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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 Intercarrier Detector

- 3-Stage Variable Gain Intercarrier IF Amplifier
- Independent Peak AGC
- Intercarrier 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

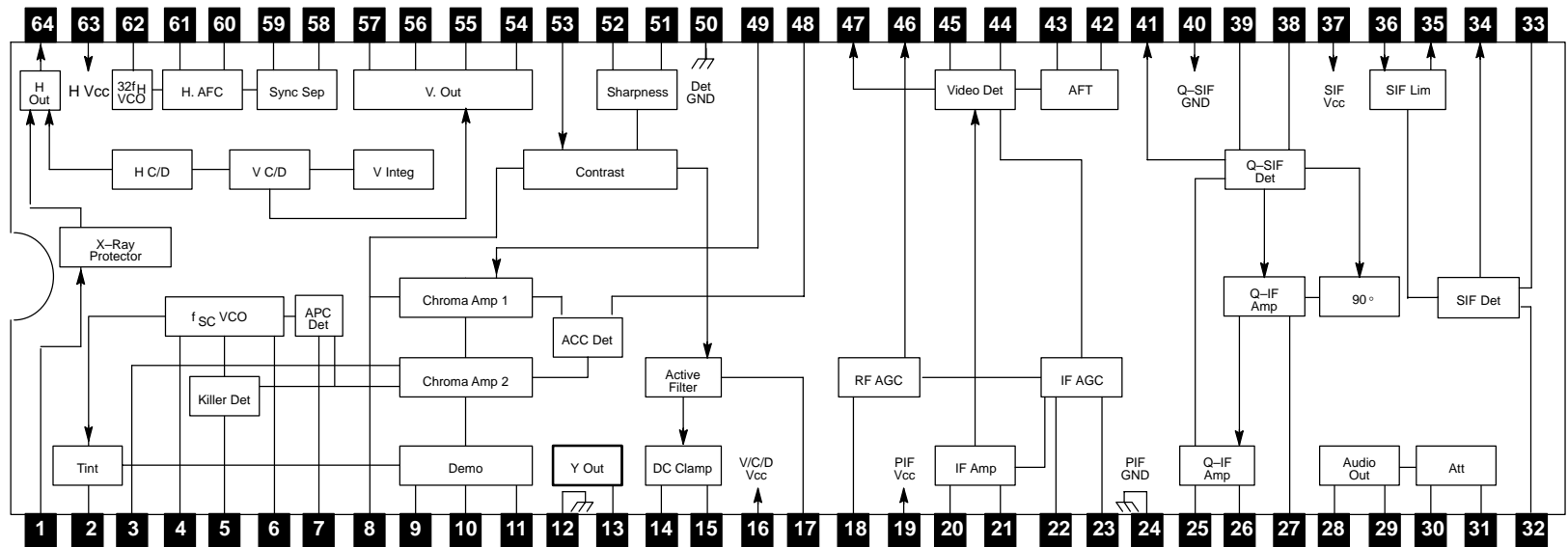
Deflection Section

- 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 $T_A = +25^\circ\text{C}$	21.2mW/ $^\circ\text{C}$
Operating Temperature Range, T_{opr}	-20° to +65°C
Storage Temperature Range, T_{stg}	-55° to +150°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 Bypass	16	49	Chroma Input
RF AGC Delay	17	48	ACC Filter
9V V _{CC} PIF	18	47	Video Output
PIF Input	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

