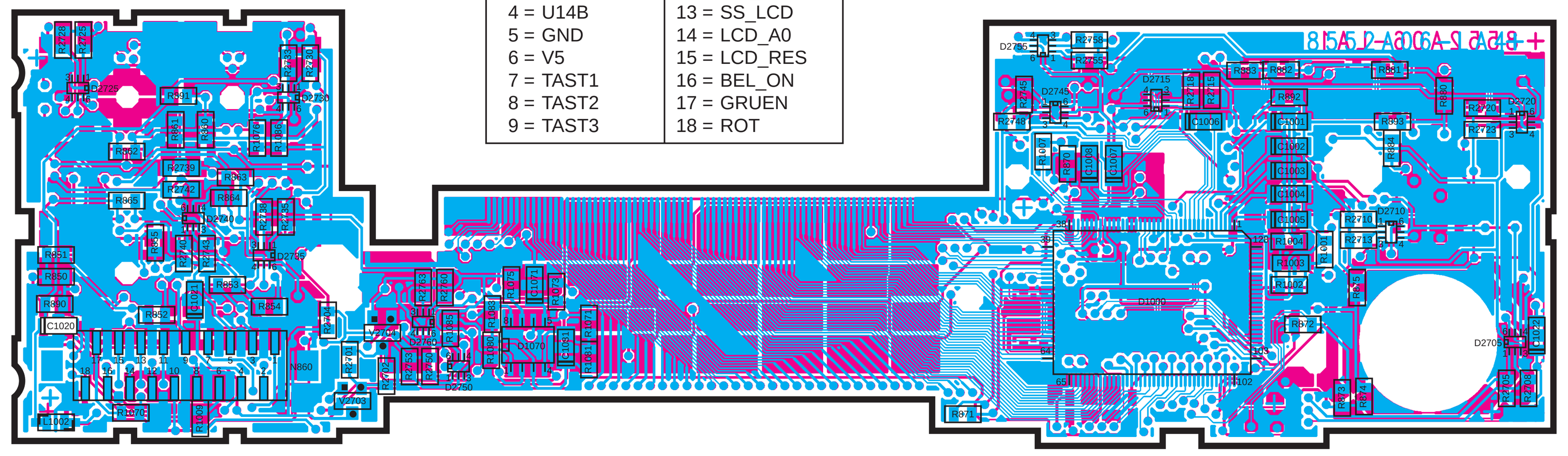
Blaupunkt-Werke GmbH, Hildesheim

BLAUPUNKT AUTORADIO **Amsterdam TCM 127**
7 647 980 010

8 622 401 203 BN-WG 05/97

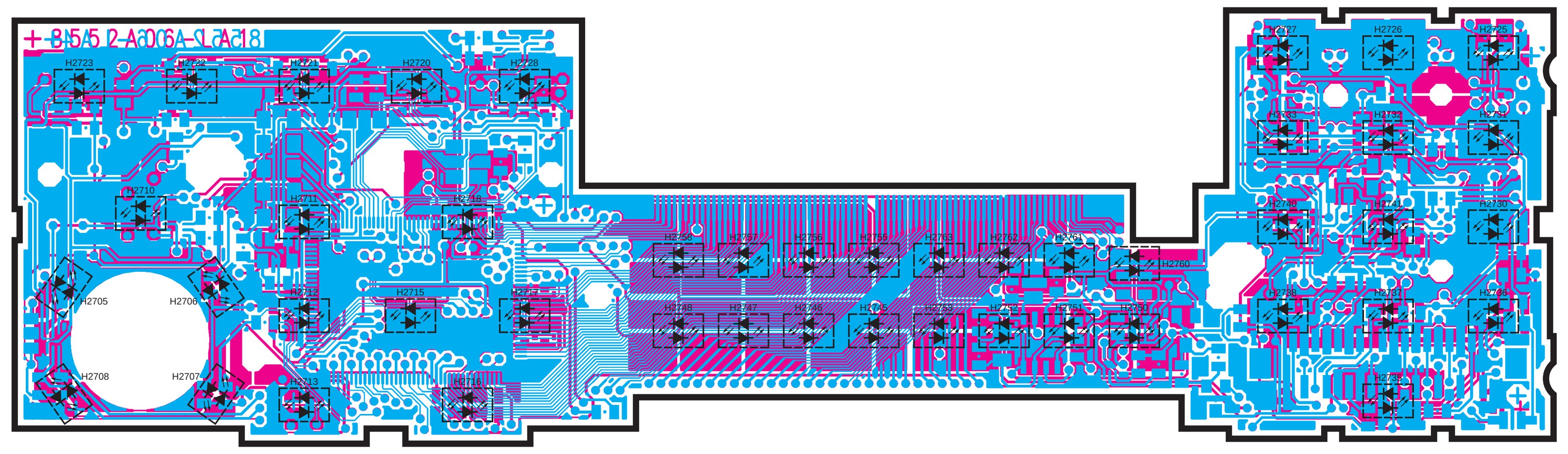
Schaltbild • Circuit diagramm • Schema du poste • Esquema del aparato

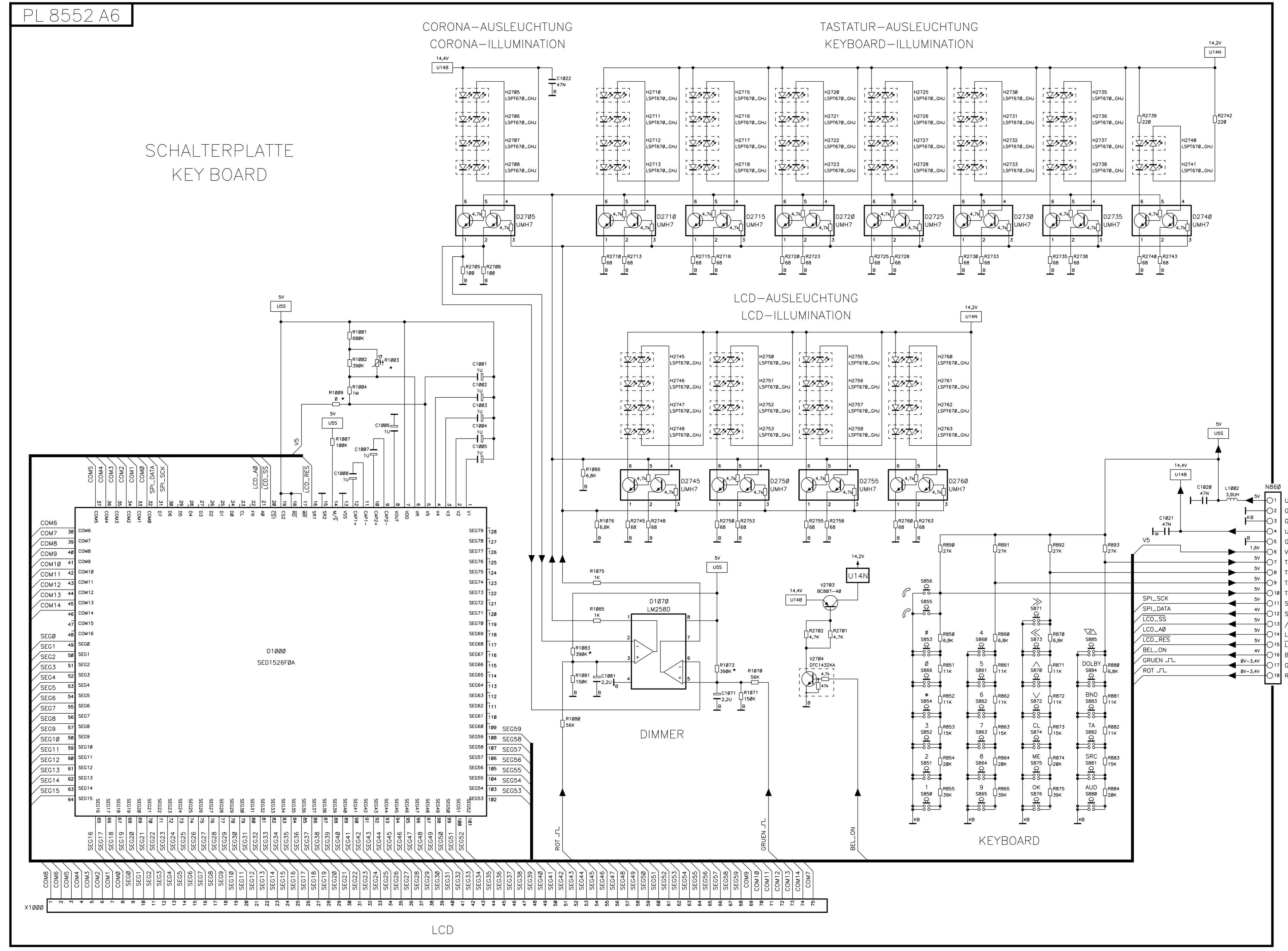
Schalterplatte
Key board
PL 8552 A06
Chip



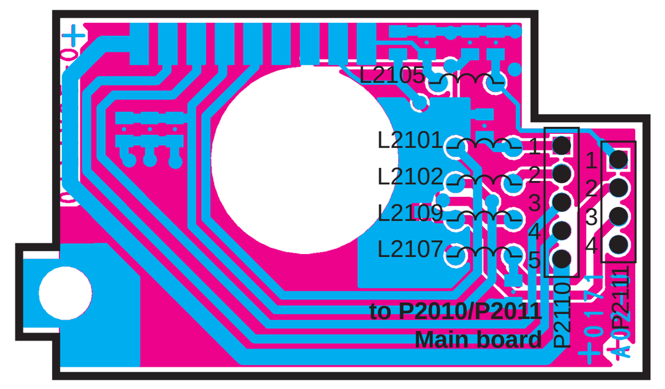
N860	
1 = U5K	10 = TAST4
2 = GND	11 = SPI_SCK
3 = GND	12 = SPI_MOSI
4 = U14B	13 = SS_LCD
5 = GND	14 = LCD_A0
6 = V5	15 = LCD_RES
7 = TAST1	16 = BEL_ON
8 = TAST2	17 = GRUEN
9 = TAST3	18 = ROT

Schalterplatte
Key board
PL 8552 A06
Chip





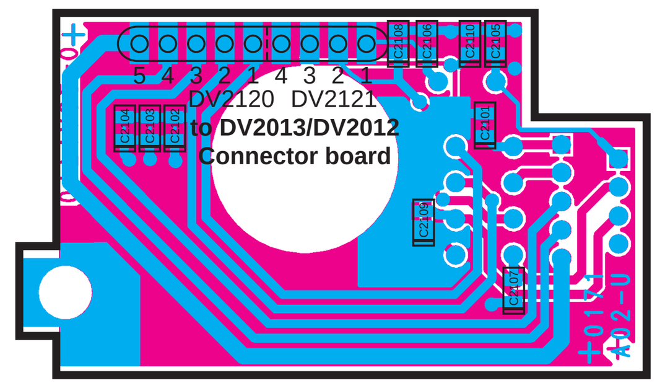
Entstörplatte
Filter board
PL 0171 A02
Chip



P2110
1 = MICRO-IN
2 = NF_GND_M
3 = GSM_DATA_ON
4 = AUD_GND
5 = 14V GESCH.

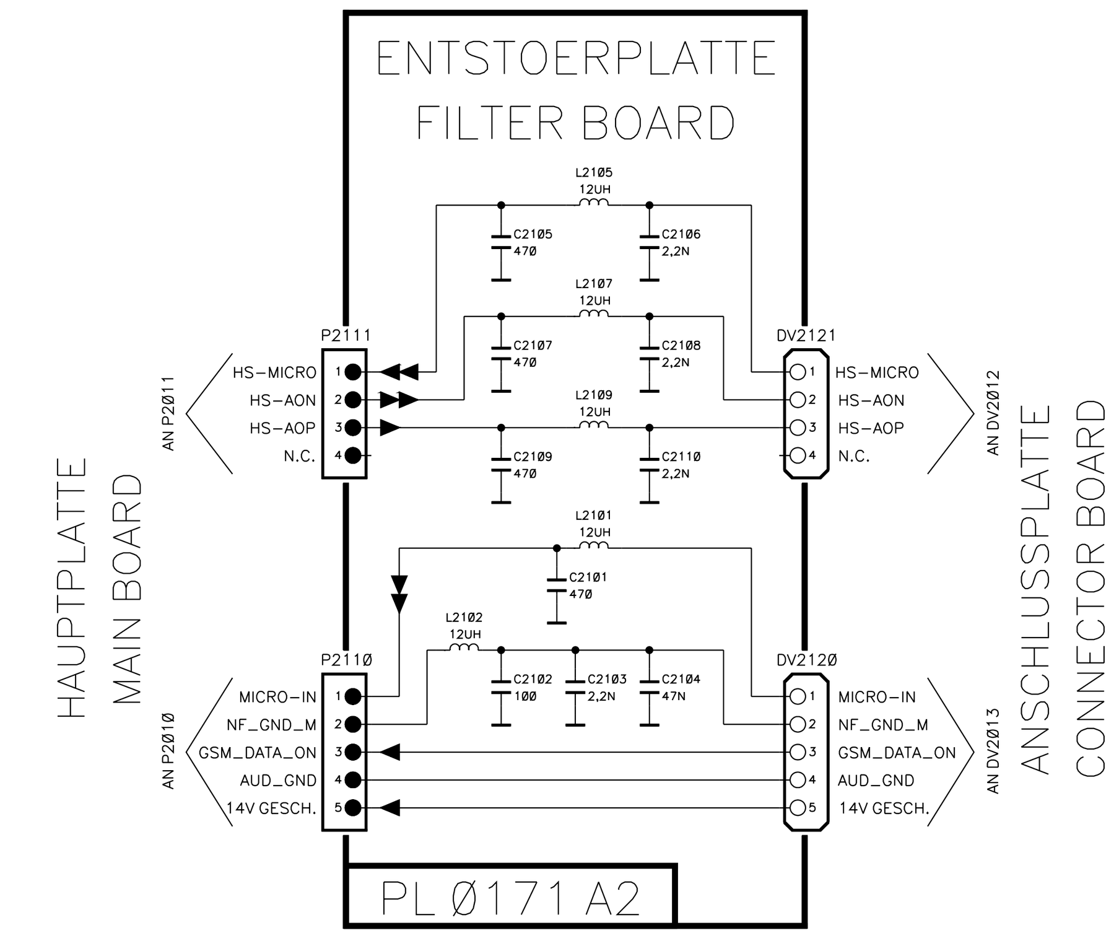
P2111
1 = HS-MICRO
2 = HS-AON
3 = HS-AOP

Entstörplatte
Filter board
PL 0171 A02
Chip

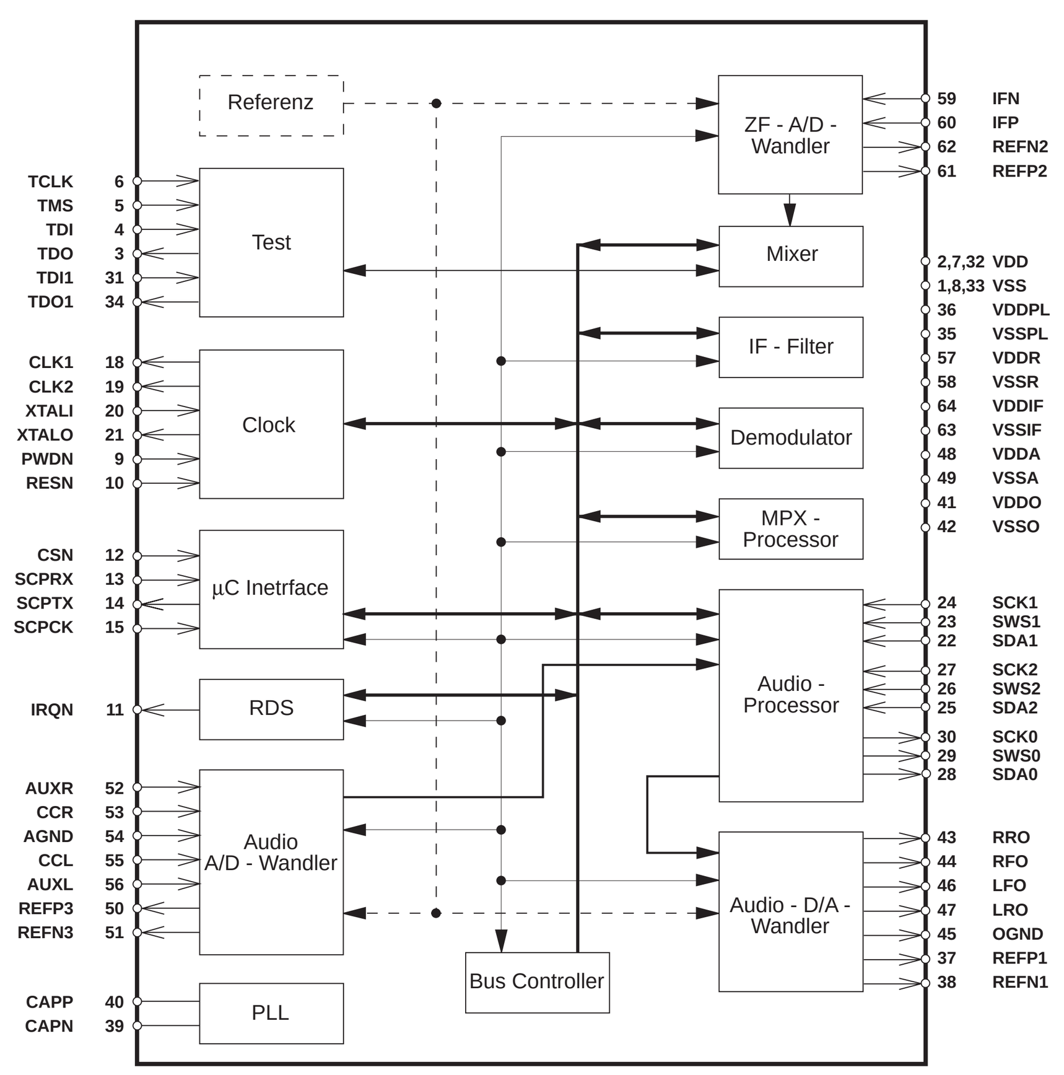


DV2120
1 = MICRO-IN
2 = NF_GND_M
3 = GSM_DATA_ON
4 = AUD_GND
5 = 14V GESCH.

DV2121
1 = HS-MICRO
2 = HS-AON
3 = HS-AOP

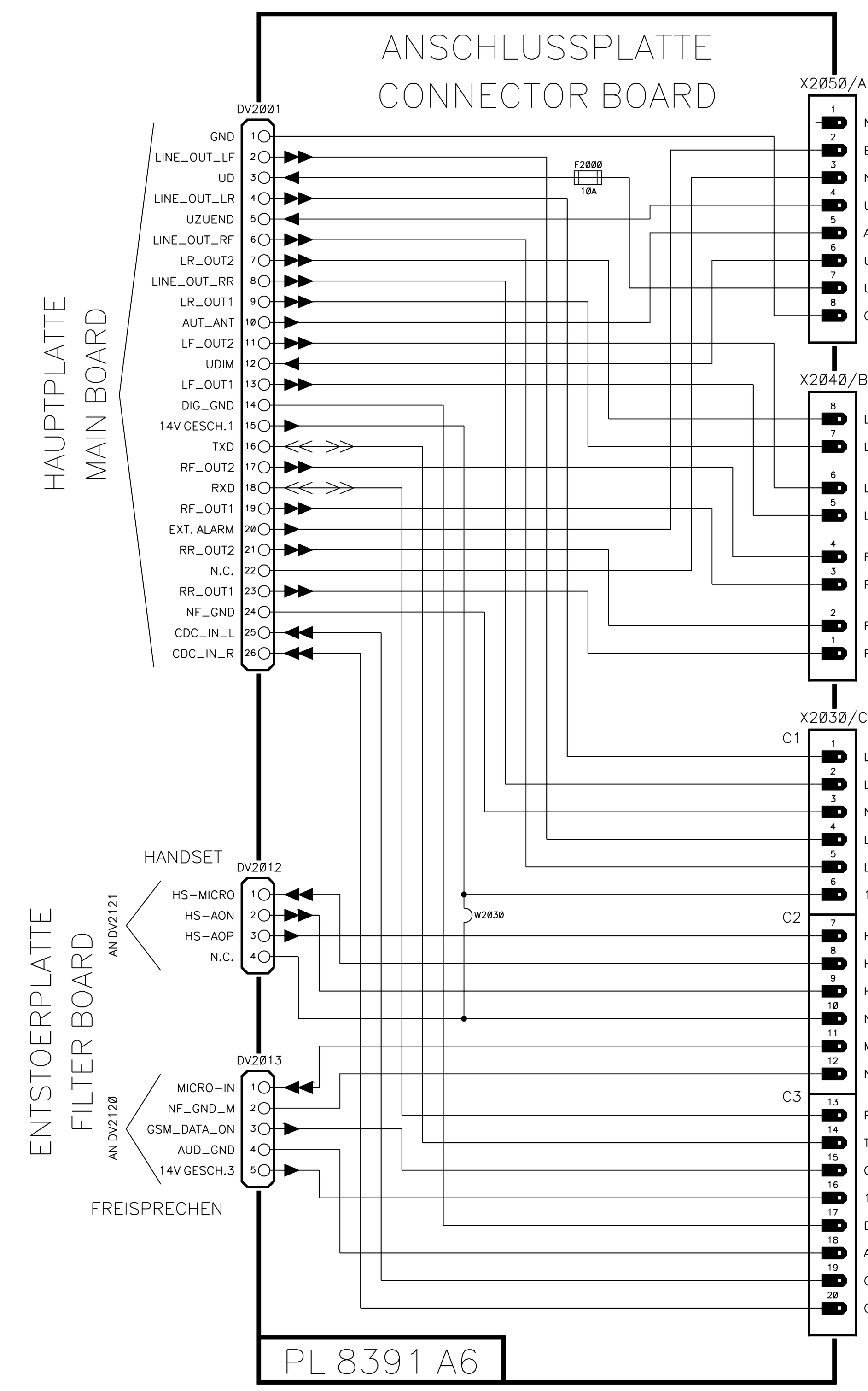


CC 480



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	-	CINT	für PLL	for PLL
3	-	CHOLD	für PLL	for PLL
4	-	PLLGND	PLL - Masse	PLL Ground
5	-	VCC	8,5V	8,5V
6	-	VPLL	PLL Oberspannung	PLL top voltage
7	I	LFINP	Schleifenfiltereingang	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	OSCBUF	Oszillatorausgangstreiber	Oscillator Buffer Output
17	I	DGND	Digitale Masse	Digital Ground
18	I	CS	Chip Select	Chip Select
19	I	RD	Dateneingang	DATA IN
21	O	TX	Datenausgang	DATA OUT
22	I	FREF	Referenzfrequenz	Reference frequency
23	-	IFAGC2	ZF Regelspannung 2	IF 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	IF 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 - Referenzeingang	AM reference Input
34	I	AMMIXIN	AM Mischereingang	AM Mixer Input
35	-	RFAGC3	HF Regelzeitkonstante (aufregeln)	RF AGC 3
36	O	RFAGCAM	HF Steuerspannung Vorstufe AM	RF AGC for AM input stage
37	O	RFAGCFM	HF Steuerspannung Vorstufe FM	RF AGC for FM input stage
38	-	MIXGND	Mischer Masse	Mixer Ground
39	-	RFAGC2	HF Regelzeitkonstante (Detektor)	RF AGC 2
40	-	RFAGC1	HF Regelzeitkonstante (abregeln)	RF AGC 1

Pin-Belegung des IC D150 Digital IC D150 Pin Configuration				
Pin No.	**I/O**	**Name**	**Funktion**	**Function**
1	-	VSS	Masse	Ground
2	-	VDD	5 V	5 V
4	I	TDI	Testdateneingang	Test Data Input
5	I	TMS	Test Mode	Testmode
6	I	TCKL	Test Clock	Testclock
7	-	VDD	5 V	5 V
8	-	VSS	Masse	Ground
9	-	PWDN	Power down Zustand	Power down Mode
10	I	RESN	Reset	Hardware reset (active LOW)
11	O	IRQN	RDS Alarm/SLS	RDS alarm/search stop
12	I	CSN	Chip select Eingang	Chip select µC interface
13	I	SCPRX	Serielle Daten µC Interface	Serial data µC interface IN
14	O	SCPTX	Serielle Daten µC Interface	Serial data µC interface OUT
15	I	SCPCK	Clock µC Interface	Clock µC interface
16	-	VDDIO	Plusspannung Digitale Ein-/Ausgänge	Voltage 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	I	XTALI	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 D/A-Wandler Positive Referenz	Audio D/A converter (pos. reference)
38	O	REFN1	Audio D/A-Wandler Negative Referenz	Audio D/A converter (neg. reference)
39	-	CAPN	PLL Kapazität (negativ)	PLL capacity (neg.)
40	-	CAPP	PLL Kapazität (positiv)	PLL capacity (pos.)
41	-	VDDO	Audio D/A - Wandler 5V	Audio D/A converter (+5V)
42	-	VSSO	Audio D/A - Wandler Masse	Audio D/A converter (ground)
44	O	RFO	Audio Rechts (analog)	Analogic audio right
45	-	OGND	Masse Analogausgänge	Ground
46	-	LFO	Audio Links (analog)	Analogic audio left
48	-	VDDA	5V A/D - Wandler	5V A/D - converter
49	-	VSSA	Masse A/D - Wandler	Ground A/D - converter
50	O	REFP3	Audio D/A-Wandler Positive Referenz	Audio D/A converter (pos. reference)
51	O	REFN3	Audio D/A-WandlerNegative Referenz	Audio D/A converter (neg. reference)
52	I	AUXR	Externer Eingang rechts	Auxillary right
53	I	CCR	Cassette Eingang rechts	Cassette input right
54	-	AGND	Audioeingänge Masse	Ground for Audio inputs
55	I	CCL	Cassette Eingang links	Cassette input left
56	I	AUXL	Externer Eingang links	Auxillary left
57	-	VDDR	5 V	5 V
58	-	VSSR	Masse	Ground
59	I	IFN	ZF Eingang (minus)	IF input (neg.)
60	I	IFP	ZF Eingang (plus)	Positif IF input
61	O	REFP2	Audio D/A-Wandler Positive Referenz	Audio D/A converter (pos. reference)
62	O	REFN2	Audio D/A-Wandler Negative Referenz	Audio D/A converter (neg. reference)
63	-	VSSIF	ZF A/D - Wandler (minus)	IF A/D converter (-)
64	-	VDDIF	ZF A/D - Wandler 5 V	IF A/D converter (+5V)



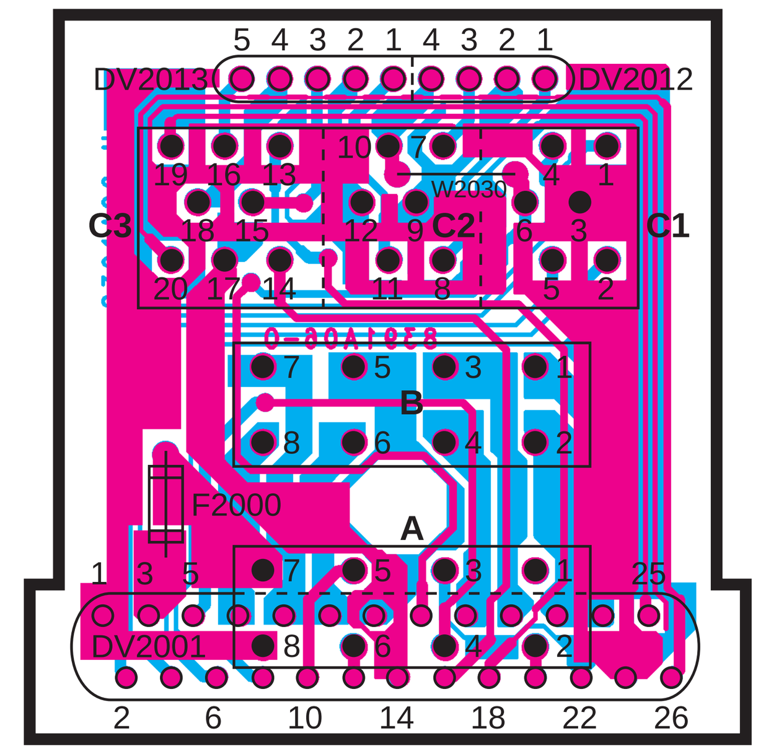
Anschlußplatte
Connector board
PL 8391 A06

DV2012
1 = HS-MICRO
2 = HS-AON
3 = HS-AOP

DV2013
1 = MICRO-IN
2 = NF_GND_M
3 = GSM_DATA_ON
4 = AUD_GND
5 = 14V GESCH.

DV2001
1 = GND
2 = LINE_OUT_LF
3 = UD
4 = LINE_OUT_LR
5 = U-ZUEND
6 = LINE_OUT_RF
7 = LR_OUT2
8 = LINE_OUT_RR
9 = LR_OUT1
10 = AUT_ANT
11 = LF_OUT2
12 = UDIM
13 = LF_OUT1
14 = DIG-GND
15 = 14V GESCH.
16 = TXD
17 = RF_OUT2
18 = RXD
19 = RF_OUT1
20 = EXT.ALARM
21 = RR_OUT2
22 = NF_GND
23 = RR_OUT1
24 = NF_GND
25 = CDC-IN-L
26 = CDC-IN-R

to DV2120/DV2121
Filter board



PL 8543 A8

AM–VORSTUFE
AM FRONT END

AM/FM/ZF–IC
AM/FM/IF–IC

DIGITALE SIGNALVERARBEITUNG
DIGITAL SIGNAL CONTROLLER

NF–MIX / VORVERSTAERKER
AF–MIX / PRE–AMPLIFIER

NF–ENDSTUFE
POWER–AMPLIFIER

FM–VORSTUFE
FM FRONT END

D1
XY3845#FUR2

D15B
CC481
XC3981??F
DEMODULATOR
STEREO–DECODER
RDS–DECODER
NF–(AF)–CONTROLLER
ASU

D15B8
TDA7348D

D16S2
TDA7375V

D16B2
TDA7375V

LM 2578S / D2010

L 4949 / D2050

Prüfdiagnose Tuner IC (D1)
Diagnosis test tuner IC (D1)

Pin	Band	Frequenz	E'	Uss	Vermerke	Notice
24+25	FM	97,2 MHz	83 dbµV	650 mVss	jewells gegen Masse	respective against GND
28	FM	97,2 MHz	80 dbµV	25 mVss		
31+32	FM	97,2 MHz	80 dbµV	200 mVss	jewells gegen Masse	respective against GND
31+32	AM	1404 kHz	80 dbµV	200 mVss	jewells gegen Masse	respective against GND
34	AM	1404 kHz	80 dbµV	50 mVss		
36	AM	1404 kHz	ab 73 dbµV		künstliche Antenne aus	not commutated
37	FM	97,2 MHz	ab 80 dbµV			
43	FM	97,2 MHz	94 dbµV	5 mVss		

CC–LAUFWERK
SCA 4.4

VOM TONKOPF

CPS
DOLBY B
CC–VERSTAERKER/
CC–AMPLIFIER

D1200
HA12163

BESTUECKUNG NUR AMSTERDAM

INKREMENTENGEBER
PULS CONTROLLER

SCHALTREGLER
SWITCH MODE REGULATOR

POWER UP

SPANNUNGSVERSORGUNG
POWER SUPPLY

5V STABI

14V SWITCHER

POWER MASTER
+8,5V STABI

BUFFER
INTERFACE

INTERFACE

FREISPRECHEN

HANDSET

ANSCHLUSSPLATTE
CONNECTOR BOARD

ENTSTOERPLATTE
FILTER BOARD

SCHALTERPLATTE
KEY BOARD

GSM–MODUL
8 638 811 974

KEY–CARD–SCHUTZ

KEY–CARD/SIM–CARD
INTERFACE

KEY–CARD "ON"

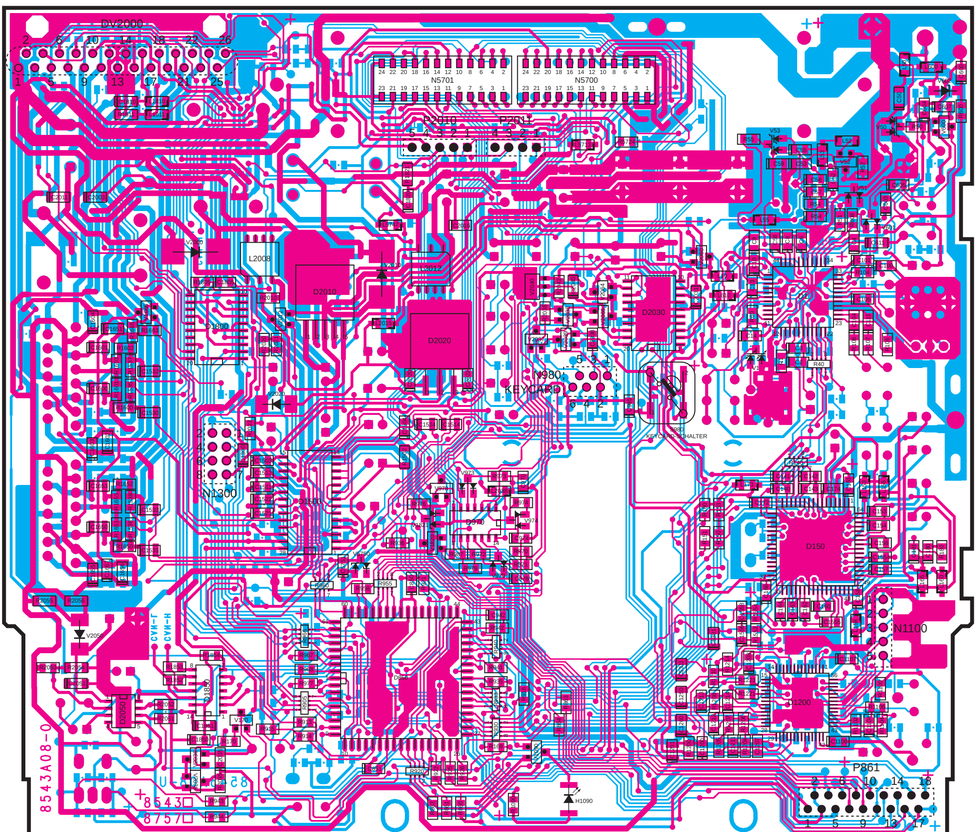
PERIPHERIAL CONTROLLER

D858
COP888EB

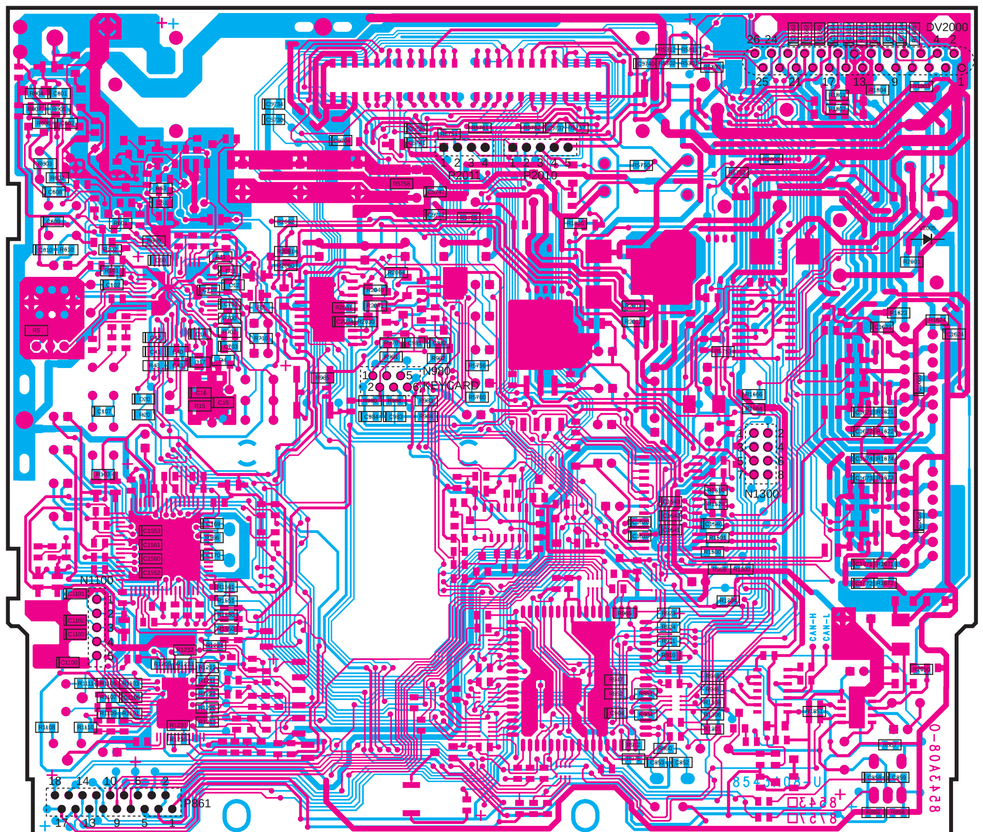
KEYCARD

norm. Signalweg
KC–Signalweg
Data/Clock CDC
NF–Signalweg

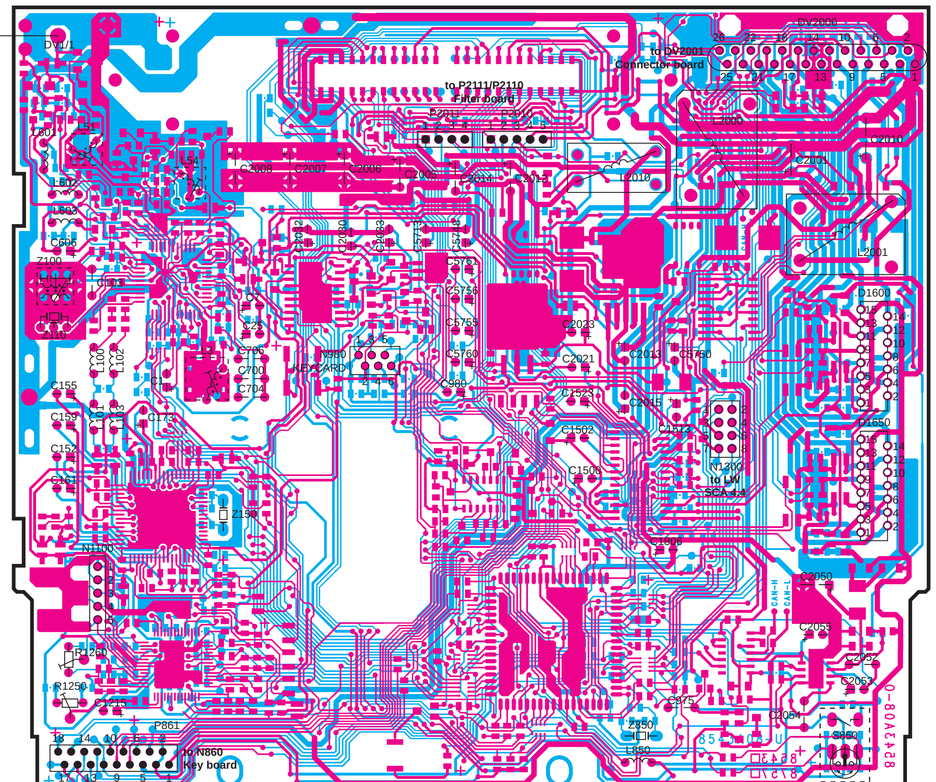
Hauptplatte
Main board
PL 8543 A08
Chip



Hauptplatte
Main board
PL 8543 A08
Chip



Hauptplatte
Main board
PL 8543 A08



P2010
1 = MICRO-IN
2 = NF_GND_M
3 = GSM_DATA_ON
4 = AUD_GND
5 = 14V GESCH.

P2011
1 = HS-MICRO
2 = HS-AON
3 = HS-AOP

N980
1 = 5V
2 = GND
3 = RESET
4 = N.C.
5 = CLK
6 = DATA

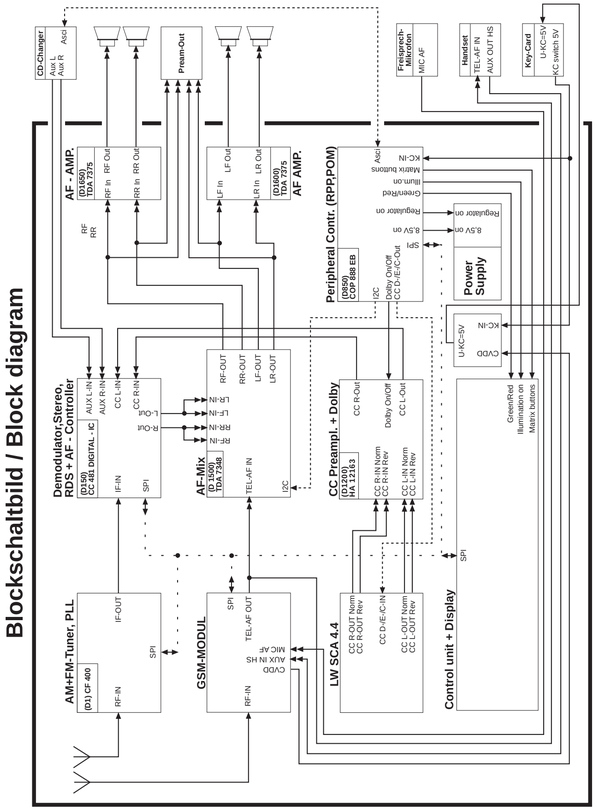
N1100
1 = COM
2 = L ▼ NORMAL
3 = R ▼ NORMAL
4 = R ▲ REVERSE
5 = L ▲ REVERSE

P861
1 = U5K
2 = GND
3 = GND
4 = U14B
5 = GND
6 = V5
7 = TAST1
8 = TAST2
9 = TAST3
10 = TAST4
11 = SPI_SCK
12 = SPI_MOSI
13 = SS_LCD
14 = LCD_A0
15 = LCD_RES
16 = BEL_ON
17 = GRUEN
18 = ROT

DV2000
1 = GND
2 = LINE_OUT_LF
3 = UD
4 = LINE_OUT_LR
5 = U-ZUEND
6 = LINE_OUT_RF
7 = LR_OUT2
8 = LINE_OUT_RR
9 = LR_OUT1
10 = AUT_ANT
11 = LF_OUT2
12 = UDIM
13 = LF_OUT1
14 = DIG-GND
15 = 14V GESCH.
16 = TXD
17 = RF_OUT2
18 = RXD
19 = RF_OUT1
20 = EXT.ALARM
21 = RR_OUT2
23 = RR_OUT1
24 = NF_GND
25 = CDC-IN-L
26 = CDC-IN-R

N1300
1 = ME/FE
2 = MONITOR
3 = PLAY_SWITCH
4 = ENABLE
5 = GND
6 = CLOCK
7 = U14
8 = DATA

Blockschaltbild / Block diagram



Pin-Belegung der GSM Stiftleiste
Pin configuration of the GSM strip-socket

Pin No.	I/O	Name	Funktion	Function
1	I	AGND1	Analogmasse für HF Versorgungsspannung	Analogic ground for RF supply voltage
2	I	AGND2	Analogmasse für HF Versorgungsspannung	Analogic ground for RF supply voltage
3	I	AGND3	Analogmasse für HF Versorgungsspannung	Analogic ground for RF supply voltage
4	I	U65A1	6,5V Versorgungsspannung für HF-Teil	6.5V supply voltage for RF-section
5	I	U65A2	6,5V Versorgungsspannung für HF-Teil	6.5V supply voltage for RF-section
6	I	U65A3	6,5V Versorgungsspannung für HF-Teil	6.5V supply voltage for RF-section
7	I	MIC	Analog Audio Eingang "Handset"	Analogic audio IN "Handset"
8	I	MICGND	Mikrofon-Masse	Mike ground
9	I	AUX	Analog Audio Eingang vom Freisprechmikro	Analogic audio IN freehand mike
10	O	AON	Analog Audio Ausgang Freisprech-NF	Analogic audio OUT freehand AF
11	O	AOP	Analog Audio Ausgang "Handset"	Analogic audio OUT Handset AF
12	I	DGND4	Masse: AOP, AON, Mic und VREF	Ground: AOP, AON, Mic and VREF
13	I	U65D4	6,5V Versorgungsspannung für mix Signal	6.5V supply voltage for mixed signal
14	I	DAICK	Clock für Digital Audio Interface	Clock for digital audio interface
15	I	DAIDI	DATA-IN für Digital Audio Interface	DATA IN for digital audio interface
16	O	DAIDO	Datenausgang für D.A.I	DATA OUT for D.A.I
17	O	DAIR	Reset Speech Transcoder (D.A.I)	Reset Speech Transcoder (D.A.I)
18	I	TC1	Test Control 1 (D.A.I)	Test Control 1 (D.A.I)
19	I	TC0	Test Control 0 (D.A.I)	Test Control 0 (D.A.I)
20	I	DGND3	Masse, mit DGND1 im Modul verbunden	Ground with DGND1 con. inside Modul
21	I/O	DATA	Audio Daten im I2S Format	Audio data in I2S standard
22	I/O	BCK	Bit Clock: I2S Format	Bit clock: I2S standard
23	I/O	LRCK	Word Clock: I2S Format	Word clock: I2S standard
24	I	RESET	Reset	Reset
27	I	RXD	SCI Empfangsdaten	SCI receive data
28	O	TXD	SCI Sendedaten	SCI transmit data
29	I/O	GP1	General purpose 1 I/O µPC	General purpose 1 I/O µPC
30	I/O	GP0	General purpose 0 I/O µPC	General purpose 0 I/O µPC
31	I	MINT	Interrupt Eingang µP	Interrupt IN µP
32	I/O	MREQ	Master Request µP	Master request µP
33	I/O	BUSY/MAST	Busy Master	Busy master
34	I/O	SCK	Serial Clock (max 1kHz)	Serial clock (max 1kHz)
35	O	MO/SO	Master OUT / Slave OUT	Master OUT / slave OUT
36	I	MI/SI	Master IN / Slave IN	Master IN / slave IN
37	I/O	SS	Slave Select	Slave select
38	O	CGND	Masse für das CCI	Ground for CCI
39	O	CVDD	Schaltspannung für das CCI	Supply voltage for CCI
40	O	CRST	CCI - Reset Ausgang	CCI reset OUT
41	O	CSCKO	CCI - Taktausgang	CCI clock OUT
42	I	CDIO	CCI Daten I/O	CCI data I/O
43	I	IRQ	Eingang-RDS-Interrupt	Input RDS Interrupt
44	I	ON	Stromspar-Eingang	Standby IN
47	I	U65D2	Versorgung für Digitalteil	Supply for digital section
48	I	U65D1	Versorgung für Digitalteil	Supply for digital section
49	I	DGND2	Masse, mit DGND1 im Modul verbunden	Ground with DGND1 con. inside Modul
50	I	DGND1	Masse Bezugspunkt	Reference ground