

Base Circuit Description

The signal which inputted in TEL-LINE is DC coupled at T1, this signal is passed through U3 and transformed Analog into Digital at U1.

Data which is transformed into Digital signal is mixed with PN code at U1 (by spread spectrum)

and transmitted to RF part.

Spreading signal which inputted to RF part is mixed with Carrier supplied to VCO (U903) and create TX frequency of using channel and then is transmitted to ANTENNA through U801 by TX control of U802.

The signal received to antenna is transmitted to U901 by RX/TX control time.

The signal inputted at U901 is mixed Carrier of VCO(U903) and got to direct conversion and create Base band signal. And then, create I and Q signal by demodulation (QPSK : Quadrature Phase Shift Keying method is phase- shifted by 90°).

I and Q signal (Two signal phase is 90°) is transmitted to U1 and remixed with PN code and enenerated Digital signal.

Digital signal is transformed into Analog at U1.

This audio signal is passed through U1, U3 and transmitted to TEL-LINE.

Caller ID signal which inputted to the Tel-Line (In case of TYPEI) passes through C94,C95,R93 R94,U6 and is transmitted to U1 through U3(The FSK DATA is received). (in case of TYPEII) When the unit is off-hook mode. The FSK signal inputted in TEL-LINE and is Transmitted to U1 through T1,T3 (The CAS signal is received and then, the FSK signal is received) and is transmitted to U1. The transformed signal into digital data is transmitted to the Handset, and then, The Handset is displayed Caller ID information.

Line in-use state : When the unit is off hook or the line is off hook state, The line detector port is high through R73,R74,R75,R76,R77,R78 and U6. When the unit is on hook or the line is on hook state, The line detector is low.

When the ring is incoming in to the TEL-LINE, the signal passes through D13,D14,C89,R11,U8 and then detected at U1. The ring data is transformed into analog to digital at U1 and transmitted to Handset.

X1 is X-tal generating RF - reference signal and should be adjusted by TC1 accurately.

Q3,Q2 is charge circuitry. (Charger detector Q2).

Hand Circuit Description

The signal which is inputted to MIC is transformed Analog into Digital at U303.

DATA which is transformed into Digital signal is mixed with PN code at U303 (by spread spectrum) and transmitted to RF part.

Spreading signal which inputted to RF part is mixed with Carrier supplied to VCO(U903) and create TX frequency of using channel and then is transmitted to ANTENNA through U801 by TX control of U802

The signal received to antenna is transmitted to U901 by RX/TX control time.

The signal inputted at U1 is mixed Carrier of VCO(U903) and got to direct conversion and create base band signal.

And then, create I and Q signal by demodulation (QPSK : Quadrature Phase Shift Keying method is phase- shifted by 90°)

I and Q signal (Two signal phase is 90°) is transmitted to U303 and remixed with PN code and generated Digital signal.

Digital signal is transformed into Analog at U303.

This audio signal is passed through receiver and transmitted.

The Caller ID data which is received from Base is transformed to data which is able to display at U303 activates LCD driver, and then, display caller ID messages.

When the handset is low voltage

R359,R360,C363 make pin 80 of U303 change HIGH to LOW and indicate low voltage.

X301 is X-tal generating RF - reference signals and should be adjusted by C333 accurately.

RF Circuit Description

LO Generation : The LO signal is generated by a programmable PLL frequency synthesizer in the U901(RF109) and the an external 2.4GHz VCO(U903). The RF109 synthesizer requires differential input signals from the external VCO to generate the LO Frequency.

Therefore a BALUN(U905) transformer is used to generate differential signals from single-ended VCO output.

Receive Path : The signal is received at the antenna and pass the T/R switch(U802) and an RF bandpass filter. The output of the bandpass filter is ac-coupled to the Low Noise Amplifier (LNA) of the U901.

The U901 downconverts the RF signal into In-phase(I) and Quadrature signal(Q) baseband signals.

The differential I and Q baseband signals are dc-coupled to the ASIC(U1 or U303) RXIP, RXIN, RXQP and RXQN inputs.

Transmit Path : The baseband digital data input signal is shaped by external filter (R919,C925, L901, C924, R918) and inputted to the TXD1 Port of the U901 (RF109).

The inputted baseband digital data is mixed with Carrier supplied to VCO (U903) and transmitted to the U801 (RF110) with a phase difference of 180 degreed between the two branch.

The inputted a differential signals to the U801 (RF110) are amplified by the U801 (RF110) And the differential output signals of the U801 (RF110) output port are converted to a single- Ended signal at the RF matching network.