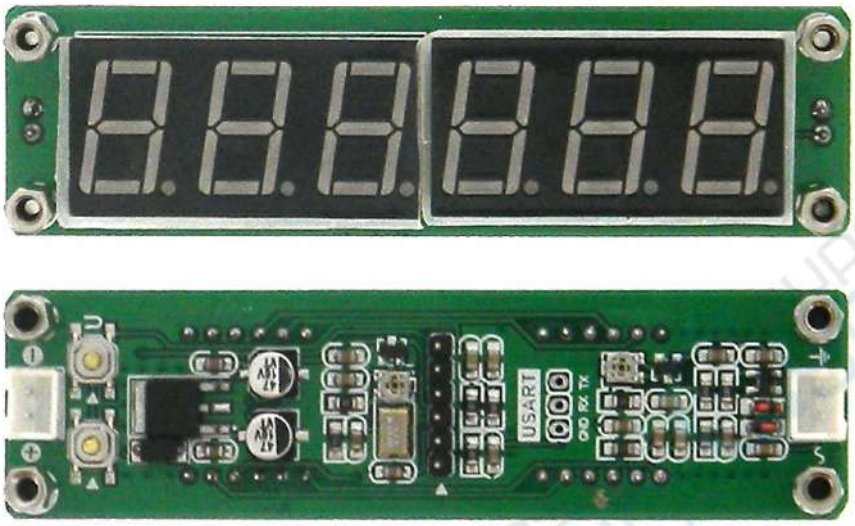
# 35057-TE

## 6-digit LED Frequency Counter Module
## RED DISPLAY



# PLJ-6LED-A LED Frequency Display Module Manual

SANJIAN STUDIO™


Three Swords Studio

Light Rongsheng


2013, March

Guangxi • Nanning • Longan

## CONTENTS

Contents ..... 2
Overview ..... 2
Preparation ..... 2
Technical Specifications ..... 3
Layout ..... 4
Operation and Use ..... 5

## OVERVIEW

The PLJ-6LED-A module is a cost-effective 8-digit frequency counter and display module primarily to display the operating frequency in a transceiver and other equipment. It may also be used for conventional frequency measurement. The module offers compact, reliable high performance with clear display at low cost.

Main Fea**tures include:**

- *Microchip PIC16F628A 65MHz Processor*
- Frequency reference using a temperature-compensated voltage controlled crystal oscillator (2.5 ppm VC-TCXO). Unique gate control with precise time algorithm (No timer interrupt).
- The gate (display refresh) time is 0.1 seconds and the frequency value is displayed in real time
- The frequency measurement accuracy is 10Hz/100Hz (shifting one bit to the right) is optional
- Dual IF design, IF +/- offset value can be set
- Six-digit 0.56-inch LED display, 8 level adjustable brightness with automatic zero blanking
- Simple operation, 2 Button Control
- Settings are saved automatically and directly recalled at power-up

## PREPARATIONS & PRECAUTIONS

**NOTE:** Check the Polarity of the Power & Input Pigtails! Do Not go by color alone:
1 Pigtail is Pinned for Power the other is for the Signal Input
CHECK THE SYMBOLS ON THE BOARD
Power:+Red/-Black Signal Input "S" Red /Gnd symbol Black

- Do not place the instrument in a hot, humid, dusty environment
- Do not subject to severe shock or vibration.
- The clock reference has been factory calibrated with a cesium atomic clock.
- Under Normal conditions adjustments are not required.
- The sensitivity has been factory adjusted to the optimal state.
  Do not adjust it by yourself

## TECHNICAL SPECIFICATIONS

### 1. GATE TIME

- 0.10 sec

### 2. INPUT

- High Impeadance
- Measurement Range: 0.1MHz~ 65MHz
- Resolution: 10Hz
- Sensitivity: >60mVpp

### 3. IF SETTINGS

- Independent double-IF design allows the IF settings to be adjusted in minimum increments of 100 Hz.
- Intermediate frequency range: 0-99.9999MHz
- Offset: Select Plus or minus IF Offset (Add to Input Frequency or Subtract from

### 4. FREQUENCY REFERENCE

- 13.000MHz temperature compensated voltage controlled crystal oscillator (VC-TCXO)
- Frequency stability: ± 2.5 ppm

### 5. SUPPLY

- DC Input: 8V - 15V (Reverse polarity protection) Can be modified for 5VDC (No Polarity Protection)
- Current: 90 mA max (Test conditions: 12VDC supply, red LED display, brightness=8)

### 6. DISPLAY

- Six common anode 0.56in. 7-segment LED displays
- Eight adjustable LED brightness levels, factory set to the highest brightness

### 7. PHYSICAL

- Dimensions: (L×W×H): 91 X 28 X 20mm
- Weight: 46g net

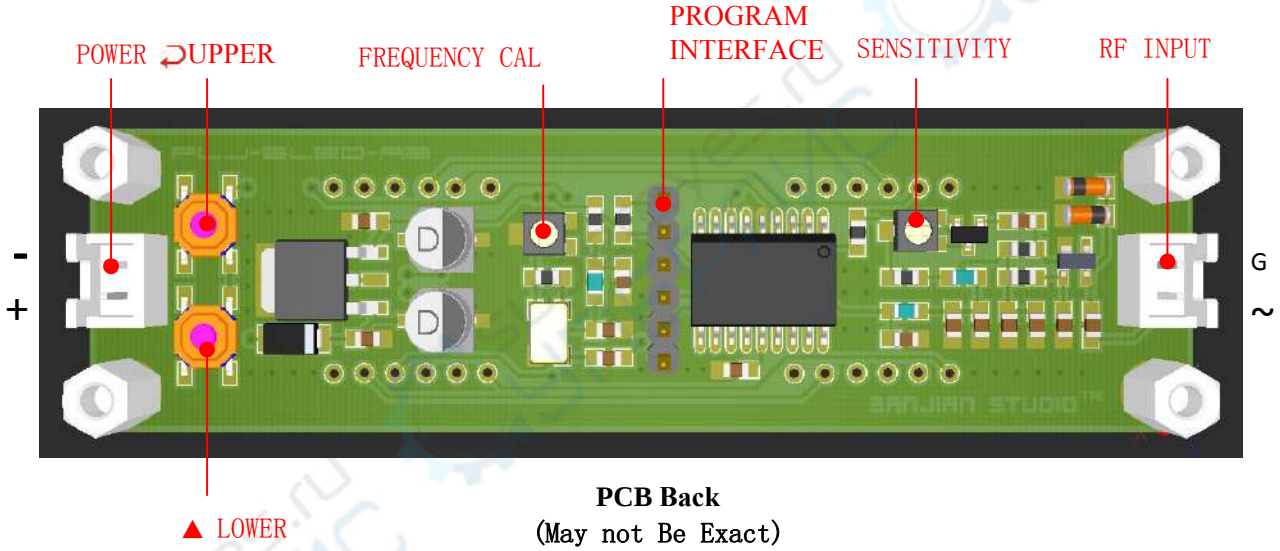
### 8. CONNECTIONS

- RF Signal Input: HX2.54-2P
- DC Power: HX2.54-2P
- Program Port: 2.54-6P Header (Factory Use)

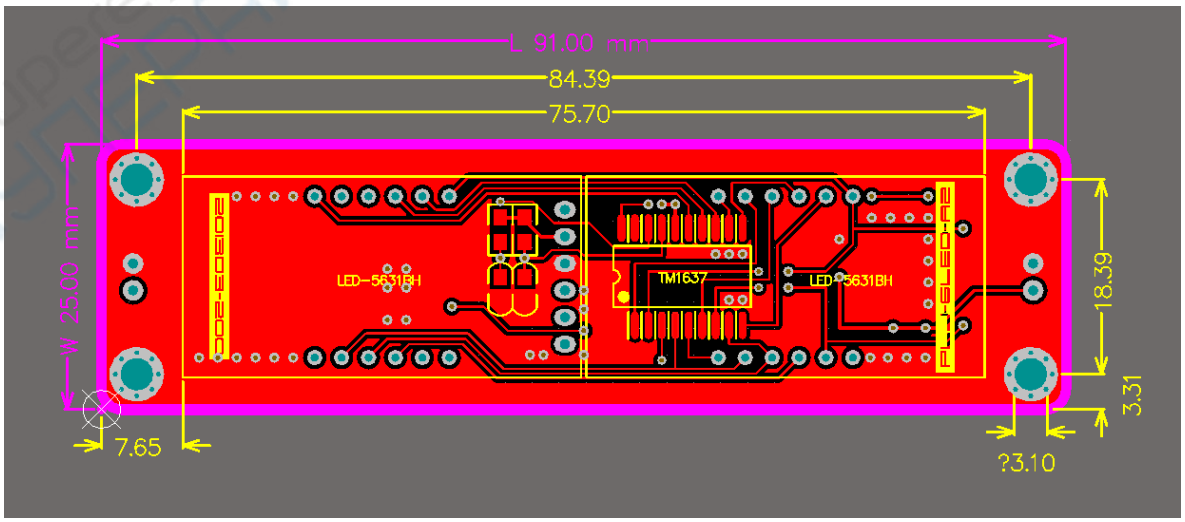
## OPERATION AND USE

### 1. MODULE ARRANGEMENT

**PCB** Front
(May not Be Exact




**PCB Back**
(May not Be Exact)

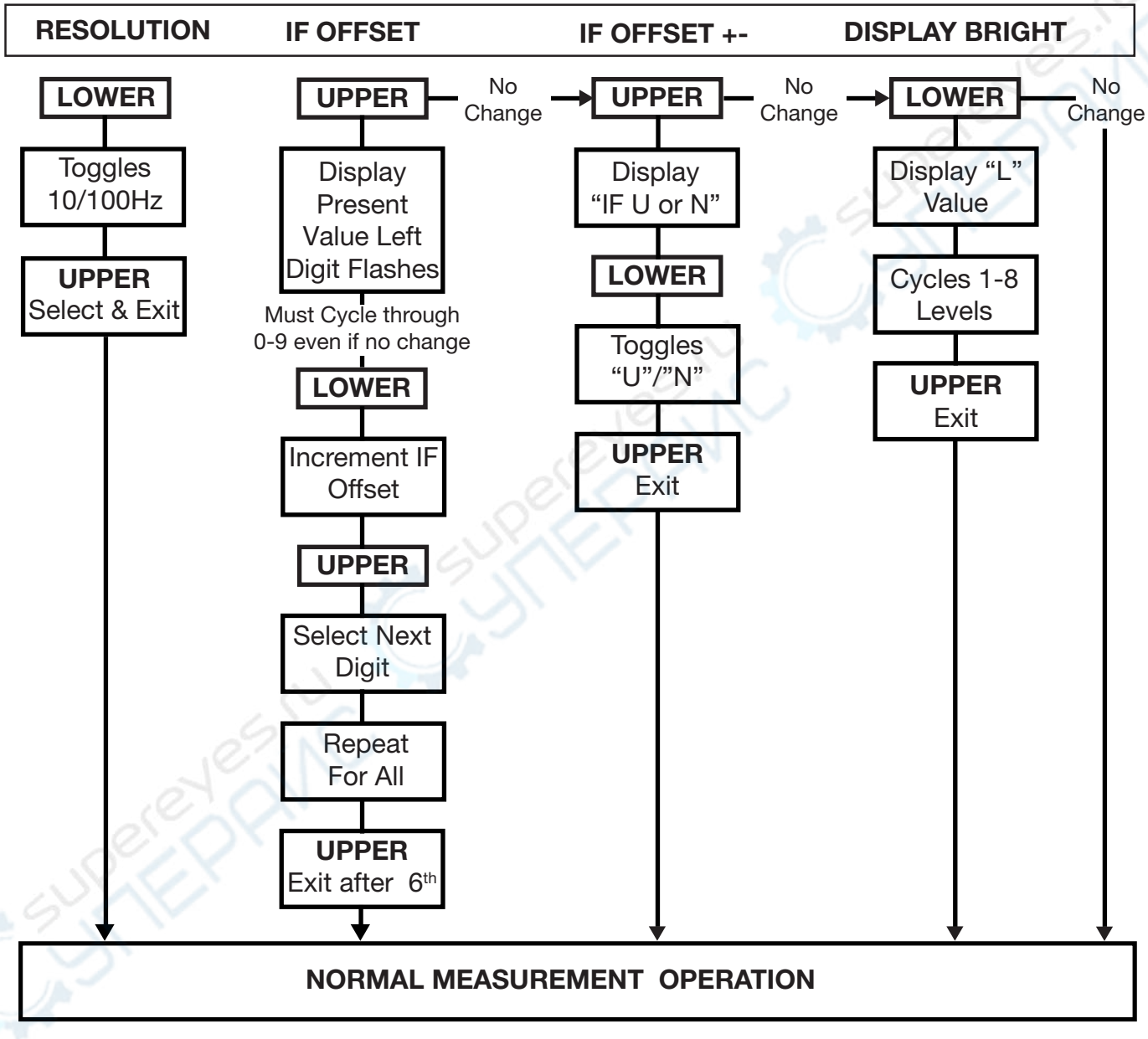



**Mechnical**

## OPERATION AND USE

### 1. PARAMETER SETUP

**"LOWER ▲" : Lower Button on Back "UPPER↩": Upper Button on Back**




**Resolution (Shift one Digit right)**