

# HA11417

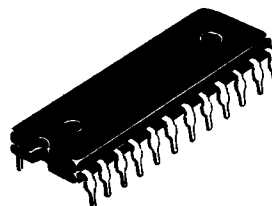
## Color TV Chroma Processor/Demodulator

### FUNCTIONS

- Chroma Amp.
- Subcarrier Regenerator
- Color Demodulator
- Flesh Correction

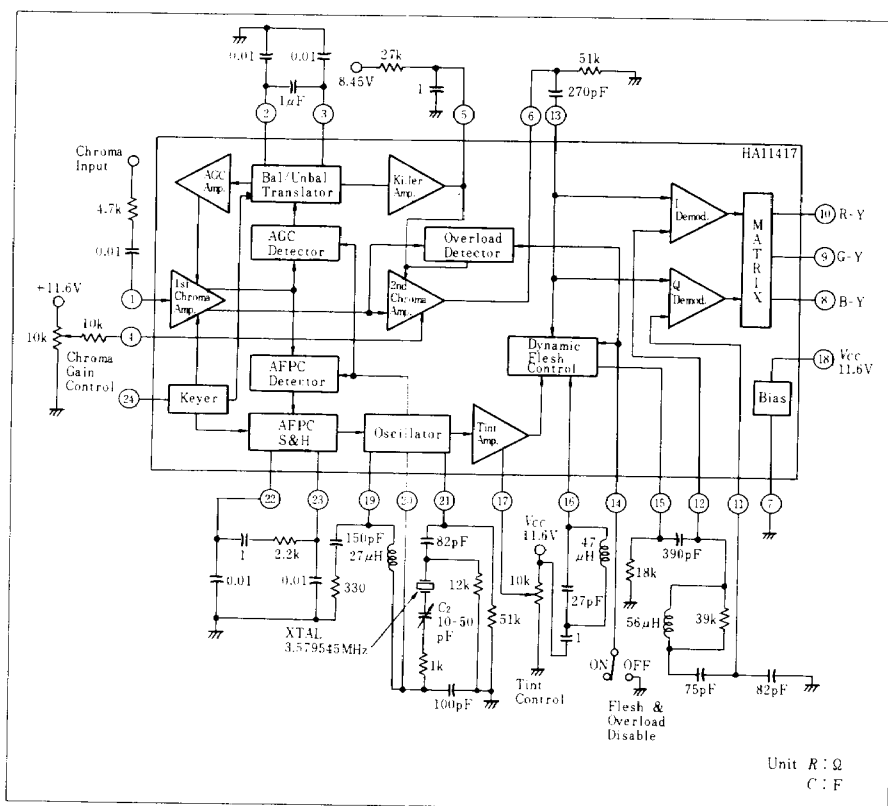
### FEATURES

- Color difference matrix
- DC tint control
- Three low-output-impedance drivers for direct coupling
- DC chroma gain control
- Dynamic "Flesh Correction"
- Supplementary ACC with an overload detector to prevent over-saturation of picture tube.

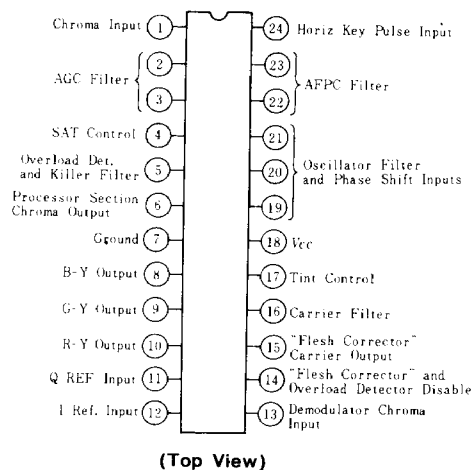


(DP-24)

### BLOCK DIAGRAM



### PIN ARRANGEMENT



### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise specified)

| Item                  | Symbol    | Rating          | Unit             |
|-----------------------|-----------|-----------------|------------------|
| Supply Voltage        | $V_{cc}$  | 13.1            | V                |
| Power Dissipation     | $P_T$     | 825*            | mW               |
| Operating Temperature | $T_{opr}$ | 0 to $+85$      | $^\circ\text{C}$ |
| Storage Temperature   | $T_{stg}$ | $-25$ to $+150$ | $^\circ\text{C}$ |

\* Value at  $T_a=65^\circ\text{C}$

### ■ ELECTRICAL CHARACTERISTICS ( $V_{CC}=11.6V$ , $T_a=25^{\circ}C$ )

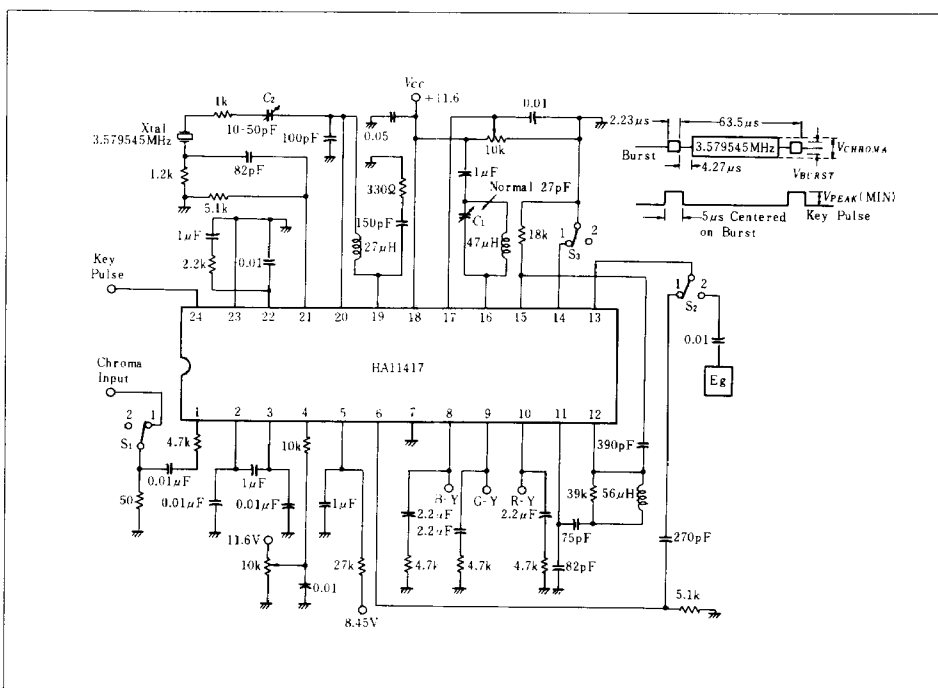
| Item                          | Symbol                                        | Test Condition |                |                |           |         |                |                 |          | min.     | typ.         | max. | Unit     |                 |   |
|-------------------------------|-----------------------------------------------|----------------|----------------|----------------|-----------|---------|----------------|-----------------|----------|----------|--------------|------|----------|-----------------|---|
|                               |                                               | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Chroma    | Burst   | V <sub>4</sub> | V <sub>17</sub> | Test Pin |          |              |      |          |                 |   |
| Supply Current                | I <sub>T</sub>                                |                |                |                |           |         |                |                 |          | 18       | —            | 42   | —        | mA              |   |
| R-Y, G-Y, B-Y, Outputs        | V <sub>8, V<sub>9</sub>, V<sub>10</sub></sub> |                |                |                |           |         |                |                 |          | 8, 9, 10 | —            | 5.3  | —        | V <sub>DC</sub> |   |
| Oscillator Reference Inputs   | V <sub>11, V<sub>12</sub></sub>               |                |                |                |           |         |                |                 |          | 11, 12   | —            | 3.7  | —        |                 |   |
| Chroma Demodulator Input      | V <sub>13</sub>                               |                |                |                |           |         |                |                 |          | 13       | —            | 2.9  | —        |                 |   |
| Chroma Processor Input        | V <sub>1</sub>                                |                |                |                |           |         |                |                 |          | 1        | —            | 2.2  | —        |                 |   |
| Pull-In Range*                | V <sub>is</sub>                               | 2              | 1              | 1              | 273mVp-p  |         | 1.5V           | 7V              | 1        | —        | ±300         | —    | Hz       |                 |   |
| Oscillator Level              | V <sub>OSC</sub>                              | 2              | 1              | 1              |           |         |                |                 | 12       | —        | 0.6          | —    | Vp-p     |                 |   |
| 100 Percent ACC               | ACC(100%)                                     | 1              | 1              | 1              |           |         | 11.6V          |                 | 13       | —        | 1            | —    | Vp-p     |                 |   |
| Minimum Gain Control          | V <sub>0 min</sub>                            | 1              | 1              | 1              |           |         |                |                 | 13       | —        | 20           | —    | mVp-p    |                 |   |
| 50% Gain Control              | V <sub>0</sub> (50%)                          | 1              | 1              | 1              |           |         | 6V             |                 | 13       | —        | 50           | —    | % of     |                 |   |
| 200 Percent ACC               | ACC(200%)                                     | 1              | 1              | 1              | 546mVp-p  |         | 1.5V           |                 | 13       | —        | 100          | —    | 100% ACC |                 |   |
| 20 Percent ACC                | ACC(20%)                                      | 1              | 1              | 1              |           |         |                |                 | 13       | —        | 100          | —    | Value    |                 |   |
| Maximum Kill Output           | K(1)                                          | 1              | 1              | 1              | 54.6mVp-p | 4mVp-p  |                |                 | 13       | —        | 20           | —    | mVp-p    |                 |   |
| Minimum Unkill Output         | K(2)                                          | 1              | 1              | 1              |           | 30mVp-p |                |                 | 13       | —        | 400          | —    |          |                 |   |
| Overload Detector (OLD)       | O <sub>V</sub>                                | 1              | 1              | 2              | 546mVp-p  |         |                |                 | 0        | 13       | —            | 1    | —        | Vp-p            |   |
| R-Y Sensitivity (Eg=282mVp-p) | V <sub>R-Y</sub>                              | 1              | 2              | 1              | 273mVp-p  |         |                |                 |          | 10       | —            | 0.8  | —        | Vp-p            |   |
| B-Y/R-Y**                     | B-Y/R-Y                                       | 1              | 2              | 1              |           |         |                |                 |          | 8        | —            | 120  | —        | %               |   |
| G-Y/R-Y**                     | G-Y/R-Y                                       | 1              | 2              | 1              |           |         |                |                 |          | 9        | —            | 33   | —        | %               |   |
| Max. R-Y Output               | R-Y <sub>max</sub>                            | 1              | 2              | 1              |           |         |                |                 |          | 10       | —            | 3    | —        | Vp-p            |   |
| Minimum Tint Control Range    | θ <sub>TINT</sub>                             | 1              | 1              | 1              |           |         |                |                 |          |          | 0V→<br>11.6V | 13   | —        | 80              | — |

\* : Tune C<sub>2</sub> to 3,579,845Hz with S<sub>1</sub> in position 2. Put S<sub>1</sub> in position 1, and check for pull in. Repeat for frequency tuned to 3,579,245Hz.

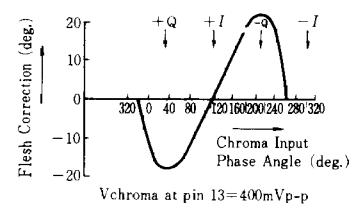
\* \* : All input levels up to 2V<sub>p-p</sub>.

For other tests, frequency tuned to  $3,579,545 \pm 10\text{Hz}$ .

## ■ TEST CIRCUIT



### "FLESH" CORRECTION OF OSCILLATOR PHASE ANGLE AS A FUNCTION OF CHROMA INPUT PHASE ANGLE



Note : Tint control adjusted so that with a +I signal into pin 1, the oscillator at pin 12 and the chroma at pin 13 are in phase.