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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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