TENMA®

| REVISIONS | | | DOC. NO. SPC–F004 * Effective: 7/8/02 * DCP No: 1398 | | | | | |
|---|---|---|---|---|---|---|---|---|
| DCP # | REV | DESCRIPTION | DRAWN | DATE | CHECKD | DATE | APPRVD | DATE |
| 1453 | A | RELEASED | JWM | 2/26/03 | HO | 2/28/03 | JC | 2/28/03 |
| 1741 | B | 220V Removed | JWM | 6/22/04 | JC | 6/22/04 | JC | 6/22/04 |


## Frequency Counter:

- Measuring Range:
  - Channel A: 1Hz to 20MHz
    LED display depending on gate time and input signal. At least 7 digits are displayed per each second of gate time
  - Channel B: 20MHz to 2.7GHz
- Input Sensitivity
  - Channel A: 20mV RMS Signwave for 100mVp
  - Channel B: 40mV RMS Signwave for 20MHz to 1.3GHz or 70mV RMS Signwave for 1.3MHz to 2.7GHz
- Maximum Input Voltage: 3V
  - Channel A: 35mVp–p
  - Channel B: 3mVp–p
- Input Impedance:
  - Channel A: 1 Megohm
  - Channel B: 50 Ohms
- Selectable Time Base: Channel A, B Switch Selectable

## Function Generator

- Wave Forms: Sign, Square, Triangle, Skewed Sine, Ramp, Pulse, TTL Level
- Frequency: 1Hz to 10MHz
- VCF Voltage Level: 0 to 10VDC
- Output Impedance: Selectable 50 Ohms ±10% 600 Ohms ±10%
- Output Amplitude: 2vpp to 20vpp open load 1vpp to 10vpp (50 ohm load)
- Sign Wave: Distortion less than 1% (at 1KHz), Flatness + 0.3dB
- Square Wave: Symmetry less than +3% (at 1KHz) Rise & Fall time less than 150nS (at 1KHz)
- Triangle Wave: Linierity less than 1% (up to 100KHz), 5% (100KHz to 20MHz)

## Digital Multimeter (True RMS)

- Range of Measurement
  - DC Voltage: 4 (400mV to 400V) ±0.06% + 3dgts
    1 (1000V) ±0.2% + 3dgts
  - AC Voltage: 4 (400mV to 400V) ±0.8% + 10dgts (40Hz ~ 10 KHz) ±2.5% + 10dgts
    1 (750V) ±1.0% + 10dgts (40Hz ~ 1KHz)
  - DC Current: 3 (40mA to 400mA) ±0.3% + 3dgts
    1 (20A) ±0.8% + 5dgts
  - AC Current: 3 (4mA to 400mA) (40Hz ~ 1KHz) ±1.5% + 10dgts (1KHz ~ 10KHz) ±2.5% + 10dgts
    1 (20A) ±1.5% + 10dgts (40Hz ~ 1KHz)
  - Resistance: 3 (400 Ohms ~ 4 Megohms) ±0.2%+10dgts
  - Capacitance: 2 (40nF ~ 400nF) ±2.0% + 3dgts
    2 (4µF ~ 200µF) ±3.0% + 5dgts
  - Continuity: ≤40 Ohms
  - Diode: Test Current max. 1mA at 1K Ohms (forward DC voltage max. 3V)
  - Logic: Test current max. 100µA
  - hFE: Yes
  - Signal Output: 10Hz ~10.24KHz, C–Mos level between 2.7V & 3.3V

## Power Supply (3½ digit LCD with Back–Light)

| | Terminal 1 | Terminal 2 | Terminal 3 |
|---|---|---|---|
| Output Voltage | 0 ~ 30V | 5V Fixed | 15V Fixed |
| Output Amps | 0 ~ 3A | 2A | 1A |
| Ripple | 1mV max. | 2mV max. | 2mV max |
| Output Current | 2A/3A | 2.2A | 1.2A |

## General Features

Line Voltage: 110V/120VAC AT 50/60Hz
Dimension: 14½"(W) x 6½"(H) x 12½"(D)
Includes: AC Power Cord, Test Leads for DMM, & Owner's Manual

SPC–F004.DWG

| TOLERANCES: | DRAWN BY: | DATE: | DRAWING TITLE: Multi–Function Universal System | | | |
|---|---|---|---|---|---|---|
| UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY. | Jeff McVicker | 2/26/03 | SIZE | DWG. NO. | ELECTRONIC FILE | REV |
| | CHECKED BY: | DATE: | A | 72–7290 | 22H6405.dwg | B |
| | Hisham Odish | 2/28/03 | SCALE: NTS | U.O.M.: INCHES [mm] | SHEET: 1 OF 1 | |
| | APPROVED BY: | DATE: | | | | |
| | John Cole | 2/28/03 | | | | |