

**NTSC/PAL TV SIGNAL PROCESSOR****DESCRIPTION**

The M52770ASP is a single chip CTV processor which has VIF/SIF, luminance, chrominance, mono sound, OSD display, RGB interface, and deflection.

And it is possible to control each parameters by I<sup>2</sup>C bus. A baseband 1H delay line is built-in, and conjunction with SECAM decoder M52325AP simplifies multi system CTV chassis.

**FEATURES**

- Built-in 1H Delay Line using Bi-CMOS technology
- Multistandard PLL demodulator for IF
- Alignment - free sound demodulator
- Flexible source selection with internal CVBS and external CVBS or Y/C input signal
- Audio switch integrated
- Integrated chroma trap and bandpass filters with auto-calibration
- Luminance delay line integrated
- RGB control circuit with cut-off and drive
- Linear RGB inputs and fast blanking
- Horizontal synchronization with two control loops and alignment-free H-oscillator
- Vertical count-down circuit
- Vertical saw tooth generator integrated
- I<sup>2</sup>C Bus control of various functions
- Easy interfacing with SECAM decoder for multistandard applications
- Small amount of peripheral components

**APPLICATION**

NTSC/PAL TELEVISION

**QUICK REFERENCE DATA**

- Supply voltage pin11(VIF), pin31(video/chroma).....5.0V  
pin27(Start-up), pin53(Output Stage).....9.0V
- Supply current pin11 and pin31.....107mA  
pin27 and pin53.....56mA
- Input signals VIF input sensitivity.....47dB<sub>P</sub>  
SIF limiting sensitivity.....40dB<sub>P</sub>  
External audio input.....1V<sub>P-P</sub>  
External CVBS/Y inputs.....1V<sub>P-P</sub>  
External chroma input (burst amplitude).....0.3V<sub>P-P</sub>  
External RGB inputs.....0.7V<sub>P-P</sub>  
Fast blanking Internal TV.....0 to 0.8V  
External RGB.....1.2 to 3.3V  
Harf Tone.....3.7 to 5V  
-(R-Y) input.....1.05V<sub>P-P</sub>  
-(B-Y) input.....1.33V<sub>P-P</sub>

P

**PIN CONFIGURATION (TOP VIEW)**

|                   |    |    |                   |
|-------------------|----|----|-------------------|
| VIF GND           | 1  | 64 | VIF VIDEO OUT     |
| AFT OUT           | 2  | 63 | VIF APC FILTER1   |
| SIF LIMITER IN    | 3  | 62 | VIF VCO (2)       |
| RF AGC OUT        | 4  | 61 | VIF VCO (1)       |
| QIF OUT           | 5  | 60 | FM DIRECT OUT     |
| IF AGC FILTER     | 6  | 59 | EXT AUDIO IN      |
| QIF IN            | 7  | 58 | AUDIO BYPASS      |
| SPOT KILLER       | 8  | 57 | AUDIO OUT         |
| VIF IN(1)         | 9  | 56 | VIF APC FILTER2   |
| VIF IN(2)         | 10 | 55 | -(R-Y) IN         |
| VIF VCC           | 11 | 54 | -(B-Y) IN         |
| FAST BLK          | 12 | 53 | Hi Vcc            |
| SCL               | 13 | 52 | SECAM REF.        |
| SCP OUT           | 14 | 51 | VIDEO CLAMP       |
| H OUT             | 15 | 50 | X-TAL 4.43        |
| VSS               | 16 | 49 | SYNC SEP IN(2)    |
| SDA               | 17 | 48 | SYNC SEP IN(1)    |
| VDD DECOUPLING    | 18 | 47 | Y SW OUT          |
| AFC 1 FILTER      | 19 | 46 | VIDEO/CHROMA GND  |
| H OSC             | 20 | 45 | TV IN             |
| MUTE FILTER       | 21 | 44 | CHROMA APC FILTER |
| R OUT             | 22 | 43 | EXT IN            |
| G OUT             | 23 | 42 | KILLER FILTER     |
| B OUT             | 24 | 41 | X-TAL 3.58        |
| DEFLECTION GND    | 25 | 40 | CONTRAST CONTROL  |
| V OUT(RAMP/PULSE) | 26 | 39 | R IN              |
| START-UP VCC      | 27 | 38 | BLK HOLD          |
| B IN              | 28 | 37 | G IN              |
| V RAMP FEEDBACK   | 29 | 36 | X-RAY IN          |
| V RAMP C          | 30 | 35 | VIDEO IN          |
| VIDEO/CHROMA VCC  | 31 | 34 | ID FILTER         |
| AFC 2 FILTER      | 32 | 33 | CHROMA IN         |

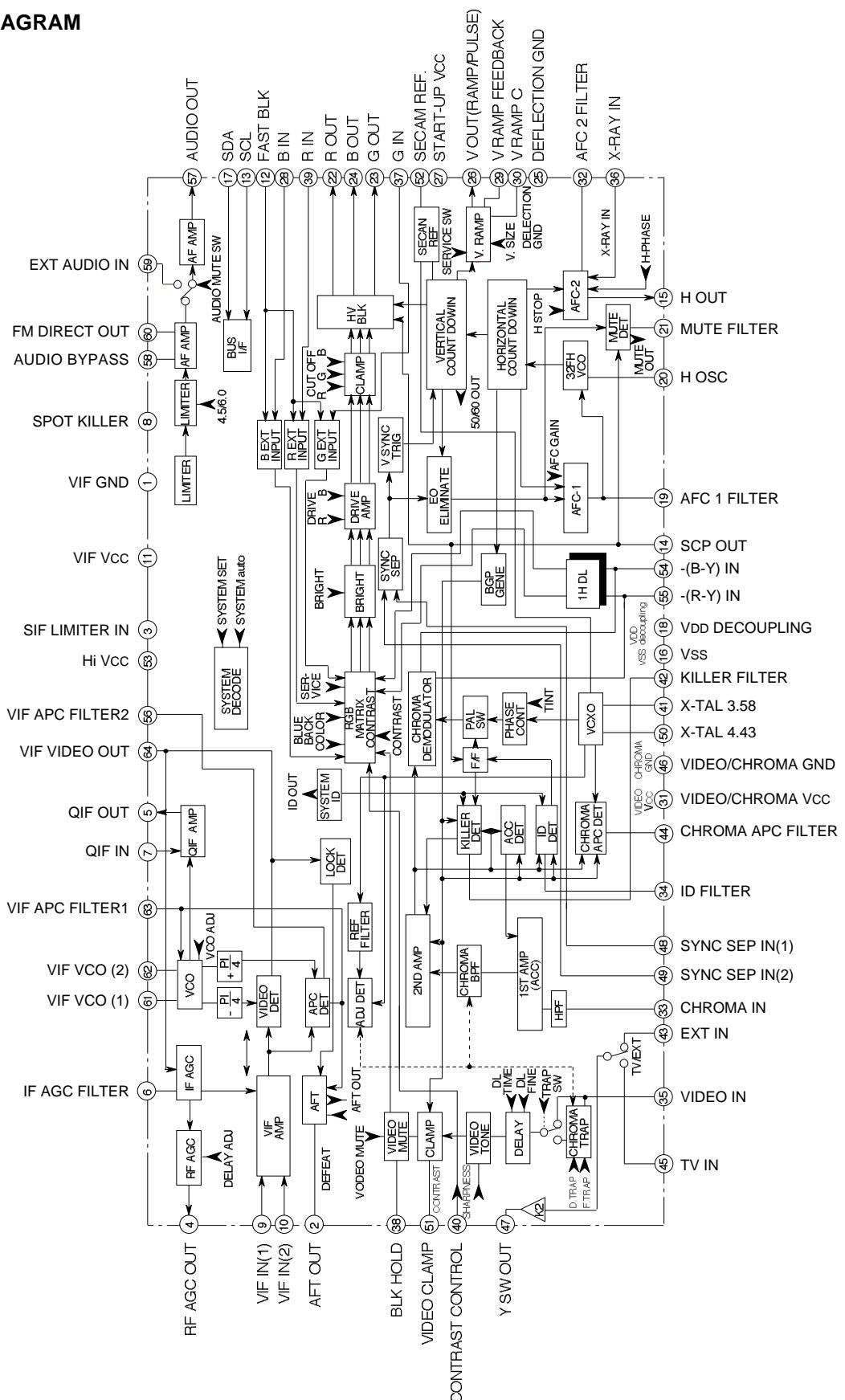
M52770ASP

Outline 64P4B

- Output signals VIF CVBS det out.....2.2V<sub>P-P</sub>  
RF AGC output range.....0.3 to 8.7V
- Video switch out.....2.1V<sub>P-P</sub>  
RGB output Pedestal voltage.....2.2V  
amplitude.....4.2V<sub>P-P</sub>  
Horizontal output amplitude.....4.0V<sub>P-P</sub>  
Vertical ramp amplitude.....2.0V<sub>P-P</sub>

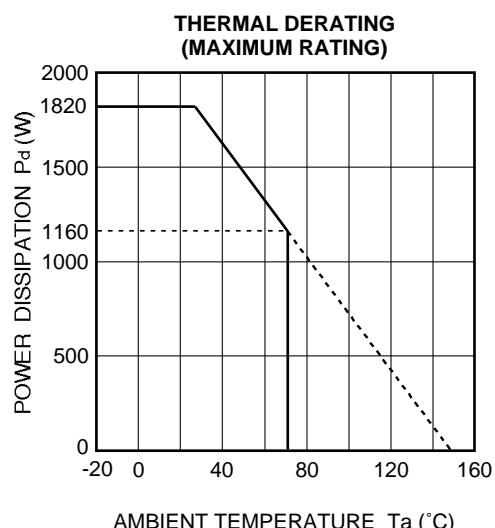
## NTSC/PAL TV SIGNAL PROCESSOR

## BLOCK DIAGRAM



**ABSOLUTE MAXIMUM RATINGS**

| Symbol           | Parameter             | Ratings     | Unit  |
|------------------|-----------------------|-------------|-------|
| V <sub>CC</sub>  | Supply voltage        | 0.0, 10.0   | V     |
| P <sub>d</sub>   | Power dissipation     | 1815        | mW    |
| K                | Thermal derating      | 14.52       | mW/°C |
| T <sub>opr</sub> | Operating temperature | -20 to +70  | °C    |
| T <sub>stg</sub> | Storage temperature   | -40 to +125 | °C    |

**TYPICAL CHARACTERISTICS**

## APPLICATION EXAMPLE

## **NTSC/PAL TV SIGNAL PROCESSOR**

