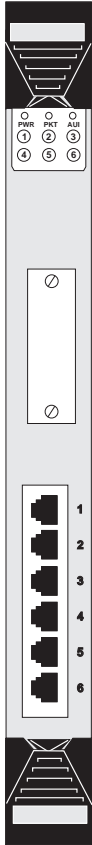


Using The LEDs For Fault Diagnosis

The panel of LEDs on the front of the module provides simple at-a-glance fault diagnosis.



PWR (Power)	Green on	Power present, self-test completed successfully and module operating in non-isolated mode.
	Green flashing	Self-test (typically about 10 seconds duration) is in progress after installation or chassis reset. Otherwise, the module is in isolated mode.
	Amber on	A fault has occurred during self-test or in operation.
PKT (Packet)	Yellow on	Receive or collision activity has been detected on one of the enabled ports.
	Green on	Port is enabled and is not partitioned, and link pulse (TP only) is present.
AUI and 1 - 6	Green flashing	Port is disabled and is not partitioned, and link pulse (TP only) is present.
	Amber on	Port is enabled and is partitioned, and link pulse (TP only) is present.
	Amber flashing	Port is disabled and is partitioned, and link pulse (TP only) is present.
	Off	The link pulse (TP only) or transceiver modules not present.

Refer to The LinkBuilder MSH Chassis User Guide for lamp test details. During a test yellow LEDs are lit continuously and bicolor LEDs flash amber/green alternately.

DISCLAIMER

Information in this document is subject to change without notice and does not represent a commitment on the part of 3Com Ireland. 3Com Ireland reserves the right to revise or change this document without obligation of 3Com Ireland to notify any person of the revisions or changes. Information contained in this document is believed to be accurate at the time of publication but no liability whatsoever can be accepted by 3Com Ireland arising out of any use of this information. This document, or any part of it, must not be copied or reproduced on any medium without the prior consent of 3Com Ireland. In the unlikely event that this product is found to be damaged on arrival, or fails to function once installed, you should contact your distributor or reseller for advice.

ACKNOWLEDGEMENTS

3Com, SmartAgent and LinkBuilder are registered trademarks of 3Com Corporation. Registered trademarks are registered in the United States, and may or may not be registered in other countries.

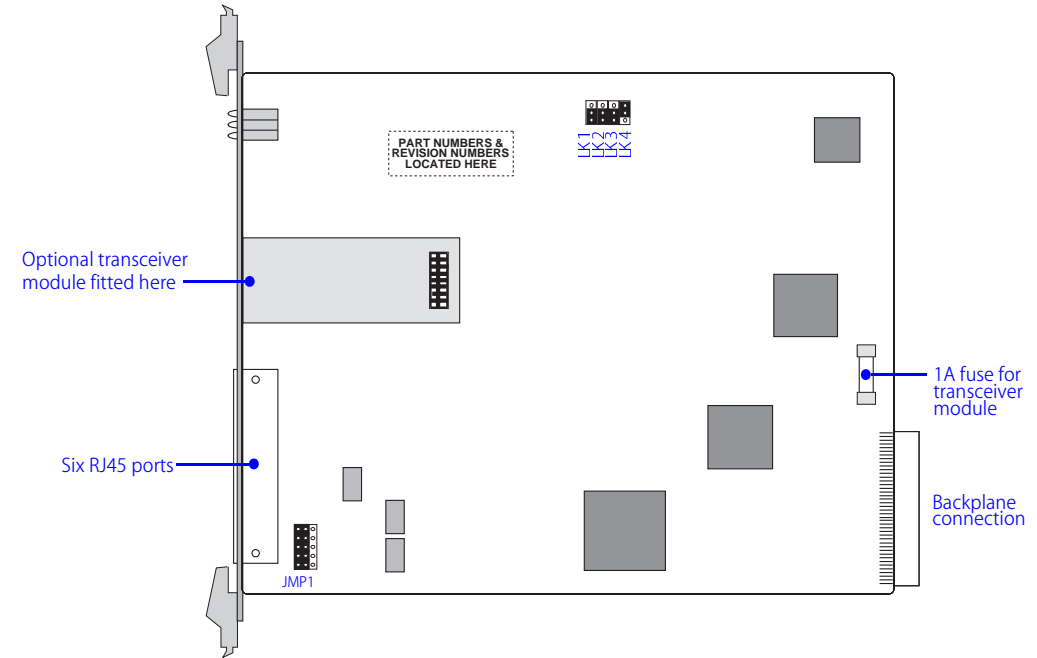
MSH is a trademark of 3Com Corporation.

Other brand and product names may be registered trademarks or trademarks of their respective holders.

Part Number: DUA1812-4AAA04
Revision: 00
Issued: June 26th, 1996
© 1996 3Com Ireland

LinkBuilder
MSH

SECURE 7 PORT 10BASE-T REPEATER MODULE (3C18124A) USER GUIDE



Link Number	Default Positions	Other Positions		
LK 1 Power up configuration	Ports enabled	Ports disabled		
LK 2 LSA setting	LSA disabled	LSA enabled		
LK 3 & LK 4 Select Ethernet Bus/ Isolate	Bus E1 selected	Bus E2 selected	Bus E3 selected	No Bus selected. Module isolated.
JMP 1 Port 12 connection, MDIX/MDI	Port 12 connects to an end-station	Port 12 connects to another TP repeater.		

You need SmartAgent version 4.1 or later to exploit fully the features of this module. A free upgrade is available from 3Com's bulletin boards, listed in the MSH Chassis User Guide.

For general information, warranty details and instructions about installing modules into the LinkBuilder MSH, please refer to 'The LinkBuilder MSH Chassis User Guide', part number DUA1800-0AAA0X.

Details of LinkBuilder local and network management functions are available in the manual which accompanies the MSH Management Module.

Safety Information



Please read the following safety information before installing the module.

- Installation of this module should be carried out by *qualified personnel only*.
- This module operates under SELV conditions (Safety Extra Low Voltage according to IEC 950), but only if connected to equipment that is also operating under SELV.
- To maintain the integrity of SELV circuits, only SELV connections should be made to the RJ45 data interface.
- The MSH chassis must be earthed.

Modules can be easily damaged by static:

- Do not remove the module from its anti-static packaging until you are ready to install it into the MSH chassis.
- Do not touch the pins, leads, connections or any components on the module.
- Handle modules only by their edges.
- Always wear an anti-static wristband connected to a suitable earth point.
- Always store or transport modules in anti-static packaging.

This guide is written for the installation engineer and the network administrator who manages and maintains the network.

After installation, this guide should be stored underneath the MSH chassis in the slot provided.



LAN Security Architecture features are effective only when a port is connected to one DTE (one device per segment).

Secure 7 Port 10BASE-T Module

The Secure 7 port 10BASE-T repeater module (RJ45/TCVR) provides these features:

- Full 802.3 repeater functions.
- The option to add a transceiver module, providing a seventh port.
- Support for local management functions.

Standard Management Functions

When a LinkBuilder Management Module is installed in the MSH chassis, the repeater supports the standard management functions described in the manual that accompanies the Management Module.

The key features of the Smart Module are:

- Each module supports a range of self-tests on power-up.
- Resilient links can be set up.
- The repeater can be dynamically configured to any one of the three backplane Ethernet buses, or isolated.
- All ports can be configured using network management.
- Statistics detailing activity at each port aid troubleshooting. These can be read using network management.
- MAC source addresses are collected for each port.
- LAN Security Architecture can be set up to protect your network.

User-Configurable Links

Links allow you to configure the module so that:

- The module is connected to one of three Ethernet backplane buses or isolated from the backplane as a separate network. Data is repeated to and from other modules connected to the same Ethernet backplane.
- All ports power up in disabled (required for resilient links) or enabled mode.
- LAN Security Architecture is enabled or disabled on power up.
- Port 6 can be configured for connection to an end-station (MDIX) or be one end of an inter-repeater link (MDI).
- Management can change the effect of all settings, except that of the end-station / inter-repeater link jumper.

Segment Connections and Media Types

The module is fitted with six RJ45 sockets to permit connection to six Twisted Pair segments.



WARNING: *RJ45 ports are shielded RJ45 data sockets. They cannot be used as telephone sockets. Only connect RJ45 data connectors to these sockets.*



AVERTISSEMENT: *Les ports RJ45 sont les prises de courant de données RJ45 protégées. Ils ne peuvent pas être utilisés comme prises de courant téléphoniques. Brancher seulement les connecteurs RJ45 de données à ces prises de courant.*



WARNUNG: *RJ45 ports. Hierbei handelt es sich um abgeschirmte RJ45 Datenbuchsen, die nicht als Telefonbuchsen verwendbar sind. Nur RJ45 Datensteckverbinder an diese Buchsen anschliessen.*

By fitting a transceiver module you can add a seventh port. This enables connection with a different transmission medium, for example optical fiber or coaxial thin Ethernet cable.

Cables

Your cables should comply with the IEEE 802.3 10Base-T standard.

Installation Overview

More detailed instructions can be found in 'The LinkBuilder MSH Chassis User Guide'.

- Ensure that the MSH is set up and operating correctly. Prepare a slot for the module, removing a blanking plate if necessary.
- Configure the links on the module as required. This module supports:
 - Resilience (ports disabled on power-up)
 - Ethernet bus selection or Isolation
 - End-station or Inter-Repeater Link (port 6)
 - LAN Security Architecture
- Install a transceiver module if required.
- Install the module into the MSH chassis. This module may be hot-inserted into any of the numbered module slots.
- Use RJ45 terminated cables to connect the module to end-stations or the patch panel.

Technical Information

Mechanical

Weight 620 gms (1.4 lbs)
Size 233.4 x 294 mm (9.2 x 11.6 in)

Electrical - Power Consumption

+12V (transceiver module fitted) 500mA
+5V supplied to logic circuits 2.5A

Power Supply And Fuses

Each module uses two separate voltages provided by Power Supply Unit(s) installed in the MSH chassis:

- +5V supplied to the logic circuits on the module. This supply is protected by a 5A fuse which is not replaceable.
- +12V supplied to external transceivers. This supply is protected by a 1A fuse on the module.



Only the 1A fuse can be replaced if it blows. The spent fuse must be replaced with one of the same manufacturer, type and rating.

Fault Diagnosis

- If you suspect a problem:
 - Check the chassis Power LED(s) is(are) not red.
 - Ensure the module is installed into the MSH chassis correctly.
 - Carry out a Lamp Test to check that all LEDs are functioning.
 - Check the LEDs on the front panel of the module, as described overleaf.
 - Check the configuration of the module.
 - Check that Security features have not disabled the ports.
 - Check that all cables, connectors, connections and transceivers are operational.
 - Test the module in another slot in the chassis. If the module operates correctly in one of the other slots, there is a problem with the MSH backplane.

If you cannot rectify the fault, contact your supplier, giving the module serial number (marked on the bottom module ejector), the revision number (marked on the module board) and a brief description of the fault. Your supplier will advise you on your next course of action.