USER MANUAL

Hycomm4

Telephone Test Set with Two-way Speaker and Alerts

Document Part Number 505906 Rev.A

Product features :

- Data detection and locked with audible and LED alarm
- Data locked override
- High voltage detection in 3 levels and locked with audible and LED alarm
- Data safe high impedance monitoring
- Touch'n Test : Re-connect and test several lines without pressing key.
- Two-way handfree speakerphone
- DSL Filter to off-hook without disrupt data services.
- DTMF Tone and pulse dialing
- 12 number speed dial memory, 1 Last number redial , Hook flash, Pause, Microphone mute.
- Speaker and Receiver volume adjustable in Talk and Monitor modes
- DC voltage level measuring .
- Polarity indication
- Low battery indication
- High standard Testcord set with bed-of-nails and piercing pin clips.
- Weatherproof case IEC IP67

Safety and Information Symbol

The following symbols are used in this manual for safety purpose to the user health and prevent damage to the equipment and property.

WARNING	Immediate Hazards possible to personal injury and property damage
CAUTION	Hazards or un-safe practice possible to personal injury and property damage
IMPORTANT	Important information to maintain equipment to operate properly

Safety Information

1. The equipment meets IEC Measurement Category I. CAT I is designed to protect against transients on circuits not directly connected to AC main line .

2. Do not connect equipment to DC power line which higher than 118 Vdc.
3. Do not use test leads if they are damaged.

WARNING

Important informations

1. Equipment must installed 9V battery before operation (Alkaline highly recommended)
2. If necessary ,set equipment back to factory default setting. See page 14.

IMPORTANT

Physical descriptions

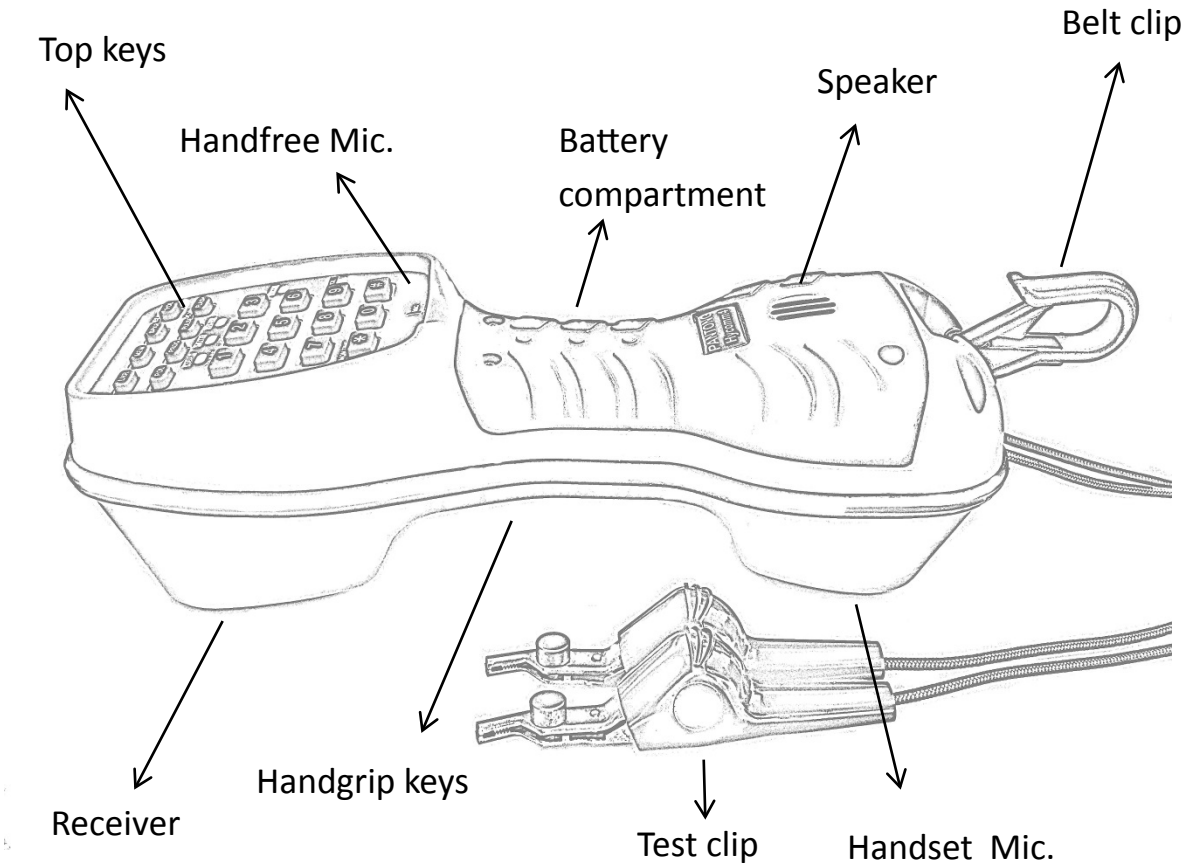

Figure 1.

Top keys

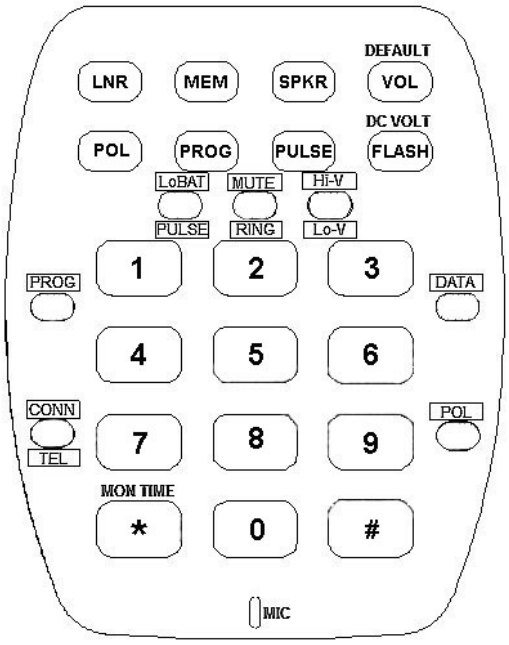

Figure 2.

Handgrip keys

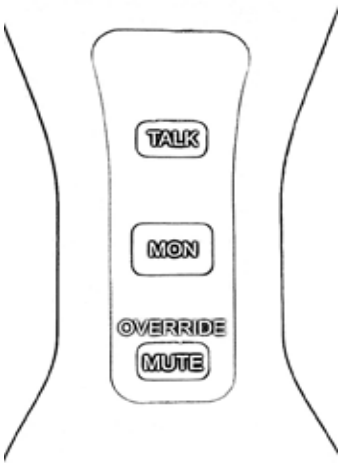

Figure 3.

Operation

Starting

Equipment can only start from 2 keys TALK or MON Press TALK for testing line condition then go to Telephone operation, Press MON for audible monitoring signal in the line.

After pressing any key, if press again the same key equipment will shut down, if press the other key equipment will switch to that key operation.

Example: Press MON (hear data sound from the line) -> PressTALK (Data detected and alarm by LED and Speaker)-> Press TALK (Shut down with low tone beep)

Testing line condition and Telephone operation

User must connect equipment to the line by Test Clips before operation.

Press TALK then equipment will test as the following steps :

1. If detected data signal : Alarm by long-short warble sound and DATA light red , user can override and test further step by press MUTE

2. If detected Voltage > 118 V: Alarm by short-short warble sound and Hi-V Lo-V light red, user can not operate further and must immediate disconnect from the line carefully. Avoid touching any metal parts and short test clips to each other

⚠ WARNING

3. If detected Voltage 78-118 V: Alarm by middle-middle warble sound and Hi-V / Lo-V light yellow. user can override and test further step by press MUTE . Some circumstance with the line unknown or not safe, override may cause damage to equipment. Therefore override should do carefully.

⚠ CAUTION

4. If detected Voltage <30 V: Hi-V / Lo-V flash green and test further step

5. Enter Telephone Operation : CONN / TEL flash green and equipment will off-hook and receive dial tone if applicable (without disrupt data services).

Monitoring

Press MON to monitor signal in the line without interruption voice and data service. Monitoring can do either through Handset receiver or Handfree speaker by toggle press SPKR , Also its sound level can be adjusted in 3 levels by toggle press VOL

DC Voltage Level Measuring

Press MON → FLASH to measure DC Voltage level. Result of testing are 12 bands and each band has 10 volts. Reading from indication of 6 LEDs (all LEDs except POL). Voltage level get from numbers and colors of LEDs which LED flash green means 10 and LED flash red means 20.

Example: When test 48 VDC line which in band of 40-50, indication will be 2 LEDs flash red and 1 LED flash green. (2x20 + 1x10 = 50) see Figure 4.

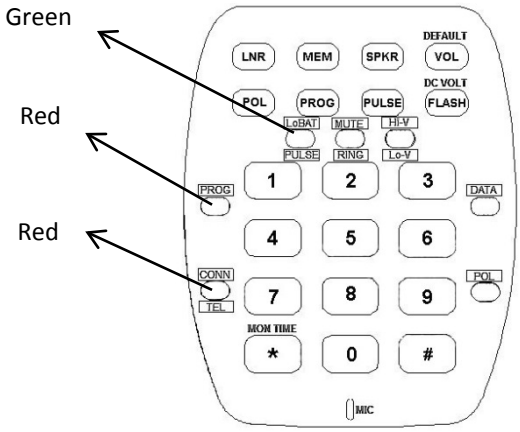

Figure 4.

If voltage over 118 VDC , equipment will alarm short-short warble sound and Hi-V / Lo-V light red, user can not operate further and must immediate disconnect from the line carefully. Avoid touching any metal parts and short test clips to each other.

⚠ WARNING

Note: Equipment is Category I for measurements performed on circuits not directly connected to MAINS.

Ring-in and AC voltage detection

Connect test clips to the line while equipment is idle (already shut down) equipment is on-hook and can detect AC voltage.

If Telephone ring in: Speaker will alarm with telephone ringing sound and MUTE / RING light green. Receive a call by pressing TALK then equipment will operate with "Testing line condition and Telephone operation" see page 7.

If live AC voltage in line: Speaker will alarm with continuous ringing sound and MUTE / RING light green. User must disconnect test clips from the line carefully. Avoid touching any metal parts and touch test clip to each other

WARNING

Polarity check

Press and hold POL to determine Tip – Ring, if POL light green means Red clip connected to Ring, if light red means Red clip connected to Tip.

Battery test

Press TALK / MON (while equipment either connect or dis-connect to the line). If battery low LOBAT / PULSE flash red with short beep then go further step of testing. If necessary, user should prepare new battery and replace it to ensure all features work properly

IMPORTANT

Continuity test

Press TALK If line open or short CONN / TEL flash red and then equipment will shut down.

Power management

Equipment designed to conserve battery power. Shut down with low tone beep confirm equipment went to sleeping status. Using in Telephone Operation in Handset mode (speaker-off) will draw most current from telephone line. Both

conditions consume lowest power. Any operation with speaker-on consumes high power. And the higher volume level set, the higher power consumed.

Time and setting

- Speaker-on time (for TALK mode)
  Default 2 minutes, Setting must be done while the equipment under Telephone Operation. Set by press:
  PROG → SPKR → 1 - 9 → PROG
  Time in minute unit determined by multiplying 2 to the entered number. After time-out equipment switch to Handset mode.
  Example: Press PROG -> SPKR -> 3 ->PROG means Speaker-on time set to 6 minutes.
- Monitor time
  Default 2 minutes, Setting must be done while the equipment under Telephone Operation. Set by press:
  PROG → * → 1 - 9 → PROG
  Time in minute unit determined by multiplying 2 to the entered number. Every minute it will generate twice short beeps as battery saving alert. This alert continue even it was disconnected from the line. After time-out equipment will shut down.

  Note: press SPKR in MON mode will re-start Monitor time.
- Re-connect and re-start test without pressing key
  Default is disable, Setting to enable/disable by press:
  MON → MUTE
  While equipment is testing in TALK mode (either alerting or operating in telephone), if user disconnect from the line it will delay 20 seconds

before shut down. Within this period, user can re-connect to other lines and re-start testing without re-pressing TALK key (call Touch'n Test)

Example test on data line 1 and data line 2: Connect to line 1 and press TALK (Data detected by LED and Speaker alarm) -> Disconnect from line 1 reconnect to line 2 in short time (Data detected by LED and Speaker alarm) -> Disconnect from line 2 and wait 20 seconds (Shut down with low tone beep).

Note: 1. Dis-and Reconnect will re-start Speaker on timer.

2. During this period if press TALK key equipment will shut down .

Telephone Operation

- Mute

  Toggle press MUTE to on/off microphone which will effect in both Handset and Handfree modes. MUTE RING Will light red when equipment muting (microphone off).

- Last Number Redial

  Press LNR for last number redialing.

- Speaker-on

  Toggle press SPKR to on/off speaker. This is also switch between Handfree Two-way Speaker phone and Handset phone operation.

- Volume adjust

  Toggle press VOL to adjust 4 levels of sound in Handset mode or in Handfree mode.

  Note: Do not adjust volume too high for better two-way communication.

- Pulse Dialing

  Toggle press PULSE to enter/exit Pulse Dialing. LOBAT / PULSE Short flash green indicate enter and long flash green indicate exit.

- Store Tel. Number for speed dialing

  PROG → MEM → 1 - # → 1 - # ---- 1 - # → PROG

  Location Number

  Press above to store Number to any 12 locations 1 - # for speed dialing.

  User can store a pause time by pressing FLASH. Each press give 4 seconds pause .

  First pressing PROG, PROG will light red and second pressing PROG PROG will flash green to confirm that storing is success.

  Example: Press PROG -> MEM -> 0 -> 1-2-FLASH-3-4 -5 -> PROG means store number 1–2-Pause 4 sec-3-4-5 in location 0.

- Speed dialing

  MEM → 1 - #

  Press above to make speed dialing which store in any location 1 - # .

- Store Last Number Dialing for speed dialing

  PROG → LNR → 1 - # → PROG

  Location

  Press above to store Last Number Dialing to any location 1 - # (12 locations) for speed dialing

- Hook flash

  Press FLASH to generate a line time break, default duration 600 ms.

Setting 100, 200,.....,1200 ms

- Flash time break duration setting

  PROG → FLASH → 1 - # → PROG

  Press above to set flash time break duration. Duration in millisecond unit determined by multiplying 100 to the entered number 1 - # . Entering * , 0 , # equal to number 10,11,12 respectively

  Example: Press PROG ->FLASH-> # ->PROG means set time duration to 1200 milliseconds.

Factory default setting must be done while the equipment under Telephone Operation. Set by:

1. Find any tel. line , connect equipment to the line and press TALK to make it enter telephone operation (which will get dial tone).
2. Press PROG then PROG light red
3. Press and hold VOL until PROG change from red to green.

Default value are :

Speaker on time: 2 minutes.

Monitor time: 2 minutes.

Flash duration: 600 milliseconds.

Handset receiver volume level: 2.

Hand-free speaker volume level: 3.

Monitor volume level: 2.

Mute: off.

Re-connect and re-start test w/o pressing key: Disable.

Self-testing by observing 6 LEDs and Speaker :

1. Remove battery.
2. Press TALK or MON to drain out residual from circuit.
3. Replace battery.
4. Observe: If 6 LEDs flash green → flash red → Speaker beep once,

it means primary hardware, software, 6 LEDs and Speaker are verified good.

Battery replacing

1. Disconnect the unit from the testing line and shut down the equipment.
2. Loosen the four screws and the cover of "Battery compartment" shown in Figure 1.
3. Remove old battery.
4. Insert new battery. When inserting, observe the proper polarity.
5. Close cover and tighten the four screws securely. Do not over tightening it.

Warranty

We guarantees its equipment and workmanship and agree to repair or replace such products which under normal use and service, with no charge

The warranty will not cover for product that was defected by accident, improper uses and one repaired by other than Authorized Distributor and Pantong Technologies 's personnel.