

TA7611AP

LINEAR INTEGRATED CIRCUIT

FM IF/AM TUNER SYSTEM

DESCRIPTION

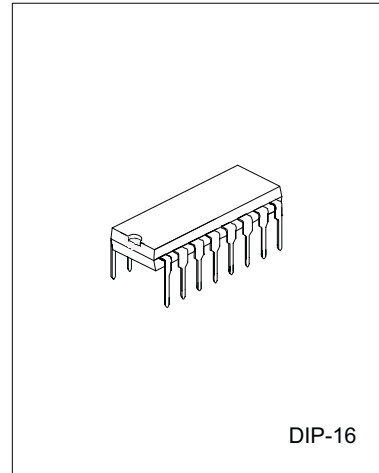
The Contek TA7611AP is a monolithic integrated circuit, designed for the VIF stage in color and B/W TV receiver. The UTC TA7611AP is used for Forward AGC type.

FEATURES

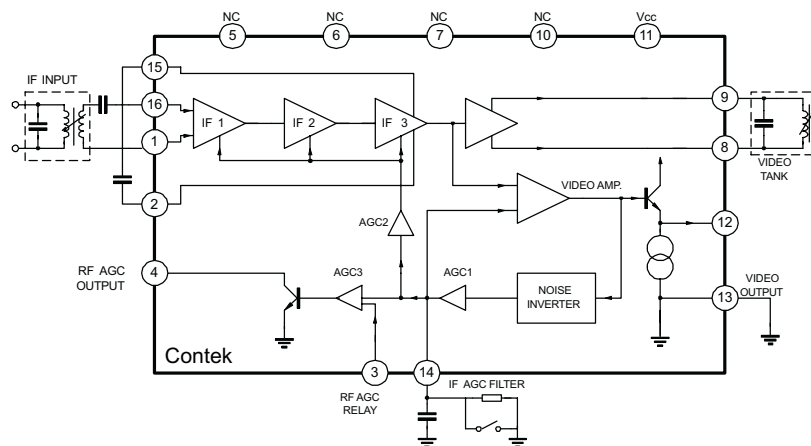
- *High gain wide band IF amplifier
- *Gain reduction with excellent stability
- *Excellent DG/DP and S/N characteristics
- *Negative video output signal
- *Fast AGC action due to noise inverter and peak AGC
- *Switch off the video part VTR SW

FUNCTIONS

- *Three controlled IF amplifier stages
- *Video demodulator controlled by picture carrier
- *Black noise and white noise inverter
- *Peak AGC
- *DC amplifier for RF AGC output
- *Quadrature detector for AFT
- *DC amplifier for AFT



BLOCK DIAGRAM



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ABSOLUTE MAXIMUM RATINGS(Ta=25 C)

| PARAMETER | SYMBOL | VALUE | UNIT |
|-------------------------|--------|------------|------|
| Supply Voltage | VCC | 15 | V |
| Open Loop Voltage | V4 | 15 | V |
| Video DC Output Current | I12 | 6 | MA |
| Power Dissipation | PD | 1.4 | W |
| Operating Temperature | TOPR | -20 ~ +65 | C |
| Storage Temperature | TSTG | -55 ~ +150 | C |

ELECTRICAL CHARACTERISTICS(Ta=25 C, Vcc=12V, fo=45.75MHz, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|--|---------------------|---------------------------------------|------|----------|--------|---------|
| Recommended Supply Voltage | VCC | | 10.8 | 12 | 13.2 | V |
| Quiescent Circuit Current | ICCQ | | 42 | 51 | 63 | mA |
| Video DC Output | V12 | | 5.2 | 5.5 | 5.8 | V |
| AFT DC Output Voltage | V5-V6 | SW1: on,SW2: on | 5.3 | 6.8 | 8.3 | V |
| AFT Output Offset Voltage | V5-V6 | SW1: on,SW2: on | -1.5 | 0 | 1.5 | V |
| RF AGC Residual Output Voltage | V4(SAT) | SW4:1 | | | 0.5 | V |
| RF AGC Leak Current | I4(LEAK) | VCC=12V,SW3:1,SW4:1 | | | 1 | μA |
| Video Sensitivity | S _{VI} | V12=0.8VP-P f0=45.75MHZ,AM=30% | 100 | 200 | 300 | μVrms |
| AGC Range | VAGC (IF) | VCC=12V,f0=45.75MHZ V14=11.5V 4.0V | 60 | 64 | | dB |
| Sync Tip Level Voltage (pin12) | VSYNC | | 2.3 | 2.5 | 2.7 | V |
| Maximum IF Input Voltage | V _{I(MAX)} | | 100 | 120 | | mVrms |
| White Noise Threshold (pin12) | V _{WTH} | | 5.8 | 6.2 | 6.6 | V |
| White Noise Clamp Level (pin12) | V _{WCL} | | 3.7 | 4.1 | 4.5 | V |
| Black Noise Threshold (pin12) | V _{BTH} | | 1.4 | 1.6 | 1.8 | V |
| Black Noise Clamp Level (pin12) | V _{BCL} | | 2.9 | 3.3 | 3.7 | V |
| Video Frequency Response | GV(IF) | Input 45.75MHz, Sweep Generator | 4.5 | 5.5 | | MHz |
| Suppression of Carrier | CL | SG1=100mVrms SG2, SG3->OFF | 40 | 50 | | dB |
| Suppression of 2 nd Carrier | I2ND | SG1=100mVrms SG2, SG3->OFF | 40 | 50 | | dB |
| 920KHz Beat Level | I920 | SG1=100mVrms SG2=SG3=32mVrms | 33 | 38 | | dB |
| Differential Gain | DG | | | 7 | 10 | dB |
| Differential Phase | DP | | | 3.5 | 5 | Degree |
| Input Impedance | RIN CIN | fo=45.75MHz, Between pin16~1 | 3.0 | 4.5 2 | 6 5 | K pF |
| AFT Output Upper Voltage | V5,V6(UP) | | 11.7 | 11.9 | 12 | V |
| AFT Output Lower Voltage | V5,V6(LOW) | | 1.8 | 2.3 | 2.8 | V |
| Maximum Available Current | I4(MAX) | | 7 | | | mA |
| AFT Sensitivity | S _{AFT} | | | 16 | | KHz/V |



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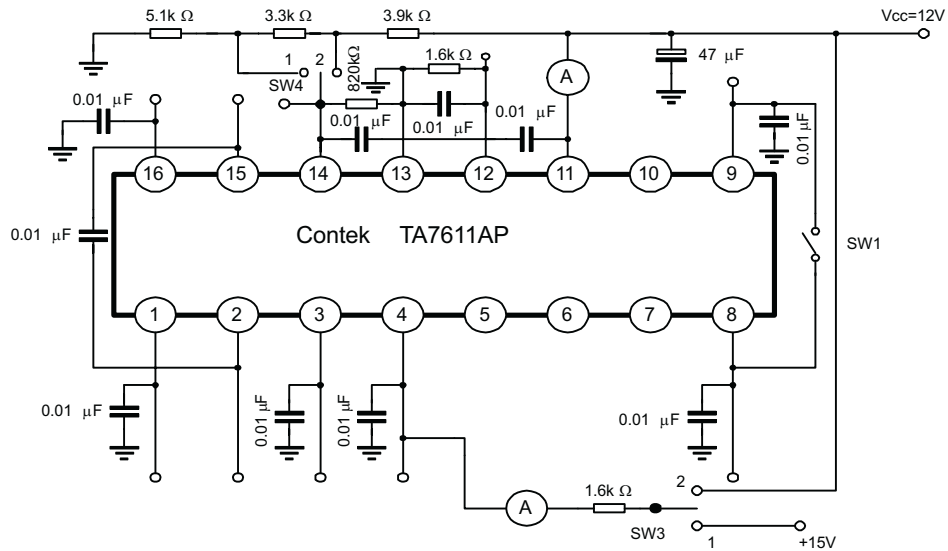
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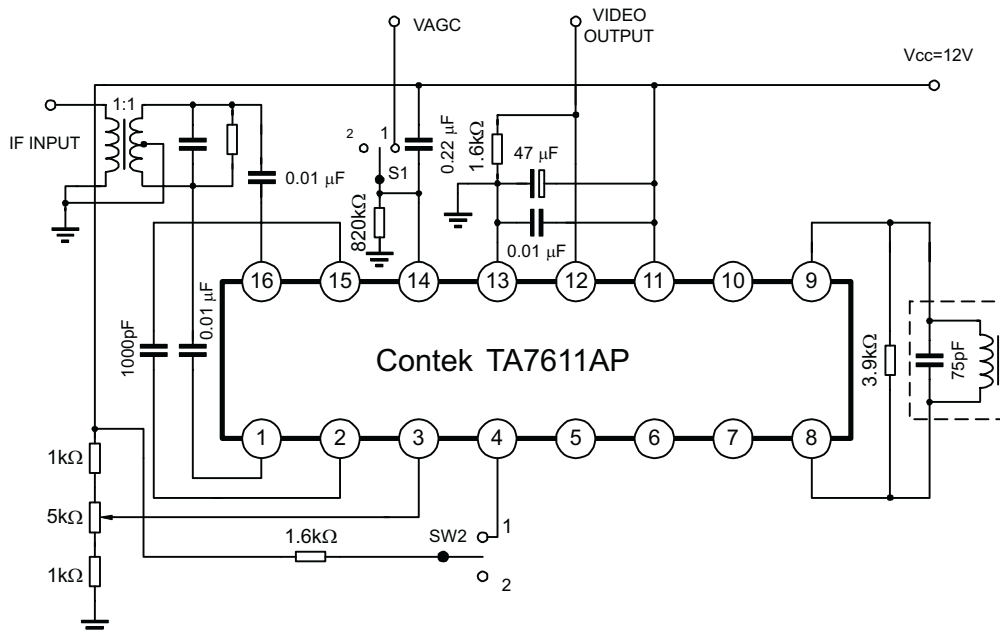
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TEST CIRCUIT 1



TEST CIRCUIT 2



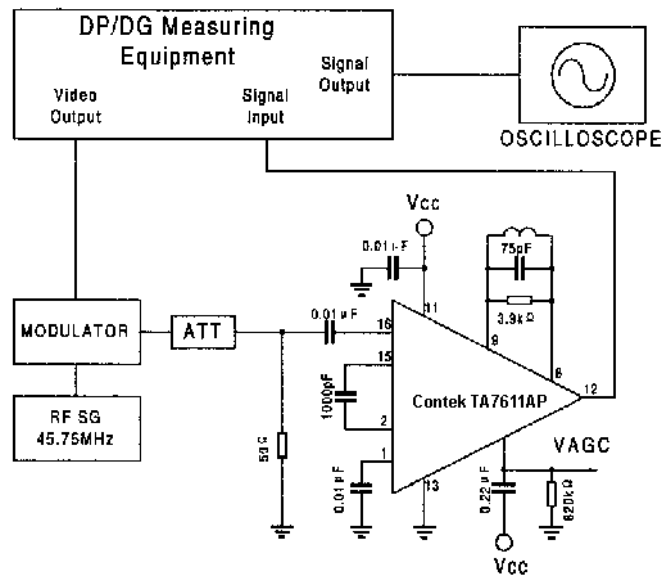
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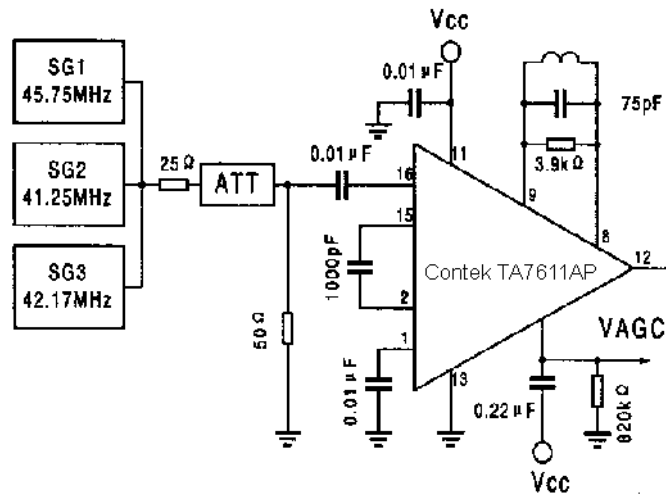
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TEST CIRCUIT 3



TEST CIRCUIT 4

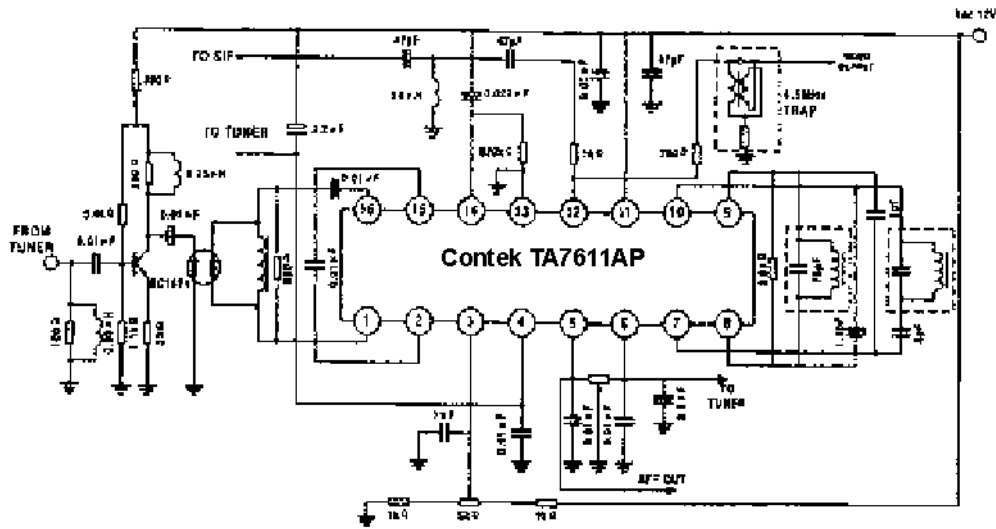


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TA7611AP LINEAR INTEGRATED CIRCUIT

TYPICAL APPLICATION CIRCUIT



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