Service Manual

Chassis Professional 8500 Version D

Rel 1.2: test point + waveform implemented	SEP. 2004
Rel 1.3: schematic update	NOV. 2004

Service notes

After a repair the cables must be laid out as originally fitted to save compliance with original approval and to avoid failures or disturbances.
The mains cable prevents interference from the mains supply and is part of the product approval. For replacement the original spare part only must be used.

Note di servizio

Dopo una riparazione i cavi devono essere disposti come posizionati all'origine per mantenere la corrispondenza con le approvazioni originali ed evitare guasti o disturbi.
Il cavo di alimentazione previene interferenze provenienti dalla rete elettrica ed è parte delle approvazioni del prodotto. Per la sostituzione deve essere utilizzato esclusivamente il ricambio originale.

Chassis Professional 8500 service procedure

Power supply

Using PP2, set the value of +VB at the terminals of CP31 (the values for different types of CRT are indicated in the table on the circuit diagram).

Entering service mode

1. Power up the appliance by pressing the on-off switch simultaneously pressing and holding the **MENU** button of the **cabinet controls** until the red LED lights up.

2. Release the MENU button at the cabinet and press the **stand-by** button on the **remote control**. The appliance will start up in service mode with a specific support menu.

3. The functions can be selected using the **UP/DOWN** buttons of the remote control then adjusted with the **Volume ±** buttons. It is advisable to note down the initial value of each parameter before making any adjustment, so that it can be restored easily if necessary.

If the memory NVM (ICR3) is replaced, it is essential to carry out all the adjustments required in service mode because the replacement memory is supplied NOT pre-programmed. These operations may take some time, so you must wait until they are complete.

Although the individual settings can be accessed and memorised individually and independently, it is advisable to carry them out in the sequence in which they appear when pressing the DOWN key.

Option byte

The correct value for the individual appliance is indicated on the label affixed to the rear of the cabinet alongside the words **Option byte**. The value can be entered using the number keys on the remote control.

Crystal Adjustment

The adjustment start pressing the Volume + or – of remote control and the setting will be made automatically. **(Warning: PAL signal is mandatory)**.

AGC tuner setting

Applying a signal of 1mV to the aerial input (UHF channel), adjust so as to give 4 V_{DC} at pin 1 of the tuner.

Screen grid voltage (Vg2)

Adjust the potentiometer G2 on the transformer EHT until the confirmation message appears. No particular signal set-up is required.

Vertical geometry

The **VS** (Vertical Slope) function must be adjusted in such a way that the central horizontal line in the test signal is exactly on the border between the visible image and the lower black part. **It must not subsequently be altered.**

Now set the remaining parameters as accurately as possible in the sequence in which they appear.

Horizontal geometry

Adjust as accurately as possible in the sequence in which they appear.

Adjusting white (Red/Green)

Using a B/W bar signal, adjust to obtain a grey image. The blue setting is fixed.

Exiting service mode

Once you have made the necessary adjustments, press the **OK** key on the remote control in one of the menus in which it is active to store all the functions and return to normal operation of the appliance.

Procedura servizio Chassis Professional 8500

Alimentatore

Regolare con PP2 il valore di +VB ai capi di CP31 (i valori per i diversi tipi di cinescopio sono indicati nella tabella riportata sullo schema elettrico).

Attivazione modo servizio

1. Accendendere l'apparecchio con l'interruttore di rete tenendo contemporaneamente premuto il tasto **MENU del comando locale** fino a quando non si illumina il LED rosso.

2. Rilasciare il tasto MENU del comando locale ed azionare il tasto **stand-by del telecomando**; l'apparecchio si accenderà in modo servizio con uno specifico menu di supporto.

3. La selezione delle varie funzioni è possibile con i tasti **UP/DOWN** del telecomando e la regolazione si effettua con i tasti **Volume +**. E' consigliabile annotare il valore iniziale prima di effettuare la regolazione per poterlo facilmente ripristinare in caso di necessità.

Nel caso di sostituzione della memoria NVM (ICR3) è indispensabile eseguire tutte le regolazioni previste dal modo servizio, in quanto la memoria di ricambio viene fornita NON pre-programmata. Il processo sopra indicato può richiedere tempi considerevoli; attendere fino al suo completamento.

E' consigliabile che le singole regolazioni, pur accessibili e memorizzabili singolarmente in modo indipendente, vengano eseguite nella sequenza in cui si presentano azionando il tasto DOWN.

Option byte

Il valore corretto da impostare per ogni apparecchio è riportato sull'etichetta dello schienale accanto alla scritta **Option byte**, il valore deve essere introdotto con i tasti numerici del telecomando.

Regolazione Oscillatore (Crystal Adjustment)

La regolazione si avvia con una breve pressione dei tasti Volume + oppure Volume – e procede quindi automaticamente fino al valore esatto. **(Attenzione: è indispensabile che il segnale sia PAL)**.

Regolazione AGC tuner

Con un segnale di 1mV all'ingresso d'antenna (su di un canale UHF), regolare per 4 V_{DC} al pin 1 del tuner..

.

Tensione di griglia schermo (Vg2)

Regolare il potenziometro G2 del trasformatore EHT fino a quando compare il messaggio di conferma. Non è necessaria alcuna particolare predisposizione del segnale.

Geometria verticale

La regolazione della funzione **VS** (Vertical Slope) va effettuata regolando in modo tale che la riga orizzontale centrale del segnale test sia esattamente al confine fra immagine visibile e parte nera inferiore e **non deve venire successivamente modificata.**

Regolare quindi per il meglio i restanti parametri seguendo la successione proposta.

Geometria orizzontale

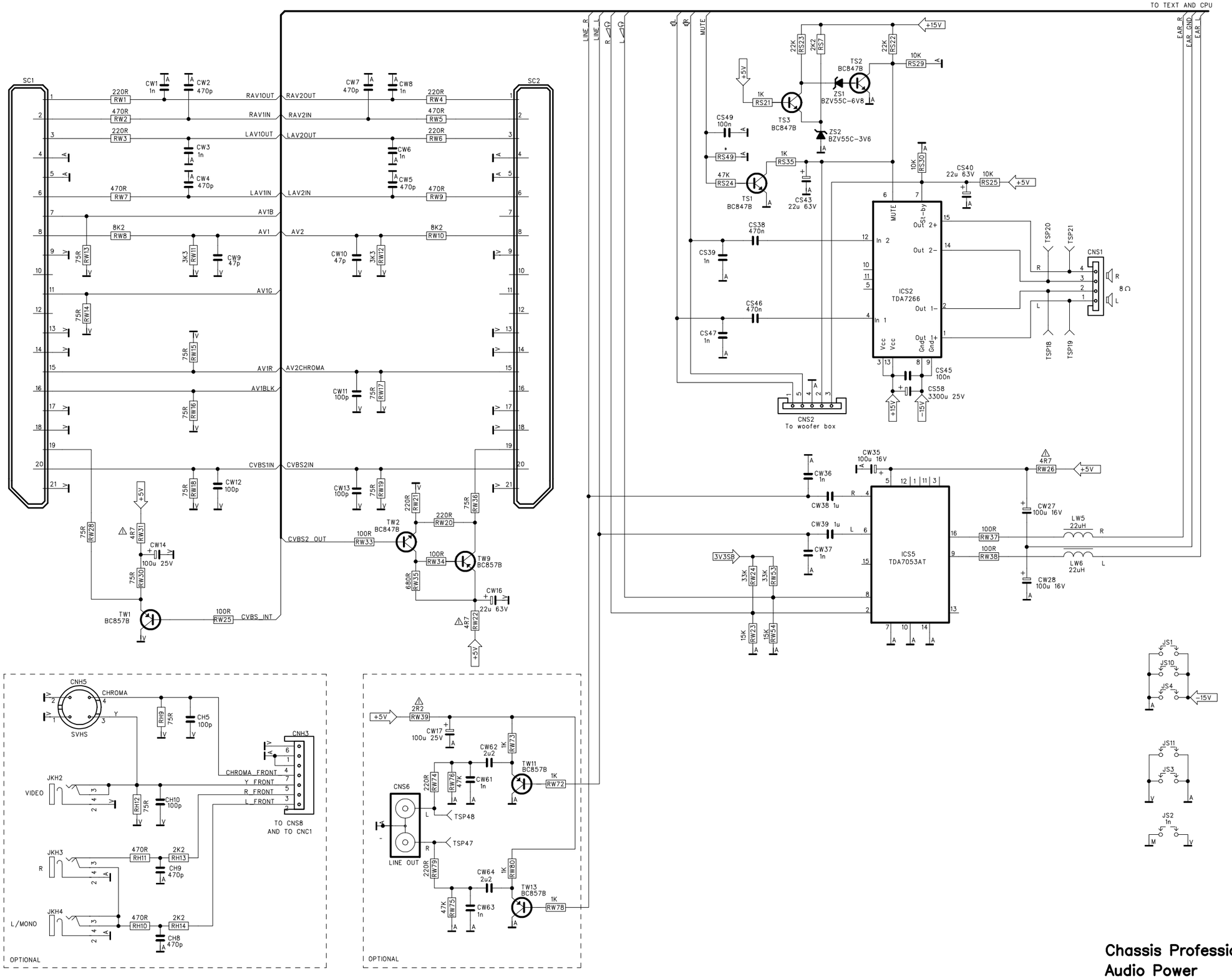
Regolare per il meglio seguendo la successione proposta.

Regolazione del bianco (Red/Green)

Con un segnale a barre B/N regolare per ottenere un'immagine grigia. La regolazione del blu è fissa.

Disattivazione modo servizio

Una volta eseguite le regolazioni necessarie, l'azionamento del tasto **OK** sul telecomando in uno dei menu che lo prevedono, esegue la memorizzazione di tutte le funzioni e ripristina il funzionamento normale dell'apparecchio.



Chassis Professional 8500
Audio Power **Rev 1.3**
Pg. 1/12

TO AUDIO POWER/CONNECTORS

TO AUDIO SIGNAL

BLKOSD ROSD GOSD BOSD

CPU2 CPU3 CPU4

CPU7 CPU6 CPU5

ON VD HD

CR21 100p SCL CPU8

CR34 100p SDA CPU9

R L (G) CPU10 CPU11

ENABLE VCA CPU12

AV1 CPU13 MUTE LR3 10uH CPU14

AV2 CPU15

LPW CPU16

RESET LR1 A601S CPU17

CVBS_TXT CPU18

RR25 *

TSP3 TSP8 TSP2 TSP1 SDA SCL SDA1 SCL1 CNR1 FACTORY

SDA SCL CNR2

+5V RR30 4K7 RR29 4K7

100R RR31 100R RR32 4K7 RR33 4K7 RR34

CR35 1u CR36 1u

100R RR26 6K8 RR21 CR24 1n

100R RR35 CR25 1n

100R RR42 CR43 1n

CR8 1n

22K RR43 CR9 100n CR10 100n CR11 100n

ICR1
SAA5667HL

0R RR1 CR7 470p HSYNC

0R RR23 CR27 470p VSYNC

CR29 100n LR4 A601S CR31 100u 10V VDDP

CR30 100n LR5 3V3SB VDDC

CPU20 3V3SB RR7 10K CR32 1n RR20 100R P2.6

CPU1 RR8 100R B

RR9 100R G

RR10 100R R

RR4 1K2 VDS

+5V CPU22 +3V3 CPU21 RR14 22K CR33 1u P0.3

CPU19 TSP17 3V3SB RR12 1K2

SCL SDA P2.3 P2.4 ADC3 ADC2 P2.5 ADC1 P0.6 P0.5 IREF SYNCFILTER CVBS1 CVBS0

WR RD D0 D1 D2 D3 D4 D5 D6 D7 A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17

ICC4
SRAM 512K X 8
OE WR CE

ADC0 P2.0 INT1 OSCGND XIN XOUT SCL1 SDA1 RESET VDDA

CPU23 CPU24 CPU25

RR55 100R CR46 1n

RR11 100R RR53 100R

CR47 33p OR1 12MHz CR48 33p

ICR3
M24C16-W

100R RR6 SDA1

100R RR52 SCL1

3K3 RR17 3K3 RR16

3V3SB CR2 100n CR5 22u 63V

CR3 2u2 1K RR28 ICR2 TS831-3 3V3SB

CR49 100n LR6 A601S

CR4 22u 63V CR1 100n LR2 A601S

TSP26 JH4 TSP27 JH3 TSP13 JH9 JH2 3V3SB TSP12 JH1 TSP28

JH8 15K RR2 3V3SB TSP11

CNH4

1K RH7 390R RH8 MENU

RH4 33K

560R RH2 TH2 BC847B

2K2 RH3 DH1 KDE33BAS TH1 BC847B

560R RH1

RH5 100R CH1 22u 6V3 IRH1 TSOP1836SS3V

TSP16 TSP15 TSP14 JH7 JH6 JH5 EAR R EAR L EAR GND

JKH1

CH3 1n CH4 1n CH2 1n

OPTIONAL

OPTION

Chassis Professional 8500
Text and CPU Rev 1.3
Pg. 2/12

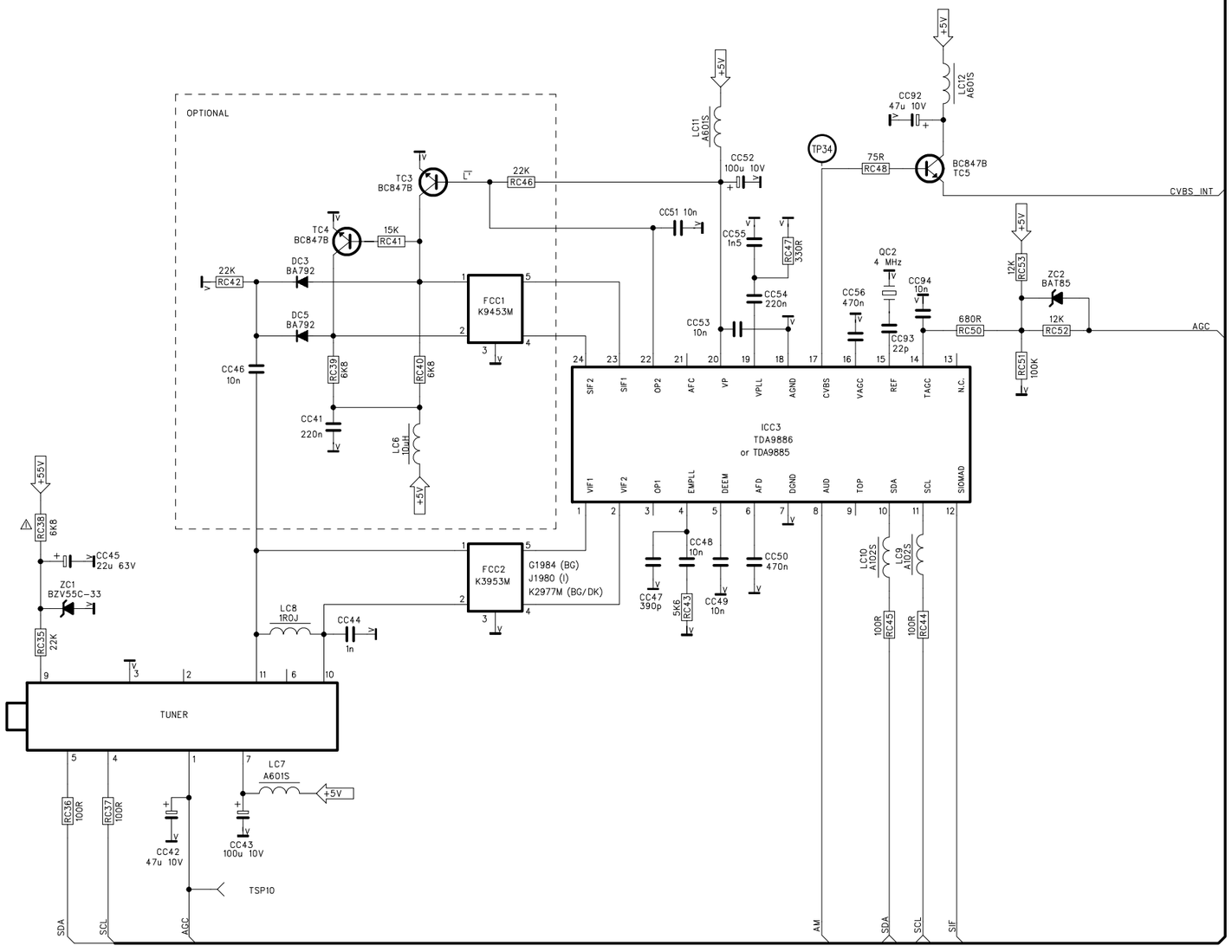
TO TEXT AND CPU

TO FRONT END

ICS3
SAA7715H

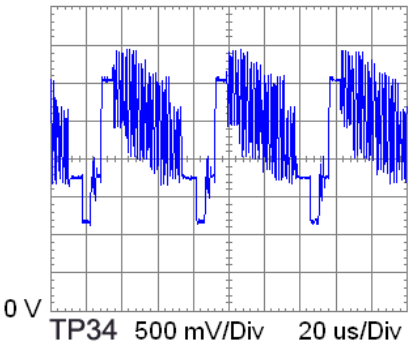
OPTIONAL

ICS1
TDA9870A V2
TDA9875A V2 (NICAM)

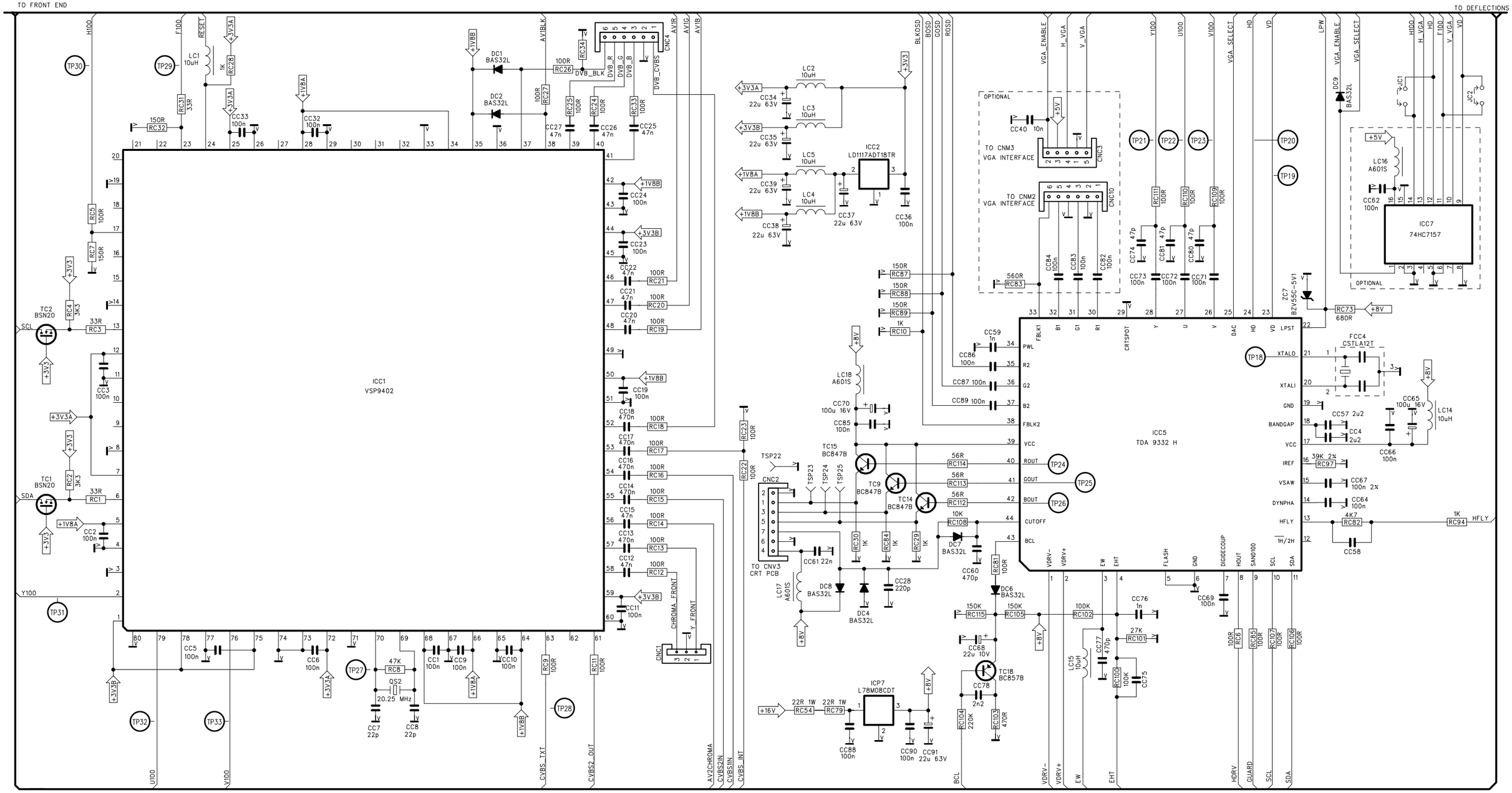

OPTIONAL
TC3 BC847B
TC4 BC847B
22K RC46
15K RC41
22K RC42
DC3 BA792
DC5 BA792
CC46 10n
RC39 6K8
RC40 6K8
CC41 220n
LC6 10µH
FCC1 K9453M
CC51 10n
CC52 100u 10V
CC55 1n5
RC47 330R
CC54 220n
CC53 10n
LC11 A601S
+5V
TP34
75R RC48
BC847B TC5
CVBS INT
CC92 47u 10V
LC12 A601S
QC2 4 MHz
CC56 470n
CC94 10n
CC93 22p
680R RC50
12K RC53
ZC2 BAT85
12K RC52
RC51 100K
AGC
ICC3 TDA9886 or TDA9885
SIF2 SIF1 OP2 AFC VP VPLL AGND CVBS VAGC REF TAGC N.C.
VIF1 VIF2 OP1 EMPLL DEEM AFD DGND AUD TOP SDA SCL SIOMAD
CC48 10n
CC47 390p
5K6 RC43
CC49 10n
CC50 470n
LC10 A1025
LC9 A1025
100R RC45
100R RC44
FCC2 K3953M
G1984 (BG)
J1980 (I)
K2977M (BG/DK)
+55V
RC38 6K8
CC45 22u 63V
ZC1 BZV55C-33
RC35 22K
LC8 1R0J
CC44 1n
TUNER
RC36 100R
RC37 100R
CC42 47u 10V
CC43 100u 10V
LC7 A601S
TSP10
SDA
SCL
AGC
AM
SDA
SCL
SIF

TEST POINT WAVEFORM LIST

FRONT END 8500

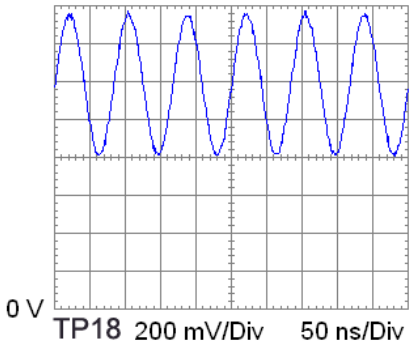


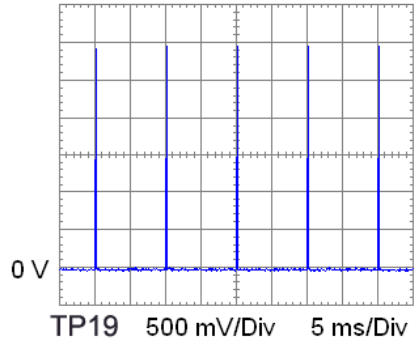
Rel. 1.3

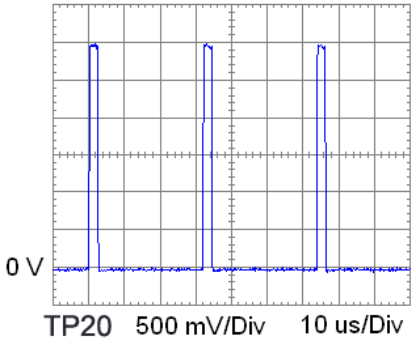


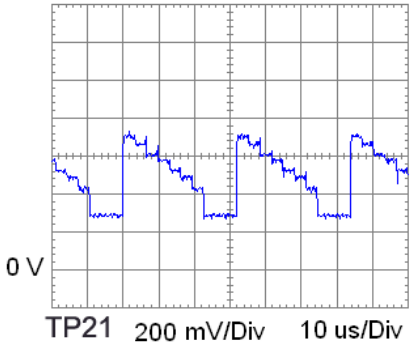
Chassis Professional 8500
Video/ Sync. Rev 1.3
Pg. 5/ 12

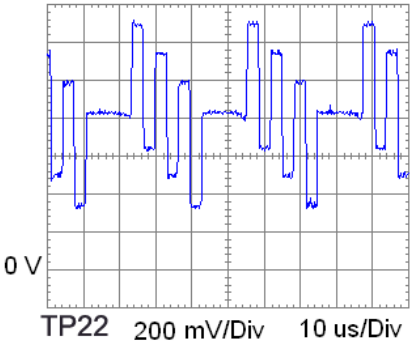
TEST POINT WAVEFORM LIST
VIDEO/SYNC 8500

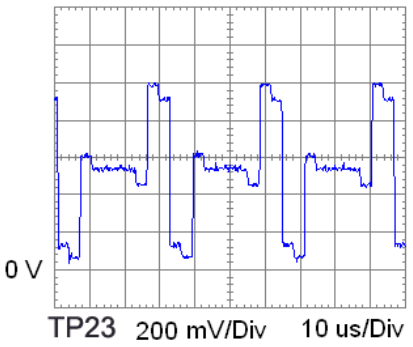


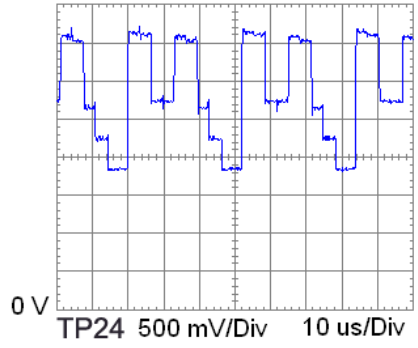


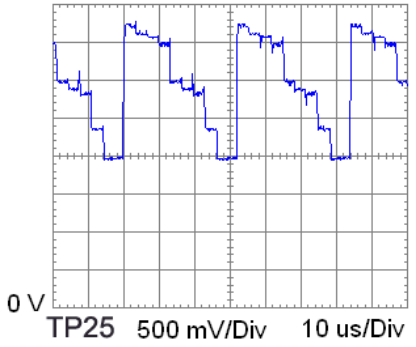


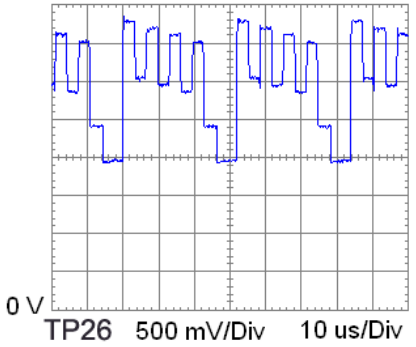


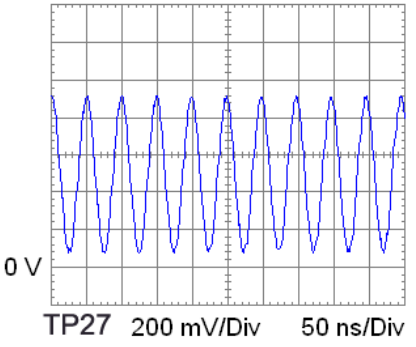


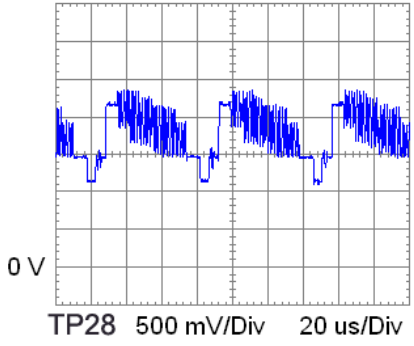


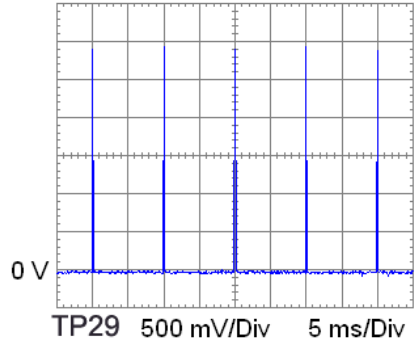


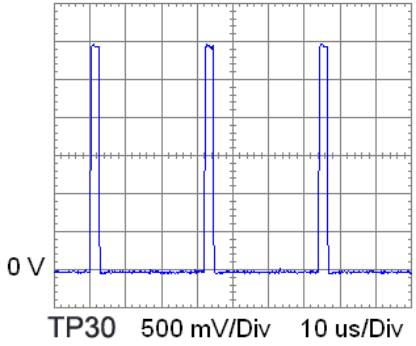


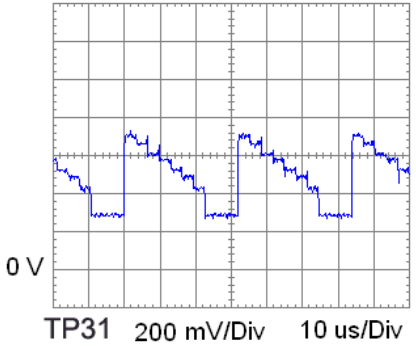


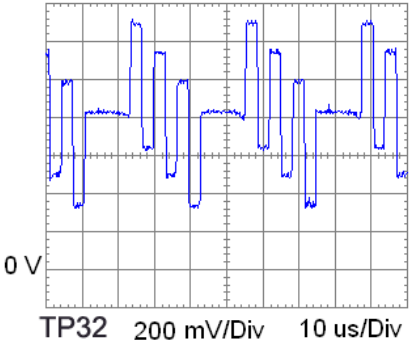


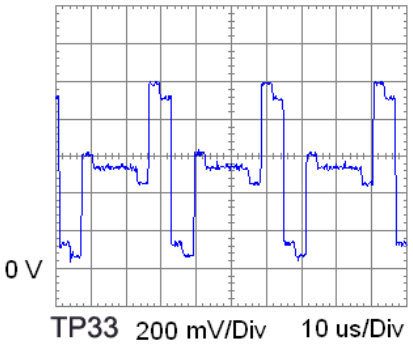




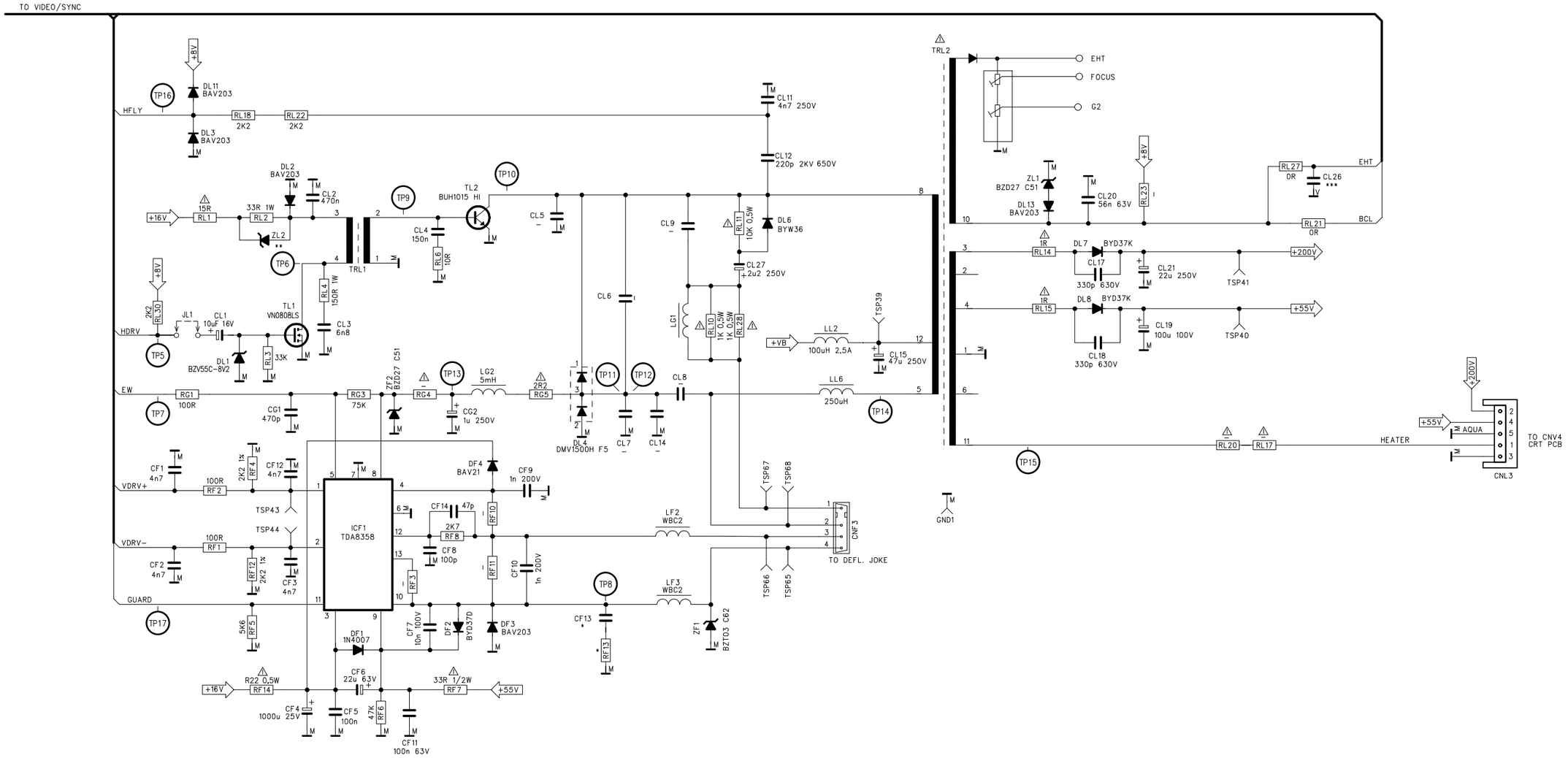






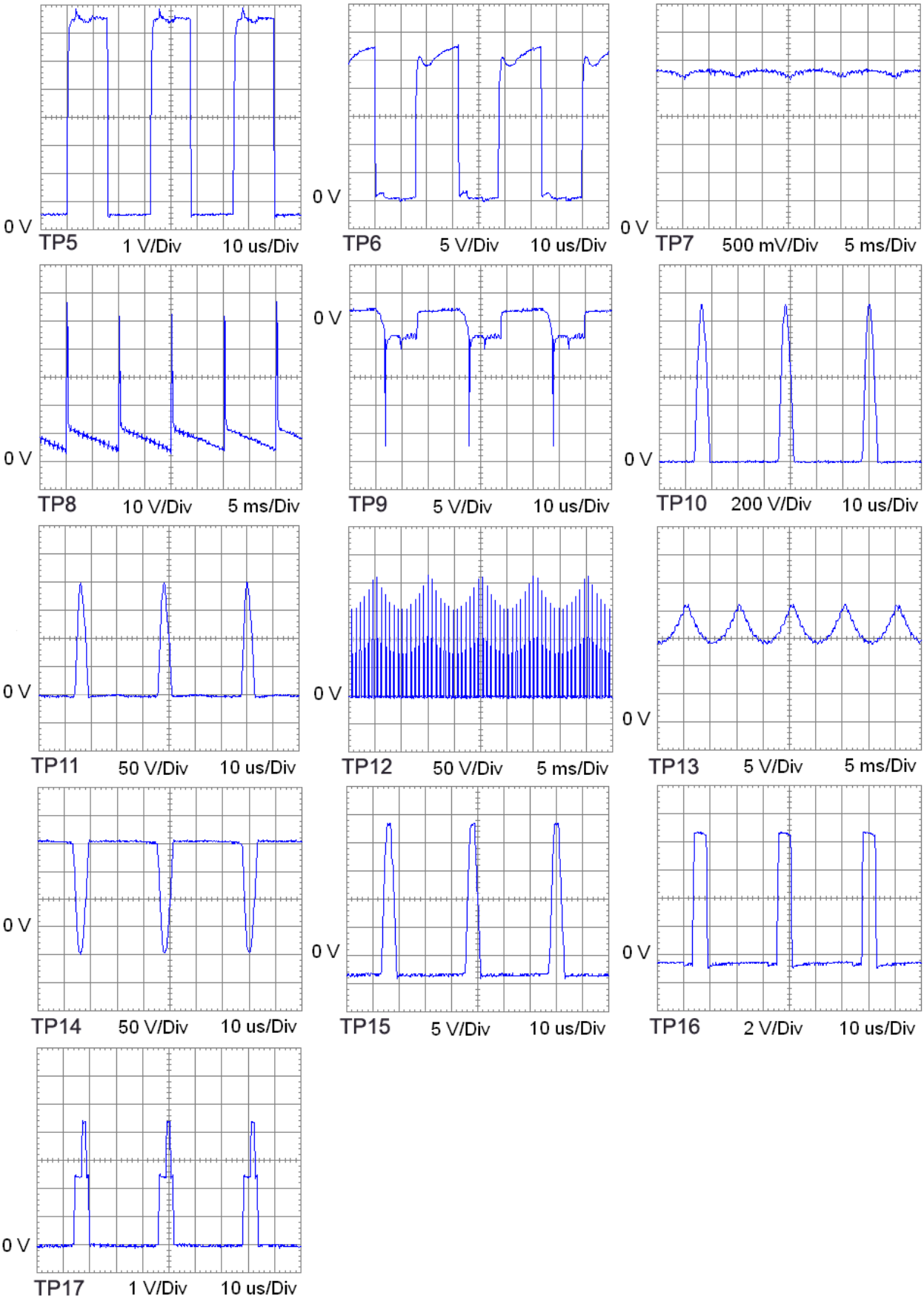


Rel. 1.3

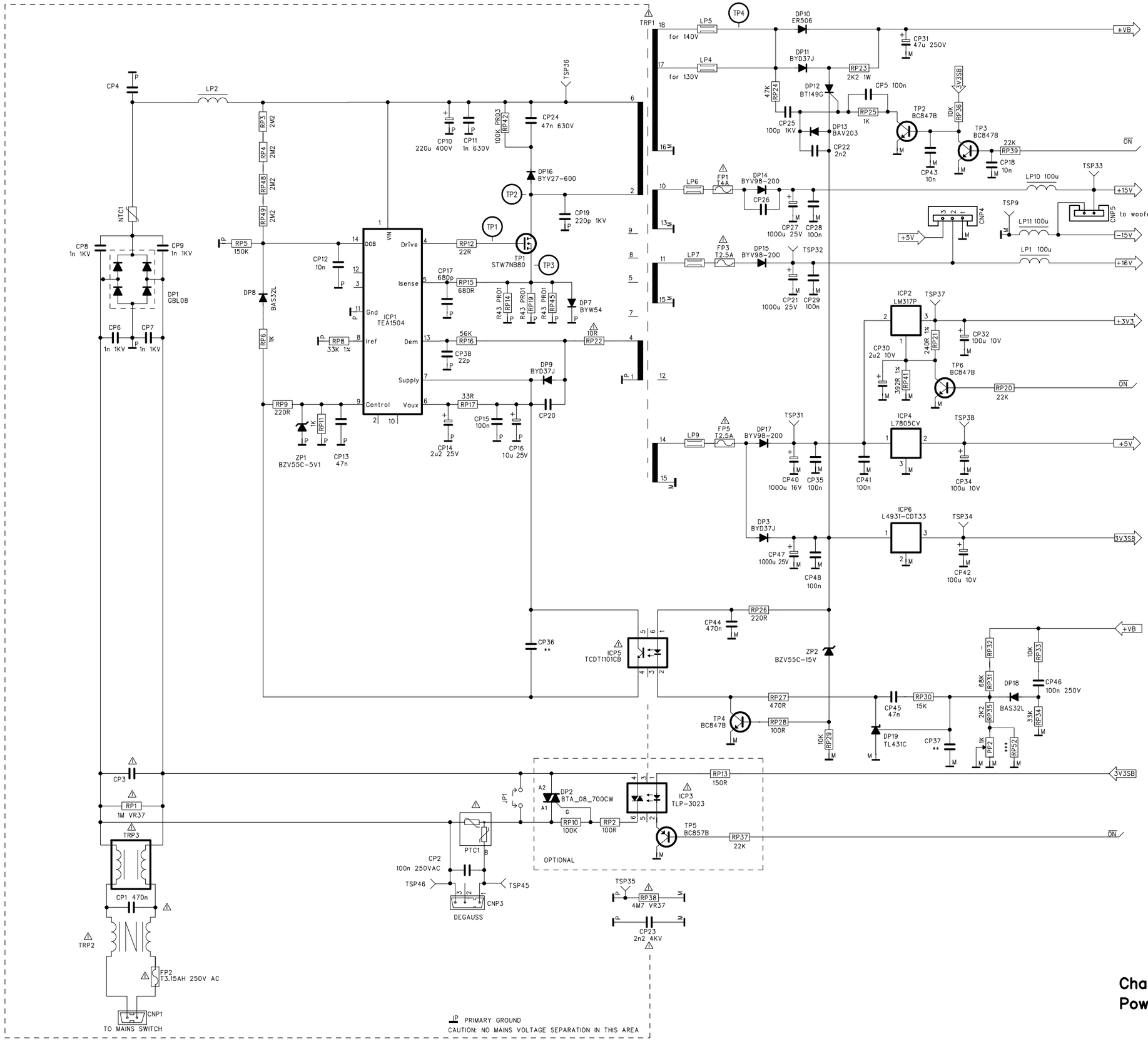


	+VB	RC79	RF3	RF10	RF11	LG1	RG3	CL5	CL6	CL7	CL8	CL9	RL17	RL20	RL23	RL27	LP4	LP5	RP32	RP34/TXT256	
A66EAK071X44/5X54 (28" 4/3)	142V	22R 2W	390K	R82 2W	330R 2W	55331	82K	1nF 1600V	11nF 1600V 3,5%	22nF 630V	560nF 400V	680nF 250V	2R2 2W	2R2 2W	4K7	220K	/	YES	82K	33K	
A66EMZ43X51 (28" 4/3)	142V	22R 2W	390K	R75 2W	150R 2W	53571	82K	1nF 1600V	10nF 1600V 3,5%	22nF 630V	470nF 400V	560nF 250V	3R3 2W	1R5 2W	4K7	330K	/	YES	82K	33K	
A66QEW13X20 (28" 4/3)	133V	27R 2W	390K	R82 2W	150R 2W	55331	82K	1nF 1600V	12nF 1600V 2,5%	18nF 630V	680nF 400V	820nF 250V	R68 2W	R68 2W	4K7	220K	YES	/	68K	33K	
A66QEW13X38 (28" 4/3)	133V	27R 2W	390K	R82 2W	680R 2W	55331	82K	1nF 1600V	12nF 1600V 2,5%	18nF 630V	680nF 400V	820nF 250V	R68 2W	R68 2W	4K7	220K	YES	/	68K	33K	
A68QCP893X232/993X509 (29"4/3-RF)	133V	27R 2W	390K	R82 2W	150R 2W	53571	82K	1nF 1600V	10nF 1600V 3,5%	18nF 630V	560nF 400V	680nF 250V	1R8 2W	1R8 2W	4K7	330K	YES	/	68K	33K	
A68ERF012X044 (29"4/3-RF)	133V	27R 2W	390K	1R3 2W	330R 2W	55331	82K	1nF 1600V	11nF 1600V 3,5%	18nF 630V	560nF 400V	820nF 250V	1R5 2W	1R8 2W	4K7	220K	YES	/	68K	33K	
A68ELA011X121 (29"4/3-RF)	133V	27R 2W	390K	1R3 2W	150R 2W	53571	82K	1nF 1600V	10nF 1600V 3,5%	18nF 630V	560nF 400V	680nF 250V	R82 2W	R82 2W	4K7	330K	YES	/	68K	33K	
A68ERF182X044 (29"4/3-RF)	133V	27R 2W	390K	1R15 2W	/	55331	82K	/	11nF 1600V 3,5%	18nF 630V	560nF 400V	820nF 250V	1R8 2W	1R8 2W	3K9	330K	YES	/	68K	33K	
W66ECK001X44 (28"16/9-SF)	133V	27R 2W	390K	1R5 2W	330R 2W	55331	82K	1nF 1600V	11nF 1600V 3,5%	18nF 630V	560nF 400V	680nF 250V	1R8 2W	1R8 2W	4K7	220K	YES	/	68K	33K	
W66QDE993X214 (28"16/9-RF)	133V	27R 2W	390K	1R0 2W	150R 2W	53571	82K	1nF 1600V	10nF 1600V 3,5%	18nF 630V	560nF 400V	680nF 250V	1R8 2W	1R8 2W	4K7	330K	YES	/	68K	33K	
W66ERF022X044 (28"16/9-RF)	133V	27R 2W	390K	1R3 2W	330R 2W	55331	82K	1nF 1600V	10nF 1600V 3,5%	18nF 630V	560nF 400V	560nF 250V	2R2 2W	2R2 2W	3K9	220K	/	YES	68K	33K	
W76EGV023X522 (32"16/9-SF)	133V	27R 2W	390K	1R8 2W	/	55331	82K	1nF 1600V	11nF 1600V 3,5%	18nF 630V	560nF 400V	1,2uF 250V	1R0 2W	R82 2W	3K9	270K	YES	/	68K	33K	
W76ERF022X044 (32"16/9-RF)	133V	27R 2W	390K	1R3 2W	330R 2W	53571	82K	1nF 1600V	10nF 1600V 3,5%	18nF 630V	560nF 400V	560nF 250V	2R2 2W	2R2 2W	3K9	220K	YES	/	68K	33K	8K2
W76ELC011X121/124 (32"16/9-RF)	133V	27R 2W	390K	1R3 2W	/	55331	82K	1nF 1600V	11nF 1600V 3,5%	18nF 630V	560nF 400V	680nF 250V	R82 2W	R82 2W	3K9	220K	YES	/	68K	33K	
W76EJY011X121 (32"16/9-RF)	133V	27R 2W	390K	1R65 2W	/	55331	82K	1nF 1600V	11nF 1600V 3,5%	15nF 630V	470nF 400V	1,2uF 250V	R82 2W	R82 2W	3K9	220K	YES	/	68K	33K	
W76QEN693X100/40 (32"16/9-RF)	133V	27R 2W	390K	1R5 2W	330R 2W	53571	82K	1nF 1600V	10nF 1600V 3,5%	18nF 630V	560nF 400V	560nF 250V	1R8 2W	1R8 2W	3K9	220K	YES	/	68K	33K	
W76ERF122X044 (32"16/9-RF)	142V	27R 2W	390K	1R3 2W	/	53571	82K	1nF 1600V	10nF 1600V 3,5%	18nF 630V	470nF 400V	820nF 250V	3R3 2W	2R2 2W	3K9	220K	/	YES	68K	33K	
A80EJA33X522 (34" 4/3)	142V	22R 2W	680K	R91 2W	330R 2W	55331	82K	1nF 1600V	11nF 1600V 3,5%	18nF 630V	560nF 400V	1,2uF 250V	1R0 2W	1R0 2W	3K9	390K	/	YES	82K	33K	

TEST POINT WAVEFORM LIST
DEFLECTIONS 8500



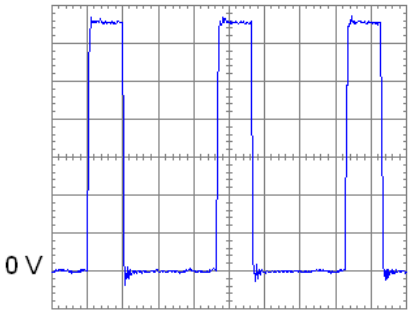
Rel. 1.3

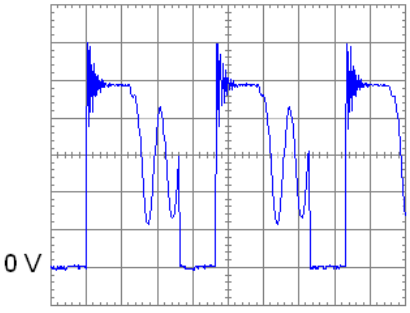


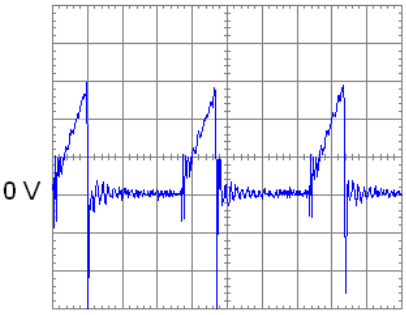
Chassis Professional 8500
Power Supply Rev 1.3
Pg. 7/12

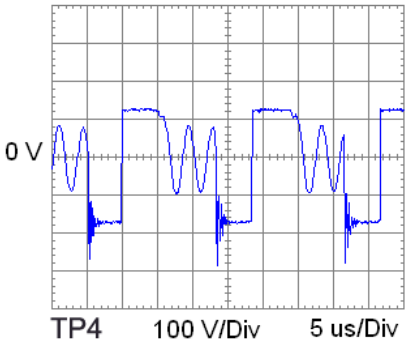
TEST POINT WAVEFORM LIST

POWER SUPPLY 8500

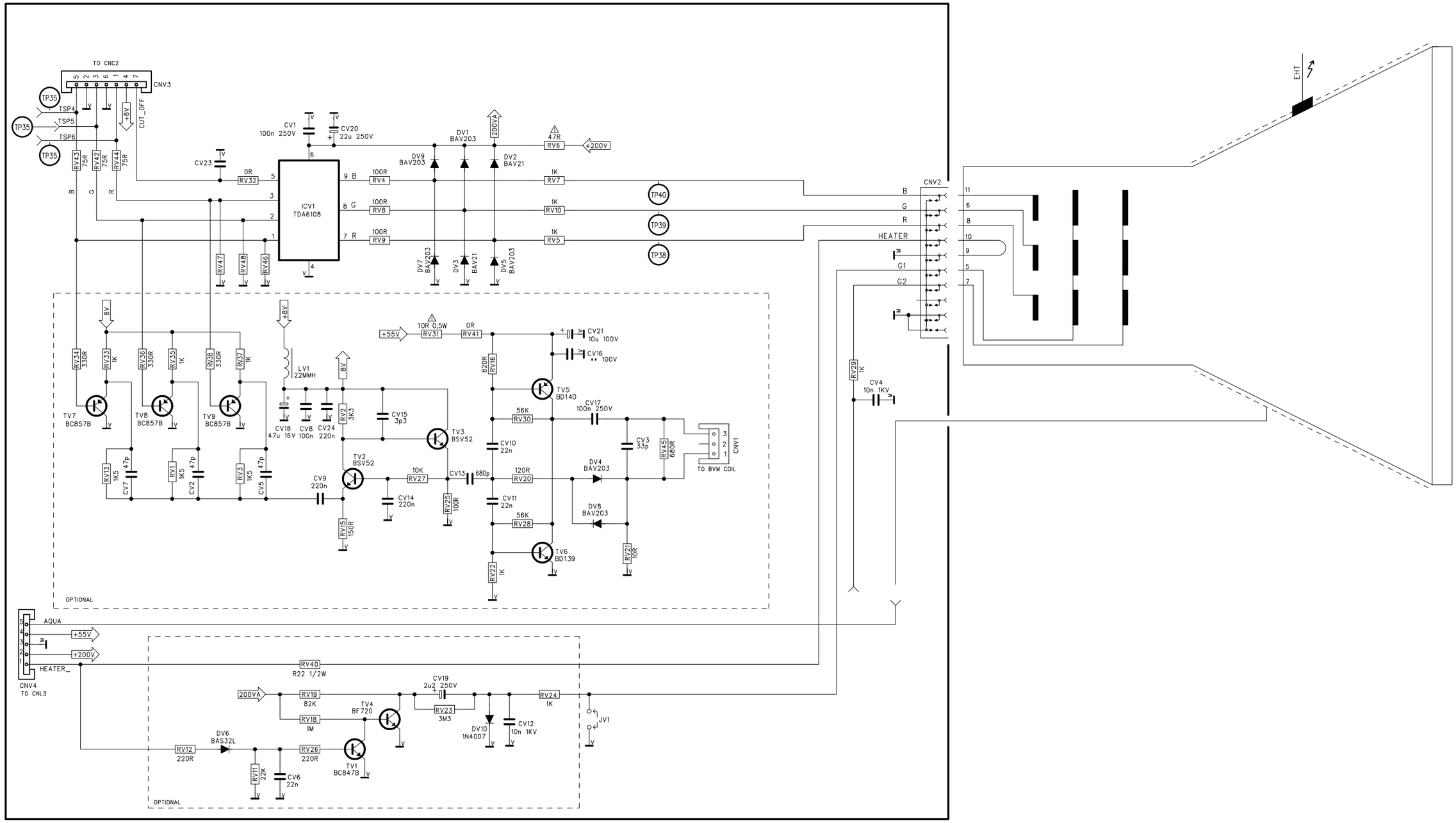








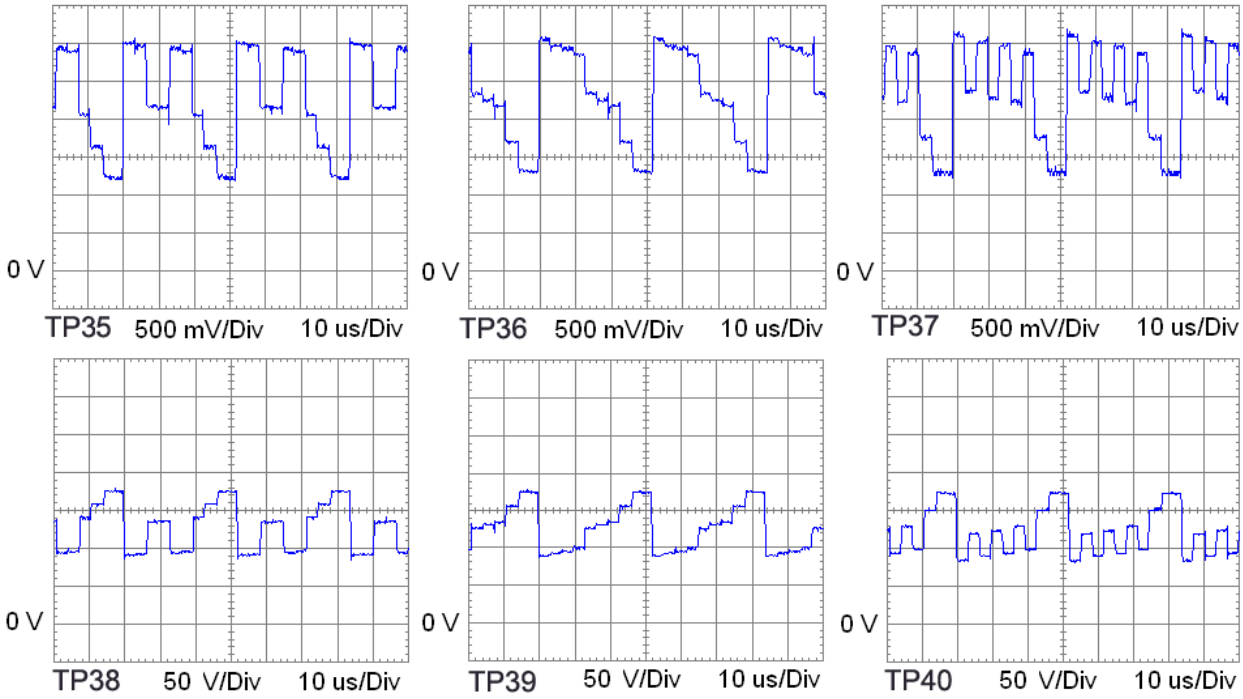
Rel. 1.3



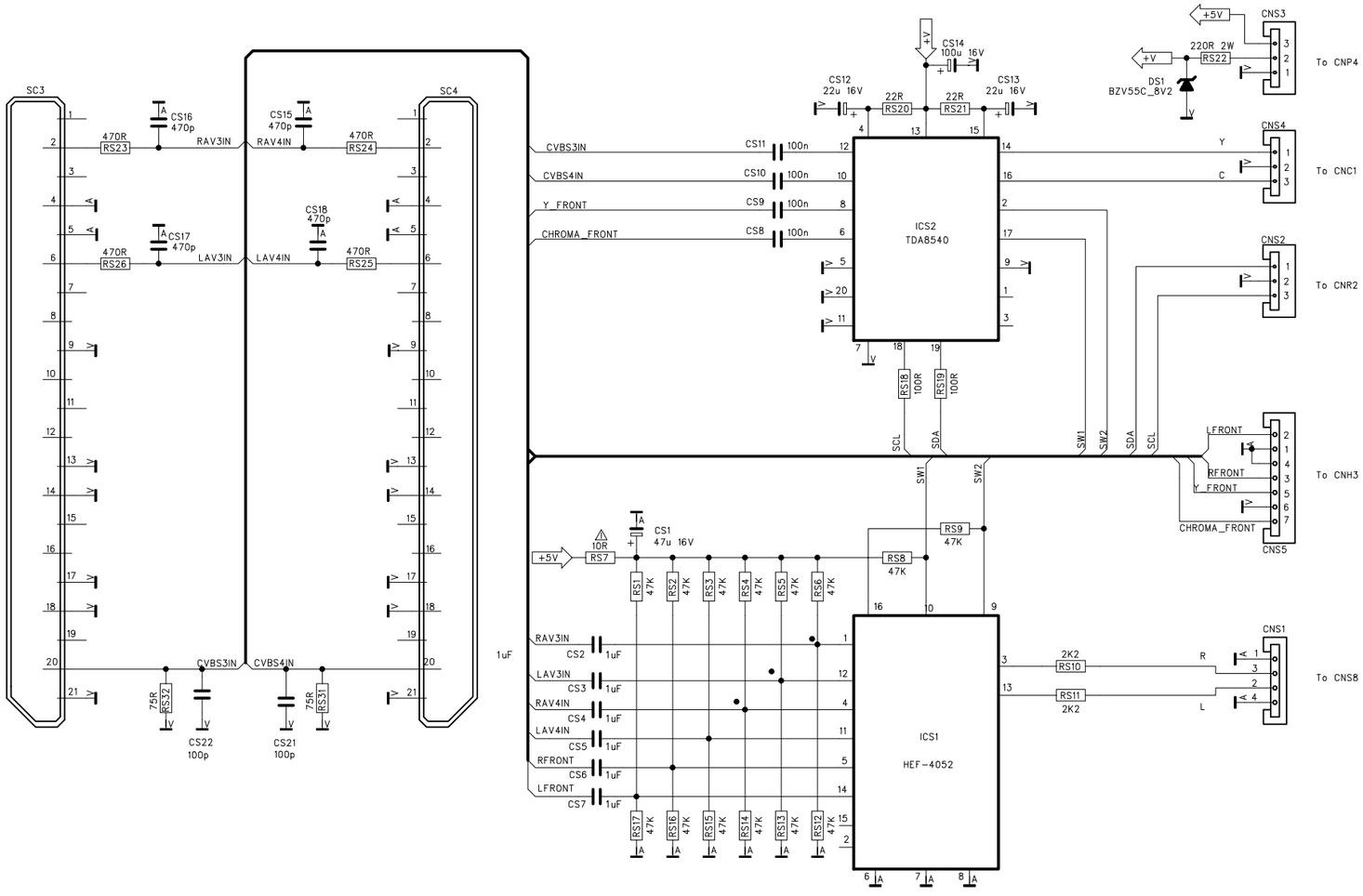
Chassis Professional 8500
RGB **Rev 1.3**
Pg. 8/12

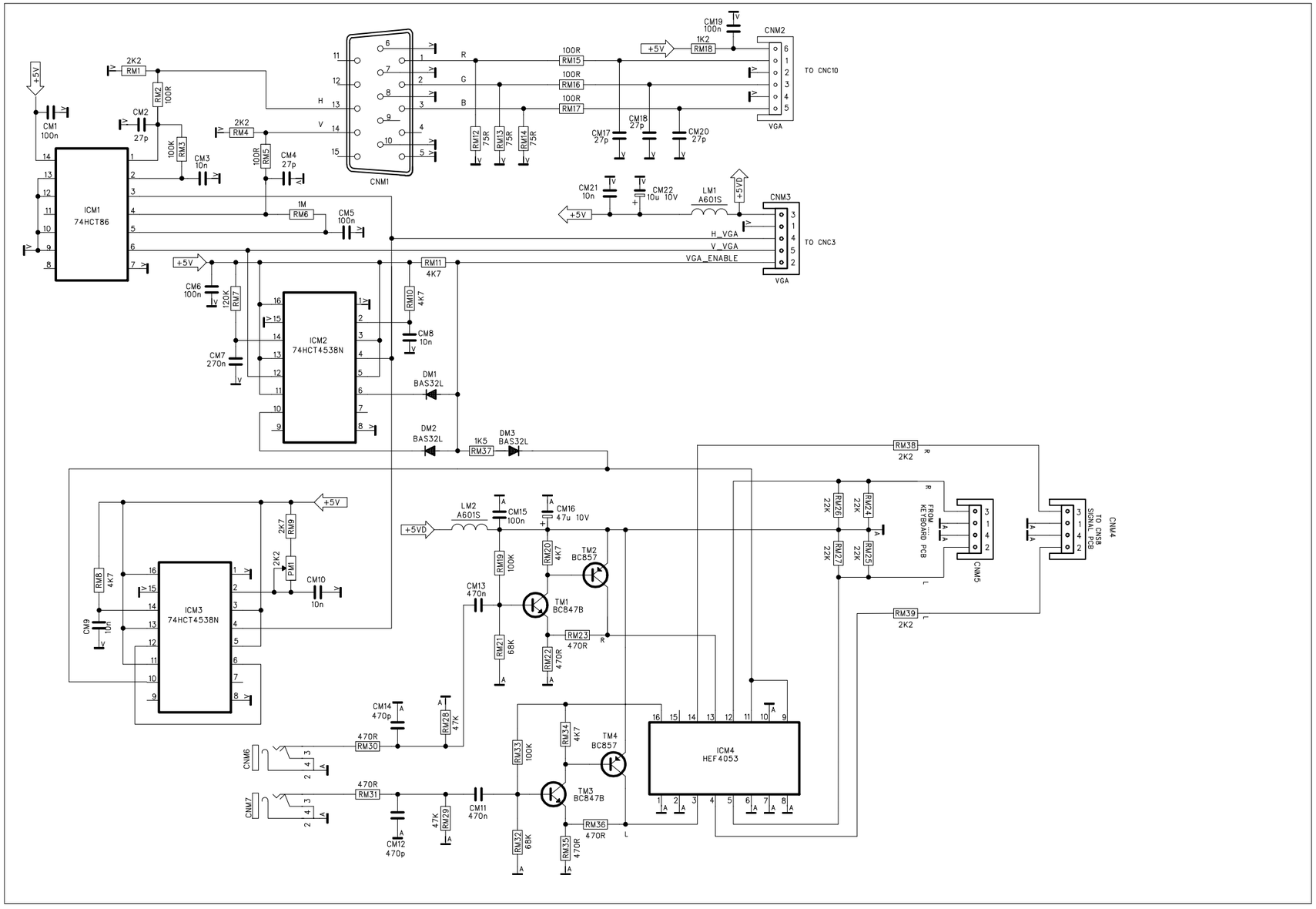
TEST POINT WAVEFORM LIST

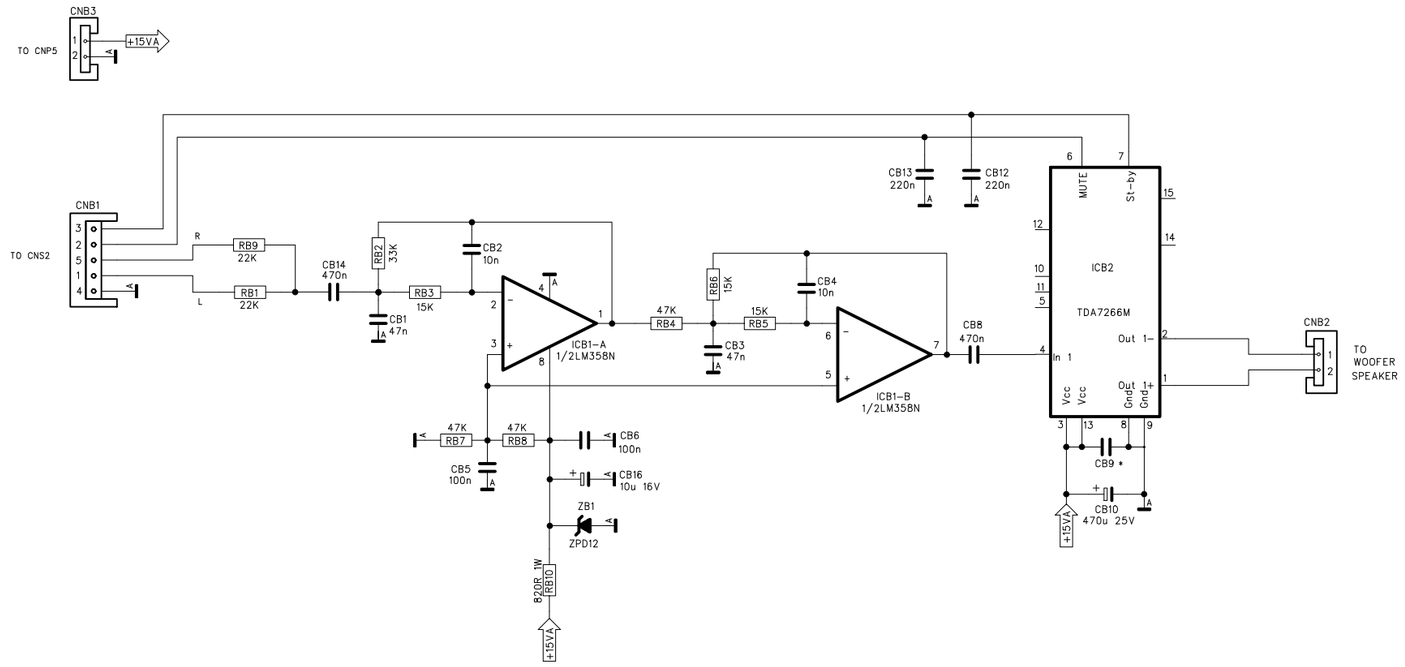
RGB 8500

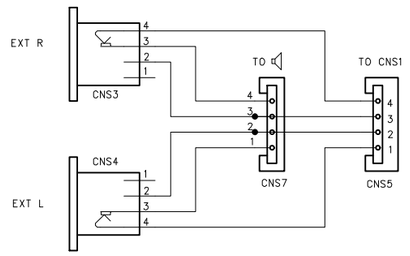


Rel. 1.3


SC3
SC4
CS16 470p
CS15 470p
CS18 470p
CS17 470p
470R RS23
470R RS24
470R RS26
470R RS25
RAV3IN
RAV4IN
LAV3IN
LAV4IN
CVBS3IN
CVBS4IN
75R RS32
75R RS31
CS22 100p
CS21 100p
CVBSJ3IN
CVBS4IN
Y_FRONT
CHROMA_FRONT
CS11 100n
CS10 100n
CS9 100n
CS8 100n
CS12 22u 16V
CS14 100u 16V
CS13 22u 16V
22R RS20
22R RS21
ICS2 TDA8540
RS18 100R
RS19 100R
SCL
SDA
SW1
SW2
+5V
220R 2W RS22
DS1 BZV55C_8V2
CNS3
CNS4
CNS2
CNS5
CNS1
To CNP4
To CNC1
To CNR2
To CNH3
To CNS8
Y
C
LFRONT
RFRONT
Y_FRONT
CHROMA_FRONT
CS1 47u 16V
10R RS7
RS8 47K
RS9 47K
RS1 47K
RS2 47K
RS3 47K
RS4 47K
RS5 47K
RS6 47K
RS17 47K
RS16 47K
RS15 47K
RS14 47K
RS13 47K
RS12 47K
RAV3IN CS2 1uF
LAV3IN CS3 1uF
RAV4IN CS4 1uF
LAV4IN CS5 1uF
RFRONT CS6 1uF
LFRONT CS7 1uF
1uF
ICS1 HEF-4052
2K2 RS10
2K2 RS11
R
L


+5V
CM1 100n
2K2 RM1
RM2 100R
CM2 27p
100K RM3
CM3 10n
2K2 RM4
100R RM5
CM4 27p
1M RM6
CM5 100n
ICM1 74HCT86
CNM1
H
V
R
G
B
100R RM15
100R RM16
100R RM17
RM12 75R
RM13 75R
RM14 75R
CM17 27p
CM18 27p
CM20 27p
CM19 100n
1K2 RM18
CNM2
TO CNC10
VGA
CM21 10n
CM22 10u 10V
LM1 A601S
+5VD
CNM3
H_VGA
V_VGA
VGA_ENABLE
TO CNC3
RM11 4K7
RM10 4K7
CM6 100n
120K RM7
CM7 270n
CM8 10n
ICM2 74HCT4538N
DM1 BAS32L
DM2 BAS32L
DM3 BAS32L
1K5 RM37
RM38 2K2
RM39 2K2
RM26 22K
RM24 22K
RM27 22K
RM25 22K
CNM5
FROM KEYBOARD PCB
CNM4
TO CNC8 SIGNAL PCB
LM2 A601S
CM15 100n
CM16 47u 10V
2K7 RM9
2K2 PM1
CM10 10n
RM8 4K7
CM9 10n
ICM3 74HCT4538N
RM19 100K
RM20 4K7
TM2 BC857
CM13 470n
TM1 BC847B
RM21 68K
RM22 470R
RM23 470R
CM14 470p
RM28 47K
470R RM30
470R RM31
CNM6
CNM7
RM33 100K
RM34 4K7
TM4 BC857
TM3 BC847B
ICM4 HEF4053
RM29 47K
CM11 470n
CM12 470p
RM32 68K
RM35 470R
RM36 470R


CNB3
TO CNP5
+15VA
CNB1
TO CNS2
R
L
RB9
22K
RB1
22K
CB14
470n
RB2
33K
RB3
15K
CB1
47n
CB2
10n
ICB1-A
1/2LM358N
47K
RB4
RB6
15K
CB3
47n
15K
RB5
CB4
10n
ICB1-B
1/2LM358N
CB8
470n
CB13
220n
CB12
220n
ICB2
TDA7266M
MUTE
St-by
Out 1-
Out 1+
In 1
Vcc
Vcc
Gnd
Gnd
CNB2
TO
WOOFER
SPEAKER
CB9 *
CB10
470u 25V
+15VA
47K
RB7
47K
RB8
CB6
100n
CB5
100n
CB16
10u 16V
ZB1
ZPD12
820R 1W
RB10
+15VA



Chassis Professional 8500
External speakers Rev 1.0
Pg. 12/12

TECHNICAL SPECIFICATION SPECIFICA TECNICA

1.0 Main features
Caratteristiche principali

1.01 Standard BG D/K I L/L'

1.02 Color System PAL SECAM NTSC (Scart only)
Sistema colore (solo Scart)

1.03 Audio System Stereo A2 AM NICAM
Sistema audio

1.04 Power Source 180/240V AC 50Hz
Alimentazione

1.05 Audio Power 2 x 5Wrms (2 x 10W music)
Potenza audio

1.06 Stand–By Power < 3W (if degauss control option present)
Consumo Stand–By (se opzione controllo degauss presente)
< 5W (without degauss control option)
(senza opzione controllo degauss)

1.07 Tuning–System Frequency Syntesizer/99 programme positions
Sintonia Sintesi di frequenza/99 posizioni di programma

1.08 CRT type All 110 size / Aspect ratio 4:3 and 16:9
Tipi di cinescopio Tutti i formati 110 / Rapporto di forma 4:3 e 16:9

1.09 Connectors 2 x SCART S–VHS (Scart2) 1 x Earphone
Prese 1 x Cuffia

1.10 Regulations EN55013 EN55020 EN61000–3–2 EN60065 (03–99)
Normative

2.0 Additional features
Funzioni aggiuntive

2.01 Teletext 10 pages TOP / FLOF
Televideo

2.02 Multilingual graphic OSD CZ/D/DK/E/F/FI/GB/I/N/NL/P/S
OSD grafico multilingue

2.03 Hotel mode

2.04 Parental lock
Sicurezza bambini

2.05 No signal auto switch–off
Autospegnimento in assenza di segnale.

2.06 Sleep timer

2.07 100 Hz features
–Scan conversion from 50/60 Hz to 100/120 Hz
–Large area flicker reduction
–Still picture
–Digital color transient improvement (DCTI)
–Luminance peaking
–Panorama mode

2.08 Aspect ratio auto switch
Commutazione automatica del formato

3.0 Options
Opzioni

3.01 Virtual Dolby

3.02 IN/OUT connectors –audio/video (RCA type) and S–VHS (Hosiden) inputs
–audio line outputs
–3 and 4 SCART (input)
–external speakers

3.03 VGA input 640x480 / 31,5 kHz/60 Hz RGB : 0,7 Vpp
Ingresso VGA 640x400 / 31,5 kHz/70 Hz H/V : TTL level
640x350 / 31,5 kHz/70 Hz Audio: 150mVrms

3.04 Scan velocity
modulation