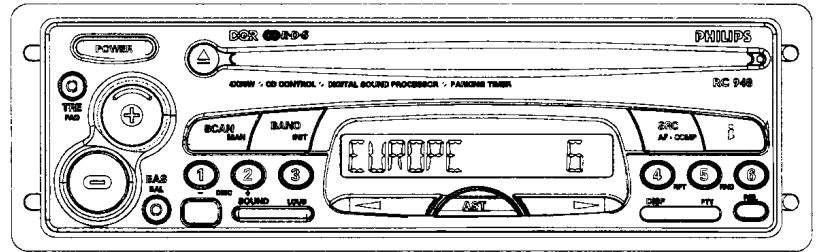
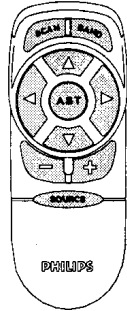
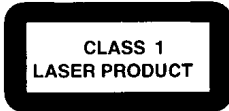


Service  
Service  
Service



COMPACT  
**disc**  
DIGITAL AUDIO



For repair information of the CD player, see Service Manual No 4822 725 24095 of CD mechanism CDM9

# Service Manual

Contents	page
Technical data .....	2
Controls - Connexions .....	3 - 3a
Init mode .....	4 - 4a
Checks and alignment .....	5 - 5a
Power supply organization .....	6 - 6a
CDSP description .....	7 - 7a
CDSP pinning .....	8 - 8a
Block diagram .....	9 - 9a
Front schematic diagram part 1 .....	10 - 10a
Front schematic diagram part 2 .....	11 - 11a
Front PWB layout .....	12 - 12a
Front partslist .....	13 - 13a
Tuner parts schematic diagram .....	14 - 14a
Power supply part 00 schematic diagram .....	15 - 15a
Power supply part 01 schematic diagram .....	16 - 16a
Power supply part 02 schematic diagram .....	17 - 17a
Power supply part 03 schematic diagram .....	18 - 18a
Main PWB layout - top side view .....	19 - 19a
Sound process part 00 schematic diagram .....	20 - 20a
Sound process part 01 schematic diagram .....	21 - 21a
Microcontroller part 00 schematic diagram .....	22 - 22a
Microcontroller part 01 schematic diagram .....	23 - 23a
Main PWB layout - bottom side view .....	24 - 24a
Tape part schematic diagram .....	25 - 25a
Power amplifier part schematic diagram .....	26 - 26a
Opening the front .....	27
Mechanical partslist - Technician's remarks .....	28
Exploded view .....	29 - 29a
Electrical partslist .....	30 - 30a - 31 - 32

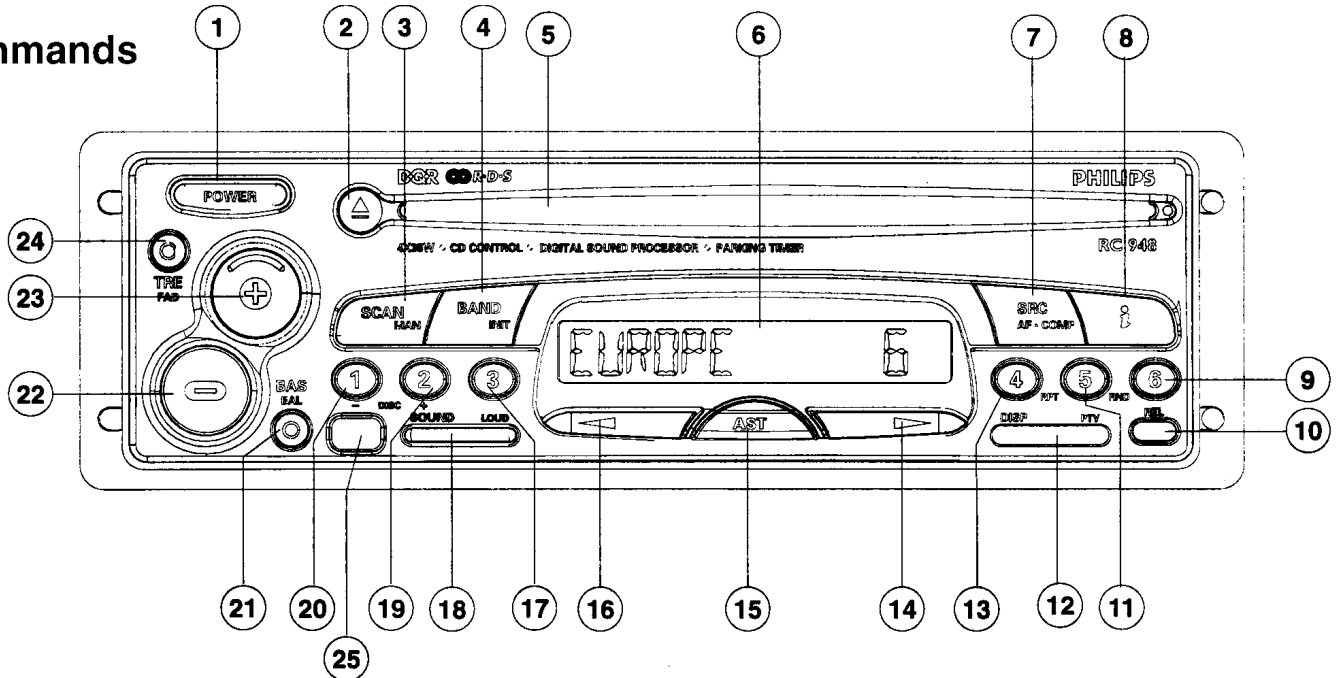
12 V



**PHILIPS**

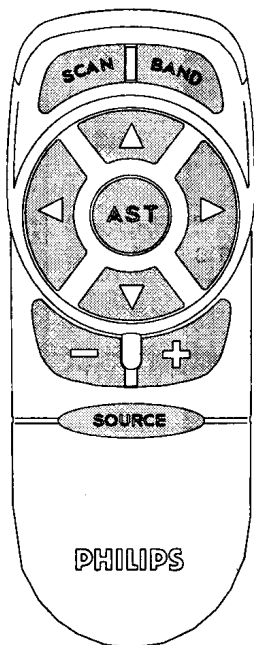




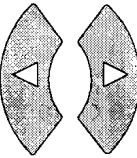


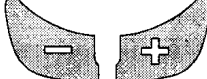

# Commands



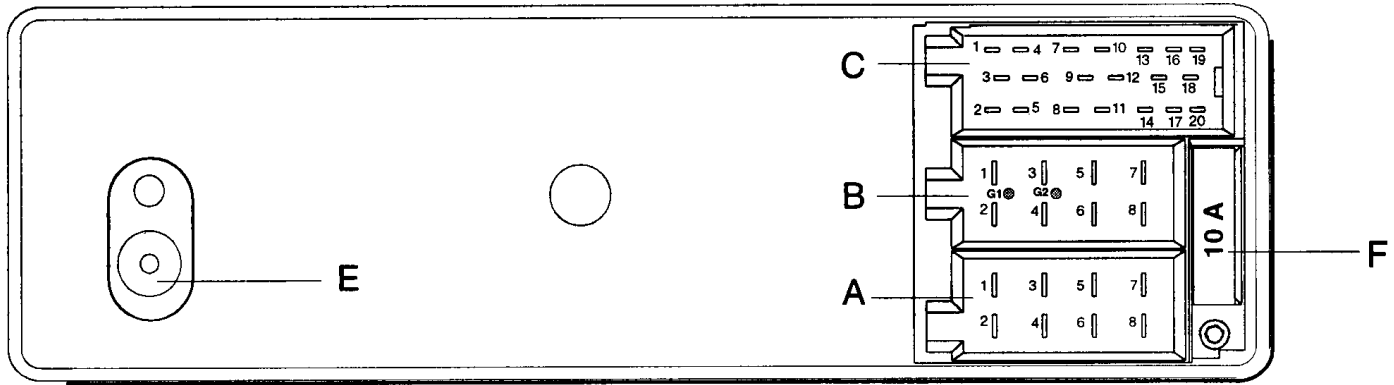
1	ON / OFF	15	AUTOSTORE/VALID TIMER/SET TIMER (LP)
2	DISC EJECT	16	INIT PARAMETER SET
3	SCAN FREQUENCY / TRACK MANUAL SEARCH SELECTION	17	SEARCH DOWN/SUB MINUTE/ CANCEL TIMER ( WITH 14 )
4	BAND SELECTION / INIT MODE	18	INIT PARAMETER SELECT DOWN
5	CD OPENING	19	PRESET 3
7	SOURCE SELECTION / COMPRESSION/AF	20	PRESET 2 / DISC SELECT UP
8	TRAFFIC INFORMATION / NEWS	21	PRESET 1 / DISC SELECT DOWN
9	PRESET 6	22	BASS / BALANCE ( LP )
10	RELEASE BUTTON FOR DETACHABLE UNIT	23	VOL-
11	PRESET 5 / RANDOM	24	VOL+
12	DISPLAY / PROGRAM TYPE SELECTION	25	TREBLE / FADER ( LP )
13	PRESET 4 / REPEAT TRACK		INFRARED DETECTOR WINDOW FOR REMOTE CONTROL
14	SEARCH UP/ADD MINUTE/INIT PARAMETER SELECT UP / CANCEL TIMER ( WITH 16 )		

## Infrared remote control



-  **SCAN**  
Frequency scan (radio)  
Track scan (CD, CD changer)
-  **BAND**  
Band selection (radio)
-  **AST**  
Automatic tuning to station name (radio)  
Track selection (CD, CD changer)
-  **SOURCE**  
Recall preset (radio)  
First track (CD)  
Disc selection (CD changer)
-  **AST**  
Auto-store (radio)
-  **Volume**
-  **SOURCE**  
Source selection:  
Radio, CD, CD changer

# Connexions

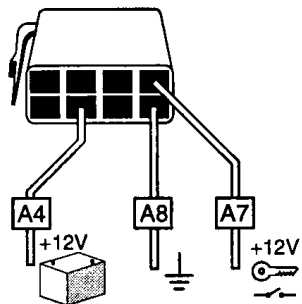


POS	FUNCTION	C1	Line out RL
A1	phone mute	C2	Line out RR
A2		C3	Line out GND
A3		C4	Line out FL
A4	Plus accessories or permanent	C5	Line out FR
A5	+ Antenna	C6	+ Switched
A6	Pilot light		
A7	Plus permanent or accessories		
A8	GND	C13	Bus D2B +
		C14	Bus D2B -
B1	Rear right +	C15	Bus GND
B2	Rear right -	C16	+ Permanent
B3	Front right +	C17	+ Switched
B4	Front right -	C18	Input reference
B5	Front left +	C19	Input left
B6	Front left -	C20	Input right
B7	Rear left +		
B8	Rear left -	E	AERIAL PLUG
G1	Gateway (I2C bus access)	F	FUSE
G2	Gateway (I2C bus access)		

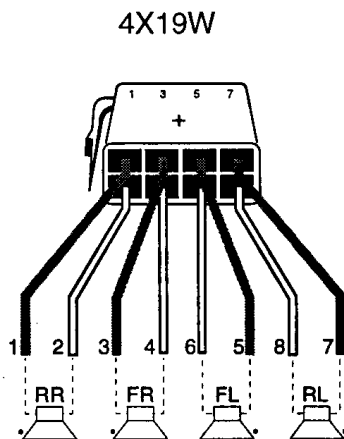
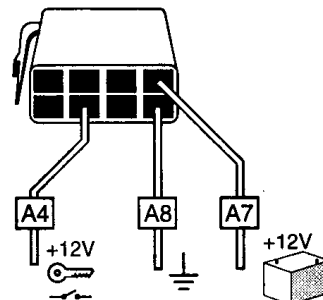
C1

C3

Normal power supply connection



Power supply connection for ON-OFF LOGIC



22RC948/00

**INIT MODE:**

The customer may have modified some settings with the Init Mode.

Entering the Init Mode:

Switch ON the set. Press the BAND key for at least 2 seconds, until you hear a beep.

The display shows "INIT".

Press the ◀ or ▶ key one or more times until the option you want to modify is displayed.

Briefly press the AST key one or more times to adjust the choice.

- The choice shown on the display will be memorized by the set when you select another option or leave the "INIT" mode.

Press the BAND key for at least 2 seconds to leave the "INIT" mode.

Note: the set automatically leaves the "INIT" mode about 1 minute after your last operation.

List of "INIT" options: (Initial factory settings shown in **bold**).

Option ◀ or ▶	Choice (AST)	Usage
SEARCH	<b>DX</b> , LO	Select LO if you wish to search only for strong stations during automatic tuning to a frequency.
SRC	<b>CHANGER</b> , AUX	Source connected to connector C3: - Select CDC for a Philips CD Changer (D2B type); - Select AUX for a portable audio player.
CD	-4 -3 -3 -1 <b>0</b> +1 +2 +3 +4	Volume level of CD relative to tuner.
CHANGER or AUX	-4 -3 -3 -1 <b>0</b> +1 +2 +3 +4	Volume level of CD changer or AUX input relative to tuner.
TRAFFIC	-4 -3 -3 -1 <b>0</b> +1 +2 +3 +4	Volume level of Traffic Announcements, News bulletins and Alarm messages relative to tuner.
LCD VIEW	-1 <b>0</b> +1	Select the viewing angle of the set's display.
G _____ R	<b>G</b> _ R	Illumination colour: Sliding control (Green - yellow - orange - red).
LOUD BASS	<b>1</b> 2 3	Select the level of correction for the low notes (Bass).
LOUD TREB	0 <b>1</b> 2 3	Select the level of correction for the high notes (Treble).
PHONE	<b>NO</b> LOW HIGH	Select LOW or HIGH according to phone (LOW in most cases). Select NO if no phone connected.
BEEP TYPE	1 2 <b>3</b> 4	Select type of confirmation beeps.
BEEP LEVEL	1 2 3 4 <b>5</b>	Select volume of confirmation beeps (useful if external amplifier is connected).
LW	OFF <b>ON</b>	Select OFF to suppress LW band if it is not used.
MW	OFF <b>ON</b>	Select OFF to suppress MW band if it is not used.
SW	OFF <b>ON</b>	Select OFF to suppress SW band if it is not used.
TUNER	<b>EUROPE</b> USA	Select the tuner according to European or American standards.
TIME	12 H <b>24</b> H	Select desired clock format.
CLOCKRDS	<b>OFF</b> ON	Select ON if you want the time to be updated automatically. <i>The transmitted time via RDS can be incorrect</i>
LOGIC	OFF <b>ON</b>	Select ON to limit the use of the set to one hour, when the car ignition is switched off.
CD COMP	LOW <b>MID</b> HIGH	Select LOW to maintain the peaks in the volume. Select HIGH to level out the volume.
BASS	40HZ <b>80</b> HZ	Select average frequency of the low notes.
TREB	5000HZ <b>7000</b> HZ	Select average frequency of the high notes.
SCAN	5 SEC <b>10</b> SEC 15 SEC	select how many seconds the set scans one station or track.
RDS REG	OFF ON <b>AUTO</b>	Select ON to maintain the regional programme. Select OFF to directly switch to the programme of the next region. AUTO only switches when the next signal is stronger.
LED	OFF <b>ON</b>	Select OFF if you do not want the LED to blink when the front is removed.

## DEMO MODE (or Dealer Mode)

In this mode, the display shows in sequence the main features of the set.

Activating the Demo mode:

While keeping the preset 1 and preset 5 keys pressed, switch On the set.

*The set remains in this mode even if you switch the set OFF and ON again.*

To quit the Demo mode, follow exactly the same procedure as "Activating the Demo mode".

## TEST MODES:

### 1) Display test

This test is called by pressing simultaneously presets 1 and 6 keys (set On).

The display shows in sequence: all segments lit

the internal factory code of the microprocessors (main and front)

the software release number (main and front).

To quit this mode, switch Off the set .

### 2) Keyboard test

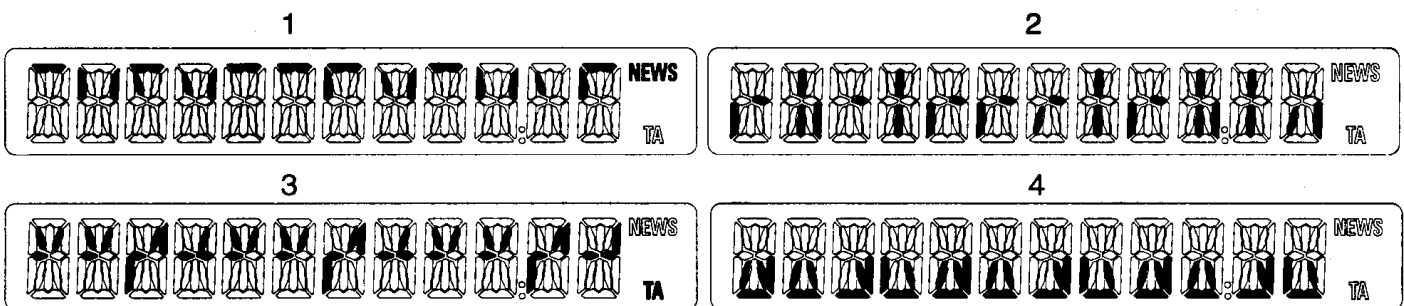
This test is called by switching the set On while keeping pressed the preset 3 key. The display shows:

"TOUCHE EJECT". Press eject button, then press each key at least one time. A different number will appear each time you press a new key (e.g. TOUCHE 0 1).

When all the keys are pressed, if all is correct, the display shows INFRAROUGE.

Activate any command of the infrared remote control. The set beeps and display shows all segments lit.

Press any key of the front. The display shows in sequence all segments lit, and 4 different patterns as follows: (each time beep)



This test can be exited at any moment by switching Off the set.

### 3) Field test

This test is called by pressing simultaneously presets 2 and 4 keys (set On).

The display shows:

4 digits indicating the tuned frequency

5th digit: Level 0..F (F = best fieldstrength)

6th digit: Multipath 0..F (0 = no multipath)

7th digit: Noise 0..F (0 = no noise)

8th digit: Suppression counter (0 = no necessity to switch to another station)

This test can be exited by switching Off the set or by pressing again presets keys 2 and 4 at the same time.

### 4) Loudspeakers installation test

This test is called by pressing simultaneously keys SCAN and ;

The display shows in sequence FRONT L - FRONT R - REAR R - REAR L while the corresponding loudspeaker beeps 5 times.

This test is exited by switching Off the set.

## EEPROM

Several values and adjustments are stored in the EEPROM. The EEPROMs available in Service are filled with mean values. That could affect slightly the performance of the set.

## Check and Alignment

For all measurements, please refer to the manual "General Check & Alignment procedures for Car Systems" 4822 725 25456, unless otherwise stated.

Current and voltage

### 1) SET OFF

SET OFF	Voltage	Current +Acc ON	Current +Acc OFF	Supply $\mu$ P pin 14 7513	V_LOW pin 34 7513
Acc Supply	+12.6V	< 2mA		min 4.5V max 5.2V	min 2V max 5.3V
Perm Supply	+12.6V	< 2mA	<3 mA		

### 2) SET ON (A6 not connected)

Reset pin 30	Supply $\mu$ P pin 14 7513		V_LOW pin 34 7513		5V pin3 L7805 ABV		8.5V pin 3 L4885CV		V EEprom	
max 0.8V	min 4.5	max 5.2	min 2	max 5.3	min 4.8	max 5.2	min 8.2	max 8.8	min 4.5	max 5.2

Reference oscillator frequencies (to be measured via a X10 probe)

device	MSM 6307	83CE558	HEF4521	SAA7701	HEF4528
pin	24 & 25	51 & 52	4 & 6	63 & 64	9
frequency	6 MHz 0.5%	16 MHz 0.5%	4.194304 MHz 20 ppm	36.860 MHz 60 ppm	1 Hz 20%

Checks:

#### 1) FM

FM mute	98 MHz 1mV	output at load resistor R & L = 775 mV = REF
	no signal	output should be < -24 dB (REF - 24 dB)

Demodulated FM level	98 MHz	215 mV 2dB
	Input	MPX Output of IC96 (pin 10)

Limiting point $\alpha$ -3dB	FM 98MHz	1mV 400Hz	6 $\mu$ V	4 $\mu$ V	9 $\mu$ V
	RANGE	INPUT	NOMINAL	MIN	MAX

Search levels	Input	Dx: 10 $\mu$ V < X < 20 $\mu$ V Local : 190 $\mu$ V < X < 290 $\mu$ V
	98 MHz	

#### 2) AM

Demodulated AM level	1053KHz - m=30% - 1KHz	230 mV 2dB
	Input	Audio output of IC96 (pin 19)

Sensitivity at 26dB S/N	162KHz	m = 30%	400Hz	< 38 $\mu$ V
	1053KHz			< 30 $\mu$ V
	6100KHz			<25 $\mu$ V

Search levels	Input	Dx: 10 $\mu$ V < X < 20 $\mu$ V Local : 35 $\mu$ V < X < 100 $\mu$ V
	1053KHz	

No alignment is needed for radio part. The tuner module IC96 is pre-aligned in the factory. Dolby alignment, crosstalk alignment and FM DC level curve learning procedure are performed via a special equipment and software, not yet available in Service. Some values are stored in the EEprom. The EEprom available in service will contain mean values, that could affect slightly the performance of the set. It is the only solution until further notice. If you change the tuner module, change also the EEprom.

#### CD part

Test CD	Test	Result
Eccent-music 150um 4822 397 30279	Insert disk and play track 01	No failure
Vertical deviation 4822 397 30282	Check loading, display of number of tracks and total time. Select track no 9 time 00.20 listen to the disk during 4 seconds	no electrical nor mechanical noise

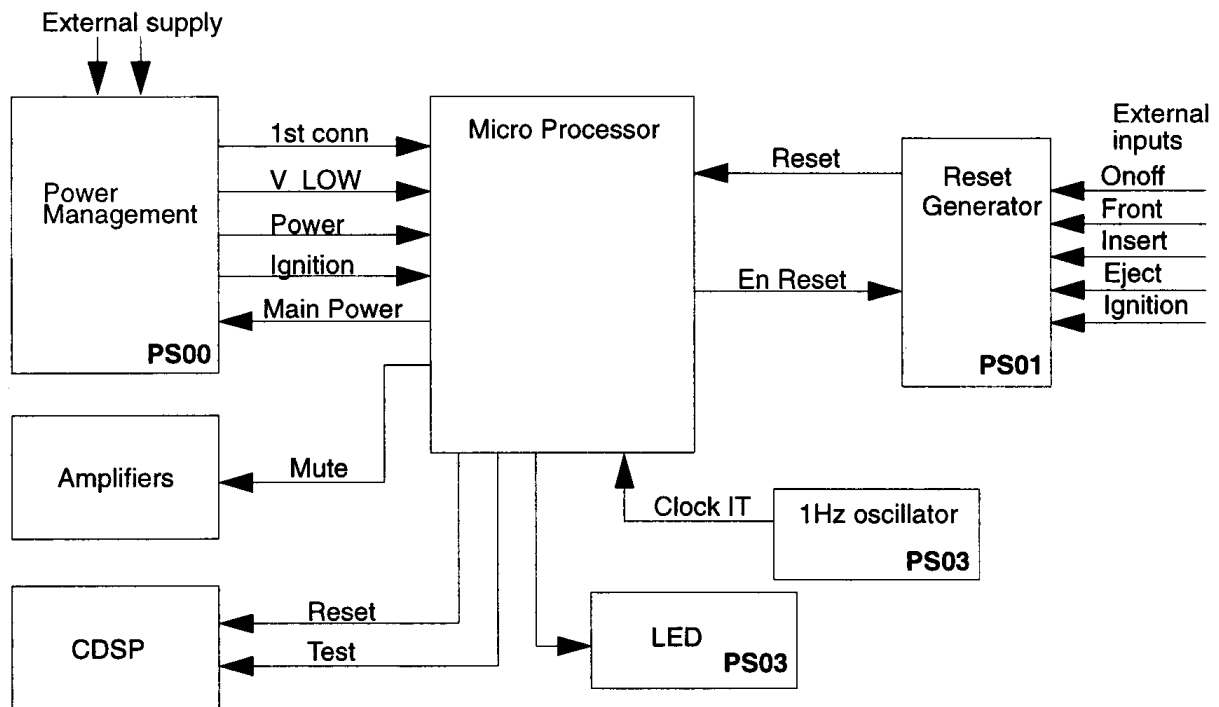
Test CD	Test		Result
Audio signal disk 1 4822 397 30184	Compression Off	Crosstalk track 67 and 71	Crosstalk < -65dB
	Compression On		Crosstalk < -30dB (comp 1 by default)

#### Signal to noise ratio

A weighted filter, track 1 versus track 49 of disk 1	
Compression Off	S / N > 75dB
Compression On (default 1)	S / N > 45dB



# POWER SUPPLY ORGANIZATION



## Short explanation

The reset is generated after a user action by the reset generator. Its task is to generate resets to the micro p. at input change and at power recovery (when V\_LOW (pin 14 7403) is high again) only when EnReset (pin 12 7402) input is low.

If EnReset is high, no resets are expected (set is ON).

The Power Management device gives information about supply to the micro p. and provides two digital outputs (1st conn, V\_LOW (pin 11 7401)), two analog outputs (Power, Ignition) and one digital input (Main Power).

The 1st connection information is a fugitive information (around 100ms, available on RESET\_uC) which is memorized by the micro p. and leads to first connection actions such as RAM clear. The V\_LOW output is connected to an interrupt and goes LOW when power is falling under 8V (in fact 7.9 to 9.8V, due to spread of components). It goes high again when power comes back.

Power and Ignition analog outputs are provided to enable the micro p. to measure both supply voltages. Main power is an input that turns On and Off the power on the board.

Mute, reset and test output pins of the micro p. are performing actions on amplifiers and CDSP while the one hertz oscillator allows to update internal system clock.

### 1) Reset at first connection

At the first connection of the set to supplies, a "Power-on-reset" (1st\_PWR\_ON) will be generated via regulator L4949. This hardware reset is active till the 5V for the micro p. is stable.

### 2) Reset by input lines while set is OFF

The set is awoken by the an hardware reset while the micro p. is in OFF state (power down mode). Several inputs can generate the reset.

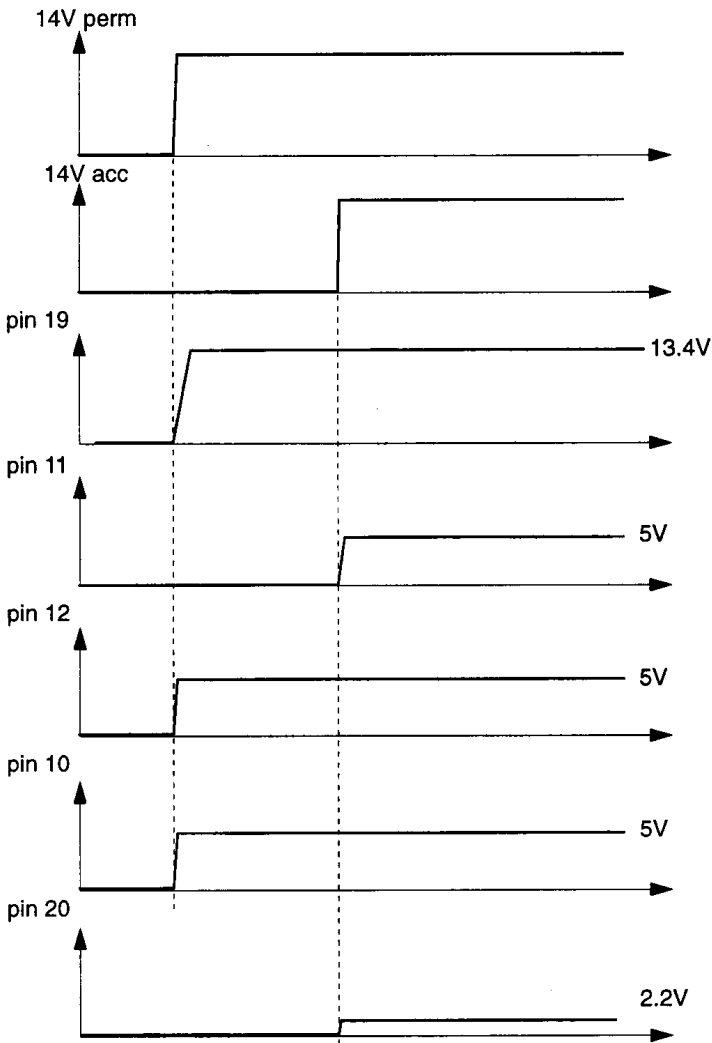
- Ignition key
- OnOff key
- CD insert
- CD eject
- Low voltage (V\_LOW) - transition low to high voltage
- Front detection

Via the different interface the inputs are connected to one of the two inputs of the reset circuitry (Pin 4 or 11 of 7402)

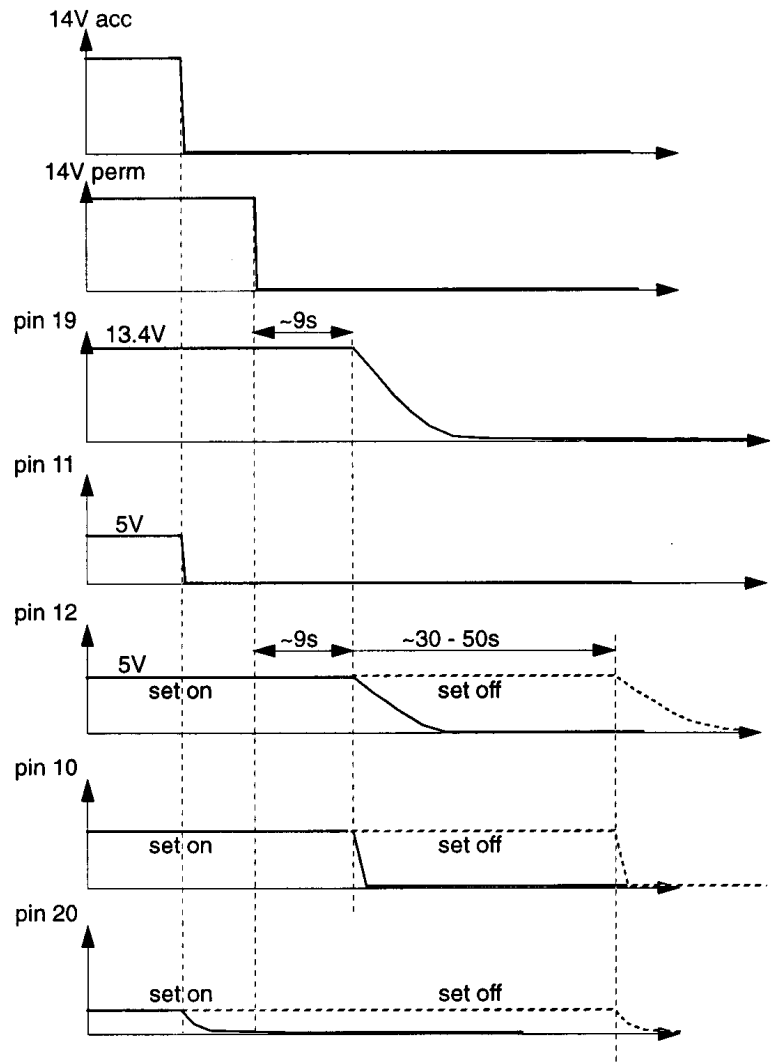
With a transition on any of the input lines, a 1ms duration reset (RESET\_uC in schematic PS01) is generated, which leads to wake up the micro p. from the power down mode. At the same time, the reset will be disabled. The micro p. is then able to check the reset origin and to decide at least if the set must switch on or not.

# Waveforms on IC 7401 L4949N

## 1) Set OFF



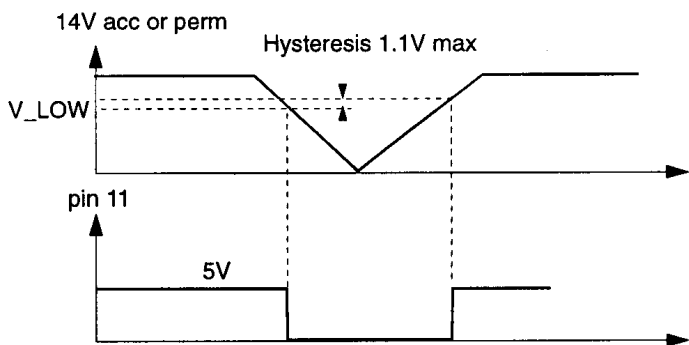
## 2) Set ON



## 3) V\_LOW handling

If a V\_LOW occurs during set is On or during set On/Off procedure is performed, the micro p. switches Off the set and finishes the write EEprom activities. After this actin the hardware reset generation will be enabled and the micro p. goes to power down.

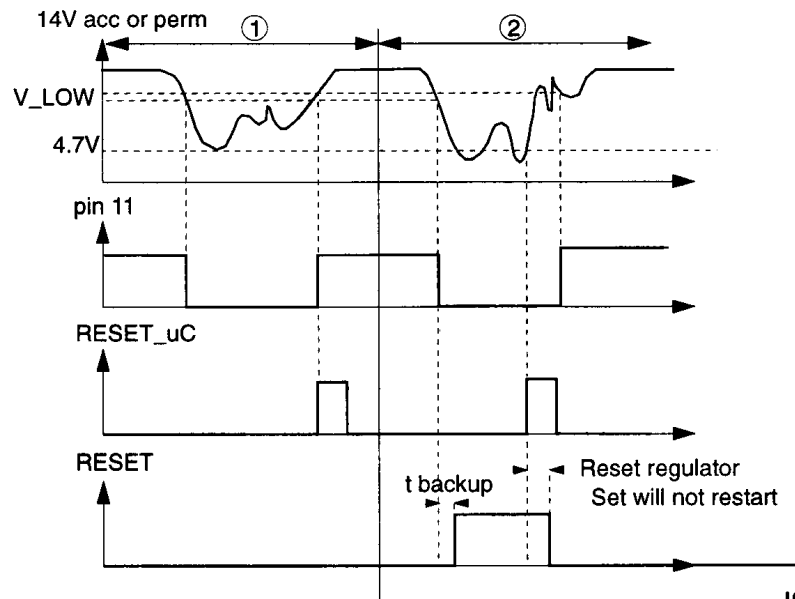
### V\_LOW handling



Case ① The set is On, the permanent supply falls down but is over 4.7V

Case ② The set is On, the permanent supply falls down below 4.7V for longer than backup time

### Behaviour while engine start



## DESCRIPTION OF THE CAR DIGITAL SIGNAL PROCESSOR (CDSP) SAA7701

The CDSP chip can perform all the signal functions in front of the power amplifier and behind the AM and FM demodulation and tape input. These functions are: interference absorption, stereo decoding, RDS decoding, weak signal processing (soft-mute, sliding stereo, etc...), Dolby-B tape noise reduction and the audio volume controls (volume, balance, fader, tone, dynamic compression). Some functions have been implemented in hardware and are not freely programmable. Digital audio signals from external sources with I2S format are accepted. There are four independent analog output channels. This enables separate tone and equalisation control for front and rear speakers.

The DSP can contain a basic program which enables already a set with AM/FM reception, sophisticated FM weak signal functions, MSS, Dolby-B tape noise reduction system, CD play with compressor function, separate bass and treble tone control and fader/balance control.

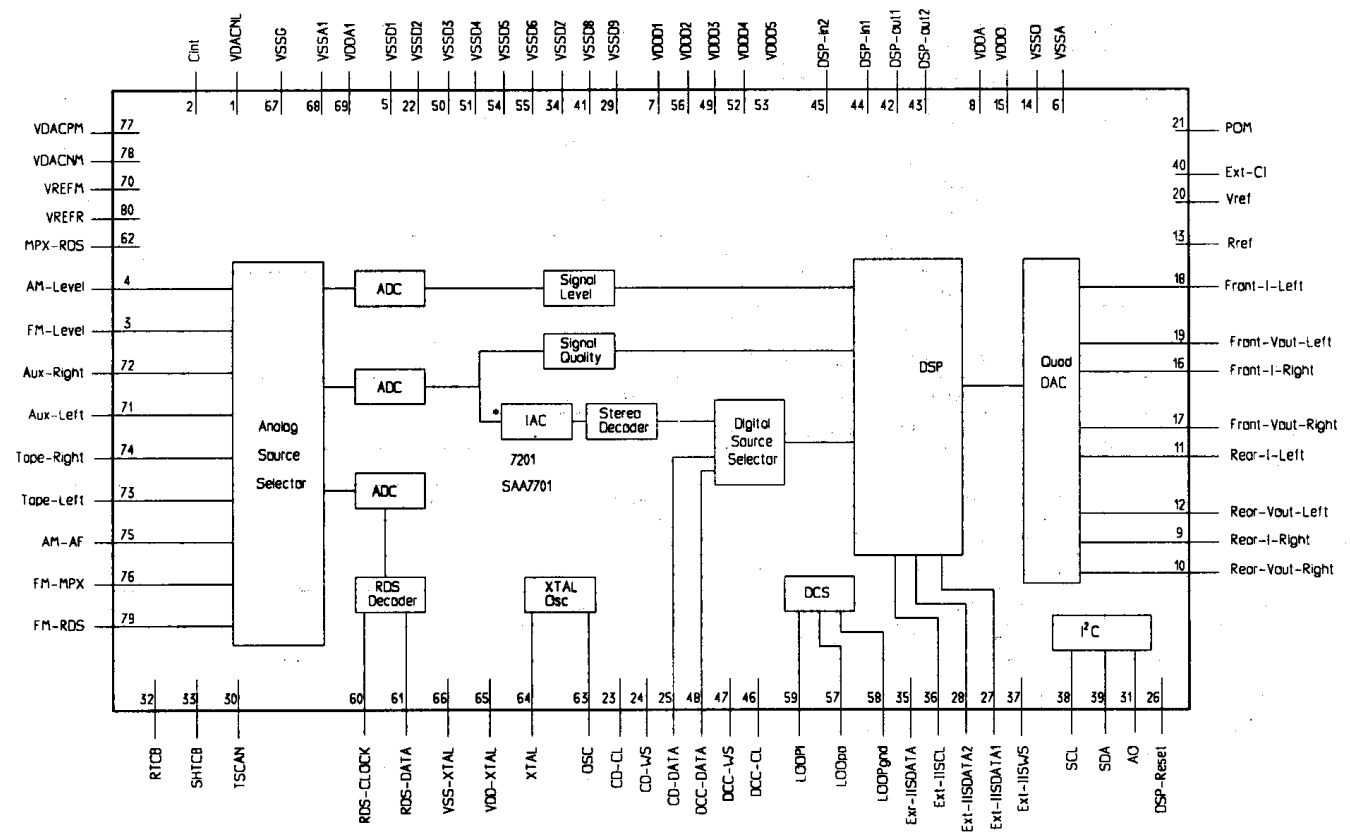
### Hardware features

- Bit stream 3rd order Sigma-Delta A/D converters with anti aliasing broadband input filters
- D/A converters with four over sampling and noise shaping
- Digital stereo decoder
- Improved, digital IAC
- RDS processing with optional 16 bit buffer via separate channel (two tuner radio possible)
- Auxiliary analog CD input (CD-walkman, speech, economic CD-changer etc...)
- Two separate full I2S CD and DCC high performance interfaces
- Expandable with additional DSPs for sophisticated features through an I2S gateway
- Audio output short circuit protected
- I2C bus controlled
- Analog tape input
- -40 to +85° C operating temperature range

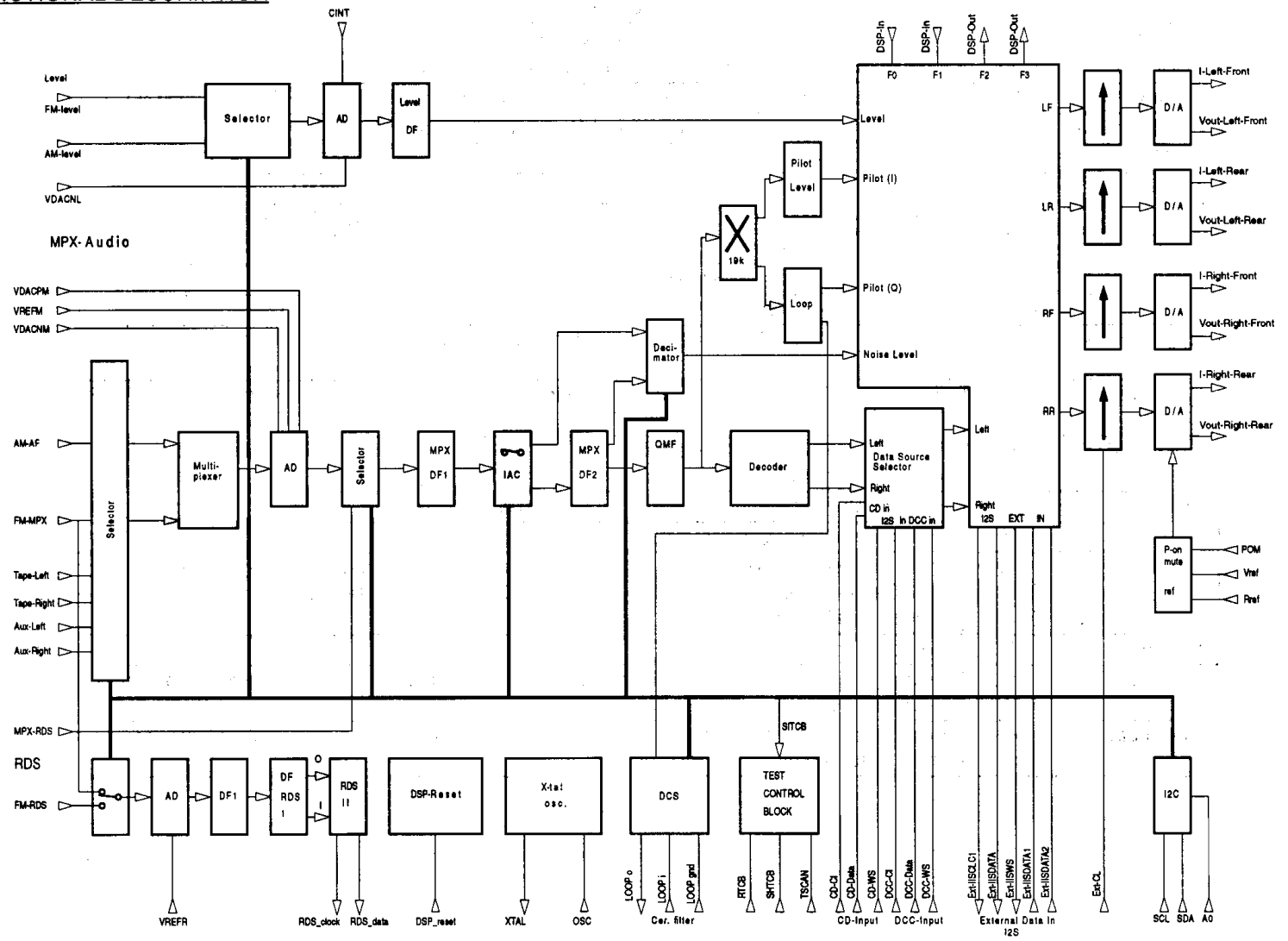
### Software features

- Improved FM weak signal processing with more stereo
- Integrated 19KHz MPX filter and de-emphasis
- Electronic adjustments: FM/AM level, FM channel separation, Dolby level
- Baseband audio processing (treble/bass/balance/fader/volume)
- Dynamic loudness or bass boost
- Stereo 1 or 3 band parametric equaliser
- Automatic leveller (in combination with microprocessor)
- Tape equalisation (DCC analog playback)
- Music Search detection for tape (MSS)
- Pause detection for RDS updates
- Dolby-B tape noise reduction
- (adjustable) dynamic compressor
- CD/DCC De-emphasis processing
- Signal level, noise and multipath detection for RDS (I2C bus command)
- Hidden mute during RDS updates
- Improved AM reception

# BLOCK DIAGRAM



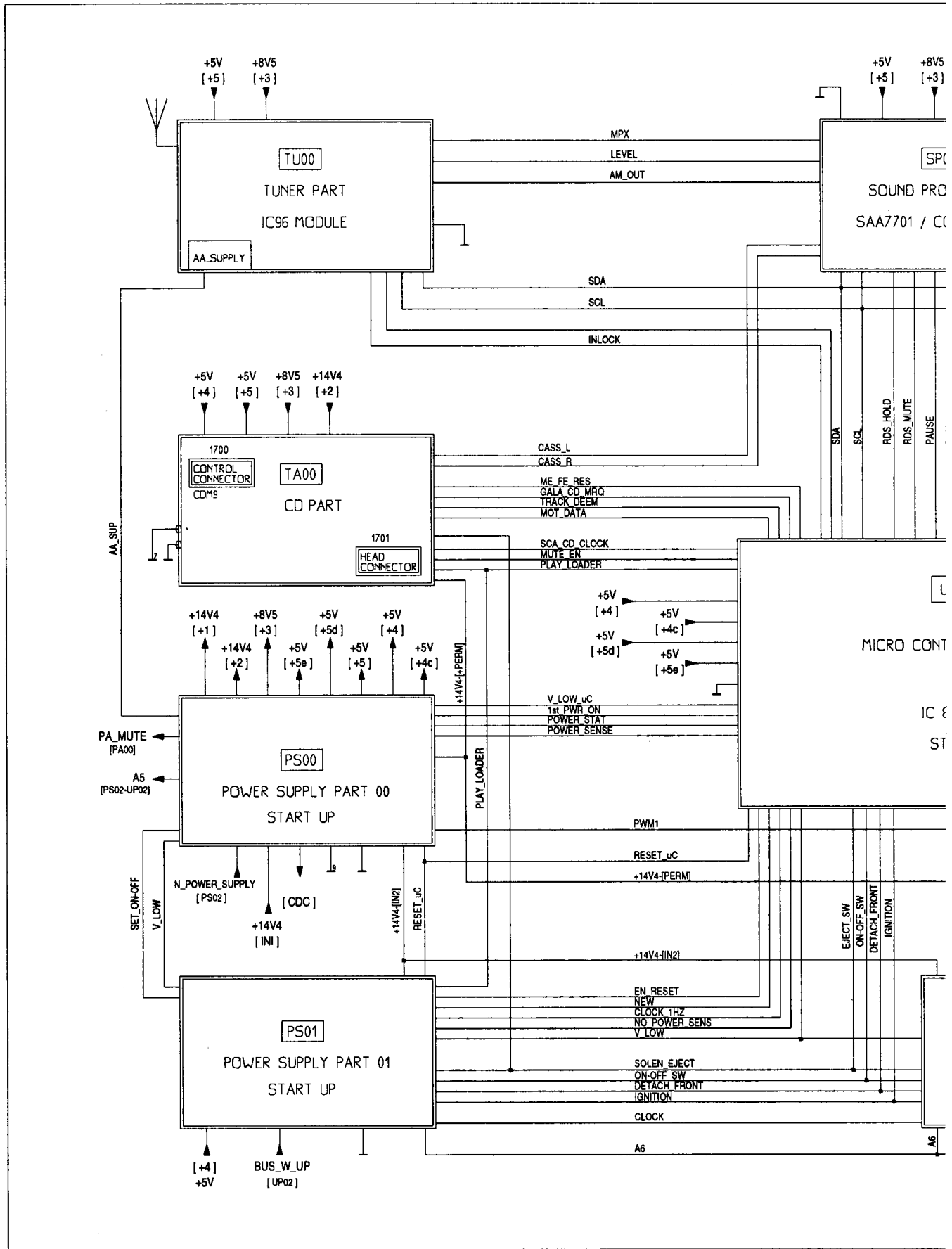
# FUNCTIONAL DESCRIPTION



SYMBOL	PIN	DESCRIPTION
VDACNL	1	Ground Reference Level AD DAC LEVEL
CINT	2	Level AD switch mode integrator connection
FM-level	3	FM-level input pin. Via this pin the level of the received FM-radio signal is fed to the CDSP. The level information is needed for a correct functioning of the weak signal behaviour.
AM-level	4	AM-level input pin. Via this pin the level of the received AM-radio signal is fed to the CDSP.
VSSD1	5	Supply ground 1 digital circuitry DACs
VSSA	6	Supply ground analog circuitry DACs
VDDD1	7	Positive supply 1 digital circuitry DACs
VDDA	8	Positive supply analog circuitry DACs
Rear-I-Right	9	Analog audio current output for Rear-right speaker
Rear-Vout-Right	10	Analog audio voltage output for Rear-right speaker
Rear-I-Left	11	Analog audio current output for Rear-left speaker
Rear-Vout-Left	12	Analog audio voltage output for Rear-left speaker
Rref	13	Input for the internal reference current source of the D/A converter
VSSO	14	Supply ground for output Op-amps DAC
VDD0	15	Positive supply for output Op-amps DAC
Front-I-Right	16	Analog audio current output for Front-right speaker
Front-Vout-Right	17	Analog audio voltage output for Front-right speaker
Front-I-Left	18	Analog audio current output for Front-left speaker
Front-Vout-left	19	Analog audio voltage output for Front-left speaker
Vref	20	Voltage input for the internal reference buffer amplifier of the D/A converter.
POM	21	Activates the Power On Mute. Timing is determined with an external capacitor.
VSSD2	22	Ground supply 2 digital circuitry
CD-CI	23	I <sup>2</sup> S Clock input CD digital audio source. Also reference for 4* asf and asf. Selected if DIV-EXT/ <u>INT</u> is not set. / Output LIRS scan chain 6
CD-WS	24	I <sup>2</sup> S Word Select Input CD digital audio source / Input LIRS scan chain 6
CD-Data	25	I <sup>2</sup> S Left/Right Data Input CD digital audio source / Input LIRS scan chain 1
DSP-reset	26	Input to reset DSP-core (active low) / input LIRS scan chain 3
Ext_IISDATA1	27	I <sup>2</sup> S External Input Data channel 1 (front) from extra DSP chip / input CORE scan chain DIO
Ext_IISDATA2	28	I <sup>2</sup> S External Input Data channel 2 (rear) for extra DSP chip
VSSD9	29	Ground supply 9 digital circuitry
TSCAN	30	Scan control (active high)
A0	31	Slave sub-address I <sup>2</sup> C selection / Serial data input test control block (SITCB)
RTCB	32	Asynchronous Reset test control block (active high)
SHTCB	33	Shift clock test control block (active high)
VSSD7	34	Ground supply 7 digital circuitry
Ext_IISDATA	35	I <sup>2</sup> S External Output Data for extra DSP chip / output LIRS scan chain 4; controlled by ENA_IIS (bit 13)
Ext_IISCL	36	I <sup>2</sup> S External Output Clock for extra DSP chip / output LIRS scan chain 3; controlled by ENA_IIS (bit 13)
Ext_IISWS	37	I <sup>2</sup> S External input/output Word select for extra DSP chip / output CORE scan chain DIO; controlled by ENA_IIS (bit 13)
SCL	38	Serial clock input (I <sup>2</sup> C bus) / input LIRS scan chain 4
SDA	39	Serial data input/output (I <sup>2</sup> C bus)
EXT-CI	40	External reference clock input to generate 4*asf and ASF synchronisation. To be used in case the I <sup>2</sup> S clock inputs are not suitable. Selection if DIV-EXT/ <u>INT</u> is set / Latch signal DAC data words in analog test mode.
VSSD8	41	Ground supply 8 digital circuitry
DSP_out1	42	Digital output 1 from DSP-core (F2 of status register) / output CORE scan chain (tri-state for Debug board)
DSP_out2	43	Digital output 2 from DSP-core (F3 of status register) / IAC trigger output / output DAC scan chain 1; actived by AGC_TRIG (bit 15)

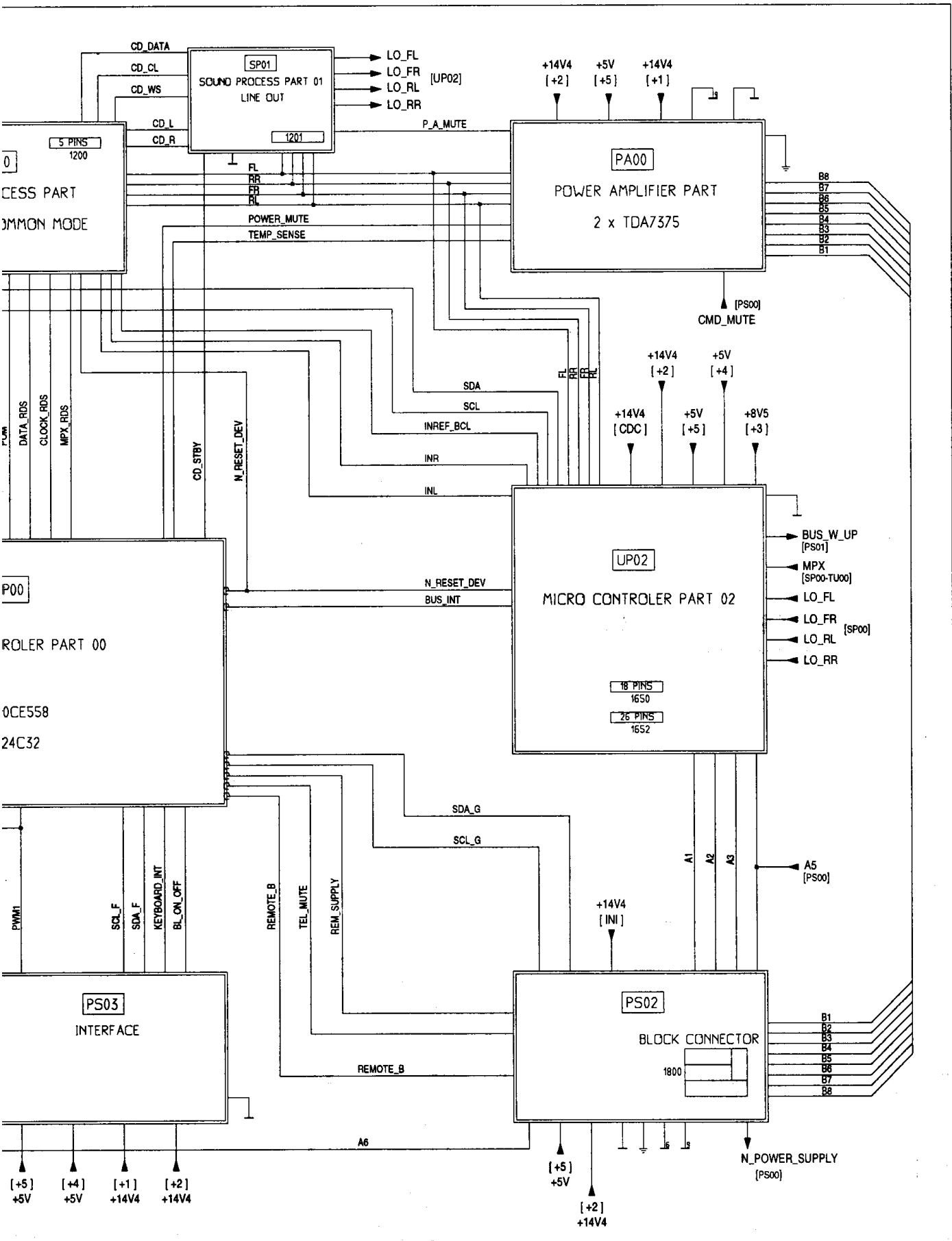
SYMBOL	PIN	DESCRIPTION
DSP_in1	44	Digital input 1 for DSP-core (F0 of status register) / input LIRS scan chain 2
DSP_in2	45	Digital input 2 for DSP-core (F1 of status register) / input CORE scan chain
DCC-CI	46	I <sup>2</sup> S Clock input DCC digital audio source. Also reference for 4*asf and asf. Selected if DIV-EXT/ <u>INT</u> is not set. / Input DAC digital scan chain 1 / input DAC analog scan chain LEFT / input external MPX ADC if SEL-EXT/ <u>ADC</u> is set.
DCC-WS	47	I <sup>2</sup> S Word Select input DCC digital audio source / input DAC digital scan chain 2 / input DAC analog scan chain RIGHT / input external RDS ADC if SEL-EXT/ <u>ADC</u> is set.
DCC-Data	48	I <sup>2</sup> S Left/RIGHT Data input DCC digital audio source / output LIRS scan chain 5 / input external LEVEL ADC if SEL-EXT/ <u>ADC</u> is set.
VDDD3	49	Positive supply 3 digital circuitry
VSSD3	50	Ground supply 3 digital circuitry
VSSD4	51	Ground supply 4 digital circuitry
VDDD4	52	Positive supply 4 digital circuitry
VDDD5	53	Positive supply 5 digital circuitry
VSSD5	54	Ground supply 5 digital circuitry
VSSD6	55	Ground supply 6 digital circuitry
VDDD2	56	Positive supply 2 digital circuitry
LOOPo	57	Unfiltered DCS clock output / output DAC scan chain 2 / LEVEL A/D bitstream output in analog A/D test mode / bit slicer output in slicer test mode
LOOPgnd	58	Ground connection DCS filter
LOOPi	59	Filtered DCS clock input / Bit slicer input in slicer test mode
RDS-Clock	60	Radio Data System bit clock output / output LIRS scan chain 1 / MPX A/D bitstream output in analog AD test mode / RDS external clock input; controlled by SEL-BUF/ <u>BUF</u> (bit 7) / X-tal output in slicer test mode.
RDS-Data	61	Radio Data System data output / output LIRS scan chain 2 / RDS A/D bitstream output in analog AD test mode
MPX-RDS	62	Selects in FM-mode between FM-MPX and RDS-MPX input signal to the MPX decimation filter / input LIRS scan chain 5 / input A/D scan chain in analog test mode
OSC	63	Crystal oscillator output: Drive output to 36.860 MHz crystal or forced input in slave mode
XTAL	64	Crystal oscillator input: local crystal oscillator sense
VDD_XTAL	65	Positive supply X-TAL circuitry
VSS_XTAL	66	Ground supply X-TAL circuitry
VSSG	67	Ground guards ADs
VSSA1	68	Ground supply ADs analog
VDDA1	69	Positive supply ADs analog
VREFM	70	Mid ref voltage MPX AD and buffers
Aux-Left	71	Analog input pin for Auxiliary-Left signal
Aux-Right	72	Analog input pin for Auxiliary-Right signal
Tape-Left	73	Analog input pin for Tape-Left signal
Tape-Right	74	Analog input pin for Tape-Right signal
AM-AF	75	Analog input pin for AM audio frequency
FM-MPX	76	Analog input pin for FM-Multiplex signal
VDACPM	77	Positive reference voltage AD DAC MPX and RDS
VDACNM	78	Ground reference voltage AD DAC MPX and RDS
FM-RDS	79	Analog FM-MPX input pin for RDS decoding
VREFR	80	Mid ref voltage RDS AD, LEVEL AD and buffers

Explanation: LIRS is the abbreviation of the level, IAC, RDS and Stereo decoder part.

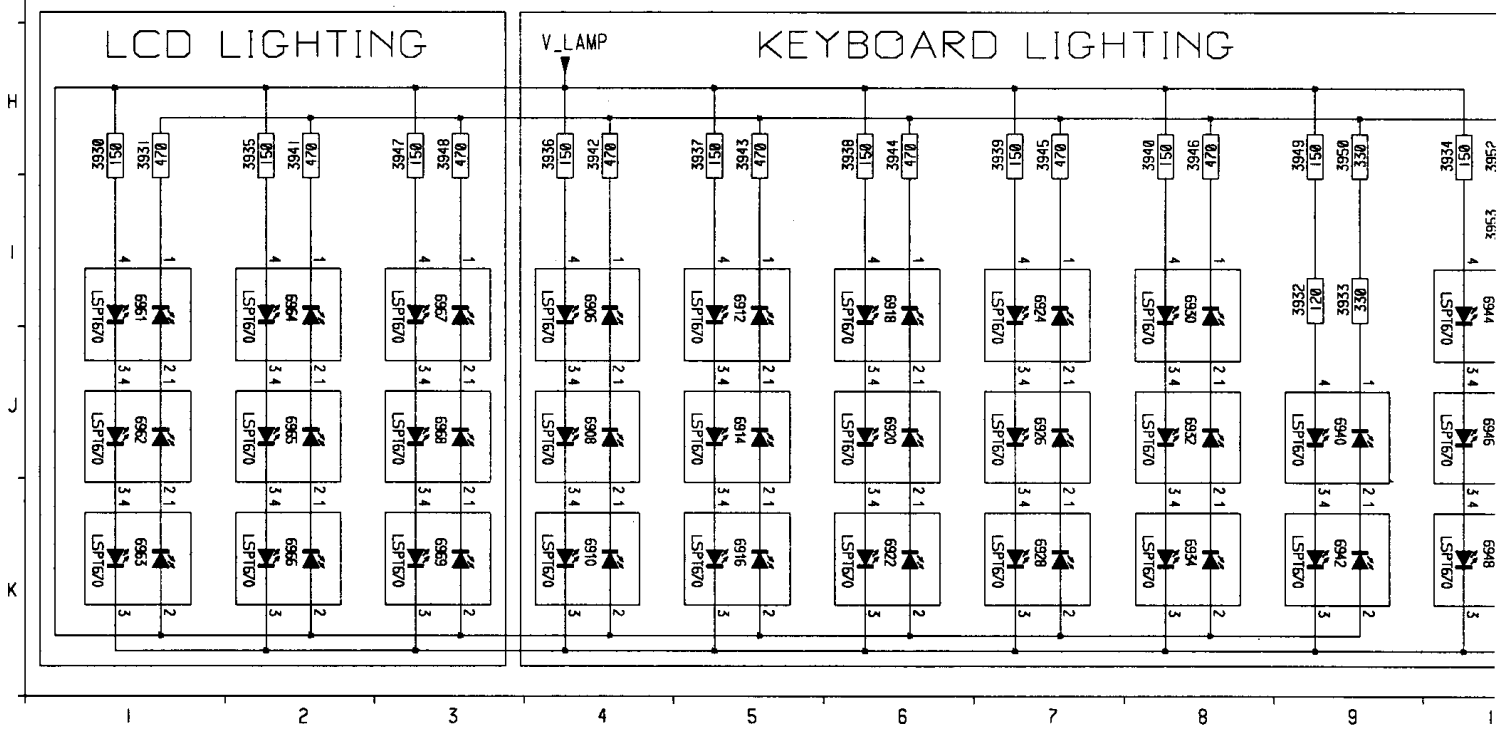
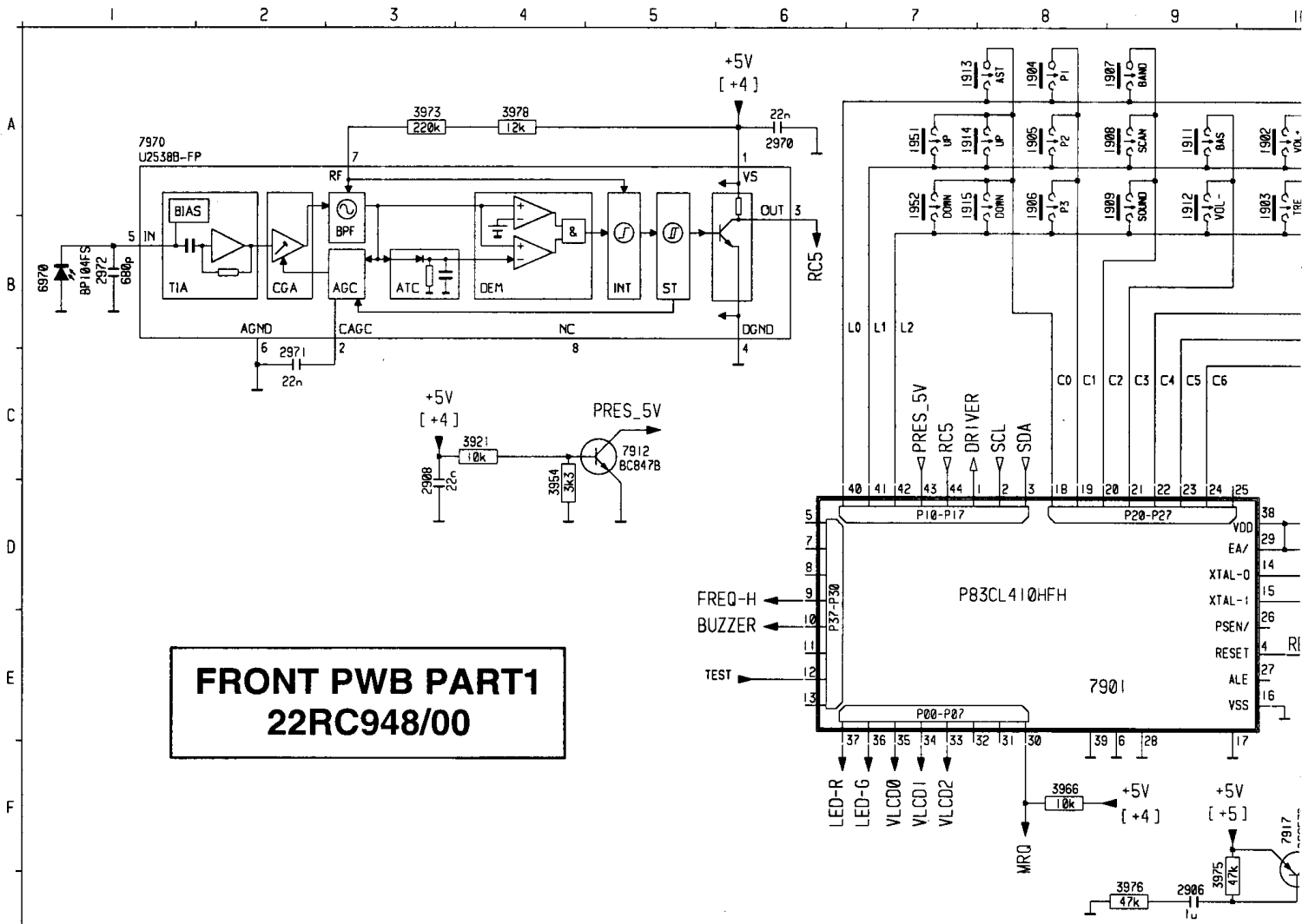


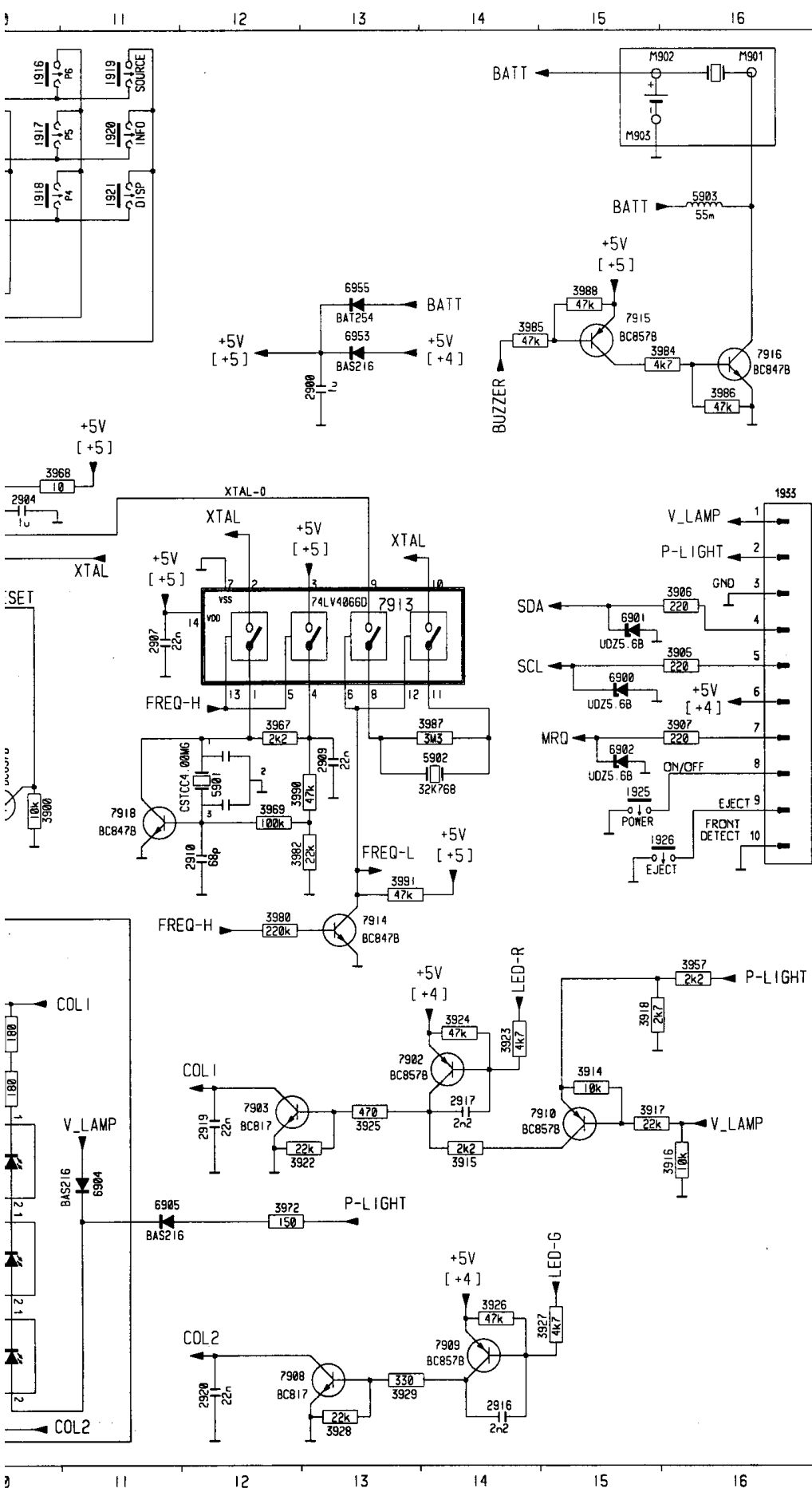
ELECTRICAL BLOC DIAGRAM

22DC948/00



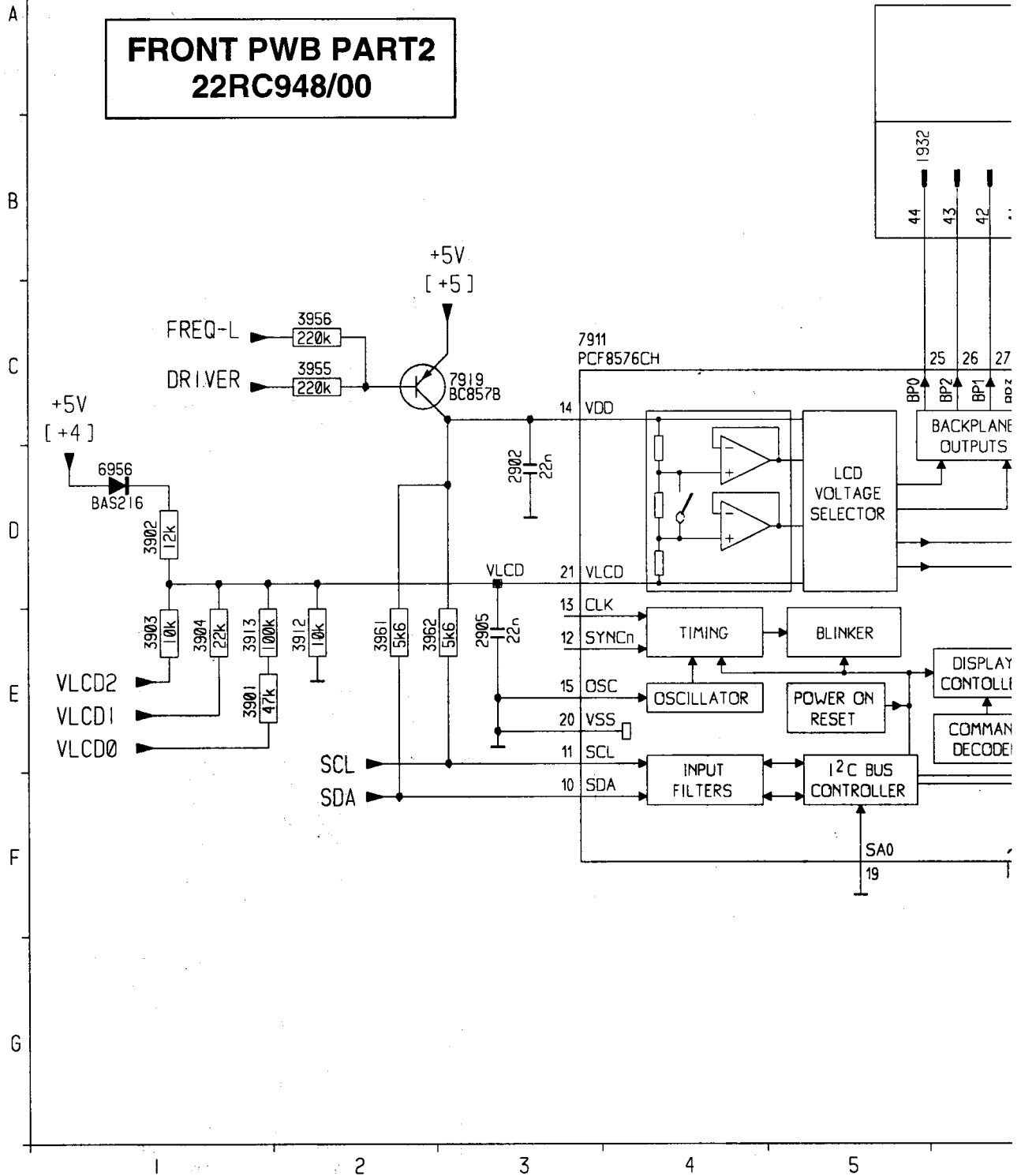


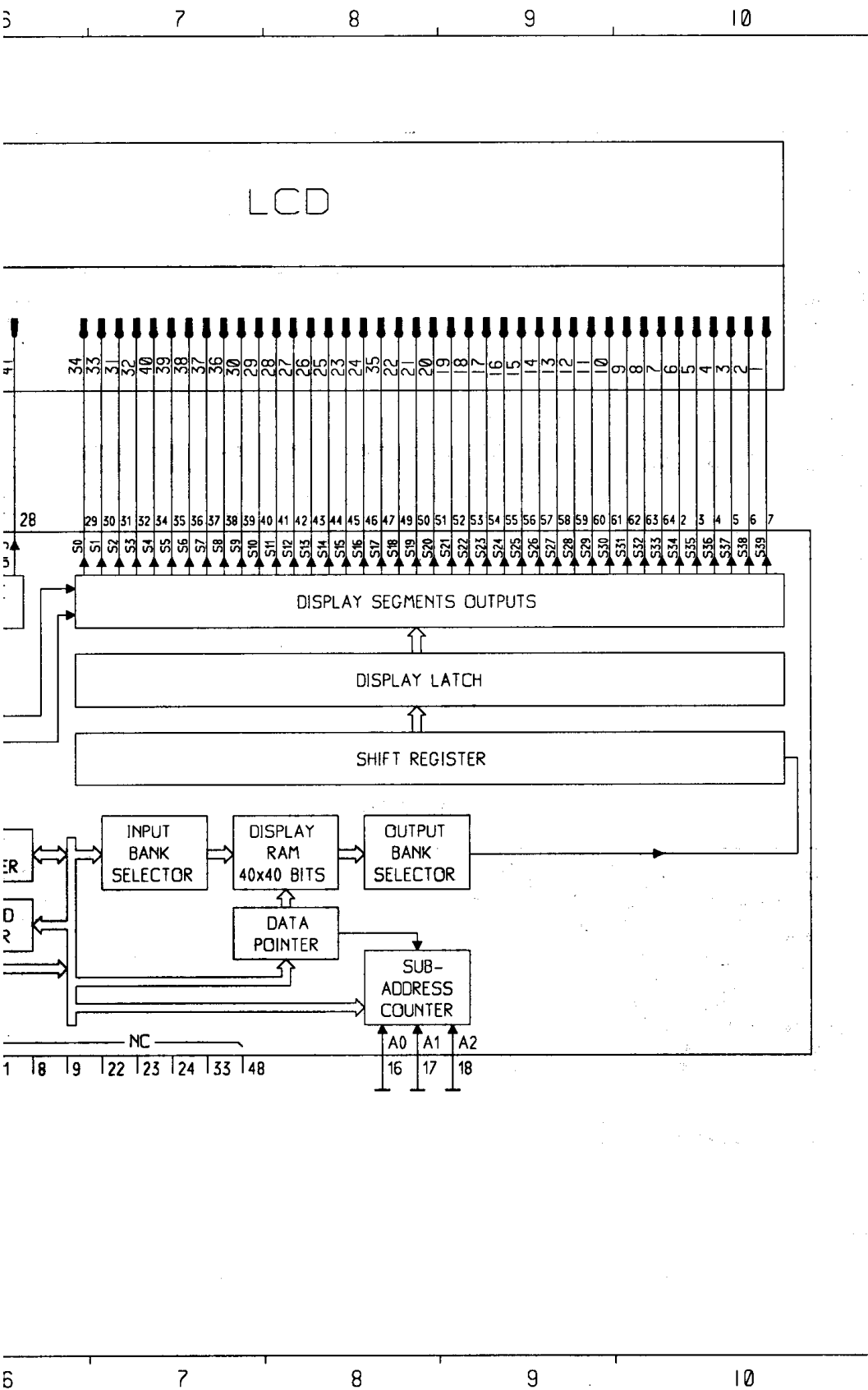




1902	A10	3949	H 9
1903	A10	3950	H 9
1904	A 8	3952	H10
1905	A 8	3953	I10
1906	A 8	3954	D 4
1907	A 9	3957	H16
1908	A 9	3966	F 8
1909	A 9	3967	F12
1911	A 9	3968	D10
1912	A 9	3969	G12
1913	A 7	3972	J12
1914	A 7	3973	A 3
1915	A 7	3975	G 9
1916	A10	3976	G 9
1917	A10	3978	A 4
1918	A10	3980	G12
1919	A11	3982	G12
1920	A11	3984	C16
1921	A11	3985	C14
1925	F15	3986	C16
1926	G16	3987	F14
1933	D16	3988	B15
1951	A 7	3990	F12
1952	A 7	3991	G13
2900	C13	5901	F12
2904	D10	5902	F14
2906	G 9	5903	A16
2907	E11	6900	E15
2908	D 3	6901	E15
2909	F13	6902	F15
2910	G12	6904	J11
2916	K14	6905	J11
2917	I14	6906	I 4
2919	I12	6908	J 4
2920	K12	6910	K 4
2970	A 6	6912	J 5
2971	C 2	6914	J 5
2972	B 1	6916	K 5
3900	G10	6918	I 6
3905	E16	6920	J 6
3906	E16	6922	K 6
3907	F16	6924	I 7
3914	I15	6926	J 7
3915	I14	6928	K 7
3916	I16	6930	I 8
3917	I15	6932	J 8
3918	H15	6934	K 8
3921	C 4	6940	J 9
3922	I13	6942	K 9
3923	H14	6944	I10
3924	H14	6946	J10
3925	I13	6948	K10
3926	K14	6953	C13
3927	K15	6955	B13
3928	K13	6961	I 1
3929	K13	6962	J 1
3930	H 1	6963	K 1
3931	H 1	6964	I 2
3932	I 9	6965	J 2
3933	I 9	6966	K 2
3934	H10	6967	I 3
3935	H 2	6968	J 3
3936	H 4	6969	K 3
3937	H 5	6970	B 1
3938	H 6	7901	E 8
3939	H 7	7902	I14
3940	H 8	7903	I12
3941	H 2	7908	K13
3942	H 4	7909	K14
3943	H 5	7910	I15
3944	H 6	7912	C 5
3945	H 7	7913	E13
3946	H 8	7914	G13
3947	H 3	7915	B15
3948	H 3	7916	C16
		7917	F10
		7918	G11
		7970	A 1

**FRONT PWB PART2  
22RC948/00**






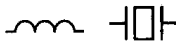
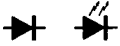
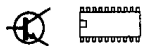


- 1932 B 5
- 2902 D 3
- 2905 E 3
- 3901 E 1
- A 3902 D 1
- 3903 E 1
- 3904 E 1
- 3912 E 2
- 3913 E 1
- 3955 C 2
- 3956 C 2
- B 3961 E 2
- 3962 E 2
- 6956 D 1
- 7911 C 3
- 7919 C 3

C  
D  
E  
F  
G

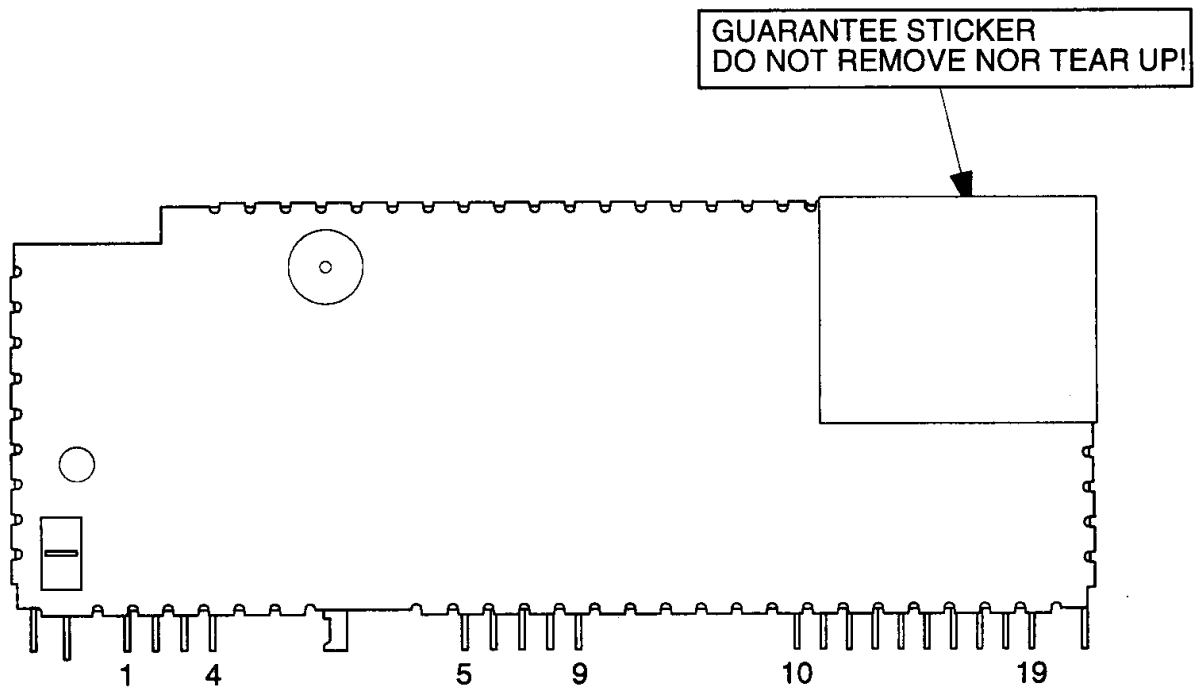
**FRONT PARTS**

Miscellaneous					
1902	4822 276 13855	TACT SWITCH HOR	3922	4822 051 20223	22K PM5 RST SM 0805
1903	4822 276 13855	TACT SWITCH HOR	3923	4822 051 20472	4K7 PM5 RST SM 0805
1904	4822 276 13855	TACT SWITCH HOR	3924	4822 051 30473	47K PM5 RST SM 0603
1905	4822 276 13855	TACT SWITCH HOR	3925	4822 051 20471	470R PM5 RST SM 0805
1906	4822 276 13855	TACT SWITCH HOR	3926	4822 051 30473	47K PM5 RST SM 0603
1907	4822 276 13855	TACT SWITCH HOR	3927	4822 051 20472	4K7 PM5 RST SM 0805
1908	4822 276 13855	TACT SWITCH HOR	3928	4822 051 20223	22K PM5 RST SM 0805
1909	4822 276 13855	TACT SWITCH HOR	3929	4822 051 20331	330R PM5 RST SM 0805
1911	4822 276 13855	TACT SWITCH HOR	3930	4822 117 10353	150R PM5 RST SM 0805
1912	4822 276 13855	TACT SWITCH HOR	3931	4822 051 20471	470R PM5 RST SM 0805
1913	4822 276 13855	TACT SWITCH HOR	3932	4822 051 20121	120R PM5 RST SM 0805
1914	4822 276 13855	TACT SWITCH HOR	3933	4822 051 20331	330R PM5 RST SM 0805
1915	4822 276 13855	TACT SWITCH HOR	3934	4822 117 10353	150R PM5 RST SM 0805
1916	4822 276 13855	TACT SWITCH HOR	3935	4822 117 10353	150R PM5 RST SM 0805
1917	4822 276 13855	TACT SWITCH HOR	3936	4822 117 10353	150R PM5 RST SM 0805
1918	4822 276 13855	TACT SWITCH HOR	3937	4822 117 10353	150R PM5 RST SM 0805
1919	4822 276 13855	TACT SWITCH HOR	3938	4822 117 10353	150R PM5 RST SM 0805
1920	4822 276 13855	TACT SWITCH HOR	3939	4822 117 10353	150R PM5 RST SM 0805
1921	4822 276 13855	TACT SWITCH HOR	3940	4822 117 10353	150R PM5 RST SM 0805
1925	4822 276 13855	TACT SWITCH HOR	3941	4822 051 20471	470R PM5 RST SM 0805
1926	4822 276 13855	TACT SWITCH HOR	3942	4822 051 20471	470R PM5 RST SM 0805
1951	4822 276 13855	TACT SWITCH HOR	3943	4822 051 20471	470R PM5 RST SM 0805
1952	4822 276 13855	TACT SWITCH HOR	3944	4822 051 20471	470R PM5 RST SM 0805
			3945	4822 051 20471	470R PM5 RST SM 0805
			3946	4822 051 20471	470R PM5 RST SM 0805
2900	4822 126 14043	1U 16V P8020 0805 Y5V	3947	4822 117 10353	150R PM5 RST SM 0805
2902	4822 126 14114	22N PM10 25V 0603	3948	4822 051 20471	470R PM5 RST SM 0805
2904	4822 126 14043	1U 16V P8020 0805	3949	4822 117 10353	150R PM5 RST SM 0805
2905	4822 126 14114	22N PM10 25V 0603	3950	4822 051 20331	330R PM5 RST SM 0805
2906	4822 126 14043	1U 16V P8020 0805	3952	4822 117 11448	180R PM5 RST SM 0805
2907	4822 126 14114	22N PM10 25V 0603	3953	4822 117 11448	180R PM5 RST SM 0805
2908	4822 126 14114	22N PM10 25V 0603	3954	4822 051 20332	3K3 PM5 RST SM 0805
2909	4822 126 14114	22N PM10 25V 0603	3955	4822 051 20224	220K PM5 RST SM 0805
2910	4822 126 13694	68P PM5 50V 0805	3956	4822 051 20224	220K PM5 RST SM 0805
2916	4822 122 33127	2N2 PM10 50V 0805	3957	4822 117 11449	2K2 PM5 RST SM 0805
2917	4822 122 33127	2N2 PM10 50V 0805	3961	4822 051 20562	5K6 PM5 RST SM 0805
2919	4822 126 14114	22N PM10 25V 0603 X7R	3962	4822 051 20562	5K6 PM5 RST SM 0805
2920	4822 126 14114	22N PM10 25V 0603 X7R	3966	4822 117 10833	10K PM5 RST SM 0805
2970	4822 126 14114	22N PM10 25V 0603 X7R	3967	4822 117 11449	2K2 PM5 RST SM 0805
2971	4822 126 14114	22N PM10 25V 0603 X7R	3968	4822 051 20109	10R PM5 RST SM 0805
2972	5322 126 10733	680P PM5 50V 0805 NPO	3969	4822 051 20104	100K PM5 RST SM 0805
			3972	4822 117 10353	150R PM5 RST SM 0805
3901	4822 051 20472	4K7 PM5 RST SM 0805	3973	4822 051 20224	220K PM5 RST SM 0805
3902	4822 051 20562	5K6 PM5 RST SM 0805	3975	4822 051 30473	47K PM5 RST SM 0603
3903	4822 051 20272	2K7 PM5 RST SM 0805	3976	4822 051 20473	47K PM5 RST SM 0603
3904	4822 051 20332	3K3 PM5 RST SM 0805	3978	4822 117 11383	12K PM5 RST SM 0805
3905	4822 117 11503	220R PM5 RST SM 0805	3980	4822 051 20105	1M PM5 RST SM 0805
3906	4822 117 11503	220R PM5 RST SM 0805	3982	4822 051 20223	22K PM5 RST SM 0805
3907	4822 117 11503	220R PM5 RST SM 0805	3984	4822 051 20472	4K7 PM5 RST SM 0805
3912	4822 051 30473	47K PM5 RST SM 0603	3985	4822 051 30473	47K PM5 RST SM 0603
3913	4822 051 20471	470R PM5 RST SM 0805	3986	4822 051 30473	47K PM5 RST SM 0603
3914	4822 117 10833	10K PM5 RST SM 0805	3987	4822 051 20335	3M3 PM5 RST SM 0805
3915	4822 117 11449	2K2 PM5 RST SM 0805	3988	4822 051 30473	47K PM5 RST SM 0603
3916	4822 117 10833	10K PM5 RST SM 0805	3990	4822 051 20473	47K PM5 RST SM 0805
3917	4822 051 20223	22K PM5 RST SM 0805	3991	4822 051 30473	47K PM5 RST SM 0603
3918	4822 051 20272	2K7 PM5 RST SM 0805			
3921	4822 117 10833	10K PM5 RST SM 0805	5901	4822 242 10721	RES CER 4MHZ

		
5902	4822 242 10398	RES XTL SM 32K768
5903	4822 157 11214	MINIATURE INDUCTOR
		
6900	4822 130 10185	DIO REG SM UDZ5.6B
6901	4822 130 10185	DIO REG SM UDZ5.6B
6902	4822 130 10185	DIO REG SM UDZ5.6B
6904	4822 130 83757	DIO SIG SM BAS216
6905	4822 130 83757	DIO SIG SM BAS216
6906	4822 130 10848	LED LSPT670-E9079
6908	4822 130 10848	LED LSPT670-E9079
6910	4822 130 10848	LED LSPT670-E9079
6912	4822 130 10848	LED LSPT670-E9079
6914	4822 130 10848	LED LSPT670-E9079
6916	4822 130 10848	LED LSPT670-E9079
6918	4822 130 10848	LED LSPT670-E9079
6920	4822 130 10848	LED LSPT670-E9079
6922	4822 130 10848	LED LSPT670-E9079
6924	4822 130 10848	LED LSPT670-E9079
6926	4822 130 10848	LED LSPT670-E9079
6928	4822 130 10848	LED LSPT670-E9079
6930	4822 130 10848	LED LSPT670-E9079
6932	4822 130 10848	LED LSPT670-E9079
6934	4822 130 10848	LED LSPT670-E9079
6940	4822 130 10848	LED LSPT670-E9079
6942	4822 130 10848	LED LSPT670-E9079
6944	4822 130 10848	LED LSPT670-E9079
6946	4822 130 10848	LED LSPT670-E9079
6948	4822 130 10848	LED LSPT670-E9079
6953	4822 130 83757	DIO SIG SM BAS216
6955	4822 130 10654	DIO SIG SM BAT254
6956	4822 130 83757	DIO SIG SM BAS216
6961	4822 130 10848	LED LSPT670-E9079
6962	4822 130 10848	LED LSPT670-E9079
6963	4822 130 10848	LED LSPT670-E9079
6964	4822 130 10848	LED LSPT670-E9079
6965	4822 130 10848	LED LSPT670-E9079
6966	4822 130 10848	LED LSPT670-E9079
6967	4822 130 10848	LED LSPT670-E9079
6968	4822 130 10848	LED LSPT670-E9079
6969	4822 130 10848	LED LSPT670-E9079
6970	4822 130 10849	OPT SEN SM BP104FS
		
7901	4822 209 15481	P83CL410HFFH/035/F3
7902	5322 130 60508	BC857B
7903	4822 130 42615	BC817-40
7908	4822 130 42615	BC817-40
7909	5322 130 60508	BC857B
7910	5322 130 60508	BC857B
7911	4822 209 15482	IC SM PCF8576CH/F1
7912	4822 130 60511	TRA SIG SM BC847B
7913	4822 209 15483	IC SM 74LV4066D
7914	4822 130 60511	TRA SIG SM BC847B
7915	5322 130 60508	TRA SIG SM BC857B
7916	4822 130 60511	TRA SIG SM BC847B
7917	5322 130 60508	TRA SIG SM BC857B
7918	4822 130 60511	TRA SIG SM BC847B
7919	5322 130 60508	TRA SIG SM BC857B
7970	4822 209 15484	IC SM U2538B-AFP

# IC96 MODULE

Not reparable module. Do not open and do not try to repair yourself!



## Connections

1	AM/FM Aerial input	10	Multiplex / RDS output signal
2	Ground	11	Unweighted level output
5	Inlock detector pin	12	I <sup>2</sup> C SDA
6	Vcc 8.5V	13	I <sup>2</sup> C SCL
7	Ground	14	SDS time constant pin
8	Vcc 5.0V	17	Ground
9	V reference	19	AM audio output

## Quick reference data:

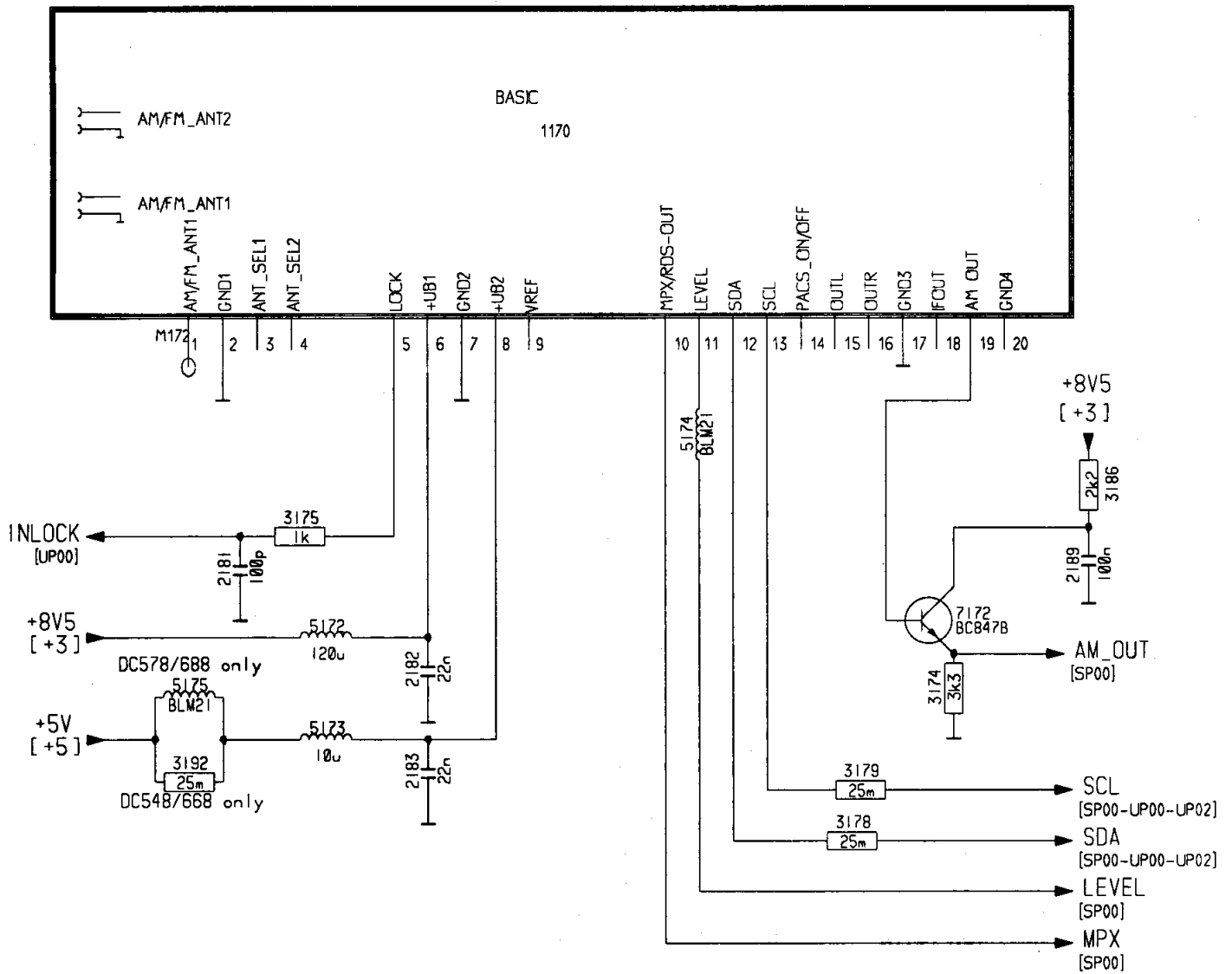
### 1) AM part

- Longwave/Mediumwave 144-1710 KHz (inclusive USA)
- Shortwave 5850-6250 KHz - 49 meter band
- AM double super concept
- AM IF1 10.7MHz
- AM IF2 450KHz
- First VCO frequency above input signal frequency
- Second X-tal oscillator frequency below IF1
- Usable sensitivity  $\alpha 26$ dB MW = 14 $\mu$ V typ.

### 1) FM part

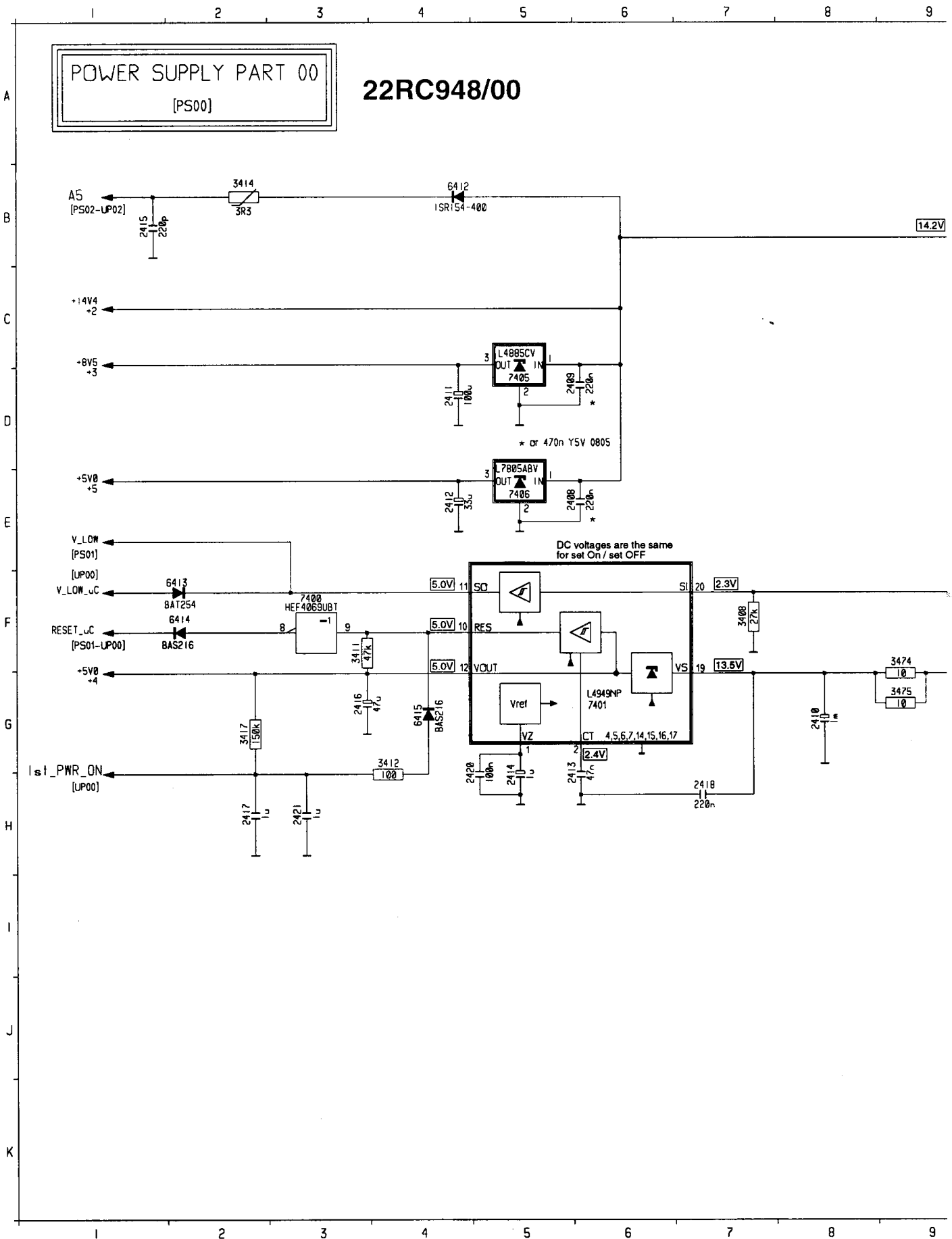
- FM 87.5 - 108MHz
- FM double super concept
- FM IF1 72.2MHz
- FM IF2 10.7MHz
- First VCO frequency above input signal frequency
- Second X-tal oscillator frequency below IF1
- Usable sensitivity  $\alpha 26$ dB = 2.5 $\mu$ V typ.
- THD 1mV  $\delta f = 75$ KHz = 0.5% typ
- Signal to noise ratio = 65dB typ
- Locktime synthesizer <2mSec

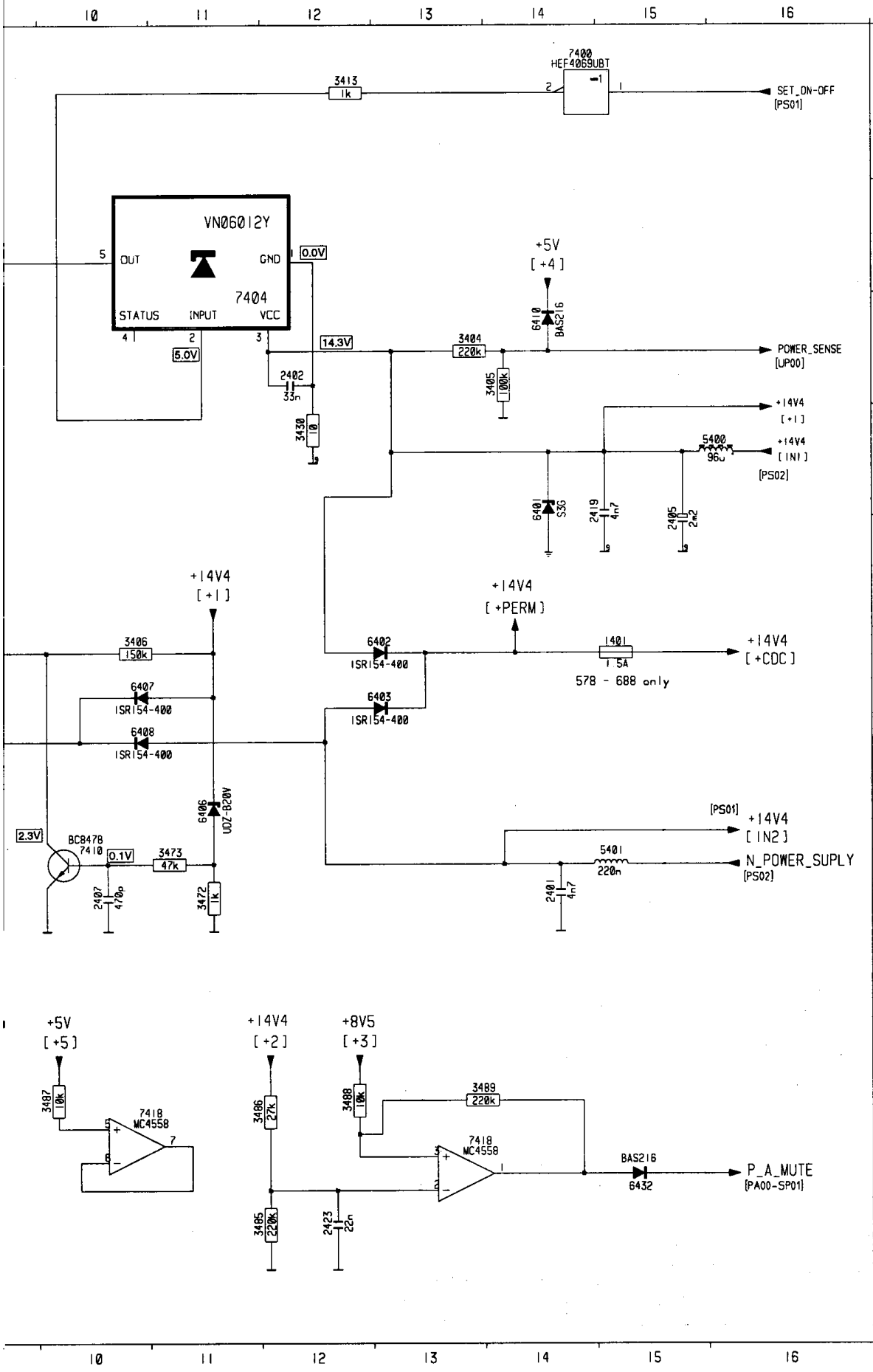
TUNER PART  
[TU00]





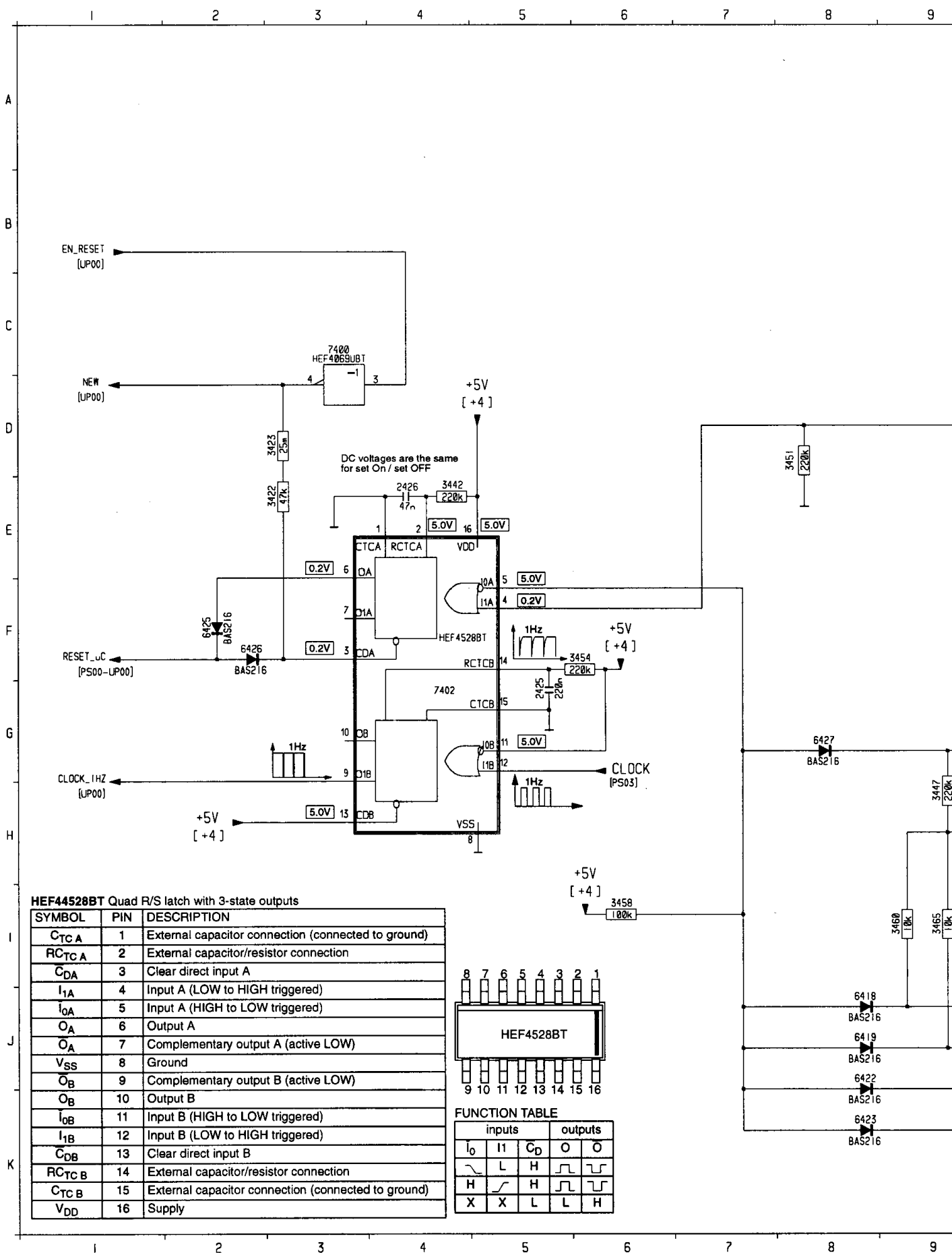
1st\_PWR\_ON .....G1      RESET\_uC ..... F1  
 A4 .....H16      SET\_ON-OFF ..... A16  
 A5 .....B1      V\_LOW ..... E1  
 MUTE\_ENABLE .....E1      V\_LOW\_uC ..... F1  
 POWER\_SENSE .....C16  
 P\_A\_MUTE .....K14





- 1401 F15
- 2401 H14
- 2402 C12
- 2405 E15
- 2407 H10
- 2408 E 6
- 2409 D 6
- 2410 G 8
- 2411 D 4
- 2412 E 4
- 2413 H 6
- 2414 H 5
- 2415 B 1
- 2416 G 3
- 2417 H 2
- 2418 H 7
- 2419 D15
- 2420 H 5
- 2421 H 3
- 2423 K12
- 3404 C13
- 3405 C14
- 3406 F10
- 3408 F 7
- 3411 F 3
- 3412 G 4
- 3413 A12
- 3414 B 2
- 3417 G 2
- 3430 D12
- 3472 H11
- 3473 H11
- 3474 F 9
- 3475 G 9
- 3485 K11
- 3486 J11
- 3487 J10
- 3488 J12
- 3489 J13
- 5400 D16
- 5401 H15
- 6401 D14
- 6402 F13
- 6403 F13
- 6406 G11
- 6407 F10
- 6408 F10
- 6410 C14
- 6411 E 2
- 6412 B 4
- 6413 F 2
- 6414 F 2
- 6415 G 4
- 6432 K15
- 7400 A14
- 7401 F 3
- 7401 G 6
- 7404 C12
- 7405 D 5
- 7406 E 5
- 7410 H10
- 7418 J13
- 7418 J11

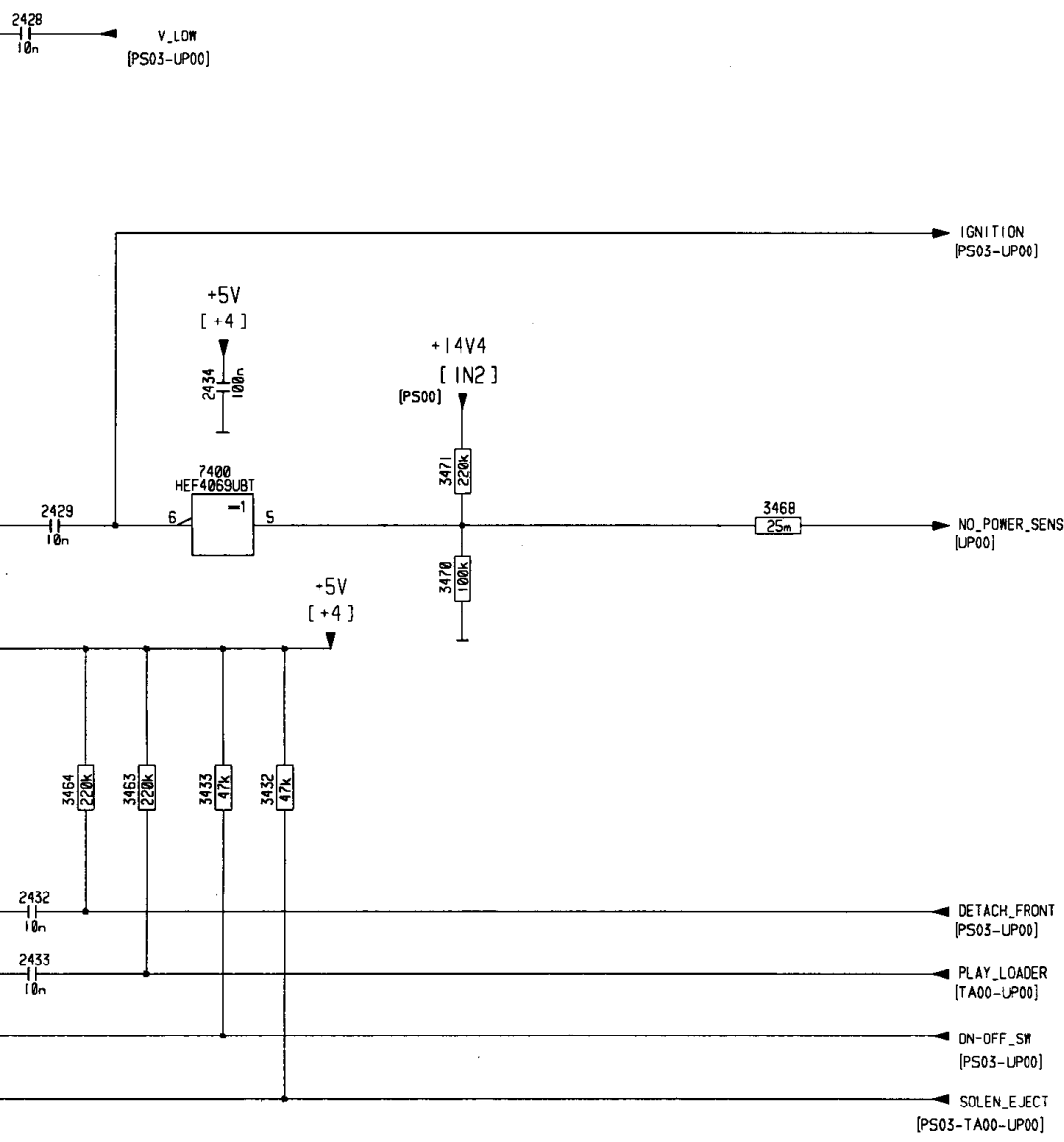
CLOCK .....G6  
 CLOCK\_1HZ .....G1  
 DETACH\_FRONT .....J15  
 EN\_RESET .....B1  
 IGNITION .....E15  
 NEW .....D1  
 NO\_POWER\_SENS .....G15  
 ON\_OFF\_SW .....J15  
 PLAY\_LOADER.....J15  
 RESET\_uC .....F1  
 SOLEN\_EJECT.....K15  
 V\_LOW .....D10



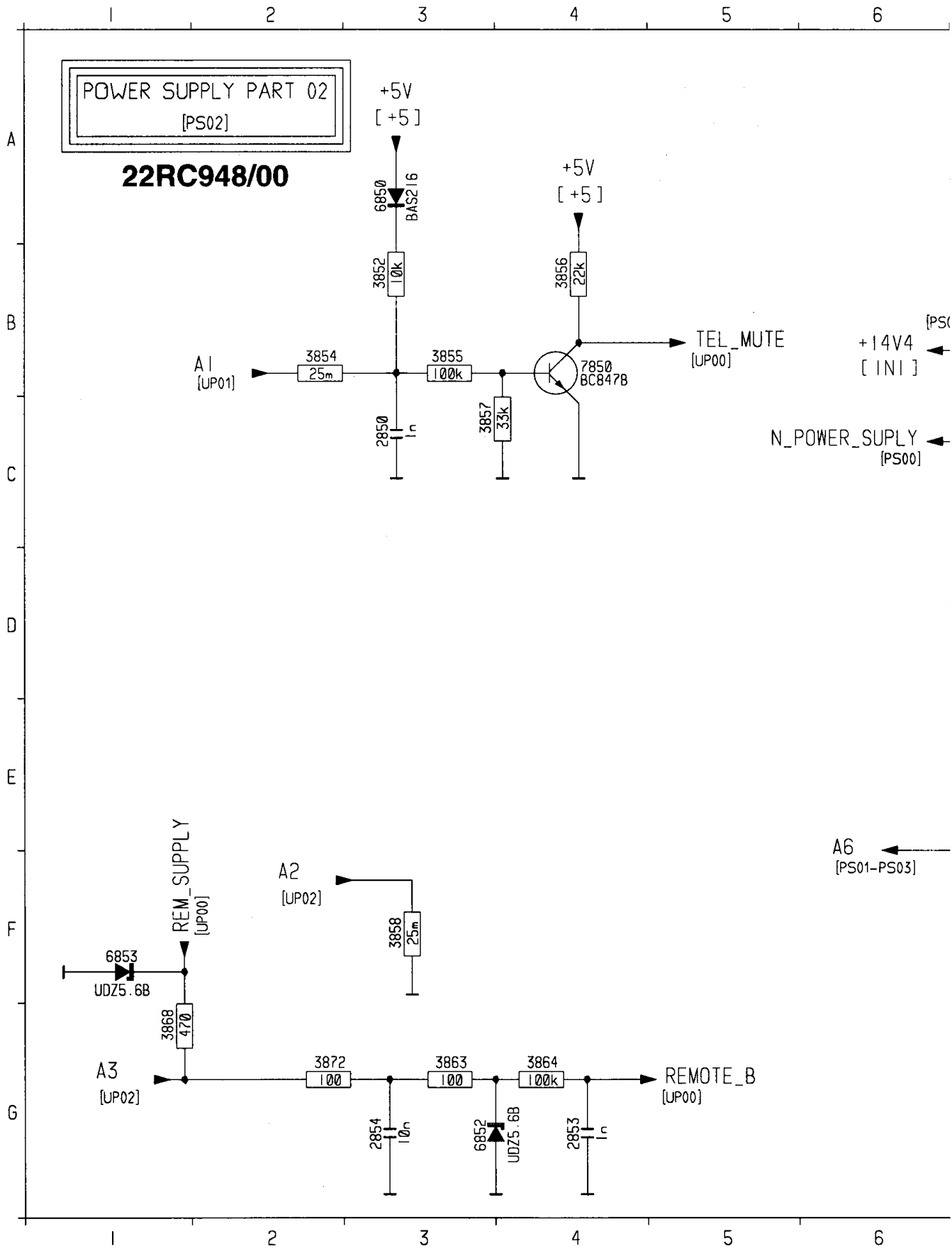
POWER SUPPLY PART 01  
[PS01]

22RC948/00

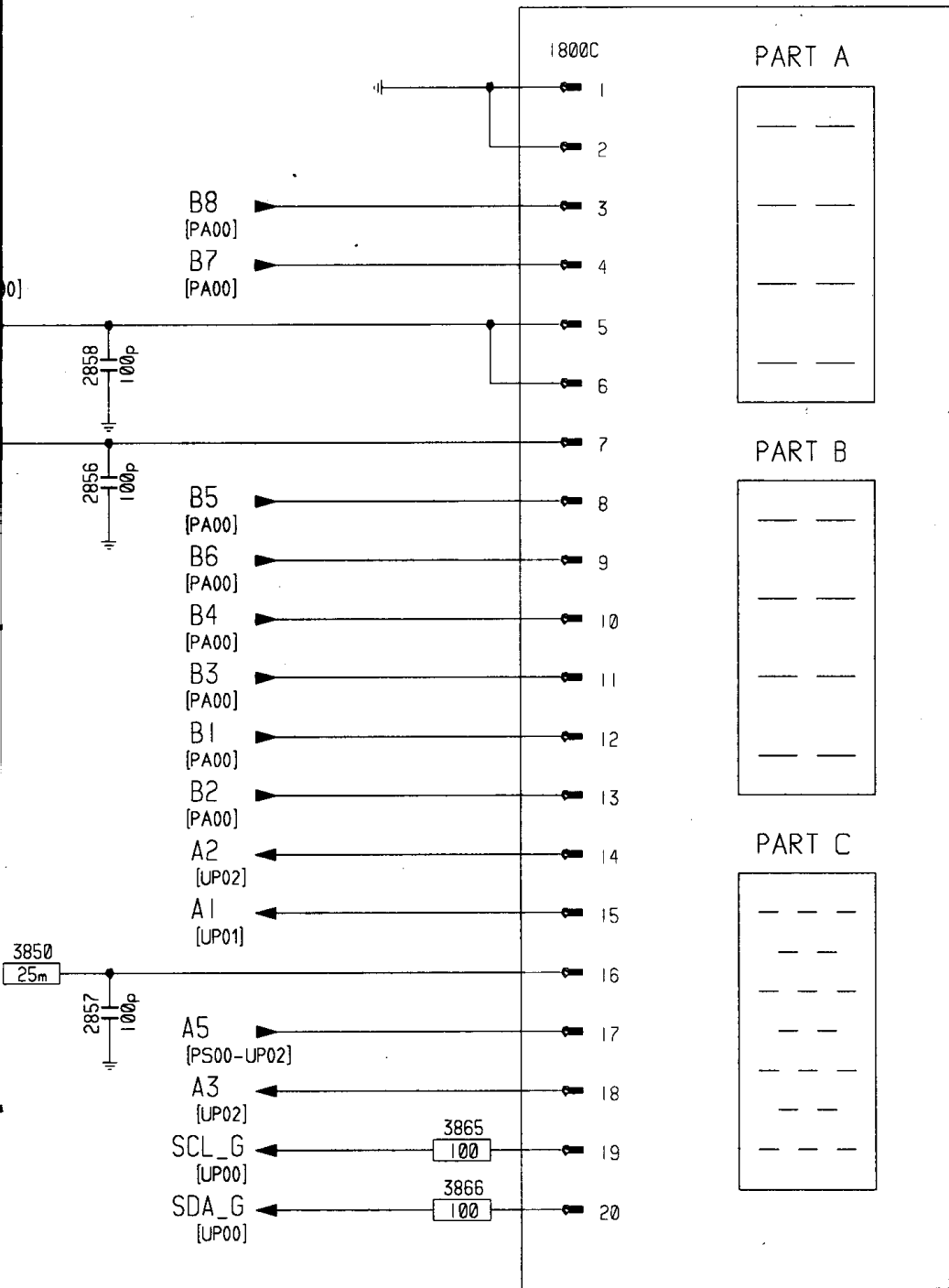
2425	G 5
2426	E 4
2428	D 9
2429	G10
2432	J10
A	
2433	J10
2434	F11
3422	E 3
3423	D 3
3432	I11
B	
3433	I11
3442	E 4
3447	H 9
3451	D 8
3454	F 6
C	
3458	I 6
3460	I 9
3463	I10
3464	I10
3465	I 9
D	
3468	G14
3470	H12
3471	G12
6418	J 8
6419	J 8
E	
6422	J 8
6423	K 8
6425	F 2
6426	F 2
6427	G 8
7400	C 3
7400	G11
7402	G 4
F	
G	
H	
I	
J	
K	



A1 .....	B2/E7	B2 .....	E8	B8 .....	B8	TEL_MUTE .....
A2 .....	F7/E2	B3 .....	D8	N_POWER_SUPPLY .....	C6	
A3 .....	F7/G1	B4 .....	D8	REMOTE_B .....	G5	
A5 .....	F8	B5 .....	C8	REM_SUPPLY .....	F1	
A6 .....	F6	B6 .....	C8	SCL_G .....	F8	
B1 .....	D8	B7 .....	B8	SDA_G .....	G8	



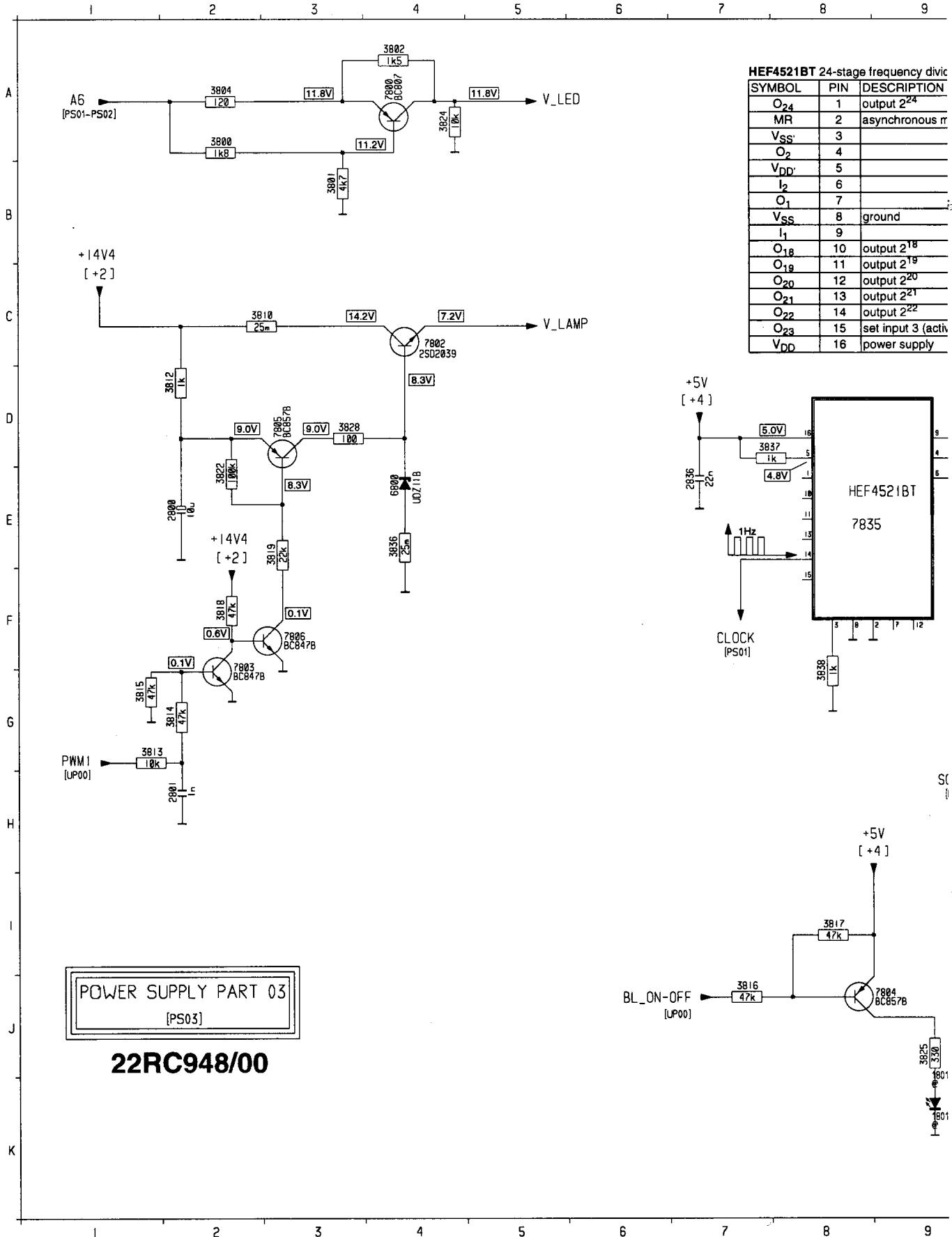
# BLOCK CONNECTOR

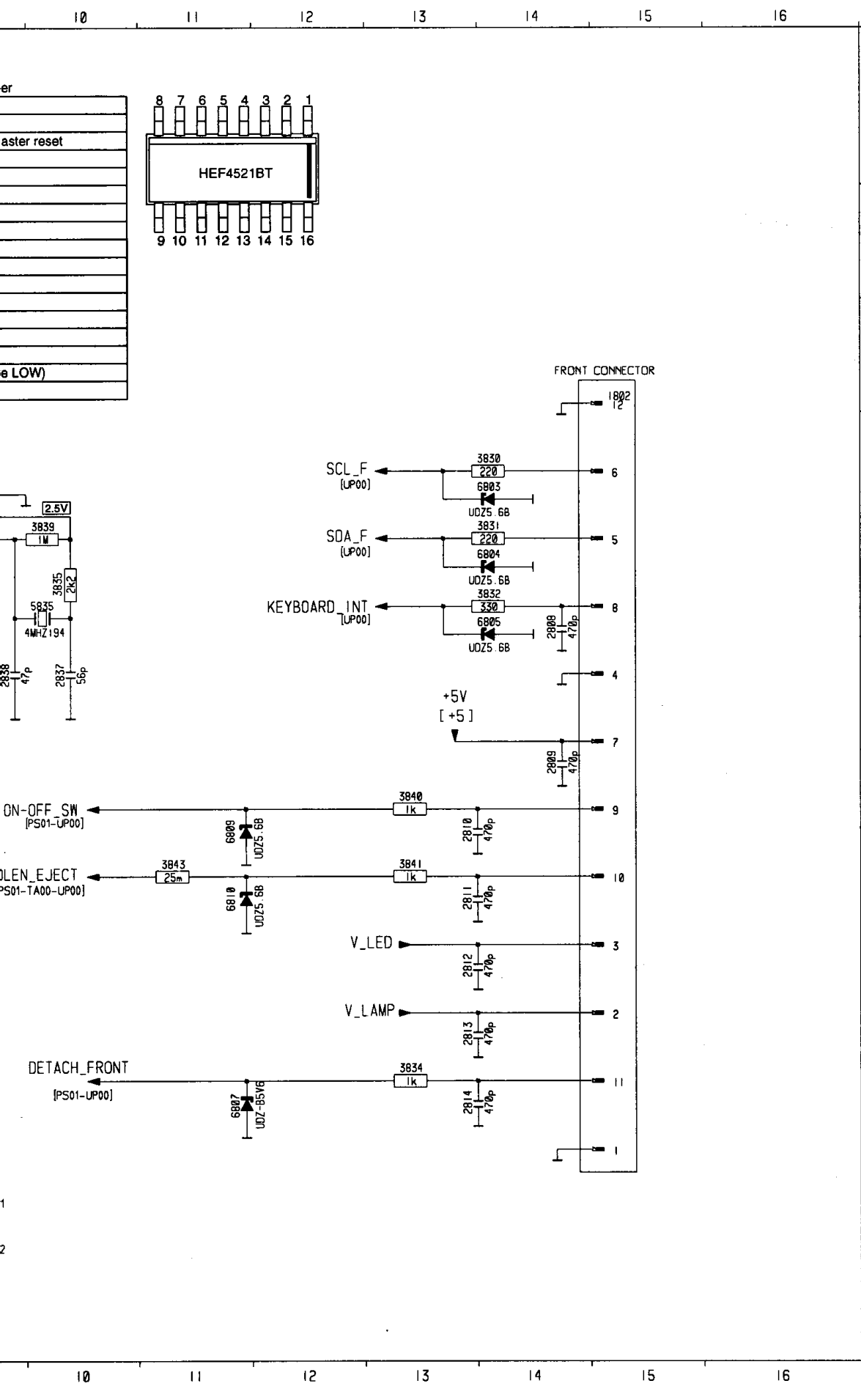


A	1800	A 9
	2850	C 3
	2853	G 4
	2854	G 3
	2856	C 7
	2857	F 7
	2858	B 7
	3850	E 7
	3852	B 3
	3854	B 2
	3855	B 3
	3856	B 4
B	3857	C 3
	3858	F 3
	3863	G 3
	3864	G 4
	3865	F 9
	3866	G 9
C	3868	G 1
	3872	G 2
	6850	A 3
	6852	G 3
	6853	F 1
	7850	B 4
D		
E		
F		
G		

7 8 9 10 11

A6 ..... A1                      PWM1 ..... G1  
 BL\_ON-OFF ..... J6                SCL\_F ..... D13  
 CLOCK ..... F7                    SDA\_F ..... E13  
 DETACH\_FRONT ..... I10            SOLEN\_EJECT ..... G10  
 KEYBOARD\_INT ..... E12            V\_LAMP ..... C5/I13  
 ON-OFF\_SW ..... G10                V\_LED ..... A5/H13

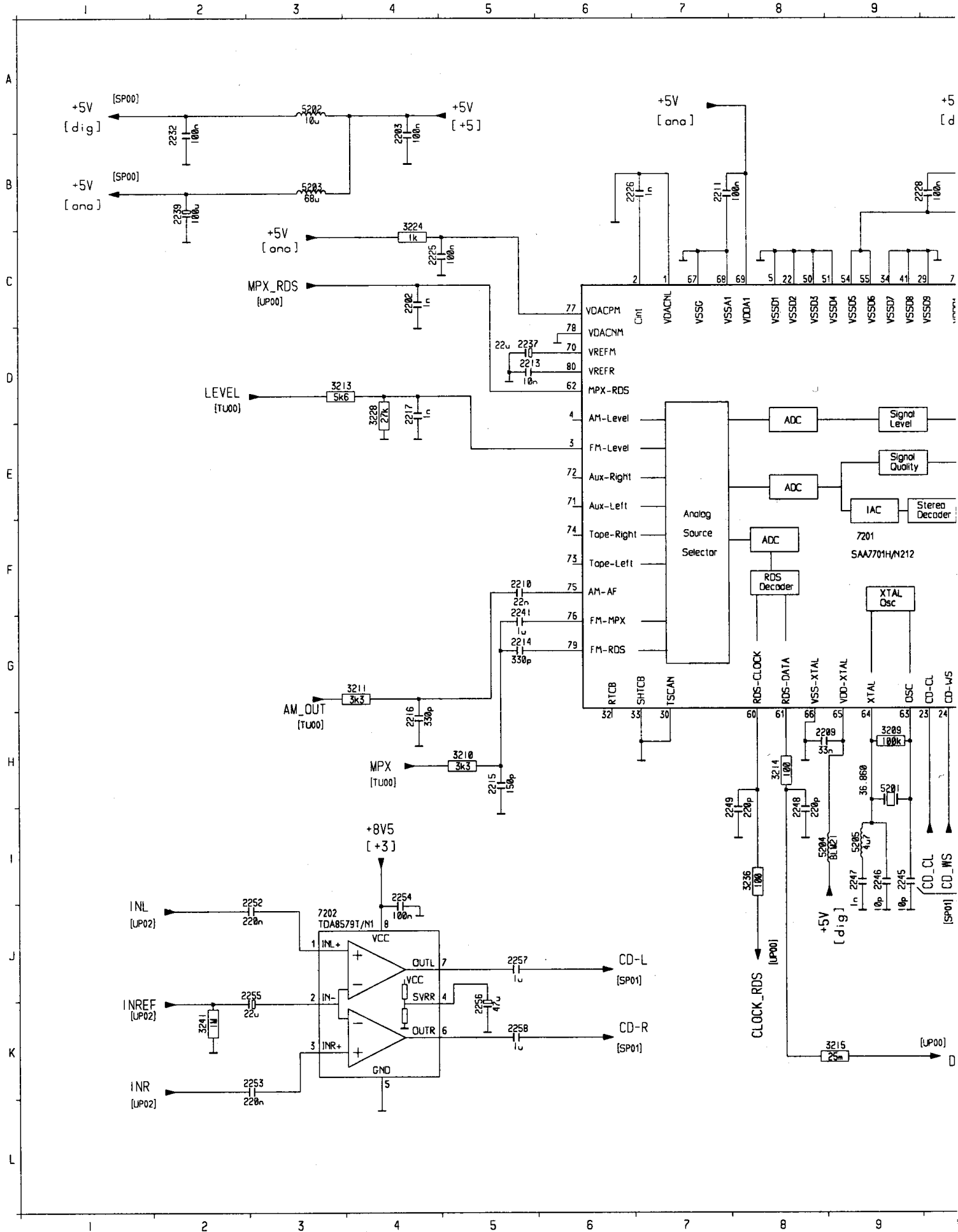


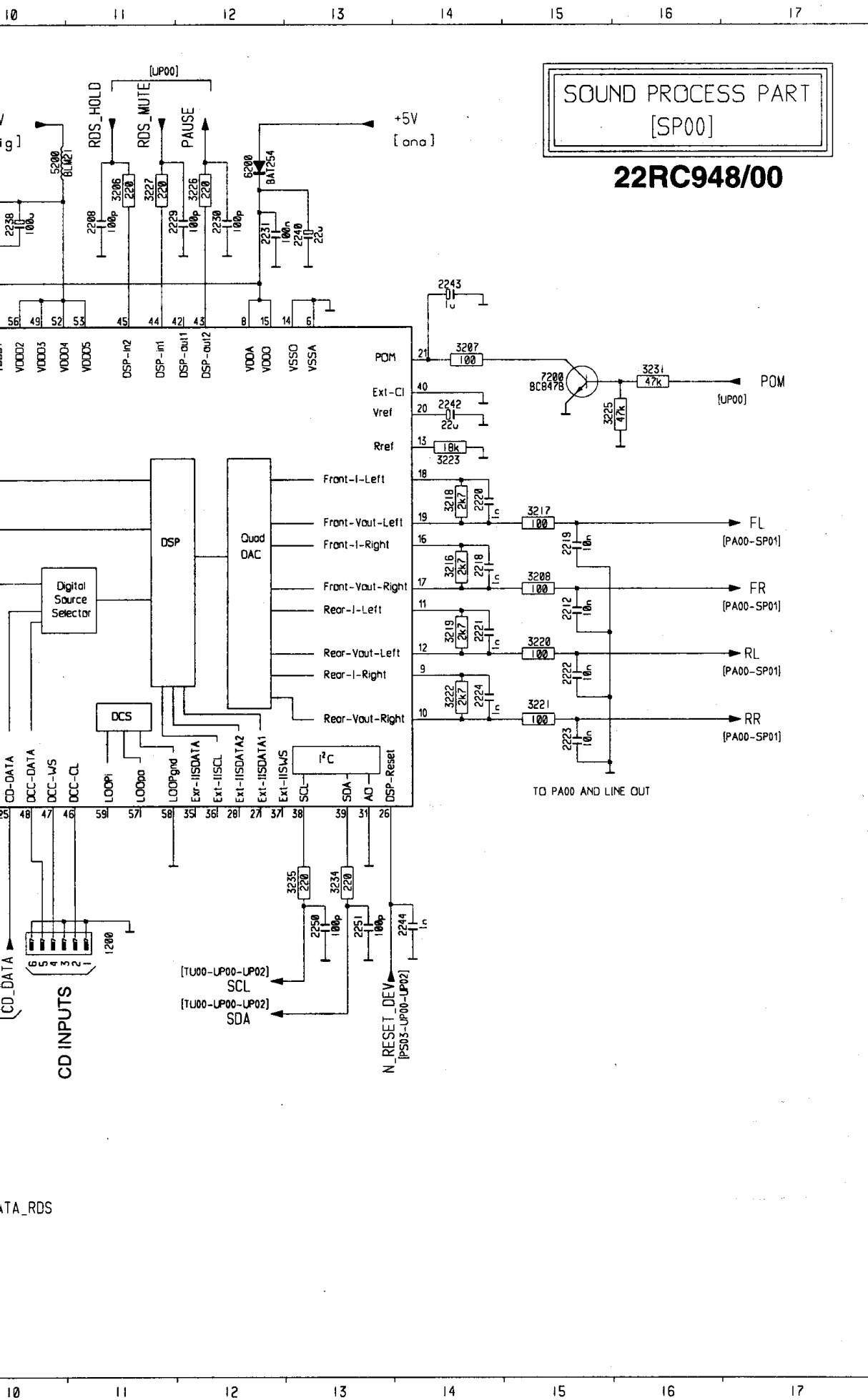


1801	K 9
1802	C15
2800	E 2
2801	H 2
2808	E14
A	
2809	G14
2810	G13
2811	H13
2812	H13
2813	I13
2814	J13
B	
2836	E 7
2837	F10
2838	F 9
3800	A 2
3801	B 3
3802	A 4
3804	A 2
C	
3810	C 3
3812	D 2
3813	G 1
3814	G 2
3815	G 1
3816	J 7
D	
3817	I 8
3818	F 2
3819	E 3
3822	E 2
3824	A 4
3825	J 9
E	
3828	D 3
3830	D14
3831	E14
3832	E14
3834	I13
F	
3835	E10
3836	E 4
3837	D 7
3838	G 8
3839	E10
3840	G13
G	
3841	H13
3843	H11
5835	E10
6800	E 4
6803	D14
6804	E14
6805	E14
H	
6807	J11
6809	G11
6810	H11
7800	A 4
7802	C 4
I	
7803	G 2
7804	J 9
7805	D 3
7806	F 3
7835	E 8
J	
K	



AM_OUT.....G3	CLOCK_RDS .....J8	INREF .....I2	POM .....D17
CD_CL.....I10	DATA_RDS .....K10	LEVEL .....D3	RDS_HOLD .....A11
CD_DATA.....I10	FL .....E17	MPX .....H4	RDS_MUTE .....A11
CD_L .....I6	FR .....E17	MPX_RDS .....C3	RL .....F17
CD_R .....J6	INL .....I2	N_RESET_DEV .....I13	RR .....G17
CD_WS.....I10	INR .....J2	PAUSE .....A12	SCL .....I12



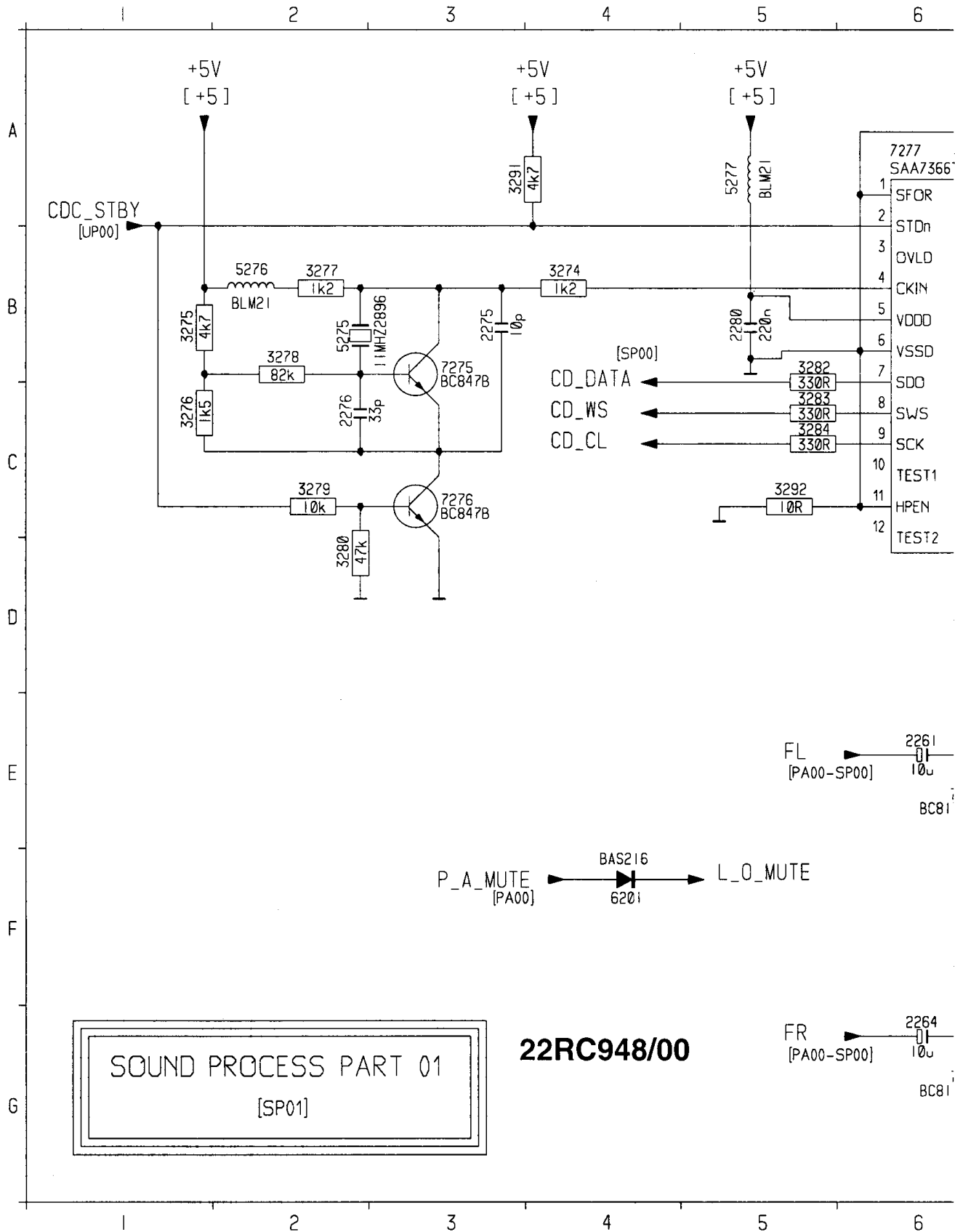


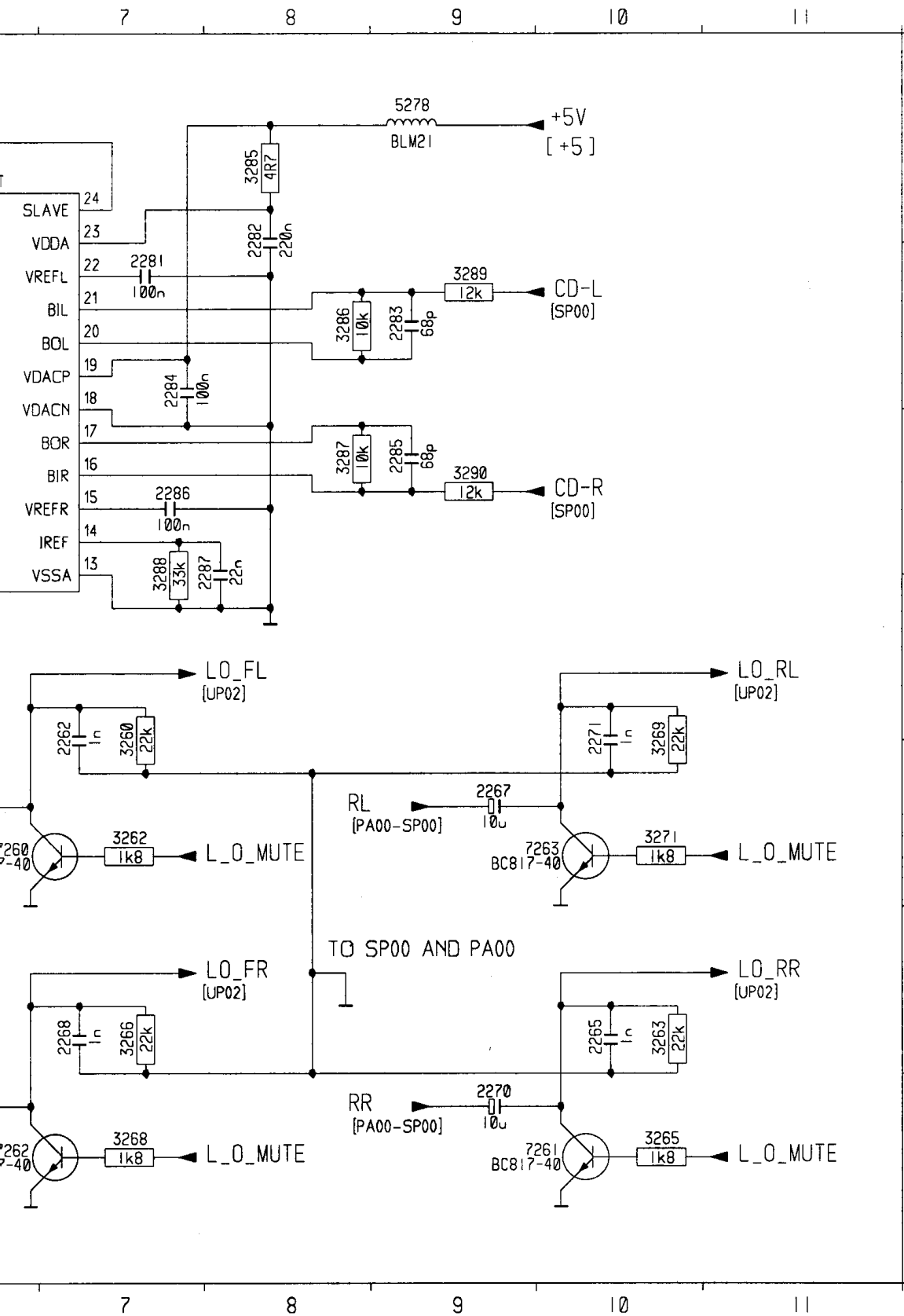
A	1200	I 1	3221	G 15
	2202	C 4	3222	F 14
	2203	B 4	3223	D 14
	2208	H 1	3224	B 4
	2209	H 8	3225	D 15
	2210	F 5	3226	B 12
	2211	B 7	3227	B 11
	2212	F 15	3228	D 4
	2213	D 5	3231	C 16
	2214	G 5	3234	H 13
B	2215	H 5	3235	H 13
	2216	H 4	3236	I 8
	2217	D 4	3241	K 2
	2218	E 14	5200	B 10
	2219	E 15	5201	H 9
C	2220	E 14	5202	A 3
	2221	F 14	5203	B 3
	2222	F 15	5204	I 8
	2223	G 15	5205	I 9
	2224	F 14	6200	B 12
D	2225	C 4	7200	D 15
	2226	B 7	7201	F 9
	2228	B 10	7202	J 3
	2229	B 12		
	2230	B 12		
E	2231	B 12		
	2232	B 2		
	2237	D 5		
	2238	B 10		
	2239	B 2		
F	2240	B 13		
	2241	G 5		
	2242	D 14		
	2243	C 14		
	2244	I 14		
G	2245	I 9		
	2246	I 9		
	2247	I 9		
	2248	I 8		
	2249	I 8		
H	2250	I 13		
	2251	I 13		
	2252	J 3		
	2253	K 3		
	2254	I 4		
I	2255	J 3		
	2256	K 5		
	2257	J 5		
	2258	K 5		
	3206	B 11		
	3207	C 14		
	3208	E 15		
	3209	H 9		
	3210	H 5		
	3211	G 4		
J	3213	D 3		
	3214	H 8		
	3215	K 9		
	3216	E 14		
	3217	E 15		
K	3218	E 14		
	3219	F 14		
	3220	F 15		
L				

CD-R.....C10  
 CD-L.....B10  
 CD\_CL.....C4  
 CD\_DATA.....B4  
 CD\_WS.....C4  
 CDC\_STBY.....A1  
 FL.....E6

FR .....G6  
 LO\_FL .....D7  
 LO\_FR .....F7  
 LO\_RL .....D11  
 LO\_RR .....F11  
 L\_O\_MUTE .....F5  
 L\_O\_MUTE .....E7/G7

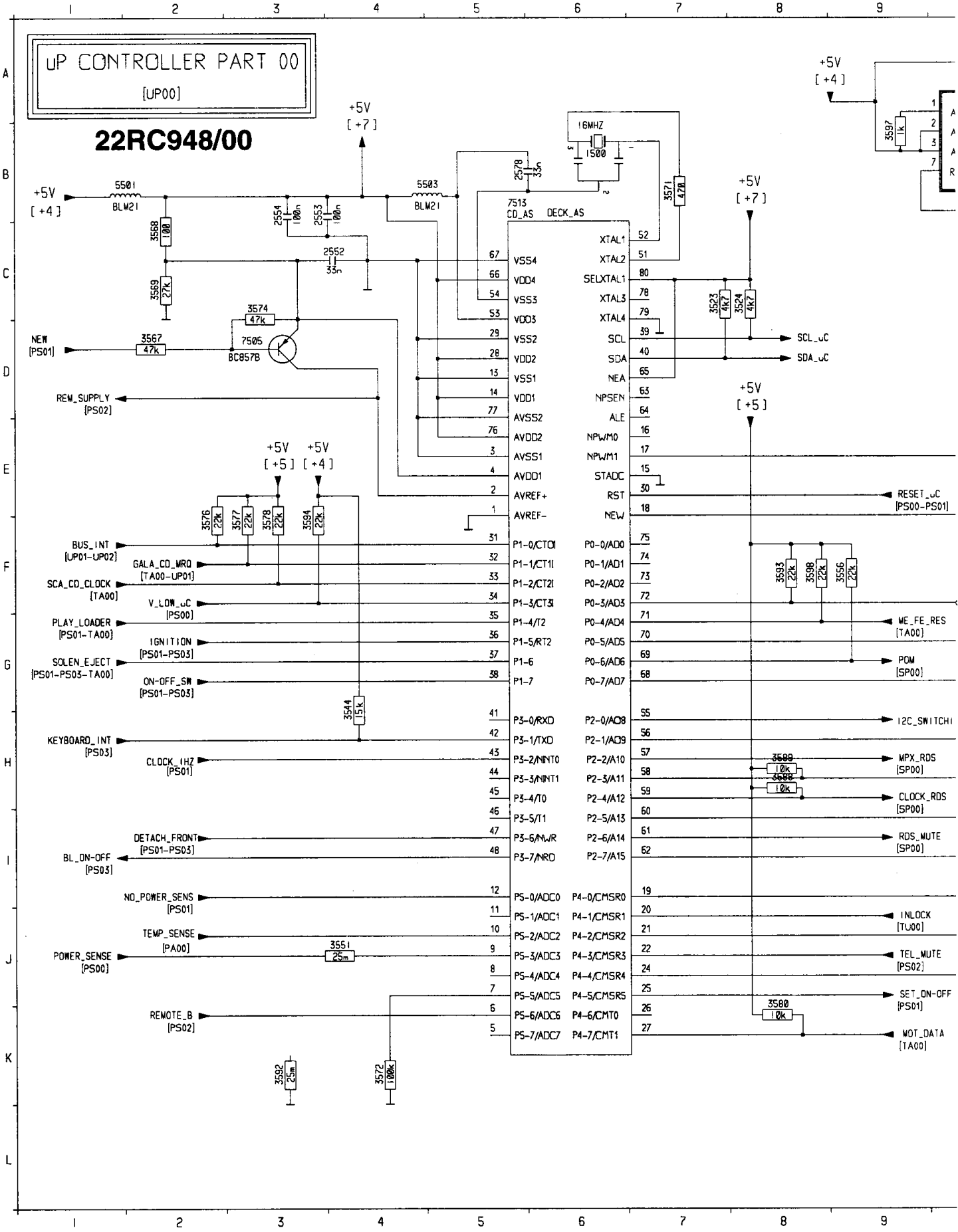
L\_O\_MUTE .....E11/G11  
 P\_A\_MUTE .....F4  
 RL .....E9  
 RR .....G9



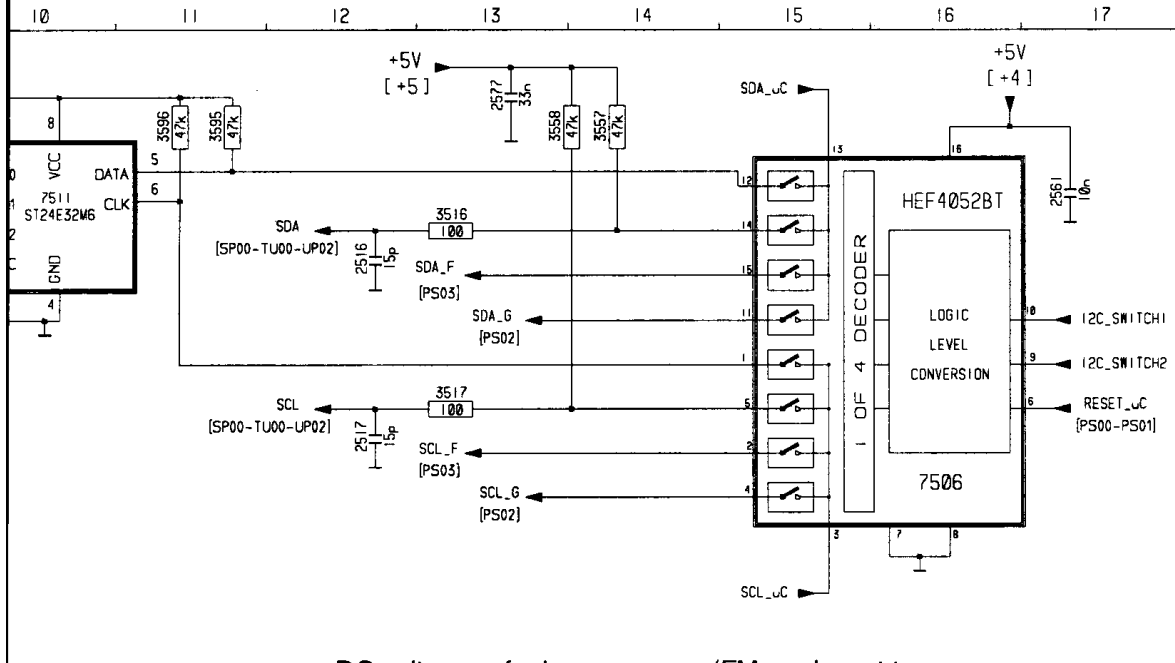


2261	E 6	5276	B 2
2262	D 7	5277	A 5
2264	G 6	5278	A 9
2265	F 10	6201	F 4
2267	E 9	7260	E 6
2268	F 7	7261	G 10
2270	G 9	7262	G 6
2271	D 10	7263	E 10
2275	B 3	7275	B 3
2276	C 2	7276	C 3
2280	B 5	7277	A 6
2281	B 7		
2282	A 8		
2283	B 9		
2284	B 7		
2285	C 9		
2286	C 7		
2287	C 8		
3260	D 7		
3262	E 7		
3263	F 10		
3265	G 10		
3266	F 7		
3268	G 7		
3269	D 10		
3271	E 10		
3274	B 4		
3275	B 1		
3276	C 1		
3277	B 2		
3278	B 2		
3279	C 2		
3280	D 2		
3282	B 5		
3283	C 5		
3284	C 5		
3285	A 8		
3286	B 8		
3287	C 8		
3288	C 7		
3289	B 9		
3290	C 9		
3291	A 3		
3292	C 5		
5275	B 2		

1st_PWR_ON.....G10	DATA_RDS.....H10	IGNITION.....G2	NEW.....D1/E10	POM.....
BL_ON-OFF.....I1	DETACH_FRONT.....J2	INLOCK.....J9	NO_POWER_SENS.....I2	POWERF.....
BUS_INT.....F1	EN_RESET.....J10	KEYBOARD_INT.....H1	N_RESET_DEV.....I12	POWERF.....
CDC_STBY.....J10	GALA_CD_MRQ.....F2	ME_FE_RES.....G9	ON-OFF_SW.....G2	PWM1.....
CLOCK_1HZ.....H2	I2C_SWITCH1.....H9/B17	MOX_RDS.....H9	PAUSE.....I10	RDS_H.....
CLOCK_RDS.....H9	I2C_SWITCH2.....H10/C17	MOT_DATA.....K9	PLAY_LOADER.....G1	RDS_M.....

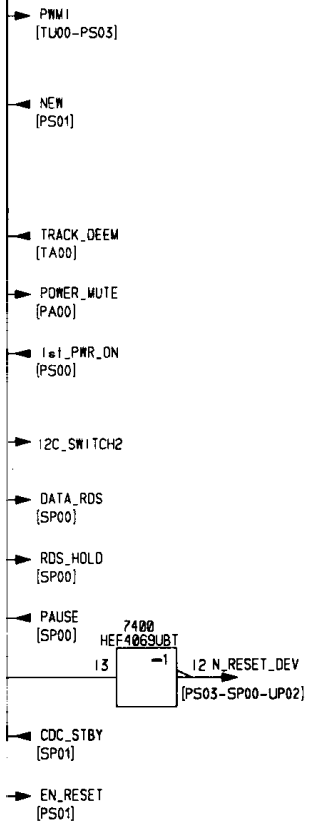


.....G9	REMOTE_B.....K2	SCL_G.....D13	SET_ON-OFF.....J9
R_MUTE.....G10	REM_SUPPLY.....D1	SCL_uC.....D8/D15	SOLENEJECT.....G1
R_SENS.....J1	RESET_uC.....E9/C17	SDA.....B12	TEL_MUTE.....J9
.....E10	SCA_CD_CLOCK.....F1	SDA_F.....B13	TEMP_SENSE.....J2
OLD.....I10	SCL.....C12	SDA_G.....B13	TRACK_DEEM.....F10
MUTE.....I9	SCL_F.....C13	SDA_uC.....D8/A15	V_LOW_uC.....F2



1500	B 6	3576	F 2
2516	B12	3577	F 3
2517	C12	3578	F 3
2552	C 4	3580	K 8
A 2553	B 3	3581	K 9
2554	B 3	3588	H 8
2561	B17	3589	H 8
2577	A13	3592	K 3
2578	B 5	3593	F 8
3516	B13	3594	F 3
B 3517	C13	3595	A11
3523	C 7	3596	A11
3524	C 8	3597	B 9
3544	H 4	3598	F 8
		5501	B 2
C 3551	J 4	5503	B 5
3556	F 9	7400	I11
3557	A14	7505	D 3
3558	A13	7506	D16
3567	D 2	7511	C10
3568	C 2	7513C	B 5
3569	C 2		
D 3571	B 7		
3572	K 4		
3574	C 3		

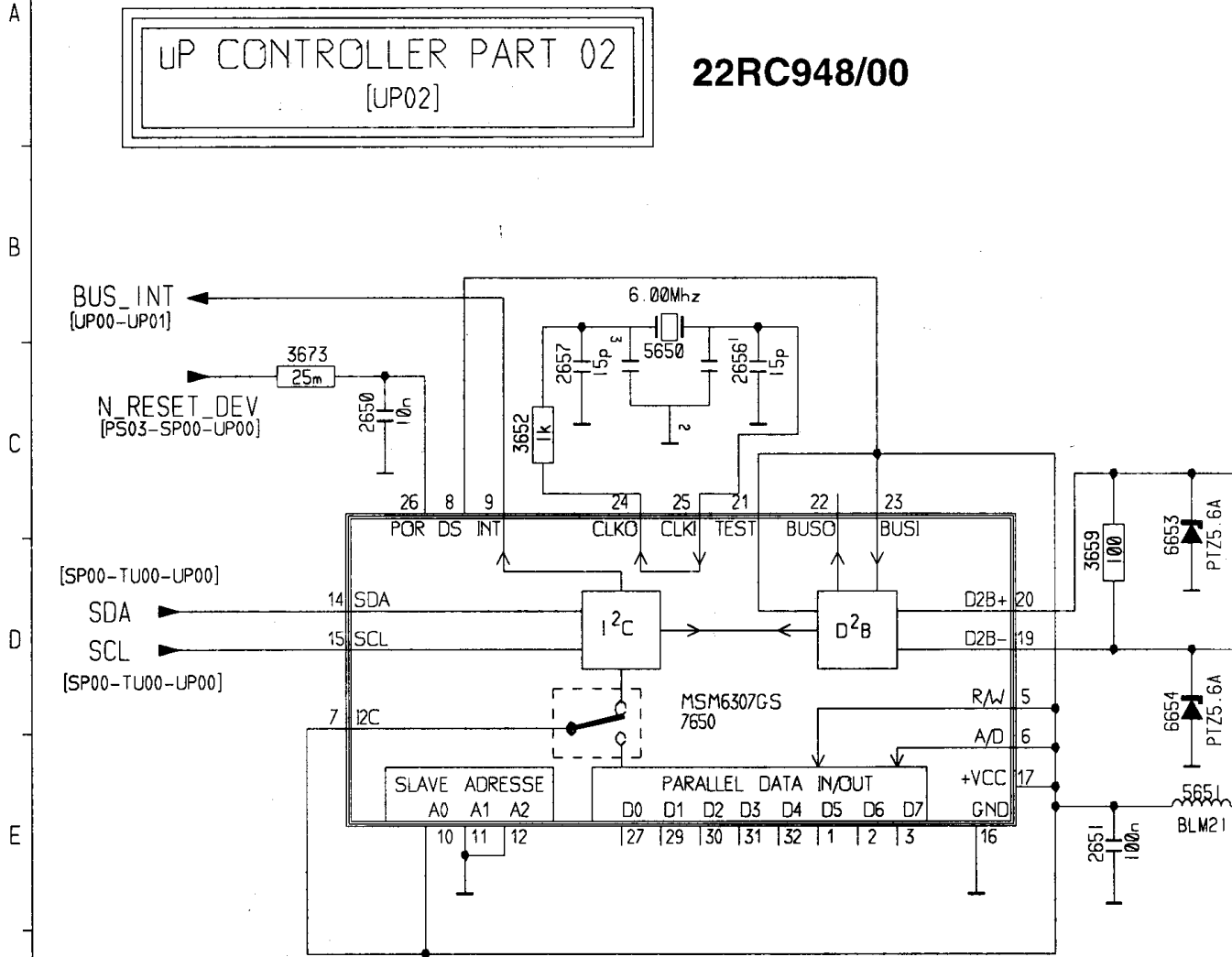
DC voltages of microprocessor (FM mode, set 1)



1	0.0V GND	41	N.C.
2	4.8V	42	5.0V $\square$ WHEN ANY KEY PRESSED
3	0.0V GND	43	5.0V $\square$ 1Hz
4	5.0V VDD	44	N.C.
5	N.C.	45	N.C.
6	5.0V	46	N.C.
7	0.0V	47	0.0V - 5.0V WHEN FRONT DETACHED
8	N.C.	48	5.0V
9	4.5V	49	N.C.
10	0.7V	50	N.C.
11	N.C.	51	2.5V 16MHz
12	4.5V	52	2.1V 16MHz
13	0.0V GND	53	5.0V VDD
14	5.0V VDD	54	GND $\square$
15	0.0V GND	55	5.0V $\square$ 1Hz
16	N.C.	56	0.0V
17	0.0V	57	0.0V
18	0.0V	58	DATA
19	0.0V	59	CLOCK RDS
20	5.0V LOCKED	60	5.0V
21	0.0V	61	5.0V
22	0.0V	62	0.0V
23	N.C.	63	N.C.
24	5.0V	64	N.C.
25	0.0V	65	5.0V
26	N.C.	66	5.0V VDD
27	5.0V	67	GND
28	5.0V VDD	68	5.0V
29	0.0V GND	69	0.0V
30	0.0V	70	5.0V
31	5.0V	71	0.0V
32	5.0V	72	5.0V
33	5.0V	73	N.C.
34	5.0V	74	N.C.
35	5.0V	75	N.C.
36	0.0V	76	5.0V VDD
37	5.0V	77	GND
38	5.0V $\square$ WHEN ON/OFF KEY PRESSED	78	N.C.
39	SCL	79	0.0V GND
40	SDA	80	5.0V

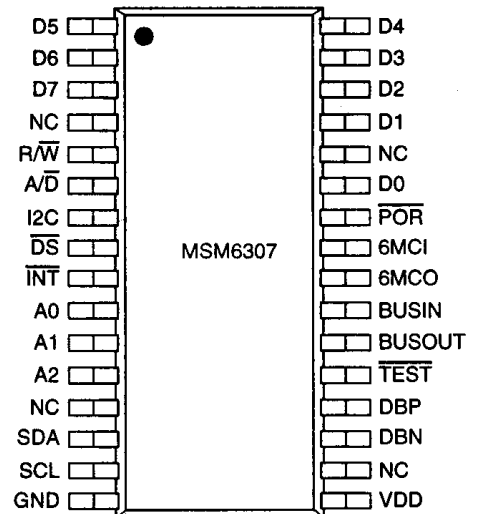
INL.....	E9	LO_RR.....	A9
INR.....	E9	MRQ_D2B.....	B1
INREF_BCL.....	D9	RESET_DEV.....	B1
LO_FL.....	A9	SCL.....	D1
LO_FR.....	A9	SDA.....	D1
LO_RL.....	A9		

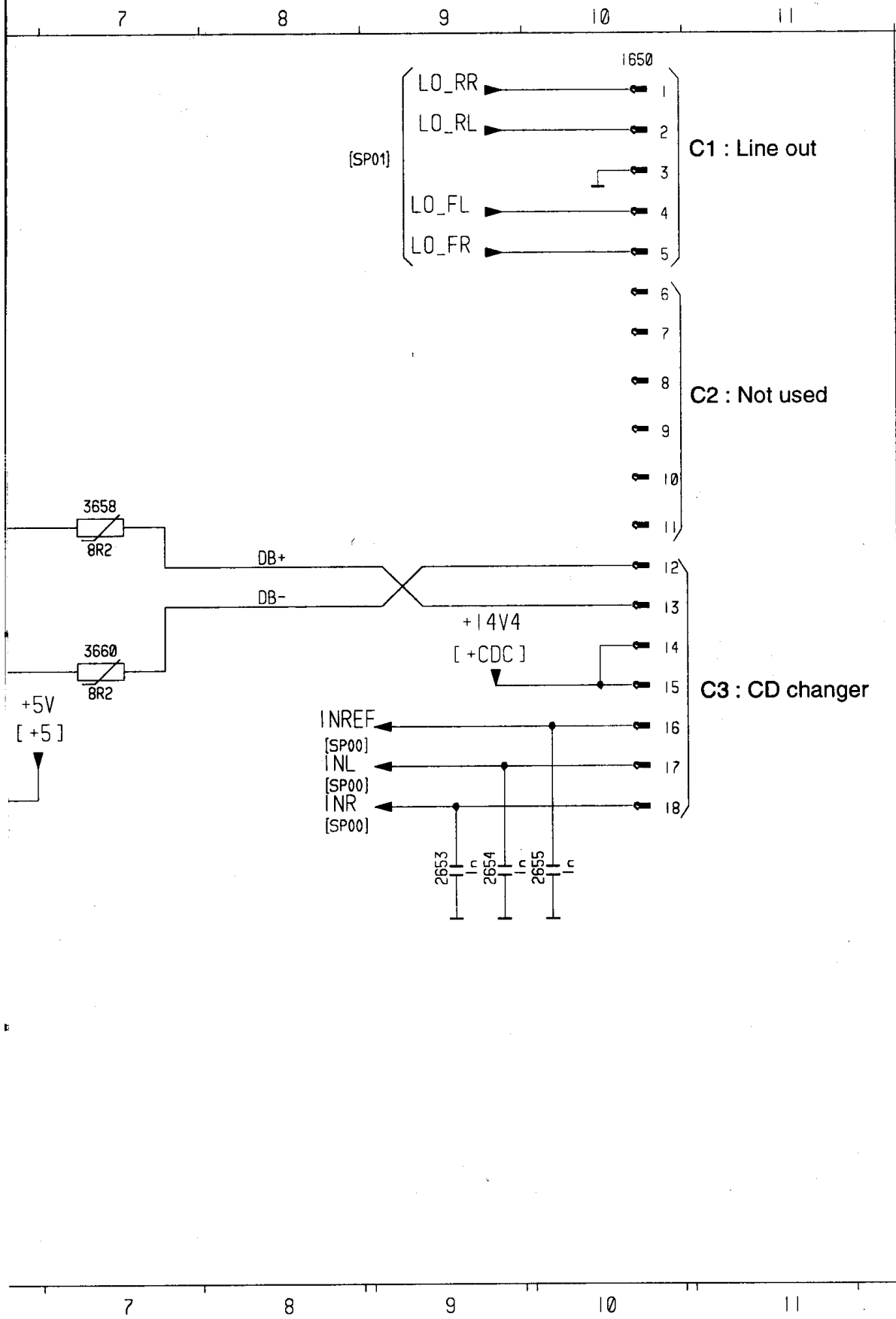
## BUS ADAPTATOR CONTROL I2C/D2B FOR CD CHANGER



### MSM6307GS D<sup>2</sup>B IC

SYMBOL	I/O	DESCRIPTION
POR	I	Power on - reset
R / W	I	Read / Write selector
DS	I	Data strobe to access data bus
A / D	I	Selects address or data on D0 ~ d7
SDA	I/O	I <sup>2</sup> C data signal input / output
SCL	I/O	I <sup>2</sup> C clock signal input / output
I2C	I	Selects I <sup>2</sup> C or parallel interface
INT	O	Interrupt output
BUSIN	I	D2B input (TTL level)
BUSOUT	O	D2B output (TTL level)
DBN & DBP	I/Os	Differential D2B lines of the internal driver/receiver, to be terminated with 60Ω
TEST	I	Selects the test mode for factory purposes
6MCI	I	Clock input 6MHz resonator or X-TAL
6MCO	O	Clock output 6MHz resonator or X-TAL
D0 - D7	I/Os	8-bit bi-directional address or data bus
A0 - A2	I	Programmables I <sup>2</sup> C slave addresses



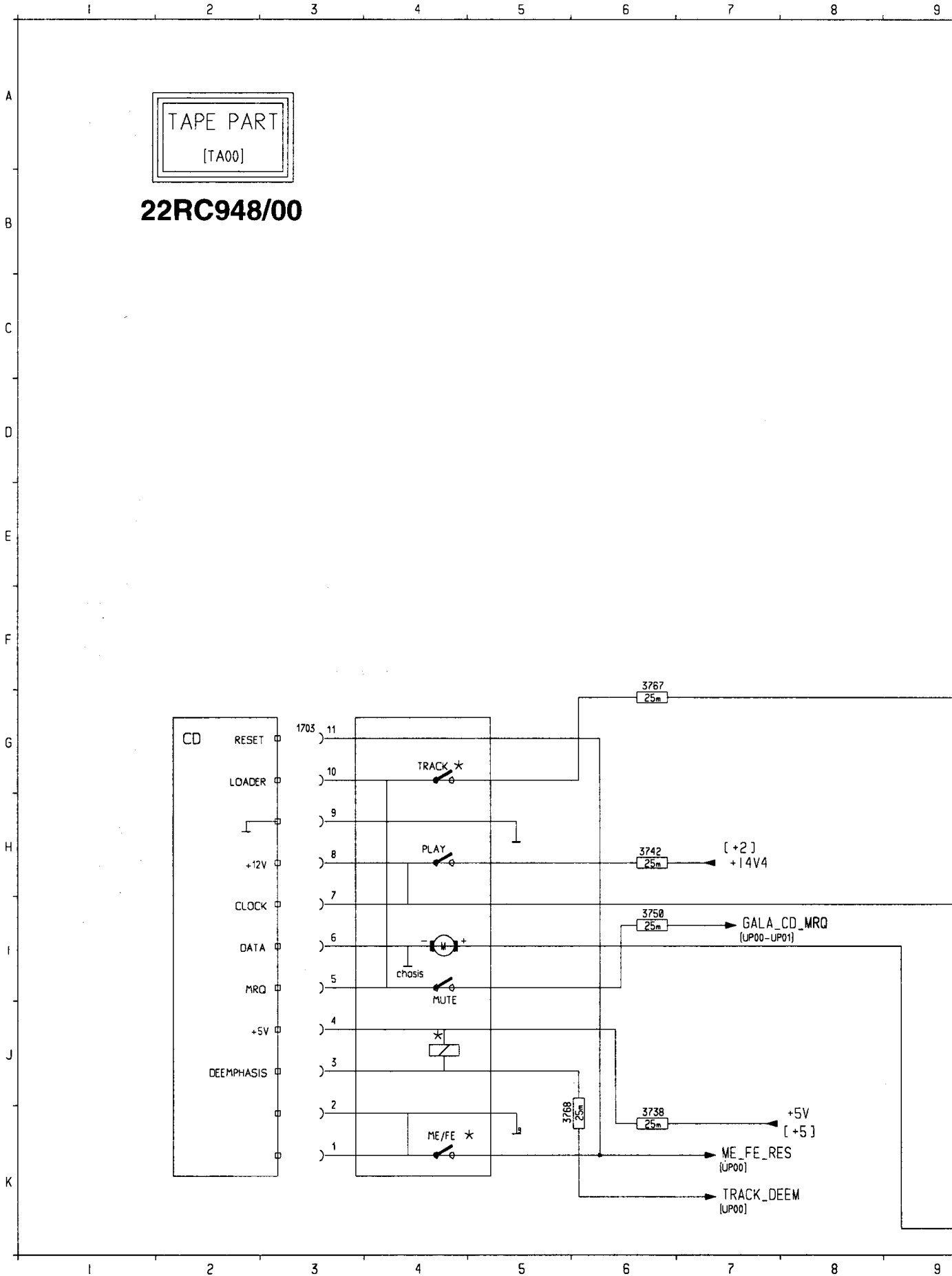


1650	A 10
2650	C 2
2651	E 6
2653	E 9
2654	E 9
2655	E 10
2656	C 4
2657	C 3
3652	C 3
3658	C 7
3659	D 6
3660	D 7
3673	C 2
5650	C 3
5651	E 6
6653	C 6
6654	D 6
7650	D 3



TAPE PART  
 [TA00]

**22RC948/00**



10 11 12 13 14 15 16

1703 G 3  
3738 K 6  
3742 H 6  
3750 I 6  
A 3757 H12  
3767 F 6  
3768 K 5  
3769 K10  
7400 K12

B

C

D

E

F

G

H

I

J

K

PLAY\_LOADER  
[PS01-UP00]

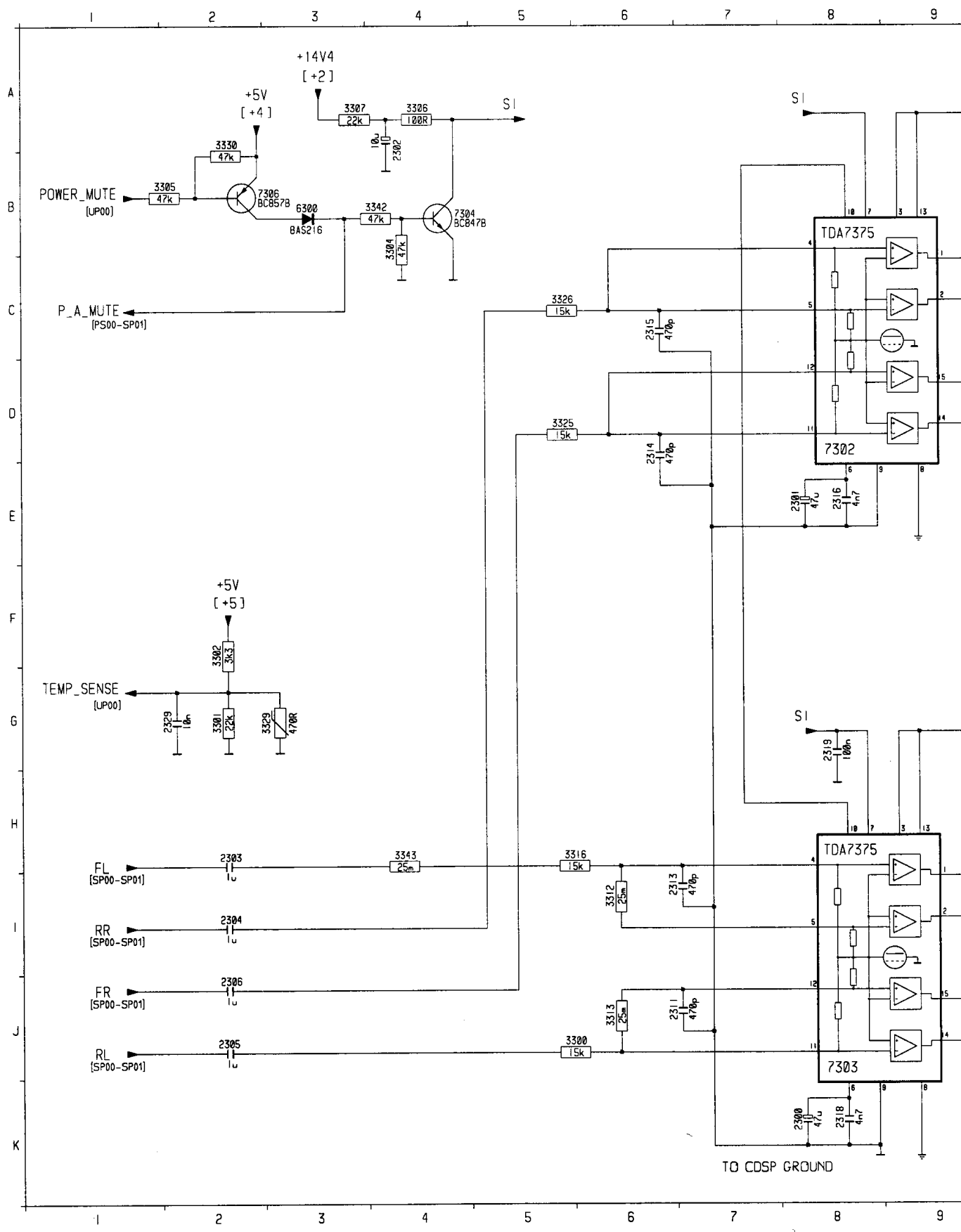
3757  
25m  
SCA\_CD\_CLOCK  
[UP00]

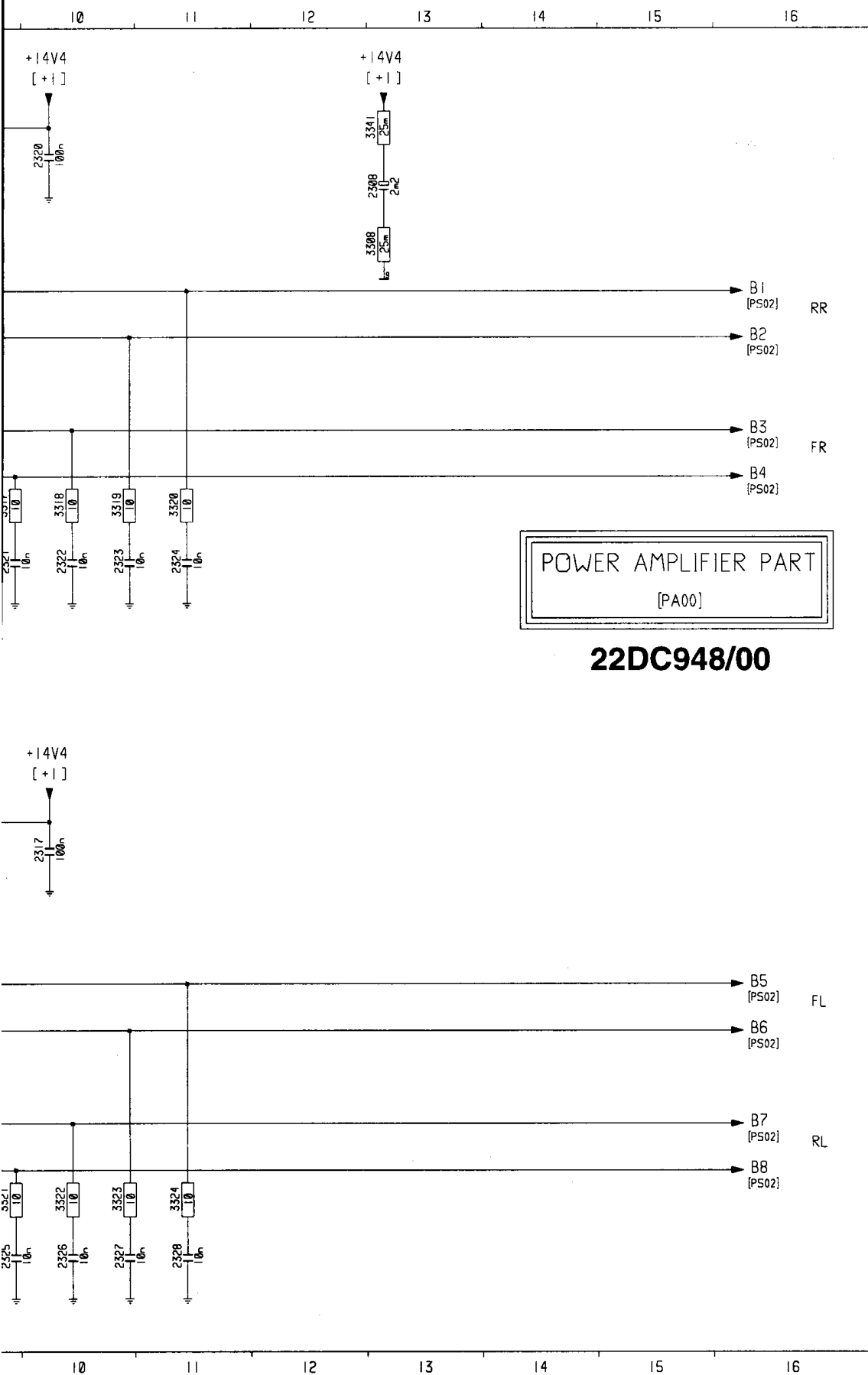
7400  
HEF4069UBT  
-1  
MGT\_DATA  
[UP00]

3769  
25m

10 11 12 13 14 15 16

- |          |     |                  |     |                  |          |
|----------|-----|------------------|-----|------------------|----------|
| B1 ..... | C16 | B7 .....         | J16 | RL .....         | J1       |
| B2 ..... | C16 | B8 .....         | J16 | RR .....         | I1       |
| B3 ..... | D16 | FL .....         | H1  | SI .....         | A5-A8-G8 |
| B4 ..... | D16 | FR .....         | J1  | TEMP_SENSE ..... | G1       |
| B5 ..... | I16 | PA_MUTE .....    | C1  |                  |          |
| B6 ..... | I16 | POWER_MUTE ..... | B1  |                  |          |



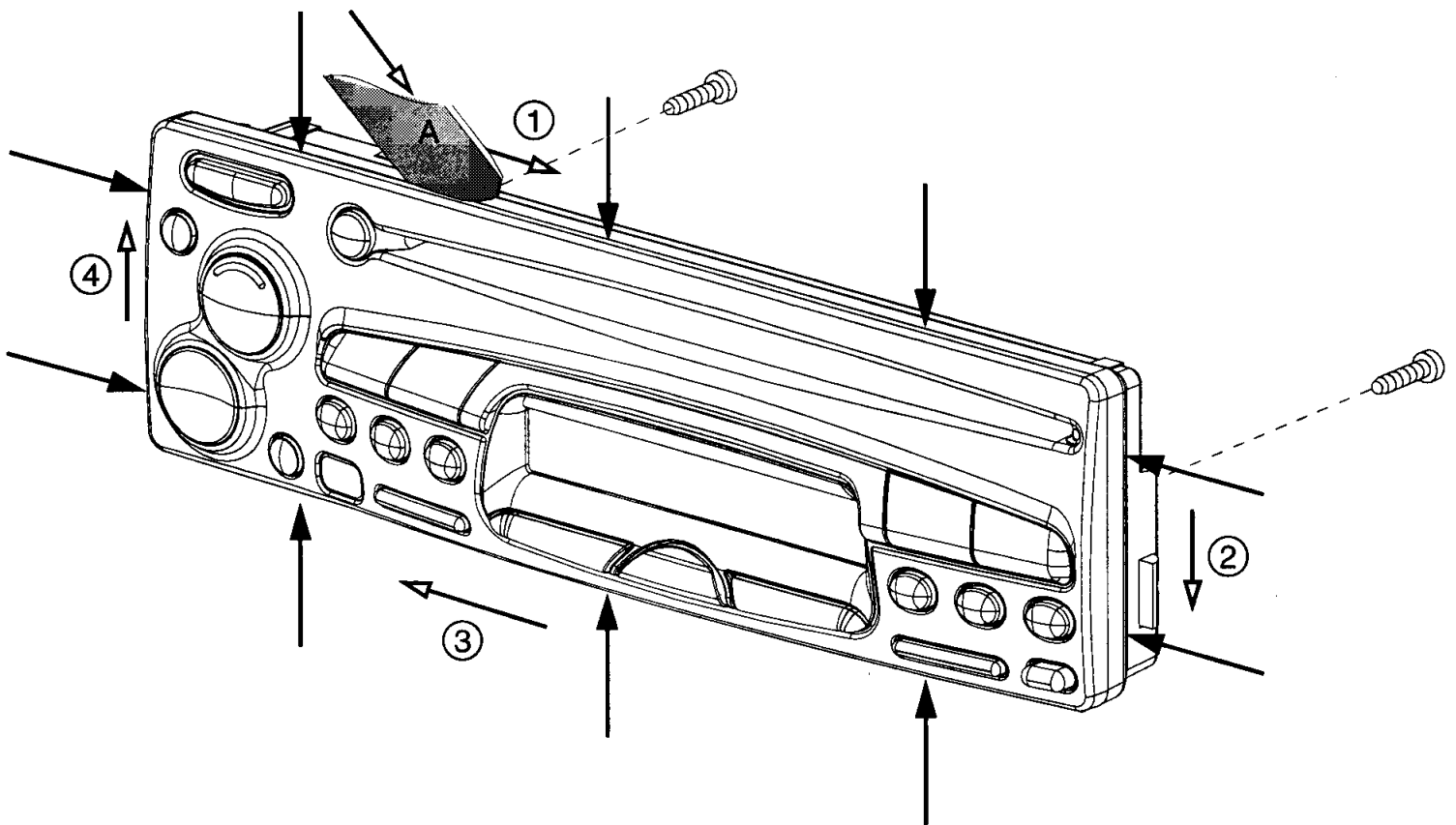
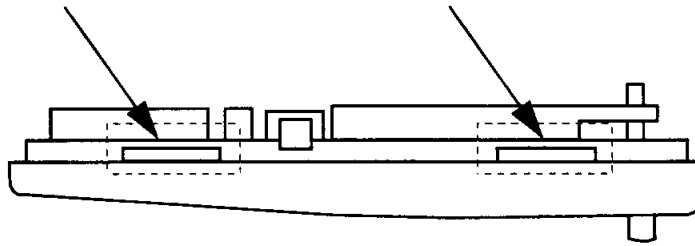


A	2300	K 8
	2301	E 8
	2302	A 4
	2303	H 2
	2304	I 2
	2305	J 2
	2306	J 2
	2308	B13
	2311	J 6
	2313	I 6
B	2314	D 6
	2315	C 6
	2316	E 8
	2317	G10
	2318	K 8
C	2319	G 8
	2320	A10
	2321	E 9
	2322	E10
	2323	E10
D	2324	E11
	2325	K 9
	2326	K10
	2327	K10
	2328	K11
E	2329	G 2
	3300	J 6
	3301	G 2
	3302	F 2
	3304	B 4
	3305	B 2
	3306	A 4
	3307	A 3
	3308	B13
F	3312	I 6
	3313	J 6
	3316	H 6
	3317	D 9
	3318	D10
	3319	D10
G	3320	D11
	3321	J 9
	3322	J10
	3323	J10
	3324	J11
H	3325	D 5
	3326	C 5
	3329	G 3
	3330	A 2
	3341	A13
	3342	B 4
	3343	H 4
I	6300	B 3
	7302	D 8
	7303	J 8
	7304	B 4
	7306	B 2
J		
K		

Opening the front:

Both parts (front and rear) are assembled by 2 screws and 10 locking clamps (arrows). To unassemble these parts, first remove the screws and then use part A on the 4 sides as indicated on the drawing. Part A must be a thin plastic part.

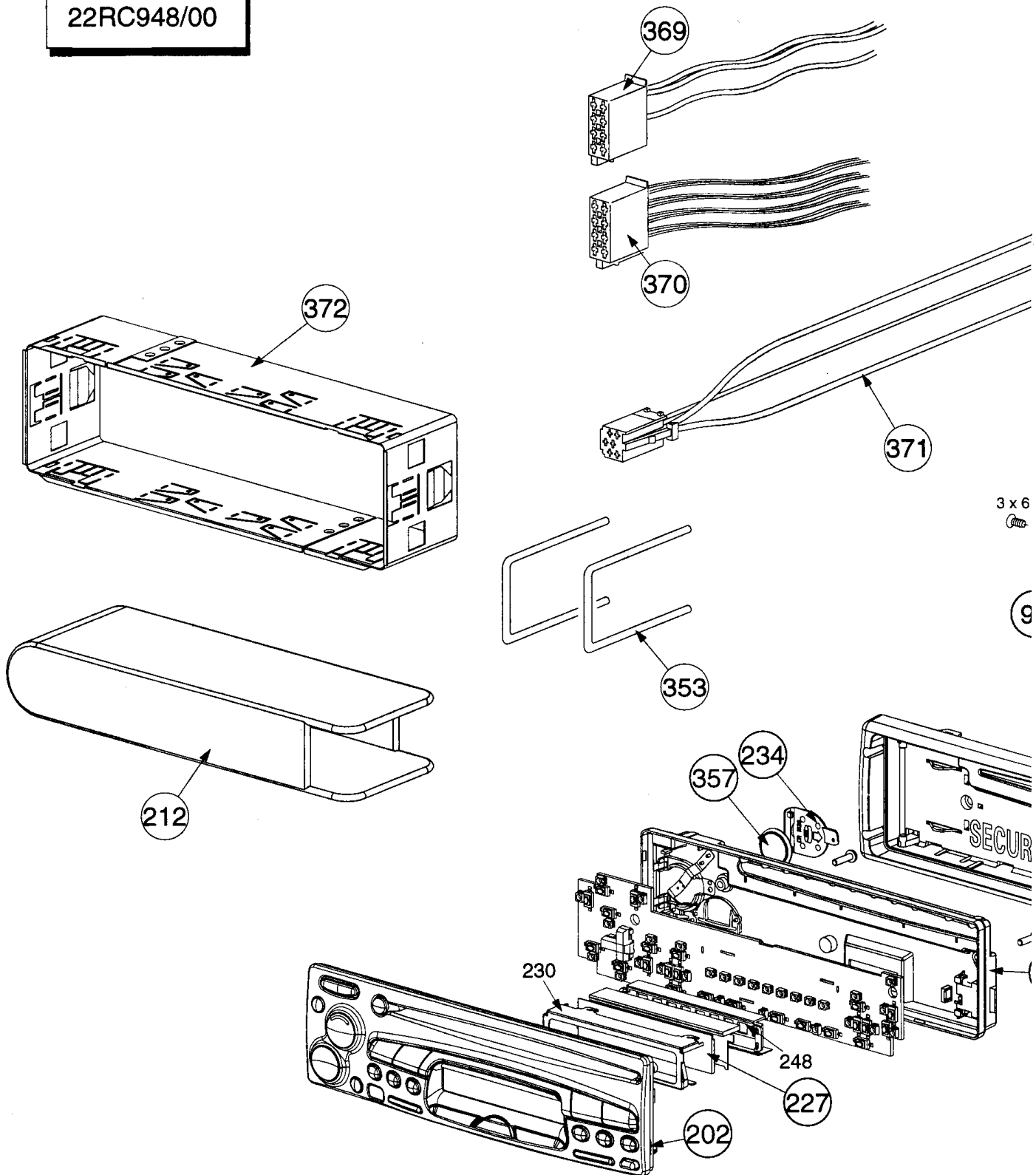
**If you brake any part of the locking on the cover front, you must change the cover front. If not, it may cause further defaults like "button does not operate" . . .**

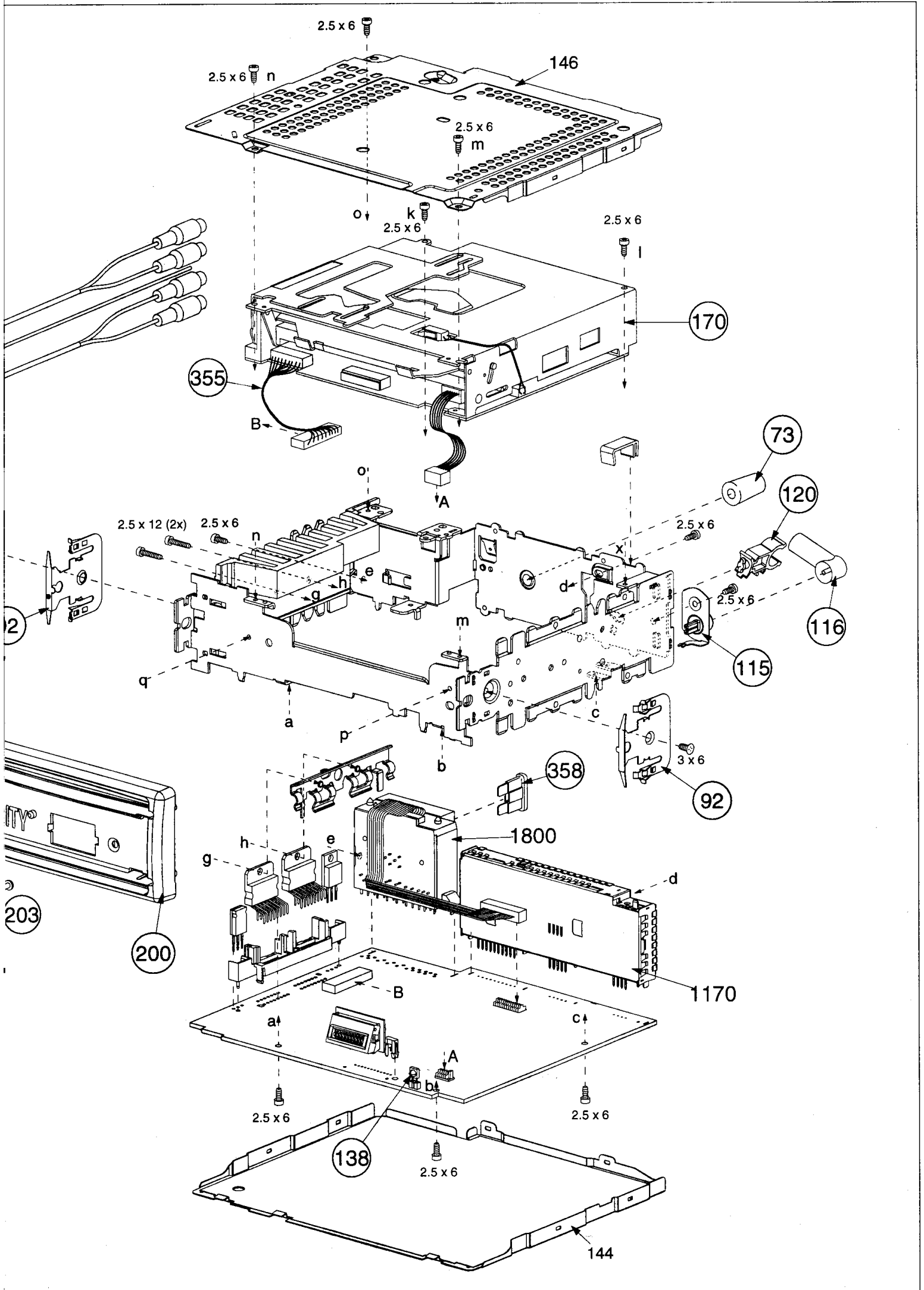


## Mechanical partslist

73	4822 532 11092	Spacer
92	4822 492 71046	Fixing spring
115	4822 265 10717	Aerial bush assy
116	4822 263 21164	Aerial adaptor
120	4822 256 10293	Holder aerial adaptor
170	4822 691 10366	CDM9 car loader
200	4822 459 04316	Fixed plate assy
202	4822 459 04543	Cover front assy
203	4822 426 10384	Cover back assy
212	4822 418 10123	Box for det unit
227	4822 135 00113	Display
234	4822 442 00866	Trap door for battery
353	4822 404 20437	Demounting brackets
355	4822 320 11639	Cable head CD3a
357	4822 138 10658	Battery CR1620
358	4822 071 21003	Fuse
369	4822 321 11012	Power supply cable
370	4822 320 11637	Loudspeaker cable
371	4822 320 11638	Line out cable
372	4822 443 30463	Sleeve


22RC948/00




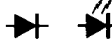










Miscellaneous			-II-		
1000	4822 691 10366		2265	5322 122 34123	1nF 10% X7R 50V
1170	4822 210 10721	TUNER IC96	2267	4822 124 41017	10μF 16V
1500	4822 242 10564	CSTCS16.00MX040-TC	2268	5322 122 34123	1nF 10% X7R 50V
-II-			2270	4822 124 41017	10μF 16V
2181	5322 122 32531	100pF 5% 0805 NPO	2271	5322 122 34123	1nF 10% X7R 50V
2182	5322 122 32654	22nF 10% X7R 63V	2275	5322 122 32448	10pF 5% 0805
2183	5322 122 32654	22nF 10% X7R 63V	2276	5322 122 32659	33pF 5% 0805
2189	4822 126 13196	100N 10% 0805 X7R	2280	4822 126 13849	220N 16V 10% 0805 X7R
2202	5322 122 34123	1nF 10% X7R 50V	2281	4822 126 13196	100nF 10% X7R 25V
2203	4822 126 13196	100N 10% 0805 X7R	2282	4822 126 13849	220N 16V 10% 0805 X7R
2208	5322 122 32531	100pF 5%NPO 50V	2283	4822 122 33514	68pF 5% 0805
2209	4822 122 33342	33nF 10% X7R 63V	2284	4822 126 13196	100nF 10% X7R 25V
2210	5322 122 32654	22N 10% 0805 X7R	2285	4822 122 33514	68pF 5% 0805
2211	4822 126 13196	100nF 10% X7R 25V	2286	4822 126 13196	100nF 10% X7R 25V
2212	5322 122 34098	10nF 10% X7R 63V	2287	5322 122 32654	22N 10% 0805 X7R
2213	5322 122 34098	10nF 10% X7R 63V	2300	4822 124 22646	47U 16V 20%
2214	5322 122 31863	330pF 5%NPO 50V	2301	4822 124 22646	47U 16V 20%
2215	5322 122 33538	150pF 2%NPO 63V	2302	4822 124 41017	10μF 16V
2216	5322 122 31863	330pF 5%NPO 50V	2303	4822 126 14043	1μF +80- 20% 16V
2217	5322 122 34123	1nF 10% X7R 50V	2304	4822 126 14043	1μF +80- 20% 16V
2218	5322 122 34123	1nF 10% X7R 50V	2305	4822 126 14043	1μF +80- 20% 16V
2219	5322 122 34098	10nF 10% X7R 63V	2306	4822 126 14043	1μF +80- 20% 16V
2220	5322 122 34123	1nF 10% X7R 50V	2308	4822 124 80769	2200μF 20% 16V
2221	5322 122 34123	1nF 10% X7R 50V	2311	5322 122 32268	470pF 5% 0805 NPO
2222	5322 122 34098	10nF 10% X7R 63V	2313	5322 122 32268	470pF 10% 50V
2223	5322 122 34098	10nF 10% X7R 63V	2314	5322 122 32268	470pF 10% 50V
2224	5322 122 34123	1nF 10% X7R 50V	2315	5322 122 32268	470pF 10% 50V
2225	4822 126 13196	100nF 10% X7R 25V	2316	5322 126 10223	4,7nF 10% X7R 63V
2226	5322 122 34123	1nF 10% X7R 50V	2317	4822 126 13196	100nF 10% X7R 25V
2228	4822 126 13196	100nF 10% X7R 25V	2318	5322 126 10223	4,7nF 10% X7R 63V
2229	5322 122 32531	100pF 5% NP0 50V	2319	4822 126 13196	100nF 10% X7R 25V
2230	5322 122 32531	100pF 5% NP0 50V	2320	4822 126 13196	100nF 10% X7R 25V
2231	4822 126 13196	100nF 10% X7R 25V	2321	5322 122 34098	10nF 10% X7R 63V
2232	4822 126 13196	100nF 10% X7R 25V	2323	5322 122 34098	10nF 10% X7R 63V
2237	4822 124 23279	22μF 20% 16V	2324	5322 122 34098	10nF 10% X7R 63V
2238	4822 124 80453	100μF 10V 20%	2325	5322 122 34098	10nF 10% X7R 63V
2239	4822 124 80453	100μF 20% 10V	2326	5322 122 34098	10nF 10% X7R 63V
2240	4822 124 23279	22μF 20% 16V	2327	5322 122 34098	10nF 10% X7R 63V
2241	4822 126 14043	1μF +80- 20% 16V	2328	5322 122 34098	10nF 10% X7R 63V
2242	4822 124 23279	22μF 20% 16V	2329	5322 122 34098	10nF 10% X7R 63V
2243	4822 124 23282	1μF 20% 50V	2401	5322 126 10223	4,7nF 10% X7R 63V
2244	5322 122 34123	1nF 10% X7R 50V	2402	4822 122 33342	33nF 10% X7R 63V
2245	5322 122 32448	10pF 5% 50V	2404	4822 124 41017	10μF 16V
2246	5322 122 32448	10pF 5% 50V	2405	4822 124 80769	2200μF 20% 16V
2247	5322 122 34123	1nF 10% X7R 50V	2407	5322 122 32268	470pF 10% 50V
2248	4822 122 33575	220pF 5% NPO 50V	2408	4822 126 13849	220nF 10% 16V
2249	4822 122 33575	220pF 5% NPO 50V	2409	4822 126 13849	220nF 10% 16V
2250	5322 122 32531	100pF 5% NP0 50V	2410	4822 124 80766	1000μF 20% 25V
2251	5322 122 32531	100pF 5% NP0 50V	2411	4822 124 80453	100μF 20% 10V
2252	4822 126 13849	220N 16V 10% 0805 X7R	2412	4822 124 23281	33μF 20% 16V
2253	4822 126 13849	220N 16V 10% 0805 X7R	2413	4822 126 13343	47NF 25V 10% 0805 X7R
2254	4822 126 13196	100nF 10% X7R 25V	2414	4822 124 23282	1μF 20% 50V
2255	4822 124 23279	22μF 20% 16V	2415	4822 122 33575	220pF 5%NPO 50V
2256	4822 124 22646	47μF 20%	2416	4822 124 22646	47μF 16V 20%
2257	4822 126 14043	1μF +80- 20% 16V	2417	4822 126 14043	1μF +80- 20% 16V
2258	4822 126 14043	1μF +80- 20% 16V	2418	4822 126 13849	220nF 10% 16V
2261	4822 124 41017	10μF 16V	2419	5322 126 10223	4,7nF 10% X7R 63V
2262	5322 122 34123	1nF 10% X7R 50V	2420	4822 126 13196	100nF 10% X7R 25V
2264	4822 124 41017	10μF 16V	2421	4822 126 14043	1μF +80- 20% 16V
			2423	5322 122 32654	22nF 50V 10% 0805 X7R

II			II		
2425	4822 126 13849	220nF 16V 10% 0805 X7R	3220	4822 051 20101	100Ω 5% 0,1W
2426	4822 126 13343	47nF 25V 10% 0805 X7R	3221	4822 051 20101	100Ω 5% 0,1W
2428	5322 122 34098	10nF 10% X7R 63V	3222	4822 051 20272	2K70 5% 0,1W
2429	5322 122 34098	10nF 10% X7R 63V	3223	4822 051 20183	18KΩ 5% 0,1W
2432	5322 122 34098	10nF 10% X7R 63V	3224	4822 051 20102	1KΩ 5% 0,1W
2433	5322 122 34098	10nF 10% X7R 63V	3225	4822 051 20473	47KΩ 5% RST SM 0805
2434	4822 126 13196	100nF 25V 10% 0805 X7R	3226	4822 117 11503	220R 1% 0.1W
2516	5322 122 33869	15pF 5%NP0 63V	3227	4822 117 11503	220R 1% 0.1W
2517	5322 122 33869	15pF 5%NP0 63V	3228	4822 051 20273	27KΩ 5% 0,1W
2552	4822 122 33342	33nF 50V 10% 0805 X7R	3231	4822 051 20473	47KΩ 5% RST SM 0805
2553	4822 126 13196	100nF 25V 10% 0805 X7R	3234	4822 117 11503	220R 1% 0.1W
2554	4822 126 13196	100nF 25V 10% 0805 X7R	3235	4822 117 11503	220R 1% 0.1W
2561	5322 122 34098	10nF 10% X7R 63V	3236	4822 051 20101	100Ω 5% 0,1W
2577	4822 122 33342	33nF 10% X7R 63V	3241	4822 051 20105	1M00 5% 0,1W
2578	4822 122 33342	33nF 50V 10% 0805 X7R	3260	4822 051 20223	22KΩ 5% 0,1W
2650	5322 122 34098	10nF 10% X7R 63V	3262	4822 051 20182	1K80 5% 0,1W
2651	4822 126 13196	100nF 25V 10% 0805 X7R	3263	4822 051 20223	22KΩ 5% 0,1W
2653	5322 122 34123	1nF 10% X7R 50V	3265	4822 051 20182	1K80 5% 0,1W
2654	5322 122 34123	1nF 10% X7R 50V	3266	4822 051 20223	22KΩ 5% 0,1W
2655	5322 122 34123	1nF 10% X7R 50V	3268	4822 051 20182	1K80 5% 0,1W
2656	5322 122 33869	15pF 5%NP0 63V	3269	4822 051 20223	22KΩ 5% 0,1W
2657	5322 122 33869	15pF 5%NP0 63V	3271	4822 051 20182	1K80 5% 0,1W
2800	4822 124 41017	10μF 16V 20%	3274	4822 051 20122	1k20 5% 0,1W
2801	5322 122 34123	1N 50V 10% 0805 X7R	3275	4822 051 20472	4k7 5% 0,1W
2808	5322 122 32268	470pF 10% 50V	3277	4822 051 20122	1k20 5% 0,1W
2809	5322 122 32268	470pF 10% 50V	3278	4822 117 11449	2K2 1% 0,1W
2810	5322 122 32268	470pF 10% 50V	3279	4822 117 10833	10KΩ 1% 0,1W
2811	5322 122 32268	470pF 10% 50V	3280	4822 051 20473	47KΩ 5% SM 0805
2812	5322 122 32268	470pF 10% 50V	3282	4822 051 20331	330Ω 5% 0805
2813	5322 122 32268	470pF 10% 50V	3283	4822 051 20331	330Ω 5% 0805
2814	5322 122 32268	470pF 10% 50V	3284	4822 051 20331	330Ω 5% 0805
2836	5322 122 32654	22nF 10% X7R 63V	3285	4822 051 20478	4Ω7 5% 0805
2837	4822 126 13693	56pF 1% NP0 63V	3286	4822 117 10833	10KΩ 1% 0,1W
2838	5322 122 32452	47pF 5% NP0 63V	3287	4822 117 10833	10KΩ 1% 0,1W
2850	5322 122 34123	1nF 10% X7R 50V	3288	4822 051 20333	33KΩ 5% 0,1W
2853	5322 122 34123	1nF 10% X7R 50V	3289	4822 117 11383	12KΩ 5% 0805
2854	5322 122 34098	10nF 10% X7R 63V	3290	4822 117 11383	12KΩ 5% 0805
2856	5322 122 32531	100pF 5% NP0 50V	3291	4822 051 20272	2K70 5% 0,1W
2857	5322 122 32531	100pF 50V 5% 0805 NPO	3292	4822 051 20109	10Ω 5% 0,1W
2858	5322 122 32531	100pF 5%NP0 50V	3300	4822 051 20153	15KΩ 5% RST SM 0805
			3301	4822 051 20223	22KΩ 5% 0,1W
3174	4822 051 20332	3K3 5% RST SM 0805	3302	4822 051 20332	3K30 5% 0,1W
3175	4822 051 20102	1KΩ 5% 0,1W	3304	4822 051 20473	47KΩ 5% 0,1W
3178	4822 051 20008	0Ω JUMP. (0805)	3305	4822 051 20473	47KΩ 5% 0,1W
3179	4822 051 20008	0Ω JUMP. (0805)	3306	4822 051 20101	100Ω 5% 0,1W
3186	4822 117 11449	2K2 1% 0,1W	3307	4822 051 20223	22KΩ 5% 0,1W
3206	4822 117 11503	220R 1% 0.1W	3308	4822 051 10008	JUMP MAX 0R05
3207	4822 051 20101	100Ω 5% 0,1W	3312	4822 051 20008	JUMP MAX 0R05
3208	4822 051 20101	100Ω 5% 0,1W	3313	4822 051 20008	JUMP MAX 0R05
3209	4822 051 20104	100KΩ 5% 0,1W	3316	4822 051 20153	15KΩ 5% RST SM 0805
3210	4822 051 20332	3K30 5% 0,1W	3317	4822 051 20109	10Ω 5% 0,1W
3211	4822 051 20332	3K30 5% 0,1W	3318	4822 051 20109	10Ω 5% 0,1W
3213	4822 051 20562	5K60 5% 0,1W	3319	4822 051 20109	10Ω 5% 0,1W
3214	4822 051 20101	100Ω 5% 0,1W	3320	4822 051 20109	10Ω 5% 0,1W
3215	4822 051 20008	0Ω JUMP. (0805)	3321	4822 051 20109	10Ω 5% 0,1W
3216	4822 051 20272	2K70 5% 0,1W	3322	4822 051 20109	10Ω 5% 0,1W
3217	4822 051 20101	100Ω 5% 0,1W	3323	4822 051 20109	10Ω 5% 0,1W
3218	4822 051 20272	2K70 5% 0,1W	3324	4822 051 20109	10Ω 5% 0,1W
3219	4822 051 20272	2K70 5% 0,1W	3325	4822 051 20153	15KΩ 5% RST SM 0805

3326	4822 051 20153	15KΩ 5% RST SM 0805	3588	4822 117 10833	10KΩ1% 0,1W
3329	4822 116 40255	470R 50% PTC 16V	3589	4822 117 10833	10KΩ1% 0,1W
3336	4822 051 20473	47KΩ 5% 0,1W	3592	4822 051 20008	JUMP MAX 0R05
3341	4822 051 10008	JUMP MAX 0R05	3593	4822 051 20223	22KΩ 5% 0,1W
3342	4822 051 20473	47KΩ 5% 0,1W	3594	4822 051 20223	22KΩ 5% 0,1W
3343	4822 051 20008	JUMP MAX 0R05	3595	4822 051 20473	47KΩ 5% 0,1W
3404	4822 051 20224	220KΩ 5% 0,1W	3596	4822 051 20473	47KΩ 5% 0,1W
3405	4822 051 20104	100KΩ 5% 0,1W	3597	4822 051 20102	1KΩ 5% 0,1W
3406	4822 051 20154	150KΩ 5% 0,1W	3652	4822 051 20102	1KΩ 5% 0,1W
3408	4822 051 20273	27KΩ 5% 0,1W	3658	4822 116 40221	8Ω2 20%
3411	4822 051 20473	47KΩ 5% 0,1W	3659	4822 051 20101	100Ω 5% 0,1W
3412	4822 051 20101	100Ω 5% 0,1W	3660	4822 116 40221	8Ω2 20%
3413	4822 051 20102	1KΩ5% RST SM 0805	3673	4822 051 20473	47KΩ 5% 0,1W
3414	4822 116 40267	3R3 25% 20V	3738	4822 051 20008	0Ω JUMP. (0805)
3417	4822 051 20154	150KΩ 5% 0,1W	3742	4822 051 20008	0Ω JUMP. (0805)
3422	4822 051 20473	47KΩ5% RST SM 0805	3750	4822 051 20008	0Ω JUMP. (0805)
3423	4822 051 20008	JUMP MAX 0R05	3757	4822 051 20008	0Ω JUMP. (0805)
3430	4822 051 20109	10Ω 5% 0,1W	3767	4822 051 20008	0Ω JUMP. (0805)
3432	4822 051 20473	47KΩ 5% 0,1W	3768	4822 051 20008	0Ω JUMP. (0805)
3433	4822 051 20473	47KΩ 5% 0,1W	3769	4822 051 20008	0Ω JUMP. (0805)
3442	4822 051 20224	220KΩ 5% 0,1W	3800	4822 051 20182	1K8 5% RST SM 0805
3447	4822 051 20224	220KΩ 5% 0,1W	3801	4822 051 20472	4K7 5% RST SM 0805
3451	4822 051 20224	220KΩ 5% 0,1W	3802	4822 117 11139	1K5 5% RST SM 0805
3454	4822 051 20224	220KΩ 5% 0,1W	3804	4822 051 20121	120R 5% RST SM 0805
3458	4822 051 20104	100KΩ 5% 0,1W	3810	4822 051 20008	0Ω JUMP. (0805)
3460	4822 117 10833	10KΩ1% 0,1W	3812	4822 051 20102	1KΩ5% RST SM 0805
3463	4822 051 20224	220KΩ 5% 0,1W	3813	4822 117 10833	10KΩ1% 0,1W
3464	4822 051 20224	220KΩ 5% 0,1W	3814	4822 051 20473	47KΩ5% RST SM 0805
3465	4822 117 10833	10KΩ1% 0,1W	3815	4822 051 20473	47KΩ5% RST SM 0805
3468	4822 051 20008	0Ω JUMP. (0805)	3816	4822 051 20473	47KΩ5% RST SM 0805
3470	4822 051 20104	100KΩ 5% 0,1W	3817	4822 051 20473	47KΩ5% RST SM 0805
3471	4822 051 20224	220KΩ 5% 0,1W	3818	4822 051 20473	47KΩ5% RST SM 0805
3472	4822 051 20102	1KΩ 5% 0,1W	3819	4822 051 20223	22KΩ5% RST SM 0805
3473	4822 051 20473	47KΩ 5% 0,1W	3822	4822 051 20104	100KΩ5% RST SM 0805
3474	4822 051 20109	10Ω 5% 0,1W	3824	4822 117 10833	10KΩ5% RST SM 0805
3475	4822 051 20109	10Ω 5% 0,1W	3825	4822 051 20331	330Ω 5% 0,1W
3485	4822 051 20224	220KΩ 5% 0,1W	3828	4822 051 20101	100R 5% RST SM 0805
3486	4822 051 20273	27KΩ 5% 0,1W	3830	4822 117 11503	220R 1% 0.1W
3487	4822 117 10833	10KΩ % RST SM 0805	3831	4822 117 11503	220R 1% 0.1W
3488	4822 117 10833	10KΩ 5% RST SM 0805	3832	4822 051 20331	330Ω 5% 0,1W
3489	4822 051 20224	220KΩ 5% RST SM 0805	3834	4822 051 20102	1KΩ 5% 0,1W
3516	4822 051 20101	100Ω 5% 0,1W	3835	4822 117 11449	2K2 1% 0,1W
3517	4822 051 20101	100Ω 5% 0,1W	3836	4822 051 20008	JUMP MAX 0R05
3523	4822 051 20472	4K70 5% 0,1W	3837	4822 051 20102	1KΩ 5% 0,1W
3524	4822 051 20472	4K70 5% 0,1W	3838	4822 051 20102	1KΩ 5% 0,1W
3544	4822 051 20153	15KΩ 5% 0,1W	3839	4822 051 20105	1M00 5% 0,1W
3551	4822 051 20008	JUMP MAX 0R05	3840	4822 051 20102	1KΩ 5% 0,1W
3556	4822 051 20223	22KΩ 5% RST SM 0805	3841	4822 051 20102	1KΩ 5% 0,1W
3557	4822 051 20473	47KΩ 5% 0,1W	3843	4822 051 20008	JUMP MAX 0R05
3558	4822 051 20473	47KΩ 5% 0,1W	3850	4822 051 20008	JUMP MAX 0R05
3567	4822 051 20473	47KΩ 5% 0,1W	3852	4822 117 10833	10KΩ1% 0,1W
3568	4822 051 20101	100Ω 5% 0,1W	3854	4822 051 20008	0Ω JUMP. (0805)
3569	4822 051 20273	27KΩ 5% 0,1W	3855	4822 051 20104	100KΩ 5% 0,1W
3571	4822 051 20471	470Ω 5% 0,1W	3856	4822 051 20223	22KΩ5% RST SM 0805
3572	4822 051 20104	100KΩ 5% 0,1W	3857	4822 051 20333	33KΩ 5% 0,1W
3574	4822 051 20473	47KΩ5% RST SM 0805	3858	4822 051 20008	0Ω JUMP. (0805)
3576	4822 051 20223	22KΩ 5% 0,1W	3863	4822 051 20101	100Ω 5% 0,1W
3577	4822 051 20223	22KΩ 5% RST SM 0805	3864	4822 051 20104	100KΩ 5% 0,1W
3578	4822 051 20223	22KΩ 5% 0,1W	3865	4822 051 20101	100Ω 5% 0,1W
3580	4822 117 10833	10KΩ 5% RST SM 0805	3866	4822 051 20101	100Ω 5% 0,1W

					
3868	4822 051 20471	470R 5% RST SM 0805	6853	4822 130 10185	UDZ5.6B
3872	4822 051 20101	100Ω 5% 0,1W	 		
 			7172	4822 130 60511	TRA SIG SM BC847B
5172	4822 157 10975	120UH 10%	7200	4822 130 60511	TRA SIG SM BC847B
5173	4822 157 71184	10U 10% ELO405	7201	4822 209 15479	SAA7701H/N212
5174	4822 157 71206	BLM21A10PT	7202	4822 209 33985	TDA8579T/N1
5175	4822 157 71206	BLM21A10PT	7260	4822 130 42615	BC817-40
5200	4822 157 71206	BLM21A10PT	7261	4822 130 42615	BC817-40
5201	4822 242 10565	K1101-95880 (36.860MHZ)	7262	4822 130 42615	BC817-40
5202	4822 157 71184	10UH 10%	7263	4822 130 42615	BC817-40
5203	4822 157 10976	68UH 10%	7275	4822 130 60511	BC847B
5204	4822 157 71206	BLM21A10PT	7276	4822 130 60511	BC847B
5205	4822 157 10977	4,7UH 10%	7277	4822 209 33397	SAA7366T
5275	4822 242 81583	11MHz289 AT-51 30P	7302	4822 209 33629	TDA7375
5276	4822 157 71206	BLM21A10PT	7303	4822 209 33629	TDA7375
5277	4822 157 71206	BLM21A10PT	7304	4822 130 60511	BC847B
5278	4822 157 71206	BLM21A10PT	7306	5322 130 60508	TRA SIG SM BC857B
5400	4822 157 70935		7400	5322 209 14482	IC SM HEF4069UBT
5401	4822 157 11206	LALO4 0U22	7401	4822 209 14814	L4949NP
5501	4822 157 71206	BLM21A10PT	7402	5322 209 14877	HEF4528BT
5503	4822 157 71206	BLM21A10PT	7404	4822 209 14815	IC VN06
5650	4822 242 10709		7405	4822 209 90566	IC L4885CV
5651	4822 157 71206	BLM21A10PT	7406	4822 209 90567	IC L7805ABV
5835	4822 242 81583	LN-G8-238	7410	4822 130 60511	BC847B
 			7418	4822 209 33162	MC4558IDT
6200	4822 130 10654	BAT254	7505	5322 130 60508	BC857B
6201	4822 130 83757	DIO SIG SM BAS216	7506	5322 209 11102	HEF4052BT
6300	4822 130 83757	DIO SIG SM BAS216	7511	4822 209 15514	EEprom RC688
6401	4822 130 10488	S3G	7513	4822 209 15478	UP 89CE560EFB/006
6402	4822 130 10655	1SR154-400	7650	4822 209 32743	MSM6307GS-VK
6403	4822 130 10655	1SR154-400	7701	4822 209 15349	TEA0676T/V1
6406	4822 130 10656	UDZ20B	7745	4822 130 60511	BC847B
6407	4822 130 10655	1SR154-400	7800	4822 130 42132	TRA SIG SM BC 807
6408	4822 130 10655	1SR154-400	7802	4822 130 10659	2SD2039
6410	4822 130 83757	DIO SIG SM BAS216	7803	4822 130 60511	BC847B
6412	4822 130 10655	1SR154-400	7804	5322 130 60508	BC857B
6413	4822 130 10654	BAT254	7805	5322 130 60508	TRA SIG SM BC857B
6414	4822 130 83757	BAS216	7806	4822 130 60511	TRA SIG SM BC847B
6415	4822 130 83757	BAS216	7835	5322 209 11461	HEF4521BT
6418	4822 130 83757	BAS216	7850	4822 130 60511	BC847B
6419	4822 130 83757	BAS216			
6422	4822 130 83757	BAS216			
6423	4822 130 83757	BAS216			
6425	4822 130 83757	BAS216			
6426	4822 130 83757	BAS216			
6427	4822 130 83757	BAS216			
6432	4822 130 83757	BAS216			
6500	4822 130 83757	BAS216			
6654	4822 130 10657	PTZ			
6800	4822 130 10658	DIO REG SM UDZ11B			
6803	4822 130 10185	UDZ5.6B			
6804	4822 130 10185	UDZ5.6B			
6805	4822 130 10185	UDZ5.6B			
6807	4822 130 10185	UDZ5.6B			
6809	4822 130 10185	UDZ5.6B			
6810	4822 130 10185	UDZ5.6B			
6850	4822 130 83757	BAS216			
6852	4822 130 10185	UDZ5.6B			