3. QUICK REFERENCE DAT

		Value	Unit
Supply voltage		8.0	V
Supply current		80	mA
Input voltages	Vision IF plifier sensitivity	70	μV_{RMS}
	Sound IF plifier sensitivity	1.0	mV_{RMS}
	External o input	500	mV_{RMS}
	External BS/Y input	1.0	V_{p-p}
	External oma input	0.3	V_{p-p}
	RGB-in	5	V_{p-p}
Output signals	Demodu CVBS out	2.4	V_{p-p}
	Tuner A control voltage range	0 - V_{CC}+1	V
	AFC ou voltage swing	4.5	V
	Audio o	500	mV_{RMS}
	RGB ou signal amplitudes	4.0	V_{p-p}
	Horizont tput current	10	mA
	Vertical ut pulse	4	V
Control voltages	Volume, trast, saturation, brightness hue, peak and tuner take-over	0 - 5	V

5. BLOCK DIAGRAM

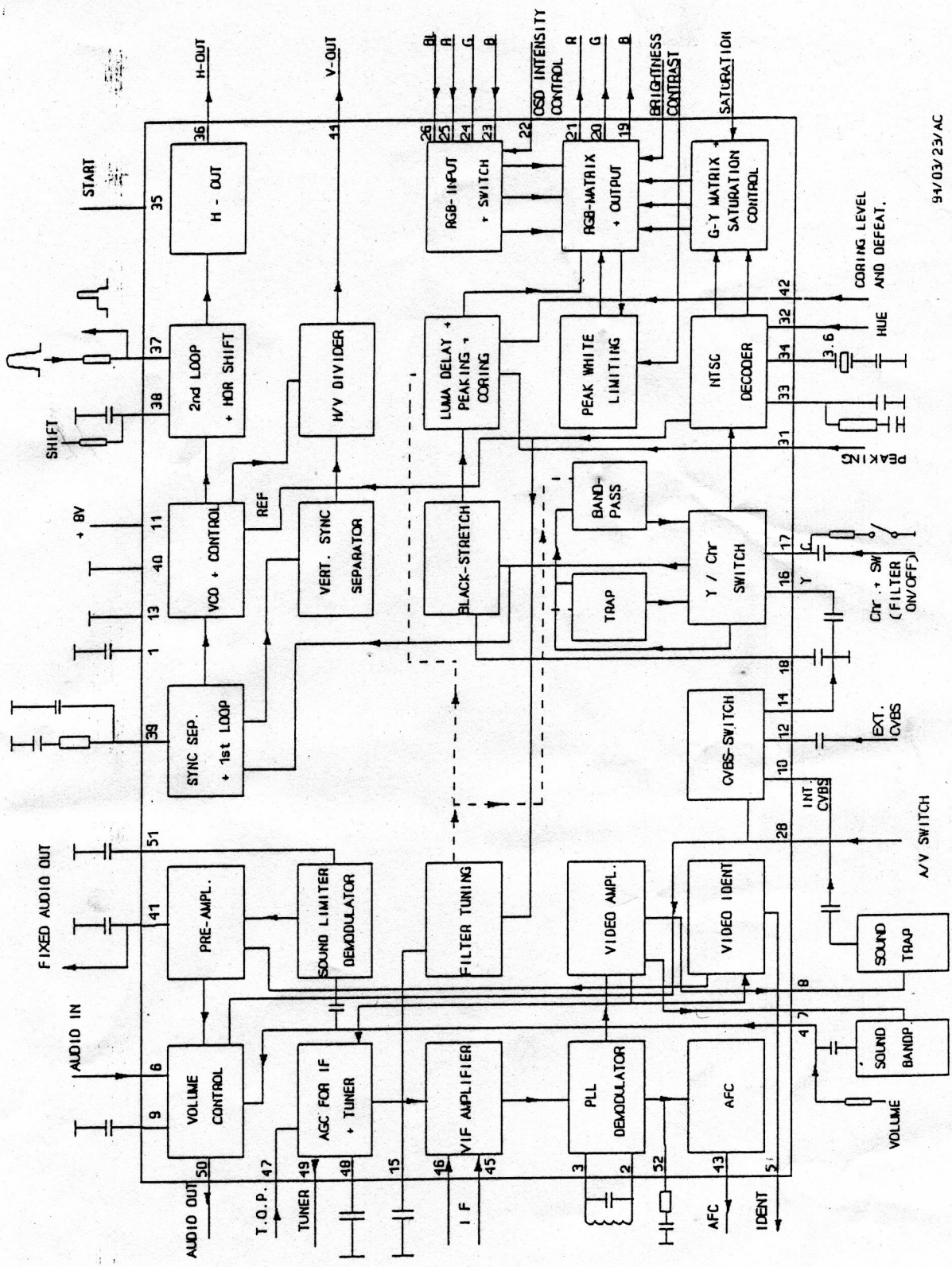

FIG. 1 BLOCK DIAGRAM NTSC ONE-CHIP TV-PROCESSOR TDA 8369

6. PINNING

The pinning of the TDA 8369 is given below.

Pin 1: Decoupling bandgap supply
Pin 2: VCO tuned circuit
Pin 3: VCO tuned circuit
Pin 4: Sound IF in plus volume control
Pin 5: Video indentification output
Pin 6: External audio input
Pin 7: Demodulated CVBS out (sound)
Pin 8: Demodulated CVBS out
Pin 9: AVL capacitor
Pin 10: Internal CVBS in
Pin 11: Positive supply
Pin 12: External CVBS in
Pin 13: Ground
Pin 14: CVBS output
Pin 15: Decoupling filter tuning
Pin 16: CVBS/Y input
Pin 17: Chroma input
Pin 18: Black peak hold capacitor
Pin 19: B-output
Pin 20: G-output
Pin 21: R-output
Pin 22: Intensity control of OSD
Pin 23: B-input for insertion
Pin 24: G-input for insertion
Pin 25: R-input for insertion
Pin 26: Fast blanking input
Pin 27: Brightness control input
Pin 28: A/V switch input
Pin 29: Contrast control input
Pin 30: Saturation control input
Pin 31: Peaking control input
Pin 32: Hue control input
Pin 33: Loop filter burst phase detector
Pin 34: 3.58 MHz X-tal connection
Pin 35: Start horizontal oscillator
Pin 36: Horizontal output
Pin 37: Flyback input / Sandcastle output
Pin 38: Φ-2 loop filter
Pin 39: Φ-1 loop filter
Pin 40: Ground
Pin 41: Audio deemphasis
Pin 42: Coring defeat
Pin 43: AFC output
Pin 44: Vertical output pulse
Pin 45: IF-input
Pin 46: IF-input
Pin 47: Tuner take-over adjustment
Pin 48: AGC decoupling capacitor
Pin 49: Tuner AGC output
Pin 50: Audio output
Pin 51: Decoupling sound demodulator
Pin 52: PLL loopfilter

PHILIPS

M.I.S.D.
Electronic components and materials Division

TENTATIVE DEVICE SPECIFICATION

TYPE: Commercial : TDA 8369

Experimental : N 5702

Monolythic Integrated NTSC TV-Processor

I. GENERAL DESCRIPTION

The TDA 8369 is nearly identical to the NTSC TV processor TDA 8368. The main difference between the IC's is that the TDA 8369 includes an Automatic Volume Level circuit (AVL) which ensures that the audio output power is automatically controlled to a certain level which is set by the viewer. This prevents large audio power variations caused by different sound modulation of the transmitters.
The IC contains nearly all small signal functions which are required to make an NTSC colour television receiver. By adding a tuner and output stages for audio, video and horizontal and vertical deflection a complete television receiver can be built. To make a TV receiver with stereo sound a separate stereo decoder has to be added.

The main differences of the N2 version compared with TDA 8369 N1 are:

- A vertical blanking pulse has been added to the sandcastle pulse. This was necessary to ensure a simple application of the TDA 9181 (histo-booster).
- Wider vertical blanking in the RGB outputs to get a good suppression of the closed captioning signals.
- Reduced cross-talk of the horizontal output pulse to the colour decoder. It is expected that a FET driver transistor can be used without disturbing the phase of the colour oscillator.
- Improved switching behaviour of the fast blanking of the RGB inputs.
- Protection of the horizontal output so that it cannot switch-on the horizontal output transistor during the flyback time.

The supply voltage for the IC is 8 Volts. It is mounted in an S-DIL envelope with 52 pins.

The differences with the N1 version have been indicated with a shaded area.

2. FEATURES

- Vision IF amplifier with high sensitivity
- PLL demodulator for the vision IF signal
- Alignment-free sound demodulator
- Automatic gain time leveling circuit
- Audio switch
- Video (CVBS) switch and separate Y(CVBS)/C inputs so that a comb filter can be used
- Integrated chroma trap and bandpass filters (autocalibrated)
- Luminance delay line integrated
- Black-stretcher circuit in the luminance channel
- Adjustable DC restoration of the luminance signal
- Peaking circuit in the luminance channel with a defeatable coring function.
- Alignment-free NTSC colour decoder
- RGB-control circuit with digital OSD inputs with intensity control
- Horizontal synchronisation with two control loops and alignment-free horizontal oscillator
- Soft-start of the horizontal drive output pulse
- Vertical countdown circuit
- Low dissipation (only 600 mW)
- Small amount of peripheral components compared with competion IC's
- Only one adjustment (vision IF demodulator)