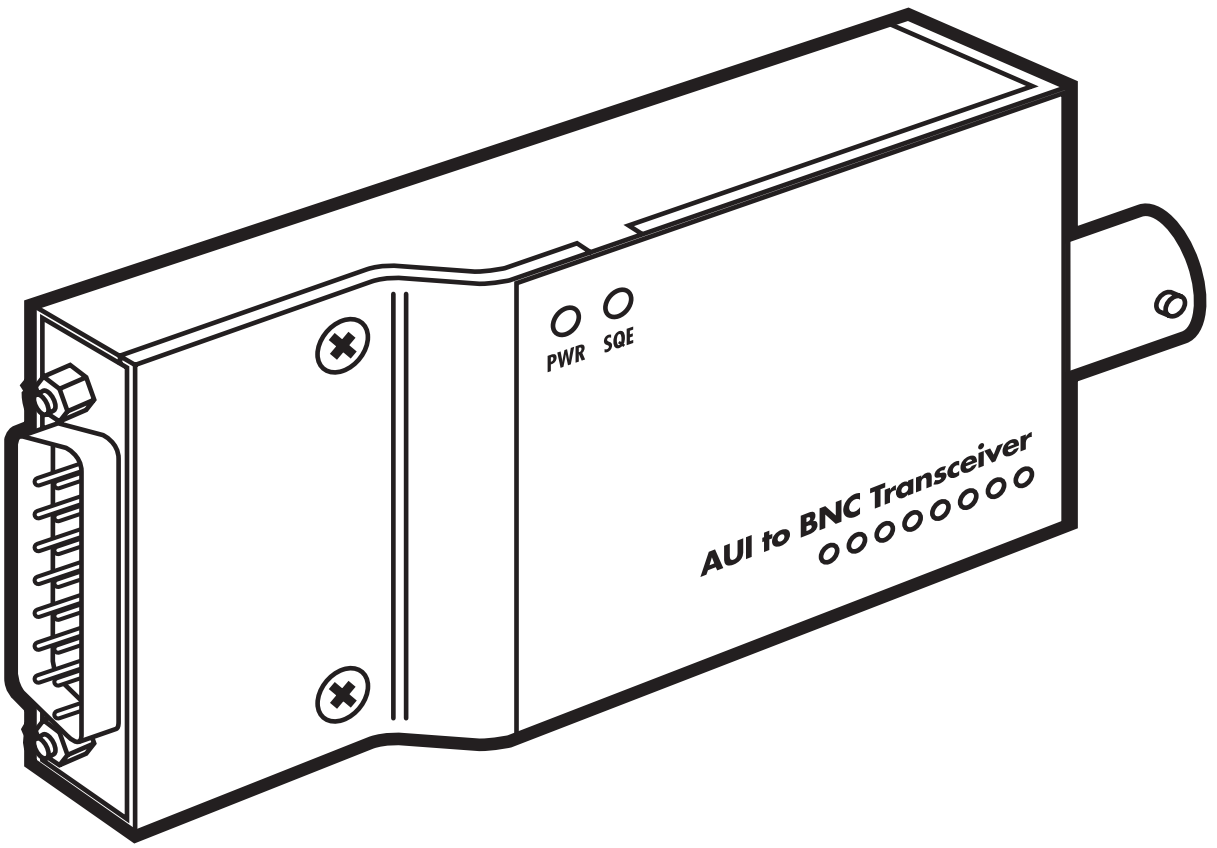
1000 Park Drive • Lawrence, PA 15055-1018 • 724-746-5500 • Fax 724-746-0746

BLACK BOX®
NETWORK SERVICES

MAY 2003
LE1601A

AUI to BNC Transceiver



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S.: Call **877-877-BBOX** (outside U.S. call **724-746-5500**)
FREE technical support 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mailing address: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: **www.blackbox.com** • E-mail: **info@blackbox.com**

FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS (continued)

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

TRADEMARKS USED IN THIS MANUAL

Any trademarks mentioned in this manual are acknowledged to be the property of the trademark owners.

Contents

1. Specifications

Standards: IEEE 802.3

User Controls: SQE switch

Maximum Coaxial Cable Segment Distance: Up to 606.8 ft. (185 m)

Speed: 10 Mbps

Connectors: (1) DB15 AUI M, (1) BNC F

Indicators: LEDs: (1) Power, (1) SQE

Temperature Tolerance:
Operating: 32 to 122°F (0 to 50°C);
Storage: -40 to +212°F (-40 to +100°C)

Relative Humidity:
Operating: 8 to 80%, noncondensing;
Storage: 5 to 98%, noncondensing

Power: From the AUI interface

Size: 0.8"H x 1.6"W x 3.8"D
(2 x 4.1 x 9.7 cm)

Weight: 0.2 lb. (<0.1 kg)

2. Introduction

2.1 Description

The AUI to BNC Transceiver lets you connect an Ethernet device (such as a LAN card installed in a PC, or a bridge, router, hub, or repeater) to thin Ethernet coaxial cable. It connects either directly to the AUI port on the Ethernet device or via a standard AUI cable. The transceiver complies with IEEE 802.3 transceiver specifications.

2.2 What the Package Includes

Your package should include the following items:

- (1) AUI to BNC Transceiver

- (1) BNC T-connector
- This users' manual

If anything is missing or damaged, please contact Black Box at 724-746-5500.

2.3 Features

- Provides a complete AUI to thin Ethernet (10BASE2) interface, including transmit, receive, collision, and jabber functions, and SQE (signal quality error) test.
- Supports message traffic at a data rate of 10 Mbps.
- Extends a coaxial cable segment up to 606.8 feet (185 m) without a repeater.

- Supports system configurations using the CSMA/CD access mechanism defined in the IEEE Local Area Network specifications.

3. Installation

3.1 Disabling SQE Test

When the transceiver is attached to a LAN card, bridge, or router, the SQE switch (located on the bottom of the transceiver) should be ON.

When the transceiver is attached to a hub or repeater, the SQE switch should be OFF.

NOTE

The transceiver is shipped from the factory with the SQE (heartbeat) test enabled (ON).

3.2 Installing the Transceiver

1. Turn the power to the network device off.

2. Connect a BNC T-connector to the transceiver's BNC female connector, then connect thin coax cable to the T-connector. If only one end of the T-connector is connected, install a 50-ohm BNC terminator on the other end.

3. Use a standard AUI cable (50 ft. [15.2 m] long) to connect an Ethernet device to the transceiver's DB15 AUI connector, or directly mount the transceiver to a DTE.

4. Turn the power to the network device back on. Verify that the Power LED on the transceiver is on.

Once the transceiver is installed, it operates automatically in half-duplex mode. When the SQE LED lights, a collision is detected on the AUI port.

4. Troubleshooting

4.1 Calling Black Box

If you determine that your AUI to BNC Transceiver is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box at 724-746-5500.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem.
- when the problem occurs.

- the components involved in the problem.

- any particular application that, when used, appears to create the problem or make it worse.

4.2 Shipping and Packaging

If you need to transport or ship your AUI to BNC Transceiver:

- Package it carefully. We recommend that you use the original container.

- If you are shipping the transceiver for repair, make sure you include everything that came in the original package. Before you ship, contact Black Box to get a Return Authorization (RA) number.

Appendix. AUI (DB15) Connector Pinout

Pin	Symbol	Name/Function
1	CI-S	Control-In Shield: The shield for the CI twisted pair in the AUI cable.
2	CI-A	Control-In Circuit A: The positive signal for the CI circuit. With CI-B, CI-A is an output current driver pair to the CI circuit. This output pair is activated when a collision is detected on the network, either during self-test (heartbeat) as the SQE test sequence or after the watchdog timer has expired to indicate that the transmitter is disabled.

AUI TO BNC TRANSCEIVER

Pin	Symbol	Name/Function
3	DO-A	Data-Out Circuit A: The positive signal for the DO circuit. With DO-B, DO-A is a differential receiver input pair from the DO circuit. This input pair receives 10-Mbps Manchester-encoded data from the AUI transceiver cable, which is driven by the DTE (terminal or computer).
4	DI-S	Data-In Shield: The shield for the DI twisted pair in the AUI cable.
5	DI-A	Data-In Circuit A: The positive signal for the DI circuit. With DI-B, DI-A is an output current driver pair to the DI circuit. This output pair drives the AUI transceiver cable with 10-Mbps Manchester-encoded data received from the coaxial cable wire of the network.
6	VC	Voltage Common
7	NC	Not Connected
8	NC	Not Connected

APPENDIX: AUI (DB15) Connector Pinout

Pin	Symbol	Name/Function
9	CI-B	Control-In Circuit B: The negative signal for the CI circuit. With CI-A, CI-B is an output current driver pair to the CI circuit. This output pair is activated when a collision is detected on the network, either during self-test (heartbeat) as the SQE test sequence or after the watchdog timer has expired to indicate that the transmitter is disabled.
10	DO-B	Data-Out Circuit B: The negative signal for the DO circuit. With DO-A, DO-B is a differential receiver input pair from the DO circuit. This input pair receives 10-Mbps Manchester-encoded data that is driven by the DTE (terminal or computer).
11	DO-S	Data-Out Shield: The shield for the DO twisted pair in the AUI cable.

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Pin	Symbol	Name/Function
12	DI-B	Data-In Circuit B: The negative signal for the DI circuit. With DI-A, DI-B is an output current driver pair to the DI circuit. This output pair drives the AUI transceiver cable with 10-Mbps Manchester-encoded data received from the coaxial cable wire of the network.
13	VP	Voltage Plus: The power supply to the transceiver.
14	VS	Voltage Shield
15	NC	Not Connected
Shell	PG	Protective Ground: Chassis ground from the DTE. This circuit is connected to the outer shell of the transceiver.