



MTU242A-CM
August 2000



G.703 75/120 Adapter
with Cables

Copyright 2000, Black Box Catalogue, Ltd.

464 Basingstoke Road, Reading, Berkshire RG2 0QN

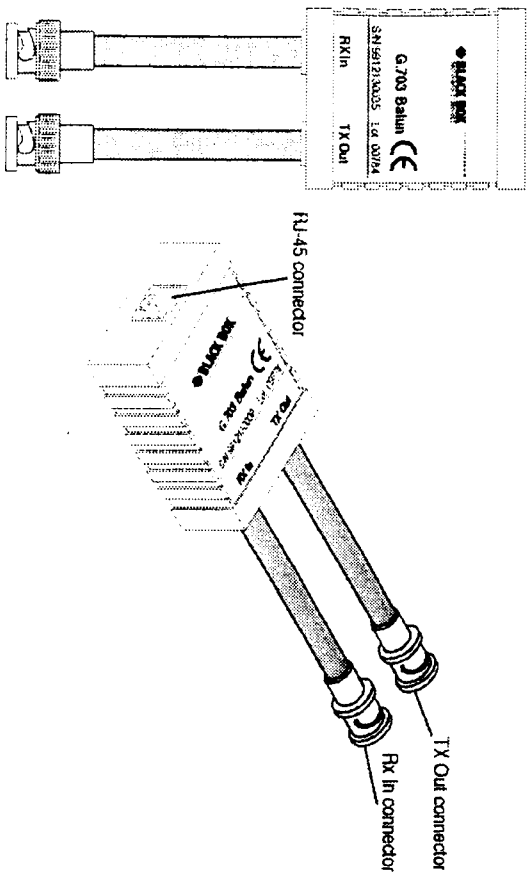
TECHNICAL: (0118) 965 6000
SALES: (0118) 965 5100
FAX: (0118) 965 5001
ADDRESS: 464 Basingstoke Road, Reading, Berkshire RG2 0QN
WEB: www.blackbox.co.uk

CE Notice

The CE symbol on your Black Box equipment indicates that it is in compliance with the Electromagnetic Compatibility (EMC) directive of the European Union (EU). A Certificate of Compliance is available by contacting Black Box Technical Support.

Product Description

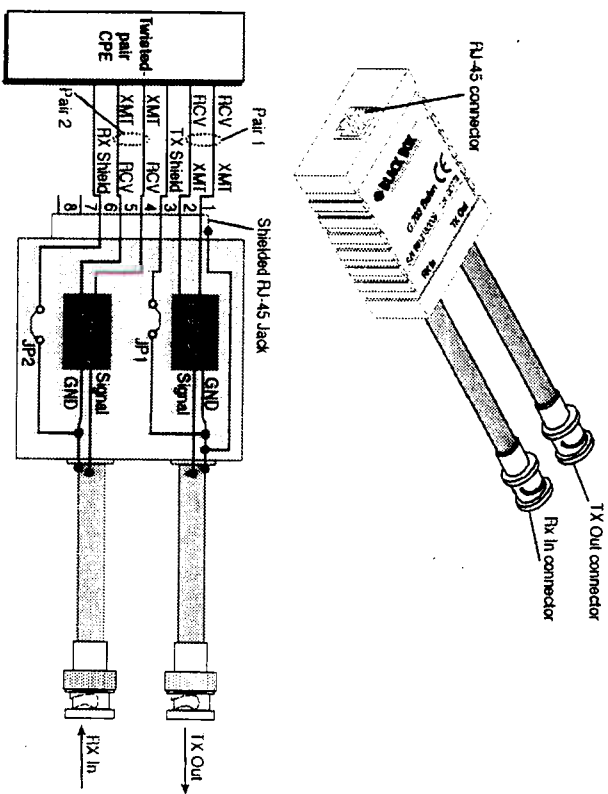
The **MTU242A-CM** allow 75 Ohm coax hardware to communicate with 120 Ohm twisted pair equipment. The **MTU242A-CM** specifically address the ONP requirement that European PTIs offer 120 Ohm twisted pair terminations to their customers. Some PTIs and private carriers are standardized on 75 Ohm coax, or have customers whose CPE has only 75 Ohm coax connections. The G.703 75/120 Adapter Series present a ready solution to this termination mismatch by allowing a bi-directional conversion of coax (75 Ohm) to a twisted pair (120 Ohm), supporting data rates to E1 (2.048 Mbps). The signals output by them are scaled to match the pulse shape requirements specified by the CCITT G.703 standard.



RJ-45 Jack Descriptions

Shielded RJ-45 Jack:

- ⚡ Pins 1 and 2 are the balanced inputs. The balanced signals are converted to an unbalanced signal on the center conductor of the TX Out coax connector.
- ⚡ The unbalanced signal from the RX In coax connector is converted to balanced signals on pins of the RJ-45.
- ⚡ The shield of the RX In connector may be connected to RJ-45 pin 6 by jumper JP2 (on).
- ⚡ The shield of the TX Out connector is always connected to the shield around the RJ-45 connector. This connection may also be connected to RJ-45 pin 3 via JP1 (on).



Configuration

The following section describes configuring the MTU242A-CM. The MTU242A-CM is pre-set to work in most applications without additional configuration. The only parameter that is user-configurable is the shield connection between the 75 Ohm coax and 120 Ohm interfaces. The diagram on the following page shows how the shield is connected between the modular jack and dual BNCs. Removing the jumper breaks the connection.

The MTU242A-CM is most often used to bi-directionally convert CPE twisted pair terminations to CPE coaxial terminations.

RJ-45 (120 ohm) Jumper Coax BNC (75 ohm)

Pin 3 (TX Shield)..... JP1..... TX Out Shield
Pin 6 (RX Shield)..... JP2..... RX In Shield

The factory setting leaves both jumpers JP1 and JP2 (see figure above) in place, thus passing both shield connections through. To break one or both of the shield connections, follow the instructions on the next page.

- 1) Insert a flat blade screwdriver into the slot on the side of the MTU242A-CM case and twist. The case will pop open, exposing the PC board.
- 2) Holding the PC board with the modular jack facing left, locate jumper JP1 toward the top of the board and JP2 toward the bottom of the board. Remove the desired jumper(s) to break one or both shield connections.

NOTE: Do not lose the jumper(s).

- 3) Re-align the case halves and end inserts and snap the case halves back together.

Installation

The sections below describe installing the MTU242A-CM.

Installing the MTU242A-CM

Do the following:

- 1) Refer to the pin configuration below when assembling the cable that will connect to the RJ-45 jack.

<u>RJ-45 Pins(s)</u>	<u>Function</u>
1 and 2.....	TX pair
3.....	TX shield
4 and 5.....	RX pair
6.....	RX shield

- 2) Plug the modular cable connector into the RJ-45 jack.
- 3) Connect the coaxial cables to the TX Out and RX In connectors. Congratulations, you have finished installing the MTU242A-CM.

Appendix A

Black Box G.703 75/120 Adapter Series Specifications

Transmission Line:	ITU/CCITT G.703 (unstructured)
Data Rate:	2.048 Mbps maximum
Unbalanced Coaxial Connection:	Dual coax BNC connectors, male or female (RG 59 or 2002 coax) and Nominal Line Impedance = 75 Ohms
Balanced Twisted Pair Connection:	Single 8-pin RJ-45 jack, shielded (two twisted-pair), Nominal Line Impedance = 120 Ohms and 4-position, removable terminal block
Power Supply:	None required, passive device
Operating Temperature:	0-50 ° Celsius (32-122 ° Fahrenheit)
Coaxial Twisted Pair Isolation:	1500V rms
Compliance:	CE approved
Dimensions:	0.8H x 1.7W x 2.7D in. (6.86H x 4.32W x 2.03D cm.)

How To Contact your Local Black Box

Italy:	Australia:
Black Box Italia S.P.A	Black Box Catalog Australia PTY LTD
Tel: 0227400280	Tel: 0398797100
Fax: 0227400219	Fax: 0398702955
www.blackbox.it	
Germany:	Brazil:
Black Box Deutschland	Black Box Do Brasil
Tel: 0811/5541-0	Tel: (011) 5515-4000
Fax: 0811/5541-499	Fax: (011) 5515-4002
www.blackbox-deutschland.com	www.blackbox.com.br
Switzerland:	Canada:
Datacom Black Box Services AG	Black Box Canada Corp.
Tel: 0554517070	Tel: 0416-736-8000
Fax: 0554517075	Fax: 0416-736-7348
www.black-box.ch	www.blackbox.com
Netherlands:	Mexico:
Black Box Datacom BV	Black Box De Mexico S.A. de C.V
Tel: 03032417799	Tel: 05-420-0100
Fax: 0302414746	Fax: 05-420-0123
www.blackbox.nl	www.blackbox.com.mx
Belgium:	Japan:
Black Box	Black Box Catalog
Tel: 027258550	Tel: 03-3820-5011
Fax: 027259212	Fax: 03-3820-5010
www.blackbox.be	www.blackbox.co.jp
France:	U.S.A.:
Black Box Catalogue	Black Box Corporation
Tel: 0145606700	Tel: 724-746-5500
Fax: 0145606747	Fax: 724-746-0746
www.blackbox.fr	www.blackbox.com
Spain:	Chile:
Black Box Comunicaciones S.A.	Black Box Chile
Tel: 34 91 663 0200	Tel: 00 562 223 8811
Fax: 34 91 661 84 35	Fax: 00 562 225 1002
www.blackbox.es	www.blackbox.cl