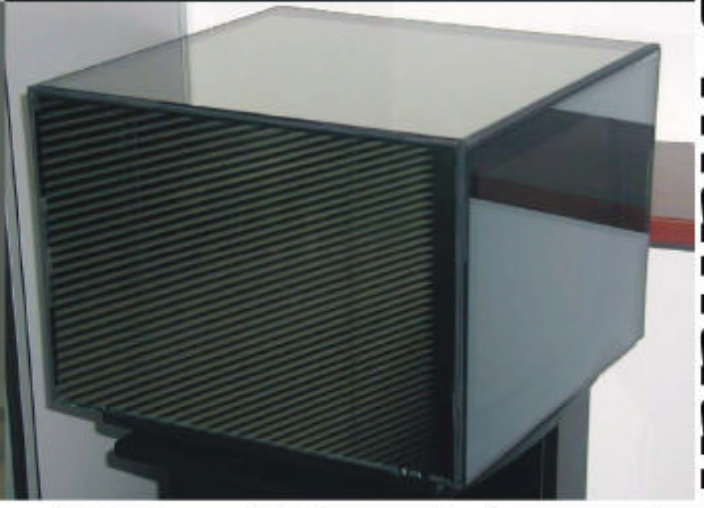


service manual

BRIONVEGA

BV1 CHASSIS DESCRIPTION

Summary

Chassis BV1 is intended to be used with three different BRIONVEGA TV kwnon as ALGOL, CUBO GLASS and DONEY . The first is using a 10" CRT meanwhile the others two are using a 14" CRT..

The tuning is a Frequency Synthesis type both with channel system or frequency call that are selectable via a suitable option byte in the "SERVICE MODE".) . When it is working in "channel mode" an autotunig is providing an automatic tuning with an automatic reordering of all the programs as a function of the choosed country. (there are 16 country selectable).

The tuning function is realized by the microcontroller type SAA5553 that beside the tuning is providing the TELETEX acquisition and display of 8 pages with a pan european character set . It is also generating an I^2C bus controlling all the function in the TV .

The signal processing system is based on the "one-chip" TDA8442 that is I^2C-bus controlled for all audio, video processing and deflection processing .

Chassis BV1 supports also the CTI filter TDA4566 (using TDA8844), is using a vertical output stage TDA 8356 and a horizontal output stage with BU508D.

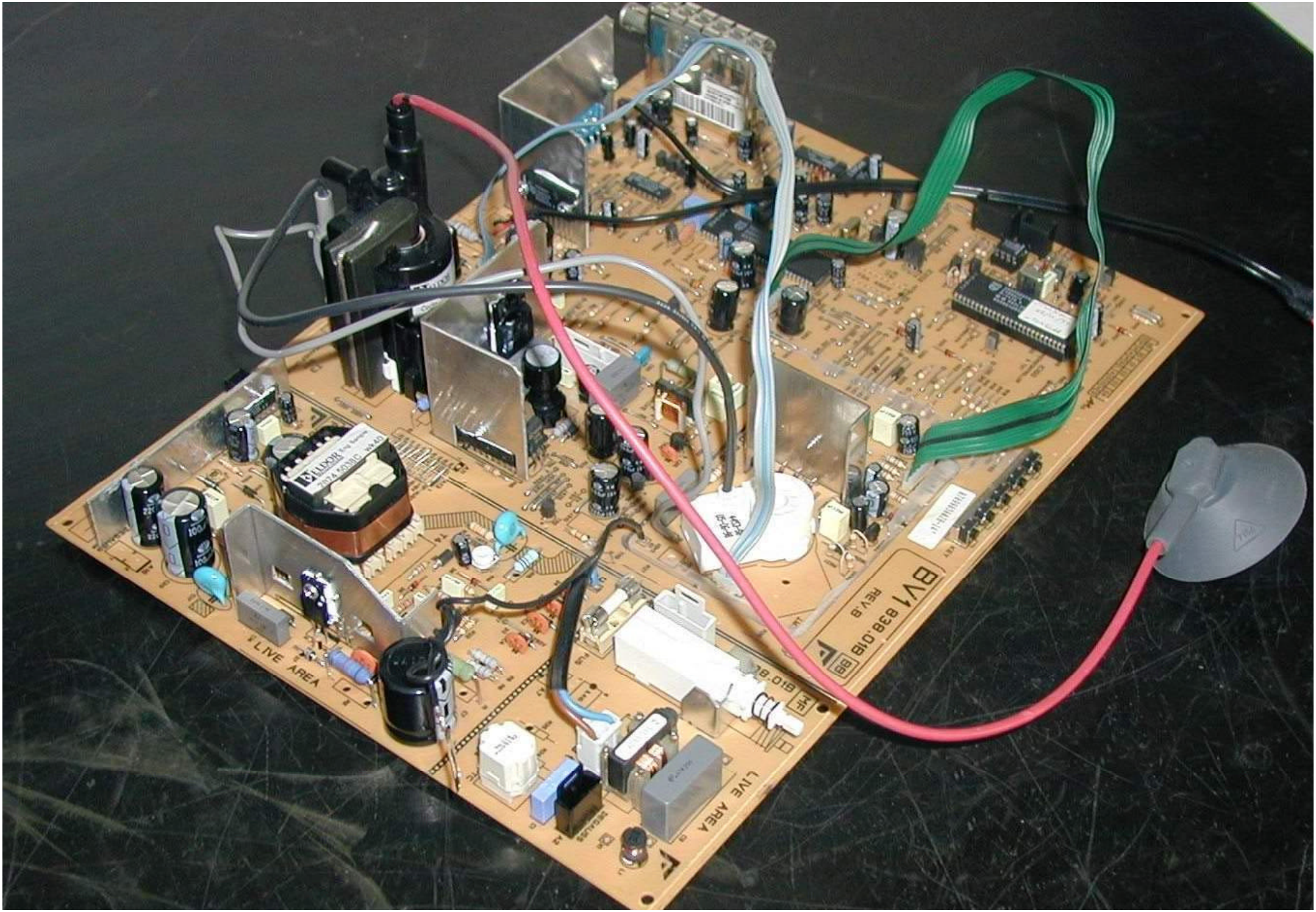
The power supply unit is of the flyback type controlled by the TDA4605 integrated circuit driving a power MOS STP5NB80FI The audio output signal from TDA8842 is sent to thee final audio TDA7056A for power amplification

The TV can be a multi-standard with on-screen-display (OSD) in 6 languages (D, E, F, I, NL, UK) selectable by the and user too, to control all functions.

The chassis is realized in a way that can be used in 3 different cabinet. In the ALGOL version the chassis in "cutted" to permit the power supply to be used as a separate module fitted on the main board.

The powerfull "SERVICE MODE" is giving several option, many of that are factory adjusted.

Many TV control can be performed with the 5 keys local command that are completed by the remote control giving direct access to all the functions.

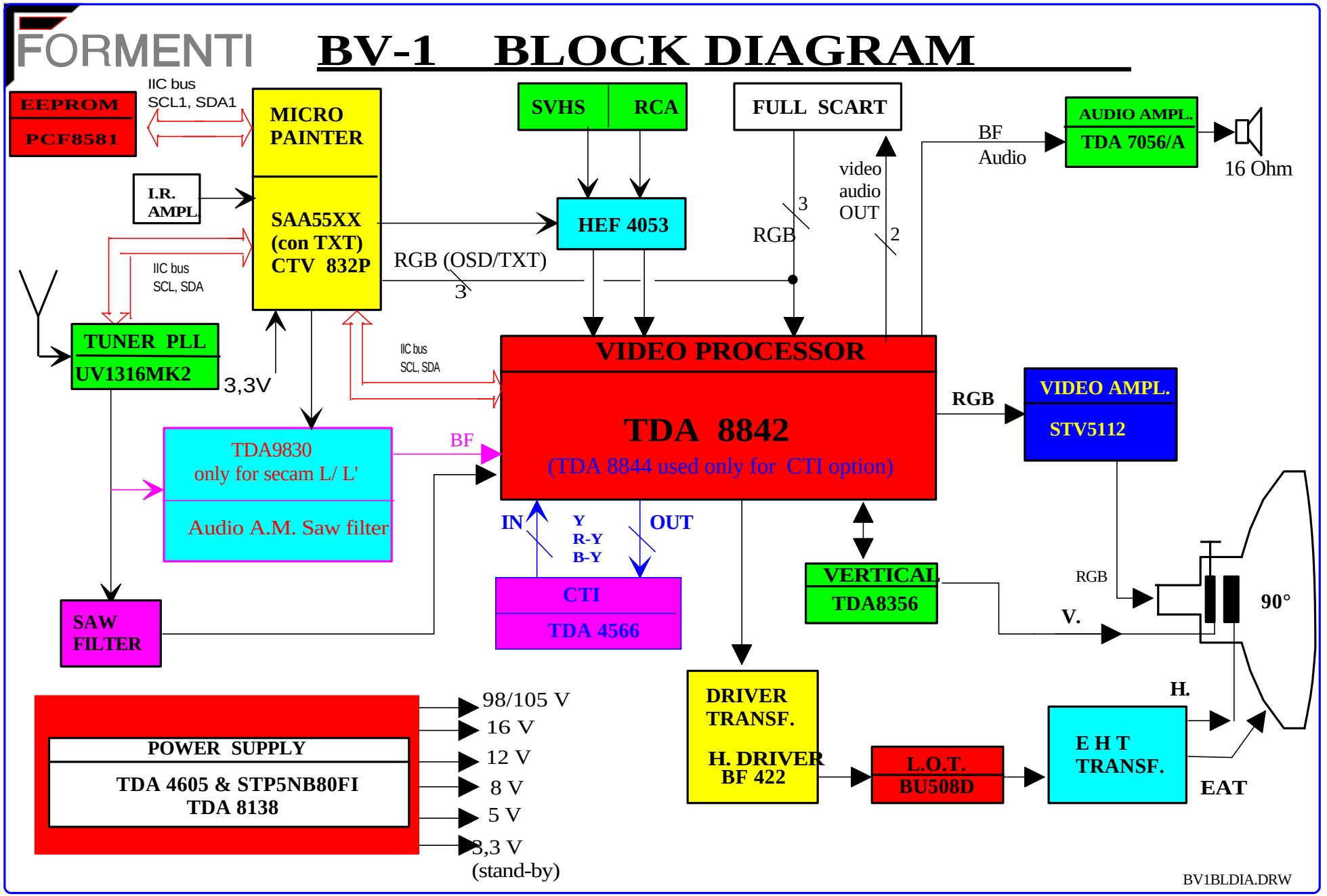

LIVE AREA
LIVE AREA
BV1 838.018
REV.B

TV SET CHARACTERISTICS (ALGOL, CUBO AND DONEY)

PICTURE TUBE SIZE :	
• 4 : 3 ASPECT RATIO	10" & 14"
• **STANDARD (MAX THREE)**	
• R.F. (ANTENNA)	CCIR (B / G/ L / L' / D / K / I)
• VIDEO (SCART & CINCH)	B / G/ L / L' / D / K / I / M / N
• COLOUR CODING	PAL / SECAM / NTSC
• SOUND	B / G/ L / L' / D / K / I
* MONO	AM & FM
TUNING SYSTEM SELECTABLE :	FACTORY OPTION
FREQUENCY SYTHETIZER WITH CHANNELS	
• AVAILABLE CHANNEL (CCIR)	EUROPEAN, FRENCH, ITALIAN, OIRT
• CHANNEL IN ONE RF STANDARD	68 IN AIR PLUS 54 VIA CABLE
• NUMBER OF STORABLE PROGRAM	100
• DIRECT PROGRAM & CHANNEL CALL WITH	1, OR 2 DIGIT
• PROGRAM & CHANNEL STEP UP AND DOWN	YES
• CABLE & HYPERBAND CHANNEL	YES
• SWITCHABLE AFC	YES
• AUTOMATIC SEARCH TUNING	YES
• A S T WITH AUTO SORT	YES
FREQUENCY SYNTHETIZER WITH FREQUENCY	
SAME SPEC. OF CHANNEL BUT RELATED	**TO FREQUENCY CALL.**
• TUNEBLE FREQUENCY	FROM 47 MHz TO 863 MHz
AUDIO SECTION	
POWER	
• MONO	3 W RMS.
EXTERNAL CONNECTION	
• HEADPHONE	YES
A / V INPUT / OUTPUT	
• FRONT PANEL CINCH (A/V INPUT)	CUBO & DONEY ONLY
• I FULL SCART (CVBS, STEREO, RBA)	MULTIMEDIA INPUT OUTPUT
• S-VHS INPUT (INCLUDING AUDIO)	ALGOL ONLY
TXT	PANEUROPEAN CHARACTER SET
• LEVEL 1	**8** PAGES
• LEVEL 1,5 (FASTEXT)	**7** PAGES
• TOP TEXT	OPTION
FEATURES	
• **CTI** (COLOUR TRANSIENT IMPROVEMENT)	**OPTION**
• MENU DRIVEN SYSTEM	SEQUENTIAL OR DIRECT MODE
• PROGRAM LABELING	5 LETTER
• VIDEO PERSONAL PRESET	5 LEVEL
• AUTOMATIC VOLUME LEVEL	ON/OFF
• PERSONAL OSD BACKGROUND (3 LEVEL)	BLACK, MASHING, TRANSPARENT
• CHILD LOCK	ON/OFF
• SWITCH OFF TIMER	UP TO 120 MINUTE
• HOTEL MODE	FROM SERVICE MODE

FORMENTI

BV-1 BLOCK DIAGRAM



BV1BLDIA.DRW

SAA55xx

Standard TV microcontrollers with On-Screen Display (OSD)

1 FEATURES

- Single-chip microcontroller with integrated On-Screen Display (OSD)
- Versions available with integrated data capture
- One Time Programmable (OTP) memory for both program Read Only Memory (ROM) and character sets
- Single power supply: 3.0 to 3.6 V
- 5 V tolerant digital inputs and I/O
- 29 I/O lines via individual addressable controls
- Programmable I/O for push-pull, open-drain and quasi-bidirectional
- Two port lines with 8 mA sink (at <0.4 V) capability, for direct drive of Light Emitting Diode (LED)
- Single crystal oscillator for microcontroller, OSD and data capture
- Power reduction modes: Idle and Power-down
- Byte level I 2 C-bus with dual port I/O
- Pin compatibility throughout family
- Operating temperature: -20 to +70 °C.

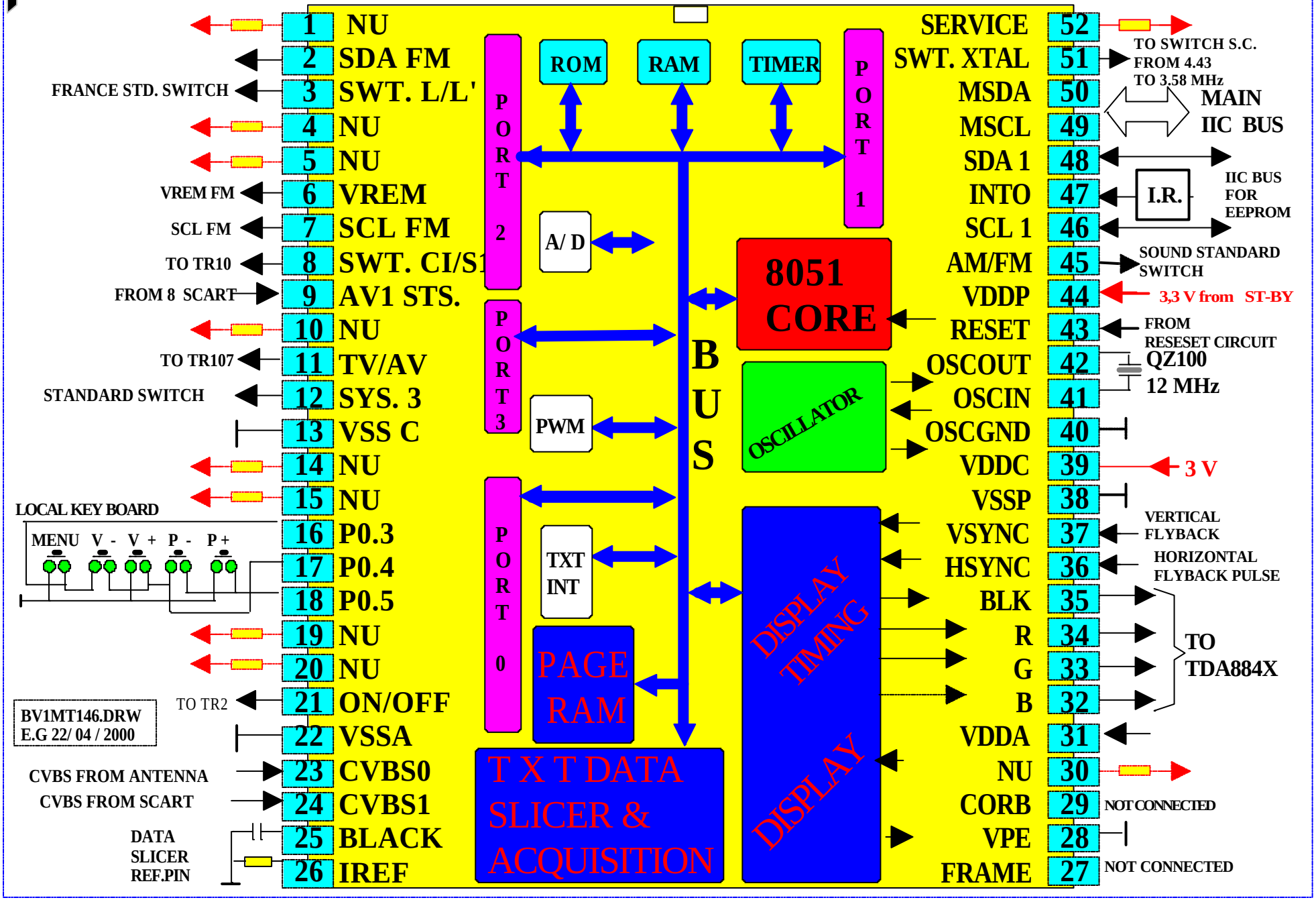
2 GENERAL DESCRIPTION

The SAA55xx standard family of microcontrollers are a derivative of the Philips industry-standard 80C51 microcontroller, and are intended for use as the central control mechanism in a television receiver. They provide control functions for the television system, OSD, and some versions include an integrated data capture and display function.
The data capture hardware has the capability of decoding and displaying both 525 and 625-line World System Teletext (WST), Video Programming System (VPS) and Wide Screen Signalling (WSS) information. The same display hardware is used both for Teletext and OSD, which means that the display features available give greater flexibility to differentiate the TV set. The SAA55xx standard family offers a range of functionality from non-text, 16-kbyte program ROM and 256-byte Random Access Memory (RAM), to a 10-page text version, 64-kbyte program ROM and 1.2-kbyte RAM.

FORMENTI

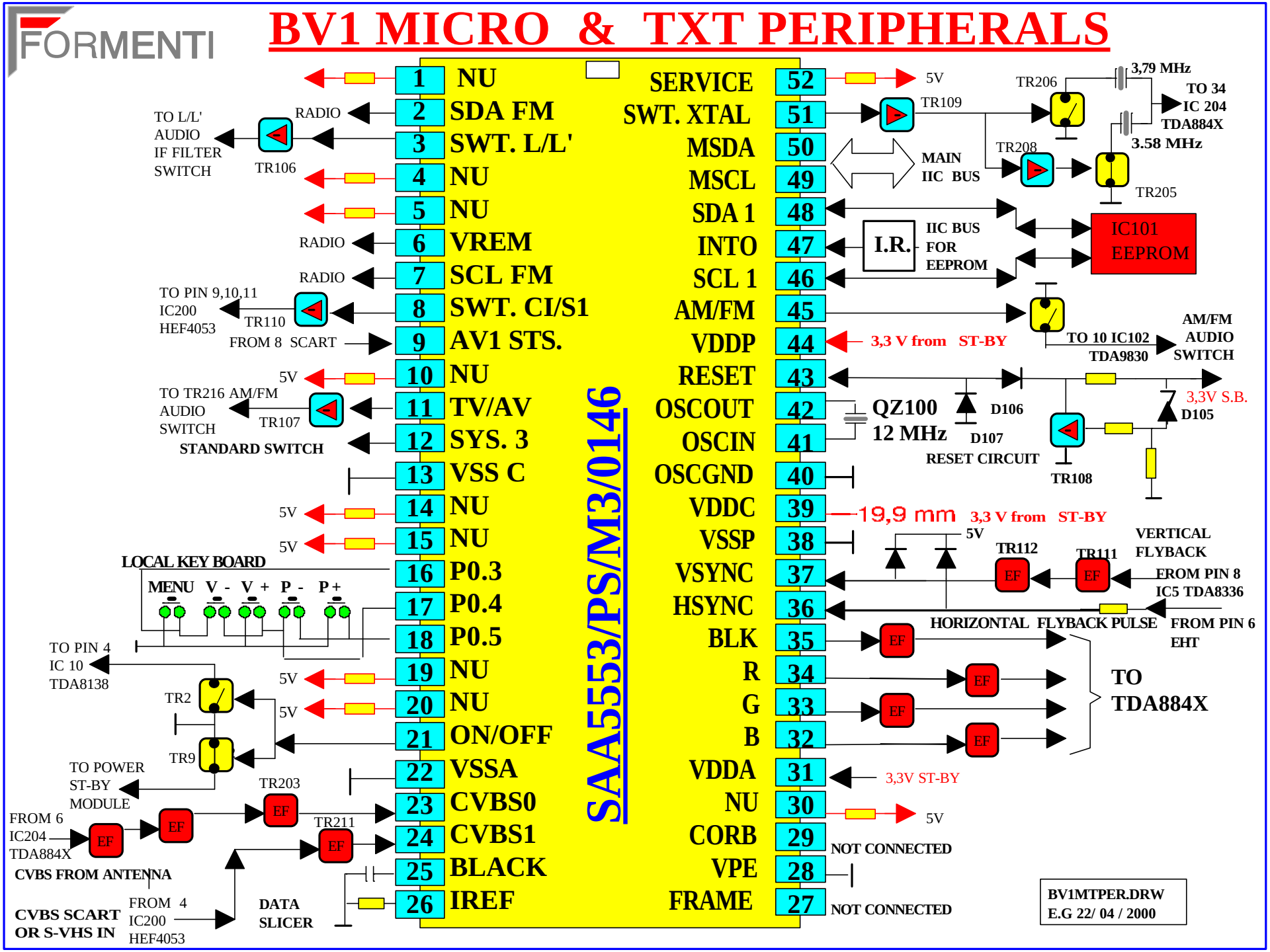
SAA5553/PS/M3/0146

BV1 MICRO & TXT



FORMENTI

BV1 MICRO & TXT PERIPHERALS



TDA884X I²C CONTROLLED TV PROCESSOR

FEATURES

The following features are available in all IC's:

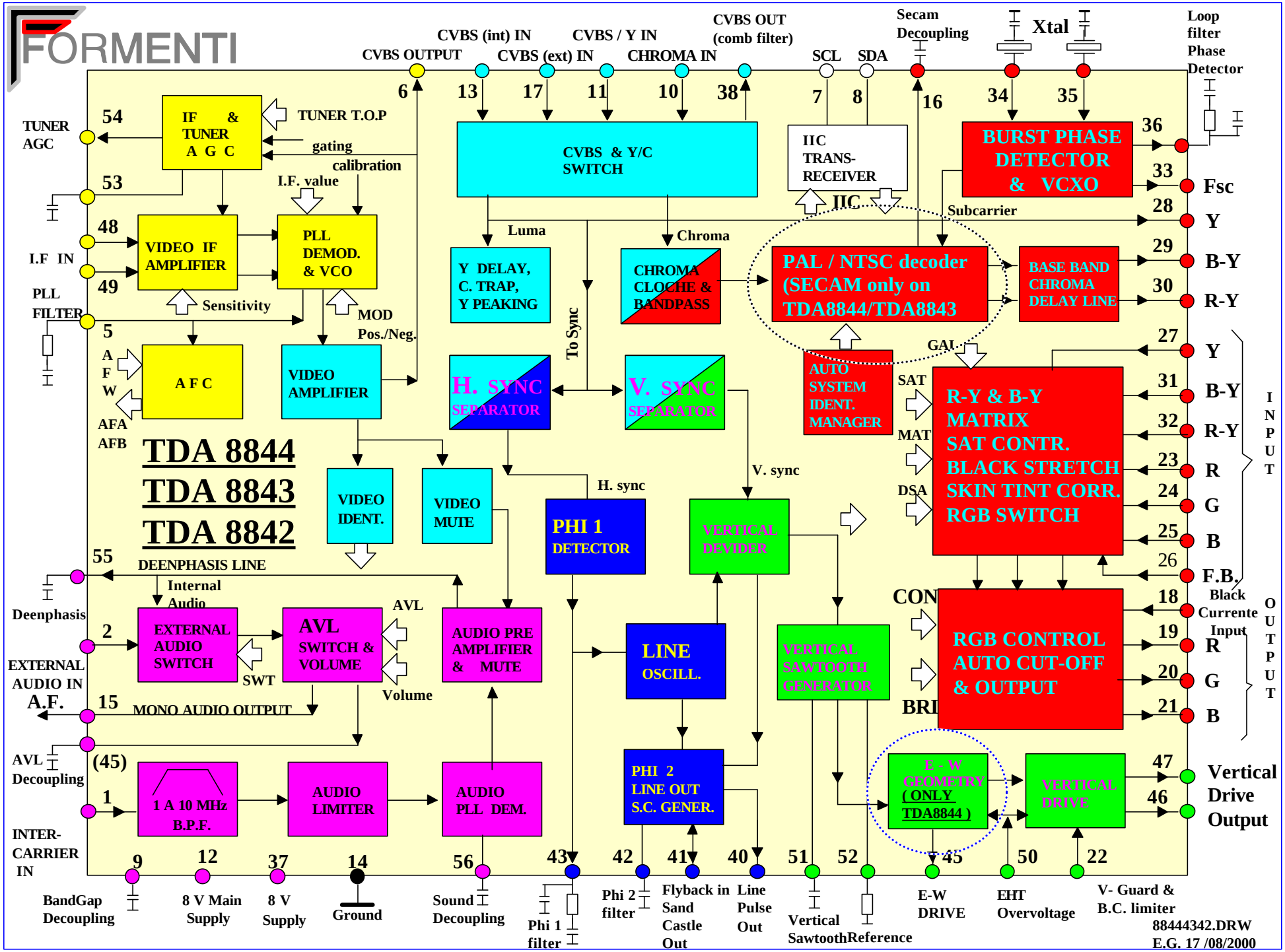
- Multi-standard vision IF circuit with an alignment-free PLL demodulator without components
- Alignment-free multi-standard FM sound demodulator (4.5 MHz to 6.5 MHz)
- Audio switch
- Flexible source selection with CVBS switch and Y(CVBS)/C input .
- Integrated chrominance trap circuit
- Integrated luminance delay line
- Asymmetrical peaking in the luminance channel with a (defeatable) noise coring function
- Black stretching of non-standard CVBS or luminance signals
- Integrated chroma band-pass filter with switchable centre frequency
- RGB control circuit with "Continuous Cathode Calibration" and white point adjustment
- Possibility to insert a "blue back" option when no video signal is available
- Horizontal synchronization with two control loops and alignment-free horizontal oscillator
- Vertical count-down circuit and driver optimised for DC-coupled vertical output stages
- I 2 C-bus control of various functions

GENERAL DESCRIPTION

The various versions of the TDA 884X/5X series are I²C-bus controlled single chip TV processors which are intended to be applied in PAL, NTSC, PAL/NTSC and multi-standard television receivers. The N2 version is pin and application compatible with the N1 version, however, a new feature has been added which makes the N2 more attractive. The IF PLL demodulator has been replaced by an alignment-free IF PLL demodulator with internal VCO (no tuned circuit required). The setting of the various frequencies (33.4, 33.9, 38, 38.9, 45,75 and 58.75 MHz) can be made via the I²C-bus.

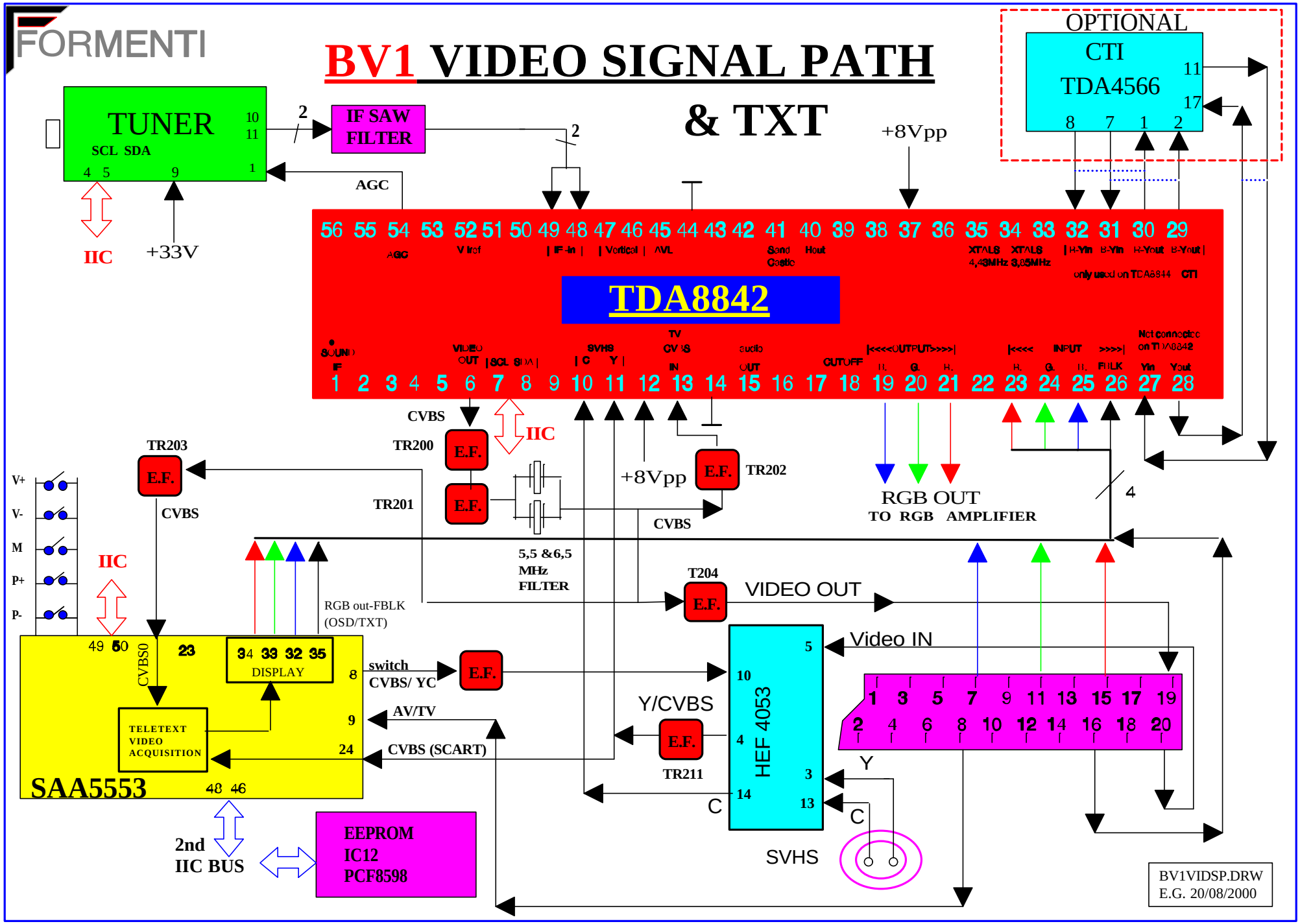
Functionally the IC series is split up is 3 categories, viz:

- Versions intended to be used in economy TV receivers with all basic functions (envelope: S-DIP 56 and QFP 64)
- Versions with additional features like E-W geometry control, H-V zoom function and YUV interface which are intended for TV receivers with 110° picture tubes (envelope: S-DIP 56)
- Versions which have in addition a second RGB input with saturation control and a second CVBS output (envelope: QFP 64)


FORMENTI
CVBS OUTPUT
CVBS (int) IN
CVBS (ext) IN
CVBS / Y IN
CHROMA IN
CVBS OUT (comb filter)
SCL
SDA
Secam Decoupling
Xtal
Loop filter Phase Detector
TUNER AGC
IF & TUNER A G C
TUNER T.O.P
gating
calibration
I.F. value
I.F IN
PLL FILTER
VIDEO IF AMPLIFIER
PLL DEMOD. & VCO
Sensitivity
MOD Pos./Neg.
A F C
A F W
AFA
AFB
VIDEO AMPLIFIER
CVBS & Y/C SWITCH
IIC TRANS-RECEIVER
IIC
BURST PHASE DETECTOR & VCXO
Subcarrier
Fsc
Luma
Chroma
Y DELAY, C. TRAP, Y PEAKING
CHROMA CLOCHE & BANDPASS
PAL / NTSC decoder (SECAM only on TDA8844/TDA8843
BASE BAND CHROMA DELAY LINE
Y
B-Y
R-Y
To Sync
H. SYNC SEPARATOR
V. SYNC SEPARATOR
AUTO SYSTEM IDENT. MANAGER
GAI
SAT
MAT
DSA
R-Y & B-Y MATRIX
SAT CONTR.
BLACK STRETCH
SKIN TINT CORR.
RGB SWITCH
R
G
B
F.B.
INPUT
TDA 8844
TDA 8843
TDA 8842
VIDEO IDENT.
VIDEO MUTE
H. sync
V. sync
PHI 1 DETECTOR
VERTICAL DEVIDER
DEENPHASIS LINE
Internal Audio
Deenphasis
EXTERNAL AUDIO SWITCH
AVL SWITCH & VOLUME
AVL
SWT
Volume
AUDIO PRE AMPLIFIER & MUTE
EXTERNAL AUDIO IN
A.F.
MONO AUDIO OUTPUT
LINE OSCILL.
VERTICAL SAWTOOTH GENERATOR
CON
BRI
RGB CONTROL AUTO CUT-OFF & OUTPUT
Black Currente Input
OUTPUT
AVL Decoupling
1 A 10 MHz B.P.F.
AUDIO LIMITER
AUDIO PLL DEM.
PHI 2 LINE OUT S.C. GENER.
E - W GEOMETRY (ONLY TDA8844)
VERTICAL DRIVE
Vertical Drive Output
INTER-CARRIER IN
BandGap Decoupling
8 V Main Supply
8 V Supply
Ground
Sound Decoupling
Phi 1 filter
Phi 2 filter
Flyback in
Sand Castle Out
Line Pulse Out
Vertical Sawtooth
Reference
E-W DRIVE
EHT Overvoltage
V- Guard & B.C. limiter
88444342.DRW
E.G. 17 /08/2000

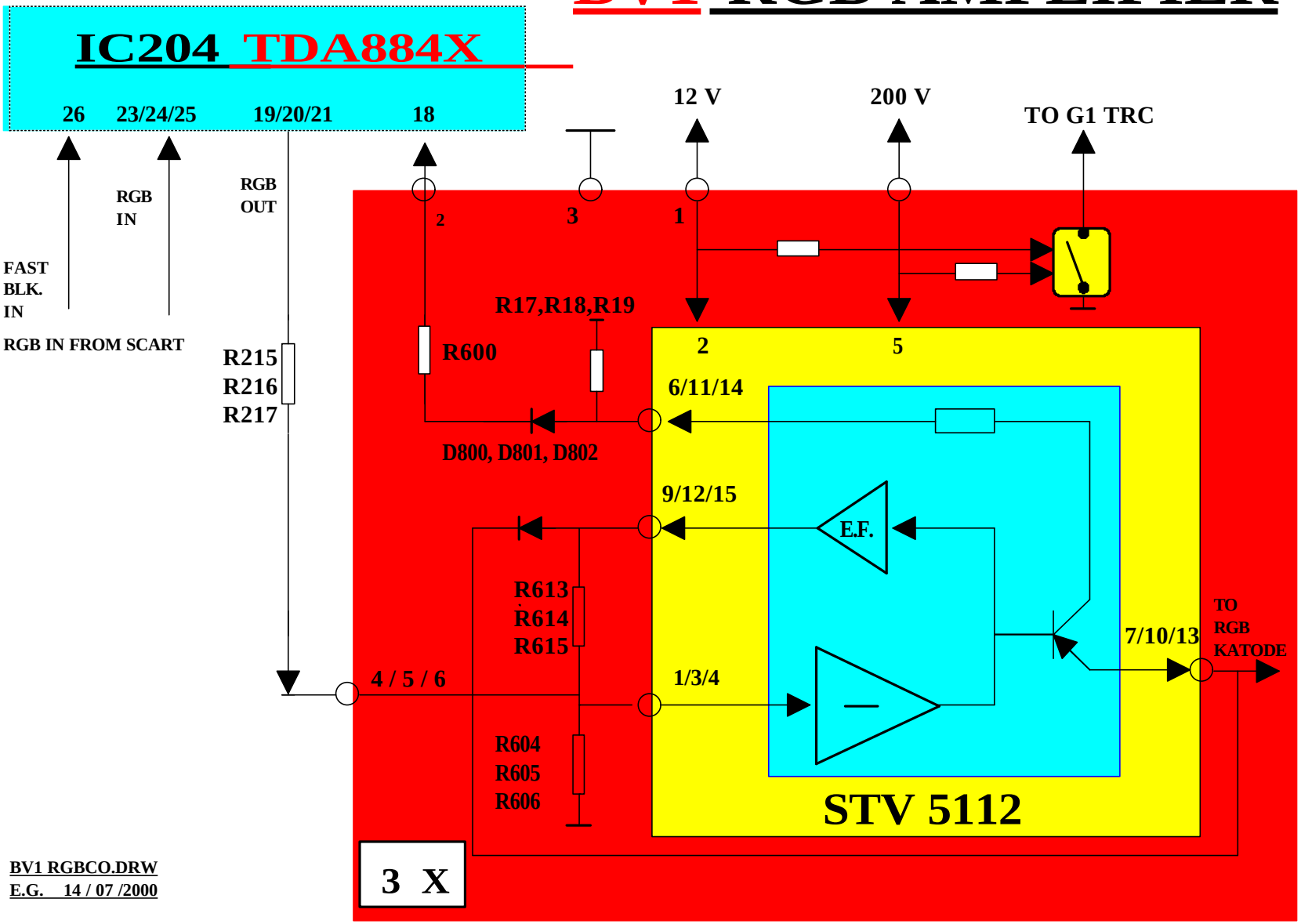
FORMENTI

BV1 VIDEO SIGNAL PATH & TXT

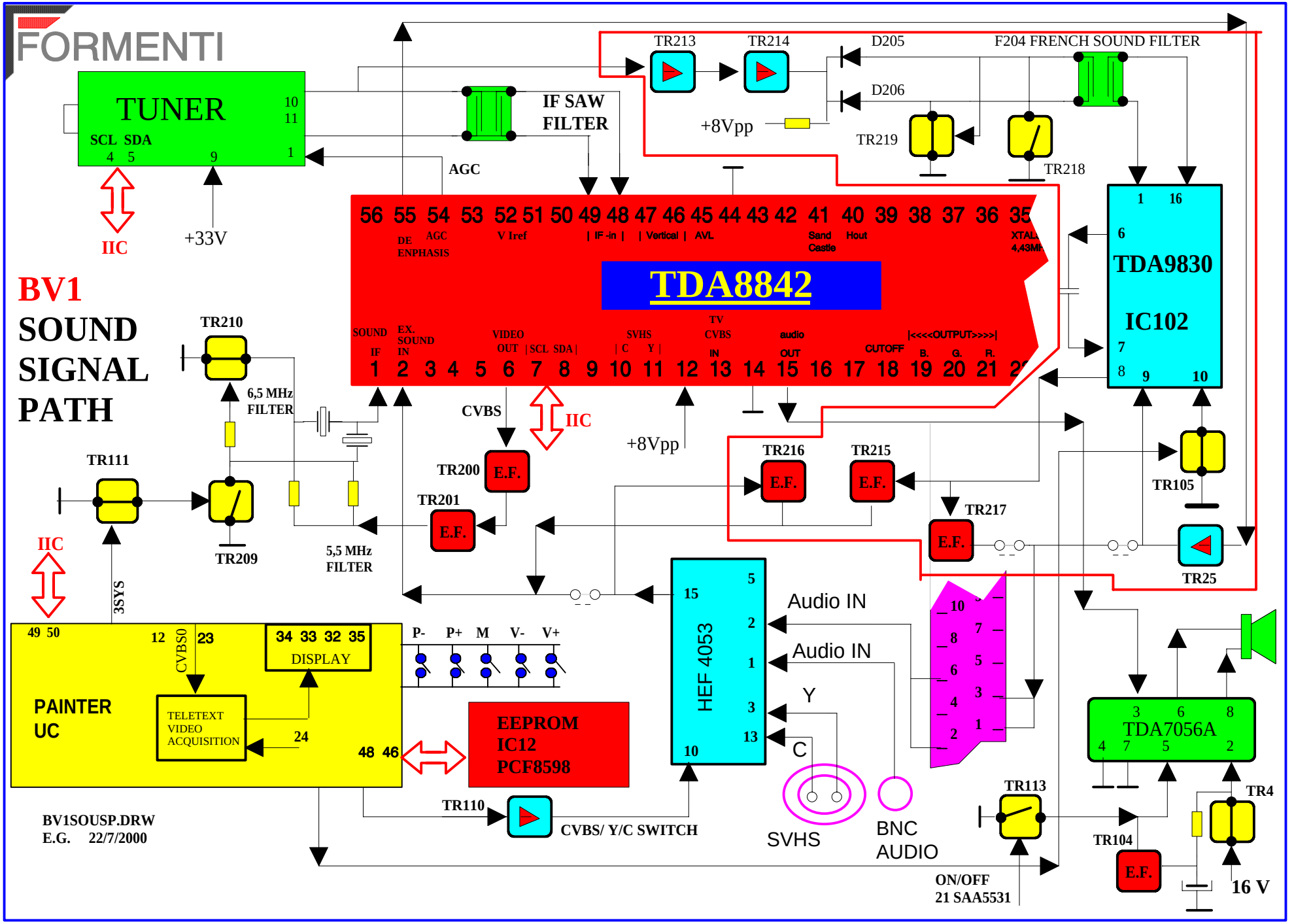


FORMENTI

BV1 RGB AMPLIFIER



BV1 RGBCO.DRW
E.G. 14 / 07 /2000

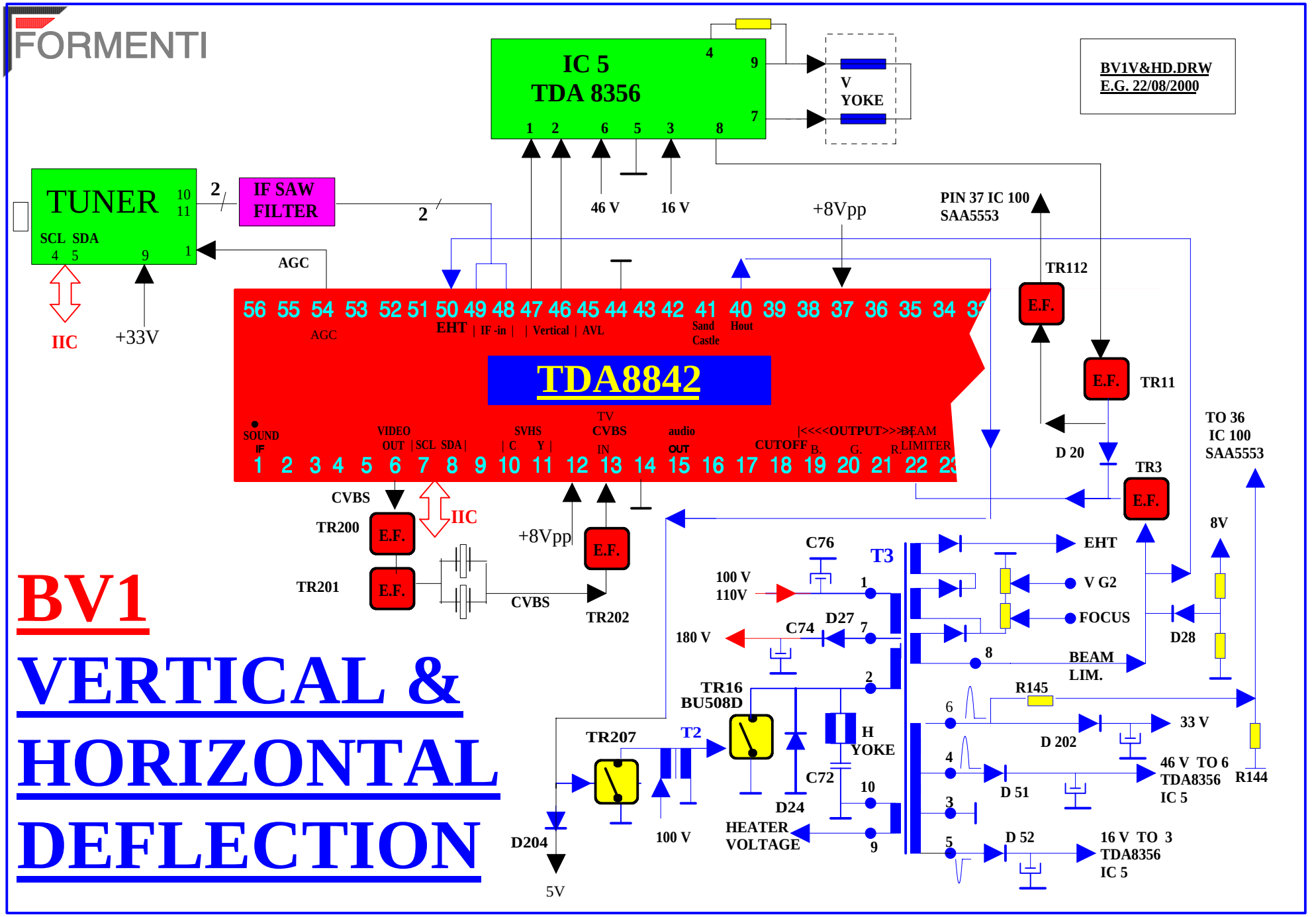

FORMENTI
TUNER
SCL SDA
IIC
+33V
AGC
IF SAW FILTER
TR213
TR214
D205
D206
F204 FRENCH SOUND FILTER
+8Vpp
TR219
TR218
TDA8842
DE ENPHASIS
AGC
V Iref
IF -in
Vertical
AVL
Sand Castle
Hout
XTAL 4,43MHz
SOUND IF
EX. SOUND IN
VIDEO OUT
SCL SDA
SVHS C Y
TV CVBS IN
audio OUT
CUTOFF
B. G. R.
TDA9830
IC102
BV1
SOUND
SIGNAL
PATH
TR210
6,5 MHz FILTER
TR111
TR209
5,5 MHz FILTER
CVBS
TR200
TR201
E.F.
TR216
TR215
TR217
TR105
TR25
3SYS
PAINTER UC
CVBS0
DISPLAY
P- P+ M V- V+
TELETEXT VIDEO ACQUISITION
EEPROM IC12 PCF8598
HEF 4053
Audio IN
Audio IN
Y
C
SVHS
BNC AUDIO
TDA7056A
TR113
TR4
TR104
16 V
ON/OFF 21 SAA5531
TR110
CVBS/ Y/C SWITCH
BV1SOUSP.DRW
E.G. 22/7/2000

FORMENTI

BV1V&HD.DRW
E.G. 22/08/2000

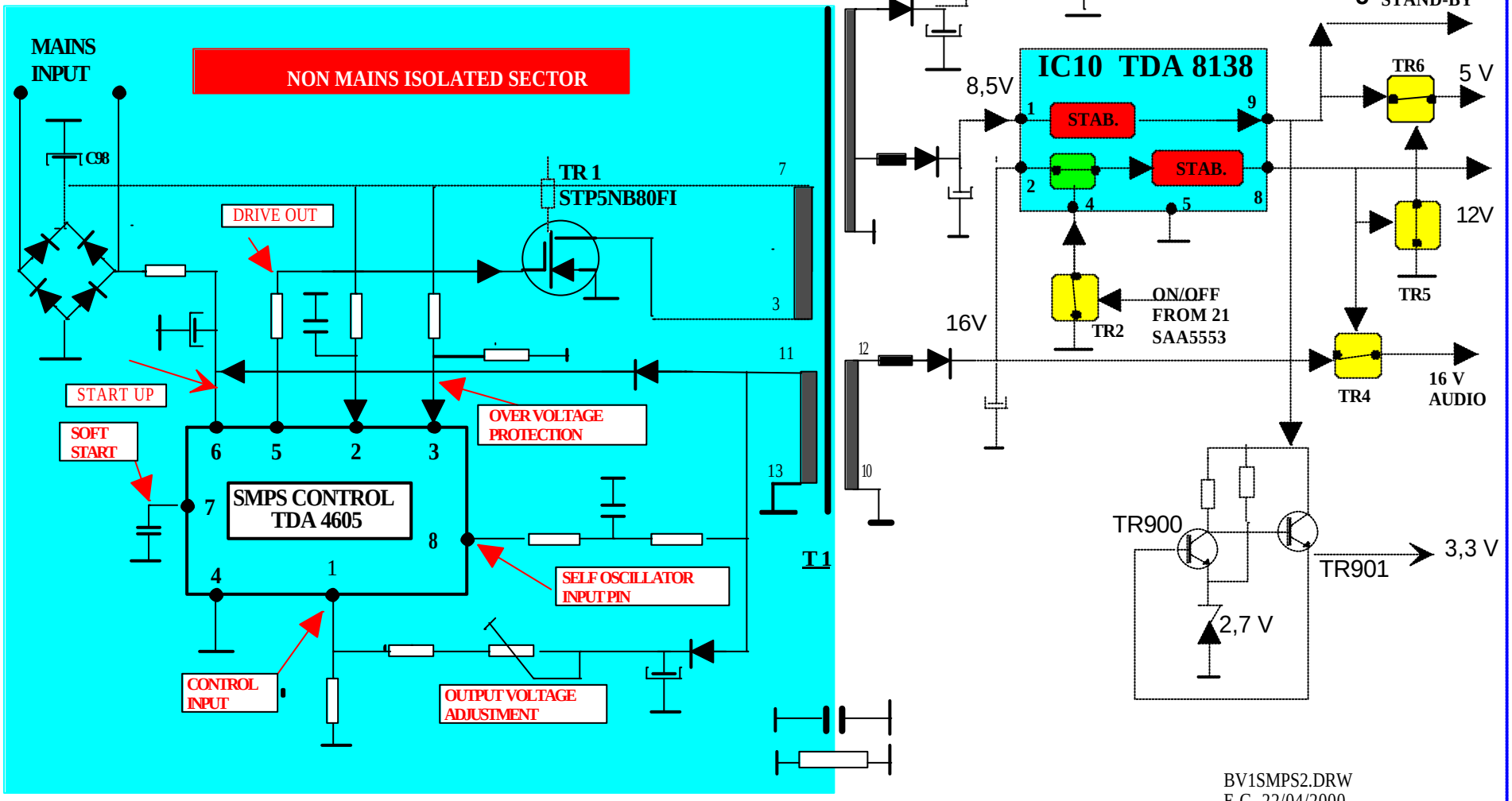
BV1

VERTICAL & HORIZONTAL DEFLECTION



FORMENTI

BV-1 SMPS



BV1SMPS2.DRW
E.G 22/04/2000

ALIGNEMENTS

The heart of the total system is formed by the “One Chip” TV processor TDA8842. Almost of all alignment functions can be handled by I2C. There is a specific user interface (SERVICE MENU) where we can manage alignments.

Adjusting AGC or Horizontal Shift and others functions are simply done using the remote control.

You should practise moving through user interface’s Menù: Sound, Picture, Overview, Installation, ect.

Only power supply regulation and G2 alignment required multimeter and oscillograph.

POWER SUPPLY

1. Setting contrast and brightness at min value
2. Measure the direct voltage at the terminal of diode D9, adjust potentiometer R14 so as to obtain a voltage of 98V (10”) / 105V (14”).

WHITE SETTING (HOW ADJUSTING G2)

1. Tuning the TV on the pattern signal video
2. Blanking video signal: You sholud connect +12V on pin 16 SCART through 470 Ohm
3. Using a high impedence voltmeter measure cathode’s voltages (pin 3, pin 9, pin7 tube socket)
4. Put the voltmeter on the highest cathode than adjust G2 (screen - Trasformer T3) for 120 V
5. Using a pattern signal video setting colour at min. value than adjust RGB gain by means SERVICE MENU. (see item 10,11, 12 below)

FOCUS

Setting max Contrast and adjust FOCUS on EHT. For easy and more accurate adjustment use a TXT page during for this setting..

SERVICE MODE

HOW TO GO IN AND OUT FROM SERVICE MODE

1. Starting from TV off
2. Hold down key P+ on the local key board and switch on TV whit the main switch.
3. Within 5 second press key "TV OFF" on the remote control.
4. To store new value press button " MENU" on remote control
5. To go out simply press TV key on the remote control

TO CHANGE FUNCTION AND TO CHANGE VALUE RELATED TO IT, USE EITHER REMOTE CONTROL OR LOCAL KEY BOARD .

FOR FUNCTION USE PROGRAM PLUS OR MINUS, FOR VALUE USE VOLUME PLUS OR MINUS

ACRONYM	FUNCTION	MIN	TYP.	MAX	NOTE
IF **AFC**	I.F AFC TYPE.	38 2	38,9 3	58,8 1	F.S.
IFL1 **AFC3**	I.F. FOR FRENCH STANDARD AFC TYPE	33,4 AFC3		33,9 AFC3	F.S.
AGC	AGC ADJUSTMENT	0	15	63	F.S.
HSH	HORIZONTAL SHIFT	0	36	63	
VS	VERTICAL SLOPE	0	30	63	For picture center
VA	VERTICAL AMPLITUDE	0	5	63	
VSD	VERTCAL SCAN DISABLE	OFF	ON	ON	To adj. Cut-off
VSH	VERTICAL PHASE				Shift Vertivale
SC	VERTICAL LINEARITY	0	10	63	
WR	GAIN RED AMPLIFIER	0	32	63	White setting
WG	GAIN GREEN AMPLIFIER	0	32	63	White setting
WB	GAIN BLUE AMPLIFIER	0	32	63	White setting
CL	CATHODE LEVEL	0	1	7	
BITS	MANY FEATURES				See table BIT 61
OP1	SELECT STANDARD				See table OP1
OP2	MANY FEATURES				See table OP2
OP3	MANY FEATURES				See table OP3
Op4	CHANNEL TABLES				See table OP4
TSL	START FREQ.BAND VHF - L	40	45	160	
TEL	END FREQ. BAND VHF-L	45	160	160	
TSM	START FREQ. BAND VHF-H	160	160	440	
TEM	END FREQ. BAND VHF-H	160	440	440	
TSH	START FREQ. BAND UHF	440	440	863	
TEH	END FREQ. BAND UHF	440	863	863	
TBL	ENABLE VHF-L BAND	00	A1	FF	Exadecimal
TBM	ENABLE VHF-H	00	92	FF	Exadecimal
TBH	ENABLE UHF	00	36	FF	Exadecimal
INIT BV1	DOWLOAD DEFAUL VALUE				**WARNING**

WARNING!!!

IF YOU ACTIVATE THIS MODE ALL SETTING WILL BE CHANGED WITH THE SO CALLED “DEFAULT SERVICE VALUE” THIS MEANS THAT YOUR SETTING WILL BE CANCELLED.

The following table are reporting the value of each bits of the byte considered. By using the volume plus and minus the value increase or decrease. To calculate the exadecimal value you have to consider the first bit (in case of table BIT 61 the bit AVL/HBL) as the Last Significat Bit (LSB) And the FCO as the Most Significant Bit (MSB)

TABLE BITS (Value of table below is Hex. 61)

BIT 61		
AVL/HBL	1	1 to ability AVL function (using TDA8842) using TDA8844 this item set 1 to ability HBL wide blanking function
BKS	0	Black stretch mode off
ACL	0	Automatic colour limiting not active
FIF	0	Fast filter IF set 1 to get rise time constant
DSA	0	Dinamic skin angle 123° (set 1 to become 117°)
BCO	1	Switch on behaviour, set 1 to have an imagine delay during switch on
OSO	1	Overscan switch off
FCO	0	Forced colour on

TABLE OPTION BYTE OP1

Op1		
PAL-BG	1	**Setting one of these bits will enable the selection of the corrisponding system**
PAL- DK	0	
PAL-I	0	
PAL-M	0	
PAL-N	0	
NTSC-M	0	
NTSC-443	1	
SECAM-BG	1	

TABLE OPTION BYTE OP2 (present table Doney/Algol = EC, Cubo = Hex. DC)

Op2		
SECAM-DK	0	0 standard system disable
FRANCIA	0	0 standard system disable
Select-CH	1	When set to handle tuninig in channel instead of frequency
AVL	1	When set put string AVL (on/off) in Audio menù (is used in combination with the flag AVL/HBL of the TDA8842)
AV2	0	When set put string AV2 as second source (See NOTE)
AV2S	1	When set put string SVHS as second source
Clock	1	When set the real time clock is enabled
TOP TXT	1	When set TOP TEXT will be enabled (

TABLE OPTION BYTE OP3 (present table Hex. = DA)

Op3		
Cursor	0	Cleared it use V+ V- P+ P- as navigation keys for menù (up,down,left,right)
4-norma	1	When set all system are available
1-norma	0	Set 1 if is present only 4.43Mhz crystal (option '4-norma' is not set)
Preset	1	When set 5 separate preset for picture are present
Volbar	1	When set, a volume bar will appear at the bottom on the screen when the volume is changed (and no menù or txt is present)
CTI	0	Set 1 when TDA 4565 is present
Lock	1	When set CHILD LOCK is available
Hotel	1	When set HOTEL MODE is available

TABLE OPTION BYTE OP4

Op4 01		
Europa	1	**When one bit is set this will enable the corrisponding channel table**
France	0	
Italy	0	
Oirt	0	**Attention:**
USA ch	0	**Selecting just one of them**
USA s	0	

The following tables are giving default value for different country. Keep it as a guide in case of EEPROM replacement

DEFAULT VALUE

IF	38.9
IFL1	33.9
AGC	15
HSH	36
VS	30
VA	5
VSD	
VSH	36
SC	10
WR	32
WG	32
WB	32
CL	1
BIT	61
Op1	C1
Op2	2C
Op3	1A
Op4	01

FRENCH
SECAM L/L', BG
PAL BG, NTSC443

IF	38.9
IFL1	33.9
AGC	15
HSH	36
VS	30
VA	5
VSD	
VSH	36
SC	10
WR	32
WG	32
WB	32
CL	1
BIT	61
Op1	C1
Op2	2E
Op3	1A
Op4	02

ITALY
PAL BG, NTSC 443
SECAM BG

IF	38.9
IFL1	33.9
AGC	15
HSH	36
VS	30
VA	5
VSD	
VSH	36
SC	10
WR	32
WG	32
WB	32
CL	1
BIT	61
Op1	C1
Op2	2C
Op3	1A
Op4	04

ENGLAND
PAL I,

IF	38.9
IFL1	33.9
AGC	15
HSH	36
VS	30
VA	5
VSD	
VSH	36
SC	10
WR	32
WG	32
WB	32
CL	1
BIT	61
Op1	04
Op2	2C
Op3	1A
Op4	01

OIRT
PAL DK, NTSC443,
SECAM DK

IF	38.9
IFL1	33.9
AGC	15
HSH	36
VS	30
VA	5
VSD	
VSH	36
SC	10
WR	32
WG	32
WB	32
CL	1
BIT	61
Op1	**42**
Op2	**2D**
Op3	1A
Op4	**08**

CUSTOM
PAL N, NTSC M
PAL BG, SECAMBG

IF	38.9
IFL1	33.9
AGC	15
HSH	36
VS	30
VA	5
VSD	
VSH	36
SC	10
WR	32
WG	32
WB	32
CL	1
BIT	61
Op1	**F1**
Op2	2C
Op3	1A
Op4	01

ATTENTION:

THE STANDARD SELECTED HAVE TO MATCH WITH HARDWARE CHASSIS
(Example:
cristal 3.58 Mhz need to match with

BV1 CHANNEL TABLES

EUROPEAN CH (CCIR B, G) Channels

Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)
2	48.25	*19*	*455.25*	36	591.25	53	727.25
3	55.25	*20*	*463.25*	37	599.25	54	735.25
4	62.25	21	471.25	38	607.25	55	743.25
5	175.25	22	479.25	39	615.25	56	751.25
6	182.25	23	487.25	40	623.25	57	759.25
7	189.25	24	495.25	41	631.25	58	767.25
8	196.25	25	503.25	42	639.25	59	775.25
9	203.25	26	511.25	43	647.25	60	783.25
10	210.25	27	519.25	44	655.25	61	791.25
11	217.25	28	527.25	45	663.25	62	799.25
12	224.25	29	535.25	46	671.25	63	807.25
13	*231.25*	30	543.25	47	679.25	64	815.25
14	*238.25*	31	551.25	48	687.25	65	823.25
15	*245.25*	32	559.25	49	695.25	66	831.25
16	*252.25*	33	567.25	50	703.25	67	839.25
17	*259.25*	34	575.25	51	711.25	68	847.25
18	*447.25*	35	583.25	52	719.25	69	855.25

Note: Channels *13* up to *20* are S-channels.

EUROPEAN S (CCIR cable S) channels (suitable also for ITALY, FRENCH, OIRT)

Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)
1	105.25	15	259.25	29	367.25	*43*	*479.25*
2	112.25	16	266.25	30	375.25	*44*	*487.25*
3	119.25	17	273.25	31	383.25	*45*	*495.25*
4	126.25	18	280.25	32	391.25	*46*	*503.25*
5	133.25	19	287.25	33	399.25	*47*	*511.25*
6	140.25	20	294.25	34	407.25	*48*	*48.25*
7	147.25	21	303.25	35	415.25	*49*	*55.25*
8	154.25	22	311.25	36	423.25	*50*	*62.25*
9	161.25	23	319.25	37	431.25	51	69.25
10	168.25	24	327.25	38	439.25	52	83.75
11	231.25	25	335.25	39	447.25	53	90.25
12	238.25	26	343.25	40	455.25	54	97.25
13	245.25	27	351.25	41	463.25		
14	252.25	28	359.25	*42*	*471.25*		

FRENCH channels

Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)
1	47.25	*19*	*288.00*	37	599.25	55	743.25
2	55.75	*20*	*296.00*	38	607.25	56	751.25
3	60.50	21	471.25	39	615.25	57	759.25
4	63.75	22	479.25	40	623.25	58	767.25
5	176.00	23	487.25	41	631.25	59	775.25
6	184.00	24	495.25	42	639.25	60	783.25
7	192.00	25	503.25	43	647.25	61	791.25
8	200.00	26	511.25	44	655.25	62	799.25
9	208.00	27	519.25	45	663.25	63	807.25
10	216.00	28	527.25	46	671.25	64	815.25
11	*224.00*	29	535.25	47	679.25	65	823.25
12	*232.00*	30	543.25	48	687.25	66	831.25
13	*240.00*	31	551.25	49	695.25	67	839.25
14	*248.00*	32	559.25	50	703.25	68	847.25
15	*256.00*	33	567.25	51	711.25	69	855.25
16	*264.00*	34	575.25	52	719.25		
17	*272.00*	35	583.25	53	727.25		
18	*280.00*	36	591.25	54	735.25		

OIRT Channels

Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)
1	49.75	25	503.25	41	631.25	57	759.25
2	59.25	26	511.25	42	639.25	58	767.25
3	77.25	27	519.25	43	647.25	59	775.25
4	85.25	28	527.25	44	655.25	60	783.25
5	93.25	29	535.25	45	663.25	61	791.25
6	175.25	30	543.25	46	671.25	62	799.25
7	183.25	31	551.25	47	679.25	63	807.25
8	191.25	32	559.25	48	687.25	64	815.25
9	199.25	33	567.25	49	695.25	65	823.25
10	207.25	34	575.25	50	703.25	66	831.25
11	215.25	35	583.25	51	711.25	67	839.25
12	223.25	36	591.25	53	719.25	68	847.25
21	471.25	37	599.25	53	727.25	69	855.25
22	479.25	38	607.25	54	735.25		
23	487.25	39	615.25	55	743.25		
24	495.25	40	623.25	56	751.25		

ITALIAN channels

Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)	Channel	Pict. Freq. (MHz)
1	53.75	*19*	*287.25*	37	599.25	55	743.25
2	62.25	*20*	*294.00*	38	607.25	56	751.25
3	82.25	21	471.25	39	615.25	57	759.25
4	175.25	22	479.25	40	623.25	58	767.25
5	183.25	23	487.25	41	631.25	59	775.25
6	192.25	24	495.25	42	639.25	60	783.25
7	201.25	25	503.25	43	647.25	61	791.25
8	210.25	26	511.25	44	655.25	62	799.25
9	217.25	27	519.25	45	663.25	63	807.25
10	224.25	28	527.25	46	671.25	64	815.25
11	*231.25*	29	535.25	47	679.25	65	823.25
12	*238.25*	30	543.25	48	687.25	66	831.25
13	*245.25*	31	551.25	49	695.25	67	839.25
14	*252.25*	32	559.25	50	703.25	68	847.25
15	*259.25*	33	567.25	51	711.25	69	855.25
16	*266.25*	34	575.25	52	719.25		
17	*273.25*	35	583.25	53	727.25		
18	*280.25*	36	591.25	54	735.25		

WARNING

PAY ATTENTION THAT THE ABOVE CHANNEL TABLE MUST BE SELECTED DURING THE INSTALLATION.

THE TV SET IS PRODUCED ACCORDING THE DESTINATION COUNTRY.

IN CASE OF SITUATION LIKE BORDERS BETWEEN TWO COUNTRY HAVING DIFFENT CHANNEL TABLE THE TUNING MUST BE CARRIED OUT FIRST WITH THE MAIN COUNTRY THAN IT IS NECESSARY TO ENTER THE MENU "CONFIGURATION" AN CHANGE THE "LIST OF CHANNEL" ACCORDING TO THE NEW CHANNEL TO TUNE.

TDA 4605

Control IC for Switched-Mode Power Supplies using MOS-Transistors

FEATURES

- l Fold-back characteristic provides overload protection for external components
- l Burst operation under short-circuit conditions
- l Loop error protection
- l Switch-off if line voltage is too low (undervoltage switch-off)
- l Line voltage compensation of overload point
- l Soft-start for quiet start-up
- l Chip-over temperature protection (thermal shutdown)
- l On-chip parasitic transformer oscillation suppression circuitry

FUNCTIONAL DESCIPTION

The IC TDA 4605-1 controls the MOS-power transistor and performs all necessary regulation and monitoring functions in free running flyback converters. Since good load regulation over a wide load range is attained, this IC is applicable tor consumer and industrial power supplies.

The serial circuit of power transistor and primary winding of the flyback transformer is connected to the input voltage. During the switch - on period of the transistor, energy is stored in the transformer and during the switch - off period it is fed to the load via the secondary winding. By varying switch-on time of the power transistor, the IC controls each portion of energy transferred to the secondary side such that the output voltage remains nearly independent ot load variations.

The required control information is taken from the input voltage during the switch-on period and from a regulation winding during the switch-off period.

In the different load ranges the switched-mode power supply (SMPS) behaves as follow:

No load operation:

The power supply unit oscillates at its resonant frequency typ. 100 kHz to 200 kHz. Depending upon the transformator windings the output voltage can be slightly above nominal value.

Nominal operation:

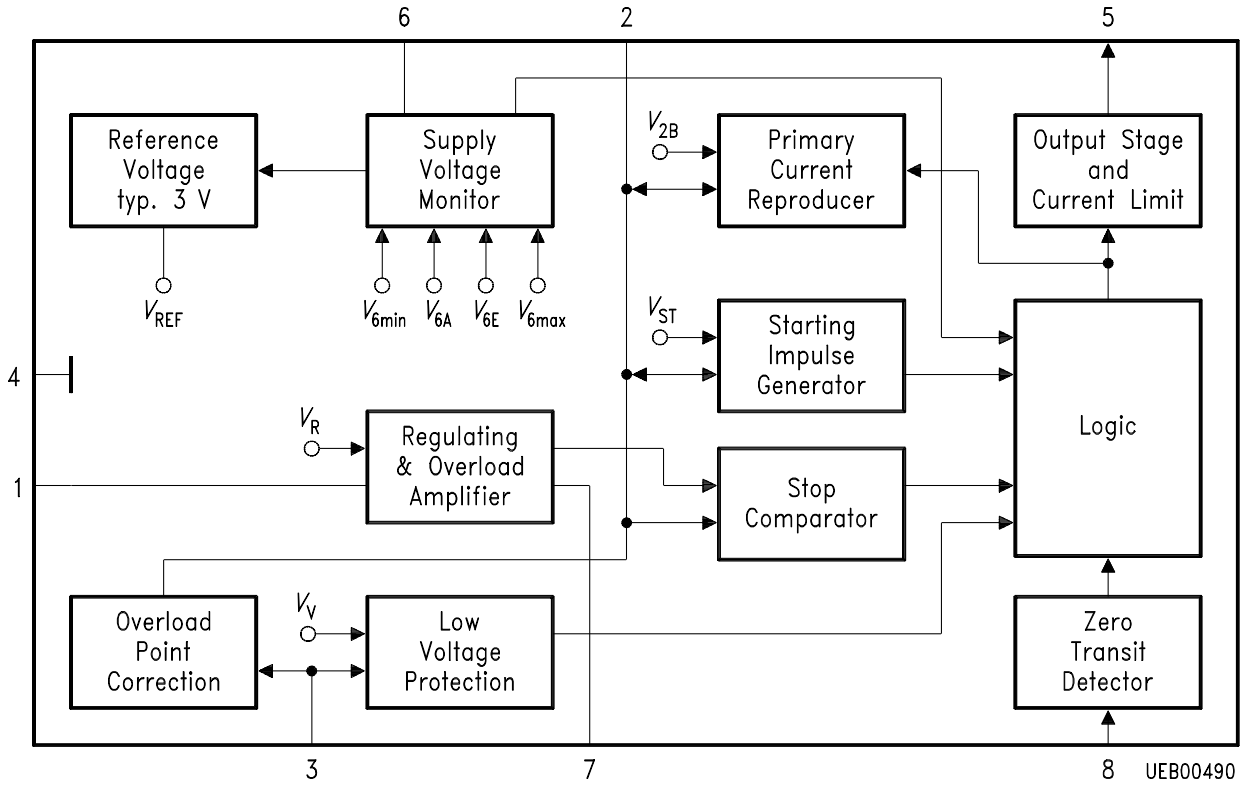
The switching frequency declines with increasing load and decreasing AC-voltage. The duty factor primarly depends on the AC-voltage. The output voltage is load-dependent only.

Overload point:

Maximal output power is available at this point ot the output characteristic.

Overload:

The energy transferred per operation cycle is limited at the top. Therefore the output voltage declines by secondary overloading


6
2
5
Reference Voltage typ. 3 V
Supply Voltage Monitor
V_{2B}
Primary Current Reproducer
Output Stage and Current Limit
V_{REF}
V_{6min}
V_{6A}
V_{6E}
V_{6max}
V_{ST}
Starting Impulse Generator
4
Logic
V_R
Regulating & Overload Amplifier
1
Stop Comparator
Overload Point Correction
V_V
Low Voltage Protection
Zero Transit Detector
3
7
8
UEB00490

TDA4566 Colour transient improvement circuit

GENERAL DESCRIPTION

The TDA4566 is a monolithic integrated circuit for colour-transient improvement (CTI) and luminance delay line in gyrator technique in colour television receivers.

FEATURES

· Colour transient improvement for colour difference signals (R-Y) and (B-Y) with transient detecting-, storage- and switching stages resulting in high transients of colour output signals
· A luminance signal path (Y) which substitutes the conventional Y delay line coil
· Switchable delay time from 550 ns to 820 ns in steps of 90 ns and l fine adjustment of 37 ns
· Two Y output signals; one of 180 ns less delay

TDA4566 Block Diagram

TDA9830 TV sound AM-demodulator and audio source switch

FEATURES

- Adjustment free wideband synchronous AM demodulator
- Audio source-mute switch (low noise)
- Audio level according EN50049
- 5 to 8 V power supply or 12 V alternative
- Low power consumption.

GENERAL DESCRIPTION

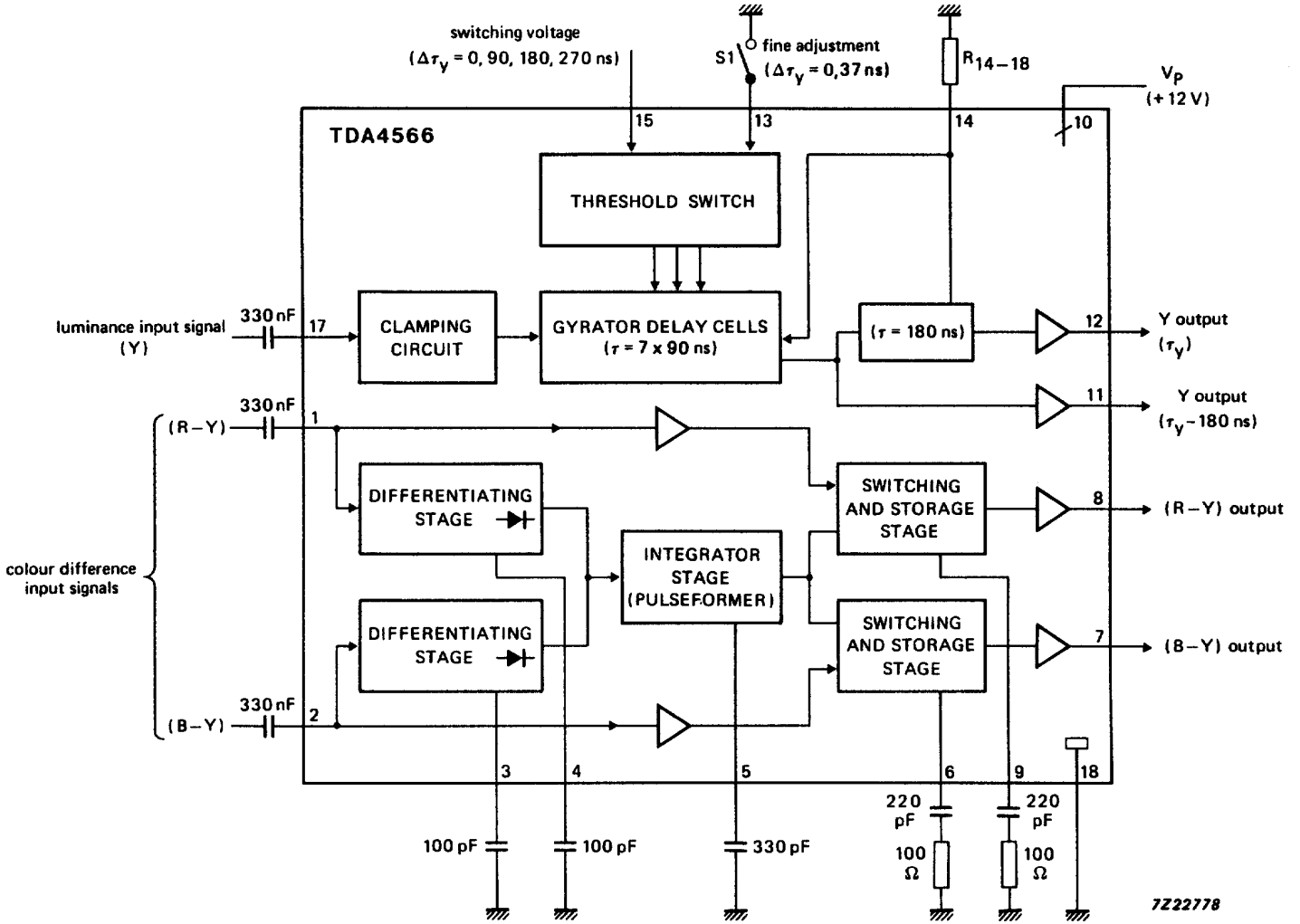
The TDA9830, a monolithic integrated circuit, is designed for AM-sound demodulation used in L- and L'-standard.

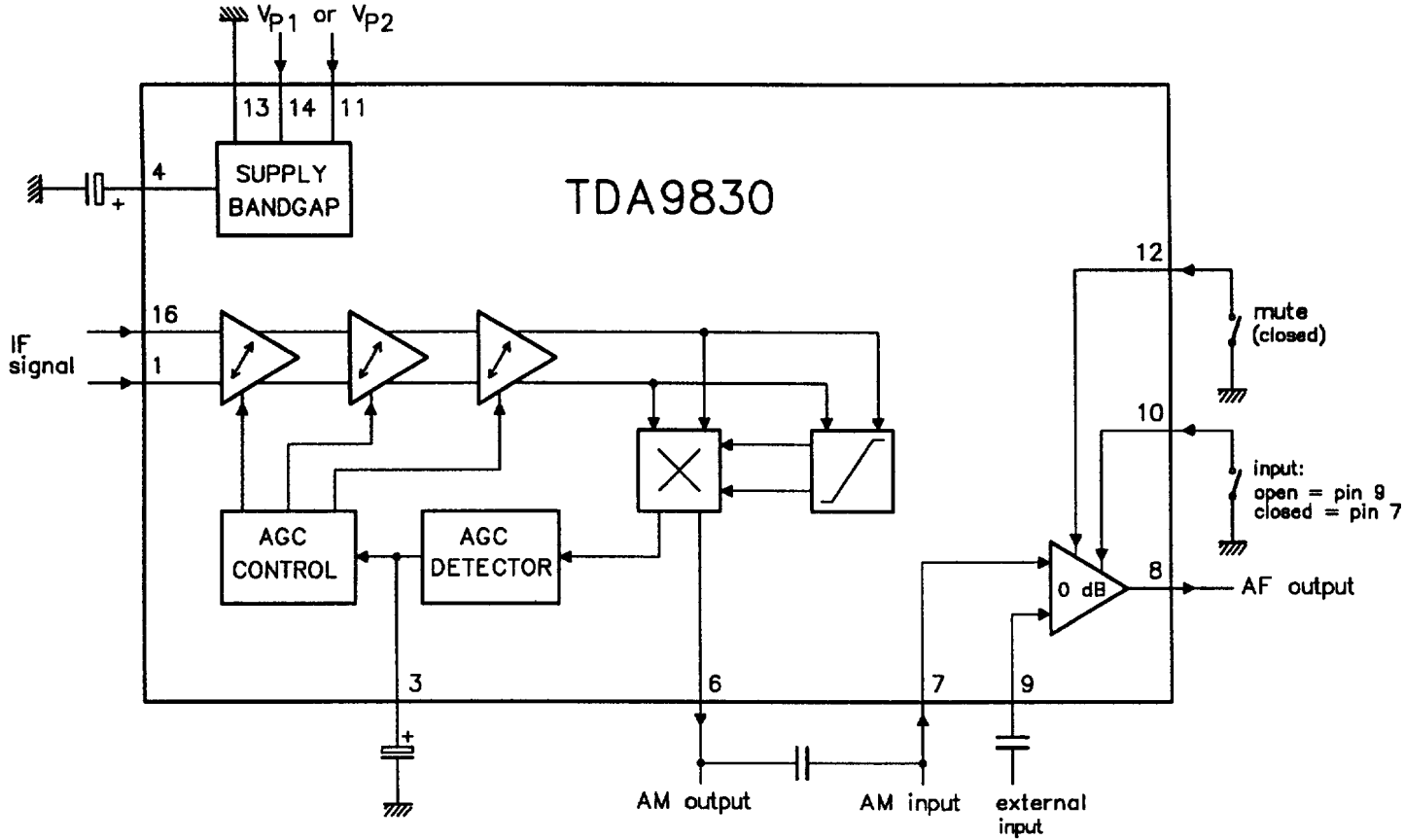
The IC provides an audio source selector and also mute switch.

FUNCTIONAL DESCRIPTION

The sound IF amplifier consists of three AC-coupled differential amplifier stages each with approximately 20 dB gain.

The automatic gain control voltage to maintain the AM demodulator output signal at a constant level is generated by a mean level detector. The IF amplifier output signal is fed to a limiting amplifier (two stages) and to a multiplier circuit. This circuit is an operational amplifier with three input stages and internal feedback network determining gain (0 dB) and frequency response of 700 kHz.


switching voltage
($\Delta\tau_y$ = 0, 90, 180, 270 ns)
S1
fine adjustment
($\Delta\tau_y$ = 0,37 ns)
R_{14-18}
V_P
(+12 V)
TDA4566
15
13
14
10
THRESHOLD SWITCH
luminance input signal
(Y)
330 nF
17
CLAMPING CIRCUIT
GYRATOR DELAY CELLS
(τ = 7 x 90 ns)
(τ = 180 ns)
12
Y output
(τ_y)
11
Y output
(τ_y - 180 ns)
330 nF
(R-Y)
1
DIFFERENTIATING STAGE
SWITCHING AND STORAGE STAGE
8
(R-Y) output
INTEGRATOR STAGE (PULSEFORMER)
colour difference input signals
DIFFERENTIATING STAGE
SWITCHING AND STORAGE STAGE
7
(B-Y) output
330 nF
(B-Y)
2
3
4
5
6
9
18
100 pF
100 pF
330 pF
220 pF
100 Ω
220 pF
100 Ω
7Z22778


VP1 or VP2
13
14
11
4
SUPPLY BANDGAP
TDA9830
16
1
IF signal
12
mute (closed)
10
input: open = pin 9 closed = pin 7
8
AF output
0 dB
AGC CONTROL
AGC DETECTOR
3
6
7
9
AM output
AM input
external input

TDA7056A AUDIO POWER AMPLIFIER

FEATURES

- DC volume control
- Few external components
- Mute mode
- Thermal protection
- Short-circuit proof
- No switch-on and off clicks
- Good overall stability
- Low power consumption
- Low HF radiation

GENERAL DESCRIPTION

The TDA7056A is a mono BTL output amplifier with DC volume control. It is designed for use in TV and monitors, but also suitable for battery-fed portable recorders and radios.

FUNCTIONAL DESCRIPTION

The TDA7056A is a mono BTL output amplifier with DC volume control, designed for use in TV and monitor but also suitable for battery-fed portable recorders and radios. In conventional DC volume circuits the control or input stage is AC coupled to the output stage via external capacitor to keep the offset voltage low. In the TDA7056A the DC volume stage is integrated into the input stage so that coupling capacitors are not required and a low offset voltage is maintained.

At the same time the minimum supply voltage remains low.

The BTL principle offers the following advantages:

· lower peak value of the supply current

· the frequency of the ripple on the supply voltage is twice the signal frequency

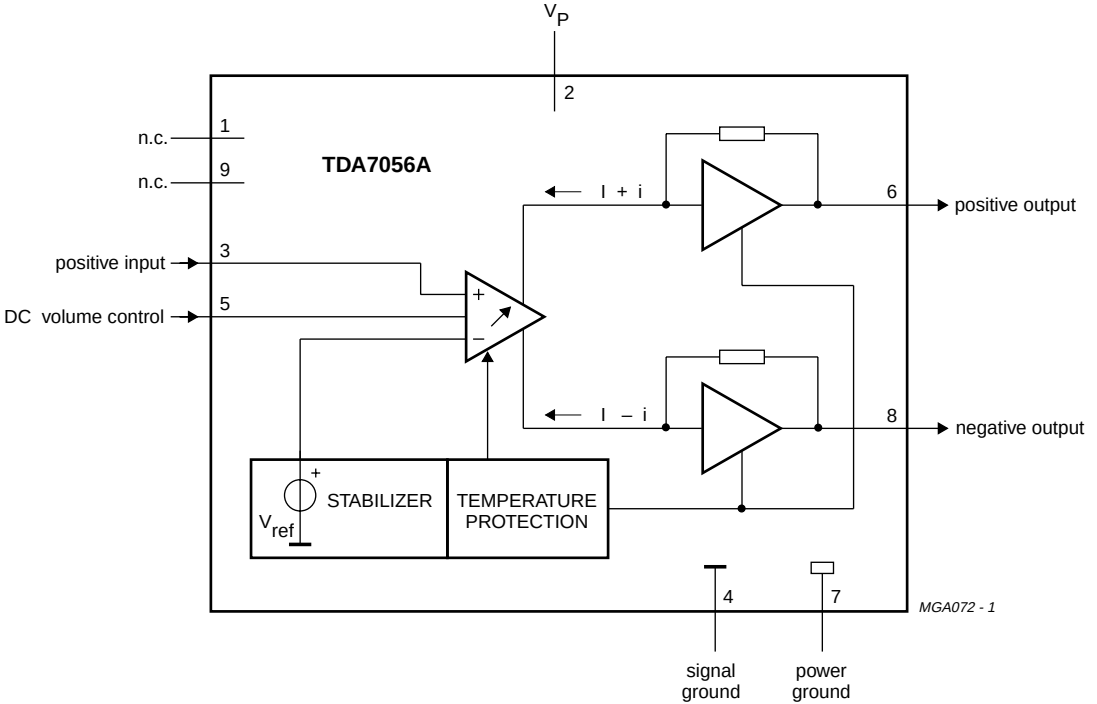
Thus, a reduced power supply and smaller capacitors can be used which results in cost savings.

For portable applications there is a trend to decrease the supply voltage, resulting in a reduction of output power at conventional output stages. Using the BTL principle increases the output power.

The maximum gain of the amplifier is fixed at 35.5 dB. The DC volume control stage has a logarithmic control characteristic.

If the DC volume control voltage is below 0.3 V, the device switches to the mute mode.

The amplifier is short-circuit proof to ground, VP and across the load. A thermal protection circuit is also implemented.


V_P
2
n.c.
1
n.c.
9
TDA7056A
positive input
3
DC volume control
5
I + i
6
positive output
I – i
8
negative output
+
–
+
V_{ref}
STABILIZER
TEMPERATURE PROTECTION
4
7
MGA072 - 1
signal ground
power ground

TDA8356 DC-coupled vertical deflection circuit

FEATURES

- Highly efficient fully DC-coupled vertical output bridge circuit
- · Vertical flyback switch
- · Guard circuit
- · Protection against:
  - short-circuit of the output pins (7 and 4)
  - short-circuit of the output pins to VP
  - Temperature (thermal) protection

GENERAL DESCRIPTION

The TDA8356 is a power circuit for use in 90° and 110° colour deflection systems for field frequencies of 50 to 120 Hz. The circuit provides a DC driven vertical deflection output circuit, operating as a highly efficient class G system.

FUNCTIONAL DESCRIPTION

The vertical driver circuit is a bridge configuration. The deflection coil is connected between the output amplifiers, which are driven in phase opposition. An external resistor (RM) connected in series with the deflection coil provides internal feedback information. The differential input circuit is voltage driven. The flyback voltage is determined by an additional supply voltage VFB .

The principle of operating with two supply voltages (class G) makes it possible to fix the supply voltage VP optimum for the scan voltage and the second supply voltage VFB optimum for the flyback voltage. Using this method, very high efficiency is achieved.

The supply voltage VFB is almost totally available as flyback voltage across the coil, this being possible due to the absence of a decoupling capacitor (not necessary, due to the bridge configuration). The output circuit is fully protected against thermal condictions,short circuit of the output pins 4 & 7 and short circuit of the output pins to VP.

A guard circuit VO(guard) is provided. The guard circuit is activated at the following conditions:

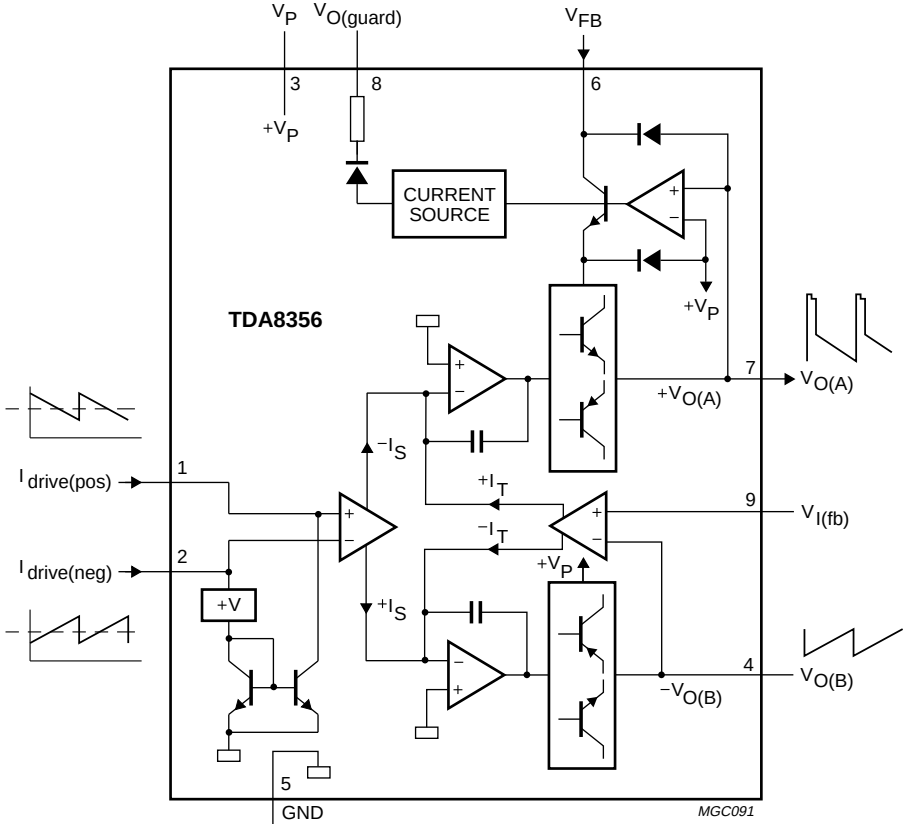
· during flyback

· during short-circuit of the coil and during short-circuit of the output pins to VP or ground

· during open loop

· when the thermal protection is activated.

This signal can be used for blanking the picture tube screen.


V_P
$V_{O(guard)}$
V_{FB}
3
8
6
$+V_P$
CURRENT SOURCE
TDA8356
$+V_P$
7
$+V_{O(A)}$
$V_{O(A)}$
$-I_S$
1
$I_{drive(pos)}$
$+I_T$
9
$V_{I(fb)}$
$-I_T$
2
$I_{drive(neg)}$
$+V_P$
+V
$+I_S$
4
$-V_{O(B)}$
$V_{O(B)}$
5
GND
MGC091