

# TC9321F-003

## DIGITAL TUNING SYSTEM

TC9321F-003 is a CMOS LSI designed for a FM/MW/LW ratio of a PLL frequency synthesizer system corresponded to the requirement of the whole world.

This Digital Tuning System is optimum for such car audio equipment as three band ratio with detachable panel.

- PLL + controller : TC9321F-003 (QFP-60PIN)
- LCD driver can control condition of key. : TC9297F (QFP-60PIN)
- Electronic volume : TC9421F or TDA7313

### FEATURES

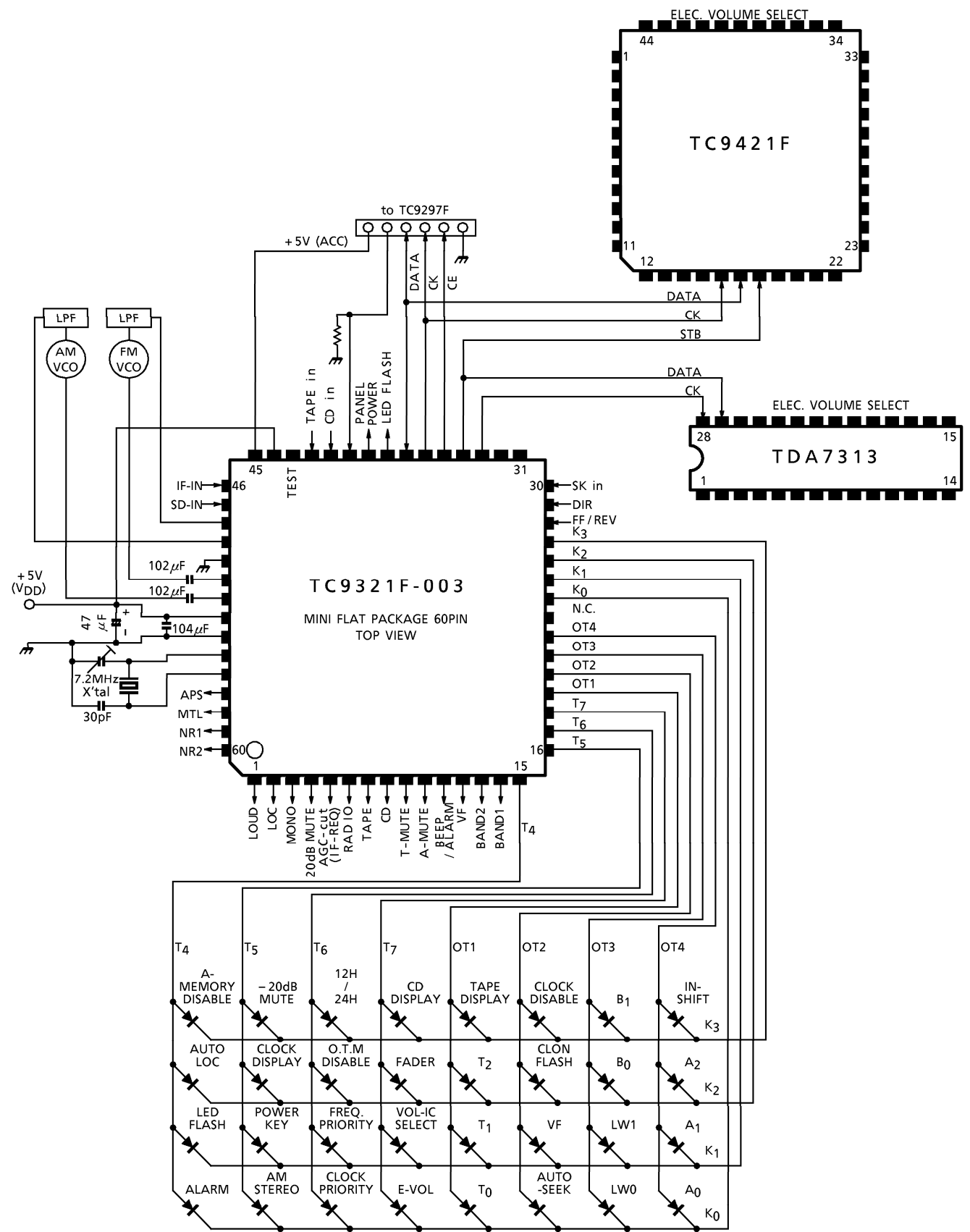
- Receiving band

| AREA                              | CODE<br>A2A1A0 | BAND | FREQUENCY RANGE [Hz]          | STEP [Hz] | FREF [Hz] | IF [Hz]    |
|-----------------------------------|----------------|------|-------------------------------|-----------|-----------|------------|
| EUROPE                            | 000            | FM   | 87.5 ~ 108.0M                 | 50k       | 50k       | + 10.7M    |
|                                   |                | MW   | 522 ~ 1620k                   | 9k        | 9k        | 450 / 459k |
| EAST EUROPE                       | 001            | FM   | 65.0 ~ 74.0M<br>87.5 ~ 108.0M | 50k       | 50k       | + 10.7M    |
|                                   |                | MW   | 522 ~ 1620k                   | 9k        | 9k        | 450 / 459k |
| USA1                              | 010            | FM   | 87.5 ~ 107.9M                 | 200k      | 50k       | + 10.7M    |
|                                   |                | MW   | 520 ~ 1720k                   | 10k       | 10k       | + 450k     |
| USA2                              | 011            | FM   | 87.5 ~ 108.0M                 | 100k      | 50k       | + 10.7M    |
|                                   |                | MW   | 520 ~ 1720k                   | 10k       | 10k       | + 450k     |
| LATIN AMERICA                     | 100            | FM   | 87.5 ~ 108.0M                 | 100k      | 50k       | + 10.7M    |
|                                   |                | MW   | 530 ~ 1710k                   | 10k       | 10k       | + 450k     |
| AUSTRALIA MIDDLE<br>AND NEAR EAST | 101            | FM   | 87.5 ~ 108.0M                 | 100k      | 50k       | + 10.7M    |
|                                   |                | MW   | 531 ~ 1602k                   | 9k        | 9k        | + 450k     |
| JAPAN                             | 110            | FM   | 76.0 ~ 90.0M                  | 100k      | 50k       | - 10.7M    |
|                                   |                | MW   | 522 ~ 1629k                   | 9k        | 9k        | + 450k     |
| SOUTH AFRICA                      | 111            | FM   | 87.5 ~ 108.0M                 | 50k       | 50k       | - 10.7M    |
|                                   |                | MW   | 531 ~ 1602k                   | 9k        | 9k        | + 450k     |

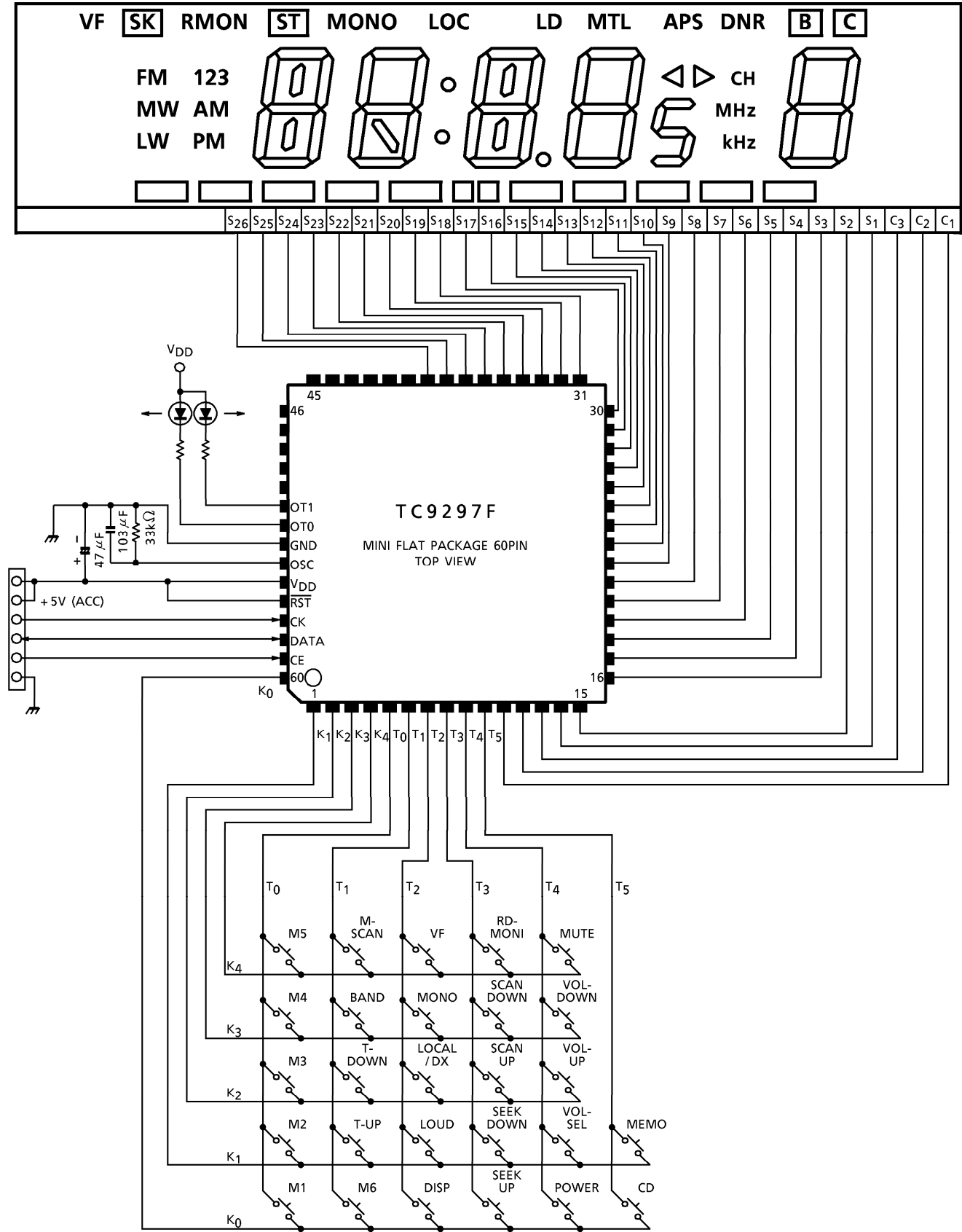
| BAND       | CODE<br>LW1 LW0 | FREQUENCY RANGE [Hz] | STEP [Hz] | FREF [Hz] | IF [Hz]    |
|------------|-----------------|----------------------|-----------|-----------|------------|
| LW disable | 00              | —                    |           |           |            |
| LW enable  | 01              | 153~279k             | 1k        | 1k        | 450 / 459k |
|            | 10              | 144~288k             |           |           |            |
|            | 11              | 146~290k             |           |           |            |

- Tuning function
  - Manual tuning (up/down)
  - Seek tuning (up/down)
  - Scan tuning (up/down)
  - Auto memory tuning
  - Preset memory scan
- Memory function
  - FM1/FM2/FM3 : max 18 stations
  - MW1/MW2 : max 12 stations
  - LW : 6 stations
  - VF : 6 stations
  - Maximum 42 stations in total.
  - Each band has a last memory.
- Radio function
  - VF band (VF auto tuning and DK stand by)
  - LOC/DX control (Auto local function select possible)
  - Stereo display and Mono/Stereo select
  - Radio monitor function
- Tape function
  - 'Tape' display
  - Metal/Normal select
  - APS on/off control
  - DNR on/off and B/C select
  - Tape running display (|>/<| and □□□□)
- Electronic volume/input select function
  - Volume/Bass/Treble/Balance/Fader
  - Loudness control
  - Radio/Tape/CD input
  - Mute function
  - TC9421F or TDA7313 selectable
- Clock function
  - 12 hour display with 'AM' and 'PM' indicator or 24 hour display
  - The colon display is possible to select flashing.
- Other functions
  - CD input and 'CD' or 'DISC' display
  - Burglary prevention alarm, and LED flashing display

LAYOUT



LAYOUT



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