

USER MANUAL

Hycomm4

Telephone Test Set with Two-way Speaker and Alerts

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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.

i IMPORTANT

Physical descriptions

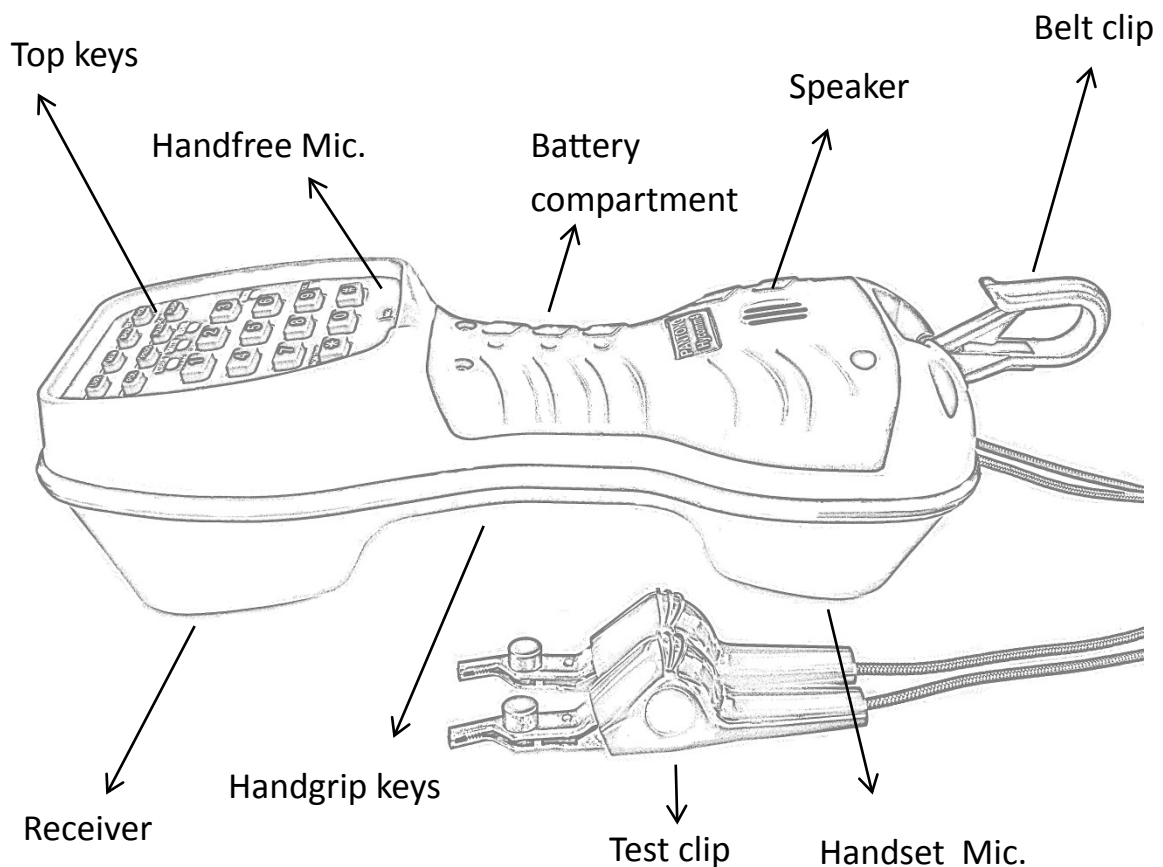


Figure 1.

Top keys

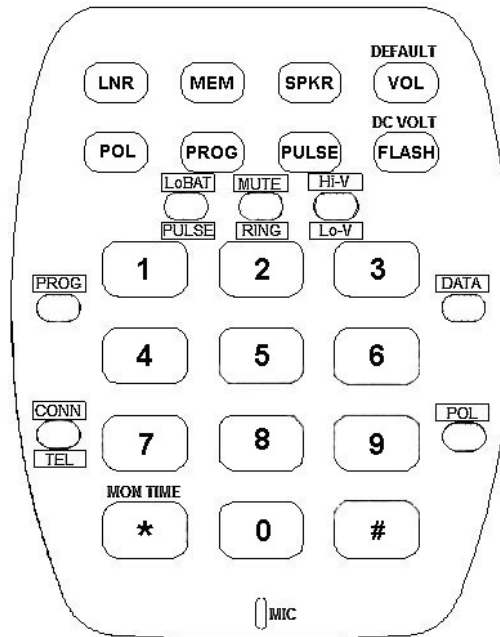


Figure 2.

Handgrip keys

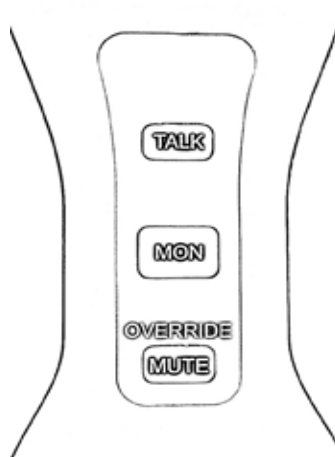


Figure 3.

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) -> Press **TALK** (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  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  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  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:  flash green and test further step

5. Enter Telephone Operation :  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 getting by sum numbers of LEDs which if LED flash green means 10 and if 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. ($2 \times 20 + 1 \times 10 = 50$) see Figure 4.

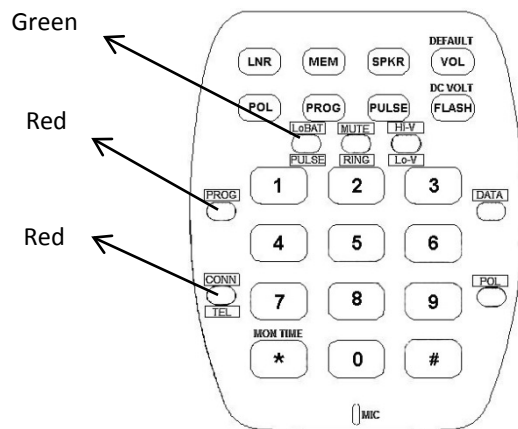



Figure 4.




If voltage over 118 VDC , equipment will alarm short-short warble sound and  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  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


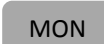

parts and touch test clip to each other

WARNING

Polarity check



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

Battery test

Press  /  (while equipment either connect or dis-connect to the line). If battery low  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  If line open or short  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 do in Telephone Operation) 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 do in Telephone Operation) 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.  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.  Short flash green indicate enter and long flash green indicate exit.

- Store Tel. Number for speed dialing



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

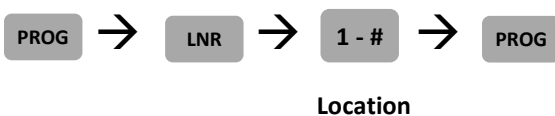
Example: Press PROG -> MEM -> 0 -> 1-2-FLASH-3-4 -5 -> PROG means store number 1-2-Pause 4 sec-3-4-5 in location 0.

- Speed dialing



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

- Store Last Number Dialing for speed dialing



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 do in Telephone Operation) 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  light red

3. Press and hold **VOL** until  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.