

Circuit Description

Handy Receiving Circuit

Only 902-904MHz of Signals come into Antenna(Helical) is filtered in F601(Duplexer, NSVA528) and then sent to Q601(LNA).

Q601(LNA, BFP420) amplifies low RE signal as RF Transistor.

Q603(Mixer, BFQ67W) mixes the signal amplified from Q601 and the signal from first Local Oscillator(Q606) and then makes the mixed signals first IF signal.

F602(IF Filter, L10.7MS3A10A) filters only wanted signal(10.7MHz) from Q603 and send the signal to Q602(IF AMP).

Q602(IF AMP, 2SC5345S) amplifies the low IF Signal from F602 and send it to U601(IF Demodulator, S1A0429A).

U601 mixes the signals from Q602 and from second Local Oscillator and filters wanted signal(76kHz) and then the wanted signal passes through Limit AMP and audio signal is detected in Demodulation circuit.

The detected audio signal is amplified at U503(OP AMP, NJM12904V) and sounded through SPK501(Speaker).

The signal is converted to digital signal through U505(OP AMP, NJM12904V) and Q505(Switching TR) and then comes into U501(CPU, PIC16LC712).

Handy Transmitting Circuit

Audio signal converted to electrical signal at MIC 501(Microphone) is amplified at U505(OP AMP, NJM12904V) and then mixed with the signal from CPU.

The mixed signal is modulated by D602(Varactor Diode) and Q608(BFQ67W).

The oscillated RF signal at Q608 is overtuned at Q607 and then is filtered only wanted signal(926-928MHz) at F601(Duplex, NSVA528) and transmitted through the Antenna.

Base Receiving Circuit

The signal comes into the Antenna(Helical) is filtered only 926-928MHz at F201(Duplexer, NSVA528) and sent to Q201(LNA). Q201(LNA, BFP420) amplifies Low RF signal as RF Transistor. Q203 mixes the amplified signal from Q201 and the signal from first local oscillator(Q206) and make the mixed signal first IF signal.

F202 filters only wanted signal(10.7MHz) from Q203 and sends it to Q202.

Q202 amplifies Low IF signal from F202 and sends it to U201.

U201 mixes the signals from Q202 and from second local oscillator and filters only wanted signal(76kHz) and then the wanted signal passes through Limit Amp and then audio signal is detected at Demodulation Circuit.

The detected audio signal is amplified at U103 and the signal is converted to digital signal through U103 and Q131 and sent to U101.

Base Transmitting Circuit

The audio signal through J102 from Speaker port of Mobile Phone is mixed with the signal from CPU and the mixed signal is modulated through D202 and Q208.

The oscillated RF signal at Q208 is overtuned by Q207 and the overtuned signal is filtered only wanted signal(902-904MHz) and then transmitted through the Antenna.