






Hub Manager records and displays hub utilization information. This information is then saved for future reference.


Hub Manager User Interface

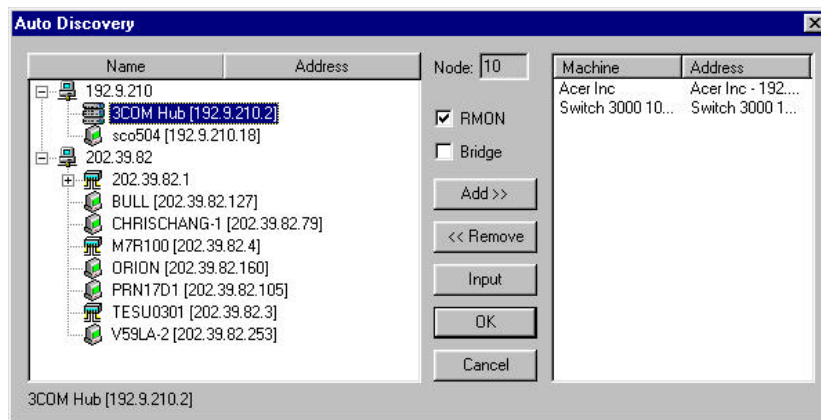
The toolbar buttons enable quick access to selected functions in Hub Manager through a single mouse click. You can also access these functions in the menu bar.



Icon	Descriptions
	Auto Discovery. Detects hub connection in a given network frame and displays all information about the hub.
	Setup Options. Options for changing the polling interval for hub information and the unit use to measure RMON information display.
	Information. Displays the setup window.
	Help. If you don't know what to do, click here.
	About..... Credits, etc.

Auto Discovery

Auto Discovery detects hub connection in a network and displays all the hubs. You can access the Auto Discovery screen by clicking the Auto Discovery icon () or by choosing **Operation** > **Auto Discovery**.



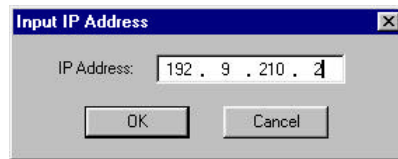
The hubs listed in the left panel are the hubs located by the auto discovery process.

To view information about these hubs:

1. You will find many devices found in network. The hub manager can recognize the 3COM Super Stack II and shown as icon (🖨️).
2. You also can click the device shown as icon (🖨️), the RMON or Bridge box will be checked if the highlighted device support RMON or Bridge group of SNMP.
3. Double clicking the device (🖨️), you can search another sub-net.
4. Highlight a hub in the left panel and click **Add>>**.

To remove a hub, highlight a hub in the right panel and click **<<Remove**.

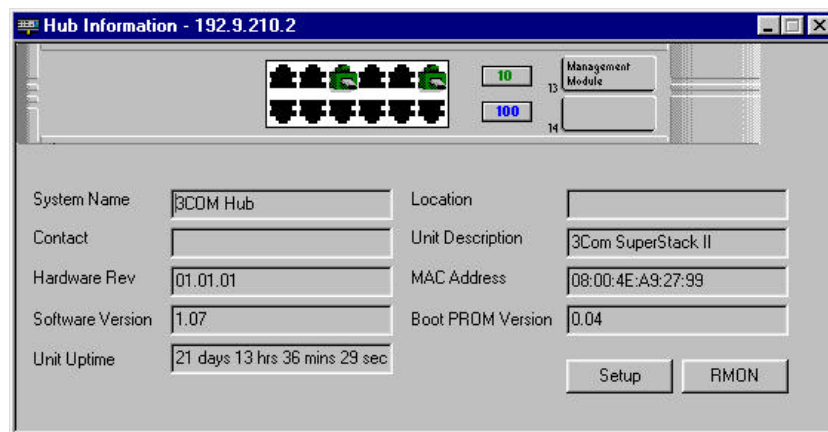
To manually add a hub, click **Manual Add**. The Input IP Address window displays. Type the IP address of the hub and click **OK**.



If the address is valid, the hub will be displayed otherwise you'll get an input error.

Hub Information for 3COM SuperStack II

Hub Manager specifically recognized 3COM SuperStack II hub devices . It can gather not only RMON information but also hub device information and port usage description.



To access RMON (Remote Monitoring) information, click the **RMON** button. The Hub RMON Information screen displays. For more information, please refer to the previous section „Hub RMON Information“.

To access the Setup Options dialog box, click **Setup**. For more information, please refer to the last section „Setup Options“.

Hub Information for General Hub

Except for 3COM SuperStack II hub devices, hub manager can also get hub device information and port usage description from general hub devices.

Port	On/Off	Speed/Mbits
1		
2		
3	On	10
4	On	100
5		
6		
7		
8		
9		
10		
11		
12		
13	On	10
14		

System Name: 3COM Hub

Location:

Contact:

Unit Description: 3Com SuperStack II

Unit Uptime: 2 days 13 hrs 17 mins 52 secs

MAC Address: 08:00:4E:A9:27:99

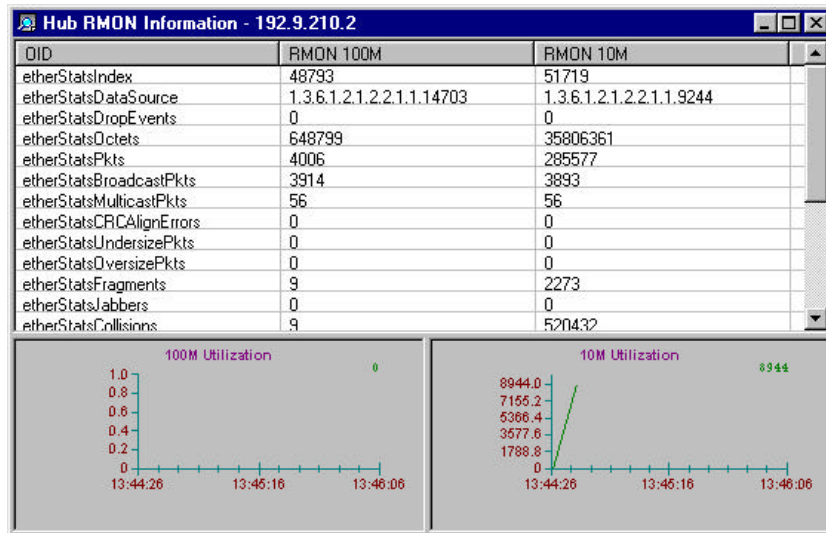
Buttons: Setup, RMON, Bridge

To access RMON (Remote Monitoring) information, click the **RMON** button. The Hub RMON Information screen displays. For more information, please refer to the section „Hub RMON Information“.

To access Bridge information, click the **Bridge** button. The Hub Bridge Information screen displays. For more information, please refer to the section „Hub Bridge Information“.

To access the Setup Options dialog box, click **Setup**. For more information, please refer to the last section „Setup Options“.

Hub RMON Information



The Hub RMON (Remote Monitoring) information screen displays the ethernet statistics group. This group contains statistics measured by the probe for each monitored interface on this device. These statistics take the form of free running counters that start from zero when a valid entry is created.

This window also shows a graph utilization of the 10M and 100M access to the hub.

The following is a brief description of the ethernet statistics group:

Item	Description
etherStatsIndex	The value of this object uniquely identifies this etherStats entry.
etherStatsDataSource	This object identifies the source of the data that this etherStats entry is configured to analyze.

Item	Description
etherStatsDropEvents	The total number of events in which packets were dropped by the probe due to lack of resources. Note that this number is not necessarily the number of packets dropped; it is just the number of times this condition has been detected.
etherStatsOctets	The total number of octets of data (including those in bad packets) received on the network (excluding framing bits but including FCS octets).
etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received.
etherStatsBroadcastPkts	The total number of good packets received that were directed to the broadcast address. Note that this does not include multicast packets.
etherStatsMulticastPkts	The total number of good packets received that were directed to a multicast address. Note that this number does not include packets directed to the broadcast address.
etherStatsCRCAlignErrors	The total number of packets received that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets, inclusive, but had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).

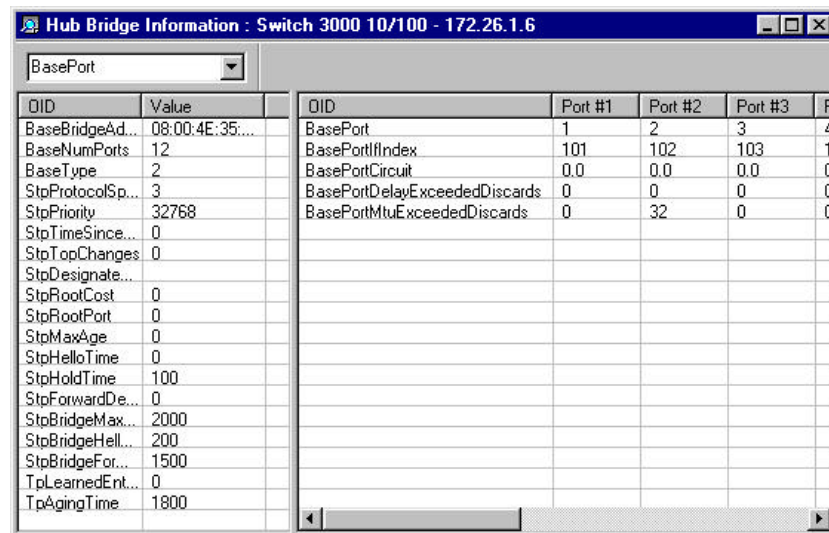
Item	Description
etherStatsUndersizePkts	The total number of packets received that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well formed.
etherStatsOversizePkts	The total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets) and were otherwise well formed.
etherStatsFragments	The total number of packets received that were less than 64 octets in length (excluding framing bits but including FCS octets) and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
etherStatsJabbers	The total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets), and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
etherStatsCollisions	The best estimate of the total number of collisions on this Ethernet segment.
etherStatsPkts64Octets	The total number of packets (including bad packets) received that were 64 octets in length (excluding framing bits but including FCS octets).

Item	Description
etherStatsPkts65to127Octets	The total number of packets (including bad packets) received that were between 65 and 127 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts128to255Octets	The total number of packets (including bad packets) received that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts256to511Octets	The total number of packets (including bad packets) received that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts512to1023Octets	The total number of packets (including bad packets) received that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts1024to1518Octets	The total number of packets (including bad packets) received that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsOwner	The entity that configured this entry and is therefore using the resources assigned to it.
etherStatsStatus	The status of this etherStats entry.

Hub Bridge Information

Base Group

Implementation of the Base group is mandatory for all bridges.



OID	Value	OID	Port #1	Port #2	Port #3	F
BaseBridgeAd...	08:00:4E:35...	BasePort	1	2	3	4
BaseNumPorts	12	BasePortIndex	101	102	103	1
BaseType	2	BasePortCircuit	0.0	0.0	0.0	C
StpProtocolSp...	3	BasePortDelayExceededDiscards	0	0	0	C
StpPriority	32768	BasePortMtuExceededDiscards	0	32	0	C
StpTimeSince...	0					
StpTopChanges	0					
StpDesignate...						
StpRootCost	0					
StpRootPort	0					
StpMaxAge	0					
StpHelloTime	0					
StpHoldTime	100					
StpForwardDe...	0					
StpBridgeMax...	2000					
StpBridgeHell...	200					
StpBridgeFor...	1500					
TpLearnedEnt...	0					
TpAgingTime	1800					

Item	Description
BaseBridgeAddress	The MAC address used by this bridge when it must be referred to in a unique fashion.
BaseNumPorts	The number of ports controlled by this bridging entity.
BaseType	Indicates what type of bridging this bridge can perform. If a bridge is actually performing a certain type of bridging this will be indicated by entries in the port table for the given type.

The Generic Base Port Table

Item	Description
BasePort	The port number of the port for which this entry contains bridge management information.
BasePortIfIndex	The value of the instance of the ifIndex object, defined in [4,6], for the interface corresponding to this port.
BasePortCircuit	For a port which (potentially) has the same value of BasePortIfIndex as another port on the same bridge, this object contains the name of an object instance unique to this port.
BasePortDelayExceededDiscards	The number of frames discarded by this port due to excessive transit delay through the bridge. It is incremented by both transparent and source route bridges.
BasePortMtuExceededDiscards	The number of frames discarded by this port due to an excessive size. It is incremented by both transparent and source route bridges.

STP Group

Implementation of the Stp group is optional. It is implemented by those bridges that support the Spanning Tree Protocol. Transparent, Source Route, and SRT bridges will implement this group only if they support the Spanning Tree Protocol.

Item	Description
StpProtocolSpecification	An indication of what version of the Spanning Tree Protocol is being run.
StpPriority	The value of the write-able portion of the Bridge ID, i.e., the first two

Item	Description
	octets of the (8 octet long) Bridge ID. The other (last) 6 octets of the Bridge ID are given by the value of BaseBridgeAddress.
StpTimeSinceTopologyChange	The time (in hundredths of a second) since the last time a topology change was detected by the bridge entity.
StpTopChanges	The total number of topology changes detected by this bridge since the management entity was last reset or initialized.
StpDesignatedRoot	The bridge identifier of the root of the spanning tree as determined by the Spanning Tree Protocol as executed by this node. This value is used as the Root Identifier parameter in all Configuration Bridge PDUs originated by this node.
StpRootCost	The cost of the path to the root as seen from this bridge.
StpRootPort	The port number of the port which offers the lowest cost path from this bridge to the root bridge.
StpMaxAge	The maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded, in units of hundredths of a second. This is the actual value that this bridge is currently using.

Item	Description
StpHelloTime	The amount of time between the transmission of Configuration bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of hundredths of a second. This is the actual value that this bridge is currently using.
StpHoldTime	This time value determines the interval length during which no more than two Configuration bridge PDUs shall be transmitted by this node, in units of hundredths of a second.
StpForwardDelay	This time value, measured in units of hundredths of a second, controls how fast a port changes its spanning state when moving towards the Forwarding state. The value determines how long the port stays in a particular state before moving to the next state.
StpBridgeMaxAge	The value that all bridges use for MaxAge when this bridge is acting as the root.
StpBridgeHelloTime	The value that all bridges use for HelloTime when this bridge is acting as the root. The granularity of this timer is specified by 802.1d/D9 to be 1 second. An agent may return a badValue error if a set is attempted to a value which is not a whole number of seconds.
StpBridgeForwardDelay	The value that all bridges use for ForwardDelay when this bridge is acting as the root.

Item	Description
TpLearnedEntryDiscards	The total number of Forwarding Database entries, which have been or would have been learnt, but have been discarded due to a lack of space to store them in the Forwarding Database.
TpAgingTime	The timeout period in seconds for aging out dynamically learned forwarding information.

The Spanning Tree Port Table.

Item	Description
StpPort	The port number of the port for which this entry contains Spanning Tree Protocol management information.
StpPortPriority	The value of the priority field which is contained in the first (in network byte order) octet of the (2 octet long) Port ID. The other octet of the Port ID is given by the value of StpPort.
StpPortState	The port's current state as defined by application of the Spanning Tree Protocol.
StpPortEnable	The enabled/disabled status of the port.
StpPortPathCost	The contribution of this port to the path cost of paths towards the spanning tree root which include this port.

Item	Description
StpPortDesignatedRoot	The unique Bridge Identifier of the Bridge recorded as the Root in the Configuration BPDUs transmitted by the Designated Bridge for the segment to which the port is attached.
StpPortDesignatedCost	The path cost of the Designated Port of the segment connected to this port. This value is compared to the Root Path Cost field in received bridge PDUs.
StpPortDesignatedBridge	The Bridge Identifier of the bridge which this port considers to be the Designated Bridge for this port's segment.
StpPortDesignatedPort	The Port Identifier of the port on the Designated Bridge for this port's segment.
StpPortForwardTransitions	The number of times this port has transitioned from the Learning state to the Forwarding state.

TP Group

Implementation of the Tp group is optional. It is implemented by those bridges that support the transparent bridging mode. A transparent or SRT bridge will implement this group.

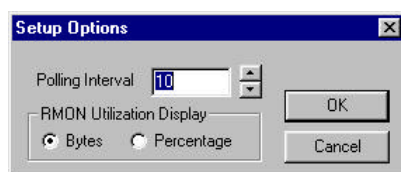
The Forwarding Database for Transparent Bridges:

Item	Description
TpFdbAddress	A unicast MAC address for which the bridge has forwarding and/or filtering information.
TpFdbPort	Either the value '0', or the port number of the port on which a frame having a source address equal to the value of the corresponding instance of TpFdbAddress has been seen. A value of '0' indicates that the port number has not been learned but that the bridge does have some forwarding/filtering information about this address (e.g. in the StaticTable).
TpFdbStatus	<p>The status of this entry. The meanings of the values are:</p> <p>other (1) : none of the following</p> <p>invalid (2) : this entry is no longer valid</p> <p>learned (3) : the value of the corresponding instance of TpFdbPort was learned, and is being used</p> <p>self (4) : the value of the corresponding instance of TpFdbAddress represents one of the bridge's addresses. The corresponding instance of TpFdbPort indicates which of the bridge's ports has this address</p> <p>mgmt (5) : the value of the</p>

Item	Description
	corresponding instance of TpFdbAddress is also the value of an existing instance of StaticAddress

Setup Options

This window allows you to change the polling interval of Hub Manager.



To change the polling interval, click on the up and down arrow key to increase and decrease the time or type in the number of seconds and press enter.



The input value should be between 1 to 60 seconds.

To switch the number of bytes to percentage display in the Hub RMON Information window, click the radio button.