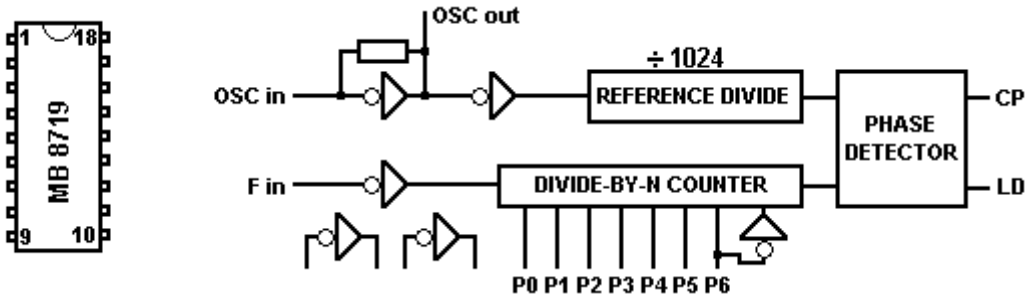
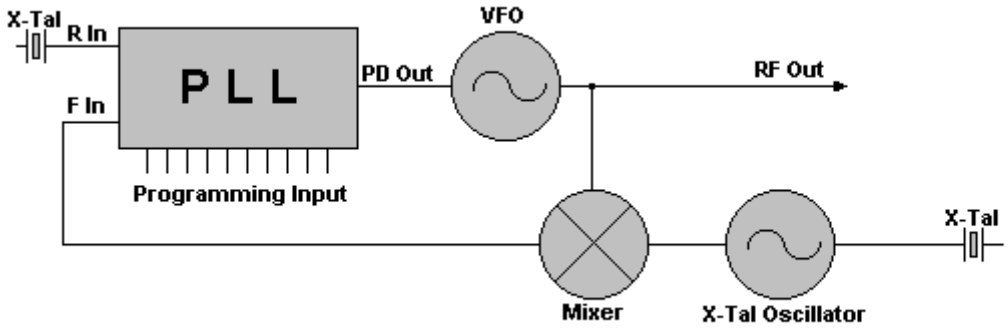
# MB8719 MB8734 RCI8719 PLL Synthesizer




## Overview

This PLL-circuit use a 6 bit (MB8734 and RCI8719) or 7 bit (MB8719) BCD binary programmable divide-by-N counter.

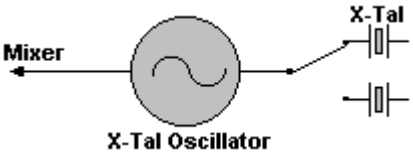
## Down-converting of the frequency to the divider




This PLL Circuit use a Mixer and a X-Tal Oscillator to convert the output frequency $f_{OUT}$ to the $f_{IN}$ to the PLL Circuit.

The X-Tal frequency is $f_{XTAL} = f_{OUT} - f_{IN}$

The output frequency can be changed by changing the mixing-xtal or add a new mixing-xtal to the oscillator.



| Pin | Name | Description |
|---|---|---|
| 1 | Out | Inverter out |
| 2 | In | Inverter in |
| 3 | Out | Inverter out |
| 4 | In | Inverter in |
| 5 | CP | Charge Pump |
| 6 | LD | Loop Detect |
| 7 | OSC in | Oscillator input |
| 8 | OSC out | Oscillator output |
| 9 | $V_{DD}$ | Positive Power Supply |
| 10 | P6 | Programmable inputs (Binary) (Only MB8719) |
| 11 | P5 | Programmable inputs (Binary) |
| 12 | P4 | Programmable inputs (Binary) |
| 13 | P3 | Programmable inputs (Binary) |
| 14 | P2 | Programmable inputs (Binary) |
| 15 | P1 | Programmable inputs (Binary) |
| 16 | P0 | Programmable inputs (Binary) |
| 17 | F in | Frequency input |
| 18 | $V_{SS}$ | GND Ground |

## Explanation of pin function terms

TRUTH TABLE FOR RCI8719 AND MB8734

| P5 | P4 | P3 | P2 | P1 | P0 | Divide by N |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 + 128 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 + 128 |
| 0 | 0 | 0 | 0 | 1 | 0 | 2 + 128 |
| 0 | 0 | 0 | 0 | 1 | 1 | 3 + 128 |
| 0 | 0 | 0 | 1 | 0 | 0 | 4 + 128 |
| - | - | - | - | - | - | - |
| - | - | - | - | - | - | - |
| 1 | 1 | 1 | 1 | 1 | 1 | 64 + 128 |

TRUTH TABLE FOR MB8719

| P6 | P5 | P4 | P3 | P2 | P1 | P0 | Divide by N |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 + 128 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 + 128 |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 + 128 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 + 128 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 + 128 |
| – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 64 + 128 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 + 64 |
| 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 + 64 |
| 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 + 64 |
| 1 | 0 | 0 | 0 | 0 | 1 | 1 | 3 + 64 |
| 1 | 0 | 0 | 0 | 1 | 0 | 0 | 4 + 64 |
| 1 | – | – | – | – | – | – | – |
| 1 | – | – | – | – | – | – | – |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 64 + 64 |

Uniden AM/FM/SSB Chassis