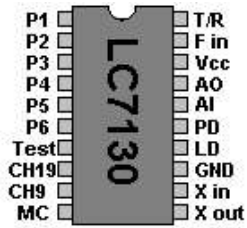


LC7130, LC7131, LC7135, LC7136 and LC7137 PLL Frequency Synthesizer



Overview

This 27 MHz band, PLL frequency synthesizer LSI chip is designed specifically for CB transceivers. The integrated circuit's incorporates PLL circuitry and a controller for CB applications on a single CMOS chip. This PLL-circuit use a 6 bit ROM programmable divide-by-N counter. The ROM-table is programmed from factory.

Pin	Name	Description
1	P1	Programmable input 1
2	P2	Programmable input 2
3	P3	Programmable input 3
4	P4	Programmable input 4
5	P5	Programmable input 5
6	P6	Programmable input 6
7	Test	Connect to GND
8	CH19	Called channel 19 when pins are HIGH
9	CH9	Called channel 9 when pins are HIGH
10	MC	
11	RI	X-tal Input
12	RO	X-tal Output
13	GND	Ground
14	LD	Locked=HIGH Unlocked=LOW
15	PD	Phase Detector Output
16	AI	Loop filter Amplifier Input
17	AO	Loop filter Amplifier Output
18	Vcc	Positive Supply Voltage
19	F in	VCO Frequency Input
20	T/R	Transmit=LOW Receive=HIGH

Programming Chart for LC7130/LC7131/LC7132

Channel	RX Divided by	TX Divided by
1	3254	3345
2	3256	3347
..
22	3306	3397
..
40	3342	3433

NOTES:

1. 91-count upshift on TX provides 455kHz offset for receiver IF mixing.
2. Reference and Programmable Dividers use 5kHz steps.

Example of VCO Determination, Channel 1:

$3254 \times 5\text{kHz} = 16.270\text{MHz}$ (RX-Mode)

$3345 \times 5\text{kHz} = 16.725\text{MHz}$ (TX-Mode)

Programming Chart for LC7136/LC7137

Channel	RX Divided by	TX Divided by
1	3381	2760
2	3383	2761
..
40	3459	2799

NOTES:

1. Referency and Programmable Dividers use 5kHz steps.
2. TX VCO frequency is doubled to provide direct on-channel frequency.

Example of VCO Determination, Channel 1:

$3381 \times 5\text{kHz} = 16.905\text{MHz}$ (RX-Mode)

$2760 \times 5\text{kHz} = 13.800\text{MHz}$ (TX-Mode)

$(13.800\text{MHz} \times 2 = 27.600\text{MHz} + 1.25\text{kHz tuned offset} = 27.60125\text{MHz})$