

## Color Processor Chip

### FEATURES

- Operation from 7.15909MHz crystal
- Five-line digital selection for 1 of 16 colors, blanking, sync and color burst
- 3.579545MHz buttered output

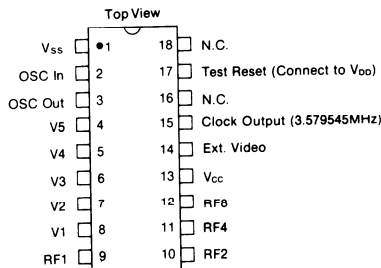
### DESCRIPTION

The required color to be displayed for each 280ns PIXEL is decoded on a four line binary coded input. This selects one of sixteen possible colors. An external resistor network completes the D to A function as shown in the schematic of Fig. 1. The waveform plus table illustrates the use of the five inputs to produce composite sync, color burst, line blanking, frame blanking and video.

The external video input pin provides the ability to superimpose white high resolution (140ns wide) video information over the picture (color image).

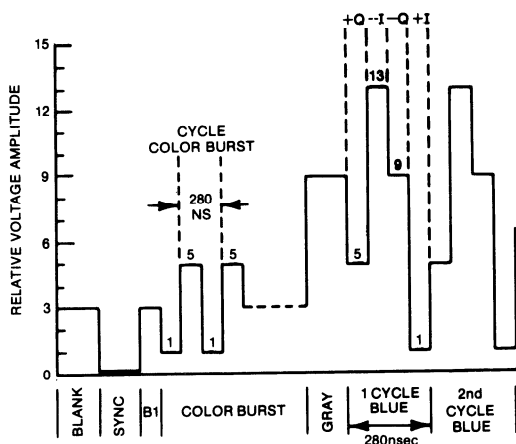
### PIN CONFIGURATION

18 LEAD DUAL IN LINE



INPUT CODE ASSIGNMENT					TIME SLOT RELATIVE VOLTAGE AMPLITUDES				COLOR OUTPUT DESCRIPTION
V5	V4	V3	V2	V1	+Q	-I	-Q	+I	
0	0	0	0	0	3	3	3	3	Black
0	0	0	0	1	5	13	9	1	Blue
0	0	0	1	0	8	0	4	12	Red
0	0	0	1	1	4	4	12	12	Tan
0	0	1	0	0	3	8	11	6	Grass Green
0	0	1	0	1	3	11	13	5	Green
0	0	1	1	0	9	11	15	13	Yellow
0	0	1	1	1	13	13	13	13	White
0	1	0	0	0	9	9	9	9	Gray
0	1	0	0	1	8	13	12	7	Cyan
0	1	0	1	0	9	4	9	14	Orange
0	1	0	1	1	4	4	8	8	Brown
0	1	1	0	0	13	5	3	11	Magenta
0	1	1	0	1	12	12	6	6	Light Blue
0	1	1	1	0	5	9	13	9	Yellow-Green
0	1	1	1	1	10	5	2	7	Purple
1	X	X	0	0	3	3	3	3	Blanking
1	X	X	1	0	1	1	5	5	Color Burst
1	X	X	0	1	0	0	0	0	Sync
1	1	1	1	1	0	15	0	15	Test

X = Don't Care



VIDEO

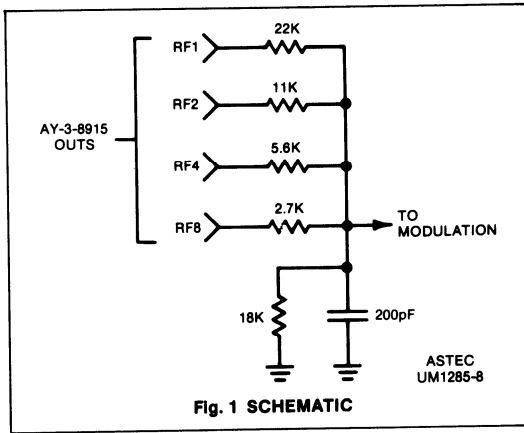


Fig. 1 SCHEMATIC

**ELECTRICAL CHARACTERISTICS**

**Maximum Ratings\***

Temperature Under Bias ..... 0° C to +40° C  
 Storage Temperature ..... -55° C to +150° C  
 All Input or Output Voltages with Respect to V<sub>SS</sub> ..... -0.2V to +9.0V  
 V<sub>CC</sub> with Respect to V<sub>SS</sub> ..... -0.2V to +9.0V

**Standard Conditions** (unless otherwise noted)

T<sub>A</sub> = 0° C to +40° C  
 V<sub>CC</sub> = +4.85V - + 5.15V  
 V<sub>SS</sub> = 0.0V

\* Exceeding these ratings could cause permanent damage to the device. This is a stress rating only and functional operation of this device at these conditions is not implied—operating ranges are specified in Standard Conditions. Exposure to absolute maximum rating conditions for extended periods may affect device reliability. Data labeled "typical" is presented for design guidance only and is not guaranteed.

Characteristic	Sym	Min	Typ	Max	Units	Conditions
Oscillator Freq. In.	—	—	—	—	MHz	7.15909MHz crystal Trimmed by external capacitor
<b>3.579545MHz Clock Output</b>						
Output Logic Low	V <sub>OL</sub>	0	—	0.5	volts	
Output Logic High	V <sub>OH</sub>	2.4	—	V <sub>CC</sub>	volts	
<b>Logic Inputs V1, V2, V3, V4, V5, EXT. VIDEO</b>						
Input Logic Low	V <sub>IL</sub>	0	—	0.7	volts	
Input Logic High	V <sub>IH</sub>	2.4	—	V <sub>CC</sub>	volts	
<b>Outputs RF1, RF2, RF4, RF8</b>						
Output ON	I	5	—	—	mA	V <sub>out</sub> = +0.5V
Output OFF	I	—	—	10	μA	V <sub>out</sub> = +2.4V
<b>Supply Current</b>						
V <sub>DD</sub>	I <sub>CC</sub>	—	—	80	mA	V <sub>CC</sub> = 5.25V @ 40° C

VIDEO