

**Circuit Description:**

Model: EX26738XXX-A

**Handset:**

**1. Receiving Path**

The receiving path is established by below sections.

**Low Noise Amplifier (LNA)**

FM signal is filtered by the SAW duplexer, and input to tuning amplifier Q4 before output to COMBO U1 1<sup>st</sup> mixer.

**Mixer**

Mixer is included in COMBO U1. Local Oscillator (LO) is controlled through external coil L6. The first IF (10.7MHz) is filtered by a ceramic filter CF2.

**IF amplifier**

IF amplifier is built in U1. Amplified IF is filtered again by a ceramic filter CF1, then input to FM demodulator also inside COMBO.

**FM demodulator and expander**

The IF demodulated by quadrate coil COMBO, then the recovered audio is input to the expander for de-emphasis, before output to the handset speaker through audio amplifier.

**2. Receiving Path**

The receiving path is established by below sections.

**Microphone amplifier and compressor**

Audio frequency picked up by handset microphone is amplified by internal mic amplifier of U1, then input to compressor for pre-emphasis, before input to the modulator. (TxVCO).

**Modulator and TxVCO**

The transmit VCO is internal at U1 and controlled by external coil L6. Both audio and data signal input to the transmit VCO will cause a frequency modulation progress.

RF power amplifier

FM signal is amplified by Q1 and fit to the antenna through SAW duplexer.

### Base unit

#### 1. Receiving Path

The receiving path is established by below sections.

Low Noise Amplifier (LNA)

FM signal is filtered by the SAW duplexer, and input to tuning amplifier Q2 before output to COMBO U1 1<sup>st</sup> mixer.

Mixer

Mixer is included in COMBO U1. Local Oscillator (LO) is controlled through external coil L7. The first IF (10.7MHz) is filtered by a ceramic filter CF1.

IF amplifier

IF amplifier is built in U1. Amplified IF is filtered again by a ceramic filter CF2, then input to FM demodulator also inside COMBO.

FM demodulator and expander

The IF demodulated by quadrate coil COMBO, then the recovered audio is input to the expander for de-emphasis, before output to the final AF amplifier for line interfacing.

#### 2. Receiving Path

The receiving path is established by below sections.

Mic amplifier and compressor

Audio frequency input from the line interface is amplified by internal mic amplifier of U1, then input to compressor for pre-emphasis, before input to the modulator. (TxVCO).

Modulator and TxVCO

The transmit VCO is internal at U1 and controlled by external coil L7. Both audio and data signal input to the transmit VCO will cause a frequency modulation progress.

RF power amplifier

FM signal is amplifier by Q1 and fit to the antenna though SAW duplexer.

### 3. Telephone line interface

The telephone line interface circuit is established by below sections.

Audio power amplifier

Q7&Q8 are built as power amplifiers, according to high current output requirement for line interface.

Line control

Q3&Q5 is the opening for line seizure, which is controlled by Q4.

Ring detect circuit

U2 are used as a differential amplifier for accurately detecting the ring signal, which is input though one 10nf capacity C79 as high voltage isolation from the telephone line.

### **EX26738XXX-A digital security coding system:**

The handset and base unit of model EX26738XXX-A will exchange a randomly

Generated 16-bit (total of 65536) discrete digital security code every time

The handset is put on the charging cradle of base unit.