

NTE7058

Integrated Circuit

Single Chip TV NTSC System

Description:

The NTE7058 combines all the functions required for an NTSC color TV system in a 64-Lead DIP type plastic package. This device is designed to offer a wide capability of applications from fundamental CTV to high-end MPX CTV with a quasi-parallel SIF system, requiring minimal external parts and adjustments. A quasi-parallel SIF system assures buzz-free sound reproduction.

Features:

PIF Section

- 3-Stage Variable Gain PIF Amplifier
- High-Speed Peak AGC with Dual Time Constants
- Single-End AFT Output with Defeat Function
- Delayed RF AGC Output (Reverse AGC)
- Sync Positive-Detected Video Output Polarity
- Internal Black/White Noise Inverter

Quasi-Parallel Inter-carrier Detector

- 3-Stage Variable Gain Inter-carrier IF Amplifier
- Independent Peak AGC
- Inter-carrier Detector with 90° Carrier Shift

SIF Section

- 3-Stage Limiter Amplifier
- Differential Peak Detector
- Separated Detector Output and Electronic Attenuator Input for Multiplex TV Sound Reception
- Excellent Electronic Attenuator
- Preamplifier with NF Terminal

Video Section

- 2nd Order Picture Sharpness (DC Control)
- Contrast Control with Unicolor Function
- Brightness Control with Pedestal Clamping Circuit (Adjustable DC Restoration Ratio)
- Internal Vertical Blanking

Features (Cont'd):

Chroma Section

- ACC Circuit
- Color Control Circuit
- Unicolor Control Circuit
- Adjustment-Free APC Circuit
- Tint Control Circuit with Sync Pulse Output
- Color Differential Outputs

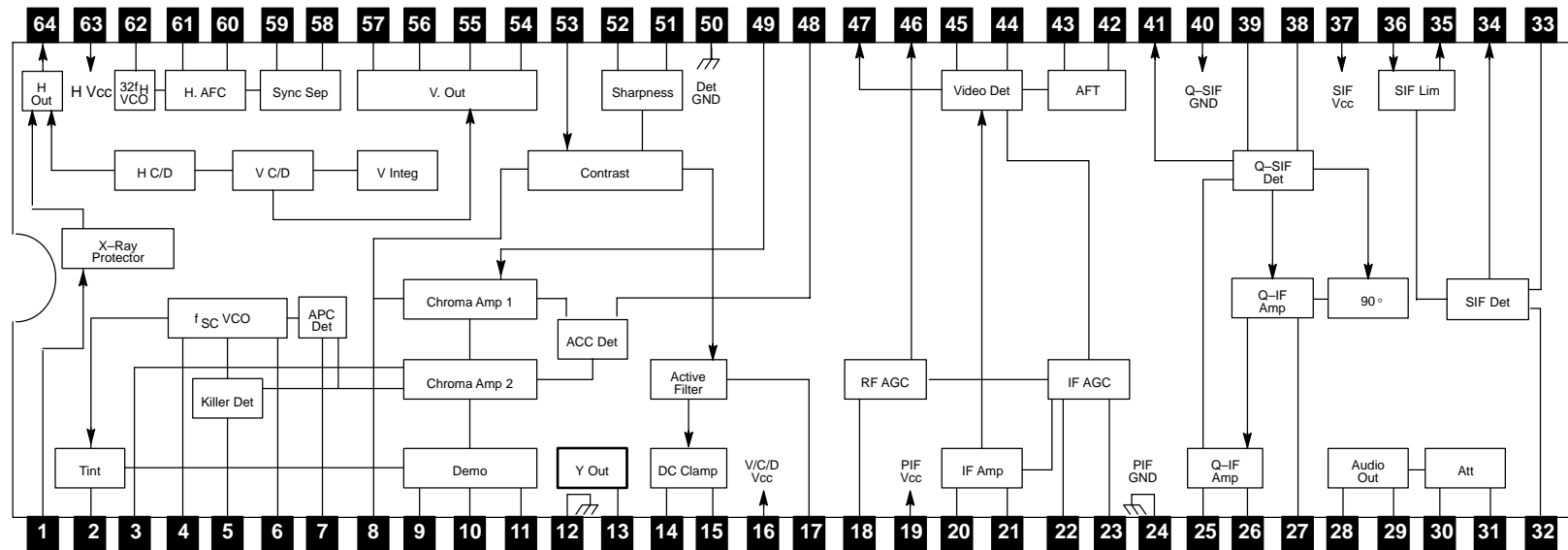
Deflection Section

- Excellent Sync Separator
- Adjustment-Free Countdown System
- Stable Vertical Synchronization
- Sawtooth-Type AFC
- Horizontal Predriver
- X-Ray Protector
- Vertical Drive Amplifier

Absolute Maximum Ratings: ($T_A = +25^{\circ}\text{C}$)

Power Supply Voltage, V_{CC}	12V
Input Signal Voltage, e_{in}	$5V_{P-P}$
RF AGC Voltage, $V_{RF\ AGC}$	15V
Horizontal Section Supply Voltage, V_{CCH}	12V
Power Dissipation, P_D	2660mW
Derate Above $T_A = +25^{\circ}\text{C}$	$21.2\text{mW}/^{\circ}\text{C}$
Operating Temperature Range, T_{opr}	-20° to $+65^{\circ}\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^{\circ}\text{C}$

Block Diagram



Pin Connection Diagram

X-Ray Protect	1	64	Horizontal Driver Output
Tint Control	2	63	H V _{CC}
Color Control	3	62	32 f _H OSC
f _{SC} VCO	4	61	H AFC Time Constant
Killer Filter	5	60	Flyback Pulse Input
f _{SC} VCO	6	59	Sync Sep Input
APC Filter	7	58	Sync Sep Time Constant (Filter)
Contrast Control	8	57	Vertical NFB
R-Y Output	9	56	Vertical Size
G-Y Output	10	55	Vertical Ramp
B-Y Output	11	54	Vertical Output
GND	12	53	Video Input
-Y Output	13	52	Differential Input
Pedestal Clamp	14	51	Picture Sharpness
Brightness	15	50	GND
9V V _{CC} V/C/D	16	49	Chroma Input
Bypass	17	48	ACC Filter
RF AGC Delay	18	47	Video Output
9V V _{CC} PIF	19	46	RF AGC Output
PIF Input	20	45	Video Detector Tank
PIF Input	21	44	Video Detector Tank
PIF AGC Time Constant	22	43	AFT Tank/Defeat
PIF AGC Time Constant	23	42	AFT Output
GND	24	41	4.5MHz Output
QIF Input	25	40	GND
QIF Input	26	39	I/C Detector
QIF AGC Time Constant	27	38	I/C Detector
Preamp Output	28	37	9V V _{CC} Q-SIF
NFB	29	36	SIF Input
Volume Control	30	35	SIF Bias
Audio Input	31	34	Detector Output
FM Detector Tank	32	33	FM Detector Tank

