

*Multimessage Systems Limited*

Dealer's stamp

10/100 Ethernet Switch  
User Guide

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**Model  
M402**

## **GUARANTEE**

Multimessage Systems Ltd. guarantees this product for one year from the date of purchase provided that:

- The product has only been used for its intended purpose, and has not been subjected to misuse, or been wilfully or accidentally damaged.
- The product has been installed according to the maker's Installation Instructions.
- The product has not been tampered with or repaired by anyone other than Multimessage Systems Ltd. or its approved agents.

If a fault occurs in this product within twelve months of purchase you should return it to where you bought it, together with the sales receipt, and it will then be replaced or repaired free of charge.

This guarantee does not affect your statutory rights and is applicable to the United Kingdom only.

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## INTRODUCTION

The Multimessage M402 is an eight port dual speed Ethernet switch. It enables the user to connect eight Ethernet devices together on the same network.

Connecting PCs together means that you can share printers, files, internet access, email facilities and play interactive network games.

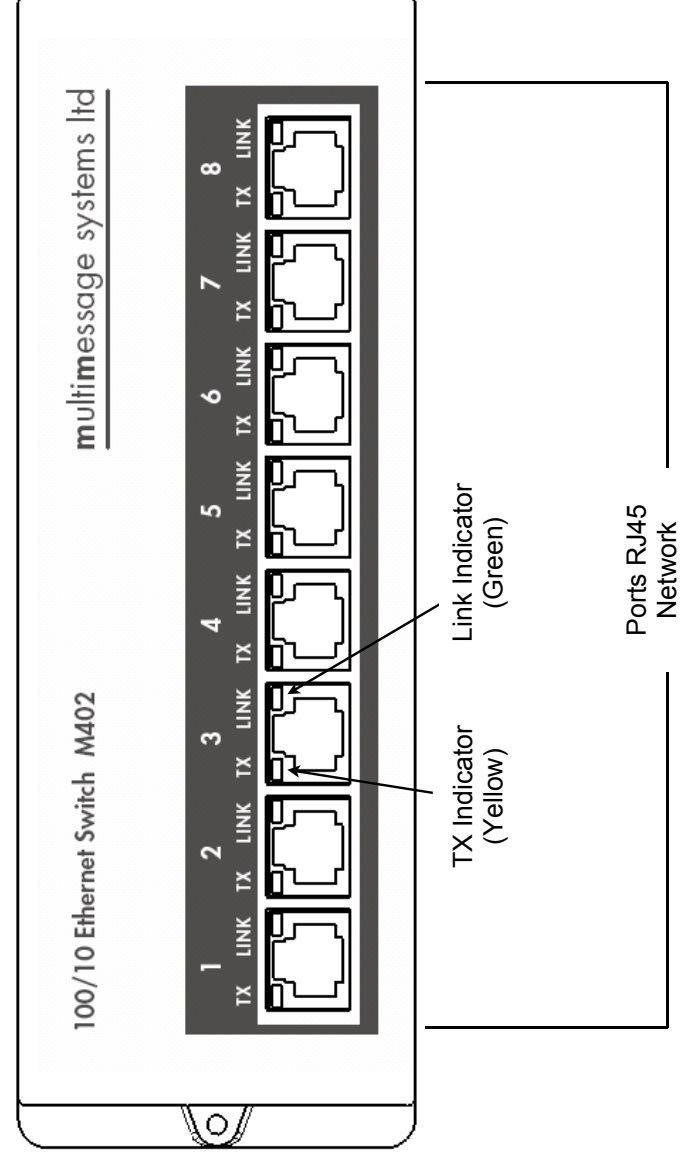
As the switch is dual speed the user can connect 10 megabits per second (Mbps) and 100 Mbps devices on the same network. This means that the network is compatible with fast up-to-date equipment as well as existing or slower equipment.

### M402 Features

The M402 has the following features:

- 8 ports, dual speed (100/10 Mbps)
- Full duplex IEEE 802.3x Flow Control
- Each port auto senses speed
- Automatic polarity detection / switching
- Internal bridging of 10 and 100 Mbps network segments to form one network
- Status indicators to show port activity
- Plug and Play, no software configuration required

# Product Illustration



## Front Panel Indicators

Indicator	Activity	Colour	Description
LINK	OFF	Green	No Link
TX	Slow Flash	Green	10 Mbps Link
	Fast Flash	Green	100 Mbps Link
	Flash	Yellow	Transmit Activity

### LINK

The Link indicator will light when a connection between the switch and a PC has been established. If the connection is a 10 Mbps Link the indicator will flash slowly. If the connection is a 100 Mbps Link the indicator will flash fast. If a cable is plugged in and the Link indicator for that port does not light then a wrong or defective cable has been used.

### TX

The TX indicator will flash when data is being transmitted from that port. If the indicator is not lit then it means that there is no data transmission, not that there may be an error with the connection.

## TECHNICAL NOTES

1. Interconnection circuits made to any port should be such that the equipment continues to comply with the requirements of EN60950 2.3 for SELV circuits. (The voltages in a SELV circuit shall not exceed 42.4V peak or 60V dc.) Advice should be sought from a competent engineer before such a connection is made.

2. Refer all servicing to qualified personnel or to the Multimessage Systems Customer Servicing Department at the address given on the back page of this handbook.

<b>Network Ports (RJ45)</b>	8
<b>Dimensions</b>	200mm l x 67mm wide x 33mm deep
<b>Weight</b>	270g
<b>Power Supply</b>	24V AC 50 Hz
<b>Power Consumption</b>	300mA maximum
<b>Supported Protocol</b>	IEE 802.3
<b>Temperature</b>	0 to 40°C working
<b>Relative Humidity</b>	0 to 95% (non-condensing)

Symptom	Cause	Solution
Link LED intermittent	Port not connected properly	Ensure patch lead is in good condition. Swap with known good lead to prove lead is not faulty.
		Ensure network lead is in good condition. Swap with known good lead to prove lead is not faulty.
		Incorrect cabling, connectors or wiring techniques may have been used. Ensure all cabling is Cat 5e and meets the requirements for 100 Mbps operation.
No TX LED during network activity	Computer configuration incorrect	Check installation of network card, verify that correct drivers have been loaded and the card is set-up correctly.

## INSTALLATION

The M402 should already be fitted into the M400 chassis by an installation engineer. If the M402 has not been installed please follow the installation guide supplied with the unit .

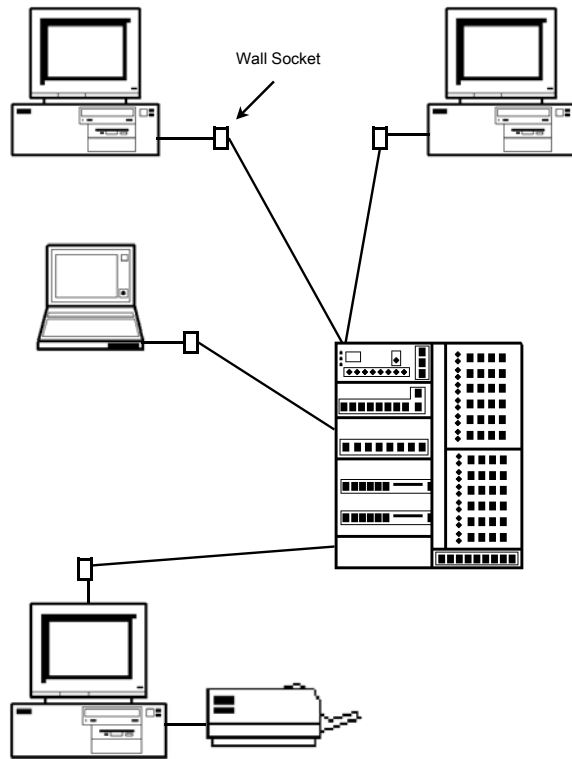
All equipment to be connected to the M402 must have an appropriate (10 Mbps or 100 Mbps) Ethernet adaptor fitted or be capable of connecting to an Ethernet link. If you are unsure check with your local computer dealer.

All connections to the M402 should be made with Category 5 UTP cables so that the network may operate at 100 Mbps.

### Installation of Ethernet Devices

- Select a socket in the room required to connect the computer to. Note down the number on the socket.
- On the patch panel, link the corresponding numbered socket on the patch side to one of the eight ports on the M402, using the appropriate coloured patch lead.
- Connect the computer's Ethernet adaptor to the allocated room socket , then power up the computer.
- Check on the M402 that the link indicator for the port being used shows there is a connection. See table later in this handbook.
- If the indicator shows that there is a link the network connection is ready for use.
- If no link is indicated follow the trouble shooting procedure. See later in this handbook.

## Typical Application



Connecting various computers together to enable the sharing of files or peripheral equipment such as printers. A computer with an internet connection can be set up as a server so that every computer on the network can have access to the internet.

## In Case of Difficulty

The M402 has been designed with the status indicators to help you diagnose and rectify any problems with your network. Problems are usually caused by faulty or disconnected cables and are very rarely serious.

If a fault occurs the first thing to do is turn off all the component parts of your network. Then turn on each part of the network and wait 30 seconds for the network to detect all the connected pieces of equipment. If this fails, use the following table for symptoms and solutions.

Symptom	Cause	Solution
No Link LED	Port not connected	Make sure that correct room socket has been patched in.
		Ensure all equipment is switched on.
		Ensure patch lead is in good condition. Swap with known good lead to prove lead is not faulty.
		Ensure network lead is in good condition. Swap with known good lead to prove lead is not faulty.
		Check installation of network card, verify that correct drivers have been loaded and the card is set-up correctly.