

MODEL: LCT-300/400

LAN Cable Tester User's Guide

Welcome

Thank you for purchasing this LAN Cable Tester Series product. Whether you are a contractor installing LAN cabling as a profession or simply a small office administrator caring for a LAN, we hope that you will find this product both useful and rewarding.

Specifications

- LCD Display: 2 lines by 12 characters with LED back light
- Connectors: (2) RJ-45 (8P8C) jacks with shield
- Control keys (3): **MODE/SEL**, **ESC**, and **ENTER** buttons
- Power: (1) 9V dry cell battery.
- Size: 15.0(H) x 6.5(W) x 3.5(D) cm
- Weight: 180g net

Cable Types

Unshielded Twisted Pair (UTP 100Ω, Cat 3,4 & 5)
Foil screened Twisted Pair (FTP 100Ω and 120Ω, Cat 3,4 & 5)
Shielded Twisted Pair (STP 150Ω IBM Type 1&6)
RG-58 Coaxial cable (LCT-400 ONLY)

Features

- Hand-held and easy to operate.
- Easy to read LCD display, with back light.
- Easy to diagnose RJ-45 cables (and BNC types with LCT-400) with preset wiring schemes.
- Easy to read cable status, verify cable continuity: open, short, and mismatches.
- Scan pin assignment.
- Automatic cable identification. (Cable type search.)

Automatic Power Saving Features

The **LCT-300/400** has built in power management features intended to extend battery life. By far, the LCD back light is the most power hungry component in the **LCT-300/400**. Use of the LCD back light should therefore be limited to low ambient light applications. The back light may be toggled ON/OFF by simultaneously pressing the **MODE/SEL** and **ESC** function keys. If there is no further menu selection or function testing within thirty (30) seconds, the back light will be automatically extinguished. Additional power management functions include both a "sleep" mode and an auto "power off" mode. If there is not any key activity for three (3) minutes, the unit will automatically enter "sleep" mode. All interface circuitry and the LCD display will be powered down. In this mode the unit draws very little power. Pressing any key will cause the unit to "wake up" to a full functioning state. However, if there is no key activity for ten (10) minutes, the unit will automatically "power off". To recover from the "power off" mode, the unit must have its power switch cycled OFF and then ON. In the "power off" mode the power usage is close to nil. This feature is especially useful if the unit is inadvertently left powered on. The battery should be replaced when the battery low icon () on the LCD display becomes visible during normal use of the **LCT-300/400**. Additionally, if a low battery is swapped within 1 minute with a new one, the user defined memory contents will be retained. Just remember to turn the unit OFF before swapping the battery.

Operation

Connection: The **LCT-300/400** is capable of testing cables in any one of four modes.

Local Test mode is accomplished by connecting both ends of the cable under test to the **LCT-300/400**'s OUT and LOOPBACK IN ports. Local unit displays an ID equal to zero.

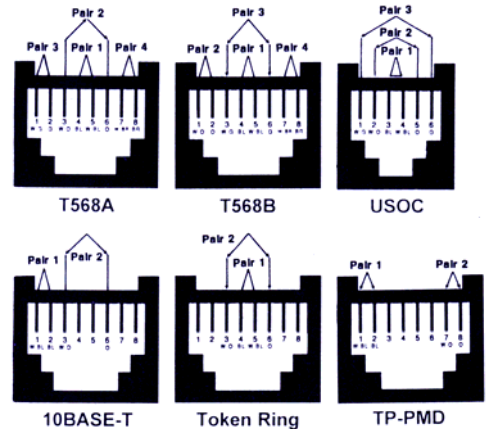


Remote Test mode uses two (2) **LCT-300/400** units, with the cable connected between one unit's OUT and the other unit's LOOPBACK IN. Remote unit displays an ID equal to zero.



Recognized Wiring Schemes

10(100)Base-T
Token Ring
TP-PMD
AT&T 258A
EIA/TIA-568A/B
USOC
10(100)Base/HUB
BNC/10Base-2
plus 4 User Defined



Cable Locator

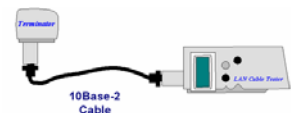
Cable location may be accomplished by using multiple **LCT-T** terminators. The **LCT-T** locators incorporate factory set I.D. numbers and are available in ID's from 1 to 16.

- Standard pin configurations and four(4) user defined cable wirings memorized in CPU.
- Can save user defined cable directly after testing.
- Tests for both shielded and unshielded cable types.
- Review the captured pin assignment and failure status.
- Maximum testing length is up to 3000 feet.
- Identify and trace the other end's ID. (with up to 16 individual ID **LCT-T**)
- Battery low indicator.
- Auto power-off function.

Terminator Loopback mode uses the supplied terminator ID block connected at the remote end of the cable, while the other end of the cable is connected to the **LCT-300/400**'s OUT.



10BASE-2 Test uses the supplied RJ-45 to BNC adapters (**LCT-400** only). The adapters may both be placed in the **LCT-400**'s RJ-45 jacks for **local test** or one may be placed at the **LCT-400**'s OUT while the other is placed on the terminator for **Terminator Loopback** testing.



Operation (continued)

○ Turn power switch on: Following initial power on of the **LCT-300/400**, the unit will display the startup logo with back light for 3 seconds, then will display the top menu for "cable test".

LCT-300/400 startup menu

```
CTC UNION
LCT . . v 1 . 0
```

LCT-300/400 test menu

```
MODE SEL :
c a b l e t e s t
```

Battery
Low
Icon

○ Press "ENTER" to test the cable.

```
o 1 2 3 4 5 6 7 8 G
i 3 6 1 4 5 2 7 8
```

Pin Out

Results Displayed

```
1 0 0 B A S E / H U B
U T P i d : 1
```

UTP, FTP or COAX

Type
Terminator
ID No.

Use ○ **MODE/SEL** to toggle between cable pin out screen and result display, press **ESC** back to test menu.

Cable testing: During any mode of cable testing, the first screen display will show the top line out and bottom line in of connections 1 through 8 plus G (shield) as they are scanned. Following this screen page will be the cable identification information. If at least one wire pair is not connected, the display will read "NO CONNECT". A shorted cable will read "SHORT". A question mark in the pin out display indicates a short. An unknown is not in the standard known pin outs or in the user defined memory.

User Defined cable: The **User Define** function allows you to describe your own custom cable pin out which will be entered into the cable identification database and saved in the CPU memory. This custom pin out will remain available as long as a fresh battery is in the unit. Two methods are available for defining a cable. The first method is manual entry, while the second uses an "UNKNOWN" cable as the pin out source. First the manual method. From the very top of the **LCT-300/400** menu (just after power on is completed) select the **USER DEF** menu by pressing the **MODE/SEL** button (step no. 1 to 2). The **MODE/SEL** button will now move the cursor to select one of four (4) user memory locations (step no. 3). Press **ENTER** to select the memory location that the cursor is on. The define cable display will show (step no. 4).

LCT-300/400 test menu

```
MODE SEL :
c a b l e t e s t
```

○ **MODE/SEL**

LCT-300/400 user defined menu

```
MODE SEL :
u s e r d e f i n e d
```

○ **ENTER**

LCT-300/400 User Def display (4 locations)

```
USER DEF .
# 1 / 2 / 3 / 4
```

○ **MODE/SEL**
to location 1-4
then **ENTER**

LCT-300/400 Define cable display

```
o 1 2 3 4 5 6 7 8 G
i
```

empty

Use the **ENTER** key to set digits 1 to 8, G or blank (not connected), then press **MODE/SEL** to move to the next space. When completed, press **ESC** (step no. 5 to 6)

LCT-300/400 defined pin out

```
o 1 2 3 4 5 6 7 8 G
i 3 4 1 2 6 5 7 8
```

defined
pin out

○ **ESC**

LCT-300/400 Save to User Defined Confirmation display

```
SAVE TO USER
DEF. # 2 ?
```

To save your definition, ○ press **ENTER**. To exit without saving, ○ press **ESC**. The alternate method is to save the "Unknown" type.

```
UNKNOWN DEF .
UTP i d : 1
```

○ **MODE/SEL**

```
SAVE TO USER
DEF. ?
```

○ **ENTER**
ESC out

```
USER DEF .
# 1 / 2 / 3 / 4
```

Select the location with **MODE/SEL** and then press **ENTER** to save. Press **ESC** anytime to exit.

Cable Fault Indication Examples:

```
MODE SEL :
c a b l e t e s t
```

○ **ENTER**

```
o 1 2 3 4 5 6 7 8 G
i 1 1 3 4 5 6 7 8
```

→

```
CABLE SHORT
i d : 1
```

In the above example, Pin 1 and Pin 2 were found to be shorted.

```
MODE SEL :
c a b l e t e s t
```

○ **ENTER**

```
o 1 2 3 4 5 6 7 8 G
i
```

→

```
NO CONNECT
```

In the second example, if at least one pair of wires is not connected, the test result will show as "NO CONNECT".