

CIRCUIT DESCRIPTIONS ON THE CARF-1100B

CARF-1100B has two parts.

The first part is RX circuit and the second is TX circuit. Followings are descriptions on circuits.

1. RX CIRCUIT

This circuit demodulates the RF signal and the recovered data is fed to the controller.

A. FRONTEND CIRCUIT

The received RF signal through the antenna is amplified by Q1,Q2 (BFR92A), and sent to the 1st mixer.

B. 1st LOCAL OSCILLATOR

The oscillated signal by X1 (CH.CRYSTAL), Q5 and Q6 (BFR92A) is sent to the 1st mixer.

C. FILTER (10.7MHz)

The down converted signal through the 1st mixer is filtered by filter (10.7MHz).

D. 1st IF AMPLIFIER

The filtered signal is amplified by Q4 (KTC3879Y), and sent to the 2nd mixer.

E. 2nd LOCAL OSCILLATOR

The 2nd local signal by U1 (MC3361BD) and X2 (10.245MHz) is sent to the 2nd mixer.

F. 2nd MIXER

The 2nd mixer which makes the signal of 455KHz is located inside of U4 (MC3361BD).

G. SHAPING CIRCUIT

The recovered data through the U1 is the supplied to the controller.

2. TX CIRCUIT

This circuit makes a modulated RF signal and sends it to the receiver by air.

A. FREQUENCY MODULATION

The data from the controller is frequency modulated by the D1 (MMBV109) of oscillator.

B. OSCILLATOR & FREQUENCY MULTIPLIER

The oscillated signal by X3 (CH.CRYSTAL) is multiplied by Q10 (BFR92A).

C. FREQUENCY MULTIPLIER

The multiplied signal by Q11 (BFR92A) is sent to the amplifier part.

D. HIGH FREQUENCY AMPLIFIER

The multiplied RF signal is finally amplified by Q12 (BFR92A) and it is fed to the antenna.