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You can read the recommendations in the user guide, the technical guide or the installation guide for TRENDNET TEG-S2600I. You'll find the answers to all your questions on the TRENDNET TEG-S2600I in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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User guide TRENDNET TEG-S2600I
Operating instructions TRENDNET TEG-S2600I
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.. 144 -5- 1. Introduction TEG-S2600i is a high performance web-managed SNMP Layer 2 switch that provides users with 24 10/100Mbps Ethernet and 2 1000Mbps Gigabit ports. This Switch has SNMP management and remote control capabilities such as "Web Cluster".

The Gigabit module, which can be copper or fiber media, supports 1000BASE-SX, 1000BASE-LX or 1000BASE-T, allowing users to increase their network response time at gigabit speeds and with great flexibility. A RS-232 serial port provides an easy way for installation and initial set-up. Non-blocking and maximum wire speed performances are designed on all ports. The Switch not only supports Auto-Negotiation, but also Auto-MDIX function on all switched 24 10/100M RJ-45 ports and two Gigabit Copper ports in both half or full duplex mode. The Auto-MDIX function makes it convenient for the user, because it eliminates cabling on straight-line or cross-line issues.

TEG-S2600i provides a convenient way to operate layer 2 management through the browser. The User-friendly drop-down menu allows the user to easily learn, control and monitor. It supports not only traditional SNMP function, but also RMON 1,2,3,9 groups for advanced network analysis. A new management tool called "Single IP" is implemented here to provide the administrator an access right to enter private IP domain through a single real IP. By this management tool, network manager can remotely control his far-side servers in private IP domain without being there. The Switch also supports both port-based VLAN and Tag-based. To increase bandwidth application, it supports 7 groups with up to 4 ports Trunk, and moreover, these trunk ports provide fair-

over function to provide back up when one or more ports malfunction. A stacking mode is introduced here to enhance the ability of VLAN. An integrated UI not only displays the link status of the stacking sets, but also gives the easy way to set up their VLAN. Totally front access design and full LED status display ease user's installation and inspection and maintenance efforts at rack mount environments.

The extra LED display reflecting the fan status allows for quick diagnosis of over-heat issues. -6- 1.1 Unpacking Open the shipping carton of the Switch and carefully unpack its contents, the carton should contain the following items: TEG-S2600i Mounting Kit: 2 mounting brackets and screws Four rubber feet with adhesive backing. One AC power cord. One RS-232 cable This User's Guide (Disk or CD). 1.2 Installation You can use the following guidelines when choosing a place to install the Switch. The surface must support at 3 kg. Do not place heavy object on the Switch. Visually inspect the power cord and AC power connector.

Make sure that there is proper heat dissipation form and adequate ventilation around the Switch. Desktop or Shelf Installation: When installing the Switch on the desktop or shelf, the rubber feet included with the device should first be attached. Attach these cushioning feet on the bottom at each corner of the device. Allow adequate space for ventilation between the device and the objects around it. Rack Installation: The TEG-S2600i can be mounted in an EIA standard-sized, 19-inch rack, which can be placed in a wiring closet with other equipment.

To install, attach the mounting brackets on the switch side panels (one on each side) and secure them with the screws provided. Then, use the screws provided with the equipment rack to mount the switch on the rack. -7- Power on: The TEG-S2600i can be used with an AC power supply 100-240V AC, 50-60Hz. The AC power connector is located at the rear of the unit. The switch's power supply will adjust to the local power source automatically and may be turned on without having any or all LAN segment cables connected.

After the power switch is turned on, the LED indicators should respond as follows: All LED indicators will momentarily blink. This blinking of the LED indicators represents a reset of the system. The power LED indicator will blink while the Switch loads onboard software and performs a self-test.



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After approximately 20 seconds, the LED will light again to indicate the switch is in a ready state. The Speed, Link/Activity LED indicator may remain ON or OFF depending on every port's situation. The fan LED will be vanished if fan works normally, or LED goes RED if fan stop or failed. -8- 1.3 Initial set up for management There are two management ways can be chosen, one is out-of-band management, you work this way with a PC and connect your PC and switch through RS232 cable. The other way is in-band-management, you also work with a PC but connect your PC and switch through Ethernet network no matter local or remotely, or simply directly connect your PC and switch through an Ethernet cable. Before you activate the management function with the Switch, you have to read the instructions below carefully and do some proper setting to insure you can access the switch through your PC, then the switch devices will be replied or responded correctly as you wish.

1.3.1 out-of-band Terminal-mode Management First, turn on your PC and execute with terminal mode program, such as, if you are in Microsoft Window environment, you may choose "Hyper Terminal "from programs that are listed for communication. Then follow the steps below: Step 1: Set Hyper Terminal parameters on your PC Bits Rate per second = 57600 Parity = None Data Bits = 8 Stop Bit = 1 Flow Control = None Step 2: After setting the above on the PC, then connect your switch device with RS 232 cable, then type the "enter" key, then, the device will response the Main Menu to you and ask you answer the username and password. Then, Type the default value for the username and password to get further service, the default username is" admin" and default password "123 ". To know more about operation in this mode, please refer the instructions in chapter 4 of this manual to perform all function you want. -9- 1.3.2 In-band management through Ethernet In addition to terminal mode operation, TEG-S2600i also supports in-band management through browser, this function is much more user-friendly than terminal mode, because it can be operated through mouse on the PC screen and moreover it can be performed either locally or remotely through Ethernet. Before you can access the switch, you have to know following things.

First you have to know the IP Address and Subnet Mask of both your switch and your PC. The default value of the IP Address and Subnet Mask within the switch can be got through terminal mode operation described in chapter 4, while the IP Address and Subnet Mask of PC can be found in your PC system. Second, in general, within a network, the members in the same network domain must have the same Subnet IP unless there are routers between them, or, members in the same network domain can't talk to each others, so make sure the communication members in the same domain must have different IP Addresses and same Subnet Mask. Third, If there is a DHCP server in the network domain, be sure to enable the DHCP function both on your PC and the switch, then save the setting and reboot the switch again (power-off-and-on once), DHCP server and its protocol will automatically assign IP address and related IP Subnet Mask and - 10 - Default gateway, under this condition, you can execute your browser program in your PC and simply type http:// IP-Address-of-switch to access the switch through Ethernet or over internet. But if there is no DHCP in the network, then you must follow the steps instructed below: Fourth, Webpage login will prevent attacks from hackers.

If user continually fails in login for 3 times, http authentication will reject any http request until 3 minutes later. When there is no DHCP server in your network domain, according to the concept described above, you must modify either the PC side or switch side to match the rule "the communication members in the same domain must have different IP Addresses and same Subnet Mask. ", below, we try to state the steps if we modify the content of IP configuration within the switch to match the domain requirement of the PC: Step 1: Get the IP configuration information in your PC Step 2: Get IP configuration value used for switch from your network manager. Get an IP Address for your switch, get IP Subnet Mask, and get default gateway IP address (if needed) from your network manager. Step 3: Modify the IP configuration value within the switch to match the rule In the step 3, you must use the data that get from step 2 to modify the default value within the switch, to achieve this, use terminal mode operation mentioned in 1.

3.1. After modifying the IP address, Subnet Mask, Default Gateway in the switch, then save the setting and execute the browser program with http:// IP_Address_of_switch, then you may access the switch with following dialogue below. Then type user name and password to get further service. To find out more operation in this mode, please refer the instructions in chapter 3 of this manual to perform all function you want. - 11 - 1.3.3 Telnet management In addition to local terminal mode operation, TEG-S2600i supports remote management through Telnet over network or even over internet for that environment without browser. In this mode, user also has to do the same setting as required in in-band management to the IP Configuration before executing the Telnet program. Again, after proper setting to the switch, save the setting and connect your Ethernet cable from your PC to any port of the Ethernet Switch, then you can simply typing as following at the command line to access the switch: Telnet IP_Address_of_Switch The following dialogue below appears.

Type user name and password to get further service. To find out more operation in this mode, please refer the instructions in chapter 3 of this manual to perform all function you want. - 12 - 1.4 LED indicators information There are many LEDs on the front panel of switch, after the power on, these LEDs will reflect the current status truly within the switch, we explain below: There is one power LED on the left side of front panel, whenever power is applied, it lights with green, below it, there is Diagnostic LED, it will go blinking during the power-on diagnostics. There are two more FAN status LEDs aside the power LEDs, the upper one indicate the left fan status inside the switch, it vanishes when fan works normally, and will goes RED while fan is stop or with malfunction, the lower one indicates the same for the fan at right side within the switch. Each RJ-45 of 10/100M is with two LEDs built-in on its upper corner, left one indicates link status and activity, while the right one indicates the speed information. Each RJ-45 of 10/100/1000M for gigabit module (optional) is somewhat different. Upper yellow LED indicates for 10M LINK, middle green LED indicates for 100M LINK, but for 1000M, or Gigabit, both upper and middle LEDs are lit when gigabit port is link with other Gigabit port.



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LED Power Color Status Green Solid Turn solid green when power is applied to this device. Successful diagnostic.

Left side fan fail. Successful connection with Fast Ethernet. Successful connection with 100Mbps Fast Ethernet. Successful connection with 10Mbps Fast Ethernet. Blinking N/A during power on diagnostics N/A Sending , Receiving or collision packets N/A N/A Green DIAG Red FAN LINK/ACT Green 10/100M Green Vanish - 13 - 2.

Web Management Function 2.1. Web Management Home Overview This is a Home Page. At this page, you may see the basic switch information and module information. All information in these fields is read-only.

That is, user can't modify its contents. Description: Display the name of device type. MAC Address: The unique hardware address assigned by manufacturer (default) Firmware Version: Display the switch's firmware version. ASIC Version: Display the switch's ASIC version. On the top of web page, there is a link status from image of front panel; every port will be with a connector icon if this port is really linked with others, you also may click the function that listed at left. Below is the explanation of each function: 2-2. Port status 2-3. Port Statistics - 14 - 2-4. Show MAC Table 2-5. Administrator 2-6.

TFTP Update Firmware 2-7. Configuration Backup 2-8. Reset System 2-9. Reboot 2.2. Port status This page provides current status of every port that depends on user's setting and the negotiation result. 1. 2. 3. 4.

State: Display port statuses: disable or enable. "Unlink" will be treated as "off". Link Status: Down means "No Link", UP means "Link". Auto Negotiation: Display the auto negotiation mode: auto/force-force. Speed status: Display 1000Mbps or 100Mbps or 10Mbps speed, port 1- 24 are 10/100Mbps, Port 25-26 are 10/100/1000Mbps.

5. Duplex status: Display full-duplex or half-duplex mode. 6. Flow Control: Full: Display the flow control is enabled or disabled in full mode. Half: Display the backpressure is enabled or disabled in half mode.

7. Rate Control: Display the rate control setting. Ingr: Display the port effective ingress rate of user setting. Egr: Display the port effective egress rate of user setting. 8. Port Security: Display the port security is enabled or disabled. - 15 - 9. Config: Display the state of user setting. 10. Actual: Display the negotiation result.

2.2.1 Single port counter and status User can also click any port directly on the front panel of Home Page to get single port Status which is shown below. There is a flow rate historical chart on the right. User can track the flow rate of this port in the past 60 hours. Changing the scale will re-calculate the chart. - 16 - 2.3. Port Statistics There are three pages the switch provides for user to monitor the statistics of network traffic: Port Summary, RMON Statistics(1), RMON Statistics(1) Graph, RMON Statistics(2). The Above information provides a summary of the current switch's status, including on/off state, link status, good or bad packets of transmitting and receiving, packets of transmitting abort, packets of collision and drop packets.

The following two pages provide the statistics of RMON 1,2,3,9 groups. The first part collects the information about packets of frame size within ranges of 64 , 65-127, 128-255, 256-511, 512-1023, and 1024-1518 bytes, the total received packets and the total receives bytes. The second part collects the information about drop events, broadcast packets, multicast packets, alignment errors, undersize packets, oversize packets , fragments, jabbers and collisions. Press "Reset" button to clear all the counter. - 17 - - 18 - - 19 - 2.

4. Show MAC Table The following information provides a table of the current MAC address that the switch has learned. Press "Prev" or "Next" button will browse previous 50 or next 50 items. The "Top" button will re-list the table from the first MAC. A sorting function is implemented here. Clicking header on the top of table will bring a new sorted list of current content in the order of its title. For instance, clicking the "MAC" on the top of table will refresh the table by the index of "MAC". - 20 - 2.5. Administrator There are many management functions can be set or performed if you click the Administrator on Home Page, including: IP and Management mode Switch settings Console port information Port configuration Trunking IGMP and MAC Filter VLAN configuration Spanning tree Port Mirror SNMP/Trap Manager Security Manager 802.1x Configuration Ping Agent /Stacking Management 2.5.1. IP and Management mode User can modify the switch IP Settings by filling with the new value, then clicks "apply" button to confirm (save) his setting, then he must reboot switch, then new IP configuration value will be activated. The Management mode indicates which role this switch is currently playing.

"Agent Slave" means it is treated as a normal switch. "Agent Master" means the "Single IP" is activated and the switch is treated as agent manager. "Stacking slave" is used only when this switch is going to be a member of stacking set. This setting will force the switch to activate spanning tree protocol and some VLAN settings for preparation of stacking switches. "Stacking Master" does the same tasks too, but it plays the role of manager of the whole stacking switches. Only the "Stacking Slave" can be added into the members of a stacking set under one "Stacking master". The default management mode is "Agent Slave". The extra "Agent IP" setting is necessary for the "Single IP" management. It defines the IP and the subnet mask the master switch will be assigned, which are in the same IP domain as the managed - 21 - hosts' one. User can confine the "Single IP" function to local management by assigning the agent IP to the same one as switch IP.

Different from original IP forwarding method, it uses a method like webpage link and won't increase the loading of switch. "Agent IP "setting and "Agent management" in the main menu will not show up if the agent mode is set as "Slave". [Note] If any of the value is changed in this field, reboot is necessary. - 22 - 2.5.

2 Switch Setting 2.5.2.1 Advanced Miscellaneous Setting: MAC Address Age-out Time: Type the number of seconds that an inactive MAC address remains in the switch's address table. The valid range is 300~765 seconds. Default is 300 seconds. Max bridge transit delay bound control: Limit the packets queuing time in switch. If enable, the packets queued exceed will be drop. These valid values are 1sec, 2 sec, and 4 sec and off. Default is 1 seconds. NOTE: Make sure of "Max bridge transit delay bound control" is enabled before enable Delay Bound, because Enable Delay Bound must be work under "Max bridge transit delay bound control is enabled" situation.

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Broadcast Storm Filter: To configure broadcast storm control, enable it and set the upper threshold for individual ports. The threshold is the percentage of the port's total bandwidth used by broadcast traffic. When broadcast traffic for a port rises above the threshold you set, broadcast storm control becomes active. The valid threshold value is 5%, 10%, 15%, 20%, 25% and off.

Priority Queue Service settings: First Come, First Serve: The sequence of packets sent is depending on arrive orders. - 23 - All High before Low: The high priority packets sent before low priority packets. WRR: Weighted Round Robin. Select the preference given to packets in the switch's high-priority queue.

These options represent the number of high priority packets sent before one low priority packet is sent. For example, 5 High 2 Low means that the switch sends 5 high-priority packets before sending 2 low-priority packets. Enable Delay Bound: Limit the low priority packets queuing time in switch. Default Max Delay Time is 255ms. If the low priority packet stays in switch exceed Max Delay Time, it will be sent. The valid range is 1-255ms.

Qos Policy: High Priority Levels: 0~7 priority level can map to high or low queue. 2.5.2.2 Misc Config Collisions Retry Forever: Disable In half duplex, collision-retry maximum is 48 times and packet will be dropped if collision still happen.

Enable In half duplex, if happen collision will retry forever. Hash Algorithm: Choose algorithms, CRC-Hash or DirectMap, to maintain MAC address table. IFG Compensation: Enable or disable inter-frame gap (IFG) compensation. 802.1x Protocol: Enable or disable 802.

1x protocol. - 24 - 2.5.3 Console Port Information Console is a standard UART interface to communicate with Serial Port. User can use windows HyperTerminal program to link the switch. Connect To -> Configure: Bits per seconds: 57600 Data bits: 8 Parity: none Stop Bits: 1 Flow control: none - 25 - 2.5.4 Port Controls User may modify or change mode operation in this page. 1. State: User can disable or enable this port control.

2. Auto Negotiation: User can set auto negotiation mode is Auto, Nway (specify the speed/duplex on this port and enable auto-negotiation), Force of per port. 3. Speed: User can set 100Mbps or 10Mbps speed on Port1~Port24. User can set 1000Mbps, 100Mbps or 10Mbps speed on Port25~Port26 (depend on module card mode). 4. Duplex: User can set full-duplex or half-duplex mode of per port. 5. Flows control: Full: User can set flow control function is enable or disable in full mode. Half: User can set backpressure is enable or disable in half mode.

6. Rate Control: port1 ~ port 24, supports by-port ingress and egress rate control. For example, assume port 1 is 10Mbps, users can set its effective egress rate at 1Mbps and ingress rate at 500Kbps. Device will perform flow control or backpressure to confine the ingress rate to meet the specified rate. Ingress: Type the port effective ingress rate.

The valid range is 0 ~ 1000. The unit is 100K. 0: disable rate control. 1 ~ 1000: valid rate value Egress: Type the port effective egress rate. The valid range is 0~1000.

The unit is 100K. - 26 - 0: disable rate control. 1 ~ 1000: valid rate value. 7. Port Priority: Enable or disable the port priority function. There are two priorities (high or low) provided if port priority is enabled. 8. Port Security: A port in security mode will be "locked" without permission of address learning. Only the incoming packets with SMAC already existing in the address table can be forwarded normally. User can disable the port from learning any new MAC addresses, then use the static MAC addresses screen to define a list of MAC addresses that can use the secure port.

Enter the settings, then click Apply button to change on this page. - 27 - 2.5.5 Trunking The Link Aggregation Control Protocol (LACP) provides a standardized means for exchanging information between Partner Systems on a link to allow their Link Aggregation Control instances to reach agreement on the identity of the Link Aggregation Group to which the link belongs, move the link to that Link Aggregation Group, and enable its transmission and reception functions in an orderly manner. In conclusion, Link aggregation lets you group up to eight consecutive ports into a single dedicated connection. This feature can expand bandwidth to a device on the network. LACP operation requires full-duplex mode, more detail information refers to IEEE 802.3ad 2.5.5.

1 Aggregator setting 1. System Priority: A value used to identify the active LACP. The switch with the lowest value has the highest priority and is selected as the active LACP. Valid value is 1~65535. 2.

Group ID: There are seven trunk groups to provide configure. Choose the "group id" and click "Get". 3. LACP: If enable, the group is LACP static trunking group. If disable, the group is local static trunking group.

All ports support LACP dynamic trunking group. If connecting to the device that also - 28 - supports LACP, the LACP dynamic trunking group will be created automatically. 4. Work ports: Allow max four ports can be aggregated at the same time. If LACP static trunking group, the exceed ports is standby and able to aggregate if work ports fail. If local static trunking group, the number must be as same as the group member ports. 5. Select the ports to join the trunking group. Allow max four ports can be aggregated at the same time. 6.

If LACP enable, you can configure LACP Active/Passive status in each port on State Activity page. 7. Click Apply. 2.5.5.2 Aggregator Information When you are setting LACP aggregator, you can see relation information in here. 1. This page is no group active. LACP don't working.

2. This page is Static Trunking groups. 3. This page is Actor and Partner trunking one group. - 29 - 2.

5.5.3 State Activity Active (select): The port automatically sends LACP protocol packets. N/A (no select): The port does not automatically sends LACP protocol packets, and responds only if it receives LACP protocol packets from the opposite device. 1.

A link that has either two active LACP ports or one active port can perform dynamic LACP trunking. A link has two N/A LACP ports will not perform dynamic LACP trunking because both ports are waiting for and LACP protocol packet from the opposite device. If you are active LACP's actor, when you are select trunking port, the active status will be created automatically. 2. - 30 - 2.5.6 Filter Database 2.5.6.1.

IGMP Snooping The TEG-S2600i supports multicast IP. One can enable IGMP protocol on this web page, and then display the IGMP snooping information on this page. There are all multicast groups, VIDs and member ports in the list. IP multicast addresses range from 224.0.0.0 through 239.255.255.255. The Internet Group Management Protocol (IGMP) is an internal protocol of the Internet Protocol (IP) suite. IGMP can manage the multicast traffic if the members (switches, router or other network devices) of group support IGMP.



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With IGMP enable, the member ports will detect IGMP queries, report packets and manage the IP multicast traffic through the switch. IGMP have three fundamental types of message as follows: Message Description A message sent from the queries (IGMP router or switch) asking for a Query response from each host belonging multicast group. A message sent by a host to the queries to indicate that the host wants to be or Report is a member of a given group indicated in the report message.

Leave Group A message sent by a host to the queries to indicate that the host has quit being a member of a specific multicast group. - 31 - 2.5.6.2. Static MAC Address When you add a static MAC address, it remains in the switch's address table, regardless of whether the device is physically connected to the switch. This saves the switch from having to re-learn a device's MAC address when the disconnected or powered-off device is active on the network again. 1. 2. 3. 4. 5. 6. 7. 8.

At the main menu, click administrator Filter Database Static MAC Address. In the MAC address box, enter the MAC address to and from which the port should permanently forward traffic, regardless of the device's network activity. In the Port Number box, enter a port number. If tag-based (IEEE 802.1Q) VLANs are set up on the switch, static addresses are associated with individual VLANs. Type the VID (tag-based VLANs) to associate with the MAC address. Click the Add. Click the "Prev 50" will list the previous 50 MAC addresses. Click the "Top" will refresh the list from the first entry. Click the "Next 50" will list the next 50 MAC addresses.

- 32 - 2.5.6.3 MAC filtering MAC address filtering allows the switch to drop unwanted traffic. Traffic is filtered based on the destination addresses. 1. In the MAC Address box, enter the MAC address that wants to filter. 2. If tag-based (802.1Q) VLAN are set up on the switch, in the VLAN ID box, type the VID to associate with the MAC address.

3. Click the Add. 4. Choose the MAC address that you want to delete and then click the Delete. - 33 - 2.5.7. VLAN configuration A Virtual LAN (VLAN) is a logical network grouping that limits the broadcast domain. It allows you to isolate network traffic so only members of the VLAN receive traffic from the same VLAN members. Basically, creating a VLAN from a switch is logically equivalent of reconnecting a group of network devices to another Layer 2 switch.

However, all the network devices are still plug into the same switch physically. The TEG-S2600i supports port-based, 802.1Q (tagged-based) and protocol-based VLAN in web management page. In the default configuration, VLAN support is disabling. Support Port-based VLAN Packets can only be broadcast among members of the same VLAN group. Note all unselected ports are treated as belonging to another single VLAN. If the port-based VLAN enabled, the VLAN-tagging is ignored. - 34 - Support Tag-based VLAN (IEEE 802.1Q VLAN) Tagged-based VLAN is an IEEE 802.1Q specification standard.

Therefore, it is possible to create a VLAN across devices from different switch vendors. IEEE 802.1Q VLAN uses a technique to insert a "tag" into the Ethernet frames. Tag contains a VLAN Identifier (VID) that indicates the VLAN numbers. Support Protocol-based VLAN In order for an end station to send packets to different VLANs, it itself has to be either capable of tagging packets it sends with VLAN tags or attached to a VLAN-aware bridge that is capable of classifying and tagging the packet with different VLAN ID based on not only default PVID but also other information about the packet, such as the protocol.

TEG-S2600i will support protocol-based VLAN classification by means of both built-in knowledge of layer 2 packet formats used by selected popular protocols, such as Novell IPX and AppleTalk's Ether Talk, and some degree of programmable protocol matching capability. - 35 - 2.5.7.1. Port Based VLAN 1. 2. 3. 4. Click Add to create a new VLAN group. Enter the VLAN name, group ID and select the members for the new VLAN. Click Apply. If there are many groups that over the limit of one page, you can click the "Next Page" to view other VLAN groups. NOTE: If the trunk groups exist, you can see it (ex: TRK1, TRK2..

.) in select menu of ports, and you can configure it is the member of the VLAN or not. - 36 - 2.5.7.2. 802.1Q VLAN This page, user can create Tag-based VLAN, and enable or disable GVRP protocol. There are 256 VLAN groups to provide configure. Enable 802.

1Q VLAN, the all ports on the switch belong to default VLAN, VID is 1. The default VLAN can't be deleted. - 37 - Basic Create a VLAN and add tagged member ports to it. 1. From the main menu, click Administrator VLAN configuration, click Add then you will see the page as follow.

2. Type a name for the new VLAN. 3. Type a VID (between 2-4094). The default is 1.

4. Choose the protocol type. We support 802.1v with the implementation of Port-and-Protocol-based VLAN classification. User can combine the field "Protocol Vlan" and the field of the port number to form a new VLAN group. NOTE: IEEE 802.1v provides user to classify the packet through untagged port. There are two possible strategies of the 802.1v supporting: Port-based VLAN and Port-and-Protocol-based VLAN. We can support both Port-based VLAN and Port-and-Protocol-based VLAN with our product.

User set the VID to mark the packet from untagged port. Then, the packet can be scheduled by the way of the IEEE 802.1q. - 38 - 5. From the Available ports box, select ports to add to the switch and click "Add >>". If the trunk groups exist, you can see it in here (ex: TRK1, TRK2...), and you can configure it is the member of the VLAN or not. 6.

Click Next. Then you can view the page as follow 7. Uses this page to set the outgoing frames are VLAN-Tagged frames or no. Then click Apply. Tag: outgoing frames with VLAN-Tagged.

Untag: outgoing frames without VLAN-Tagged. - 39 - Port VID Configure port VID settings From the main Tag-based (IEEE 802.1Q) VLAN page, click Port VID Settings. Port VID (PVID) Set the port VLAN ID that will be assigned to untagged traffic on a given port. This feature is useful for accommodating devices that you want to participate in the VLAN but that don't support tagging.

TEG-S2600i each port allows user to set one PVID, the range is 1-255, default PVID is 1. The PVID must as same as the VLAN ID that the port belong to VLAN group, or the untagged traffic will be dropped. Ingress Filtering Ingress filtering lets frames belonging to a specific VLAN to be forwarded if the port belongs to that VLAN. TEG-S2600i has two ingress filtering rule as follows: Ingress Filtering Rule 1: A forward only packet with VID matching this port's configured VID. Ingress Filtering Rule 2: Drop Untagged Frame. - 40 - 2.5.8. Spanning Tree The Spanning-Tree Protocol (STP) is a standardized method (IEEE 802.1D) for avoiding loops in switched networks.

Enable STP to ensure that only one path at a time is active between any two nodes on the network.



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You can enable Spanning-Tree Protocol on web management's switch setting advanced item, select enable Spanning-Tree protocol. We are recommended that you enable STP on all switches ensures a single active path on the network. 1. You can view spanning tree information about the Root Bridge. Such as follow screen. 2. You can view spanning tree status about the switch. Such as follow screen. - 41 - 3.

You can setting new value for STP parameter, then click set Apply button to modify Parameter Priority Max Age Hello Time Forward Delay time Description You can change priority value, A value used to identify the root bridge. The bridge with lowest value has the highest priority and is selected as the root. Enter a number 1 through 65535. You can change Max Age value, The number of second bridge waits without receiving Spanning-Tree Protocol configuration messages before attempting a reconfiguration. Enter a number 6 through 40.

You can change Hello time value, the number of seconds among the transmission of Spanning-Tree Protocol configuration messages. Enter a number 1 through 10. You can change forward delay time, The number of seconds a port waits before changing from its Spanning-Tree Protocol learning and listening states to the forwarding state. Enter a number 4 through 30. 4.

The following parameter can be configured on each port , click set Apply button to modify Parameter Description You can make it more or less likely to become the root port, the rage is Port Priority 0-255,default setting is 128 The lowest number has the highest priority. Specifies the path cost of the port that switch uses to determine which port Path Cost are the forwarding ports the lowest number is forwarding ports, the rage is 1-65535 and default value base on IEEE802.1D 10Mb/s = 50-600 100Mb/s = 10-60 1000Mb/s = 3-10 - 42 - 2.5.9. Port Mirror The Port Mirror is a method for monitor traffic in switched networks. Traffic through ports can be monitored by one specific port. That is, traffic goes in or out monitored ports will be duplicated into Analysis port. 1. Roving Analysis Mode: Press Space key to set mirror mode: Disable \Rx \Tx \Both.

2. Analysis Port: It' means this port can be used to see all monitors port traffic. You can connect analysis port to LAN analyzer or netxray. 3. Monitored Port: The ports you want to monitor. All monitor port traffic will be copied to analysis port. You can select max 25 monitor ports in the switch. User can choose which port that they want to monitor in only one mirror mode. If you want to disable the function, you must select monitor port to none. - 43 - 2.

5.10. SNMP/Trap Manager Any Network Management platform running the simple Network Management Protocol (SNMP) can manage the switch, provided the Management Information Base (MIB) is installed correctly on the management station. The SNMP is a Protocol that governs the transfer of information between management station and agent. 1.

System Options Use this page to define management stations as trap managers and to enter SNMP community strings. User can also define a name, location, and contact person for the switch. Fill in the system options data, and then click Apply to update the changes on this page. Name: Enter a name to be used for the switch. Location: Enter the location of the switch.

Contact: Enter the name of a person or organization. 2. Community strings serve as passwords and can be entered as one of the following: RO: Read only. Enables requests accompanied by this string to display MIB-object information. RW: Read write. Enables requests accompanied by this string to display MIB-object information and to set MIB objects. 3. Trap Manager A trap manager is a management station that receives traps, the system alerts generated by the switch. If no trap manager is defined, no traps are issued. Create a trap manager by entering the IP address of the station and a community string.

- 44 - - 45 - 2.5.11 Security Manager On this page, user can change user name and password with following steps. 1. User name: Type the new user name. 2. Password: Type the new password. 3. Reconfirm password: Retype the new password. 4. Click Apply. - 46 - 2.5.12 802.1x Configuration System Configuration 802.

1x makes use of the physical access characteristics of IEEE802 LAN infrastructures in order to provide a means of authenticating and authorizing devices attached to a LAN port that has point-to-point connection characteristics, and of preventing access to that port in cases in which the authentication and authorization process fails. To enable 802.1x, from Administrator \Switch setting \Advanced then you still to fill in the authentication server information Radius Server IP Address: the IP address of the authentication server. Server Port: The UDP port number used by the authentication server to authenticate. Accounting Port: The UDP port number used by the authentication server to retrieve accounting information.

Shared Key: A key shared between this switch and authentication server. NAS, Identifier: A string used to identify this switch. Perport Configuration In this page, you can select the specific port and configure the Authorization State. Each port can select four kinds of Authorization State: - 47 - FuForce the specific port to be unauthorized. FaForce the specific port to be authorized. AuThe state of the specific port was determined by the outcome of the authentication. NoThe specific port didn't support 802.1x function. Misc Configuration In this page, you can change the default configuration for the 802.1x standard: Quiet Period Used to define periods of time during which it will not attempt to acquire a supplicant (Default time is 60 seconds).

Tx Period Used to determine when an EAPOL PDU is to be transmitted (Default value is 30 seconds). Supplicant Timeout Used to determine timeout conditions in the exchanges between the supplicant and authentication server (Default value is 30 seconds). Server Timeout Used to determine timeout conditions in the exchanges between the authenticator and authentication server (Default value is 30 seconds). Max requestsUsed to determine the number of re-authentication attempts that are permitted before the specific port becomes unauthorized (Default value is 2 times). Reauth Period Used to determine a nonzero number of seconds between periodic re-authentication off the supplications (Default value is 3600 seconds). - 48 - 2.5.13 Ping This switch provides a simplified ping function for user to check whether a IP is on line or not. Input the IP Address and counts of ping packet to send. Press "Apply" to continue next page.

This page will display the result of the pinging IP . It continues updating the "Reply Counts" when the ping packets are sending. User can interrupt the progress by clicking "Stop" button. If the reply counts remain zero after webpage reload stops, it could mean that the pinged host of this IP does not exist. - 49 - 2.



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5.14 Single IP This switch provides a new management tool for user to manage a group of LAN switches by an IP agent method. "Single IP" is the name, meaning that the administrator can access other network devices through one single IP device. There are two management modes, "Agent mode" and "Stacking mode", to utilize the function. Different from the method of router's NAT (from virtual IP domain to real IP domain), single IP provides a reverse access (from real IP domain to virtual IP domain) by an IP-forwarding technology.

@@@Please read Chapter 5 for more applications. @@In these pages, user can add or delete managed network devices here. @@@The range of available port number is 28000 ~ 30000. @@@The new member will be listed on the left. @@Edit the name and then press "Add/Edit" to update the list. @@@@Much worst, commands to pick the slave hosts will cause unexpected forwarding error here. We strongly recommend that a single IP switch should not activate the IP agent manager when it is a slave host of active master switch. - 52 - 2.5.14.

3 Stacking Management Agent Control Port: The specific TCP/UDP port the single IP switch is listening. See 2.5.14.1 Agent Management for details. There are two ways to add the members: "Auto-discover" and "Manual". Auto-discover method: Press "Find >>" and the found stackable switches will be gathered in "Auto Discover List". Select these found members and press "<< Add" to add the selected hosts to the list. The searching range bases on Class C IP domain within Agent IP. Changing "Agent IP" in "Administrator/IP & Management Mode" will alter the search range.

For example, Agent IP is set to 192.168.223.100, and then the auto-discover function will search available switches in the range from 192.168.223.1 to 192.168.223.255.

- 53 - Manual method: User can add members by manual. Fill up the "IP Address" and "Host Name", then press "Apply" to complete the addition of a new member. Editing an existing member is also easy thing to do. Select the host which needs to edit and the "IP address" and "Host Name" will appear what you choose. Modify the "Host Name" only for advice. For any IP is not within the member list, the modification will assume to add a new member. Press "Apply" to confirm the modification. To delete an existing member, choose the host and press "Delete". Then the host will be removed from the list. Launch Manager: This button launches the Stacking manager.

For "Stacking mode", there is an extra option "VLAN Mode" for user to choose which type of VLAN the stacking switch will carry on. There are "802.1Q" and "Port-base" VLAN. Note: For the cause of http authentication mechanism, it happens that web browser keeps asking administrator to input login name and password when agent manager changes a new host. Typically web browser will keep the authentication key of the successful login host and passes it to next other WebPages. Since single IP switch remains its URL of the master switch IP no matter how the agent manager has change the forwarding host, new host will still receive the same authentication key as the master switch when it requests the login authentication. If the new host has the different username and password from the master switch, authentication failure and reentry thus happens. It is strongly recommended that the administrator changes the usernames and passwords of the managed hosts to the same ones as master switch. - 54 - 2.5.

14.4 Stacking Manager This web UI provides not only the integrated VLAN management, but also a handy IP agent. Administrator can easily access other detail configurations in one individual switch of stacking set by clicking the hostname on the right side of this panel and jumping to its configuration webpage. Link Status The first page shows the current link status of all stacking members. Link-up ports will glow in their port numbers.

An off-line switch will dim to gray if it does not respond to the information request from the stacking master in a period of time. This characteristic provides an easy method for network diagnose. Network administrator can check backbones connection of stacking switches at a glance of this panel. VLAN SETUP To configure the VLAN setting of the stacking switch, click "VLAN" to bring up the VLAN configuration panel. There are two default VLAN existing in the stacking switches.

- 55 - As seen above, the VLAN name "DEFAULT" and VID "1" is standard setting for general Tag VLAN, and all port are added as untagged port; The other VLAN "4091", as so called "Stacking Tag VLAN", is a unique setting for this type of stacking. And all of their Giga ports are set to tag members to form a VLAN connection channel. A strong warning declares here that the Stacking Tag VLAN is highly restricted to be modified or removed, for incorrect operation will ruin the connection of stacking switches. What condition and how to change the Stacking Tag VLAN will discuss in next section. To Add a new VLAN, press "Add" the VLAN Panel. They will come out two script prompt to ask user to input VLAN name and VLAN ID. - 56 - After input, user can choose the VLAN member in the Stacking Manager panel by clicking the designated port. Color cycling from blue, yellow to black means that the port is set to untagged port, tagged port or no member. When finishing, press "Apply" to submit. It is always wise to remember that the Giga ports of each member switch are set to tagged port and keeping at least one member port in the master switch.

The stacking switches interchange VLAN information through the Giga ports which are set to tagged members by "Stacking Tag VLAN", so a new VLAN should keep its Giga ports as tagged ones. Since the master switch holds all VLAN group information, the master switch should have the right to access the new VLAN by adding at least one Giga port to its tagged member. An exclusion of all master switch ports leads to unmanageability on this VLAN, for master switch has no such VLAN in its internal table. Edit or Delete a VLAN To edit an existing VLAN, just select the VLAN from the VLAN panel and modify the members - 57 - in the Stacking Manager panel. After done, press "Apply" to submit the setting. To delete a VLAN is also an easy task. Select the unwanted VLAN and press "Delete" to remove it. There are two special cases for deleting VLAN: The "DEFAULT VLAN" and "Stacking Tag VLAN" are undeletable! A error message will pop up to cancel the task. Stack VLAN also can't be edited. .

PVID SETUP The default PVID value of all ports of 802.1Q VLAN is 1. Hence only default VLAN (PVID = 1) has all of ports as members in the beginning.



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- 58 - The available PVIDs are based on the VLANs that user created in the previous "VLAN" page. 1.

Select the PVID to be modified and choose the ports for this PVID value. 2. Click "Apply" button to submit and a message "Please wait" to notice user to wait patiently. 3. When message "Current setting is on .

.." shows up, the task is done. - 59 - 2.6. TFTP Update Firmware 1. The following menu options provide some system control functions to allow a user to update firmware and remote boot switch system: * Install TFTP program (such as Turbo98, or Cisco TFTP) and then execute. * Copy updated firmware image.bin into TFTP server's directory. * In web management select administrator--TFTP update firmware.

* Download new image.bin file by pressing <update firmware>. * After update finished, press <reboot> to restart switch. - 60 - 2.7. Configuration Backup

2.7.1. TFTP Restore Configuration Use this page to set ftp server address. You can restore EEPROM value from here, but you must put back image in ftp server, switch will download back flash image.

2.7.2. TFTP Backup Configuration Use this page to set ftp server ip address. You can save current EEPROM value from here, then go to the TFTP restore configuration page to restore the EEPROM value.

- 61 - 2.8. Reset System Reset Switch to default configuration, default value as below 2.9. Reboot Reboot the Switch in software reset.

- 62 - 2.10. Event Logging A history log is provided here to give a track about events that the switch had happened. There are 100 loggings for maximum capacity of this switch. The latest event will overwrite the oldest one. All records will be kept in flash memory even after writing default, unless user clears the event log. Press "Prev" or "Next" button will browse previous 25 or next 25 sequences. The "Top" button will re-list the table from the latest event. "Clear" button will clear all history. Event logger displays the real time according to the time zone where user is.

- 63 - 3. Console Boot Loader Each time the switch restarts, user can get some basic information from console (use Hyper terminate 57600 baud rate). After switch tests are done, a 5-seconds countdown timer will prompt user to press any key to enter "User Menu". There are five functions in the menu: 1. 2. 3. 4. 5. start kernel: Back to switch system initiation and enter login. kernel update from xmodem : Use 1k X modem to update firmware.

kernel update from ftp: Use tftp to update firmware. set ip address: A shortcut to setup switch IP and gateway. diagnose sdram : A basic SDRAM diagnosis. - 64 - 3.1 1K X modem Firmware update We provide the 1k X modem to update firmware from RS232 .

1K X modem only works in 57600bps mode. So you must change baud rate to 57600bps to download firmware. 1. 2. Select "2" to start 1K X modem firmware update.

When "CCCC..." is displaying on console, select Transfer /Send File. 3. Select 1K Xmodem in the Protocol item, and browse the image for updating. Press Send button. - 65 - 4. Start download image file. 5.

After firmware downloading already, the switch will update firmware automatically. After that, the switch will reboot. 3.2 TFTP Firmware update We provide the tftp client to update firmware from Ethernet. User has to install tftp sever in PC first and place the image in the downloading folder. - 66 - 1. Press "3" to start tftp update firmware. 2. Enter Switch IP. Press "Enter" to accept default value.

3. Enter Tftp Server IP. Press "Enter" to accept default value. 4. Enter File name to download.

Press "Enter" to accept default value. Then the tftp downloading begins and , after that, firmware updates. 3.3 Set IP Address We provide a shortcut to set switch IP address and gateway before switch system initialization. User can save his time to change switch IP without waiting system boot up and reconfiguration.

1. 2. 3. 4. Press "4" to start IP setup. Enter Switch IP. Press "Enter" to accept default value. Enter Mask. Press "Enter" to accept default value. Enter Gateway.

Press "Enter" to accept default value. - 67 - 3.4 Diagnose SDRAM We provide a basic diagnosis for SDRAM test. It is important to verify hardware fault or not when a switch becomes unstable. When test is done, it will display the status and prompt user to reset switch. - 68 - 4. Out-of-band Terminal mode management 1. TEG-S2600i also provide a serial interface to manage and monitor the switch, user can follow the Console Port Information provide by web to use windows HyperTerminal program to link the switch. 2. You can type user name and password to login.

The default user name is "admin"; the default password is "123 ". - 69 - 4.1 Main Menu There are six items for selected as follows: Switch Static Configuration: Configure the switch. Protocol Related Configuration: Configure the protocol function. Status and Counters: Show the status of the switch. Reboot Switch: Restart the system or reset switch to default configuration. TFTP Update Firmware: Use TFTP to download image. Logout: Exit the menu line program. <Control Key> The control key as follow is provided for this mode operation: Tab: Move the cursor to next item. Backspace: Move the cursor to previous item.

Enter: Select item. Space: Toggle selected item to next configure. - 70 - 4.2 Switch Static Configuration <Control Key> You can press the key of Tab or Backspace to choose item, and press Enter key to select item The action menu line as follow provided in later configure page. Actions-> <Quit>: Exit the page of port configuration and return to previous menu. <Edit>: Configure all items. Finished configure press Ctrl+A: Back to action menu line. <Save>: Save all configure value. <Previous Page>: Return to previous page to configure. <Next page>: Go to the next page to configure it.

- 71 - 4.2.1. Port Configuration This page can change every port status. Press Space key to change configures of per item. 1. InRate (100K/unit): User can set input rate control, per unit is 100K. The valid range is 0~1000. 0: disable rate control. 1~1000: valid rate value.

2. OutRate (100K/unit): User can set output rate control, per unit is 100K. The valid range is 0~1000. 0: disable rate control. 1~1000: valid rate value.

3. Enabled: User can disable or enable this port control. "Yes" that mean the port is enable. "No" that mean the port is disable. 4.

Auto: User can set auto negotiation mode is "Auto", "Nway_Force", "Force" of per port. 5. Spd/Dpx: User can set "100Mbps" or "10Mbps" speed on port 1~port 24, Set "1000Mbps", "100Mbps" or "10Mbps" speed on port25~port26 (depend on module card mode), and set "full-duplex" or "half-duplex" mode.



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- 72 - 6. Flow Control: Full: User can set full flow control function (pause) as enable or disable. Half: User can set half flow control function (backpressure) as enable or disable. NOTE: 1. 2. Pressing <Save> only can save one page configuration. If the static trunk groups exist, you can see it (ex: TRK1, TRK2.

..) after port 26, and you can configure all of the items as above. - 73 - 4.2.2. Trunk Configuration This page can create max seven trunk groups. User can arbitrarily select up to four ports from port 1~port 26 to build a trunk group. Actions-> 1. Select <Edit> on actions menu 2.

Press space key to configure the member port of trunk group. Besides, you have to set "Static" or "LACP" for the corresponding trunk group of TRK1~TRK7 item. "Static" the normal trunk. "LACP" this trunk group have link aggregation control protocol. 3.

4. 5. 6. Press Ctrl+A to go back action menu line Select <Save> to save all configure value. If the item of TRK1~TRK7 is set "Disable", it's mean the trunk group is deleted.

All ports in the same static trunk group will be treated as single port. So when you setting VLAN members and Port configuration they will be toggled on or off simultaneously. NOTE: If VLAN group exist, all of the members of static trunk group must be in same VLAN group. - 74 - 4.2.3. VLAN Configuration 4.2.3.1.

VLAN Configure This page can set VLAN mode to port-based VLAN or 802.1Q VLAN or disable VLAN function. - 75 - NOTE: Change the VLAN mode for every time, user have to restart the switch for valid value. If set 802.1Q VLAN, you can set PVID, ingress filtering 1 and ingress filtering 2 in this page too. Actions-> 1. PVID (Port VID: 1~255): Type the PVID. 2. NonMember Drop: It matches that Ingress Filtering Rule 1 on web. Forwarding only packets with VID matching this port's configured VID.

Press Space key to choose "forward" or "drop" the frame that VID not matching this port's configured VID. 3. UnTagged Drop: It matches that Ingress Filtering Rule 2 on web. Drop untagged frame. Press Space key to choose "drop" or "forward" the untagged frame.

- 76 - 4.2.3.2. Create a VLAN Group Create Port-Based VLAN Create a port-based VLAN and add member/nonmember ports to it.

6. 7. 8. 9. Select <Edit>. VLAN Name: Type a name for the new VLAN. Grp ID: Type the VLAN group ID. The group ID rang is 1~4094. Member: Press <Space> key to choose VLAN member. There are two types to selected: a.

Member: the port is member port. b. No: the port is NOT member port. 10. Press Ctrl+A go back action menu line. 11. Select <Save> to save all configure value. NOTE: If the trunk groups exist, you can see it (ex: TRK1, TRK2...

) after port26, and you can configure it is the member of the VLAN or not. - 77 - Create 802.1Q VLAN Create an 802.1Q VLAN and add tagged /untagged member ports to it. 1.

Select <Edit>. 2. VLAN Name: Type a name for the new VLAN. 3. VLAN ID: Type a VID (between 1~4094).

The default is 1. There are 256 VLAN groups to provided configure. 4. Protocol VLAN: Press Space key to choose protocols type. 5. Member: Press Space key to choose VLAN member. There are three types to selected: a. UnTaggedThis port is the member port of this VLAN group and outgoing frames are NO VLAN-Tagged frames. b. TaggedThis port is the member port of this VLAN group and outgoing frames are VLAN-Tagged frames.

c. NOThe port is NOT member of this VLAN group. 6. Press Ctrl+A go back action menu line. 7. Select <Save> to save all configure value. NOTE: If the trunk groups exist, you can see it (ex: TRK1, TRK2...) after port 26, and you can configure it is the member of the VLAN or not.

- 78 - 4.2.3.3. Edit / Delete a VLAN Group In this page, user can edit or delete a VLAN group.

1. Press <Edit> or <Delete> item. 2. Choose the VLAN group that you want to edit or delete and then press enter. 3.

User can modify the protocol VLAN item and the member ports are tagged or un-tagged and remove some member ports from this VLAN group. 4. After edit VLAN, press <Save> key to save all configures value. NOTE 1. When pressing <Enter> once will complete deletion on delete mode. 2. The VLAN Name and VLAN ID cannot modify. 3. The default VLAN can't be deleting. - 79 - 4.

2.3.4. Groups Sorted Mode In this page, user can select VLAN groups sorted mode: (1) sorted by name (2) Sorted by VID. The Edit/Delete a VLAN group page will display the result. In the Edit/Delete a VLAN Group page, the result of sorted by name. In the Edit/Delete a VLAN Group page, the result of sorted by VID. - 80 - 4.2.4.

Misc Configuration - 81 - 4.2.4.1. Ping Type the Host IP and the counts for ping, then back to action menu and press "Save".

"Reply Counts" will display the result of ping. 4.2.4.2.

MAC Age Interval Type the number of seconds that an inactive MAC address remains in the switch's address table. The valid range is 300~765 seconds.

Default is 300 seconds. - 82 - 4.2.4.3. Broadcast Storm Filtering This page is configuring broadcast storm control. 1. Press <Edit> to configure the broadcast storm filter mode.

2. Press Space key to choose the threshold value. The valid threshold value is 5%, 10%, 15%, 20%, 25% and NO. Default is 5%. - 83 - 4.2.4.4. Max bridge transmit delay bound 1. Max bridge transmit delay bound: Limit the packets queuing time in switch.

If enabled, the packets queued exceed will be drop. Press Space key to set the time. Those valid values are 1sec, 2sec, and 4sec and off. Default is off. 2.

Low Queue Delay Bound: Limit the low priority packets queuing time in switch. If enabled, the low priority packet stays in switch exceed Low Queue Max Delay Time, it will be sent. Press Space key to enable or disable this function. Default is disable. 3.

Low Queue Max Delay Time: To set the time that low priority packets queuing in switch. The valid range is 1~255ms. Default Max Delay Time is 255ms.

NOTE: Make sure "Max bridge transit delay bound control" is enabled before enabling Low Queue Delay Bound, because Low Queue Delay Bound must be work under "Max bridge transit delay bound control" is enabled situation. 4.2.4.5. Port Security A port in security mode will be "locked" without permission of address learning. Only the incoming packets with SMAC already existing in the address table can be forwarded normally.

User can disable the port from learning any new MAC addresses, then use the static MAC addresses screen to define a list of MAC addresses that can use the secure port. - 84 - Actions-> 1. Select <Edit>. 2. Press Space key to choose enable / disable item. 3. Press Ctrl+A to go back action menu line. 4. Select <Save> to save all configure value. 5.

You can press <Next Page> to configure port9 ~ port26, press <Previous Page> return to last page. 4.2.4.5.

Collisions Retry Forever Collisions Retry Forever: Disable In half duplex, if happen collision will retry 48 times and then drop frame.

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