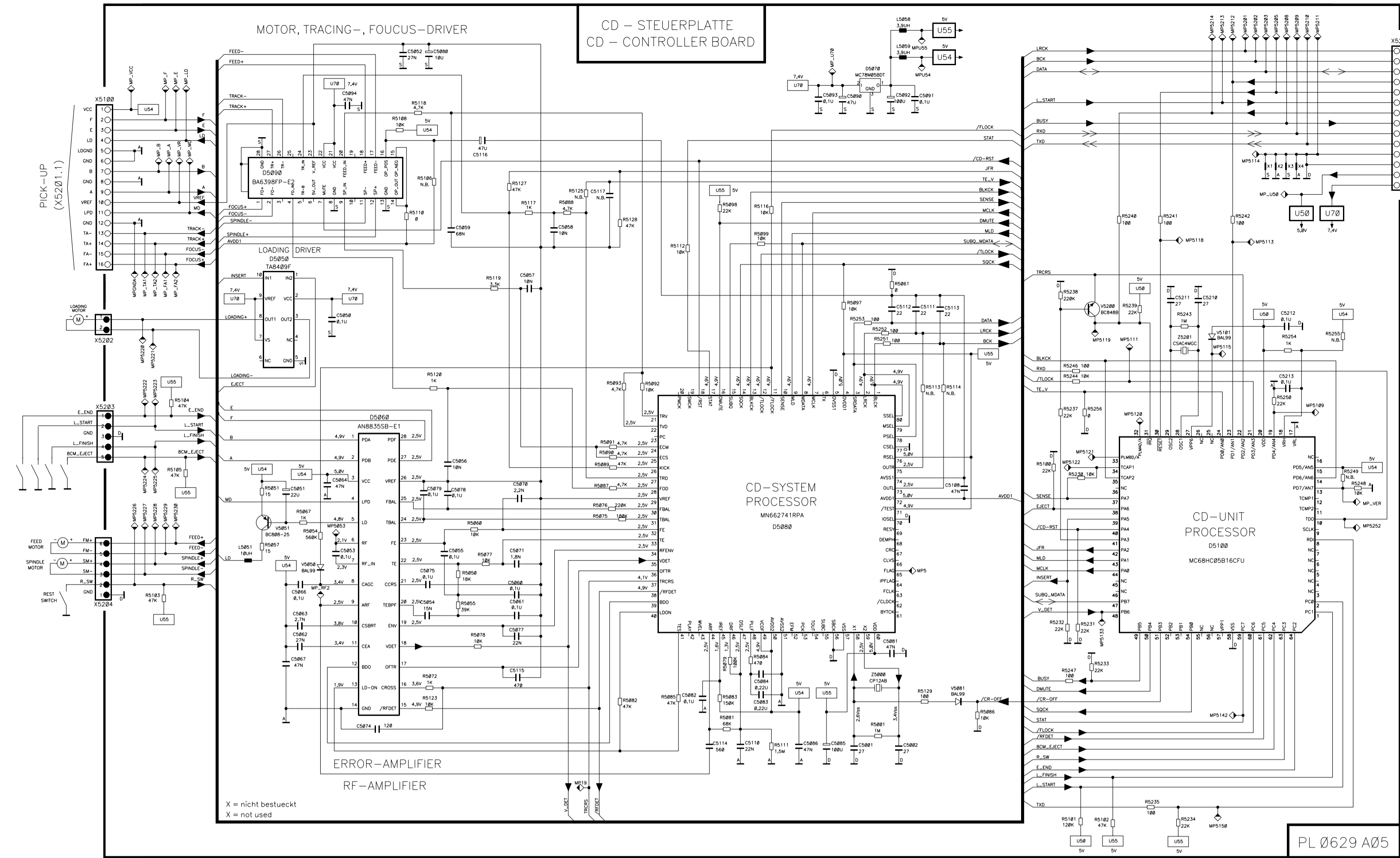
- X2 (X11)**
- 1 = GND
  - 2 = IF-OUT-DIVERSITY
  - 3 = IF-OUT+
  - 4 = IF-OUT-
  - 5 = GND
  - 6 = F-REF
  - 7 = U81 (8,5V)
  - 8 = TUNER-OSZ
  - 9 = CS-D10
  - 10 = SI-2IC
  - 11 = CLK-2IC
  - 12 = SO-2IC
- X3 (X10)**
- 1 = ANT
  - 2 = NC
  - 3 = GND
  - 4 = U-UP(0V/8,2V)
  - 5 = U-EU(8,2V/0V)
  - 6 =  $\Delta$ U
  - 7 = U83 (8,4V)
  - 8 = U82 (8,4V)
  - 9 = U81 (8,5V)
  - 10 = U-PLL (9,7V)



HF-Platte  
RF board  
PL 0841 A01

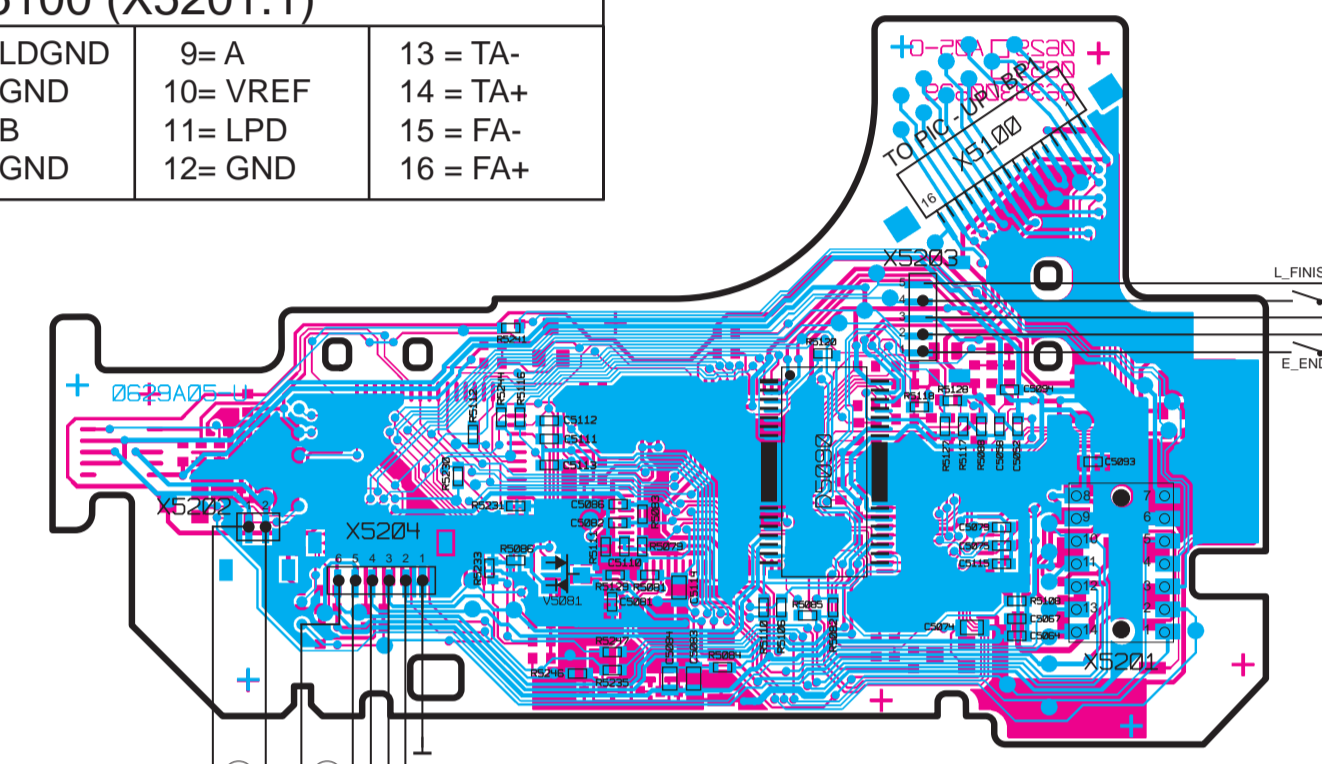
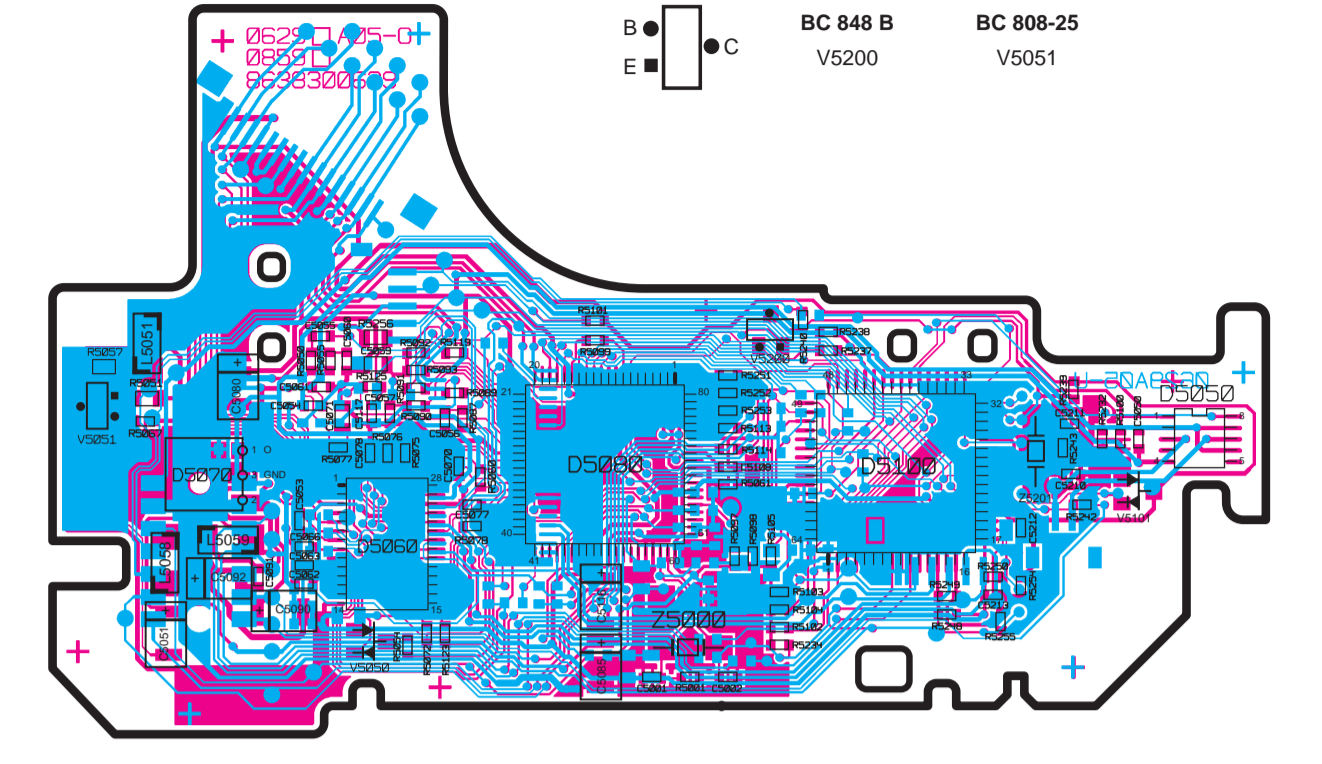
HF-Platte  
RF board  
PL 0841 A01  
Chip

HF-Platte  
RF board  
PL 0841 A01  
Chip



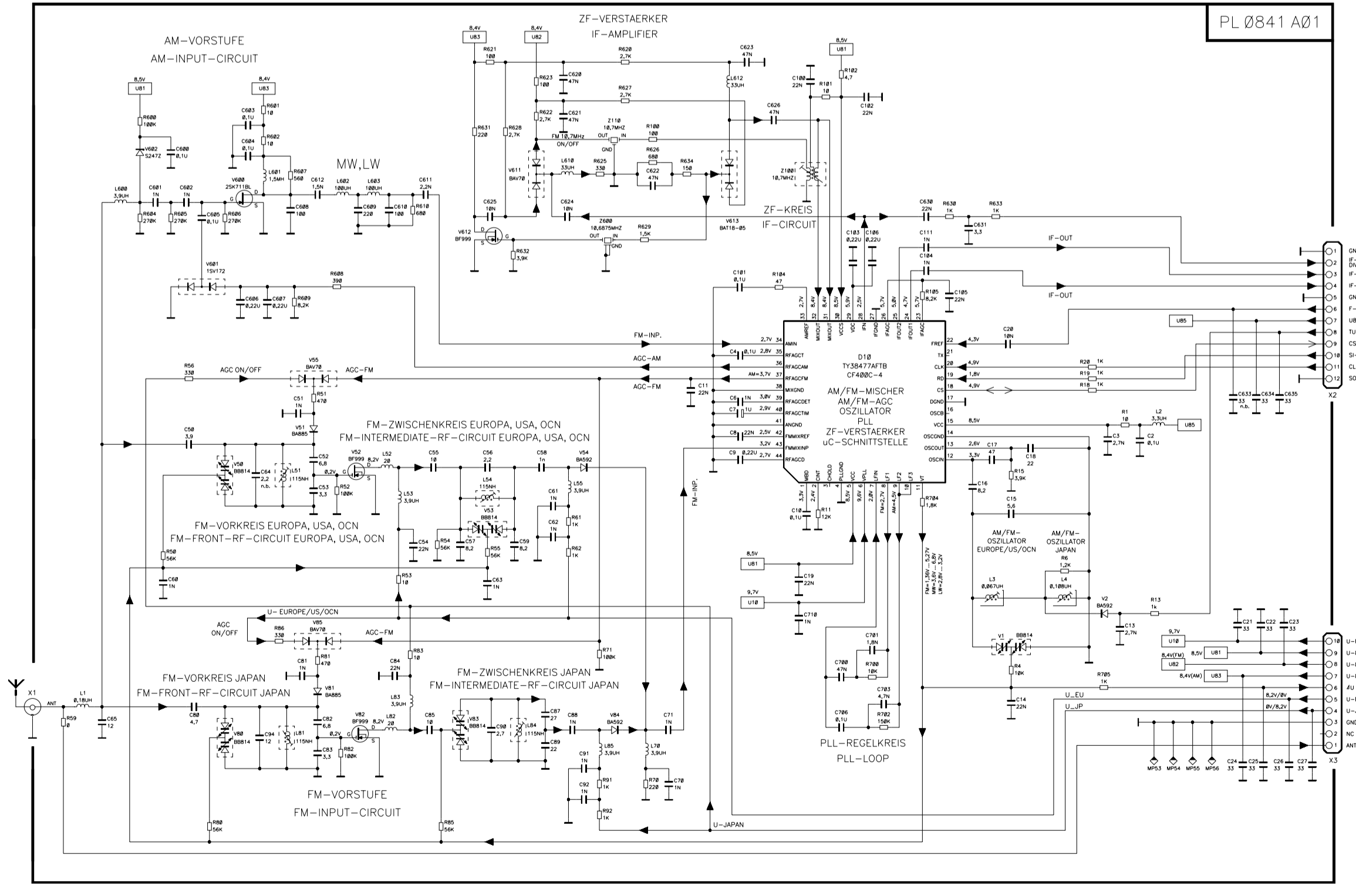
- X5100 (X5201.1)**
- 1 = VCC
  - 2 = E
  - 3 = E
  - 4 = LD
  - 5 = LDGND
  - 6 = GND
  - 7 = B
  - 8 = GND
  - 9 = A
  - 10 = VREF
  - 11 = LPD
  - 12 = GND
  - 13 = TA-
  - 14 = TA+
  - 15 = FA-
  - 16 = FA+

- X5201 (X5000)**
- 1 = BCK
  - 2 = LRCK
  - 3 = DATA
  - 4 = POWER DOWN
  - 5 = CD-RESET
  - 6 = L-START
  - 7 = WAKE-UP
  - 8 = BUSY
  - 9 = RXD
  - 10 = TXD
  - 11 = GND
  - 12 = GND
  - 13 = U50 (5,0V)
  - 14 = U7 (7,4V)

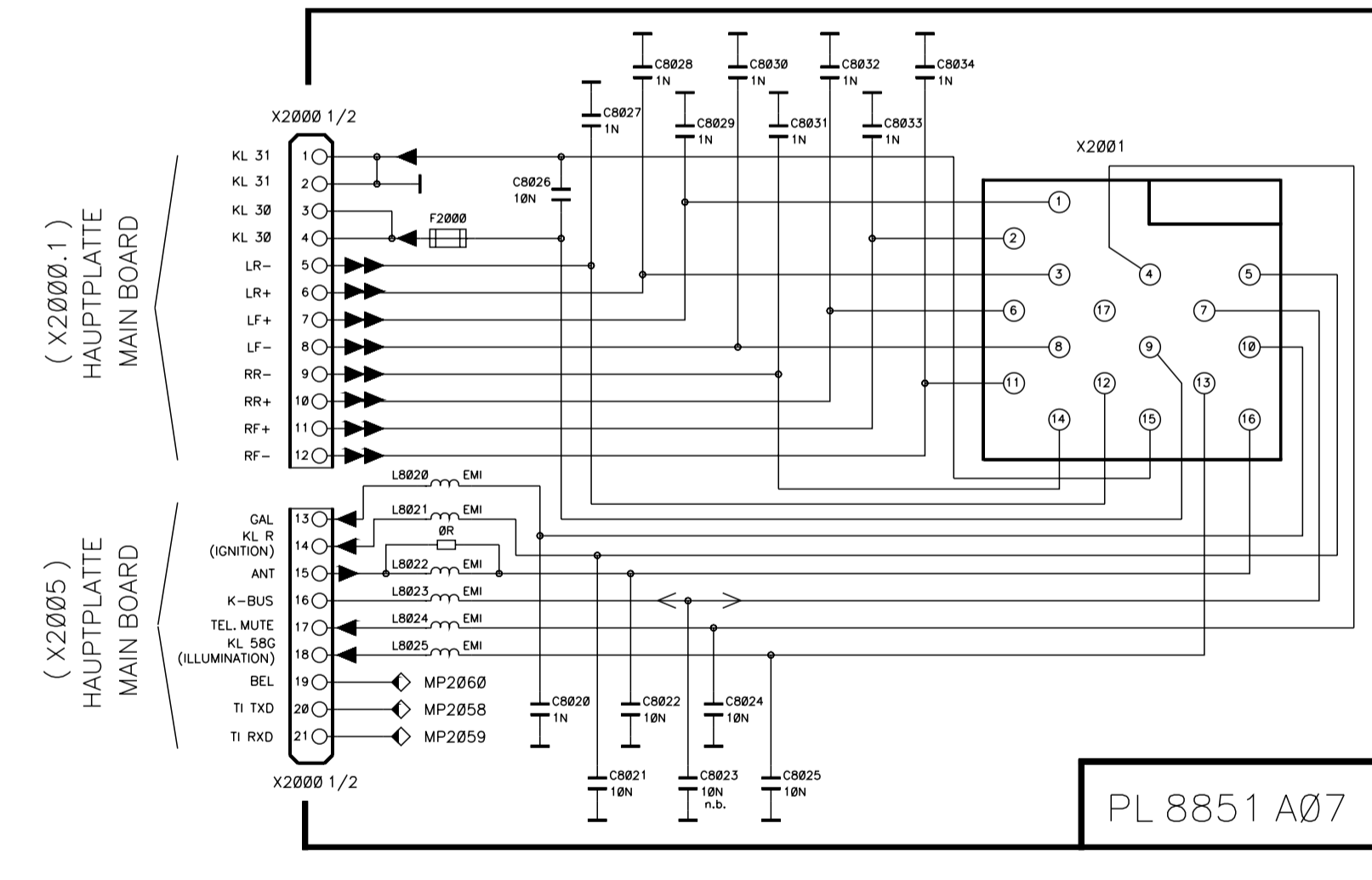


CD-Elektronik-Platte  
CD-electronic board  
PL 0629 A05  
Chip

CD-Elektronik-Platte  
CD-electronic board  
PL 0629 A05  
Chip



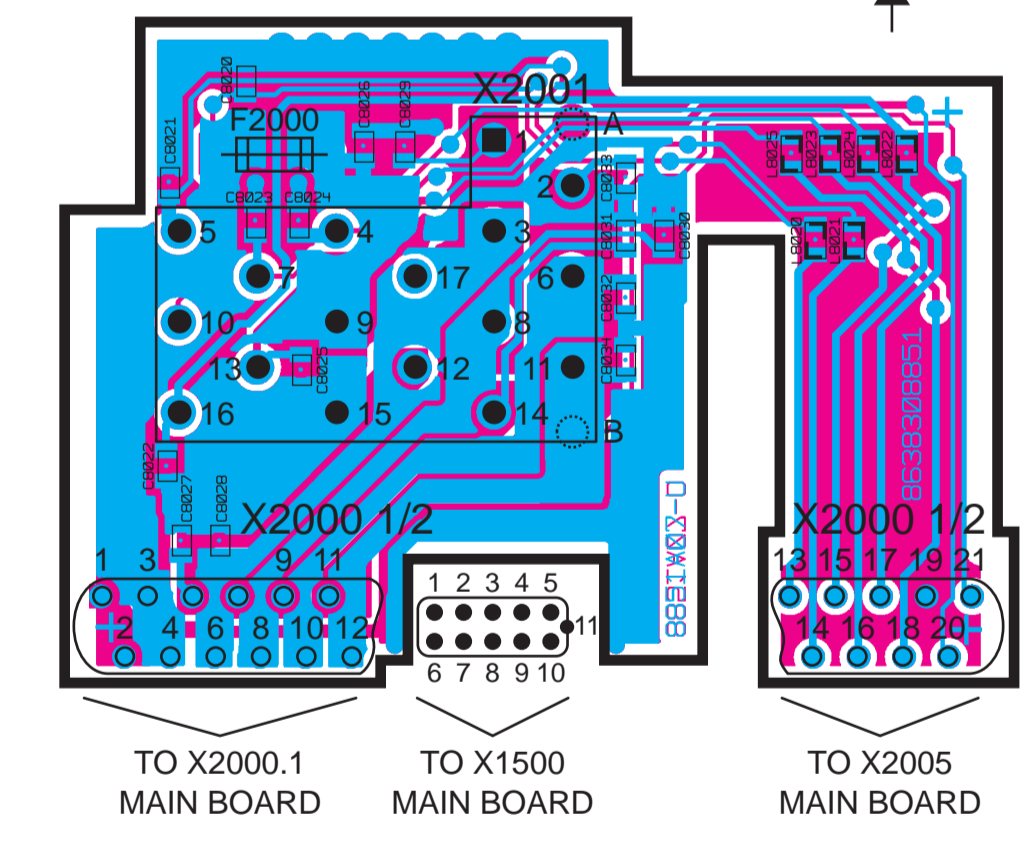
PL 0841 A01



(X2000.1)  
HAUPTPLATTE  
MAIN BOARD

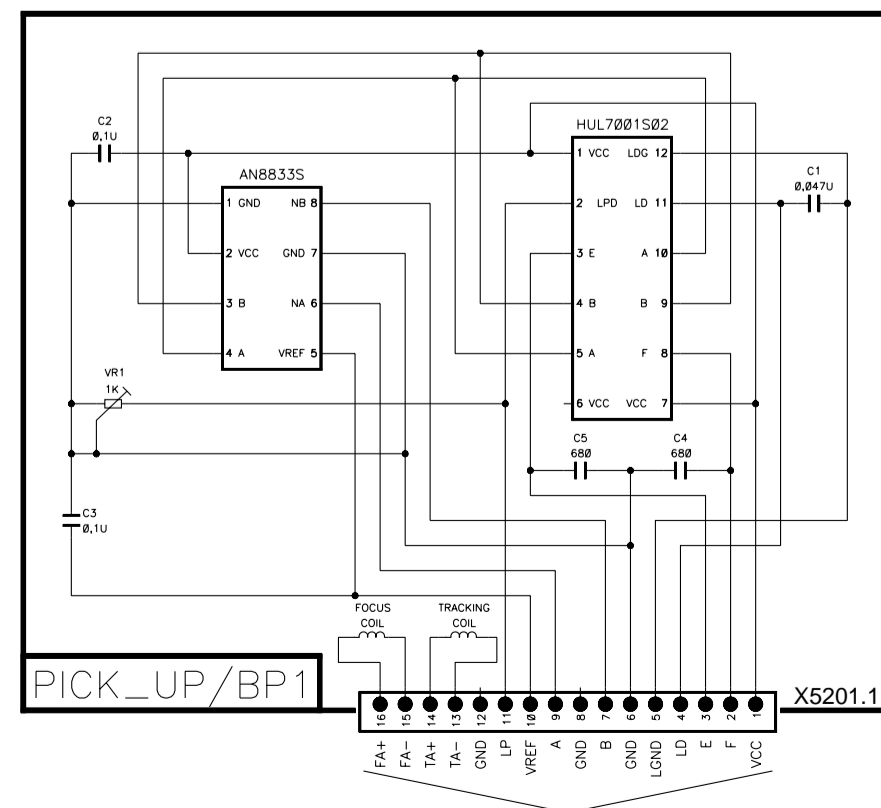
(X2005)  
HAUPTPLATTE  
MAIN BOARD

PL 8851 A07



Anschlußplatte  
Connector board  
PL 8851 A07  
B + Chip

- X1500**
- 1 = AUX L +
  - 2 = AUX R +
  - 3 + 6 = GND
  - 7 + 11 = GND



CD-ELEKTRONIK-PLATTE  
CD ELECTRONIC BOARD  
(X5100)

- | X2000 1/2            | X2000.1 | X2001 |
|----------------------|---------|-------|
| 1 + 2 = KL31 - GND   | 1 + 2   | 15    |
| 3 + 4 = KL30 - 14,4V | 3 + 4   | 9     |
| 5 = LR-              | 5       | 12    |
| 6 = LR+              | 6       | 3     |
| 7 = LF+              | 7       | 1     |
| 8 = LF-              | 8       | 8     |
| 9 = RR-              | 9       | 14    |
| 10 = RR+             | 10      | 6     |
| 11 = RF+             | 11      | 2     |
| 12 = RF-             | 12      | 11    |
- 
- | X2000 1/2                  | X2005 |
|----------------------------|-------|
| 13 = GAL                   | 1     |
| 14 = KL-R (IGNITION14,4V)  | 2     |
| 15 = ANT 14,2V             | 3     |
| 16 = K-BUS                 | 4     |
| 17 = TEL-MUTE              | 5     |
| 18 = KL 58G (ILLUMINATION) | 6     |
| 20 = MAUS-BUS TXD          | 8     |
| 21 = MAUS-BUS RXD          | 9     |

- X2001**
- 1 = LF+
  - 2 = RF+
  - 3 = LR+
  - 4 = TEL-MUTE
  - 5 = KL-R (IGNITION14,4V)
  - 6 = RR+
  - 7 = K-BUS
  - 8 = LF-
  - 9 = GAL / 14,4V
  - 10 = GAL
  - 11 = RF-
  - 12 = LR-
  - 13 = KL58G (ILLUMINATION)
  - 14 = RR-
  - 15 = KL31 / GND
  - 16 = ANT 14,2 V

**BLAUPUNKT** AUTORADIO **BMW CD43 DIN PLUS**  
7 649 272 042  
**BMW CD43 E46 PLUS**  
7 649 272 040  
**BMW CD43 E39 PLUS**  
7 649 272 044

Schaltbild • Circuit diagram

**CLASS 1 LASER PRODUCT**

**UNSICHTBARE LASERSTRAHLUNG NICHT DEM STRAHL AUSSETZEN LASERKLASSE 3B**

**VORSICHT!**  
Das Gerät beinhaltet eine Laserkomponente! Im Servicefall nachfolgende Hinweise beachten:

- Das Gerät arbeitet mit unsichtbarem Laserstrahl. Bei geöffnetem Gerät tritt im Bereich des Plattentisches Laserstrahlung aus.
- Nicht in den Strahl blicken.
- Unbeteiligte Personen vom Arbeitsplatz fernhalten.
- Der Betrachtungsabstand darf 13cm nicht unterschreiten. Kann dies nicht eingehalten werden, muß eine geeignete Laserschutzbrille getragen werden.

**CAUTION!**  
This unit contains a laser component! For service observe the following important instructions:

- The unit operates with an invisible laser beam. When the cover is removed, near the disc compartment, invisible laser beams are apparent.
- Avoid direct eye contact with these beams.
- Keep other people away from the working place.
- The viewing distance should not be less than 13cm. If this distance cannot be ensured, use suitable laser safety goggles.

**ACHTUNG:**  
Bei Arbeiten an den unter Spannung stehenden oder nicht mit entsprechenden Filtern oder Schutzblenden abgedeckten LED's, müssen nachfolgende Vorschriften beachtet werden:

1. Reparaturen oder Funktionsprüfungen dürfen nur mit einer Schutzbrille erfolgen. Die zu verwendenden Schutzblenden müssen einen UV- bzw. Sonnenschutzfilter haben (z.B. UVEX sportstyle 9186 088).
2. Der Betrieb mit höheren Strömen, auch kurzzeitig, ist nicht zulässig.
3. Der Blickwinkel zur Leiterplatte darf 60° nicht übersteigen.

Die Nichtbeachtung der Verarbeitungsvorschriften kann schwere Augenschädigungen zur Folge haben!

**ATTENTION:**  
For the process of handling the LEDs when they are supplied with their operating voltage and not covered by their respective filters or diffusion screens, the following instructions have to be observed:

1. Repairs and function checks may be carried out with protection glasses only. The used glass material must be a UV- or sun ray protection filter (e.g. UVEX sportstyle 9186 088).
2. The operation with higher currents, also for short duration, is not permitted.
3. The viewing angle towards the circuit board may not exceed 60°.

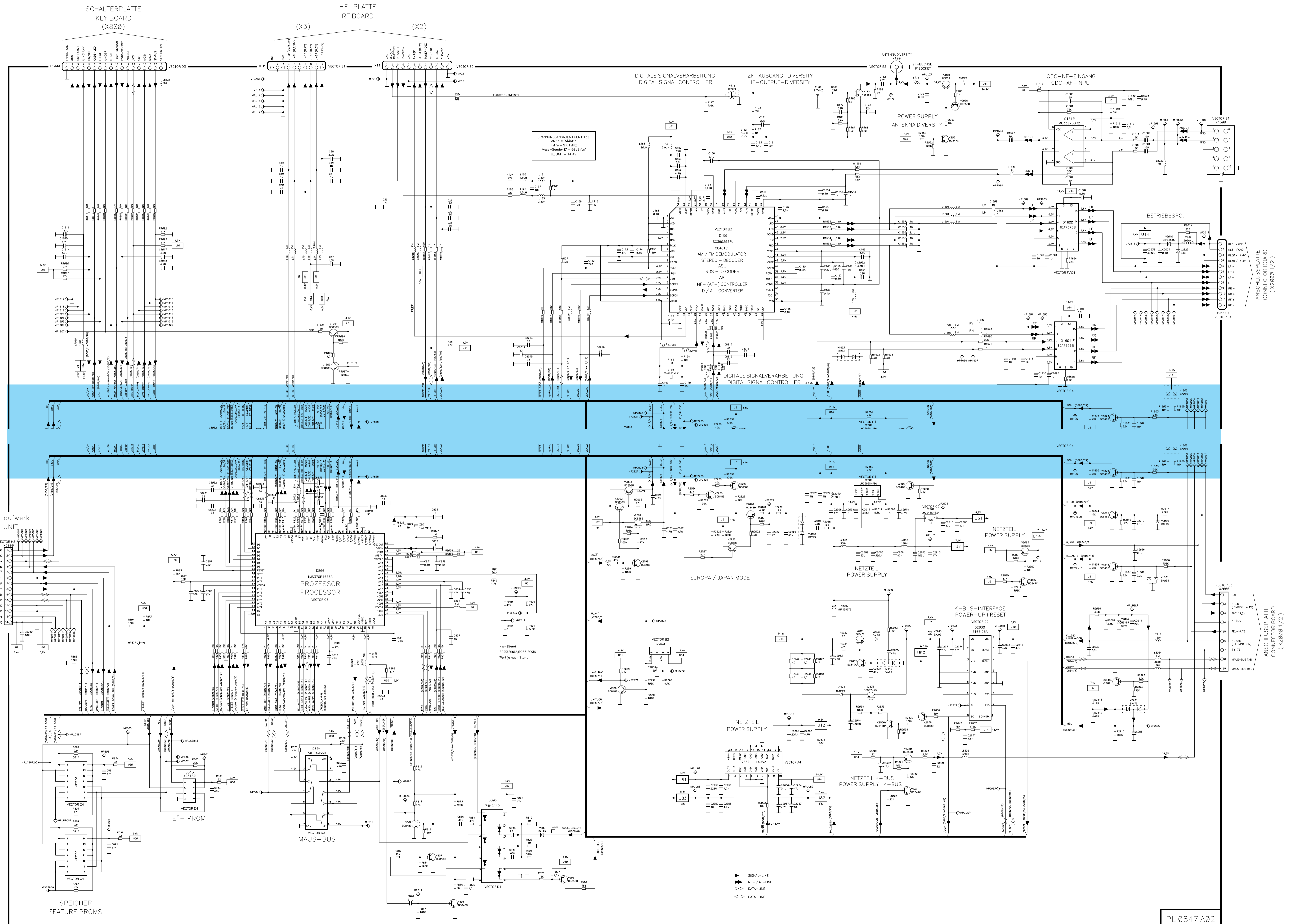
In the case of non-observance of the instructions serious damage to the eyes may result.



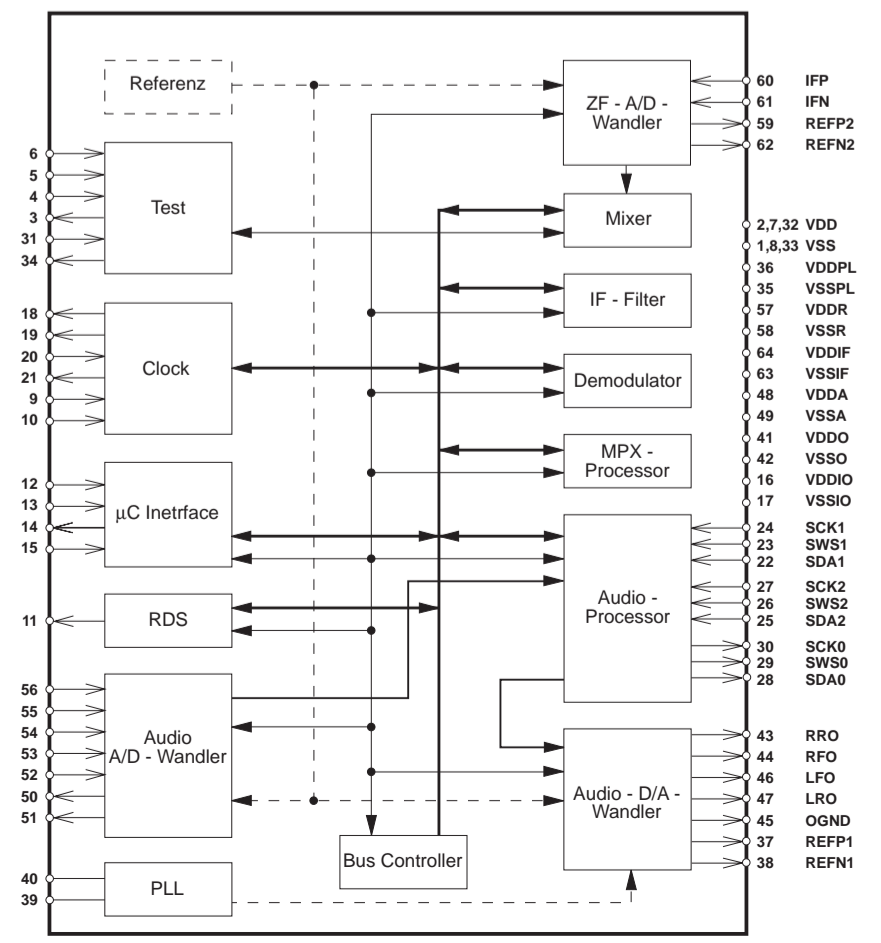
Prüfdiagnose Tuner IC (D1)						
Diagnosis test tuner IC (D1)						
Pin	Band	Frequenz	E'	Uss	Vermerke	Notice
24+25 (ZF-OUT)	FM	97,1 MHz	83 dB $\mu$ V	650 mV <sub>ss</sub>	jeweils gegen Masse	respective against GND
28	FM	97,1 MHz	80 dB $\mu$ V	25 mV <sub>ss</sub>		
31+32	FM	97,1 MHz	80 dB $\mu$ V	200 mV <sub>ss</sub>	jeweils gegen Masse	respective against GND
31+32	AM	900 kHz	80 dB $\mu$ V	200 mV <sub>ss</sub>	jeweils gegen Masse	respective against GND
34 (AM-AM)	AM	900 kHz	80 dB $\mu$ V	50 mV <sub>ss</sub>		
36	AM	900 kHz	ab 73 dB $\mu$ V		künstliche Antenne aus	not commutated
37	FM	97,1 MHz	ab 80 dB $\mu$ V			
43 (FM-AM)	FM	97,1 MHz	84 dB $\mu$ V	5 mV <sub>ss</sub>		

Pin-Belegung des FM/AM Tuner-IC D1				
Tuner IC D1 Pin configuration				
Pin No.	I/O	Name	Funktion	Function
1	-	MIXDEC	Mischer Entkopplung	Mixer decoupling
2	-	CHOLD	IG PLL	IG PLL
3	-	CHOLD	RF PLL	RF PLL
4	-	PLLGND	PLL-Masse	PLL Ground
5	-	VCC	8,5V	8,5V
6	-	VPLL	PLL Oberspannung	PLL top voltage
7	I	LFINP	Schleifenfilteringang	PLL loop filter input
8	O	LF1	Schleifenfilter 1	PLL loop filter Output 1
9	O	LF2	Schleifenfilter 2	PLL loop filter Output 2
10	O	LF3	Schleifenfilter 3	PLL loop filter Output 3
11	I	VTUNE	Abstimmspannung	Tuning voltage
12	I	OSCINP	Oszillator Eingang	Oscillator input
13	O	OSCOUT	Oszillator Ausgang	Oscillator Output
14	-	OSCGND	Oszillator Masse	Oscillator Ground
15	O	VCC	8,5V	8,5V
16	O	OSCBUFF	Oszillatorschaltrelais	Oscillator Buffer Output
17	I	DGND	Digitale Masse	Digital Ground
18	I	CS	Chip Select	Chip Select
19	I	RD	Dateneingang	DATA IN
20	I	CLK	Clock	Clock
21	O	TX	Datenausgang	DATA OUT
22	I	FRFREQ	Referenzfrequenz	Reference frequency
23	-	IFAGC2	ZF Regelspannung 2	ZF AGC 2
24	O	IFOUT1	ZF - Ausgang 1	IF output 1
25	O	IFOUT2	ZF - Ausgang 2	IF output 2
26	-	IFAGC1	ZF Regelspannung 1	ZF AGC 1
27	-	IFGND	ZF Masse	IF Ground
28	I	IFIN	ZF Eingang	IF input
29	-	VDC	Interne Referenzspannung	Internal reference voltage
30	-	VCC	8,5V	8,5V
31	O	MIXOUT2	Mischerausgang 2	Mixer Output 2
32	O	MIXOUT1	Mischerausgang 1	Mixer Output 1
33	-	AMREF	AM - Referenzspannung	AM reference input
34	I	AMMIXIN	AM Mischereingang	AM Mixer Input
35	-	RFAGC3	HF Regelspannung (aufregend)	RF AGC 3
36	O	RFAGC4	HF Regelspannung (Vorstufe AM)	RF AGC 4 AM input stage
37	O	RFAGC5	HF Regelspannung (Vorstufe FM)	RF AGC 5 FM input stage
38	-	MIXGND	Mischer Masse	Mixer Ground
39	-	RFAGC2	HF Regelspannung (Detektor)	RF AGC 2
40	-	RFAGC1	HF Regelspannung (abregend)	RF AGC 1
41	-	ANGND	Analog Masse	Analog ground
42	-	FMMIXREF	Referenzspannung FM Mischer	Reference voltage FM mixer
43	I	FMMIXINP	FM Mischer Eingang	FM mixer input
44	-	RFAGC0	AGC-Entkopplung	AGC decoupling

Pin-Belegung des IC D150				
Digital IC D150 Pin Configuration				
Pin No.	I/O	Name	Funktion	Function
1	-	VSS	Masse	Ground
2	I	VDD	5 V	5 V
4	I	TDI	Testdateneingang	Test Data Input
5	I	TMS	Testmode	Testmode
6	I	TCK	Testclock	Testclock
7	-	VDD	5 V	5 V
8	-	VSS	Masse	Ground
9	O	PWON	Power down Zustand	Power down Mode
10	I	RESN	Reset	Hardware reset (active LOW)
11	O	IRGN	RDS alarm/stop	RDS alarm/search stop
12	I	CSN	Chip select Eingang	Chip select $\mu$ C interface
13	I	SCPRX	Serielle Daten $\mu$ C Interface	Serial data $\mu$ C interface IN
14	O	SCPTX	Serielle Daten $\mu$ C Interface	Serial data $\mu$ C interface OUT
15	I	SCPCK	Clock $\mu$ C Interface	Clock $\mu$ C interface
16	-	VDDC	Platzspannung Digitale Ein-/Ausgänge	Placeholder for digital I/O
17	-	VSSIO	Masse Digitale Ein-/Ausgänge	Ground for digital I/O
18	O	CKL1	Programmierbarer Clock 1	Programmable clock 1
20	O	XTALO	28,5 MHz Oszillator	Oscillator 28,5 MHz
21	O	XTALO	28,5 MHz Oszillator	Oscillator 28,5 MHz
31	I	TDI1	Testdateneingang 1	Test input 1
32	-	VDD	5 V	5 V
33	-	VSS	Masse	Ground
35	-	VSSPLL	Masse (Minus) PLL	Ground (minus) PLL
36	-	VDDPLL	Plus PLL 5V	PLL 5V (pos.)
37	O	REFP1	Audio DIA-Wandler Positive Referenz	Audio DIA converter (pos. reference)
38	O	REFN1	Audio DIA-Wandler Negative Referenz	Audio DIA converter (neg. reference)
39	-	CAPN	PLL Kapazität (negativ)	PLL capacity (neg.)
40	-	CAPP	PLL Kapazität (positiv)	PLL capacity (pos.)
41	-	VDDO	Audio DIA - Wandler 5V	Audio DIA converter (+5V)
42	-	VSSO	Audio DIA - Wandler Masse	Audio DIA converter (ground)
44	O	RFO	Analogic audio right	Analogic audio right
45	O	COAD	Masse Analogic audio	Ground Analogic audio
46	-	LFO	Audio Links (analogic)	Analogic audio left
48	-	VDDA	5V AD - Wandler	5V AD - converter
49	-	VSSA	Masse AD - Wandler	Ground AD - converter
50	O	REFP2	Audio DIA-Wandler Positive Referenz	Audio DIA converter (pos. reference)
51	O	REFN2	Audio DIA-Wandler Negative Referenz	Audio DIA converter (neg. reference)
52	I	AUXL	Externes Eingang links	Auxiliary left
53	I	CCL	Cassette Input link	Cassette input link
54	-	AGND	Audioeingang Masse	Ground for Audio inputs
55	I	CCR	Cassette Eingang rechts	Cassette input right
56	I	AUSR	Externes Eingang rechts	Auxiliary right
57	-	VDDR	5 V	5 V
58	-	VSSR	Masse	Ground
59	O	REFP2	Audio DIA-Wandler Positive Referenz	Audio DIA converter (pos. reference)
60	I	IFP	ZF Eingang (plus)	ZF input (pos.)
61	I	IFN	ZF Eingang (minus)	ZF input (neg.)
62	O	REFN2	Audio DIA-Wandler Negative Referenz	Audio DIA converter (neg. reference)
63	-	VSSIF	ZF AD - Wandler (minus)	ZF AD converter (-)
64	-	VDDIF	ZF AD - Wandler 5 V	ZF AD converter (+5V)



D150



PL 0847 A02



Hauptplatte  
Main board  
PL 0847 A02



- X10 (X3)**
- 1 = ANT
  - 2 = NC
  - 3 = GND
  - 4 = U-JP(0V/8,2V)
  - 5 = U-EU(8,2V/0V)
  - 6 = NC
  - 7 = U83 (8,4V)
  - 8 = U82 (8,4V)
  - 9 = U81 (8,5V)
  - 10 = U-PLL (9,7V)

- X5000 (X5201)**
- 1 = BCK
  - 2 = LRCK
  - 3 = DATA
  - 4 = POWER DOWN
  - 5 = CD-RESET
  - 6 = L-START
  - 7 = WAKE-UP
  - 8 = BUSY
  - 9 = RXD
  - 10 = TXD
  - 11 = GND
  - 12 = GND
  - 13 = U50 (5,0V)
  - 14 = U7 (7,4V)

- X11 (X2)**
- |                      |                |              |
|----------------------|----------------|--------------|
| 1 = GND              | 5 = GND        | 9 = CS-D10   |
| 2 = IF-OUT-DIVERSITY | 6 = F-REF      | 10 = SI-2IC  |
| 3 = IF-OUT+          | 7 = U81 (8,5V) | 11 = CLK-2IC |
| 4 = IF-OUT-          | 8 = TUNER-OSZ  | 12 = SO-2IC  |

- X1500 (Connector)**
- 1 = AUX L +
  - 2 = AUX R +
  - 3 + 6 = GND
  - 7 + 11 = GND

- X2000.1 (X2000 1/2)**
- |                    |          |
|--------------------|----------|
| 1+2 = KL31 / GND   | 8 = LF-  |
| 3+4 = KL30 / 14,4V | 9 = RR-  |
| 5 = LR-            | 10 = RR+ |
| 6 = LR+            | 11 = RF+ |
| 7 = LF+            | 12 = RF- |

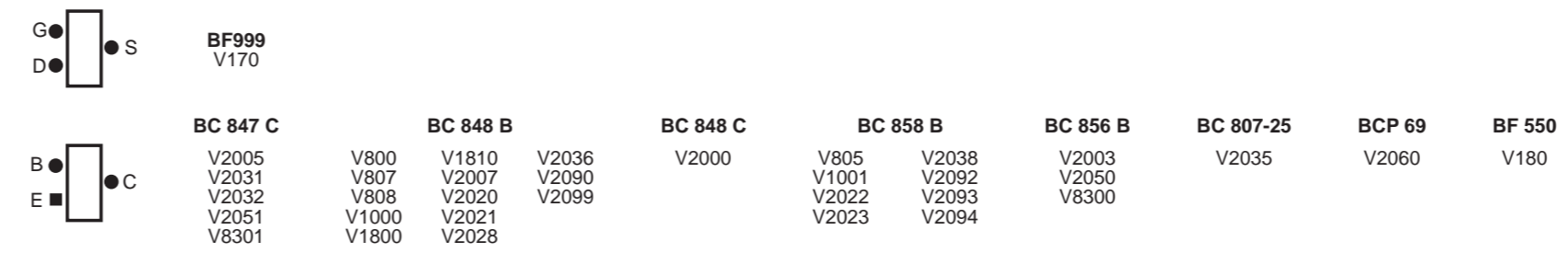
- X2005 (X2000 1/2)**
- 1(13) = GAL
  - 2(14) = KL-R (IGNITION14,4V)
  - 3(15) = ANT 14,2V
  - 4(16) = K-BUS
  - 5(17) = TEL-MUTE (ILLUMINATION)
  - 6(18) = KL 58G
  - 7(19) = GND
  - 8(20) = MAUS-BUS TXD
  - 9(21) = MAUS-BUS RXD

- X1000 (X800)**
- 1 = FRAME-GND
  - 2 = GND
  - 3 = U51 (4,9V)
  - 4 = U14 (14,4V)
  - 5 = ON / OFF
  - 6 = CODE-LED
  - 7 = EJECT
  - 8 = U-DISP
  - 9 = U-ND
  - 10 = TEMP-SENSOR
  - 11 = FOTO-SENSOR
  - 12 = RESET
  - 13 = CS
  - 14 = SCK
  - 15 = MOSI
  - 16 = MISO
  - 17 = STATUS
  - 18 = SENSOR-GND

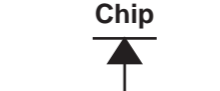
Hauptplatte  
Main board  
PL 0847 A02



- X1000 (X800)**
- 1 = FRAME-GND
  - 2 = GND
  - 3 = U51 (4,9V)
  - 4 = U14 (14,4V)
  - 5 = ON / OFF
  - 6 = CODE-LED
  - 7 = EJECT
  - 8 = U-DISP
  - 9 = U-ND
  - 10 = TEMP-SENSOR
  - 11 = FOTO-SENSOR
  - 12 = RESET
  - 13 = CS
  - 14 = SCK
  - 15 = MOSI
  - 16 = MISO
  - 17 = STATUS
  - 18 = SENSOR-GND

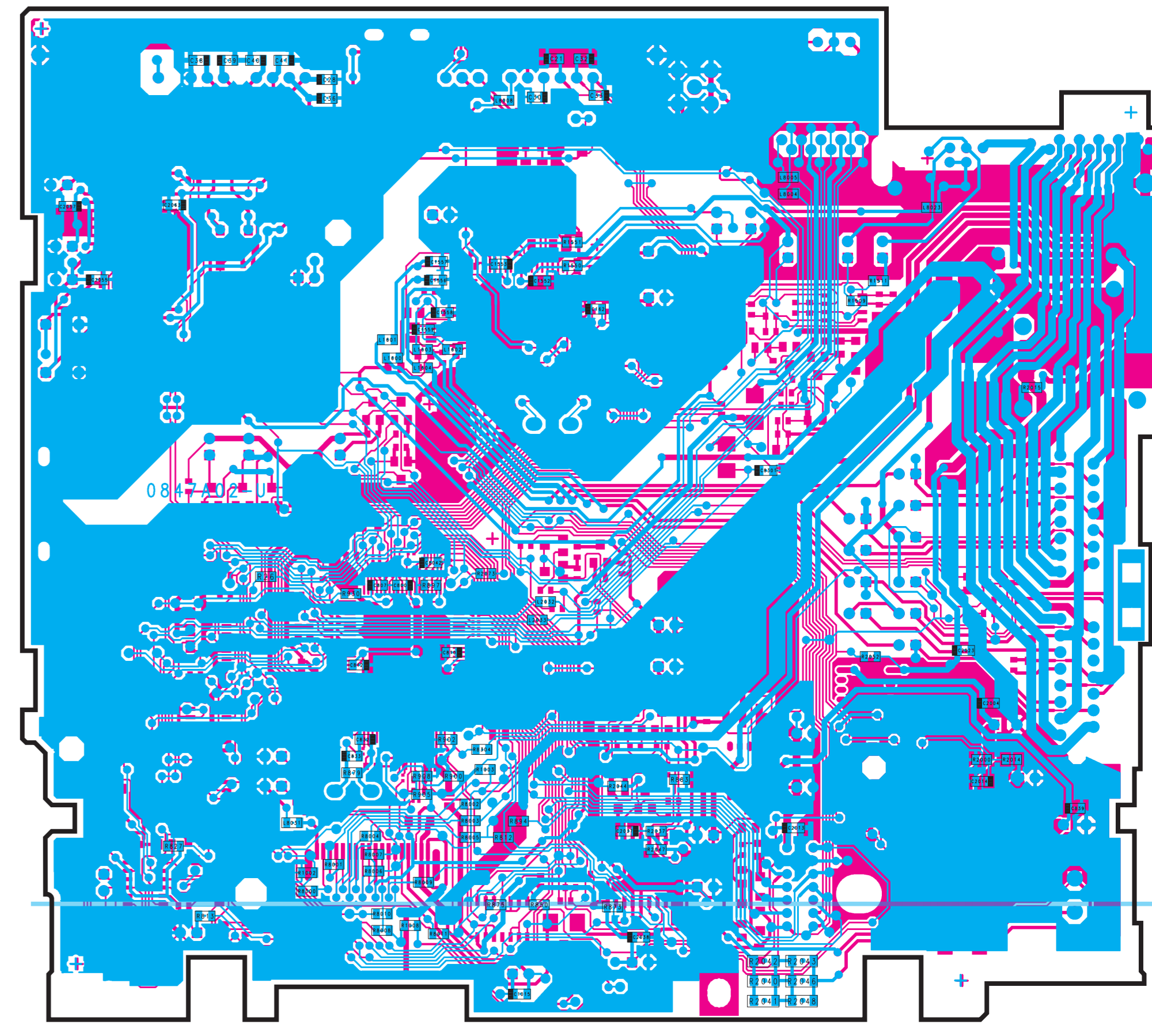
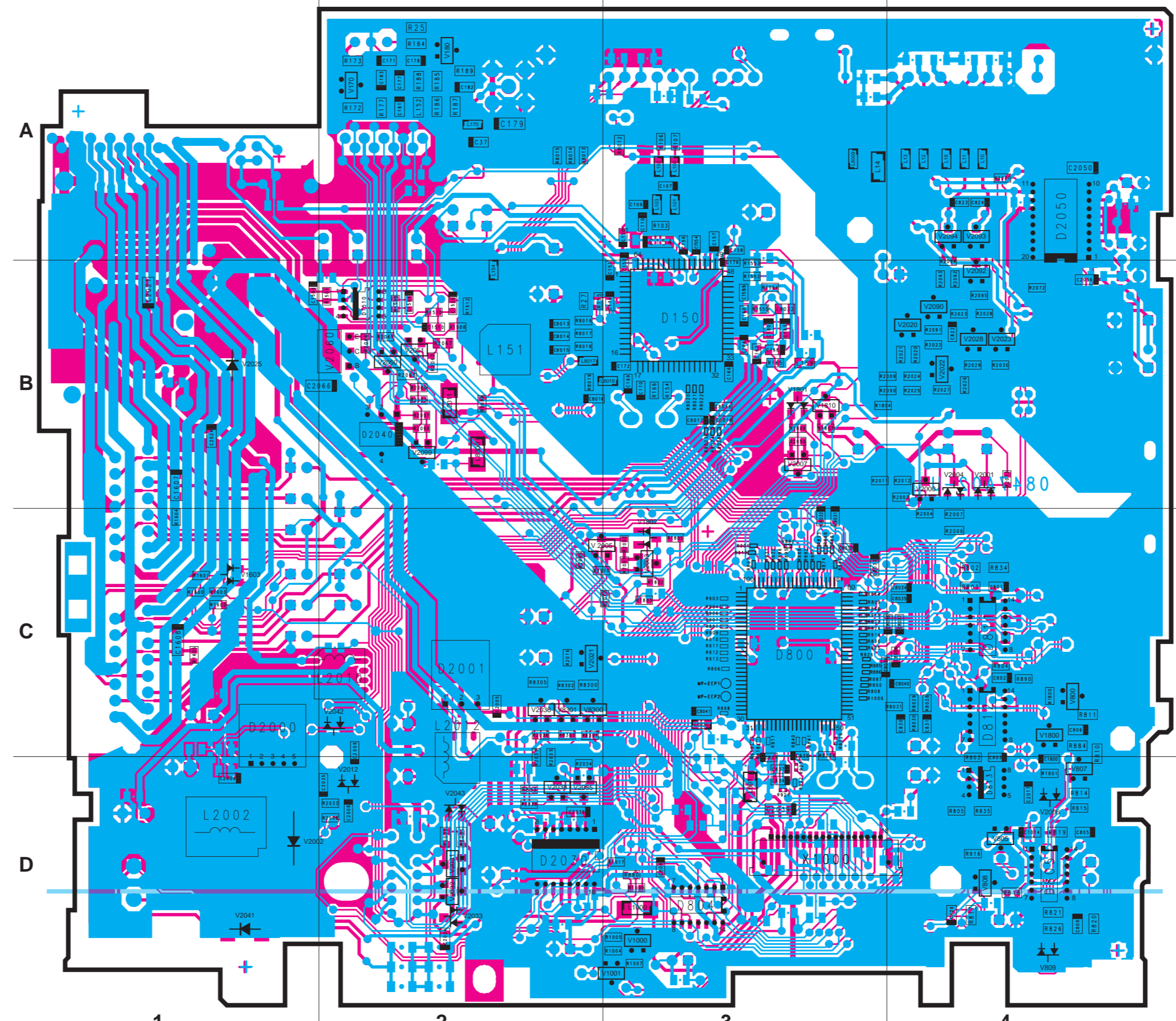
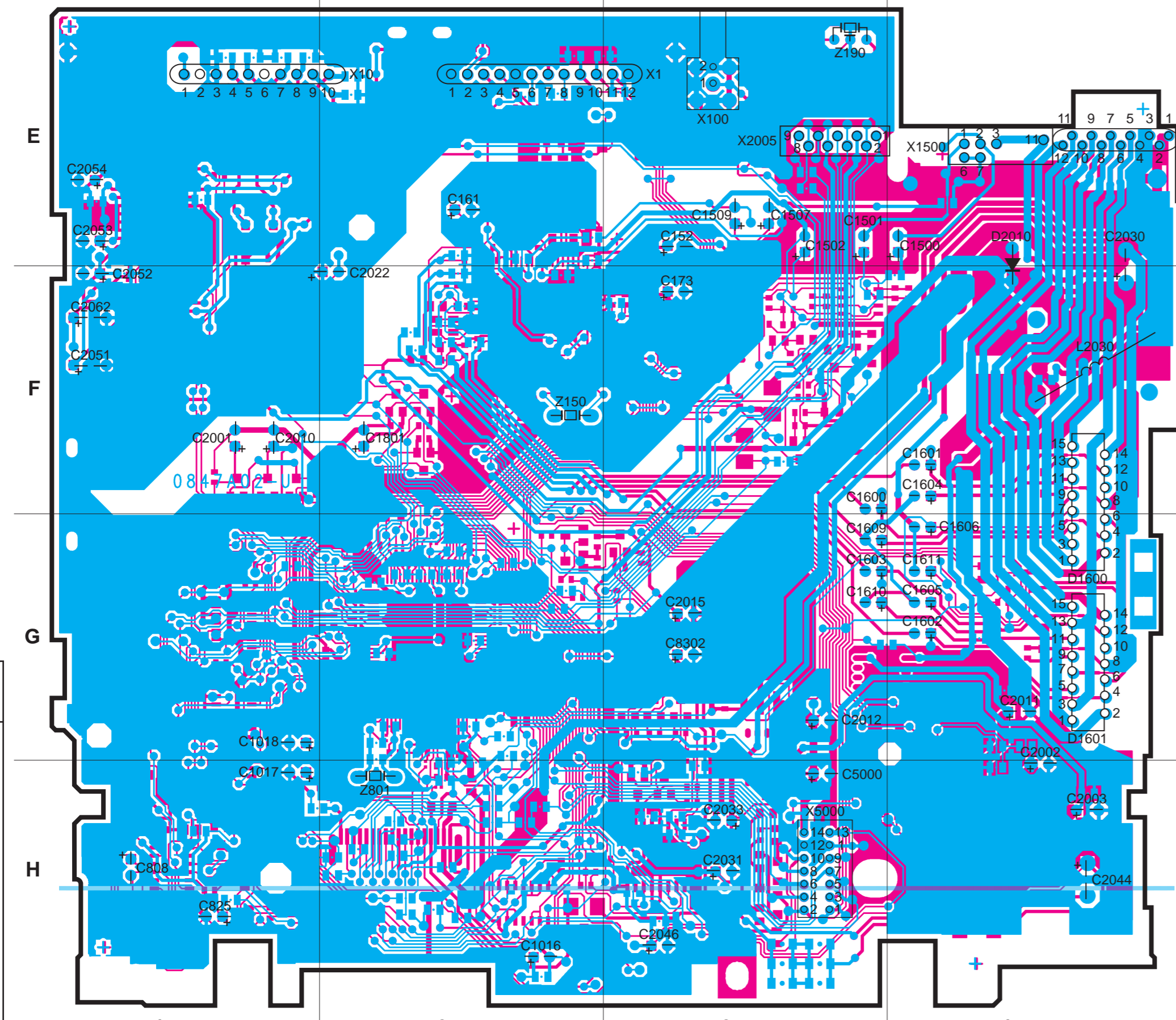


Hauptplatte  
Main board  
PL 0847 A02



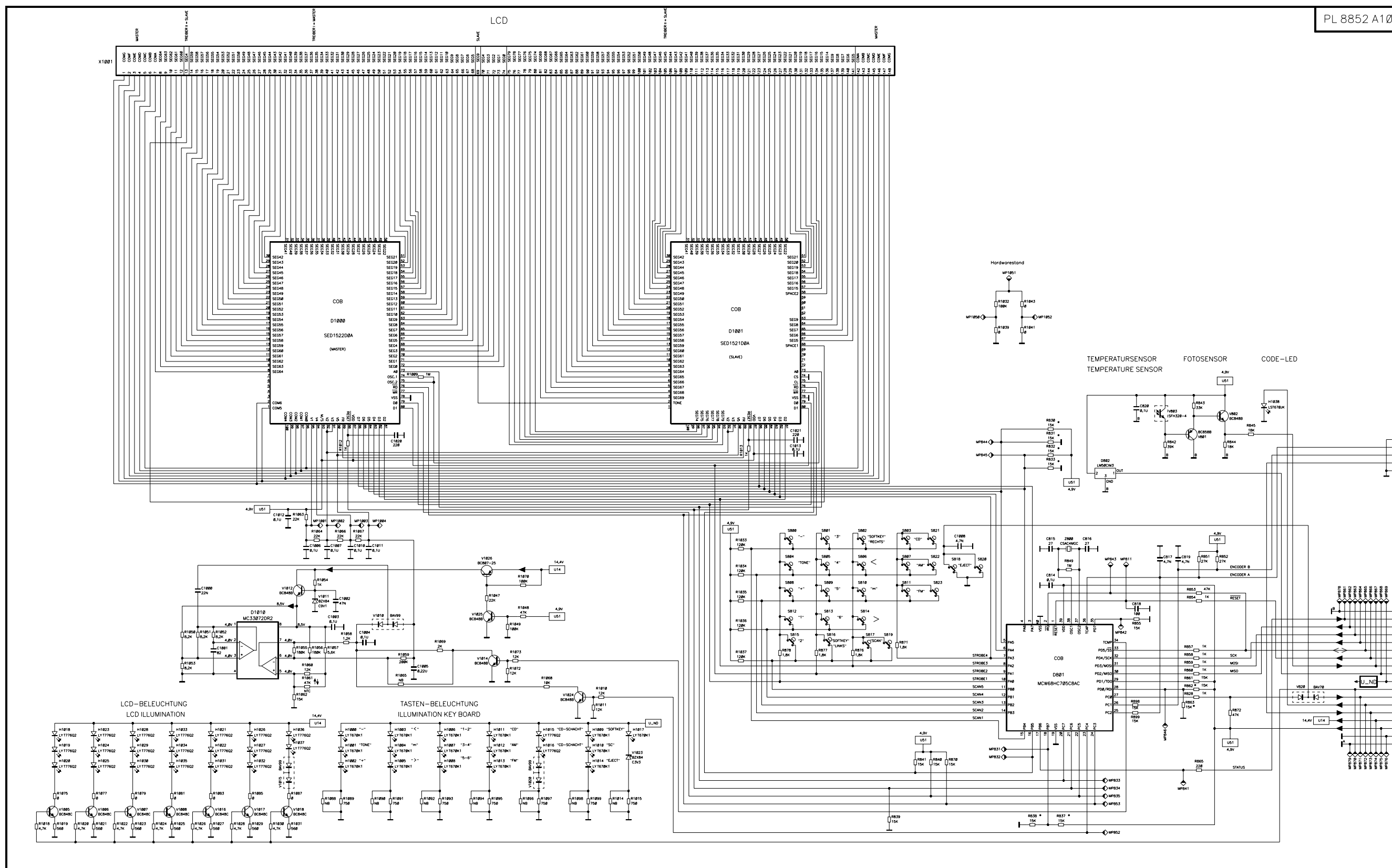
- X1000 (X800)**
- 1 = FRAME-GND
  - 2 = GND
  - 3 = U51 (4,9V)
  - 4 = U14 (14,4V)
  - 5 = ON / OFF
  - 6 = CODE-LED
  - 7 = EJECT
  - 8 = U-DISP
  - 9 = U-ND
  - 10 = TEMP-SENSOR
  - 11 = FOTO-SENSOR
  - 12 = RESET
  - 13 = CS
  - 14 = SCK
  - 15 = MOSI
  - 16 = MISO
  - 17 = STATUS
  - 18 = SENSOR-GND

BMW CD43 DIN PLUS 8 649 272 042  
BMW CD43 E46 PLUS 8 649 272 040  
BMW CD43 E39 PLUS 8 649 272 044 } 8 622 401 923 BN/ST 01/99

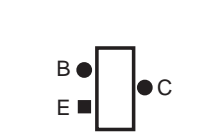




BMW - CD43 DIN PLUS



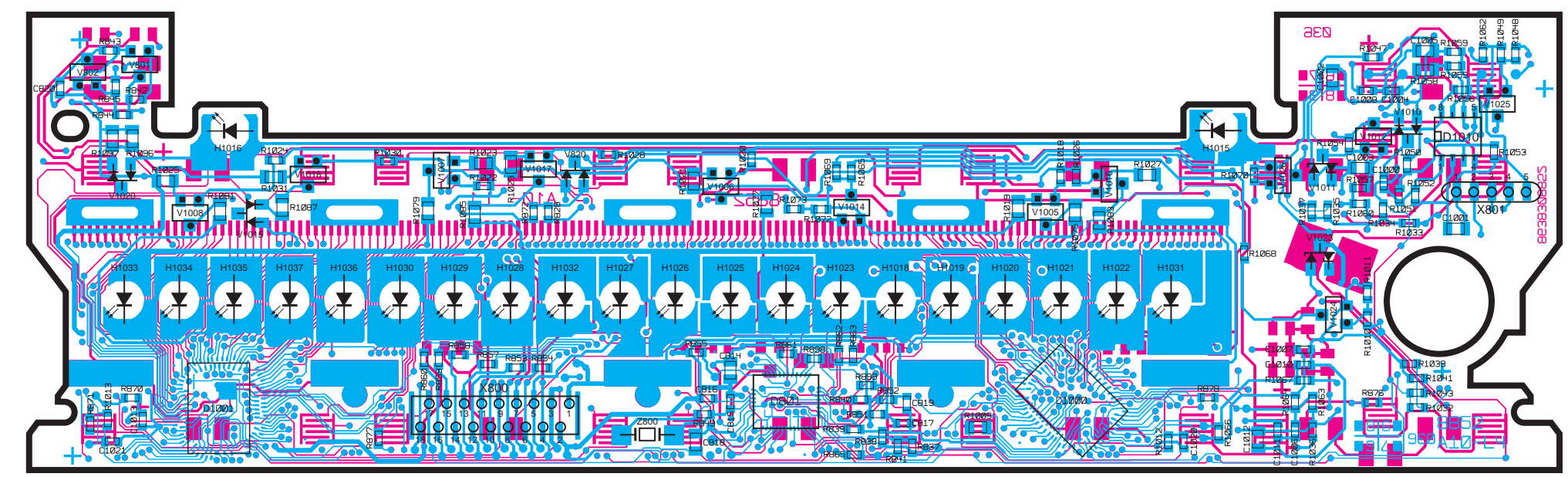
Schalterplatte  
Key board  
PL 8852 A10  
Chip



BC 848 C	BC 848 B	BC 807-25
V1005 V1006 V1007 V1008 V1016 V1017 V1018	V802 V1012 V1014 V1024 V1025	V1026
	BC 858 B	V801

X800 (TO X1000)	
1 = FRAME-GND	10 = TEMP-SENSOR
2 = GND	11 = FOTO-SENSOR
3 = U51 (4,9V)	12 = RESET
4 = U14 (14,4V)	13 = CS
5 = ON / OFF	14 = SCK
6 = CODE-LED	15 = MOSI
7 = EJECT	16 = MISO
8 = U-DISP	17 = STATUS
9 = U-ND	18 = SENSOR-GND

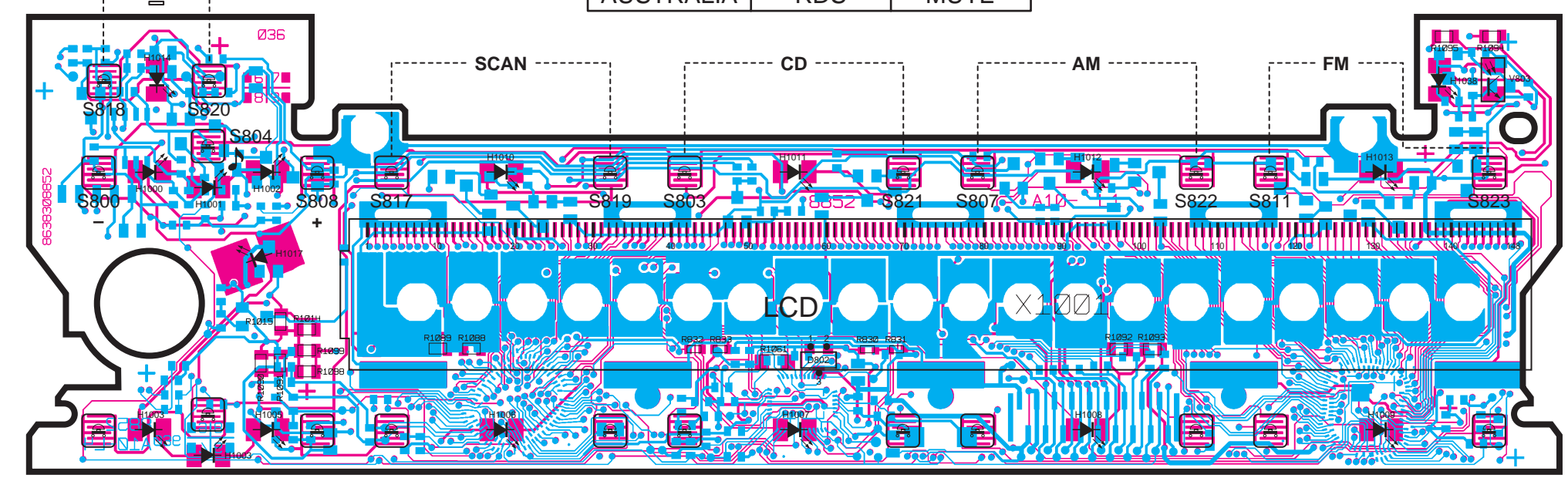
X801 (TO X1)	
1 = GND	
2 = EN-A	
3 = EN-B	
4 = ON/OFF	
5 = GND	



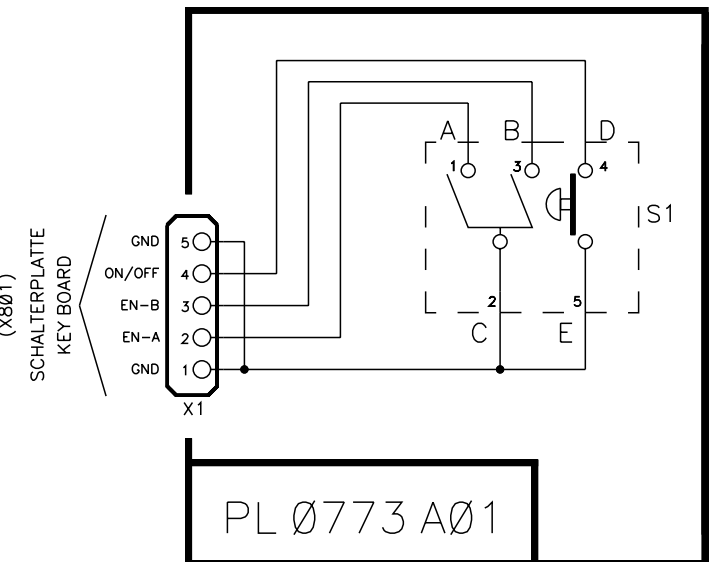
Schalterplatte  
Key board  
PL 8852 A10  
Chip



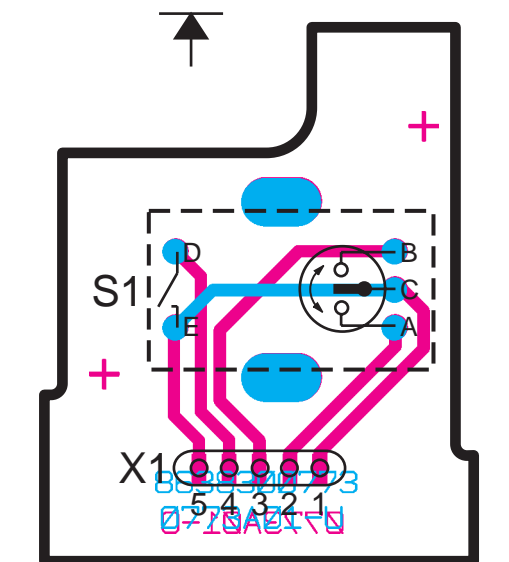
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D	RDS	TP
CAN	RDS	PTY
US	RDS	PTY
JP	---	TRF
AUSTRALIA	RDS	MUTE



BMW-CD43 E46



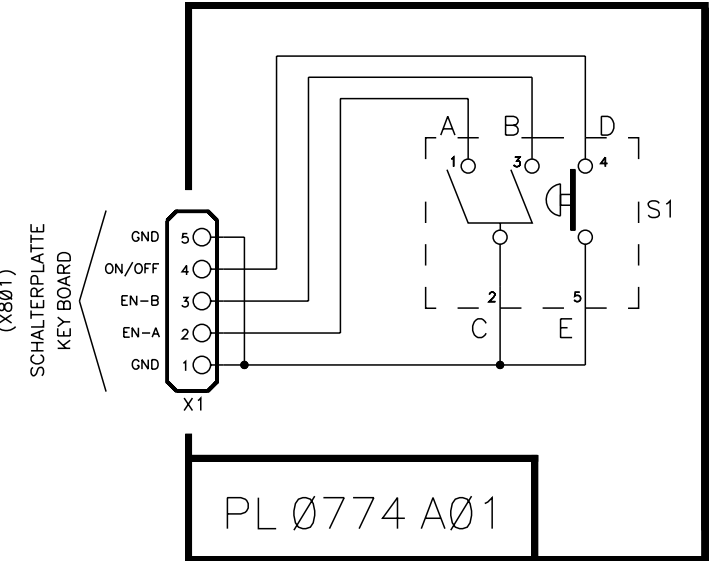
Inkrementen-Geber  
Encoder board  
PL 0773 A01



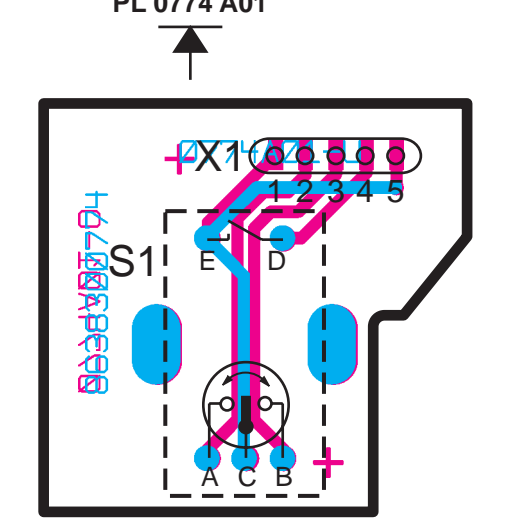
X1 (TO X801)

1 = GND
2 = EN-A
3 = EN-B
4 = ON/OFF
5 = GND

BMW-CD43 DIN

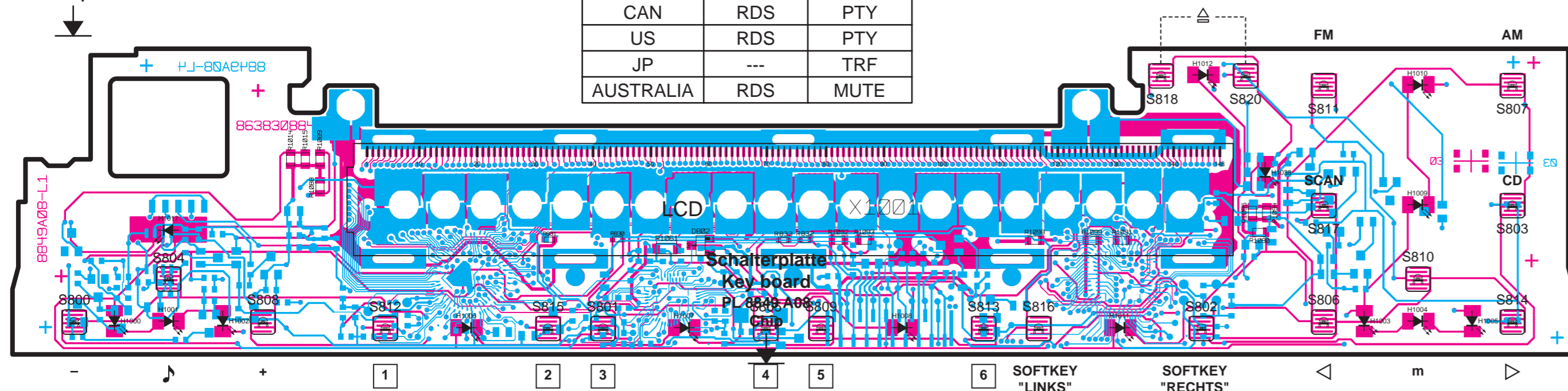


Inkrementen-Geber  
Encoder board  
PL 0774 A01



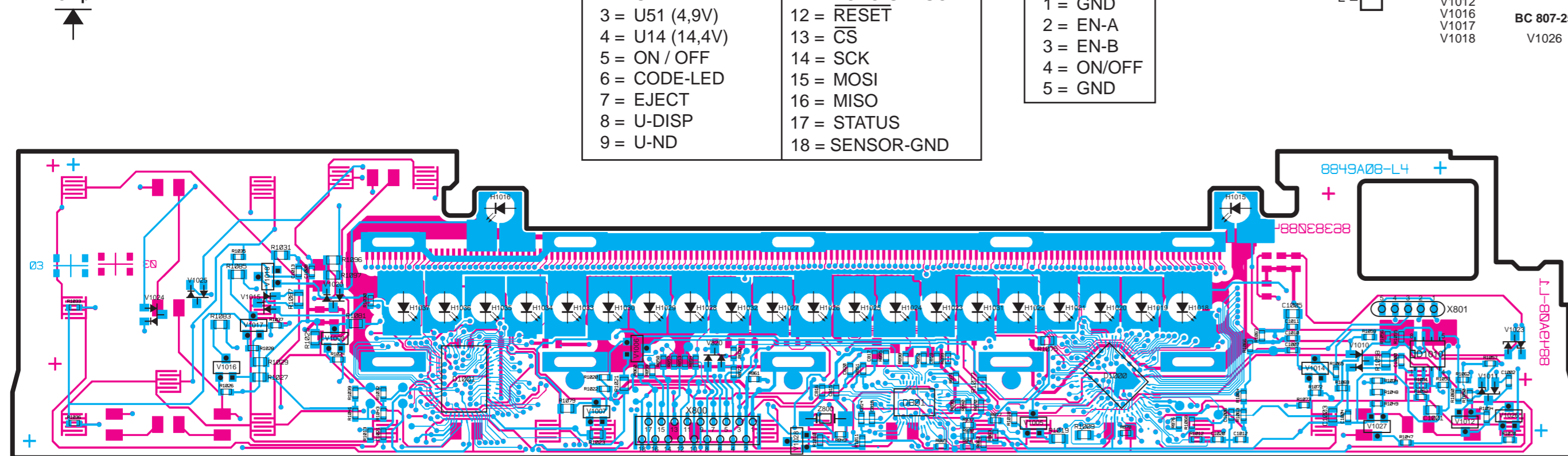


Schalterplatte  
Key board  
PL 8849 A08  
Chip



	SOFTKEY "LINKS"	SOFTKEY "RECHTS"
D	RDS	TP
CAN	RDS	PTY
US	RDS	PTY
JP	---	TRF
AUSTRALIA	RDS	MUTE

Schalterplatte  
Key board  
PL 8849 A08  
Chip

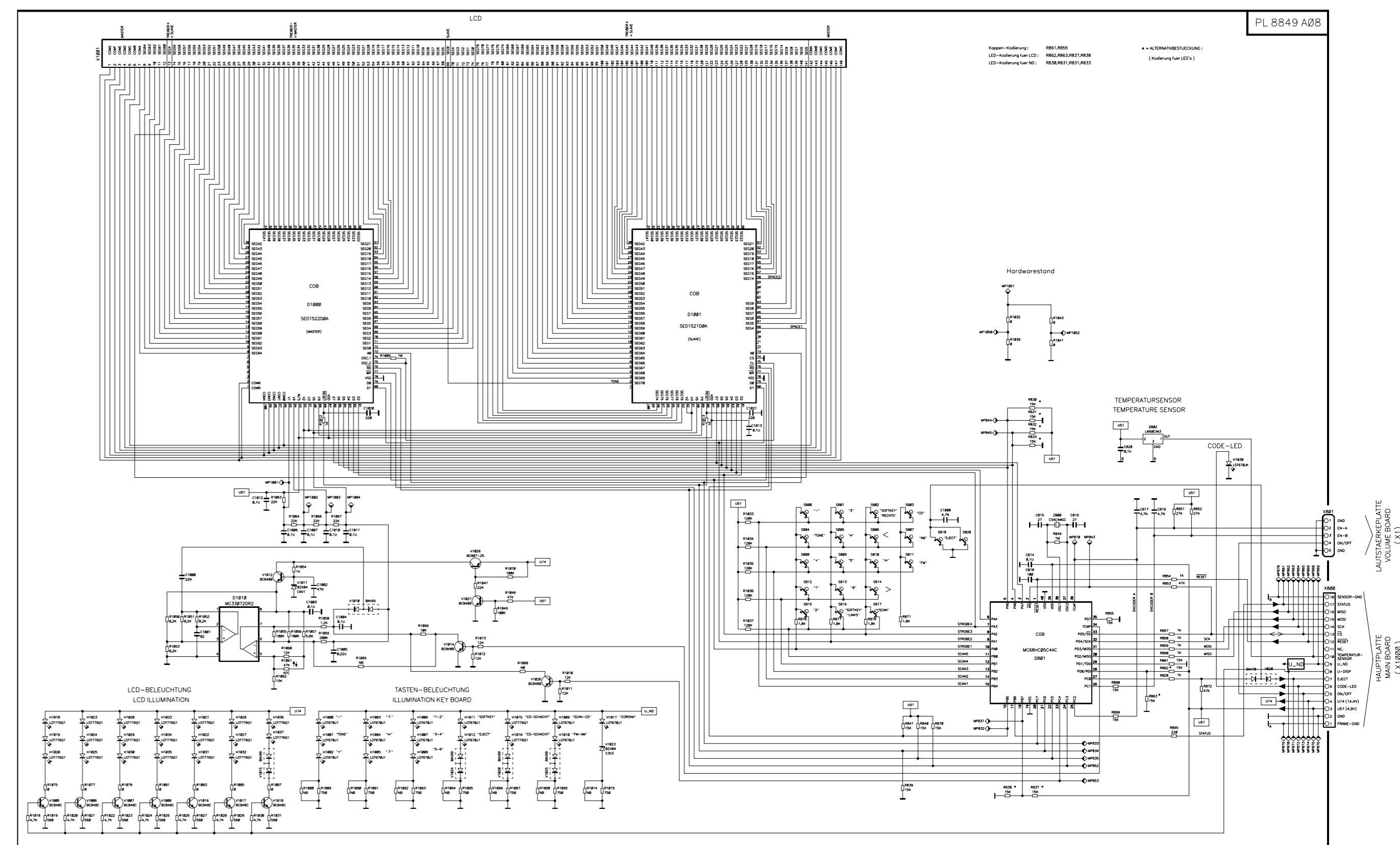


X800 (TO X1000)	
1 = FRAME-GND	10 = TEMP-SENSOR
2 = GND	11 = FOTO-SENSOR
3 = U51 (4,9V)	12 = RESET
4 = U14 (14,4V)	13 = CS
5 = ON / OFF	14 = SCK
6 = CODE-LED	15 = MOSI
7 = EJECT	16 = MISO
8 = U-DISP	17 = STATUS
9 = U-ND	18 = SENSOR-GND

X801 (TO X1)
1 = GND
2 = EN-A
3 = EN-B
4 = ON/OFF
5 = GND

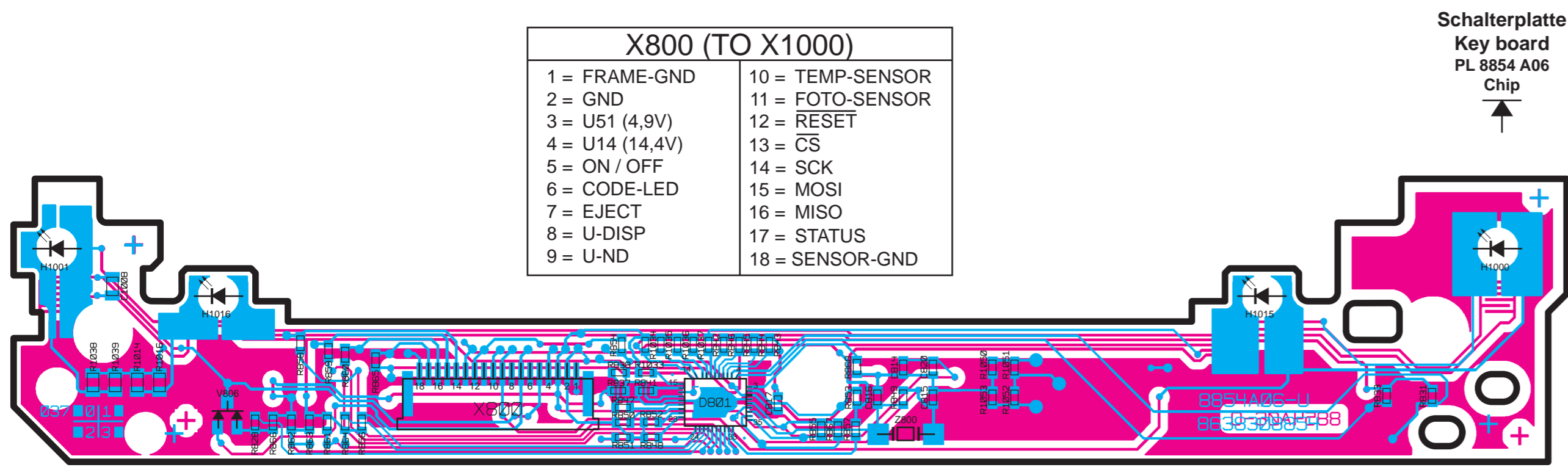
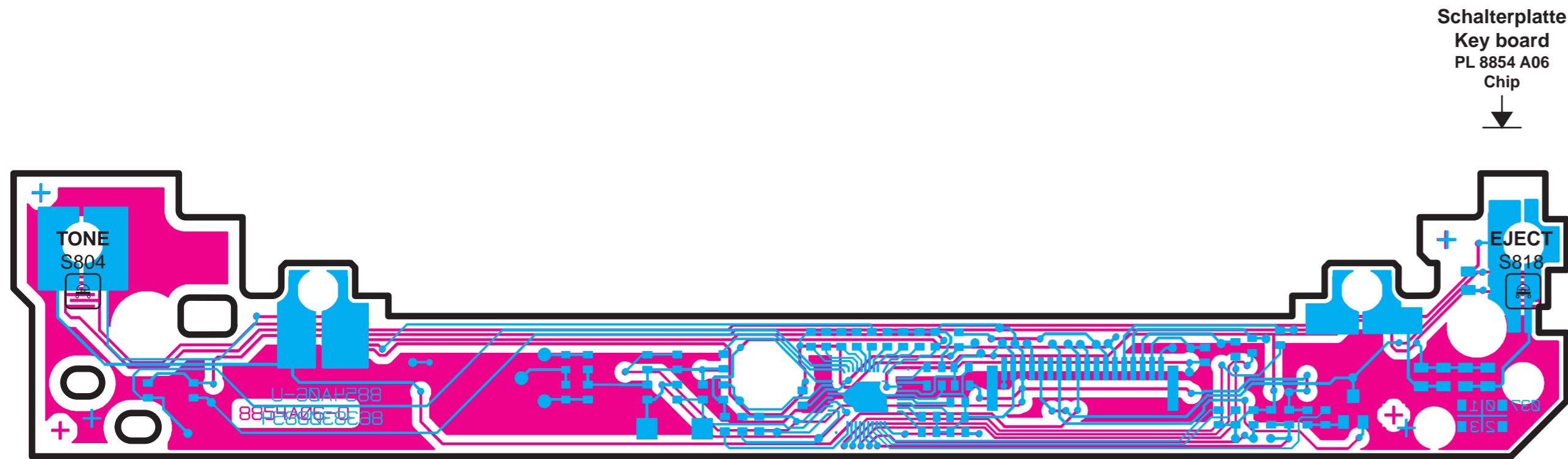
BC 848 C	BC 848 B
V1005	V1014
V1006	V1027
V1007	V1028
V1008	
V1012	
V1016	
V1017	
V1018	
	BC 807-25
	V1026

BMW-CD43 E46 PLUS



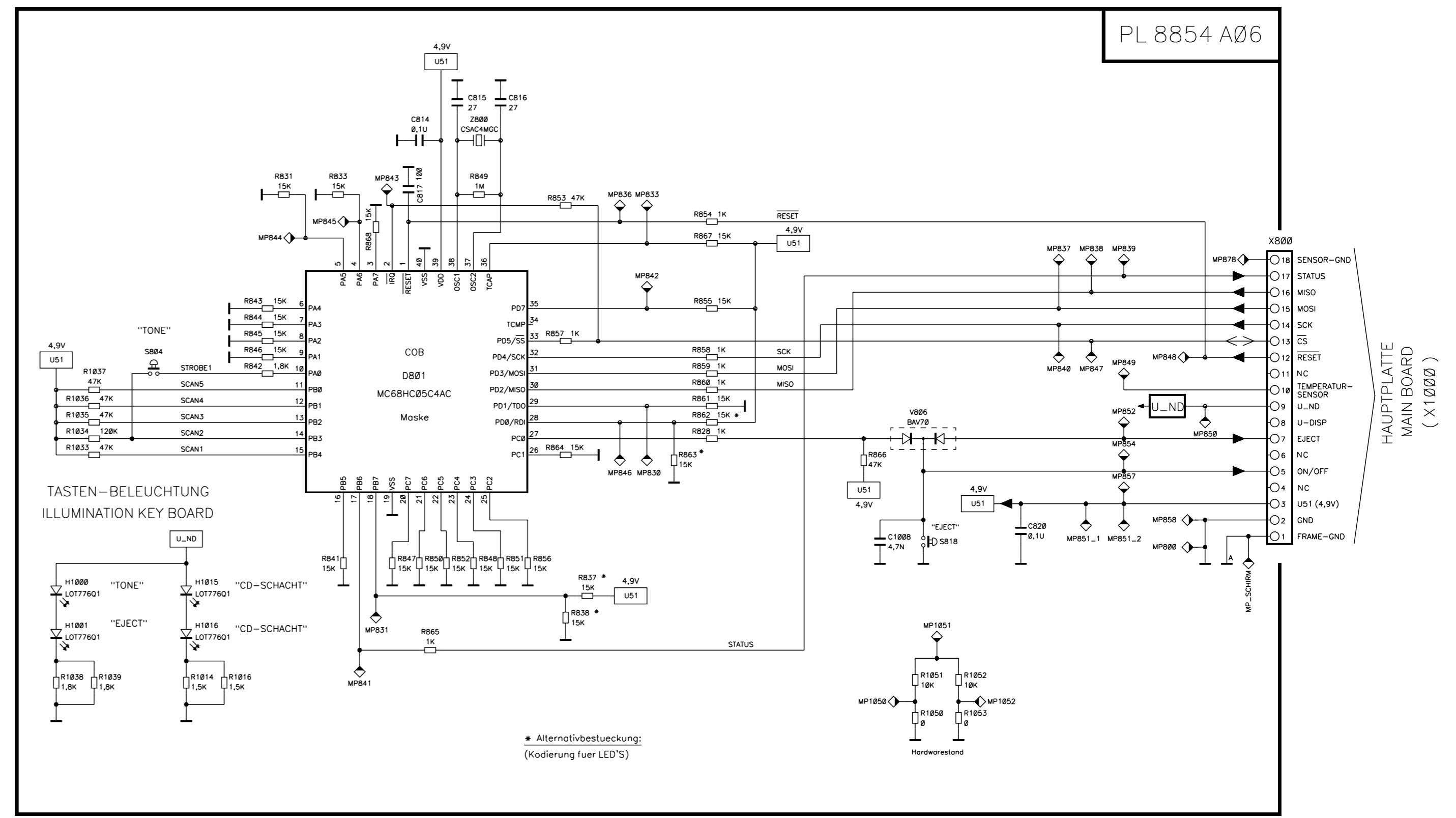
BMW CD43 DIN PLUS 8 649 272 042  
 BMW CD43 E46 PLUS 8 649 272 040  
 BMW CD43 E39 PLUS 8 649 272 044

} 8 622 401 923 BN/ST 01/99



X800 (TO X1000)	
1 = FRAME-GND	10 = TEMP-SENSOR
2 = GND	11 = FOTO-SENSOR
3 = U51 (4,9V)	12 = RESET
4 = U14 (14,4V)	13 = CS
5 = ON / OFF	14 = SCK
6 = CODE-LED	15 = MOSI
7 = EJECT	16 = MISO
8 = U-DISP	17 = STATUS
9 = U-ND	18 = SENSOR-GND

BMW-CD43 E39 PLUS



HAUPTPLATTE  
 MAIN BOARD  
 (X1000)