



Service Manual

Sach-Nr./Part No.
72010-019.10

Additionally
required Service
Manuals for the
Complete Service:

Service Manual

Sicherheit
Safety

Sach-Nr./Part No.
72010-800.00

Ⓓ Btx * 32700 #

Chassis G 1000 Stereo (ST 03)

GT 2005
GT 2105

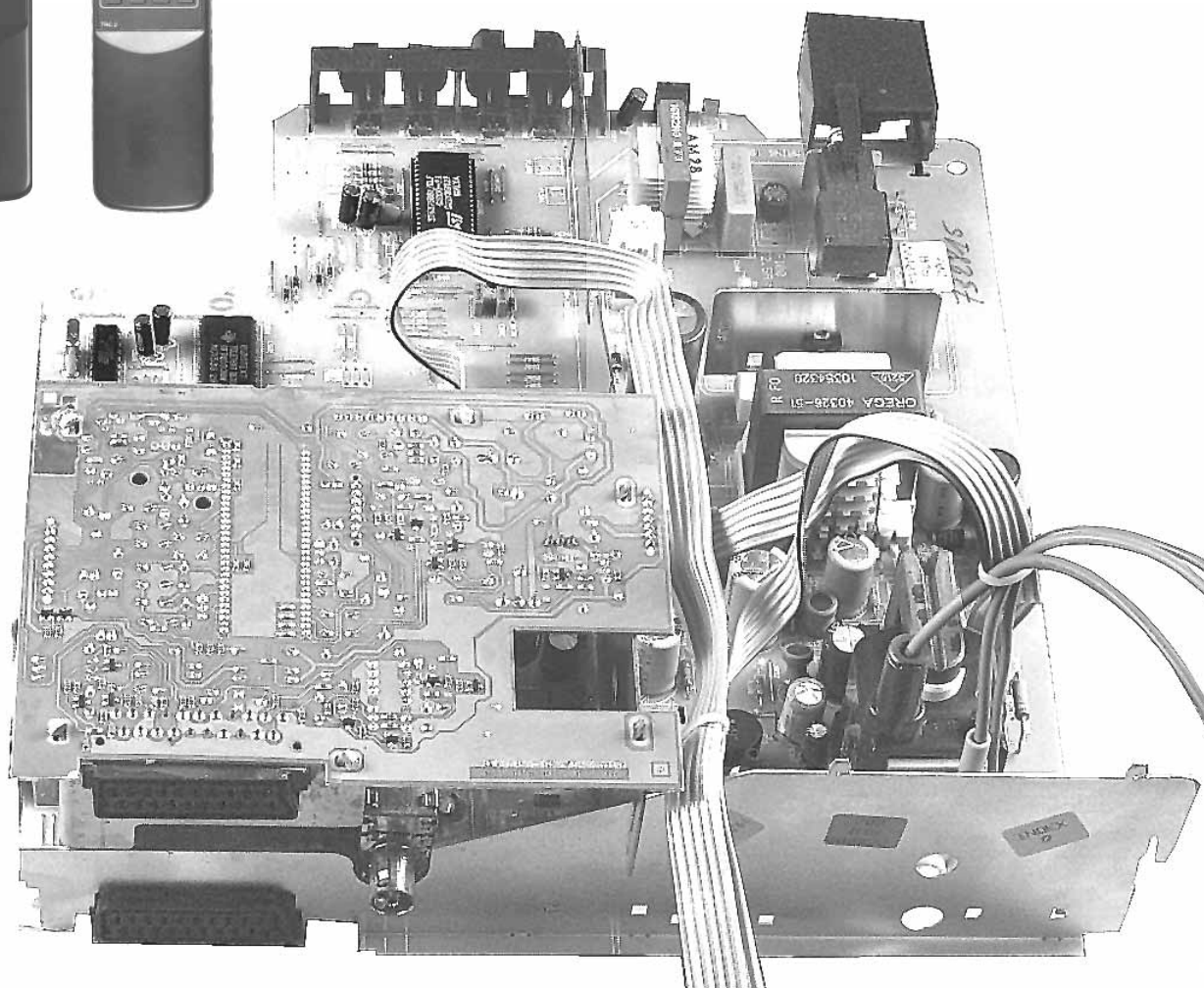
(77250-056.61/GCC 1261GB)
(77250-055.61/GCC 1361GB)

TRC 1
TRC 2

(75990-200.14)
(75990-300.00)



**Attention: The picture tube panel must be removed
before disconnecting the yoke plug**





The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010-800.00, as well as the respective national deviations.

Safety Advice

The X-radiation developing in the sets conforms to the X-radiation Regulations (January 8, 1987), issued by the Physikalisch-Technische Bundesanstalt (federal physiotecthical institution).

The high tension for the picture tube and thus the developing X-radiation depends on the precise adjustment of the +A power supply.

After every repair of the power supply unit or the horizontal deflection stage it is imperative that the EHT for the picture tube is checked and re-adjusted if necessary.

To avoid consequential damages to the chassis or the picture tube the integrated protective circuits are allowed to be put out of operation only for a short time.

When replacing the picture tube use only the types specified in the spare parts lists.

General Part

Test Equipment / Aids

Variable isolating transformer	Test/Sweep Generator
Colour Generator	Oscilloscope
DC Voltmeter	AF Voltmeter
AF Generator	Frequency counter

Please note the Grundig Catalog "Test and Measuring Equipment" obtainable from:

Grundig electronics GmbH
Würzburger Str. 150
D-90766 Fürth/Bay.
Tel.0911/703-0
Telefax 0911/703-4479

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Technical Data

TV Receivers	20" / 21"
Mains voltage	220...240V ~ 50/60Hz

Control range of the power supply	190...264V
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Screen diagonal	51cm / 55cm
Picture diagonal	48cm / 52cm

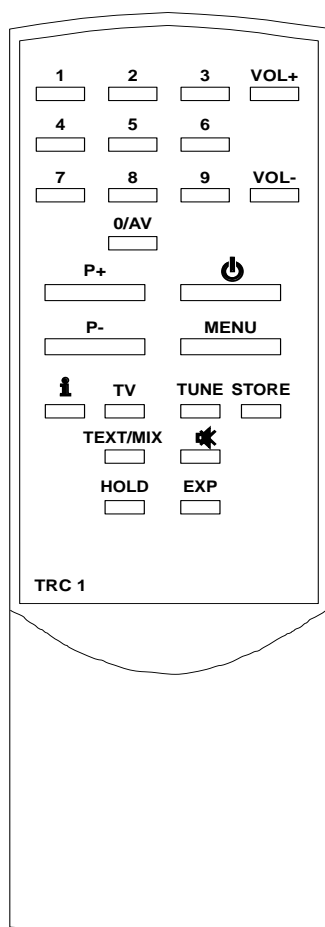
Power consumption	ca. 55W
Power consumption in Standby	ca. 8W

Aerial socket	75 Ω coaxial plug
Programmes	99 + 2AV
Standard	PAL/I

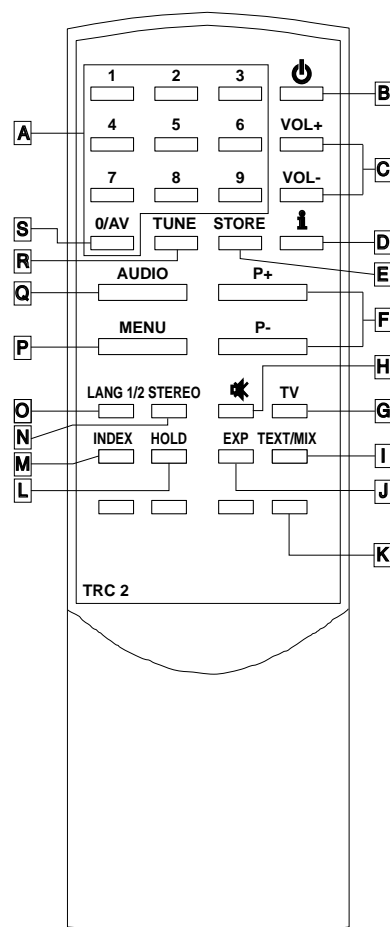
Output power	2x5W RMS
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Temperature range	0 - 40° C
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Remote Control TRC 1



Remote Control TRC 2



Operation of the Remote Control Keys

	Switches the receiver on and off (Standby)
1-0	Direct channel selection and direct entry of adjustable settings. Turns television on from Standby.
P+	Selects channel above current channel. Increases adjustable menu settings.
P-	Selects channel below current channel. Decreases adjustable menu settings.
VOL+	Increases Volume
VOL-	Decreases Volume
i	Displays selected channel number. Accesses hidden information.
MENU	Accesses Menu
STORE	Stores channels in tuning mode
TUNE	Selects tuning mode
	Mutes sound
HOLD	Holds a particular page in the Teletext mode
EXP	Changes height of characters in the Teletext mode
TEXT/MIX	Selects teletext/selects mixed mode (text on picture)
TV	Returns to normal viewing mode
O/AV	Selects auxiliary mode

Operation of the Remote Control Keys

A	Direct channel selection or page number in teletext mode. Switches the television on from standby.
B	Switches set to standby or switches set on from standby
C	Increases and decreases the volume
D	Displays the selected channel
E	Stores channels in tuning mode
F	Increases or decreases adjustable settings
G	Returns to normal viewing mode
H	Mutes sound
I	Selects teletext/selects mixed mode (text on picture)
J	Changes height of characters in teletext mode
K	Fasttext buttons
L	Holds a selected page in teletext mode
M	Selects index pages in teletext mode
N	Selects between stereo, stereo-wide and pseudo-stereo
O	Selects language in dual language Nicam transmissions. Selects mono sounds.
P	Accesses menu
Q	Accesses audio selections
R	Selects tuning mode
S	Selects auxiliary input

Brief Service Instructions

Tuning

Press the "Tune" key on the remote control to bring up the tuning graphic "S". Press and hold the "P+" key for more than 1 second to start the search tuning. When a channel is found the "S" graphic will flash. Either select "P+" to continue tuning or "Store" to retain the channel. By pressing the "Store" key the programme number will flash, key in the programme number that the channel is to be store in. To exit the tuning screen press TV.

Fine Tuning

Press the "Tune" button and then the "HOLD" key briefly to bring up the fine tuning graphic. An X will appear after the channel number. Use the "P+" and "P-" keys to fine tune and then "Store".

Scart Menu

Press the "0/AV" button and then the "Tune" key the Scart options graphic will appear, with VCR, DEcOder and AUX. In the VCR mode only, the line time base time constant is short. In Decoder mode Pin 8 of the Scart is enabled whilst tuning to allow for tuning of decoded channels.

Fasttext Operation

In addition to the standard Teletext functions, the receiver GT 2105 has Fasttext. This system provides more value from Teletext by allowing fast access to highlighted pages and by linking many related pages for easy access.

The key to Fasttext is four colour coded prompts at the bottom of each teletext page. These red, green, yellow and blue prompts relate to the four colour coded buttons on the tv remote control.

Each colour coded prompt acts as a "signpost" through the huge choice of Teletext pages available, allowing faster and easier access to highlighted pages.

Use of Fasttext

To select any colour coded page from Teletext press the corresponding coloured button on the TV remote control.

The new page selected will appear almost instantly although there can still be a delay for some pages to appear. This is particularly the case if a rapid succession of coloured Fasttext buttons are pressed.

As new pages are accessed, at the bottom of the page a new series of subject related colour coded prompts will appear.

Fasttext Index Function

To return any time to the main index pages it is not necessary to enter the index page number.

INDEX To return to the main index press the INDEX button once.

INDEX With the main index on screen a further press of the INDEX button will access the main A - Z index or other subsidiary index pages.

Returning to Normal Television Viewing

TV To return to normal television viewing at any time, press the TV button.


Operating Hints GT 2005 / 2105

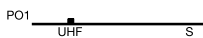
Note: This chapter contains excerpts from the operating instructions. For further particulars please refer to the appropriate user instructions the part number of which is indicated in the relevant spare parts list.


TUNING IN

TUNING


Your TV set can memorise 99 different channels. During channel tuning any connected satellite receiver or video recorder should be switched to standby. To tune in different channels, follow the instructions below.


 **Step 1**
Press **TUNE** on the remote control.


 A tuning bar will appear.


 **Step 2**
Press **P+** for approximately one second.

The set will scan up through the available channel frequencies. A cursor moves slowly up the bar until a channel is found. The **S** will now flash on and off.

 If you do not wish to store the channel, press **P+** again until a required channel is found.


 **Step 3**
Press **STORE** to memorise the channel.
The programme setting **PO1** will now flash on and off.

 **Step 4**
Decide which channel number you want to allocate the channel to e.g. BBC1 = 1. Press the appropriate number e.g. **1**.

 **Step 5**
Store the setting by pressing **STORE**.

The channel is now stored against the chosen channel number. The tuning bar will still be on screen and the **S** will still flash.


Now tune the remaining channels. Repeat steps 2, 3, 4 and 5 until all channels are tuned in.

 To exit the tuning screen press **TV**.


FINE TUNING


After following the **TUNING** instructions you should have a clear picture on all channels (subject obviously to the reception quality of the incoming signal). If any channels are not to the standard you would expect, fine tuning may sometimes improve the picture quality. To fine tune follow the steps below:

Step 1
Select the channel to be tuned. If the tuning bar is no longer on screen press **TUNE**. If it is, move onto step 2.

 **Step 2**
Press **HOLD** very briefly. An **X** will appear besides the programme number to indicate that fine tuning has been selected.

 **Step 3**
By briefly pressing **P+** or **P-**, fine tune the picture.


 **Step 4**
When the best possible picture has been achieved, press **STORE** twice to memorise the settings.

 **Step 5**
To return to normal television viewing press **TV**.

Note : the **X** symbol means that the Automatic Frequency Control (AFC) has been switched off. Channels stored with the **X** displayed may drift off tune and therefore fine tuning should only be used if absolutely necessary.


TUNING INTO A VIDEO RECORDER, SATELLITE RECEIVER OR GAMES CONSOLE


If connecting a video recorder, satellite receiver or games console to the television set via the scart sockets (see page 3 and 14), press **O/AV** on the remote control. Alternate presses of **O/AV** selects between the AV inputs, AV1 and AV2.

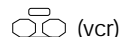
 **x2** If making the connection via the television sets aerial, select channel 99 as the dedicated channel by pressing **9** twice.

With the video recorder, satellite receiver or games console on, tune channel 99 to the output following steps **1-5** in the **TUNING IN SECTION** on pages 4 to 5.

When using the O/AV mode the on screen display can be adjusted to indicate whether a video recorder, external decoder or auxiliary source (e.g. a games console or satellite receiver) is connected. Follow the steps below selecting first either AV1 or AV2 input as required.

Step 1
 Press **O/AV** on the remote control.


Step 2
 Press **TUNE** on the remote control. The display will show 3 options;



(vcr)

DEC (decoder)

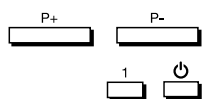
AUX (satellite receiver or games console).

Step 3
 Further pressing of **TUNE** allows the desired symbol TUNE to be highlighted in yellow. When the required symbol is highlighted the setting will automatically store after five seconds.



STANDBY AND CHANNEL CONFIRMATION

STANDBY MODE



When the television is in standby it can be switched on by pressing either **P+** or **P-** or by pressing the channel number required, e.g. **1** for BBC 1. Alternatively press **STANDBY**.

CONFIRMATION OF CHANNEL SELECTED

Whenever a new channel is selected the top left hand corner of the screen will confirm the channel number selected for approximately 5 seconds.

7



To confirm or check the channel being watched without changing channel, press **i**. The channel number selected will be displayed in the top left hand corner of the screen for approximately 5 seconds.



Note : Pressing **i** will confirm the channel details at the bottom of the screen.



PICTURE ADJUSTMENT

Your Grundig television set allows control of brightness, contrast and colour. To make any picture adjustments follow this procedure :

BRIGHTNESS CONTRAST AND COLOUR



Step 1
Press **MENU**.



The brightness symbol will be displayed with a cursor which indicates the current brightness setting.



Step 2
With the cursor on screen adjust the brightness by using **P+** or **P-**. The cursor moves to indicate the change. The new setting is automatically stored.



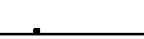
Step 3
To change the other settings, with the brightness control on screen, press **MENU**. The brightness symbol before the cursor will change to the contrast setting.



Step 4
Adjust the contrast by using **P+** or **P-**.



Step 5
With the contrast setting on screen press **MENU** again.




The contrast symbol before the cursor will change to the colour setting.




Step 6
Adjust the colour setting to your liking by using **P+** and **P-**.


8



The cursor will move to indicate the change.



 To return to normal viewing press **TV**.

AUDIO ADJUSTMENT

VOLUME CHANGE AND MUTE
 To increase the volume press **VOL+**.



 To decrease the volume press **VOL-**.



 To mute the sound, press .



 To restore the sound when muted press  again.



BASS, TREBLE AND BALANCE ADJUSTMENT

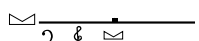
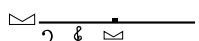
To make the most of high quality NICAM stereo transmissions you can alter the bass, treble and balance to your preference. Follow these steps:

Step 1
 Press **AUDIO** until the audio selection screen is displayed. The bass symbol  will be displayed with a cursor which indicates the current bass level selected.

Step 2
  With the cursor on screen adjust the bass level using **P+** or **P-**. The cursor moves to indicate the change.

Step 3
 To change the treble level with the audio selection screen displayed press **AUDIO** until the treble symbol  is displayed.

Step 4
  With the cursor on screen adjust the treble level using **P+** or **P-**.

Step 5
 To change the balance with the audio selection screen displayed press **AUDIO** until the balance symbol  is displayed.



Step 6




With cursor on screen alter the balance in favour of the left or right TV speaker with **P+** or **P-**.

Note: If no further buttons are pressed the audio selection screen will disappear within 5 seconds and any changes made will be stored.


STEREO WIDE SELECTION

Your Grundig NICAM stereo television allows you to enhance the stereo effect from stereo transmissions by selecting Stereo Wide. To select Stereo Wide follow these steps:

Step 1



 Press **STEREO**. Either  (stereo) or  (stereo wide) symbols will appear.

Step 2




 Repeated presses of **STEREO** will alternate between stereo and stereo wide allowing the selection of whichever is preferred. Once the required stereo selection is made the on screen symbol will disappear after 5 seconds and the selection will be stored.

PSEUDO STEREO SELECTION

If the transmission is not in stereo no symbol will be displayed. It is possible to give the mono sound a stereo like sound by following the steps in stereo wide selection above.

Either  (mono) or  (pseudo stereo) can be selected.

MONO SOUND SELECTION

On the edge of a NICAM stereo transmission area the stereo sound may be intermittent, resulting in poor sound quality, popping and clicking noises. If this is the case the programme can be listened to in mono instead of stereo, by pressing **LANG 1/2**. The   symbol will indicate that mono sound has been selected. A second press will restore the  stereo symbol and stereo sound.



MULTI LANGUAGE OPERATION

In the future some television programmes may be transmitted with a choice of language selections. Your Grundig television is ready for this development. If programmes are transmitted in this way, pressing **LANG 1/2** will alternatively select between the dual language audio soundtracks which will be in mono.

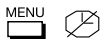


SETTING THE SLEEP TIMER

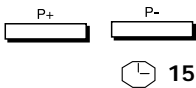
Should you fall asleep whilst watching television, or leave the television set on unattended, your Grundig Television set will automatically switch into standby 10 minutes after the end of transmissions.

You can however, programme the television to switch into standby between 1 minute and 90 minutes ahead.

This ensures that should you fall asleep before the end of a programme, the television set will automatically switch off, instead of remaining on until the end of the last programme of the day. To activate the sleep timer follow these steps:



Step 1
Press **MENU** until the timer off symbol is displayed.



Step 2
Press either **P+** or **P-**. The timer on symbol will be displayed along with the time in minutes until the automatic switch off will be activated.



Step 3
Press **P+** or **P-** to set the time in minutes until the television set will switch off.



Pressing **P+** will increase the minutes from 1-90.



Pressing **P-** will decrease the minutes from 90-1.



When the correct advanced switch off time is selected, if no further buttons are pressed the set will revert to normal viewing and automatically switch off after the pre-determined time. To ensure that the timer will not activate alter the switch off time to zero.

ADDITIONAL INFORMATION

CARE OF YOUR SET

Use only a soft cloth to clean your television set cabinet. Normal window cleaning products can be used to clean the screen.

Never use strong detergents, abrasive cleaner or polish to clean either the cabinet or the screen.

SCART USAGE

If only one SCART connector is to be used it is advisable to use SCART 1. If both are to be used the following use of Scart connections is likely to be most suitable:

Products	Scart 1	Scart 2
VCR and Satellite Receiver	VCR	Satellite Receiver
VCR and Games Console	Game	VCR
VCR and Hi-Fi	Hi-Fi	VCR
Satellite Receiver and Hi-Fi	Hi-Fi	Satellite Receiver

Circuit Description

1. Power Supply

The power supply is a conventional off line, isolated switch mode system. AC line voltage is applied to the circuit via switch fuse and the main input RFI filter. The degauss coil supply is taken off after the filter then the AC is rectified through a bridge circuit comprising D100 to D103. After filtering by C103 and C104 the DC is now fed to T100 switch mode transformer. TR100 is the switching transistor and it, in turn, is driven by the UC3844 IC100 which is a PWM (Pulse Width Modulation) control IC. In the basic chassis, the UC3844 is run as a fixed frequency PWM controller, the frequency being governed by R105 and C107.

1.1 HT Adjustment

VR100 is used to set the +B, this varies the output voltage by controlling the feedback voltage to the IC100. The +B rail is the line measured when this control is used. This line is set in accordance with the CRT that is fitted. When this rail is set then any variation in power demand by the receiver will be reflected in the feedback winding which, in turn, will appear as an error voltage on IC100-(2). This error voltage will, in turn, vary the PWM output to the switching transistor which, in turn, will maintain the output voltage constant.

1.2 Over Current Protection

The power supply is totally overcurrent protected by sensing the current through the switching transistor. The combination of R114, R113, D112, D113, R112 and C113 all act to provide conditioning of the sensing voltage for the IC100 current sense input. As current flows across TR100 collector-to-emitter junction (source drain for stereo) a voltage proportional to the current is produced across R114 and R113. This voltage is fed to Pin 3 current sense pin of IC100. When the predetermined threshold voltage is reached because of excess current drawn IC100 limits the current to protect the PSU and other circuits. After a period of time it will try to restart, if the fault has not cleared then it will shut down again. D112 and D113 are there to prevent the voltage developed rising to an unacceptable level on the sense pin of the IC. R112 and C113 provide a degree of filtering of the sense waveform. T100 also provides the isolation from the AC line to the chassis of the TV. All secondary supplies are isolated so that the main - and external connections are at ground potential, therefore, safe to the user. Warning! The heat sink on TR100 is live.

1.3 Supply Regulation

The 5V supply for some of the main ICs of the system is supplied from the secondary winding of T100, the 9V output is fed into a fixed 5V voltage regulator. The 33V tuner tuning volts is derived from the +B line using a band gap close tolerance shunt regulator D120. R115 and C114 are isolation components linking the non-isolated to the isolated side of the chassis for RFI and electrostatic purposes.

2. Tuner and Demodulator Circuits

The tuner TUN600 can be one of two models depending on what transmission system is being viewed. For the U.K. using PAL System I the tuner is a Salcomp 1590R. For all other European PAL and SECAM systems the tuner is a Salcomp 1490R. Both tuners are pin for pin compatible, the only difference is that the 1590R is UHF only and the 1490R is a multi band tuner. Both tuners are voltage synthesis types and tuning voltage is controlled by the system microcontroller IC500. AGC control of the tuner is determined by the demodulator IC400.

2.1 SAW Filter Options

The IF output of both types of tuner is a balanced output and is fed into a number of balanced input saws - SAW450, SAW600 and SAW601. As to which or how many saws are fitted is determined by the options fitted and the system to be received. In the stereo chassis SAW 600 is fitted.

However, this can be a different type of SAW depending on the system being received. A system table is presented on the circuit diagram giving the specific type of SAW to be fitted in the 601 position for each system.

2.1.1 SECAM L/L (option)

If the chassis is fitted with SECAM L/L the addition of SAW450 is required for the sound.

2.1.2 Stereo SAW

Should the full stereo option be required then SAW601 is replaced with SAW600 and SAW450 stays as it is if SECAM L/L is also required.

2.2 Vision IF Demodulator

Taking the basic case the outputs from whichever SAW600 or 601 is fed to the IF input of the demodulator IC400-(19), -(20) which is an STV8224. Under most applications there is only one adjustable component in this circuit and that is L401 tank coil. However, when SECAM L/L option is required an additional trim capacitor is required along with R416, C412, D532, R417 and R425. The incoming signal is demodulated in the STV8224. The demodulated video and intercarrier sound are then fed out on pin 3 STV8224. The combined signals are fed into the filter circuits for separation of sound and video. The separation is achieved by the use of ceramic filters. CF400 and CF401 are the filters that perform this task.

2.3 Dual System Sound Options

It will be noted that there are two ceramic filters, CF400 and CF401. Both sets are required if dual system operation is required. Details are to be found in the system table on the diagram for each option. The separated signals are then fed back into the IC400 where the sound is demodulated and the audio processed. The video and audio are then routed by the internal switching of IC400. The routing is controlled by the microcontroller. The external video and audio from the Peri connector are also fed into this IC.

2.4 Tuner AGC Control

The STV8224 also performs AGC control for the tuner. The operational threshold for AGC action is controlled by the microcontroller, the threshold level is set up on IC400-(24).

2.5 SECAM L/L' Vision IF (option)

In the event of SECAM L/L' option being required, then additional IC450 needs to be fitted as does SAW450. This is in order to demodulate the AM sound of SECAM L/L system. Audio switching is then re-routed between IC450 and IC400, this is all done under the system microcontroller software in IC500.

The switching network comprising TR450, TR451, TR452, D450 and D451 is for the purpose of switching the SAW transducer with variation in band switching. Because the sound and vision carriers are transposed between Band 1 and Bands III, IV and V, then the balanced IF output has to be switched to the right transducer on SAW450. The switching is again controlled by the system microcontroller IC500. The transducer that is not being used is short circuited by its respective diode.

3. Peritel Output

The video out to the Peri connector is taken off before the filtered signal is fed back into IC400. It is then fed to a buffer circuit TR700 and then to pin 19 of the Peri connector.

4. Video Chroma Processing

IC800 is the video and chroma processing circuit. All controls are totally under software control. Customer controls can be adjusted from the front panel. The raster correction controls are only accessible in factory set-up and troubleshooting mode set by the system microcontroller. The customer controls are accessed in this mode, or by the conventional remote control.

The composite video is fed into IC800-(2). Separation of luma and chroma signals is carried out internally by the sampled data method using clocks generated by the external crystal. This method is used for all decoding processes in the chip. The sample clock is phase locked to the subcarrier for correct colour ident.

5. Delay Line

The sample component chroma signals are now fed to a digital, 1 picture line length delay line. The same sample clock is fed to the delay line IC801 as is fed to the IC800 so that phase relationship is maintained within the whole system.

5.1 RGB Matrix and Sync Separator

After passing through the delay line it is returned to IC500-(26), -(27) and then mixed with the luma and fed into the matrix circuits to produce the RGB output. The luma signal is also fed through a short delay line

which is integrated on to the IC800. The sync separation and time base circuits are also integrated on to this chip. Incoming video is stripped of its line and field sync pulses. The horizontal and vertical syncs are then derived from the composite sync waveform.

6. Time Base Generator

The line sync is fed to the line time base generator circuit. The line time base is derived from the master clock oscillator and divider circuit. The line pulses from the divider are fed into both PLL circuits along with the sync and flyback pulses. These combine together to produce the line drive for the line output circuit. Two PLL time constants are used to give good lock for both fixed, gen-locked syncs, such as from terrestrial transmission and from weak or variable sync such as VCR.

All controls for the line time base generator are integrated and are accessed via the I²C bus under microcontrol from IC500. These are set up in the factory by a test software.

6.1 Vertical Time Base

The vertical time base is again generated on chip by the use of the master clock in conjunction with the separated field sync. The divider circuit count is controlled by the sync pulse. The counter produces the pulses to generate the vertical ramp which is in turn fed to a buffer and then fed out to the field output circuit.

In the event of no valid sync being present then a direct injection mode is used to continue the function of the ramp generator. This direct mode then enables vertical scan to be maintained in the event of no signal being present.

7. RGB Drivers

The RGB video signals are fed out on IC800-(17), -(18), -(19). These signals are then buffered by the emitter follower circuits TR801, TR802 and TR803 before being fed to the tube base panel. External RGB signals are also able to be fed into this IC on pins 22, 23 and 24. These pins are normally fed with RGB levels of 700mVpp signals for nominal display. The choice of display is determined by the switch pin on IC800-(21). This is controlled by the output of the teletext chip blank signal or the blanking signal from the microcontroller for on screen graphics display or the PERITEL pin 8.

7.1 Auto Grey Scale Tracking

The system also incorporates an automatic grey scale tracking system. This removes the need for manual adjustments to set up background luma levels in high-light and low-light areas on CRTs. For correct tracking the auto grey scale works on the principal of taking measurements of the dark current during the field blanking period and also inserting a peak white signal in that period and setting those thresholds to control the output stages of the chip. This ensures that the tube characteristics are constantly being matched by the video output so that grey scale and picture colour integrity is constantly maintained.

7.2 Beam Limiter

The RGB output gains are also affected by the beam limiter circuit on IC500. This is to prevent the tube from being damaged or its life expectancy being shortened by excessive beam current.

The sensing of the beam current is performed at the bottom end of the DST secondary supplying the EHT focus and G2 voltages to the tube. The reference point is pin 7 on the DST, this current is sensed as a change in voltage developed across resistors and fed to the beam limit sense IC800-(9). This voltage is measured against a reference which represents maximum beam current. When the sensing level exceeds the reference then the gain on RGB output amps is reduced, thereby reducing the beam current. Saturation control, brightness and contrast are adjusted via the remote control but the nominal levels are preset in the factory by the I²C bus using the microcontroller and test software.

8. System Microcontroller (IC500)

The ST6365 is a dedicated microcontroller for TV control applications. It has such features as dedicated voltage synthesis tuning control, AFC control and on-screen graphics display generator. Also it has a dedicated infrared remote control serial data input. This microcontroller has a dedicated I²C port for communication to other controllable ICs. The controller clock frequency is 8MHz and this clock speed is achieved by connecting an 8MHz ceramic resonator across the oscillator pins 31 and 32 with two 100pF capacitors, C507 and C508, to ground from each pin. The timing for all functions performed by the microcontroller including I²C bus are taken from this clock.

8.1 Voltage Synthesis

The on-chip voltage synthesis tuning peripheral has been integrated to allow the generation of a tuning reference voltage. The peripheral is composed of a 14 bit register that represents the tuning voltage at pin 1. This voltage is generated using pulse width modulation and bit rate multiplier techniques.

The 14 bit counter gives 16384 steps which allow a resolution of approximately 2mV over a tuning voltage range of 32V. Coarse tuning is achieved by PWM of the 7 most significant bits of the counter, whilst fine tuning is achieved by BRM (Bit Rate Multiplication) of the 7 least significant bits of the counter.

The resultant digital pulse train is fed into the base of TR410. This inverts the pulse train which is then fed into the 3 stage integrator which integrates the pulse train into a DC voltage.

8.2 AFC Control

The output of the voltage synthesizer can be changed either by the remote control or the local keyboard. The tuner oscillator is kept on frequency by the application of AFC. The AFC acts on the voltage synthesizer via a feedback path. The AFC is generated by IC400. This voltage is fed back to the AFC pin 9 on the controller. As the tuner oscillator drifts either up or down so the signal applied to IC400 deviates from the optimum. As a result an error voltage appears on IC400-(2). This voltage can be either positive or negative with respect to the optimum voltage. This error voltage is fed to pin 9 of the microcontroller. This voltage is then digitized. If the digital value is optimum then no change is made to the synthesized digits. If the digital value is either side of optimum, then the resultant AFC value is either added to or subtracted from the synthesizer value.

8.3 Analog Controls

Pins 2 and 5 on the microcontroller are PWM D-A converters. However, these are only 6 bit resolution which is perfectly acceptable for the analog functions they perform.

The D-A on pin 2 is used as the electronic volume control for the sound. The D-A on pin 3 is used for the multi-level voltage control for audio and video switching of IC400 and IC450. The D-A on pin 4 is used to produce the threshold level for the AGC to the tuner. The final D-A on pin 5 is as yet uncommitted. The microcontroller has 3 I/O ports as well as the dedicated peripheral pins, some of the I/O ports also have dedicated functions and are listed as their dedicated function, i.e. the AFC on pin 9 is bit 3 of port B.

8.4 Key Pad Interface

Bits 0-2 and bits 4-5 of port B provide the matrix for the crosswire keypad.

8.5 Sync Detector/Mute Control

Bit 6 of port B is a sense pin which mutes the sound when text is displayed and incoming signal is lost. Normally the microcontroller will mute the sound when the aerial is removed or tuning is off station because it detects no line lock coincidence.

However, in out-of-hours sync mode, the text chip set detects lack of sync coincidence and mutes the sound. Bit 0 on port A senses the status of pin 8 on the peri connector for switching video and sound to incoming signals on the peri connector.

8.6 Peritel Monitor/OSG Control

Bit 1 on port A monitors the blanking signal on pin 16 of the peri connector and also the blanking signal from text and OSD sources. Bit 2 of port A acts as the control line for the switch that acts on SAW450 as described in section 2. Bit 3 is usually linked to ground, however for System PAL BG/SECAM L/L' this link is omitted.

8.7 Band Switching and LED Driver

Bits 4 to 6 of port A are the band switching outputs which drive the band switches. Bit 7 of port A is connected to the LED D500. Pins 22 and 25 are OSG display pins whilst pins 26 and 27 are the sync input pins. Pin 33 is the hardware power-on reset. Pin 34 is the SECAM L/L SAW selector switch. Pin 35 is IR input line. Pin 36 is BG/DK system select.

8.8 Standby Control/ Sound Mute

Pin 37 is available as a standby line for external use. In normal standby, the controller shuts down all circuits that provide drive to output stages, thereby placing the system in quiescent current consumption mode. Pin 39 is the sound mute output which drives the sound mute transistor TR5 and TR7. Pins 40 and 41 are the dedicated I²C bus.

9. Output Power Stages

This section describes the power output stages for video, audio, line and field scanning system.

9.1 Field Output (IC200)

The TDA8170 IC200 is a power output amplifier designed to drive the vertical scan coils on the CRT yoke. The saw-tooth waveform is fed into pin 1 from pin 7 of IC800. Internal to IC200 is the flyback generator. The flyback generator produces a pulse equivalent to the field blanking period during which time no visible video appears on the screen. The saw-tooth voltage waveform is converted to a current waveform that drives the field scan coils. The flyback part of the waveform is also used to generate the vertical sync pulse for the OSD. The circuit R207, D202 and R208 slice the waveform to give the vertical sync pulse and to limit it to a voltage of no greater than 4.7V.

9.2 Line Output Stage

The line output stage has to provide a number of things for the system. Firstly, it provides the power and the waveform to drive the horizontal scan coils on the CRT yoke. Secondly, it provides the voltages for the tube, EHT final anode drive, focus voltage and G2. Thirdly, it provides two secondary low tension voltages, 15V and 26V, and after passing through a fixed voltage regulator, IC300, 12V. Fourthly, it provides on the primary side of the transformer the 150/180V supply for the tube base video output amplifiers and, finally the voltage for the heaters on the CRT of around 6.3V. The tuning capacitor C300 is selected by the type of tube fitted as are the correction circuits L300, L301, R300 and R301.

9.3 Line Driver

The line drive signal from IC800 is first clamped by D804 then inverted by TR800. The resulting waveform is fed to TR301 line driver stage. The drive is applied to the line output transistor TR302 across the line driver transformer T311. TR302 drives both the diode split transformer T300 and the line scan coils connected to PL351. The field coils are also connected to PL351.

9.4 12V Regulator Circuit

The 15V generated off the low side secondary of the diode split LOPT is used in the beam current sensing circuit prior to it being fed into the 12V fixed regulator IC300. From the primary side of the diode split there is a circuit which is used to produce a low level line flyback pulse. This is the circuit around TR300. The flyback pulse is used by the IC800 for synchronization in PLL's and also for the line blanking during video for line flyback period. Also from this circuit is supplied the horizontal sync pulse for the OSD of the microcontroller.

9.5 Flyback Pulse Circuit

The flyback pulse is fed into TR300 via two high value resistors R302 and R303. The high values are because at the take-off point the flyback pulse could be in excess of 1kV. The capacitor C306 is a speed-up capacitor to improve turn on and off characteristics of TR300. The diode D305 clamps the incoming flyback pulse to 5V so that the output at the emitter of TR300 does not rise above 5V and that the base of the transistor is not spiked by excessive transient voltages.

10. Video Output Stages

The video output transistors TR900, 901, 902 are driven directly from the buffer transistor circuits at the output RGB of IC800. The gain of the stage which determines the video voltage swing applied to the tube cathode is set by a register in IC800. The actual gain control known as contrast is also a register in IC800 as is the brightness control. The capacitors connected across the emitter resistor is to give a little extra gain at the HF end. The transistors TR903, 904, 905 are the dark/light current sense transistors and feed the dark current sense on IC800-(20) for auto grey scale.

10.1 Auto Grey Scale

When the video output transistor is driven with peak white which equals max. beam current then the voltage drop across the diodes increases thereby making a difference of potential between base and emitter causing the transistor to conduct. This produces an output by the collector proportional to the high beam current. As the output transistor

is turned off at black level, so the reverse happens with the sense transistors until we are left with a voltage that represents the dark tube leakage current which is a dark reference current for the tube.

10.2 Tube Base Interconnect

Connection to the tube base is via two connectors CN901 and CN902 for the main connectors, then by single connectors for the focus and G2. The final anode voltage is applied directly to the connection on the side of the tube bulb. The tag coating connection is made by a single tag to the tube base panel ground.

11. Teletext Options

The text chip-set being used is the Texas Instruments 2 chip Videotext decoder set. Depending on what system is required Eurotext or Unitext determines what IC650 will be. A table of components that change are shown in the "Text Table" on the schematic. IC651 is the data slicer and timing signal generator. The timing signals are all generated with respect to the master clock which is derived from the crystal XT650. The value of this crystal is twice the data rate of the text signal 13.875MHz. This clock is synchronized to the clock run-in signal at the front of the data packet. The data is then output to IC650 along with data clock and the other timing signals. IC650 then decodes the data and produces the text display for the screen. If the TV signal is present then the whole thing is locked to the incoming sync signal. If the TV signal is not present then the system generates its own sync so that text stored in memory can still be displayed in a locked form. All commands and customer selection are engaged via the I²C bus which is attached to the microcontroller I²C bus. The RGB outputs are then fed to the input for external RGB on IC800. The control signal for the blanking function is taken to switch input of IC800-(21). For Eurotext the outputs are directly fed to IC800 whilst buffers are used for Unitext.

12. Power Supply to MSP 3400/3410

Power is supplied to the MSP from pin 4 of plug PL102. This is an 8V supply derived from the chopper transformer and is therefore available when the receiver is in standby. The 8V supply is regulated to 5V by IC3 and applied to the MSP via RFI filters (L2, CT2 and L4, CT4) to pins 18 and 57 of the MSP. The 8V is supplied to pin 39 via the RFI filter L3, CT3. The reason the 8V line operates in standby is because this locks the internal audio switches into pre-set positions when the 5V voltage is removed so as to reduce the standby power. TR4 is open circuit during standby.

12.1 MSP Operation

The ITT MSP3410 decodes FM, dual-channel and NICAM sound; the MSP3400 does not do NICAM. The intercarrier input is applied to pin 58 for all systems except France where an additional filter may be required. The input is then to pin 60. The MSP is controlled by the clock and data lines (I²C) from the microcontroller. The IC generates an internal clock from the crystal on pins 62, 63 at 18.432MHz. Reset components are on pin 24. Note there are no adjustments on the MSP as all processing is done digitally. Note, the volume control is now an I²C operation as is treble, bass and balance.

13. Second Peritel and Mute Circuit

Video from the second peritel is supplied from pin 20 of Peritel 2. This is then buffered by TR20 and applied to IC4-(1). IC4-(2) carries video derived from the tuner and IF amp. The switch position is controlled by IC4-(10). The microcontroller (pin 5 DA4) controls the switch position. The output of IC4 (pin 15) is applied to the times-2 gain stage TR1, TR2 and out to Peritel 1, input of IC400 -(10) and so to the picture tube if there is no input from Peritel 1. Mute Circuits TR5 and TR7 mute the loudspeaker channels. TR12, 13, 10 and 11 mute the two Peritel audio outputs. The mute circuit is driven by port zero and port 1 (pins 4 and 5) of IC1. Pin 5 mutes the speaker channel and pin 4 the Peritel channels. TR9 detects when the receiver is switched off and mutes all audio outputs.

14. Audio Amplifier

The audio amp generates 6+6 watts of RMS power into 8R speakers. The power is derived from a 21 volt winding on the chopper transformer.

Alignment

All adjustment controls not mentioned in this description are adjusted during production and must not be re-adjusted in the case of repairs.

Measuring Instruments: Oscilloscope with 10:1 test probe, colour test pattern, high resistance voltmeter.

Service Mode:

In this mode the alignment of Geometry, Peak White Level and AGC can be carried out. To call up this mode, either the remote control or TV front controls can be used.

Call up Service Mode:

To enter the service mode, depress and hold the channel change buttons "P+" and "P-" on the front as the TV is switched on and hold until a picture appears. The service menu will be at the bottom of the screen **G L V H R G B A**. To choose a function select menu on the remote control or simultaneously depress "V+" and "V-" on the front of the TV, but only briefly. Adjustmnet of the selected function is by depressing "P+" or "P-". Choosing another function will automatically store the adjustment of the previous function. To return to normal TV mode select TV on the remote control or "V+" or "V-" on the TV.

Checks and adjustments after replacement or repair of:

Power Supply: 1., 3.

Horizontal Deflection: 2., 3., 6.

CRT, CRT-Panel: 2., 4.

Tuner: 5.

IC1400: 5., 7.

IC600: 8.

Alignment	Preparations	Alignment Process
1. +B Voltage	Set luminance to mimimum. Voltmeter to the cathode of D115.	With control VR100 set the voltage +B as specified in the table CRT (page 4-22).
2. Screen grid voltage U _{G2}	Feed in a crosshatch or TV picture. Brightness (☼) Minimum. Contrast (●) Maximum. Select Service Mode " G ".	Adjust control G2 (at the bottom of the split transformator) so that no red or green square appears on the screen. If the G2 is too high → a red square appears on screen. If the G2 is too low → a green square appears.
3. Geometry: Vertical Linearity Vertical Height Horizontal Shift	Feed in a convergence test pattern: Select " L " in the Service-Mode. Select " V " in the Service-Mode. Select " H " in the Service-Mode.	 Adjust with "P+" or "P-". Adjust with "P+" or "P-". Adjust with "P+" or "P-".
4. White balance	Feed in a FuBK test pattern. Set the colour contrast (⊗) to minimum. Set the contrast (⊙) to maximum. Adjust the screen brightness (☼) so that the gradation from the darkest grey scale value to black is just still visible. Select " R ", " G ", or " B " in the Service Mode.	Set "P+" or "P-" so that no colouration of grey bars is visible.
5. Tuner-AGC	Feed in a standard test pattern at a channel in the upper range of the UHF; the RF should be ≥3mV (70dBμV, free of noise). Select " A " in the Service Mode.	With "P+" or "P-" adjust the voltage on tuner contact 1 to 5.4...5.6V .
6. Line sharpness	Feed in a convergence test pattern: Contrast (●) to maximum. Set the brightness so that the black background of the test pattern is just brightening.	With the focus control " FOCUS " (upper adjustment control of the split transformator) adjust the horizontal lines for maximum sharpness.
7. Vision demodulator	Feed in a convergence test pattern of 38.9MHz (39.5MHz on PAL I) to tuner contact 13 via 1nF.	With filter L401 set the DC level at IC400-(2) to 5.25V.
8. SAT 6MHz	Feed in a convergence test pattern (UHF) on the TV set. Connect the oscilloskop to IC600-(12).	Adjust L604 to minimum video.

Layout of the PCBs and Circuit Diagrams

Assembly coordinates of the components

- The X and Y coordinates can be used as both metric coordinates in mm for the original circuit board and absolute coordinates for the enlarged diagrams of the circuit boards.

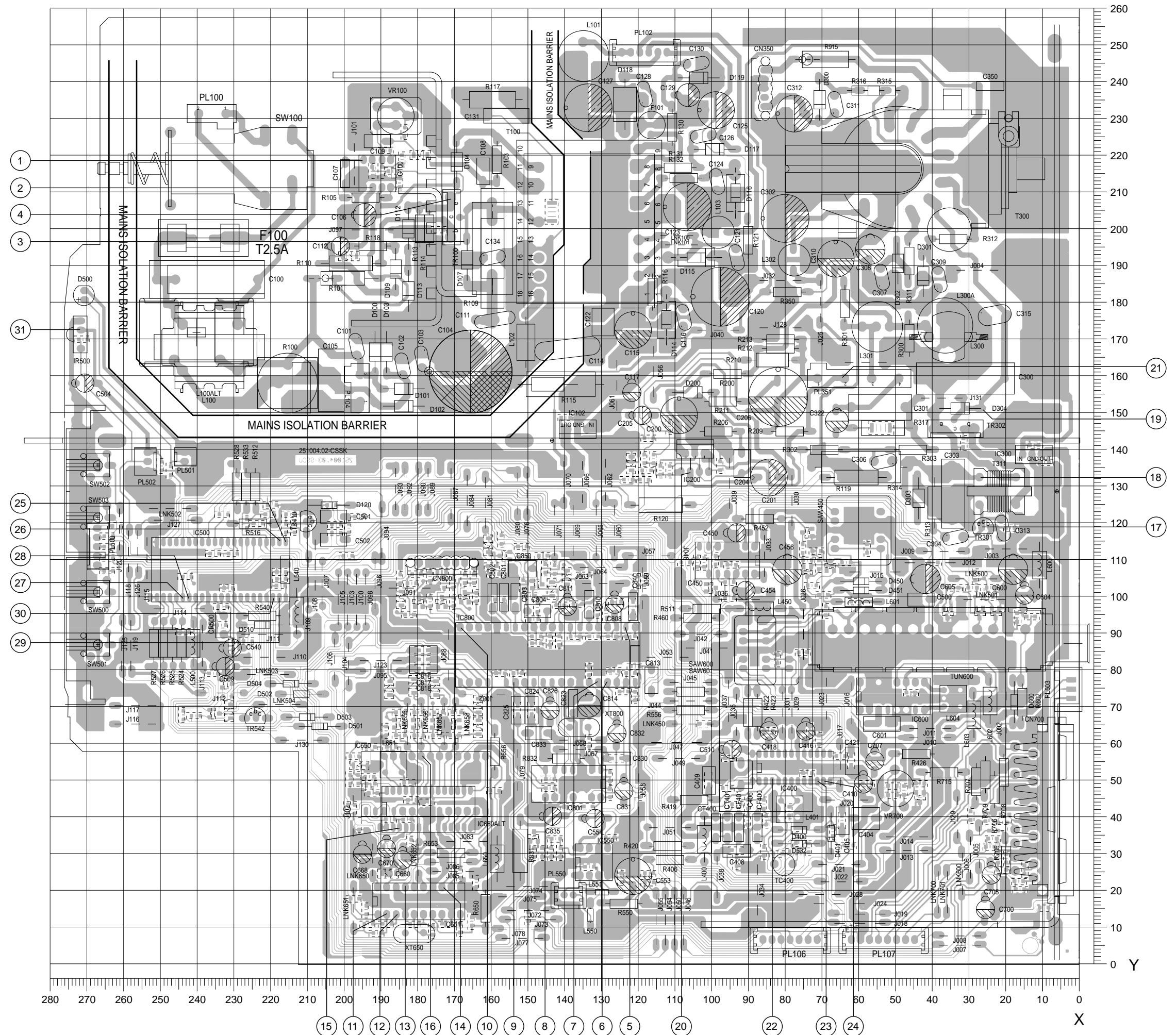
Chassis Board

Coordinates of the components on the components side
(top side)

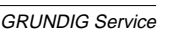
Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates	
	X	Y		X	Y		X	Y		X	Y		X	Y		X	Y
C100	239	188	C404	57	40	C833	147	63	ECO2	117	72	J030	77	127	J082	162	74
C101	197	170	C405	63	39	C835	144	40	ECO4	126	75	J031	80	69	J083	167	33
C102	185	164	C406	91	52	C840	121	98				J032	81	188	J084	167	127
C103	179	166	C408	93	31	C850	152	108	F100	240	200				J085	171	25
C104	167	163	C409	100	50				F101	116	231	J033	85	112	J086	171	28
						CF400	87	37	F101A	240	197	J034	87	20	J087	171	129
C105	204	160	C410	58	50	CF401	92	37				J035	93	68	J088	172	85
C106	195	206	C416	74	64				G2	212	3	J036	92	100	J089	178	130
C107	201	217	C418	84	64	CN350	85	241				J037	95	72			
C108	162	218	C421	61	55	CN700	8	42	IC100	192	217				J038	98	23
C109	192	226	C450	93	118	CN800	174	110	IC102	136	145	J039	95	132	J090	180	130
									IC200	104	140	J040	98	174	J091	183	103
C111	159	177	C454	91	102	CR500	234	93	IC300	11	141	J041	101	87	J092	184	130
C112	202	197	C456	79	108				IC400	76	54	J042	102	90	J093	187	130
C114	139	169	C500	42	100	CT400	98	37							J094	190	118
C115	121	174	C501	204	123	CT401	95	37	IC450	95	111	J044	105	72	J095	191	80
C116	107	178	C502	204	116				IC500	235	108	J045	105	77	J096	192	104
						D100	192	168	IC550	132	28	J046	107	12	J097	193	202
C117	122	158	C504	273	160	D101	184	158	IC600	49	73	J047	109	61	J098	195	100
C120	97	183	C509	234	81	D102	184	153	IC650	178	49	J048	108	113	J100	197	100
C121	93	194	C510	94	59	D103	189	168									
C122	129	176	C540	232	87	D104	170	221	IC650ALT	178	42				J101	198	220
C123	106	208	C553	121	24				IC651	180	17	J049	108	56	J102	198	40
						D107	167	194	IC800	145	85	J050	110	12	J103	200	100
C124	98	215	C554	132	40	D109	187	191	IC801	139	49	J051	111	37	J104	200	82
C125	98	235	C600	16	108	D112	183	202				J053	112	84	J105	202	100
C126	102	228	C601	53	66	D113	183	185	IR500	275	173	J054	112	12			
C127	134	235	C604	13	102	D114	112	177							J106	203	83
C128	118	239	C605	41	106				J002	18	69	J055	115	12	J107	207	104
						D107	167	194	J003	18	114	J056	115	163	J108	209	109
C129	106	239	C660	185	29	D109	187	191	J004	26	191	J057	117	112	J109	211	105
C130	104	248	C668	196	30	D112	183	202	J005	26	32	J058	120	46	J110	223	84
C131	156	233	C670	189	32	D113	183	185	J006	28	29	J059	119	103			
C134	160	194	C700	24	15	D114	112	177									
C200	108	151	C705	22	25				J007	31	5	J060	126	119	J111	223	90
						D115	104	194	J008	31	7	J061	126	159	J112	235	74
C201	84	134	C707	55	56	D116	93	212	J009	35	113	J062	129	133	J113	240	87
C204	91	137	C801	157	101	D117	99	224	J010	39	62	J063	129	104	J114	246	97
C205	119	151	C802	160	101	D118	123	236	J011	39	64	J064	130	109	J115	255	111
C206	81	156	C803	154	101	D119	103	244									
C300	30	161	C804	148	97				J007	31	5	J065	131	119	J116	258	66
						D120	205	126	J008	31	7	J066	135	132	J117	258	71
C301	53	153	C808	126	99	D200	105	157	J009	35	113	J067	136	59	J118	260	113
C302	79	205	C810	133	99	D300	70	238	J010	39	62	J068	136	61	J119	260	87
C303	33	129	C811	139	99	D301	41	189	J011	39	64	J069	138	119	J120	263	119
C304	32	117	C813	116	78	D302	48	193									
C306	52	138	C814	133	71				J012	39	110	J070	140	132	J121	289	17
						D303	42	128	J013	46	31	J071	143	119	J122	289	31
C307	53	189	C816	179	86	D304	31	153	J014	46	35	J072	150	14	J123	191	83
C308	56	197	C817	179	83	D400	75	36	J015	55	108	J073	149	12	J124	255	19
C309	37	188	C818	179	81	D401	67	35	J016	61	71	J074	150	21	J125	262	87
C310	65	194	C823	138	71	D450	58	105				J075	153	18	J126	258	113
C311	65	236	C824	149	69				J017	64	54	J076	150	129	J127	248	122
						D451	58	102	J018	59	11	J077	152	7	J128	81	175
C312	77	234	C825	153	69	D500	273	184	J019	59	13	J078	153	9	J129	32	40
C313	19	120	C826	144	70	D501	208	65	J020	62	45	J079	153	53	J130	213	61
C315	17	176	C830	126	56	D502	213	74	J021	64	27						
C322	65	149	C831	124	48	D503	211	68	J022	64	22	J075	153	18	J131	36	155
C350	23	242	C832	126	64				J023	68	73	J076	150	129	J132	57	165
						D510	223	93	J024	64	16	J077	152	7			
						D532	75	33	J025	69	182	J078	153	9			
						D600	16	72	J026	74	90	J079	153	53			
						DAG	213	15				J080	153	129			
									J028	70	19	J081	162	127			
									J029	77	69						

Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates	
	X	Y		X	Y		X	Y		X	Y		X	Y		X	Y
L100	242	174	LNK600	30	24	R109	160	197	R317	52	147	R708	19	52			
L100ALT	238	170	LNK650	193	28				R318	63	245	R709	24	52			
L101	135	250	LNK651	198	15	R110	199	193	R350	79	185	R715	35	52			
L102	151	171				R113	180	202	R406	111	28						
L103	98	201	LNK652	180	28	R114	177	202	R419	104	45	R720	105	75			
			LNK655	183	66	R115	141	159				R831	152	31			
L300	29	172	LNK656	180	66	R116	116	185	R420	112	32	R832	140	56			
L300A	30	175	LNK657	173	66				R422	89	69						
L301	52	175	LNK658	170	66	R117	160	238	R423	87	69	SAW450	59	119			
L302	77	194				R118	193	197	R426	43	57	SAW600	84	86			
L303	52	175	LNK700	37	19	R119	60	134	R452	86	122	SAW601	84	86			
			LNK701	35	19	R120	114	126				SW100	239	219			
			LNK901	218	20	R121	89	199	R460	103	95	SW500	269	102			
L400	102	34							R511	101	97						
L401	78	42	OMEGA1	300	255	R130	110	230	R512	225	131	SW501	269	87			
L450	86	97	OMEGA2	11	5	R131	109	219	R516	226	121	SW502	269	137			
L500	242	88				R132	107	216	R524	246	88	SW503	269	123			
L540	214	97	PIN001	227	61	R200	95	162									
			PIN002	230	61	R206	98	146	R525	248	88				T100	133	203
L550	133	13	PIN003	232	61				R526	251	88				T300	43	218
L551	130	19	PIN009	273	61	R209	78	146	R527	253	88				T311	20	130
L600	9	109				R210	83	166	R528	230	131						
L601	59	99	PL102	118	251	R211	96	155	R533	228	131				TC400	80	27
L602	23	72	PL104	197	158	R212	81	169									
			PL106	78	6	R213	81	172	R540	223	95				TR100	174	205
L603	27	68	PL107	52	6				R550	124	16				TR301	25	120
L604	33	73	PL351	59	162	R300	40	173	R556	105	69				TR302	32	144
L650	159	28				R301	63	182	R561	222	79				TR410	211	121
L651	187	54	PL500	269	115	R302	68	141	R562	236	131						
			PL501	245	139	R303	44	141							TUN600	34	89
LNK100	109	200	PL502	256	138	R311	45	193	R602	14	72						
LNK101	108	198	PL503	1	75				R650	162	15				VR100	187	233
LNK450	105	66	PL550	139	18	R312	33	199	R653	171	30				VR700	49	48
LNK500	27	106				R313	38	127	R656	159	58						
LNK501	24	100	R100	216	160	R314	58	136	R705	18	28				XT650	182	8
			R101	201	188	R315	53	240							XT800	136	65
LNK502	249	125	R103	159	221	R316	57	240	R706	21	48						
LNK504	219	71	R105	195	211				R707	27	50						

Component side, top view



Solder side, bottom view

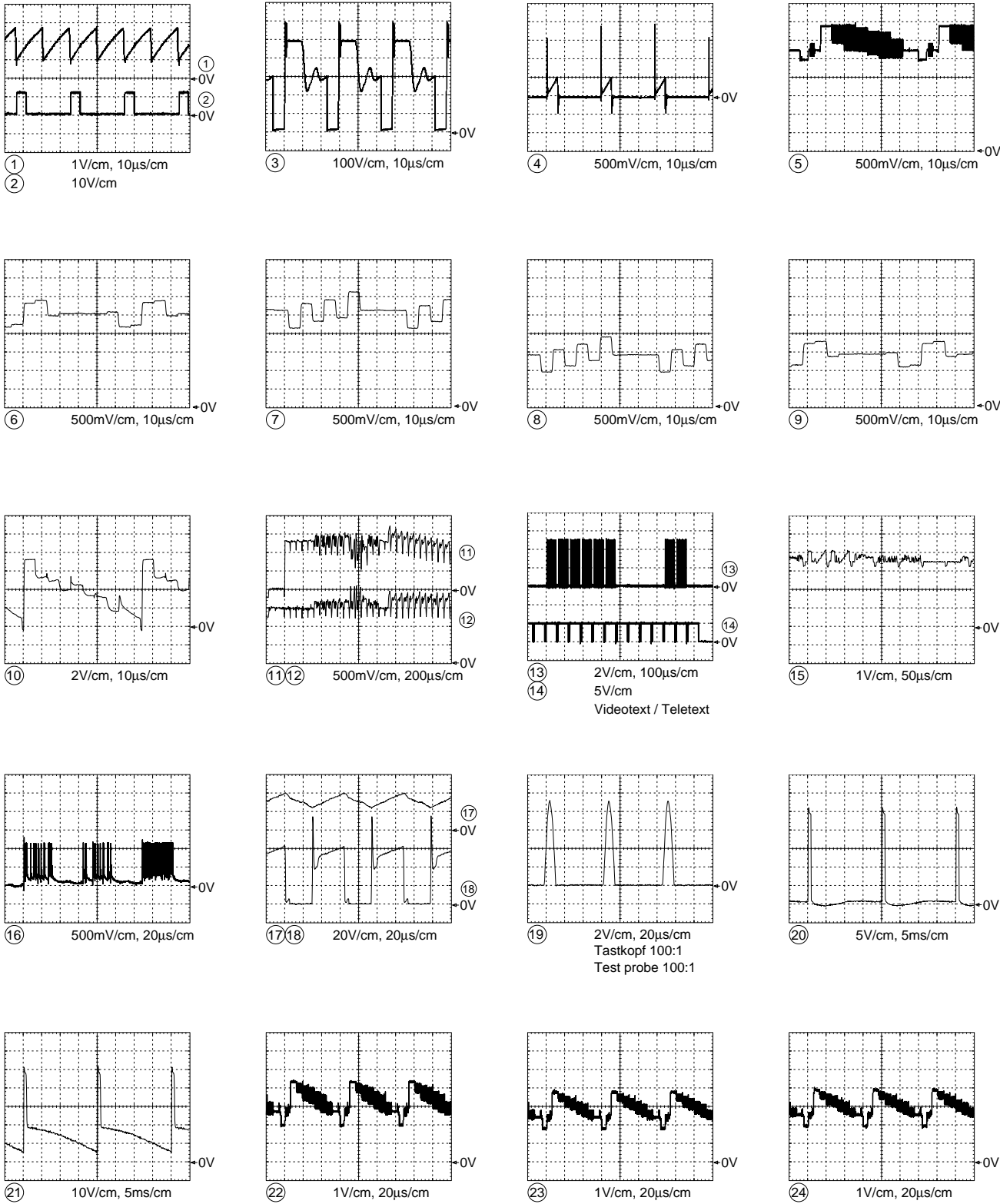


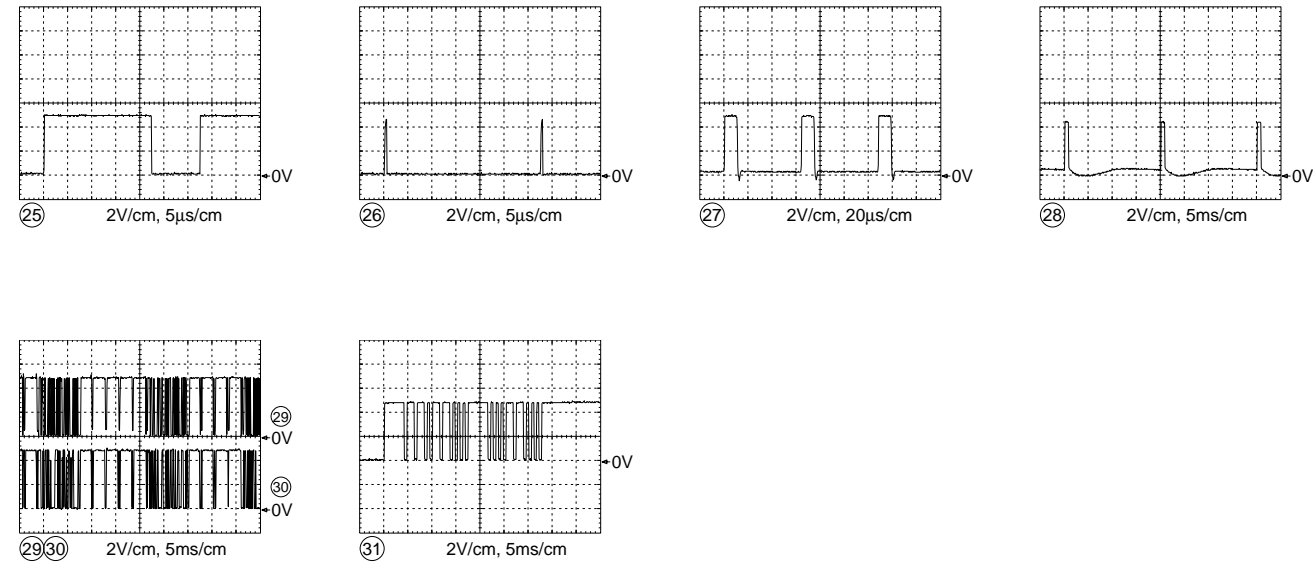
Chassis Board

Coordinates of the components on the solder side
(bottom side)

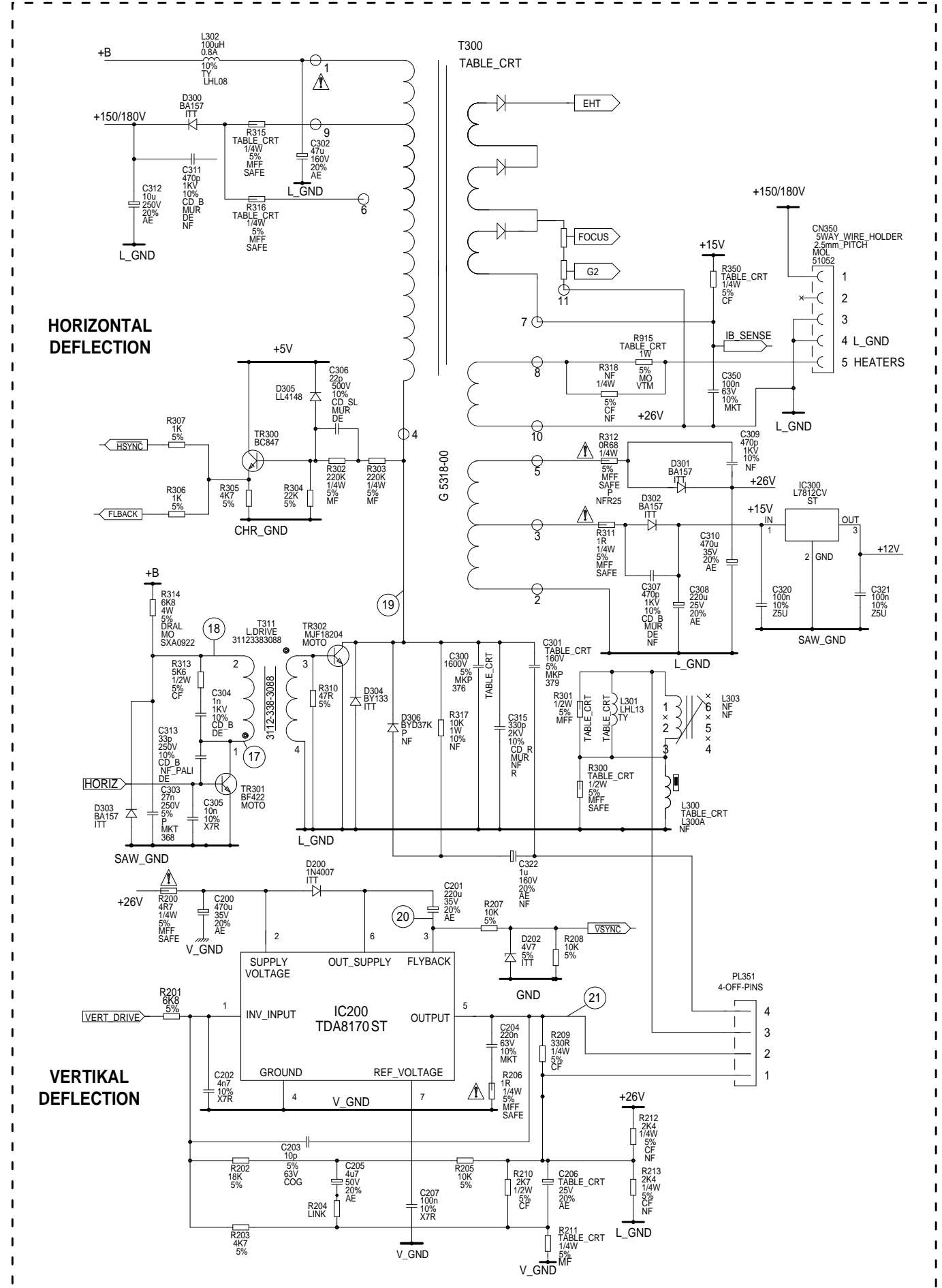
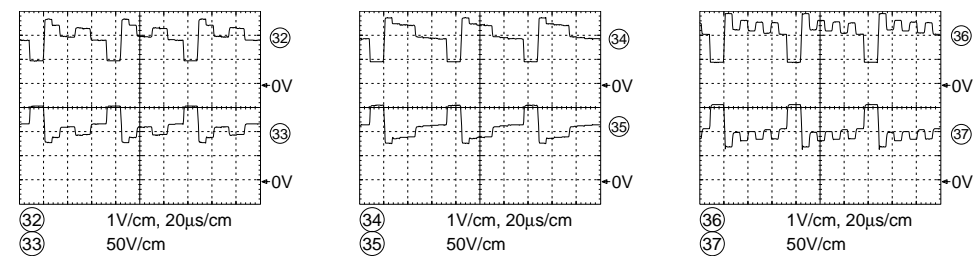
Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates X Y		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates X Y		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates X Y		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates X Y		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates X Y		Pos.-Nr./ Pos. No.	Koordinaten/ Coordinates X Y	
C110	189	221	C655	170	11	D656	168	65	R463	106	110	R667	179	62	R827	147	108
C113	197	218	C656	177	10	D801	143	106				R668	179	69	R828	125	81
C118	144	150	C657	168	22				R500	270	108				R829	128	75
C119	208	126	C658	173	24	D802	189	100	R501	270	111	R670	174	62	R830	138	43
C135	65	9	C659	182	44	D804	147	103	R502	270	115	R671	174	69	R835	145	98
						DST-PSU	105	171	R503	270	117	R673	204	42	R836	150	112
C140	189	215	C661	198	59				R504	268	120	R674	202	17	R840	122	105
C141	12	15	C662	202	57	LNK503	230	103				R675	201	38	R841	130	99
C202	117	135	C663	187	49	LNK653	186	33	R505	201	123	R676	163	47			
C203	115	135	C664	197	47	LNK800	148	48	R506	204	120	R677	193	32	R845	152	95
C207	101	137	C665	203	50	LNK801	148	50	R507	207	118	R678	192	59			
						MICR-GND	168	88	R508	207	121	R700	26	35	SAW	68	81
C305	21	120	C666	186	45				R509	220	123	R701	28	40			
C320	14	142	C667	193	64	R106	193	224				R702	32	40	SJ001	72	97
C321	11	138	C678	202	42	R107	188	229	R510	221	120	R703	19	22	SJ002	189	106
C400	89	43	C701	18	20	R108	194	218	R513	239	119	R704	17	25	SJ003	236	113
C401	93	43	C702	22	28	R111	179	202	R514	226	123	R710	23	39	SJ004	68	57
						R112	191	218	R515	253	135	R712	24	37	SJ200	232	88
C402	66	32	C703	28	31				R517	232	121						
C403	81	30	C704	24	28	R201	121	133				R713	26	33	SJ400	85	30
C407	99	48	C706	53	48	R202	121	138	R518	36	103	R714	23	25			
C411	77	52	C805	185	107	R203	121	135	R519	27	101	R716	46	49	TEXT	166	15
C412	82	41	C806	152	98	R204	121	144	R520	26	103	R717	53	46			
						R205	115	148	R521	31	106	R718	50	47	TR300	160	112
C414	74	61	C807	131	90				R522	31	103				TR450	71	109
C415	76	64	C809	126	90	R207	121	127				R721	102	111	TR451	77	108
C417	88	64	C812	149	108	R208	130	135	R523	42	110	R722	60	49	TR452	77	118
C419	219	120	C815	137	80	R304	155	112	R530	255	137	R800	139	107	TR500	25	96
C420	85	83	C819	137	61	R305	163	107	R531	277	172	R801	172	106			
						R306	155	104	R532	204	112	R802	175	104	TR501	29	96
C451	111	110	C820	130	80				R534	225	126				TR502	38	96
C452	106	66	C821	126	80	R307	248	106				R803	178	108	TR540	241	68
C455	98	109	C822	125	73	R310	34	143	R535	229	121	R804	153	101	TR541	237	77
C505	249	91	C827	132	51	R400	88	39	R541	222	106	R805	169	106	TR542	225	68
C506	241	80	C828	164	109	R401	93	39	R542	154	12	R806	168	101			
						R402	89	30	R545	237	73	R807	177	104	TR550	152	35
C507	239	93	C834	143	43				R546	246	68				TR650	190	66
C508	236	87	C836	132	47	R403	97	28				R808	175	99	TR651	184	66
C515	241	113	C841	124	105	R404	70	36	R547	249	68	R809	181	106	TR652	179	66
C541	237	103	C860	157	80	R405	97	43	R553	145	30	R810	181	99	TR653	174	66
C542	222	108	C861	162	80	R407	121	24	R555	150	30	R811	187	96			
						R412	99	56	R557	152	30	R812	186	104	TR700	46	45
C543	222	104	CHROMA4	122	87				R560	239	98				TR701	104	103
C552	128	23				R416	80	34				R813	162	100	TR800	152	104
C555	132	34	D105	184	222	R417	77	31	R600	19	95	R815	148	89	TR801	172	101
C556	146	34	D108	203	195	R425	121	22	R601	15	95	R816	152	90	TR802	178	99
C557	123	47	D110	147	207	R450	77	111	R651	196	8	R817	145	89			
			D202	127	135	R451	78	114	R652	173	9	R819	132	96			
C558	148	30	D305	165	115				R654	192	39						
C559	137	26				R453	72	101				R820	135	97			
C602	48	74	D306	57	147	R454	76	104	R655	187	39	R821	136	90			
C603	78	85	D540	236	69	R455	66	110	R657	201	50	R822	152	88			
C610	64	99	D650	193	24	R456	74	109	R658	198	49	R823	141	90			
			D651	200	54	R457	74	113	R659	189	62	R824	156	115			
C650	198	10	D652	192	75				R660	189	69						
C651	193	10				R458	60	114				R825	161	116			
C652	180	8	D653	186	76	R459	107	110	R661	184	62	R826	140	99			
C653	199	14	D654	179	75	R461	99	100	R663	198	51						
C654	186	10	D655	168	71	R462	99	105	R665	184	69						

Oscillograms

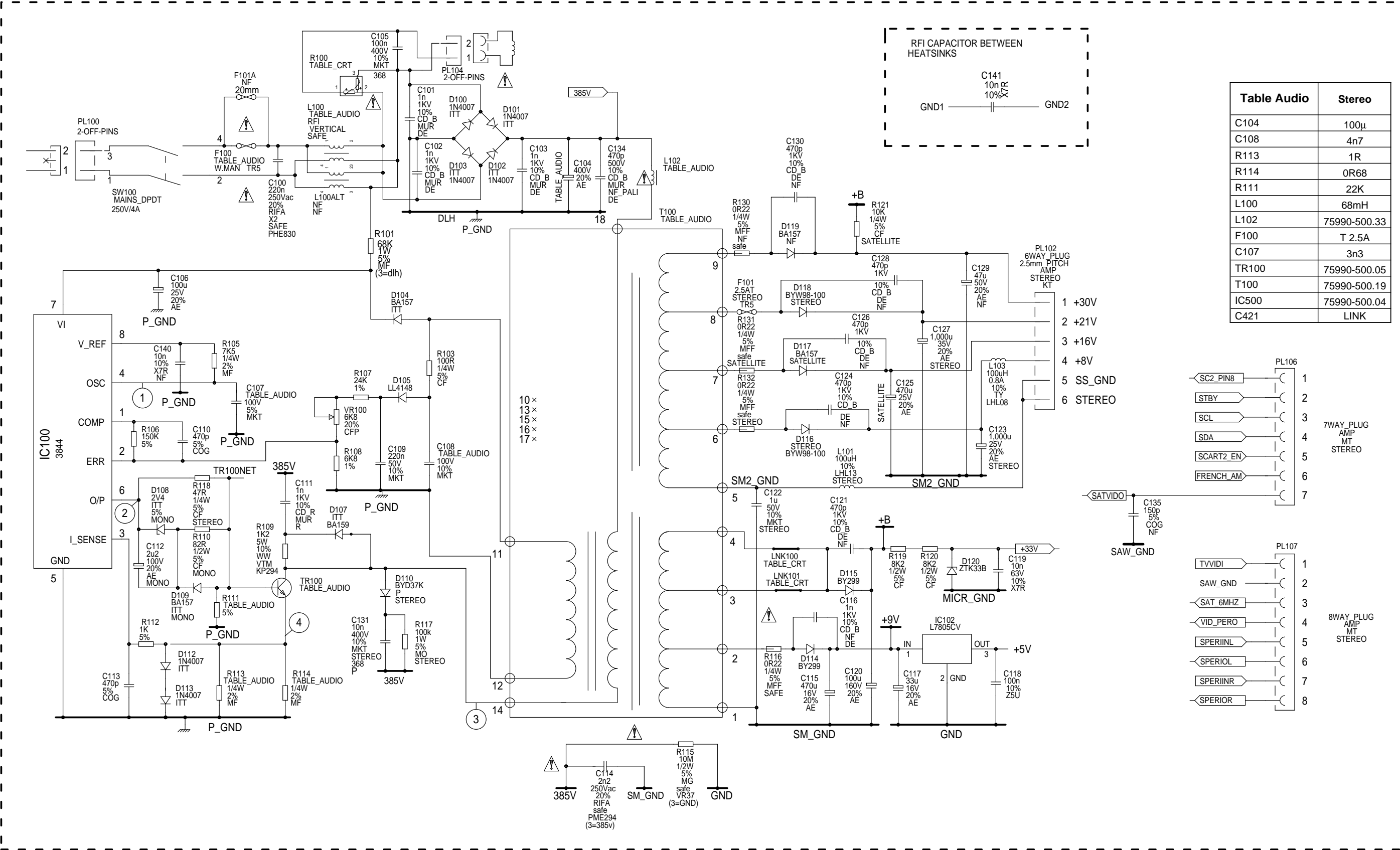




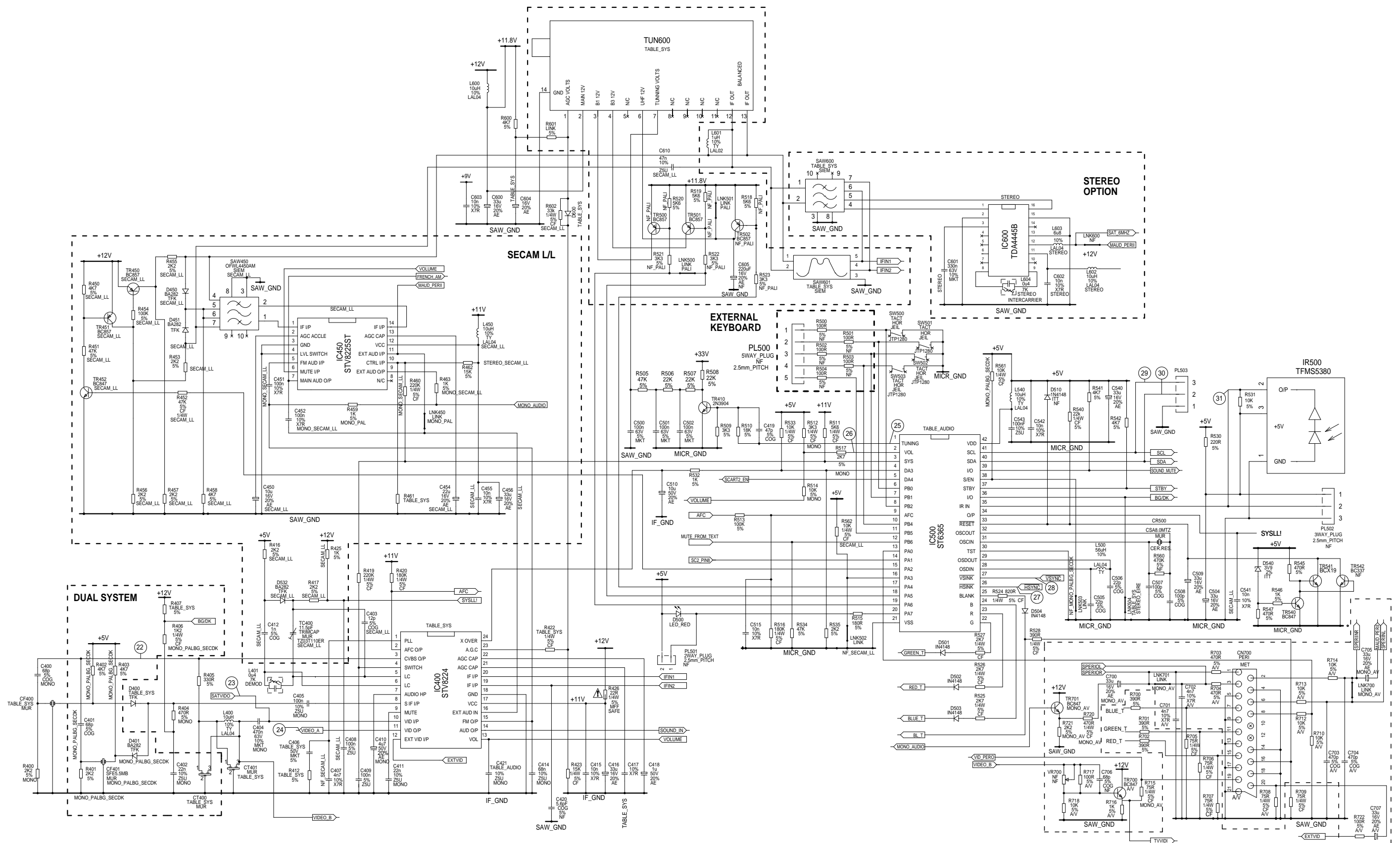
Oscillograms CRT Panel



Power Supply



Signal Board



Y/C Processing

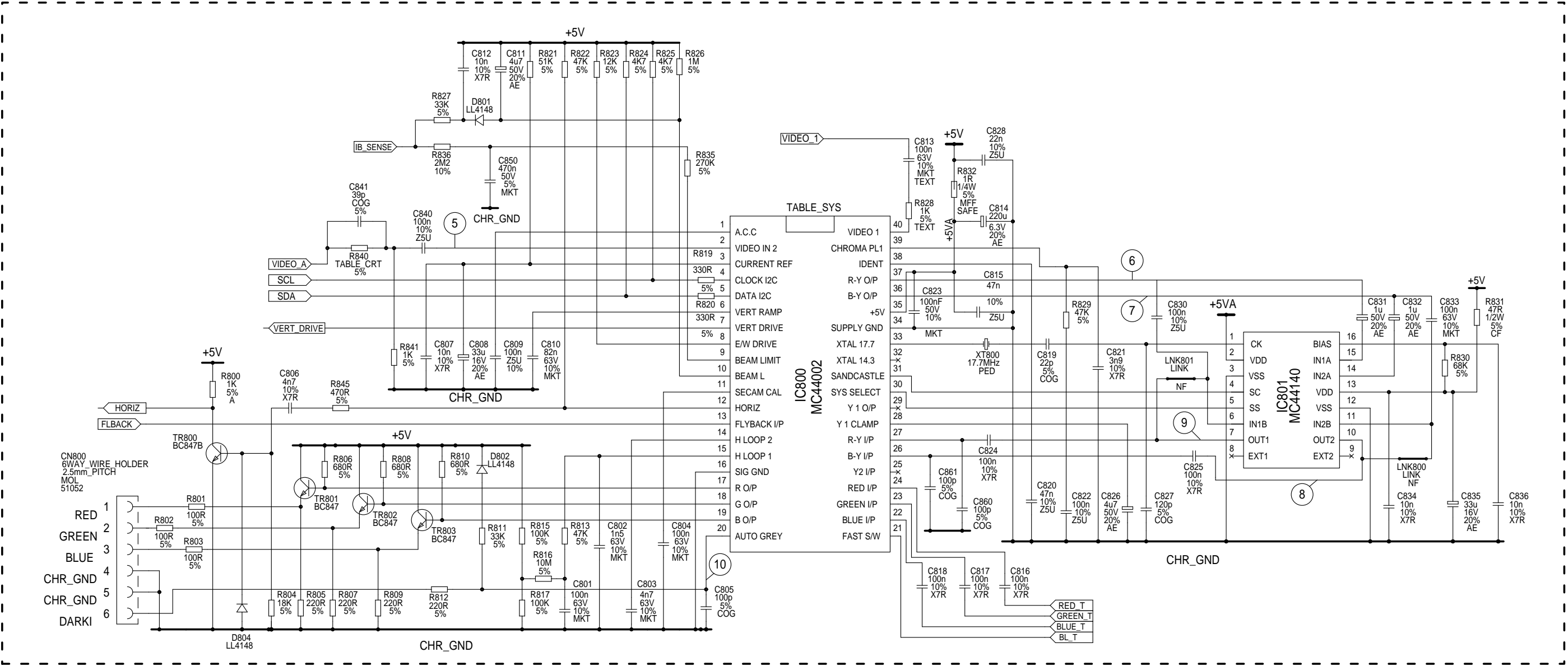
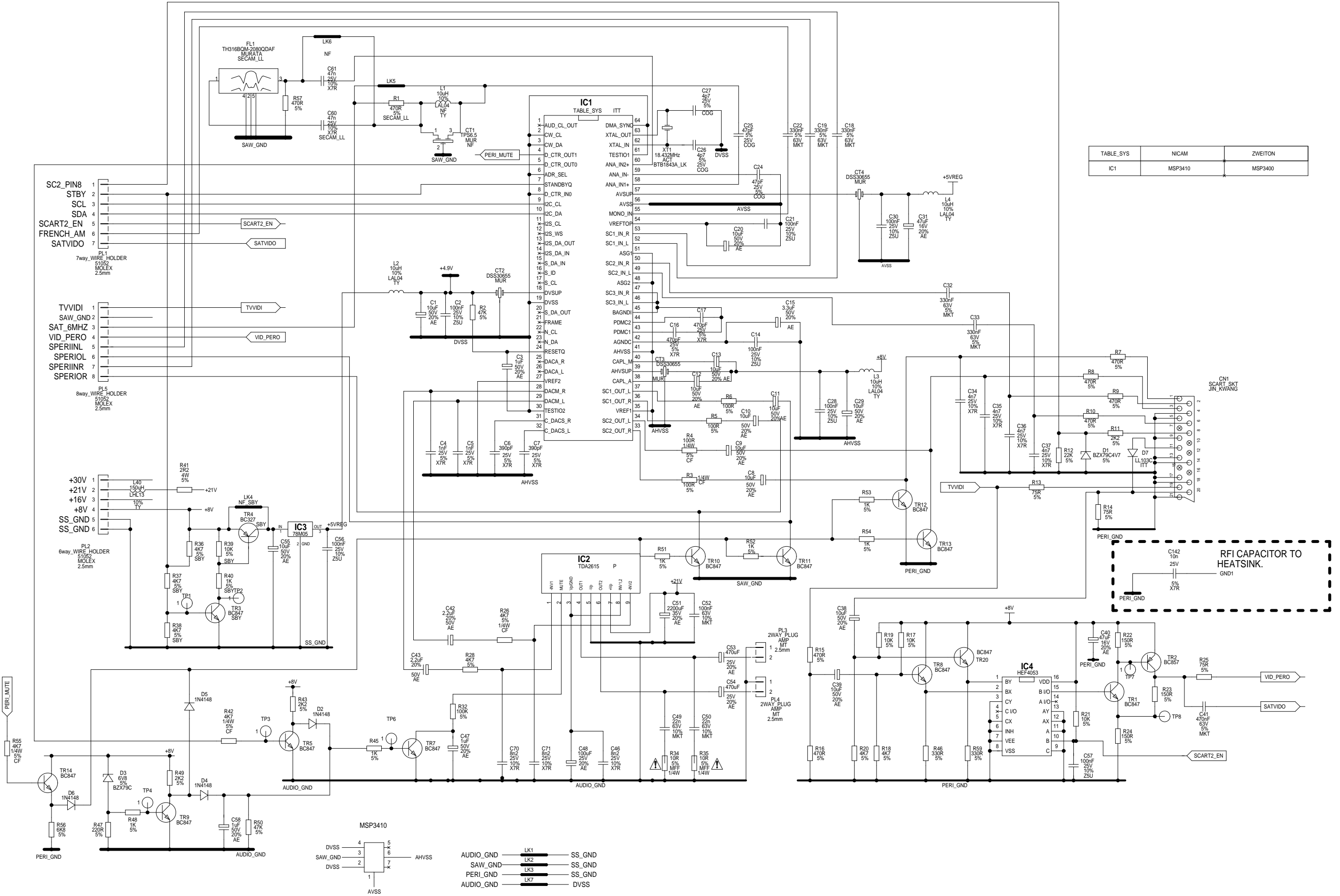


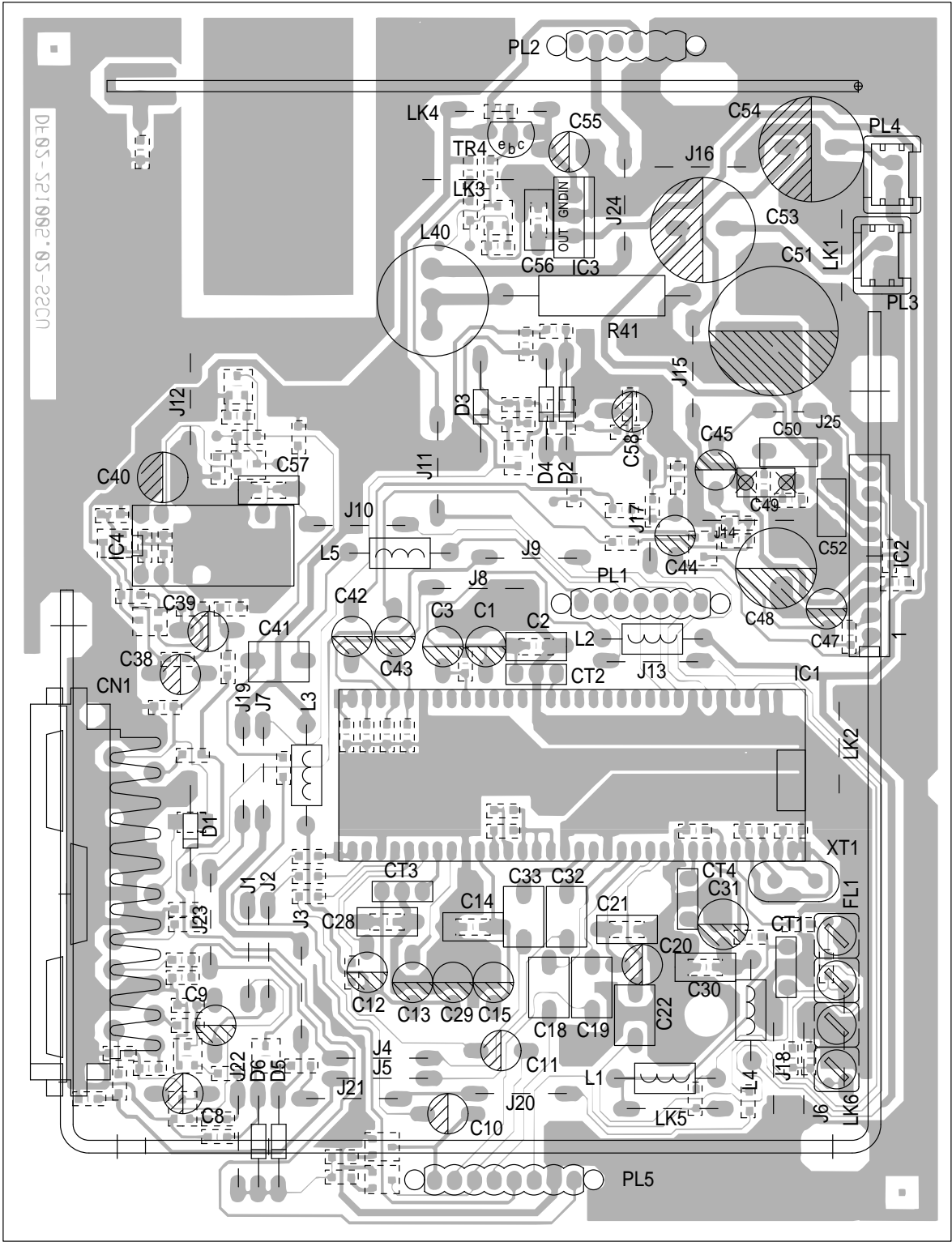
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SAW601	NF	NF	NF	NF
D400	NF	NF	NF	NF
CT400	NF	NF	TPS 6.5MB	NF
CT401	TPS 5.5MB	TPS 6.0MB	TPS 5.5MB	TPS 6.0MB
TUN600	SALCOMP 1590R	SALCOMP 1490R	SALCOMP 1590R	SALCOMP 1590R
CF400	NF	NF	NF	NF
IC800	44007	44007	44002	44007
SAW600	G3270	J3252	K3261	J3252
D600	-o-o-	-o-o-	1N4148	-o-o-
R461	NF	NF	10K	NF
C406	680n	680n	100n	680n
R412	68R	68R	330R	68R
IC400	STV8224	STV8224	STV8224A	STV8224
C417	2n2	2n2	47n	2n2
R422	100R	100R	1K	100R
R407	NF	NF	NF	4K7
LNK504	-o-o-	-o-o-	-o-o-	NF

Audio Board

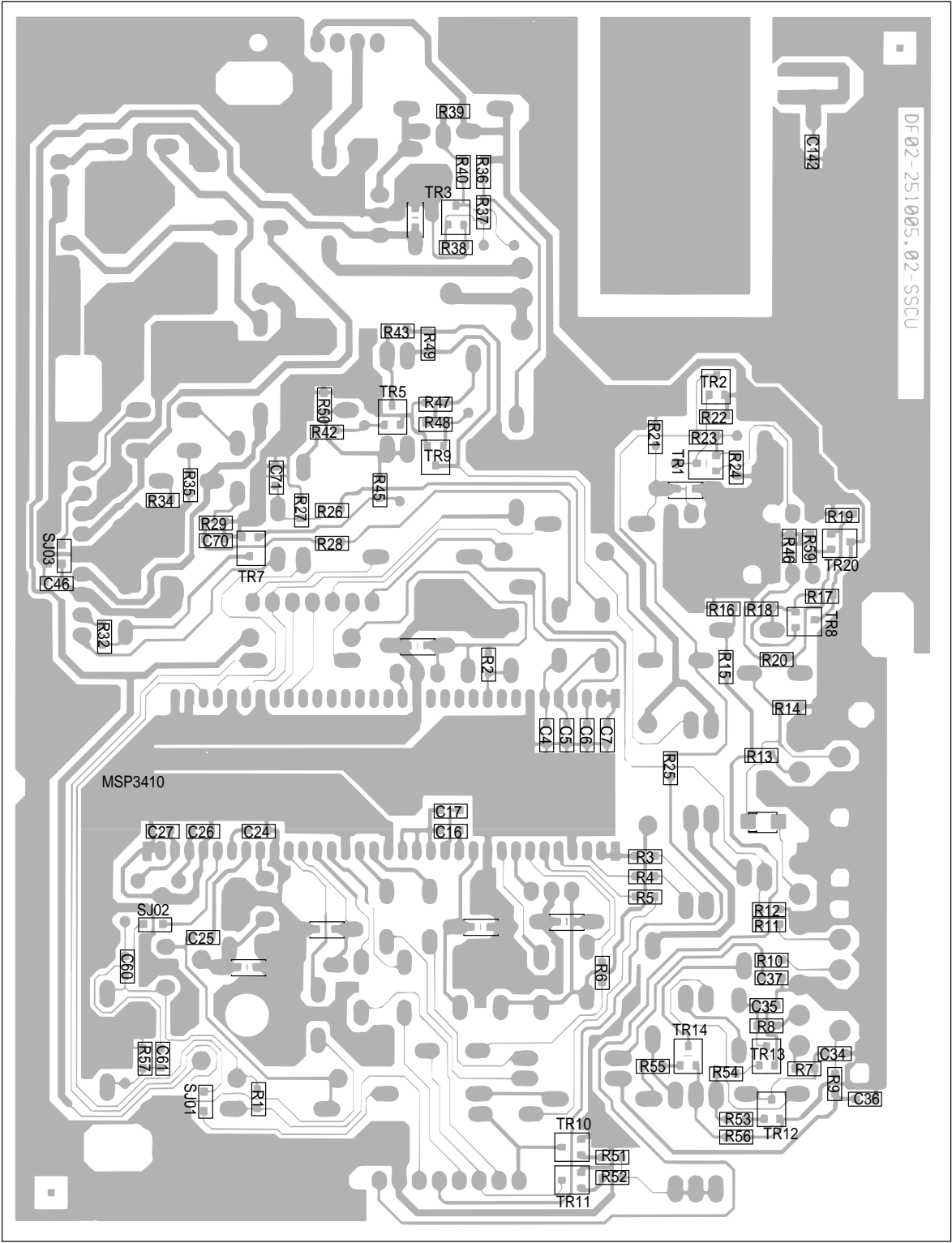


Audio Board

Component side, top view



Solder side, bottom view



Text

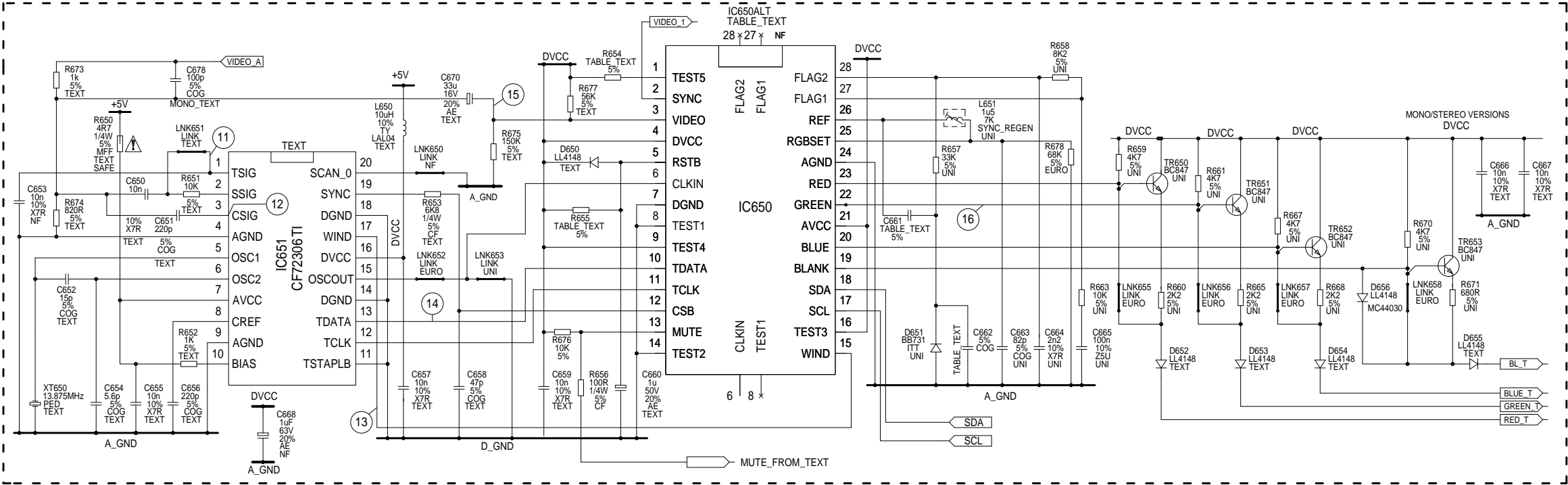


Table Text	EURO	UNI
IC650	CF702000	CF70095ANF
R655	10K	100K
C662	—o—o—	10p
R654	—o—o—	33K
C661	10n X7R	270p COG

CRT Panel

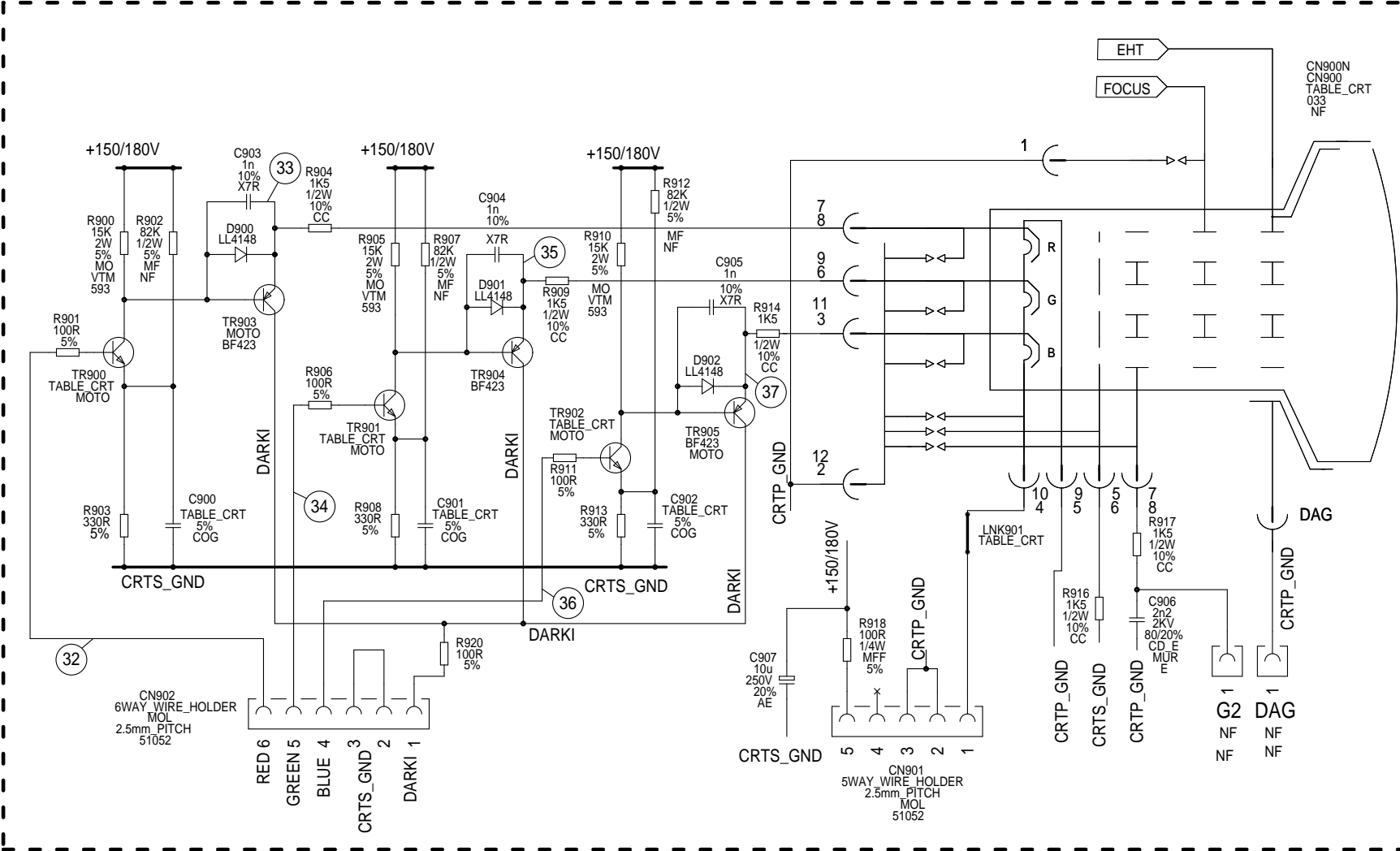
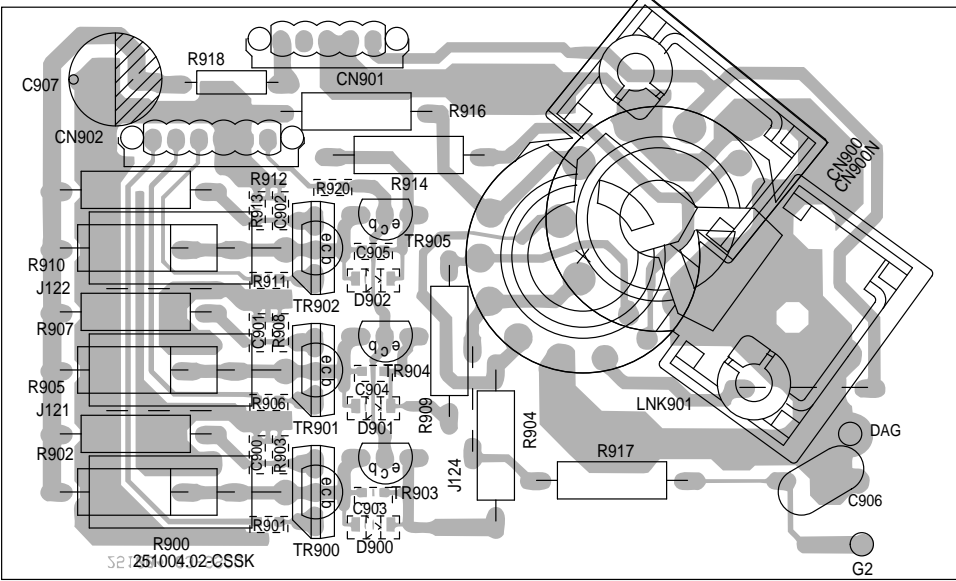


Table CRT

20"	C 300	C 301	L 300	L 301	R 301	R 316	R 915	LNK 901	CN 900	R 211	C 206	LNK 100	LNK 101	+ B
CHUNGHWA 510 UFB 22 TC05	9n53 1600V 5%	430n 160V 5%	35μH	—	—o—o—	—	0R82	—o—o—	75990-300.76	1R	2200μ 25V	—o—o—	—	113V
SAMSUNG A 48 ECR 11X60	9n53 1600V 5%	470n 160V 5%	65μH	—	—o—o—	—	0R82	—o—o—	75990-300.76	1R	2200μ 25V	—o—o—	—	115V
21"	C 300	C 301	L 300	L 301	R 301	R 316	R 915	LNK 901	CN 900	R 211	C 206	LNK 100	LNK 101	+ B
CHUNGHWA A 51 AEZ 90X	8n66 1600V 5%	390n 160V 5%	65μH	—	—o—o—	—	0R68	—o—o—	75990-300.76	1R	1000μ 25V	—o—o—	—	110V
SAMSUNG A 51 EER 11X38	8n66 1600V 5%	390n 160V 5%	80μH	—	—o—o—	—	0R82	—o—o—	75990-300.76	0R82	1000μ 25V	—o—o—	—	113.5V
HUA FEI A 51 ECV 51X01	7n15 1600V 5%	316n 160V 5%	65μH	150μH	820R	—	2R7	—	75990-300.75	1R	1000μ 25V	—o—o—	—	112.5V



Solder side, bottom view

GRUNDIGErsatzteilliste
Spare Parts List

D Btx * 32700 #

5 / 96

GT 2005

ERSETZT AUSGABE 12/95
SUBSTITUTE EDITON 12/95SACH-NR. / PART NO.: 77250-056.61
BESTELL-NR. / ORDER NO.: G.CC 1261 GB SCHWARZ/BLACK

POS. NR. POS. NO.	ABB. FIG.	SACHNUMMER PART NUMBER	ANZ. QUA.	BEZEICHNUNG D	DESCRIPTION GB
0001.000		75990-300.54		FRONT-GEHAEUSE	HOUSING FRONT
0002.000		75990-300.50		EMBLEM-GRUNDIG	LABEL-GRUNDIG
0003.000		75990-200.10		INFRAROTFENSTER	INFRA RED WINDOW
0004.000		75990-200.11		TASTEN	KEYS
0005.000		75990-200.05		LAUTSPRECHER	LOUDSPEAKER
0006.000		75990-200.13		RUECKWAND	REAR PANEL
0008.000		75990-200.12		NETZTASTE	POWER KEY
0009.000	△	75990-300.53		NETZKABEL	POWER CABLE
0010.000	△	75990-300.74		BILDROEHRE A510UFB22TC05(CHUNGAWA)	PICTURE TUBE A510UFB22TC05(CHUNGAWA)
VW.	△	75990-199.01		BILDROEHRE A48ECR 11X60 (SAMSUNG)	PICTURE TUBE A48ECR 11X60 (SAMSUNG)
0011.000		75990-200.14		FERNBEDIENUNG TRC1	REMOTE CONTROL
0013.000		75990-200.24		MONTAGE CLIP	ASSEMBLY CLIP
0014.000		75990-200.34		MONTAGE CLIP	ASSEMBLY CLIP
0019.000		75990-300.63		TUNER UHF	TUNER UHF
		75990-200.89		BEDIENUNGSANLEITUNG	INSTRUCTION MANUAL

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
C 16	75990-200.19	KONDENS. 470PF SMD
C 17	75990-200.19	KONDENS. 470PF SMD
C 100	△ 75990-200.83	KONDENSATOR 220NF 250V
C 101	75990-200.66	KONDENS. 1NF 1KV
C 102	75990-200.66	KONDENS. 1NF 1KV
C 103	△ 75990-200.66	KONDENS. 1NF 1KV
C 104	△ 75990-100.36	ELKO 100UF+80%-20% 400V
C 105	8531-573-022	MKT 15 0,1 UF 20% 400V
C 110	8672-160-142	SMD KERKO 0805 470PF 5% N
C 111	75990-200.18	KONDENS. 1NF 1KV
C 113	8672-160-142	SMD KERKO 0805 470PF 5% N
C 114	75990-200.82	KONDENSATOR 2,2N 250V
C 118	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 119	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 120	75988-015.47	ELKO 100U 160V
C 123	75952-500.03	ELKO 25V +80-20% 1000UF
C 127	75988-015.52	ELKO 1000U 35V
C 131	75990-500.02	KONDENSATOR 10N 400V 10%
C 134	75990-200.17	KONDENS. 470PF 500V
C 141	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 202	8672-167-254	SMD KERKO 0805 4700PF 10%
C 203	8672-159-122	SMD KERKO 0805 10PF 5% VT
C 206	8415-166-147	ELKO 1000UF 25V
C 300	75990-300.01	KONDENSATOR 8,6N 1600V
C 300	75990-300.03	KONDENSATOR 7,2N 1600V
C 301	75990-300.59	KOND. 470NF 160V(SAMSUNG)
C 301	75990-200.40	KONDENS. 430NF 160V
C 301	75990-300.56	KOND. 320NF 160V
C 302	△ 75990-200.41	KONDENS. 47UF 250V
C 303	75990-200.42	KONDENS. 27NF 250V
C 304	75987-355.97	KONDENS.1000PF+-10% 1000V
C 305	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 306	8515-911-092	FKP1 2200PF 10% 1000V

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
C 312	75990-200.43	ELKO GR5 10UF 250V 20%
C 313	75990-200.44	KONDENS 33 PF 10% 250V
C 320	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 321	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 408	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 409	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 414	75990-200.50	KONDENSATOR 68NF SMD
C 415	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 417	8672-167-279	SMD KERKO 0805 0,047UF 10
C 419	8672-160-130	SMD KERKO 0805 47PF 5% NP
C 505	8672-160-126	SMD KERKO 0805 22PF 5% NP
C 506	8672-160-126	SMD KERKO 0805 22PF 5% NP
C 507	8672-159-134	SMD KERKO 0805 100PF 5% V
C 508	8672-159-134	SMD KERKO 0805 100PF 5% V
C 515	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 541	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 542	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 543	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 559	75990-200.73	KONDENSATOR 220NF SMD
C 602	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 603	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 650	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 651	8672-167-250	SMD KERKO 0805 2200PF 10%
C 652	8672-160-124	SMD KERKO 0805 15PF 5% NP
C 654	8672-160-124	SMD KERKO 0805 15PF 5% NP
C 655	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 656	8672-167-250	SMD KERKO 0805 2200PF 10%
C 657	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 658	8672-160-130	SMD KERKO 0805 47PF 5% NP
C 659	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 703	75990-200.19	KONDENS. 470PF SMD
C 704	75990-200.19	KONDENS. 470PF SMD
C 801	8525-001-273	MKS 2 0,1 UF 5% 63V

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
C 802	75990-201.00	MKT 5/1 1500 PF 10% 63 V
C 803	8555-268-241	FOKO MKT 5 4700PF 5% 250V
C 805	8672-159-134	SMD KERKO 0805 100PF 5% V
C 806	8672-167-254	SMD KERKO 0805 4700PF 10%
C 807	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 812	8672-167-758	SMD KERKO 0805 0,01UF 10%
C 813	8525-001-273	MKS 2 0,1 UF 5% 63V
C 815	8672-167-279	SMD KERKO 0805 0,047UF 10
C 816	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 817	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 818	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 819	8672-160-126	SMD KERKO 0805 22PF 5% NP
C 820	8672-167-279	SMD KERKO 0805 0,047UF 10
C 821	8672-167-253	SMD KERKO 0805 3900PF 10%
C 822	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 824	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 825	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 827	8672-160-135	SMD KERKO 0805 120PF 5% N
C 828	8672-167-262	SMD KERKO 0805 0,022UF 10
C 830	8672-167-270	SMD KERKO 0805 0,1UF 10%
C 860	8672-159-134	SMD KERKO 0805 100PF 5% V
C 861	8672-159-134	SMD KERKO 0805 100PF 5% V
C 903	8672-159-146	SMD KERKO 0805 1000PF 5%
C 904	8672-159-146	SMD KERKO 0805 1000PF 5%
C 905	8672-159-146	SMD KERKO 0805 1000PF 5%
C 906	75990-200.76	KONDENSATOR 2,2N 2KV
C 907	75990-200.43	ELKO GR5 10UF 250V 20%
CN 1	75990-500.13	SCART-KABEL/SCART CABLE
CN 700	75990-200.75	SCART BUCHSE/SCART SOCKET
CN 900	75990-300.76	BILDROHRFASSUNG/ PICTURE TUBE SOCKET
CN 900	75990-300.75	MIKRO-SOCKEL/MIKRO BASE
CR 500	75990-200.68	QUARZ CSA 8 MHZ
CT 2	75990-500.10	KERAMIK FILTER DSS30655
CT 3	75990-500.10	KERAMIK FILTER DSS30655
CT 4	75990-500.10	KERAMIK FILTER DSS30655
CT 401	75990-300.65	FILTER TPS 6,0 MHZ
D 1	72008-393.98	DIODE BZX 79 C 4 V 7
D 2	8309-215-045	DIODE 1N4148
D 3	75987-392.37	DIODE BZX 79 C 6 V 8
D 4	8309-215-045	DIODE 1N4148
D 5	8309-215-045	DIODE 1N4148
D 6	8309-215-045	DIODE 1N4148
D 7	75990-500.11	DIODE LL 103A/B/C
D 100	8309-215-127	DIODE 1 N 4007 -GA
D 101	8309-215-127	DIODE 1 N 4007 -GA
D 102	8309-215-127	DIODE 1 N 4007 -GA
D 103	8309-215-127	DIODE 1 N 4007 -GA
D 104	8309-201-103	DIODE BA157/RGP10G GI
D 105	75990-500.24	DIODE LL 4148
D 107	8309-201-101	DIODE BA 159
D 108	75990-200.20	Z DIODE BZX 84 C2 V7
D 109	75990-200.21	DIODE BA 157
D 112	8309-215-127	DIODE 1 N 4007 -GA
D 113	8309-215-127	DIODE 1 N 4007 -GA
D 114	8309-204-060	DIODE BY299 FAGOR/ BYV37
D 115	8309-204-060	DIODE BY299 FAGOR/ BYV37
D 116	8309-517-098	DIODE BYW 98-100THO/UES
D 118	8309-517-098	DIODE BYW 98-100THO/UES
D 120	8305-306-003	IC ZTK 33 B/C DPD ITT
D 200	8309-215-127	DIODE 1 N 4007 -GA
D 202	75990-500.25	DIODE MINI-MELF 4,7V 5%
D 300	8309-201-103	DIODE BA157/RGP10G GI
D 301	8309-201-103	DIODE BA157/RGP10G GI
D 302	8309-201-103	DIODE BA157/RGP10G GI
D 303	8309-201-103	DIODE BA157/RGP10G GI
D 304	75990-200.45	DIODE BY 133
D 305	8309-210-016	SMD DIODE BAS16

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
D 500	75990-200.61	DIODE RED LED
D 501	8309-215-045	DIODE 1N4148
D 502	8309-215-045	DIODE 1N4148
D 503	8309-215-045	DIODE 1N4148
D 504	8309-215-045	DIODE 1N4148
D 540	75990-200.62	ZENER-DIODE BZX84 3,9V
D 650	8309-210-016	SMD DIODE BAS16
D 651	75990-200.69	DIODE BB731 SOT 23
D 652	8309-210-016	SMD DIODE BAS16
D 653	8309-210-016	SMD DIODE BAS16
D 654	8309-210-016	SMD DIODE BAS16
D 655	8309-210-016	SMD DIODE BAS16
D 801	8309-210-016	SMD DIODE BAS16
D 802	8309-210-016	SMD DIODE BAS16
D 804	8309-210-016	SMD DIODE BAS16
D 900	8309-210-016	SMD DIODE BAS16
D 901	8309-210-016	SMD DIODE BAS16
D 902	8309-210-016	SMD DIODE BAS16
F 100	△ 75990-500.31	SICHERUNG 2,5 AT/FUSE
F 101	△ 75990-500.31	SICHERUNG 2,5 AT/FUSE
IC 1	75990-500.18	IC MSP 3410 (NICAM)
IC 2	75990-500.14	IC TDA 2007 A
IC 2	75990-500.23	IC TDA 2615
IC 3	75990-500.15	IC 78 M 05
IC 4	75990-500.16	IC HEF 4053
IC 100	75990-200.23	IC 3844
IC 100	75990-200.33	TRANSISOR MJF18204 TO220
IC 102	8305-202-906	IC UA 7805C/KC MOUNT.KIT
IC 200	8305-348-170	IC TDA 8170 SGS
IC 300	8305-302-581	IC 7812 SAM
IC 400	75990-500.27	IC STV 8224 A
IC 400	75990-200.51	IC STV 8224
IC 500	75990-500.04	IC ST 6375
IC 500	75990-200.63	IC ST6365 G1000-1-1
IC 550	8305-332-820	IC TDA 2822 M SGS
IC 600	75990-500.32	IC TDA 4445 B
IC 650	75990-500.06	IC TEXTEURO CF 70200
IC 650	75990-200.70	IC CT 70095 ANF
IC 651	8305-972-306	IC CF 72306 TID
IC 800	75990-200.58	IC MC 44007/44140
IC 801	75990-200.59	IC MC 44140/44007
IR 500	75990-200.64	IC TFMS 5380
L 2	75990-200.71	DR AX 0411 10UH 10%
L 3	75990-200.71	DR AX 0411 10UH 10%
L 4	75990-200.71	DR AX 0411 10UH 10%
L 100	△ 75990-200.25	SPULE/COIL
L 101	75990-500.21	FILTER 100UH 10% LHL 13
L 102	75990-500.33	FERRITE STAB
L 103	75990-200.46	SPULE 100UH/COIL
L 300	75990-300.08	SPULE 65UH (SAMSUNG)/COIL
L 301	75990-300.06	SPULE 150UH/COIL
L 302	75990-200.46	SPULE 100UH/COIL
L 400	75990-200.71	DR AX 0411 10UH 10%
L 401	75990-200.53	SPULE/COIL
L 500	75990-200.65	SPULE 56UH/COIL
L 540	75990-200.71	DR AX 0411 10UH 10%
L 550	75990-200.74	DR 10UH RM5 LI
L 551	75990-200.74	DR 10UH RM5 LI
L 601	75990-500.28	SPULE 1UH 10% LAL 02/COIL
L 602	75990-200.71	DR AX 0411 10UH 10%
L 603	75990-500.34	SPULE 6,8UH 10% LAL04/COIL
L 604	75990-200.53	SPULE/COIL
L 650	75990-200.71	DR AX 0411 10UH 10%
R 34	75990-300.12	MSW NB 0207 10 OHM 5% AX
R 35	75990-300.12	MSW NB 0207 10 OHM 5% AX
R 100	75990-300.77	WIDERSTAND PTC DUO
R 101	75990-200.27	WIDERSTAND 68KOHM 2W

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
R 103	8765-098-049	MSW 0207 100 OHM 5% TK100
R 105	75990-200.28	WIDERSTAND 7,5KOHM 1/4W
R 106	8706-100-125	SMD R 0805 150 KOHM 5%
R 109	75990-200.29	WIDERSTAND 1,2KOHM 5W
R 112	8706-100-073	SMD R 0805 1 KOHM 5%
R 115	△ 75990-200.31	WIDERSTAND 10MOHM VR23
R 116	△ 75990-200.32	MSW NB 0207 0,22 OHM 5%
R 119	8765-098-095	MSW 0207 8,2 KOHM 5% TK10
R 120	8765-098-095	MSW 0207 8,2 KOHM 5% TK10
R 132	△ 5990-200.32	MSW NB 0207 0,22 OHM 5%
R 200	△ 75952-030.91	MSW NB 0207 4,7 OHM 5% GA
R 201	8706-100-093	SMD R 0805 6,8 KOHM 5%
R 202	8706-100-103	SMD R 0805 18 KOHM 5%
R 203	8706-100-089	SMD R 0805 4,7 KOHM 5%
R 204	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
R 205	8706-100-097	SMD R 0805 10 KOHM 5%
R 206	75990-500.29	WIDERSTAND 1 OHM 1/4W 5%
R 207	8706-100-097	SMD R 0805 10 KOHM 5%
R 208	8706-100-097	SMD R 0805 10 KOHM 5%
R 209	8700-007-461	KSW 0207 330 OHM 5%
R 210	8765-098-283	MSW 0207 2,7 KOHM 2% TK10
R 211	75990-300.19	MSW 0207 1 OHM 1% GA
R 211	75990-300.32	MOW 0411 0,82 OHM 5%GA
R 300	△ 75990-300.09	KSW SI A 820 OHM 5% GA
R 300	75990-300.09	KSW SI A 820 OHM 5% GA
R 301	△ 75990-300.09	KSW SI A 820 OHM 5% GA
R 302	8765-097-129	MSW 0204 220 KOHM 5% TK10
R 304	8706-100-105	SMD R 0805 22 KOHM 5%
R 305	8706-100-089	SMD R 0805 4,7 KOHM 5%
R 306	8706-100-073	SMD R 0805 1 KOHM 5%
R 307	8706-100-073	SMD R 0805 1 KOHM 5%
R 350	8765-097-099	MSW 0204 12 KOHM 5% TK100
R 405	8706-100-061	SMD R 0805 330 OHM 5%
R 412	8706-100-061	SMD R 0805 330 OHM 5%
R 419	8700-007-529	KSW 0207 220 KOHM 5%
R 422	8700-007-473	KSW 0207 1 KOHM 5%
R 423	8700-007-501	KSW 0207 15 KOHM 5%
R 426	8766-701-033	KSW SI A 22 OHM 5%
R 505	8706-100-113	SMD R 0805 47 KOHM 5%
R 506	8706-100-105	SMD R 0805 22 KOHM 5%
R 507	8706-100-105	SMD R 0805 22 KOHM 5%
R 508	8706-100-105	SMD R 0805 22 KOHM 5%
R 509	8706-100-085	SMD R 0805 3,3 KOHM 5%
R 510	8706-100-085	SMD R 0805 3,3 KOHM 5%
R 510	8706-100-103	SMD R 0805 18 KOHM 5%
R 511	8700-007-491	KSW 0207 5,6 KOHM 5%
R 512	8700-007-485	KSW 0207 3,3 KOHM 5%
R 513	8706-100-121	SMD R 0805 100 KOHM 5%
R 514	8706-100-097	SMD R 0805 10 KOHM 5%
R 515	8706-100-055	SMD R 0805 180 OHM 5%
R 524	8700-007-471	KSW 0207 820 OHM 5%
R 528	8700-007-463	KSW 0207 390 OHM 5%
R 530	8706-100-057	SMD R 0805 220 OHM 5%
R 531	8706-100-097	SMD R 0805 10 KOHM 5%
R 532	8706-100-073	SMD R 0805 1 KOHM 5%
R 533	8700-007-497	KSW 0207 10 KOHM 5%
R 534	8706-100-113	SMD R 0805 47 KOHM 5%
R 535	8706-100-081	SMD R 0805 2,2 KOHM 5%
R 540	8700-007-505	KSW 0207 22 KOHM 5%
R 541	8706-100-089	SMD R 0805 4,7 KOHM 5%
R 542	8706-100-089	SMD R 0805 4,7 KOHM 5%
R 545	8706-100-065	SMD R 0805 470 OHM 5%
R 546	8706-100-073	SMD R 0805 1 KOHM 5%
R 547	8706-100-065	SMD R 0805 470 OHM 5%
R 600	8706-100-089	SMD R 0805 4,7 KOHM 5%
R 601	8706-100-089	SMD R 0805 4,7 KOHM 5%
R 650	75952-030.91	MSW NB 0207 4,7 OHM 5% GA
R 651	8706-100-097	SMD R 0805 10 KOHM 5%
R 652	8706-100-073	SMD R 0805 1 KOHM 5%
R 653	8700-007-493	KSW 0207 6,8 KOHM 5%
R 654	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
R 655	8706-100-097	SMD R 0805 10 KOHM 5%

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
R 656	8765-098-049	MSW 0207 100 OHM 5% TK100
R 673	8706-100-073	SMD R 0805 1 KOHM 5%
R 674	8706-100-071	SMD R 0805 820 OHM 5%
R 675	8706-100-125	SMD R 0805 150 KOHM 5%
R 676	8706-100-097	SMD R 0805 1 KOHM 5%
R 677	8706-100-115	SMD R 0805 56 KOHM 5%
R 678	8706-100-117	SMD R 0805 68 KOHM 5%
R 700	8706-100-063	SMD R 0805 390 OHM 5%
R 701	8706-100-063	SMD R 0805 390 OHM 5%
R 702	8706-100-063	SMD R 0805 390 OHM 5%
R 703	8706-100-065	SMD R 0805 470 OHM 5%
R 704	8706-100-065	SMD R 0805 470 OHM 5%
R 705	8700-007-446	KSW 0207 75 OHM 5%
R 706	8700-007-446	KSW 0207 75 OHM 5%
R 707	8700-007-446	KSW 0207 75 OHM 5%
R 708	8700-007-446	KSW 0207 75 OHM 5%
R 709	8700-007-446	KSW 0207 75 OHM 5%
R 710	8706-100-097	SMD R 0805 10 KOHM 5%
R 712	8706-100-097	SMD R 0805 10 KOHM 5%
R 713	8706-100-097	SMD R 0805 10 KOHM 5%
R 714	8706-100-097	SMD R 0805 10 KOHM 5%
R 716	8706-100-073	SMD R 0805 1 KOHM 5%
R 717	8706-100-049	SMD R 0805 100 OHM 5%
R 718	8706-100-097	SMD R 0805 10 KOHM 5%
R 722	8706-100-049	SMD R 0805 100 OHM 5%
R 800	8706-100-073	SMD R 0805 1 KOHM 5%
R 801	8706-100-049	SMD R 0805 100 OHM 5%
R 802	8706-100-049	SMD R 0805 100 OHM 5%
R 803	8706-100-049	SMD R 0805 100 OHM 5%
R 804	8706-100-103	SMD R 0805 18 KOHM 5%
R 805	8706-100-057	SMD R 0805 220 OHM 5%
R 806	8706-100-069	SMD R 0805 680 OHM 5%
R 807	8706-100-057	SMD R 0805 220 OHM 5%
R 808	8706-100-069	SMD R 0805 680 OHM 5%
R 809	8706-100-057	SMD R 0805 220 OHM 5%
R 810	8706-100-069	SMD R 0805 680 OHM 5%
R 811	8706-100-108	SMD R 0805 30 KOHM 5%
R 812	8706-100-057	SMD R 0805 220 OHM 5%
R 813	8706-100-113	SMD R 0805 47 KOHM 5%
R 815	8706-100-121	SMD R 0805 100 KOHM 5%
R 816	8706-100-169	SMD R 0805 10 MOHM 10%
R 817	8706-100-121	SMD R 0805 100 KOHM 5%
R 819	8706-100-061	SMD R 0805 330 OHM 5%
R 820	8706-100-061	SMD R 0805 330 OHM 5%
R 821	8706-100-114	SMD R 0805 51 KOHM 5%
R 822	8706-100-113	SMD R 0805 47 KOHM 5%
R 823	8706-100-099	SMD R 0805 12 KOHM 5%
R 824	8706-100-089	SMD R 0805 4,7 KOHM 5%
R 825	8706-100-089	SMD R 0805 4,7 KOHM 5%
R 826	8706-100-145	SMD R 0805 1 MOHM 5%
R 827	8706-100-108	SMD R 0805 30 KOHM 5%
R 828	8706-100-073	SMD R 0805 1 KOHM 5%
R 829	8706-100-113	SMD R 0805 47 KOHM 5%
R 830	8706-100-117	SMD R 0805 68 KOHM 5%
R 832	75990-500.29	WIDERSTAND 1 OHM 1/4W 5%
R 835	8706-100-131	SMD R 0805 270 KOHM 5%
R 836	8706-100-153	SMD R 0805 2,2 MOHM 5%
R 840	8706-100-073	SMD R 0805 1 KOHM 5%
R 841	8706-100-073	SMD R 0805 1 KOHM 5%
R 845	8706-100-065	SMD R 0805 470 OHM 5%
R 900	75990-300.78	KSW 0411 15KOHM 1W
R 901	8706-100-049	SMD R 0805 100 OHM 5%
R 903	8706-100-061	SMD R 0805 330 OHM 5%
R 904	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 905	75990-300.78	KSW 0411 15KOHM 1W
R 906	8706-100-049	SMD R 0805 100 OHM 5%
R 908	8706-100-061	SMD R 0805 330 OHM 5%
R 909	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 910	75990-300.77	WIDERSTAND PTC DUO
R 911	8706-100-049	SMD R 0805 100 OHM 5%
R 913	8706-100-061	SMD R 0805 330 OHM 5%
R 914	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
R 915	75990-300.13	MOW 0411 0,68 OHM 5% GA
R 915	75990-300.32	MOW 0411 0,82 OHM 5%GA
R 915	75990-300.16	MOW 0411 2,7 OHM 5% GA
R 916	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 917	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 918	△ 8700-229-049	KSW NB 0207 100 OHM 5%
R 920	8706-100-049	SMD R 0805 100 OHM 5%
S	△ 75990-200.22	SICHERUNG 1AT/FUSE
SAW 601	75990-200.55	OBERFLAECHEWELLENFILTER/ SURFACE WAVE FILTER
SJ 1	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
SJ 2	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
SW 100	△ 75990-200.36	NETZSCHALTER/ POWER SWITCH
T 100	△ 75990-500.19	TRAFO SMT4 G5516-01
T 300	△ 75990-200.48	EHT TRAFO
T 300	△ 75990-500.09	EHT-TRAFO L27 G5652-01/ TRANSFORMER
T 311	75990-200.49	VERZOEGERUNGSLEITUNG TX/ DELAY LINE
TR 1	75990-100.10	SMD-TRANS. BC 847
TR 2	8301-000-857	SMD-TRANS.BC 857
TR 3	75990-100.10	SMD-TRANS. BC 847
TR 4	75990-500.12	TRANSISTOR BC 327 T092
TR 5	75990-100.10	SMD-TRANS. BC 847
TR 6	75990-100.10	SMD-TRANS. BC 847
TR 7	75990-100.10	SMD-TRANS. BC 847
TR 8	75990-100.10	SMD-TRANS. BC 847
TR 9	75990-100.10	SMD-TRANS. BC 847
TR 10	75990-100.10	SMD-TRANS. BC 847
TR 11	75990-100.10	SMD-TRANS. BC 847
TR 12	75990-100.10	SMD-TRANS. BC 847
TR 13	75990-100.10	SMD-TRANS. BC 847
TR 14	75990-100.10	SMD-TRANS. BC 847
TR 20	75990-100.10	SMD-TRANS. BC 847
TR 100	75990-500.05	TRANSISTOR BUZ 80 A
TR 300	75990-100.00	3-FACH 7-SEGMENT-ANZEIGE
TR 301	8302-222-422	TRANS.BF 422 NUR=VAL
TR 302	75990-200.33	TRANSISOR MJF18204 TO220
TR 410	8302-920-390	TRANS.2 N 3904
TR 540	75990-100.10	SMD-TRANS. BC 847
TR 541	75990-200.67	SMD-TRANS. BCX 19
TR 550	75990-100.10	SMD-TRANS. BC 847
TR 650	75990-100.10	SMD-TRANS. BC 847
TR 651	75990-100.10	SMD-TRANS. BC 847
TR 652	75990-100.10	SMD-TRANS. BC 847
TR 653	75990-100.10	SMD-TRANS. BC 847
TR 700	75990-100.10	SMD-TRANS. BC 847
TR 800	8301-004-847	SMD-TRANS.BC 847 B
TR 801	75990-100.10	SMD-TRANS. BC 847
TR 802	75990-100.10	SMD-TRANS. BC 847
TR 803	75990-100.10	SMD-TRANS. BC 847
TR 900	75990-200.79	TRANSISTOR BF 871
TR 901	75990-200.79	TRANSISTOR BF 871

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Sach-Nummer 72010-800.00, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010-800.00, as well as the respective national deviations.

GRUNDIGErsatzteilliste
Spare Parts List

D Btx * 32700 #

4 / 96

GT 2105

SACH-NR. / PART NO.: 77250-055.61
BESTELL-NR. / ORDER NO.: G.CC 1361 GB

POS. NR. POS. NO.	ABB. FIG.	SACHNUMMER PART NUMBER	ANZ. QUA.	BEZEICHNUNG DESCRIPTION	D	DESCRIPTION GB
0001.000		75990-500.36		GEHAEUSE DSGN2 STEREO		HOUSING DSGN2 STEREO
0001.100		75990-200.02		FRONT-GEHAEUSE		HOUSING FRONT
0002.000		75990-300.50		EMBLEM-GRUNDIG		LABEL-GRUNDIG
0003.000		75990-200.10		INFRAROTFENSTER		INFRA RED WINDOW
0004.000		75990-200.11		TASTEN		KEYS
0005.000		75990-500.01		LAUTSPRECHER 8 OHMS 4W		LOUDSPEAKER 8 OHMS 4W
0008.000		75990-200.09		NETZTASTE		POWER KEY
0009.000	△	75990-300.52		NETZKABEL		POWER CABLE
0010.000	△	75990-200.98		BILDR. 21"A51AEZ90X02 (CHUNGHWA)		PICT. TUBE 21"A51AEZ90X02(CHUNGHWA)
WW.	△	75990-200.90		BILDR. A51 EER 11X38 (SAMSUNG)		PICT. TUBE A51 EER 11X38 (SAMSUNG)
WW.	△	75990-200.92		BILDR. A51 ECV 51X01 (HUAFEI)		PICT. TUBE A51 ECV 51X01 (HUAFEI)
0011.000		75990-500.35		RUECKWAND		REAR PANEL
0019.000		75990-300.63		TUNER UHF		TUNER UHF

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
C 16	75990-200.19	KONDENS. 470PF SMD
C 17	75990-200.19	KONDENS. 470PF SMD
C 100	△ 75990-200.83	KONDENSATOR 220NF 250V
C 101	75990-200.66	KONDENS. 1NF 1KV
C 102	75990-200.66	KONDENS. 1NF 1KV
C 103	△ 75990-200.66	KONDENS. 1NF 1KV
C 104	△ 75990-100.36	ELKO 100UF +80%-20% 400V
C 105	8531-573-022	MKT 15 0,1 UF 20% 400V
C 110	8672-160-142	KEFQ 0805 470PF 5%
C 111	75990-200.18	KONDENS. 1NF 1KV
C 113	8672-160-142	KEFQ 0805 470PF 5%
C 114	75990-200.82	KONDENSATOR 2,2N 250V
C 118	8672-167-270	KEFQ 0805 0,1 UF 10%
C 119	8672-167-758	KEFQ 0805 0,01 UF 10%
C 120	75988-015-47	ELKO 100U 160V
C 123	75952-500.03	ELKO 25V +80-20% 1000UF
C 127	75988-015.52	ELKO 1000U 35V
C 131	75990-500.02	KONDENSATOR 10N 400V 10%
C 141	8672-167-758	KEFQ 0805 0,01 UF 10%
C 202	8672-167-254	KEFQ 0805 4700PF 10%
C 203	8672-159-122	KEFQ 0805 10PF 5%
C 206	8415-166-147	ELKO 1000UF 25V
C 300	75990-300.01	KONDENSATOR 8,6N 1600V
C 300	75990-300.03	KOND.7,15 1600V 5% (HUAFEI)
C 301	75990-300.58	KOND. 390NF 160V
C 301	75990-300.56	KOND. 316 NF 160V 5% (HUAFEI)
C 302	△ 75990-200.41	KONDENS. 47UF 250V
C 303	75990-200.42	KONDENS. 27NF 250V
C 304	75987-355.97	KONDENS.1000PF+-10% 1000V
C 305	8672-167-758	KEFQ 0805 0,01 UF 10%
C 306	8515-911-092	FKP1 2200PF 10% 1000V
C 312	75990-200.43	ELKO GR5 10UF 250V 20%
C 320	8672-167-270	KEFQ 0805 0,1 UF 10%
C 321	8672-167-270	KEFQ 0805 0,1 UF 10%
C 408	8672-167-270	KEFQ 0805 0,1 UF 10%
C 409	8672-167-270	KEFQ 0805 0,1 UF 10%
C 415	8672-167-758	KEFQ 0805 0,01 UF 10%

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
C 417	8672-167-279	KEFQ 0805 0,047UF 10%
C 419	8672-160-130	SMD KERKO 0805 47PF 5% NP
C 500	8525-001-273	MKS 2 0,1 UF 5% 63V
C 501	8525-001-273	MKS 2 0,1 UF 5% 63V
C 502	8525-001-273	MKS 2 0,1 UF 5% 63V
C 504	8452-967-169	ELKO AMMO5 33UF 35V
C 505	8672-160-126	KEFQ 0805 22PF 5%
C 506	8672-160-126	KEFQ 0805 22PF 5%
C 507	8672-159-134	KEFQ 0805 100PF 5%
C 508	8672-159-134	KEFQ 0805 100PF 5%
C 509	8452-967-169	ELKO AMMO5 33UF 35V
C 515	8672-167-758	KEFQ 0805 0,01 UF 10%
C 541	8672-167-758	KEFQ 0805 0,01 UF 10%
C 542	8672-167-758	KEFQ 0805 0,01 UF 10%
C 543	8672-167-270	KEFQ 0805 0,1 UF 10%
C 602	8672-167-758	KEFQ 0805 0,01 UF 10%
C 603	8672-167-758	KEFQ 0805 0,01 UF 10%
C 650	8672-167-758	KEFQ 0805 0,01 UF 10%
C 651	8672-167-250	KEFQ 0805 2200PF 10%
C 652	8672-160-124	KEFQ 0805 15PF 5%
C 654	8672-160-124	KEFQ 0805 15PF 5%
C 655	8672-167-758	KEFQ 0805 0,01 UF 10%
C 656	8672-167-250	KEFQ 0805 2200PF 10%
C 657	8672-167-758	KEFQ 0805 0,01 UF 10%
C 658	8672-160-130	SMD KERKO 0805 47PF 5% NP
C 659	8672-167-758	KEFQ 0805 0,01 UF 10%
C 660	8452-668-234	ELKO 1UF 20% 50V RM2,5
C 661	8672-167-758	KEFQ 0805 0,01 UF 10%
C 662	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
C 666	8672-167-758	KEFQ 0805 0,01 UF 10%
C 667	8672-167-758	KEFQ 0805 0,01 UF 10%
C 670	8452-967-169	ELKO AMMO5 33UF 35V
C 701	8672-167-254	KEFQ 0805 4700PF 10%
C 702	8672-167-254	KEFQ 0805 4700PF 10%
C 703	75990-200.19	KONDENS. 470PF SMD
C 704	75990-200.19	KONDENS. 470PF SMD
C 707	8452-967-169	ELKO AMMO5 33UF 35V

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
C 801	8525-001-273	MKS 2 0,1 UF 5% 63V
C 802	75990-201.00	MKT 5/1 1500 PF 10% 63 V
C 803	8555-268-241	MKT 5/5 4700PF 5%
C 804	8525-001-273	MKS 2 0,1 UF 5% 63V
C 805	8672-159-134	KEFQ 0805 100PF 5%
C 806	8672-167-254	KEFQ 0805 4700PF 10%
C 807	8672-167-758	KEFQ 0805 0,01 UF 10%
C 808	8452-967-169	ELKO AMMO5 33UF 35V
C 809	8672-167-270	KEFQ 0805 0,1 UF 10%
C 812	8672-167-758	KEFQ 0805 0,01 UF 10%
C 813	8525-001-273	MKS 2 0,1 UF 5% 63V
C 815	8672-167-279	KEFQ 0805 0,047UF 10%
C 816	8672-167-270	KEFQ 0805 0,1 UF 10%
C 817	8672-167-270	KEFQ 0805 0,1 UF 10%
C 818	8672-167-270	KEFQ 0805 0,1 UF 10%
C 819	8672-160-126	KEFQ 0805 22PF 5%
C 820	8672-167-279	KEFQ 0805 0,047UF 10%
C 821	8672-167-253	KEFQ 0805 3900PF 10%
C 822	8672-167-270	KEFQ 0805 0,1 UF 10%
C 823	8525-001-273	MKS 2 0,1 UF 5% 63V
C 824	8672-167-270	KEFQ 0805 0,1 UF 10%
C 825	8672-167-270	KEFQ 0805 0,1 UF 10%
C 827	8672-160-135	KEFQ 0805 120PF 5%
C 828	8672-167-262	KEFQ 0805 0,022UF 10%
C 830	8672-167-270	KEFQ 0805 0,1 UF 10%
C 831	8452-668-234	ELKO 1UF 20% 50V RM2,5
C 832	8452-668-234	ELKO 1UF 20% 50V RM2,5
C 833	8525-001-273	MKS 2 0,1 UF 5% 63V
C 834	8672-167-758	KEFQ 0805 0,01 UF 10%
C 835	8452-967-169	ELKO AMMO5 33UF 35V
C 836	8672-167-758	KEFQ 0805 0,01 UF 10%
C 840	8672-167-270	KEFQ 0805 0,1 UF 10%
C 841	8672-160-129	KEFQ 0805 39PF 5%
C 860	8672-159-134	KEFQ 0805 100PF 5%
C 861	8672-159-134	KEFQ 0805 100PF 5%
C 900	75990-200.19	KONDENS. 470PF SMD
C 901	75990-200.19	KONDENS. 470PF SMD
C 902	75990-200.19	KONDENS. 470PF SMD
C 903	8672-159-146	KEFQ 0805 1000PF 5%
C 904	8672-159-146	KEFQ 0805 1000PF 5%
C 905	8672-159-146	KEFQ 0805 1000PF 5%
C 906	75990-200.76	KONDENSATOR 2,2N 2KV
C 907	75990-200.43	ELKO GR5 10UF 250V 20%
CN 1	75990-500.13	SCART-KABEL
CN 700	75990-200.75	SCART BUCHSE
CN 900	△ 75990-300.76	BILDROHRFASSUNG
CN 900	△ 75990-300.75	BILDROHRFASSUNG (HUAFEI)
CR 500	75990-200.68	QUARZ CSA 8 MHZ
CT 2	75990-500.10	KERAMIK FILTER DSS30655
CT 3	75990-500.10	KERAMIK FILTER DSS30655
CT 4	75990-500.10	KERAMIK FILTER DSS30655
CT 401	75990-300.65	FILTER TPS 6,0 MHZ
D 1	72008-393.98	DIODE BZX 79 C 4 V 7
D 2	8309-215-045	DIODE 1N4148
D 3	75987-392.37	DIODE BZX 79 C 6 V 8
D 4	8309-215-045	DIODE 1N4148
D 5	8309-215-045	DIODE 1N4148
D 6	8309-215-045	DIODE 1N4148
D 7	75990-500.11	DIODE LL 103A/B/C
D 100	8309-215-127	DIODE 1 N 4007 -GA
D 101	8309-215-127	DIODE 1 N 4007 -GA
D 102	8309-215-127	DIODE 1 N 4007 -GA
D 103	8309-215-127	DIODE 1 N 4007 -GA
D 104	8309-201-103	DIODE BA157/RGP10G GI

POS. NR. POS. NO.	SACHNUMMER PART NUMBER	BEZEICHNUNG DESCRIPTION
D 105	75990-500.24	DIODE LL 4148
D 107	8309-201-101	DIODE BA 159
D 110	75990-500.03	DIODE BYD 37 K
D 112	8309-215-127	DIODE 1 N 4007 -GA
D 113	8309-215-127	DIODE 1 N 4007 -GA
D 114	8309-204-060	DIODE BY299 FAGOR/ BYV37
D 115	8309-204-060	DIODE BY299 FAGOR/ BYV37
D 116	8309-517-098	DIODE BYW 98-100THO/UES
D 118	8309-517-098	DIODE BYW 98-100THO/UES
D 120	8305-306-003	IC ZTK 33 B/C DPD ITT
D 200	8309-215-127	DIODE 1 N 4007 -GA
D 202	75990-500.25	DIODE MINI-MELF 4,7V 5%
D 300	8309-201-103	DIODE BA157/RGP10G GI
D 301	8309-201-103	DIODE BA157/RGP10G GI
D 302	8309-201-103	DIODE BA157/RGP10G GI
D 303	8309-201-103	DIODE BA157/RGP10G GI
D 304	75990-200.45	DIODE BY 133
D 305	75990-500.24	DIODE LL 4148
D 500	75990-200.61	DIODE RED LED
D 501	8309-215-045	DIODE 1N4148
D 502	8309-215-045	DIODE 1N4148
D 503	8309-215-045	DIODE 1N4148
D 504	8309-215-045	DIODE 1N4148
D 540	75990-500.26	DIODE MINI-MELF 3,9V 2%
D 650	75990-500.24	DIODE LL 4148
D 652	75990-500.24	DIODE LL 4148
D 653	75990-500.24	DIODE LL 4148
D 654	75990-500.24	DIODE LL 4148
D 655	75990-500.24	DIODE LL 4148
D 801	75990-500.24	DIODE LL 4148
D 802	75990-500.24	DIODE LL 4148
D 804	75990-500.24	DIODE LL 4148
D 900	75990-500.24	DIODE LL 4148
D 901	75990-500.24	DIODE LL 4148
D 902	75990-500.24	DIODE LL 4148
F 100	△ 75990-500.31	SICHERUNG 2,5 AT
F 101	△ 75990-500.31	SICHERUNG 2,5 AT
IC 1	75990-500.18	IC MSP 3410 (NICAM)
IC 2	75990-500.14	IC TDA 2007 A
IC 2	75990-500.23	IC TDA 2615
IC 3	75990-500.15	IC 78 M 05
IC 4	75990-500.16	IC HEF 4053
IC 100	75990-200.23	IC 3844
IC 102	8305-202-906	IC UA 7805C/KC MOUNT.KIT
IC 200	8305-348-170	IC TDA 8170 SGS
IC 300	8305-302-581	IC 7812 SAM
IC 400	75990-500.27	IC STV 8224 A
IC 500	75990-500.04	IC ST 6375
IC 600	75990-500.32	IC TDA 4445 B
IC 650	75990-500.06	IC TEXTTEURO CF 70200
IC 651	8305-972-306	IC CF 72306 TID
IC 800	75990-200.58	IC MC 44007/44140
IC 801	75990-200.59	IC MC 44140/44007
IR 500	75990-200.64	IC TFMS 5380
L 2	75990-200.71	DR AX 0411 10UH 10%
L 3	75990-200.71	DR AX 0411 10UH 10%
L 4	75990-200.71	DR AX 0411 10UH 10%
L 40	75990-300.06	SPULE 150UH
L 100	75990-500.20	RFI OREGA 1018291 0,5 A
L 101	75990-500.21	INDUCTOR 100UH 10% LHL 13
L 102	75990-500.33	FERRITE STAB
L 103	75990-200.46	SPULE 100UH
L 300	75990-300.08	SPULE 65UH
L 300	75990-300.07	SPULE 80UH (SAMSUNG)

POS. NR.	SACHNUMMER	BEZEICHNUNG
POS. NO.	PART NUMBER	DESCRIPTION
TR 6	75990-100.10	SMD-TRANS. BC 847
TR 7	75990-100.10	SMD-TRANS. BC 847
TR 8	75990-100.10	SMD-TRANS. BC 847
TR 9	75990-100.10	SMD-TRANS. BC 847
TR 10	75990-100.10	SMD-TRANS. BC 847
TR 11	75990-100.10	SMD-TRANS. BC 847
TR 12	75990-100.10	SMD-TRANS. BC 847
TR 13	75990-100.10	SMD-TRANS. BC 847
TR 14	75990-100.10	SMD-TRANS. BC 847
TR 20	75990-100.10	SMD-TRANS. BC 847
TR 100	75990-500.05	TRANSISTOR BUZ 80 A
TR 300	75990-100.00	3-FACH 7-SEGMENT-ANZEIGE
TR 301	8302-222-422	TRANS.BF 422 NUR=VAL
TR 302	75990-200.33	TRANSISOR MJF18204 TO220
TR 410	8302-920-390	TRANS.2 N 3904
TR 540	75990-100.10	SMD-TRANS. BC 847
TR 541	75990-200.67	SMD-TRANS. BCX 19
TR 700	75990-100.10	SMD-TRANS. BC 847
TR 800	8301-004-847	SMD-TRANS.BC 847 B
TR 801	75990-100.10	SMD-TRANS. BC 847
TR 802	75990-100.10	SMD-TRANS. BC 847
TR 803	75990-100.10	SMD-TRANS. BC 847
TR 900	75990-200.79	TRANSISTOR BF 871
TR 901	75990-200.79	TRANSISTOR BF 871
TR 902	75990-200.79	TRANSISTOR BF 871
TR 903	75990-200.80	TRANSISTOR BF423 TO92
TR 904	75990-200.80	TRANSISTOR BF423 TO92
TR 905	75990-200.80	TRANSISTOR BF423 TO92
VR 100	75990-200.37	VARISTOR 4,7KOHM
XT 1	75990-500.17	QUARZ KRISTAL 18,432 MHZ
XT 650	75990-500.07	QUARZ 13,875 MHZ
XT 800	75990-200.60	QUARZ 17,734 MHZ

POS. NR.	SACHNUMMER	BEZEICHNUNG
POS. NO.	PART NUMBER	DESCRIPTION
R 823	8706-100-099	R-CHIP 0805 12 KOHM 5%
R 824	8706-100-089	R-CHIP 0805 4,7 KOHM 5%
R 825	8706-100-089	R-CHIP 0805 4,7 KOHM 5%
R 826	8706-100-145	R-CHIP 0805 1 MOHM 5%
R 827	8706-100-108	R-CHIP 0805 30 KOHM 5%
R 828	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 829	8706-100-113	R-CHIP 0805 220 OHM 5%
R 830	8706-100-117	R-CHIP 0805 68 KOHM 5%
R 832	△ 75990-500.29	WIDERSTAND 1 OHM 1/4W 5%
R 835	8706-100-131	R-CHIP 0805 270 KOHM 5%
R 836	8706-100-153	R-CHIP 0805 2,2 MOHM 5%
R 840	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 841	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 845	8706-100-065	R-CHIP 0805 470 OHM 5%
R 900	75990-300.78	KSW 0411 15KOHM 1W
R 901	8706-100-049	R-CHIP 0805 100 OHM 5%
R 903	8706-100-061	R-CHIP 0805 330 OHM 5%
R 904	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 905	75990-300.78	KSW 0411 15KOHM 1W
R 906	8706-100-049	R-CHIP 0805 100 OHM 5%
R 908	8706-100-061	R-CHIP 0805 330 OHM 5%
R 909	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 910	75990-300.77	WIDERSTAND PTC DUO
R 911	8706-100-049	R-CHIP 0805 100 OHM 5%
R 913	8706-100-061	R-CHIP 0805 330 OHM 5%
R 914	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 915	75990-300.13	MOW 0411 0,68 OHM 5% GA
R 915	75990-300.16	MOW 2,7 (HUAFEI)
R 915	75990-300.32	MOW 0,82 (SAMSUNG)
R 916	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 917	△ 8700-249-077	KSW NB 0411 1,5 KOHM 5%
R 918	△ 8700-229-049	KSW NB 0207 100 OHM 5%
R 920	8706-100-049	R-CHIP 0805 100 OHM 5%
SAW 600	75990-500.08	OFW J 3252
SJ 1	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
SJ 2	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
SJ 3	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
SJ 4	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
SJ 200	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
SW 100	△ 75990-200.36	NETZSCHALTER
SW 500	75990-500.30	SCHALTER, TAKT
SW 501	75990-500.30	SCHALTER, TAKT
SW 502	75990-500.30	SCHALTER, TAKT
SW 503	75990-500.30	SCHALTER, TAKT
T 100	75990-500.19	SMT 4 G5516-01
T 300	△ 75990-500.09	EHT-TRAFO L27 G5652-01
T 300	△ 75990-200.48	EHT TRAFO
T 311	75990-200.49	VERZOEGERUNGSLEITUNG TX
TR 1	75990-100.10	SMD-TRANS. BC 847
TR 2	8301-000-857	SMD-TRANS.BC 857
TR 3	75990-100.10	SMD-TRANS. BC 847
TR 4	75990-500.12	TRANSISTOR BC 327 TO92
TR 5	75990-100.10	SMD-TRANS. BC 847

Es gelten die Vorschriften und Sicherheitshinweise gemäß dem Service Manual "Sicherheit", Sach-Nummer 72010-800.00, sowie zusätzlich die eventuell abweichenden, landesspezifischen Vorschriften!



The regulations and safety instructions shall be valid as provided by the "Safety" Service Manual, part number 72010-800.00, as well as the respective national deviations.

POS. NR.	SACHNUMMER	BEZEICHNUNG
POS. NO.	PART NUMBER	DESCRIPTION
R 512	8700-007-485	KSW 0207 3,3 KOHM 5%
R 513	8706-100-121	R-CHIP 0805 100 KOHM 5%
R 514	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 515	8706-100-055	R-CHIP 0805 180 OHM 5%
R 524	8700-007-471	KSW 0207 820 OHM 5%
R 528	8700-007-463	KSW 0207 390 OHM 5%
R 530	8706-100-057	R-CHIP 0805 220 OHM 5%
R 531	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 532	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 533	8700-007-497	KSW 0207 10 KOHM 5%
R 534	8706-100-113	R-CHIP 0805 47 KOHM 5%
R 535	8706-100-081	R-CHIP 0805 2,2 KOHM 5%
R 540	8700-007-505	KSW 0207 22 KOHM 5%
R 541	8706-100-089	R-CHIP 0805 4,7 KOHM 5%
R 542	8706-100-089	R-CHIP 0805 4,7 KOHM 5%
R 545	8706-100-065	R-CHIP 0805 470 OHM 5%
R 546	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 547	8706-100-065	R-CHIP 0805 270 OHM 5%
R 600	8706-100-089	R-CHIP 0805 4,7 KOHM 5%
R 601	8706-100-089	R-CHIP 0805 4,7 KOHM 5%
R 650	△ 75952-030.91	KSW SI A 4,7 OHM 5% GA
R 651	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 652	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 653	8700-007-493	KSW 0207 6,8 KOHM 5%
R 654	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
R 655	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 656	8765-098-049	MSW 0207 100 OHM 5% TK100
R 673	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 674	8706-100-071	R-CHIP 0805 820 OHM 5%
R 675	8706-100-125	R-CHIP 0805 150 KOHM 5%
R 676	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 677	8706-100-115	R-CHIP 0805 56 KOHM 5%
R 678	8706-100-117	R-CHIP 0805 68 KOHM 5%
R 700	8706-100-063	R-CHIP 0805 390 OHM 5%
R 701	8706-100-063	R-CHIP 0805 390 OHM 5%
R 702	8706-100-063	R-CHIP 0805 390 OHM 5%
R 703	8706-100-065	R-CHIP 0805 470 OHM 5%
R 704	8706-100-065	R-CHIP 0805 470 OHM 5%
R 705	8700-007-446	KSW 0207 75 OHM 5%
R 706	8700-007-446	KSW 0207 75 OHM 5%
R 707	8700-007-446	KSW 0207 75 OHM 5%
R 708	8700-007-446	KSW 0207 75 OHM 5%
R 709	8700-007-446	KSW 0207 75 OHM 5%
R 710	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 712	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 713	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 714	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 716	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 717	8706-100-049	R-CHIP 0805 100 OHM 5%
R 718	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 722	8706-100-049	R-CHIP 0805 100 OHM 5%
R 800	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 801	8706-100-049	R-CHIP 0805 100 OHM 5%
R 802	8706-100-049	R-CHIP 0805 100 OHM 5%
R 803	8706-100-049	R-CHIP 0805 100 OHM 5%
R 804	8706-100-103	R-CHIP 0805 18 KOHM 5%
R 805	8706-100-057	R-CHIP 0805 220 OHM 5%
R 806	8706-100-069	R-CHIP 0805 680 OHM 5%
R 807	8706-100-057	R-CHIP 0805 220 OHM 5%
R 808	8706-100-069	R-CHIP 0805 680 OHM 5%
R 809	8706-100-057	R-CHIP 0805 220 OHM 5%
R 810	8706-100-069	R-CHIP 0805 680 OHM 5%
R 811	8706-100-108	R-CHIP 0805 30 KOHM 5%
R 812	8706-100-057	R-CHIP 0805 220 OHM 5%
R 813	8706-100-113	R-CHIP 0805 47 KOHM 5%
R 815	8706-100-121	R-CHIP 0805 100 KOHM 5%
R 816	8706-100-169	R-CHIP 0805 10 MOHM 10%
R 817	8706-100-121	R-CHIP 0805 100 KOHM 5%
R 819	8706-100-061	R-CHIP 0805 330 OHM 5%
R 820	8706-100-061	R-CHIP 0805 330 OHM 5%
R 821	8706-100-114	R-CHIP 0805 51 KOHM 5%
R 822	8706-100-113	R-CHIP 0805 47 KOHM 5%

POS. NR.	SACHNUMMER	BEZEICHNUNG
POS. NO.	PART NUMBER	DESCRIPTION
L 301	75990-300.06	SPULE 150 UH (HUAFEI)
L 302	75990-200.46	SPULE 100UH
L 400	75990-200.71	DR AX 0411 10UH 10%
L 401	75990-200.53	SPULE
L 500	75990-200.65	SPULE 56UH
L 540	75990-200.66	KONDENS. 1NF 1KV
L 600	75990-200.66	KONDENS. 1NF 1KV
L 601	75990-500.28	SPULE 1UH 10% LAL 02
L 602	75990-200.71	DR AX 0411 10UH 10%
L 603	75990-500.34	SPULE 6,8UH 10% LAL04
L 604	75990-200.53	SPULE
L 650	75990-200.71	DR AX 0411 10UH 10%
R 34	△ 75990-300.12	MSW NB 0207 10 OHM 5% AX
R 35	△ 75990-300.12	MSW NB 0207 10 OHM 5% AX
R 100	75990-300.77	WIDERSTAND PTC DUO
R 101	75990-200.27	WIDERSTAND 68KOHM 2W
R 103	8765-098-049	MSW 0207 100 OHM 5% TK100
R 105	75990-200.28	WIDERSTAND 7,5KOHM 1/4W
R 106	8706-100-125	R-CHIP 0805 150 KOHM 5%
R 107	8706-100-506	SMD R 0805 24 KOHM 1%
R 108	8706-100-493	R-CHIP 0805 6,8 KOHM 1%
R 109	75990-200.29	WIDERSTAND 1,2KOHM 5W
R 111	8706-100-105	R-CHIP 0805 22 KOHM 5%
R 112	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 115	△ 75990-200.31	WIDERSTAND 10MOHM VR23
R 116	△ 75990-200.32	MSW NB 0207 0,22 OHM 5%
R 119	8765-098-095	MSW 0207 8,2 KOHM 5% TK10
R 120	8765-098-095	MSW 0207 8,2 KOHM 5% TK10
R 132	△ 75990-200.32	MSW NB 0207 0,22 OHM 5%
R 200	△ 75952-030.91	KSW SI A 4,7 OHM 5% GA
R 201	8706-100-093	R-CHIP 0805 6,8 KOHM 5%
R 202	8706-100-103	R-CHIP 0805 18 KOHM 5%
R 203	8706-100-089	R-CHIP 0805 4,7 KOHM 5%
R 204	75988-011.49	CHIP-JUMPER 0805 MAX 0R05
R 205	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 206	△ 75990-500.29	WIDERSTAND 1 OHM 1/4W 5%
R 207	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 208	8706-100-097	R-CHIP 0805 10 KOHM 5%
R 209	8700-007-461	KSW 0207 330 OHM 5%
R 210	8765-098-283	MSW 0207 2,7 KOHM 2% TK10
R 211	75990-300.19	MSW 0207 1 OHM 1% GA
R 211	75990-300.32	MSW 0,82 OHM (SAMSUNG)
R 300	△ 75990-300.09	KSW SI A 820 OHM 5% GA
R 301	75990-300.09	KSW SI A 820 OHM (HUAFEI)
R 302	8765-097-129	MSW 0204 220 KOHM 5% TK10
R 303	8765-097-129	MSW 0204 220 KOHM 5% TK10
R 304	8706-100-105	R-CHIP 0805 22 KOHM 5%
R 305	8706-100-089	R-CHIP 0805 4,7 KOHM 5%
R 306	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 307	8706-100-073	R-CHIP 0805 1 KOHM 5%
R 310	8706-100-041	R-CHIP 0805 47 OHM 5%
R 311	△ 75990-500.29	WIDERSTAND 1 OHM 1/4W 5%
R 312	△ 75990-201.01	KSW SI A 0,68 OHM 5%
R 314	75990-200.47	WIDERSTAND 6,8K 4W MO
R 315	8765-097-025	MSW 0204 10 OHM 5% TK100
R 350	8765-097-099	MSW 0204 12 KOHM 5% TK100
R 405	8706-100-061	R-CHIP 0805 330 OHM 5%
R 412	8706-100-061	R-CHIP 0805 330 OHM 5%
R 419	8700-007-529	KSW 0207 220 KOHM 5%
R 422	8700-007-473	KSW 0207 1 KOHM 5%
R 423	8700-007-501	KSW 0207 15 KOHM 5%
R 426	△ 8766-701-033	KSW SI A 22 OHM 5%
R 505	8706-100-113	R-CHIP 0805 47 KOHM 5%
R 506	8706-100-105	R-CHIP 0805 22 KOHM 5%
R 507	8706-100-105	R-CHIP 0805 22 KOHM 5%
R 508	8706-100-105	R-CHIP 0805 22 KOHM 5%
R 509	8706-100-085	R-CHIP 0805 3,3 KOHM 5%
R 510	8706-100-085	R-CHIP 0805 3,3 KOHM 5%
R 510	8706-100-103	R-CHIP 0805 18 KOHM 5%
R 511	8700-007-491	KSW 0207 5,6 KOHM 5%