

AN5826NK

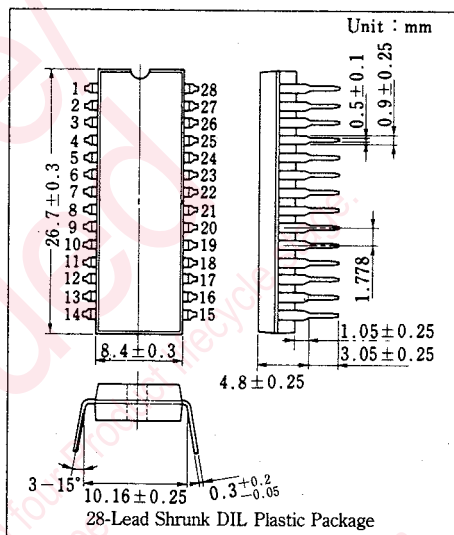
TV Multiplex Sound System Demodulator Circuit

Outline

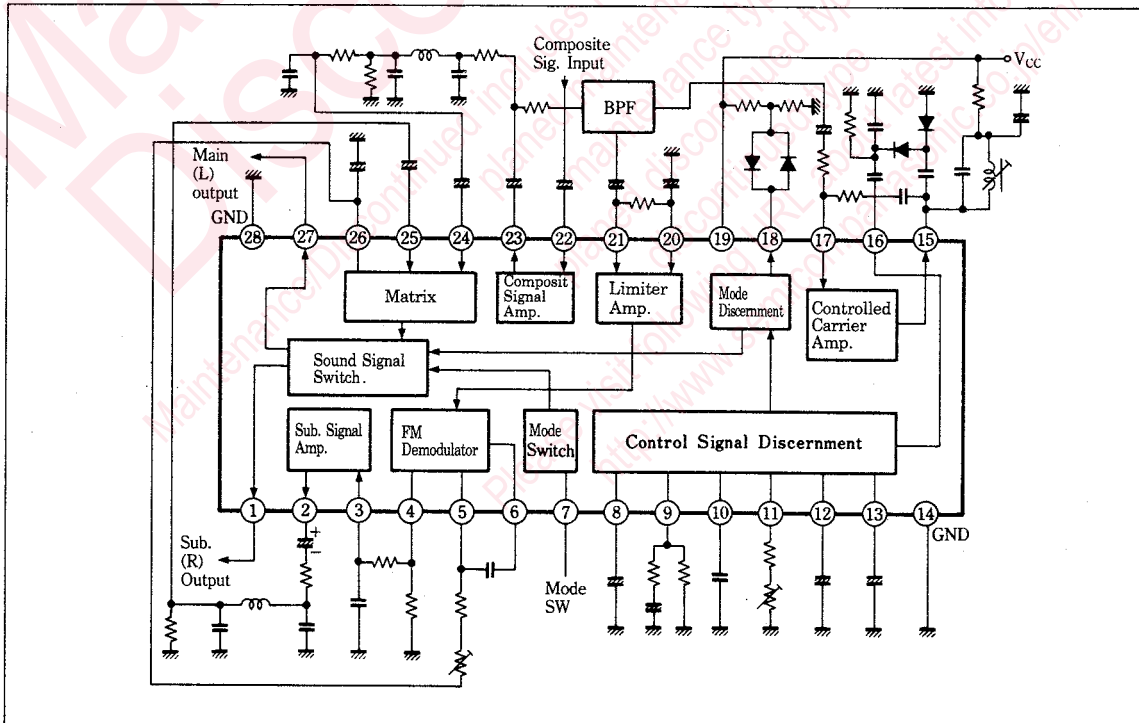
The AN5826NK is an integrated circuit designed for TV multiplex sound system demodulator circuit.

Features

- Including multiplex sound signal processing circuit on a single chip, for easier compact set design
- Sub signal demodulator circuits free from signal adjustment
- Lead filter not required



Block Diagram



■ Pin

| Pin No. | Pin Name | Pin No. | Pin Name |
|---------|--|---------|------------------------------|
| 1 | Sub(R)Sound Signal Output | 15 | Controlled Sub Signal Output |
| 2 | Sub Signal Output | 16 | Controlled Signal Input |
| 3 | Sub Signal Input | 17 | Controlled Sub Signal Output |
| 4 | Sub Signal Discriminator Output | 18 | Mode Display Output |
| 5 | Mono Multi Oscillator | 19 | V _{cc} |
| 6 | Mono Multi Oscillator | 20 | Filter |
| 7 | Mode Switch Input | 21 | Sub Signal Input |
| 8 | Filter | 22 | Composite Signal Output |
| 9 | Sound Multiplex Discernment Filter | 23 | Composite Signal Output |
| 10 | Filter | 24 | Main Sound Signal Input |
| 11 | 952.5Hz Oscillator | 25 | Sub Sound Signal Input |
| 12 | $\frac{982.5\text{Hz}}{922.5\text{Hz}}$ Discernment Filter | 26 | Bias Filter |
| 13 | Filter | 27 | Main(L)Sound Signal Output |
| 14 | GND | 28 | GND |

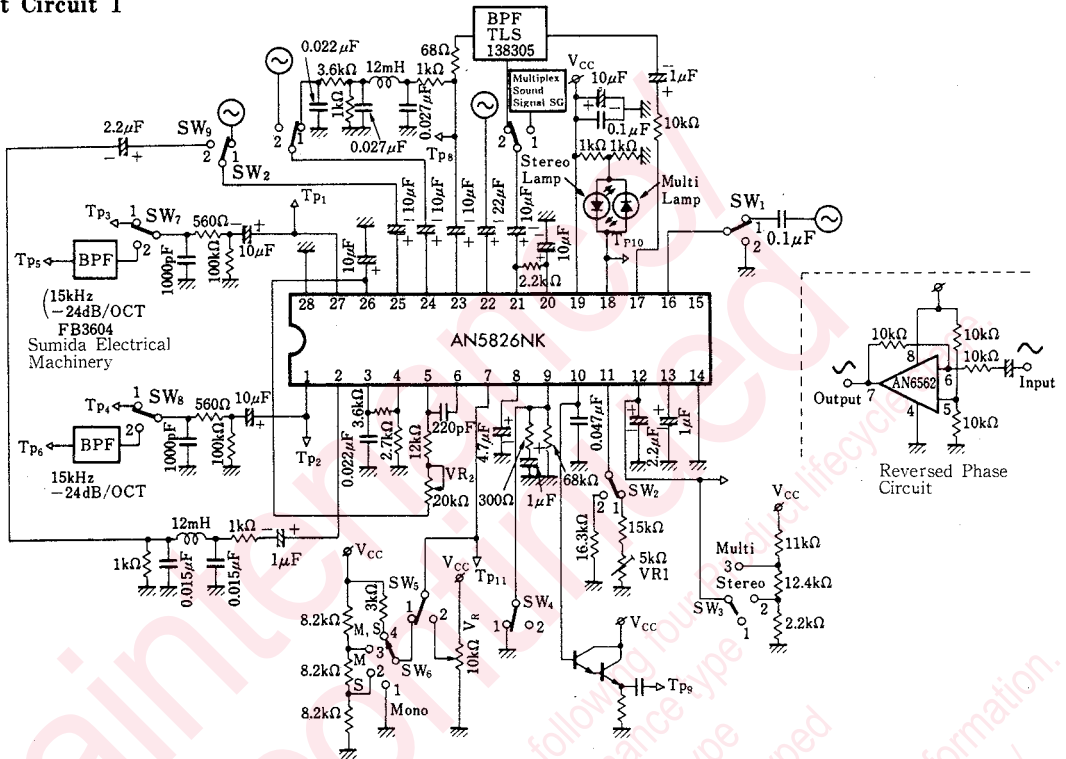
■ Absolute Maximum Ratings(Ta=25°C)

| Item | Symbol | Rating | Unit |
|-------------------|-------------------------------|------------------|---------------|
| Supply Voltage | V _{CC} | +14.4 | V |
| Circuit Current | I | 76 | mA |
| Power Dissipation | P _D | 1 100 | mW |
| Temperature | Operating Ambient Temperature | T _{opr} | -20 ~ +70 °C |
| | Storage Temperature | T _{stg} | -55 ~ +150 °C |

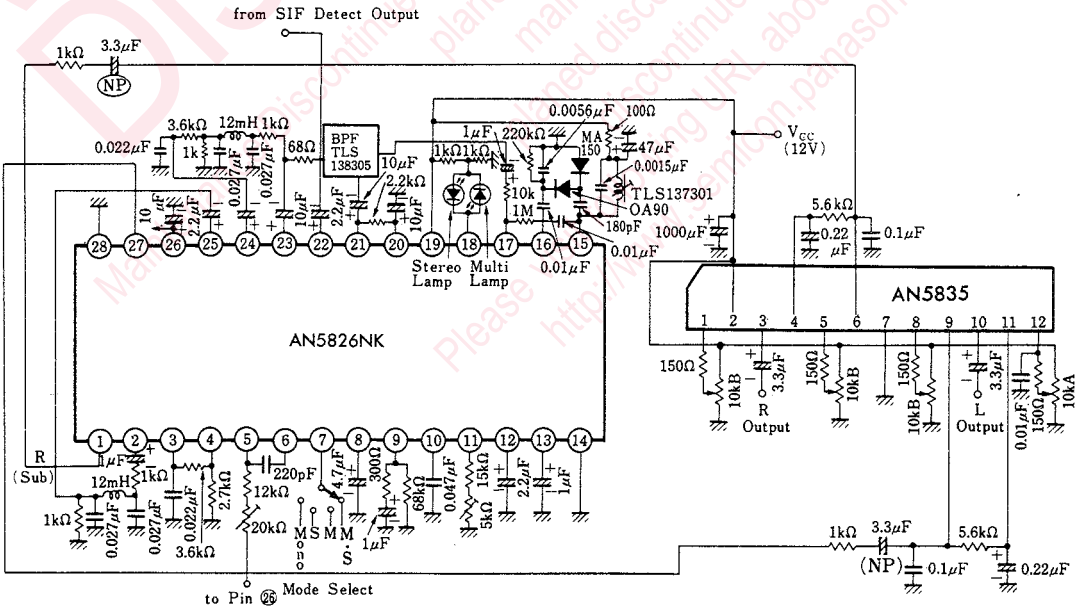
■ Electrical Characteristics(Ta=25°C)

| Item | Symbol | Test Circuit | Condition | min. | typ. | max. | Unit | |
|---|------------------------------------|------------------|--|----------------------|-------|-------|-------------------|----|
| Total Circuit Current | Mono | I _{CC1} | 1 | V _{CC} =12V | 30 | 42 | 55 | mA |
| | Multi | I _{CC2} | 1 | V _{CC} =12V | 36 | 48 | 62 | mA |
| Composite Signal Voltage Gain. | G _V | 1 | Pin②input 200mV _{p-p} 1kHz, Pin③output | 2.4 | 3.7 | 4.9 | dB | |
| Total Harmonic Distortion | THD _(typ) | 1 | Pin②input 200mV _{p-p} 1kHz, Pin③output | | 0.45 | 0.6 | % | |
| Total Harmonic Distortion | THD _(max) | 1 | Pin②input 3V _{p-p} 1kHz, Pin③output | | 0.85 | 1.0 | % | |
| Sub Signal Detect Max. Output Voltage | V _{sub(max)} | 1 | Pin②input 100%, Mod.400Hz | 880 | 1 150 | 1 500 | mV _{rms} | |
| VCO Oscillation Frequency | f _{osc} | 1 | V _{CC} =12V, GND with Pin①1kΩ, Monaural mode is set when standard sample is 952Hz | 857 | 952 | 1 047 | Hz | |
| fosc Change with Supply Voltage | Δf _{osc} /V _{CC} | 1 | V _{CC} =12V±20%, for V _{CC} =12V | -3 | 0 | +3 | Hz/V | |
| fosc Change with ambient Temperature | Δf _{osc} /Ta | 1 | Ta=-20~+70°C, for Ta=+25°C | -10 | 0 | +10 | Hz | |
| Capture Range(Stereo side) | CR _(ST) | 1 | Pin④0.5V _{rms} frequency variable | | 67 | 170 | Hz | |
| Capture Range(Dual side) | CR _(MU) | 1 | Pin④0.5V _{rms} frequency variable | -170 | -70 | | Hz | |
| Main(L)Output DC Offset Level | V _{O(offset-L)} | 1 | V _{CC} =12V, Input invalid signal, Output level difference for each mode | | 50 | 120 | mV | |
| Sub(R)Output DC Offset Level | V _{O(offset-R)} | 1 | V _{CC} =12V, Input invalid signal, Output level difference for each mode | | 50 | 120 | mV | |
| Main/Sub Output High Frequency Distortion | THD _(L,R) | 1 | V _{CC} =12V, Pin②input 100mV _{rms} , 1kHz | | 0.2 | 0.45 | % | |
| Main(L)Output Stereo Separation | Sep _(Main) | 1 | Pin ④, ⑤ 1kHz, Opposite phase | 40 | 50 | | dB | |
| Sub(R)Output Stereo Separation | Sep _(Sub) | 1 | Pin ④, ⑤ 1kHz, Same-phase | 40 | 50 | | dB | |
| Main(L) Output Dual Crosstalk | CT _(R-L) | 1 | Pin ④, ⑤ 1kHz | 50 | 60 | | dB | |
| Sub(R)Output Crosstalk | CT _(L-R) | 1 | Pin ④, ⑤ 1kHz | 50 | 60 | | dB | |
| Output Noise Voltage | V _{no} | 1 | V _{CC} =12V, Monaural mode | | 0.17 | 0.3 | mV _{rms} | |

Test Circuit 1



Application Circuit



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