

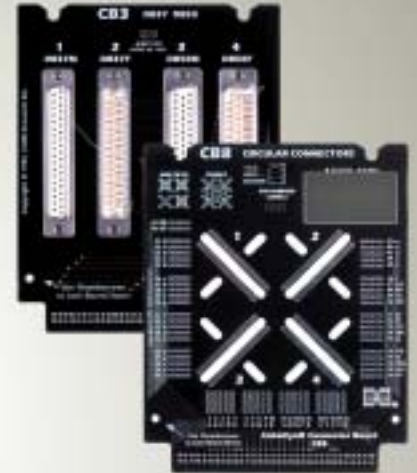
# CableEye®

by CAMI Research Inc.

Professional Test System  
for Cables and Wire Harnesses

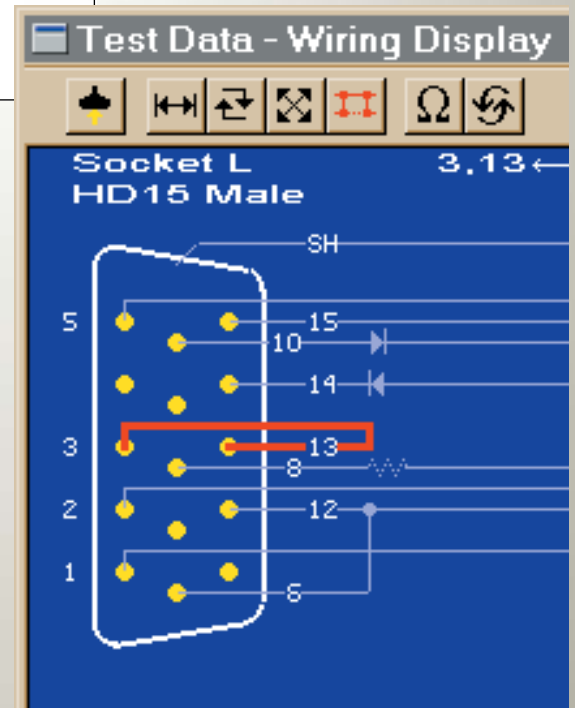


CableEye® Model M3 (Item 821)  
with the CB15 Board Set (Item 745)



Interface Boards

- CONTINUITY TESTING
- RESISTANCE MEASUREMENT
- DOCUMENTATION
- DIAGNOSTICS
- LABELING
- DESIGN
- GUIDED ASSEMBLY



Actual Screen Display

*Ideal for*

*Production*

*R&D*

*Maintenance*

*Networks*

*Prototyping*

Software for Windows 95/98, ME, NT, 2000, XP

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Patented

# Test, Store, Document

## TEST CONTINUITY

- Scan for Opens, Shorts, Miswires
- Pass/Fail Testing Against a Model
- Check for Intermittent Connections

Measure continuity in less than one second. Then compare your measurement to a model cable measured earlier, or to stored cable data from the on-line database. Opens, shorts, and miswires are immediately detected. You may display or print the differences either as an error list, or as a schematic with faulty connections highlighted. With our Model M3 CableEye, set resistance limits to ensure both quality connections and proper isolation.



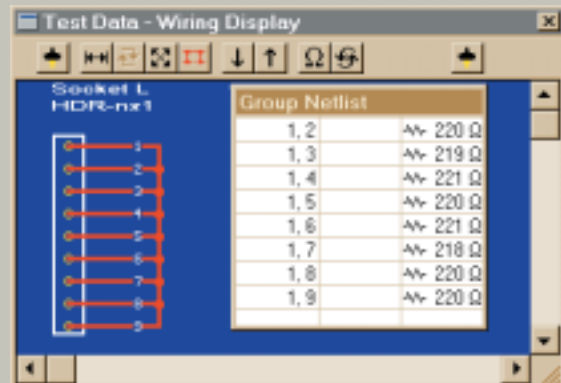
An intermittent connection is found (above) when the left connector is stressed. The offending wire is highlighted in red on your screen (right).



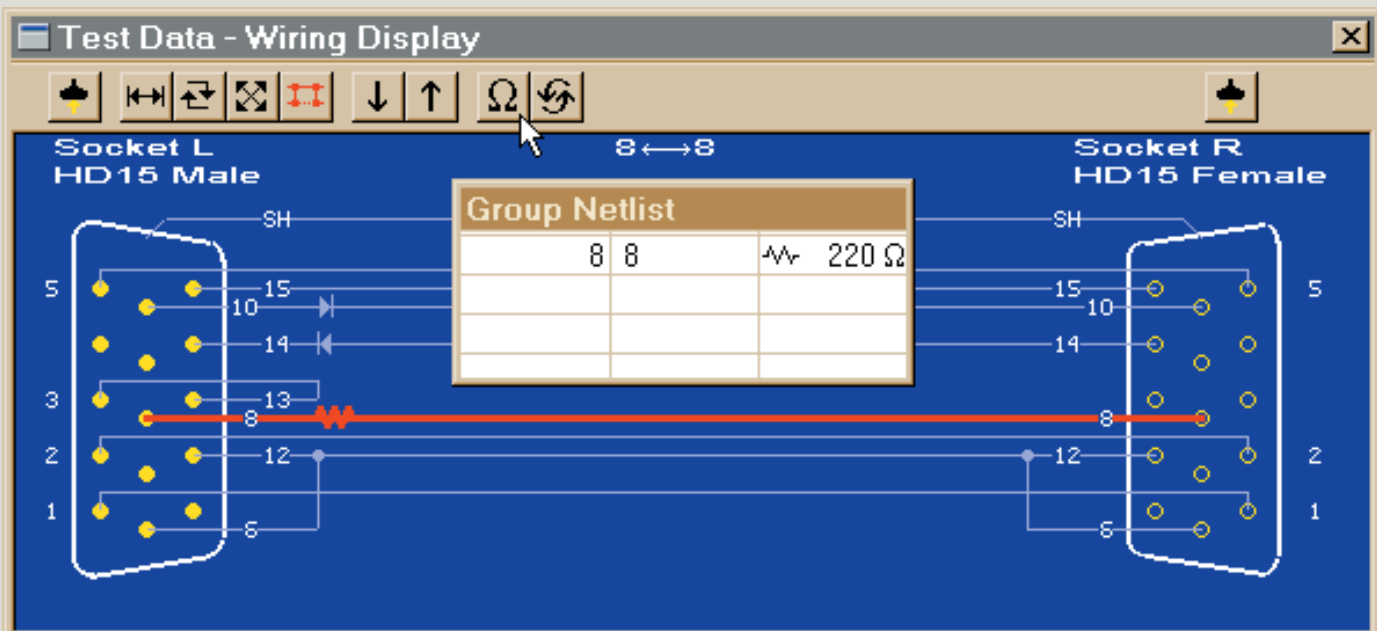
## MEASURE RESISTORS, DIODES

- Test Embedded Resistors from  $0.5\ \Omega$  to  $10\ M\Omega$  (Model M3 only)
- Check Diode Orientation

Check resistors embedded in a cable and resistor networks instantly. Set a tolerance for variation above and below the ideal resistance value. Test terminating, pull-up, and pull-down resistors, or the resistance value of conductors in long cables. Highlight one connection using the Up or Down arrow key (see image below) and instantly remeasure the resistance of just that line. Use the "continuous resistance" tool to do loop testing while you adjust the value of a potentiometer.



Check resistor networks to ensure that all values fall within acceptable limits.



# Debug, Design, Label

## STORE CABLE DATA ON DISK

- Create a Searchable Cable Database
- Name Using Your Own Part Numbers
- Save Test Specifications and Notes

Once a cable is scanned, you may annotate it with descriptive notes, assembly instructions, color codes, or vendor data, and save it in a searchable computer database for instant recall. You may later load the file by name, or search for it by matching against the wiring of a test cable. Identify unknown cables instantly! Write-protect your database, and store it on your server for access by multiple CableEye stations. E-mail cable files to your associates or customers.

Load Match Data	
Name	Description
DB15M-	
DB15M-DB15F-S10X	ETHERNET EXTENSION
DB15M-DB15F-S15D	ALL-LINE DIRECT EXTE
DB15M-DB15F-S8D	ETHERNET 802.3 ILI
DB15M-DB15F-S8X	ETHERNET EXTENSION

Choose the file to load (above), then view the descriptive notes you entered when the file was saved (below). Update the notes at any time.

Test Notes	Test Label
Match Notes	Match Label
ETHERNET 802.3 ILI to AUJ	
Vendor Code: AB54	
Contract: 1199A	
Description: This limited direct extension cable is intended for Ethernet	

## PRINT CABLE SCHEMATICS

- Fully Document Cables for Your Own Records, or for Your Customer's
- Provide Quality Certification for Each Cable Tested

For hard copy, click the Print button to create a crystal-clear graphic wiring diagram on any laser printer connected to your computer or network. An inexpensive inkjet printer may also be used for superb results. Your descriptive notes, label text, and wire list are all printed on the same sheet for convenient reference. Create .pdf files of CableEye's print output for transmission by e-mail.

Database File Name You Choose: RG-EY254C

Page Title You Choose: TEST DATA

Date and Time: 5-1-02 9:45 AM

Your Company's Name or Other Text You Choose: Centerline Cable Corp.

Wiring Schematic with Connector and Pins

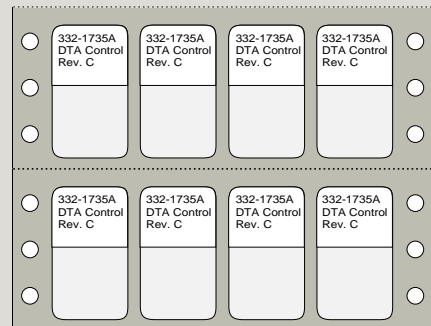
Descriptive Notes

Label Text

## PRINT LABELS

- Save Label Text in Cable Database
- Print Labels as You Test, or All at Once in Batch Mode

Labels of almost any type may be printed on command. Use self-laminating Brady™-type labels or laser labels — or send ASCII text produced by CableEye's software directly to your thermal printer. Label text created for each cable is stored in the database along with the schematic and descriptive notes. Print labels one at a time, automatically as you test, or all at once.



You may choose the number of labels across, the label size, and the spacing between labels to accommodate any label layout.



# Adapt to Many Connectors

## CONNECTOR INTERFACE

Our specially designed QuickMount™ connector boards let you instantly reconfigure CableEye for different cables and connectors. Boards are available for most common connectors, and new ones are being developed all the time. Mix and match boards as needed to accommodate different connector types at each end of the cable. Use our CB8 Board (Item 738, see photo below) for custom connectors, and the Minihook Test Probes (Item 710, see previous page) to check connectorless cables, backplanes, or wiring networks.

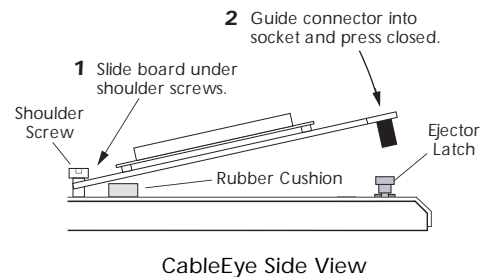


Attaching a CB15 board (Item 745)

## Connector Boards\*

Model	Connector Types	Application
CB1	CN50 M/F, DB15 M/F, RJ45, BNC	Network Cables
CB2	Flat Cables, 64, 60, 50, 40, 34, 30, 26, 24, 20, 16, 14, 12, 10, custom	IDC Sockets
CB3	DB37 M/F, DB50 M/F	Large Dsubs
CB4	Winchester 34-pin M/F	v.35
CB5	CN50 M/F, MD50, MD68, MC60	SCSI I, II, III
CB6	DB15HD M/F, DB26HD M/F, DB44HD M/F	High-Density Dsubs
CB7	DB62HD, DB78HD	High-Density Dsubs
CB8	Circular Connectors (generic)	AMP CPC, ITT, others
CB9	AMP Mate-n-Lock, Molex Pin Strips	Power Supply
CB10	VME/EuroDIN 64/96-Pin IDC	Backplane, VME
CB11	Elco 90-pin Connectors	Audio, Power
CB12	High-Density IDC Flat Cables	HD IDC Sockets
CB13	2mm Connectors	European IDC
CB14	Molex LFH 60-Pin M/F, HD26	Routers, Telecom
CB15	DB25 M/F, DB9 M/F, RJ12 (6p6c), mDIN4, mDIN6, CN36 M/F, DB15HD M/F	PC Cables
CB16	13W3, 5W5, 3W3 Mixed Signal	Video, Workstations
CB17	CN14, CN24 (IEEE 488), CN64	HPIB, Telecom
CB18	Octal RJ45	Octopus Cables

\*Many more boards are available than shown here. Refer to our Product Catalog, or call, for a complete list.



CableEye Side View



Refer to our Product Catalog or Web Site for a description and drawing of each board (web: [www.camiresearch.com](http://www.camiresearch.com)).

## CUSTOM CONNECTOR INTERFACES

Special X-pattern slots in the CB8 board (Item 738, right) allow mounting of most types of Circular connectors using the screws and threaded standoffs we provide in a supplied kit. CB8 also serves nicely for mounting any connector that can be supported by standoffs or a bracket, making it ideal for custom connector interfaces of any kind. Wire the connector pins to pads around the edge of the board. Use a jumper on the board to choose either numeric or alphabetic pin numbering.

1 - Secure connector to board using supplied standoffs and screws. X-pattern slots accommodate both large and small circular connectors, or any type of connector with a mounting bracket. Attach one large connector or up to four small ones.

2 - Wire connector pins to the pads around the edge of the board. Up to 62 conductors plus shield can be supported.

3 - Set jumper for numeric or alphabetic pin numbering.



CB8 Board (Item 738) with Connector Mounted

See [www.camiresearch.com/Catalog\\_Pages/CB8\\_application.html](http://www.camiresearch.com/Catalog_Pages/CB8_application.html) for more applications photos of the CB8 board!

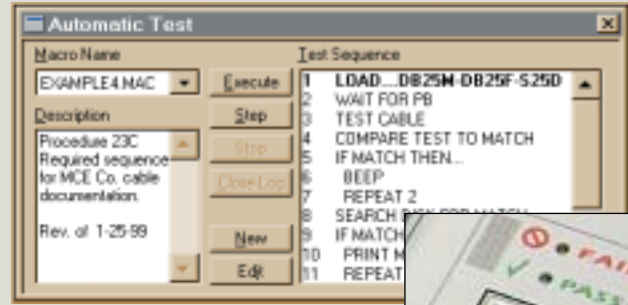
# Automate Your Testing

for Consistent Results and Reports – Ideal for ISO9000 Facilities

## CREATE CUSTOM TEST PROCEDURES

- **FAST** Batch Testing
- Supports Bar Code Readers

An entire test sequence you create can be automated for one-button operation. Press the TEST button to start a test procedure, and see test results on LED lamps. Within the test sequence you may display wiring differences, search the database, print labels, display operator instructions, and log test results to disk or a printer. You may also connect a footswitch or remote control to trigger the test. This allows CableEye to be used easily by unskilled operators. We provide eleven standard test sequences, or design your own in seconds!



Use the built-in TEST push-button, or add an optional footswitch (Item 714), to trigger a test sequence and see results on LEDs.



## DATA LOGGING

- Certify Test Results
- Measure Operator Performance

Create detailed records and test documentation when checking a batch of identical cables. The cable-by-cable record (right) shows a line for each cable tested, indicating whether that cable passed or failed, and if it failed, the specific errors. A summary block reports all the information you need to analyze the batch. Import the Log file into spreadsheet or database software for further analysis.

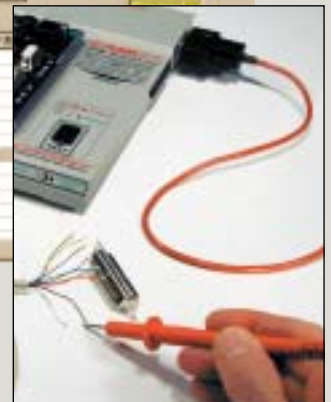
CableEye Log Report		TEST SUMMARY		5-6-02 10:32 PM
Log File Name: TESTLOG1.LOG ALL LINE DIRECT EXTENSION				
Made by Corlan Cable Company, West Bridgewater Division, Tel: (912) 345-4789, G.B. Selmer Sales Agent				
CONNECTORS		CABLE NAME		
LEFT	RIGHT			
MATCH DATA	DB25 Male	DB25 Female	DB25M-DB25F-S25D	
COUNT	RESULT	PROBLEM	TIME	
1	PASS		8:23:42 AM	
2	PASS		8:24:15 AM	
3	PASS		8:24:55 AM	
4	PASS		8:25:10 AM	
5	F A I L	L-13 R-13 OPEN	8:25:40 AM	
6	PASS		8:26:20 AM	
7	PASS		8:26:55 AM	
8	PASS		8:27:22 AM	
9	F A I L	L-9 R-9 SHORT, L-10 R-10 OPEN, . . .	8:27:48 AM	
10	PASS		8:28:41 AM	
Total Units Tested: 10		Total Test Time: 4 min 59 sec		
Total Units Failed: 2		Average Time per Unit: 30 sec		
Accuracy: 80%				

Actual Luserprinter Output

## GUIDED ASSEMBLY

- Build-Aid for Cables and Harnesses
- Test While You Build

Use a supplied probe to touch an unterminated wire, and the screen shows exactly where the wire should be connected. As the operator attaches each new wire, our AutoBuild™ software checks the entire assembly and provides a clear checklist showing all completed good connections. Connect diodes and resistors by name and value, check resistance values and test conduction and isolation resistance as you assemble the harness. Programmable tones accompany the graphic screen to give clear signals to the operator when good connections are completed or errors are detected.



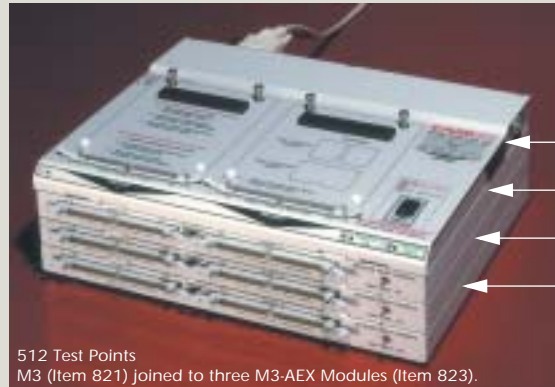
# More Test Points

## ADD EXPANSION UNITS

Increase the number of available test points by connecting expansion modules. Each module adds 128 test points. Cascade up to seven modules for 1024 total test points. Our standard software recognizes the additional test points automatically. The side-by-side module shown in the photo (upper right) is a free-standing unit and can be separated by as much as 20 feet from the previous module. The attached expansion module (lower right) permanently joins to the base unit and stacks vertically, keeping the footprint to a minimum. Additional test points are accessed by attaching a 64-conductor flat cable to the headers along the front.



256 Test Points  
M3 (Item 821, left) connects to an M3 Expansion Module (Item 822).



512 Test Points  
M3 (Item 821) joined to three M3-AEX Modules (Item 823).

# Custom Test Fixtures

for Unusual Connectors, Multi-Headed Cables, and Wire Harnesses

## ADAPT TO CUSTOM FIXTURES

- Use Custom Fixtures Built for Other Cable Test Equipment
- Build New Fixtures for Unusual Applications

Our optional PinMap™ software (Item 708) lets you link any of your custom test fixtures or adapter cables to CableEye's connector library and database. Using PinMap, you create a separate "map" file containing a look-up table that shows how each connector pin on your custom fixture is wired to the test-point bus. At the same time, you may assign a name of your choice to the connector graphic and a socket number to correspond with a label on your fixture or adapter cable. For wiring harnesses or special applications, PinMap lets you enter a custom label for each pin of up to seven alphanumeric characters. This option is a must for anyone doing prototyping or using unusual connectors, and can be extremely helpful when testing cable harnesses or cables with three or more connectors. The Map file name is saved in the database along with the wiring data allowing automatic setup after you create the initial Map.



Build a custom connector interface (above) and use PinMap to link it to CableEye's graphic images and database (below).

Pin ID	Relative TestPt	Absolute TestPt	Label
1		68	D9:5H
2	8	72	D9:1
3	13	77	D9:2
4	11	75	D9:3
5	9	73	D9:4
6	3	67	D9:5
7	14	78	D9:6
8	12	76	D9:7
9	10	74	D9:8
10	15	79	D9:9
11	U	U	
12	11	11	

# Visit Our Web Site!

## Here's Why:

- Get the Latest Information on Our New Products and Software
- See Actual Video Screen Shots of Cable Wiring
- Use Our "Board Finder" to Locate the Right Connector Boards for Your Cables
- Test Drive CableEye with Our Hyperlinked "Applications Guide"
- Review Published Articles about PC-Based Cable Test and CableEye
- Check Our On-Line Catalog



[www.camiresearch.com](http://www.camiresearch.com)



## Technical Specifications

Model, Catalog Item	<b>M2-Basic</b> (Item 810) <i>Tests for opens and shorts.</i>	<b>M2</b> (Items 811, 812, 813) <i>Tests for opens and shorts; expandable.</i>	<b>M3</b> (Items 821, 822, 823) <i>Tests for opens, shorts, and resistance; expandable.</i>
Test Points	128, not expandable	Switch selectable to 64, 128, or 152, expandable to 1024	Switch selectable to 64, 128, or 152, expandable to 1024
Acquisition Time	250 ms	250 ms at 128 TP	500 ms at 128 TP
Serial Interface	115,200 Baud, EIA232D	115,200 Baud, EIA232D	115,200 Baud, EIA232D
Resistance Threshold	Fixed, 46K $\Omega$	Fixed, 46K $\Omega$	Adjustable, 0.5 $\Omega$ to 10 M $\Omega$
Isolation Testing	(none)	(none)	1 K $\Omega$ to 10 M $\Omega$
Resistance Measurement	(none)	(none)	Embedded resistors, networks, customizable tolerance setting, continuous resistance test cycling.
Test Signals	0-5 vDC Bidirectional, 0.2ma	0-5 vDC Bidirectional, 0.2ma	0-10 vDC Bidirectional, 1ma
Test Point Connectors	Two 64-pin Dual-Row Headers	Two 64-pin Dual-Row Headers plus a 24-pin Dual-Row Header	Two 64-pin Dual-Row Headers plus a 24-pin Dual-Row Header
Remote Control Socket	(none)	Extends TEST pushbutton, LED indicators; footswitch control	Extends TEST pushbutton, LED indicators; footswitch control
Probe Socket	(none)	For guided assembly & PinMap	For guided assembly & PinMap
Power (power supply included)	150ma @ 9 vDC unreg.	165 ma @ 9 vDC unreg.	300 ma @ 18 vDC unreg.
Test Logic	All mathematically possible combinations of test points are measured to exhaustively check wiring connections. Complex networks of wiring, and wiring harnesses with many connector heads, may be measured, stored, and compared to matching wiring even when the graphic image becomes too involved for clear presentation.		
Computer Requirements	Intel 486 machine or higher, Windows 95, 98, ME, NT, 2000, XP, Compatible with laptop PCs. COM port used for Test Fixture. Print to parallel port or network printers; laser, inkjet, thermal.		
Warranty	One year, with free tech support and software updates, extended warranty available after first year.		

**CAMI**    
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