



# A ♦ L ♦ F ♦ O ♦ R ♦ D

## Technical Description of SPF990

Transmitter STF990 –

**Antenna:** Fixed wire antenna.  
**Transmission method:** Simplex transmission use “Phase Lock Loop” method.  
**Carrier Frequency:** 49.86MHz (Frequency Modulation)  
**Pilot Frequency:** Left and right channel is 19KHz (38KHz)  
**Audio Mode:** Stereo input with Automatic Level gain Control.

**Voltage Stabilizer:** Resistor (R62) is limited the current, Capacitor C53 filtering the AC Hum noise and Zener Diode (D4) keep the voltage in 4.3DCV for RF driver part and ALC IC (U2).

**Voltage regulator:** Resistor (R33), Transistor (Q4), Capacitor (C50, C51) and Zener Diode (D2) provide regulated 3.3DCV to Phase Lock Loop IC (U1) and modulation IC (U3).

**ALC circuit:** The IC (U2) keep output level in default amplitude value when the input sound / audio level is too high. It can protect end user ears.

**PLL circuit:** The IC (U1) and Crystal (Y1) provide the Phase Lock Loop method to modulation IC (U2).

**Modulation:** The IC (U2) use the PLL IC (U1), AFC diode (D1), turning coil (C8) and pilot crystal (Y2) modulate audio signal to 49.86MHz carrier frequency.

**R.F. Amp.:** The turning coil (L6) coupling the RF signal to power transistor (Q1) and transistor increase the RF signal to antenna.

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