

## WCS-999T

### CIRCUIT DESCRIPTION

#### OUTLINE:

WCS-999T is a transmitter of Sony Wireless Microphone System, WCS-999.  
This transmitter is operated within 912.9 – 914.4 MHz.

#### CIRCUIT DESCRIPTION:

As an example, suppose frequencies of CH1, CH2 and CH3 are 912.9MHz, 913.8MHz and 914.4MHz, respectively,

- The audio signal from the supplied lavalier microphone is amplified at PRE. EMPASIS circuit and COMP AMP circuit in IC1 and goes to IC51. ——— Modulation signal
  - The crystal oscillator, X1(28.528MHz) , X2(28.556MHz) or X3(28.575MHz) is selected by Channel selector SW (CH1, CH2 or CH3) and is frequency-modulated by the above Modulation signal.
  - In VCO (Voltage Controlled Oscillator) Unit, the oscillator circuit is composed at Q1. At Q2, Q3, the RF signal is amplified to make the carrier output power.
  - In PLL (Phase Locked Loop), the frequency which is divided the oscillating frequency of VCO unit by 32 is compared with the frequency of X1, X2 or X3 (28.528MHz, 28.556MHz or 28.575MHz).  
In LPF of IC52, its frequency difference is converted to the voltage and is fed back to VCO unit.
  - In VCO unit, the frequency is adjusted and locked to the frequency 32 times as high as X1, X2 or X3 (912.9MHz, 913.8MHz or 914.4MHz). This RF signal is radiated as CH1, CH2, or CH3.
- \* : The frequency of X1, X2 or X3 may vary for the specified transmission frequency of CH1, CH2, or CH3.