



# **LinkPower™ LPS1800 Series IP Management User's Manual**

*May, 2015*



## **Corporate Headquarters**

Inscape Data Corporation  
1620 Oakland Road D101  
San Jose, CA 95131  
U.S.A.

Website: <http://www.inscapedata.com>

Main: 408 392-9800

Fax: 408 392-9812

## **Certification**

Inscape Data Corporation certifies that this product met its published specifications at time of shipment from the factory.

## **FCC Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

## **Industry Canada Statement**

This Class A digital apparatus complies with Canadian ICES-003.

## **CE Statement**

This product complies with the European Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC as amended by European Directive 93/68/EEC.

Warning: This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## Limited Warranty and Disclaimer of Warranty

**Hardware.** Inscape Data Corporation, or subsidiary selling the Product (“Inscape Data”) warrants that commencing from the date of shipment to Customer (and in case of resale by a Inscape Data’s reseller, commencing not more than ninety (90) days after original shipment by Inscape Data), and continuing for a period of the longer of (a) ninety (90) days or (b) the period set forth in the warranty card accompanying the Product (if any), the Hardware will be free from defects in material and workmanship under normal use. The date of shipment of a Product by Inscape Data is set forth on the packaging material in which the Product is shipped. This limited warranty extends only to the original user of the Product. Customer’s sole and exclusive remedy and the entire liability of Inscape Data and its suppliers under this limited warranty will be, at Inscape Data’s or its service center’s option, shipment of a replacement within the warranty period and according to the replacement process described in the warranty card (if any), or if no warranty card, as described on the Inscape Data Product Warranty Policy or a refund of the purchase price if the Hardware is returned to the party supplying it to Customer, freight and insurance prepaid. Inscape Data replacement parts used in Hardware replacement may be new or equivalent to new. Inscape Data’s obligations hereunder are conditioned upon the return of affected Hardware in accordance with Inscape Data’s or its service center’s then-current Return Material Authorization (RMA) procedures.

**Software.** The limited warranty in the United States Federal Communications Commission Notice sets forth Inscape Data’s warranty obligations with respect to the Software.

**Restrictions.** The above Hardware warranty and limited warranty in the End User License Agreement (“Software warranty”) do not apply if the Software, Hardware Product or any other equipment upon which the Software is authorized by Inscape Data or its suppliers or licensors to be used (a) has been altered, except by Inscape Data or its authorized representative, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Inscape Data, (c) has been subjected to abnormal physical or electrical stress, abnormal environmental conditions, misuse, negligence, or accident; or (d) is licensed for beta, evaluation, testing or demonstration purposes. The Software warranty also does not apply to (e) any temporary Software modules; (f) any Software not posted on Inscape Data’s Software Center (on [InscapeData.com](http://InscapeData.com) URL where Inscape Data makes the Software publicly available to customers); (g) any Software that Inscape Data expressly provides on an “AS IS” basis on Inscape Data’s Software Center; or (h) any Software for which Inscape Data does not receive a license fee.

## **DISCLAIMER OF WARRANTY**

EXCEPT AS SPECIFIED IN THIS WARRANTY SECTION, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, SATISFACTORY QUALITY, NON-INTERFERENCE, ACCURACY OF INFORMATIONAL CONTENT, OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW AND ARE EXPRESSLY DISCLAIMED BY INSCAPE DATA, ITS SUPPLIERS AND LICENSORS. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE LIMITATION MAY NOT APPLY. THESE WARRANTIES GIVE CUSTOMER SPECIFIC LEGAL RIGHTS, AND CUSTOMER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. THIS DISCLAIMER AND EXCLUSION SHALL APPLY EVEN IF THE EXPRESS WARRANTY SET FORTH ABOVE FAILS OF ITS ESSENTIAL PURPOSE.

# INSCAPE DATA CORPORATION

## 1-Year Limited Hardware Warranty Terms

The following are special terms applicable to your hardware warranty. Your formal Warranty Statement, including the warranty applicable to Inscape Data software, appears in the End User License Agreement that accompanies your Inscape Data product.

**Duration of Hardware Warranty:** One (1) Year

**Replacement, Repair or Refund Procedure for Hardware:** Inscape Data or its authorized service center will use commercially reasonable efforts to ship a replacement part after receipt of the RMA request and the RMA item. Actual delivery times may vary depending on Customer location. Inscape Data reserves the right to refund the purchase price as its exclusive warranty remedy.

**To Receive a Return Materials Authorization (RMA) Number:** Please go to Inscape Data's website and complete the RMA request, <http://www.inscapedata.com/rma.htm>.



Inscape Data Corporation, 1620 Oakland Road, STE D101, CA 95131 USA

**IMPORTANT: PLEASE READ THIS END USER LICENSE AGREEMENT CAREFULLY. DOWNLOADING, INSTALLING OR USING INSCAPE DATA OR INSCAPE DATA-SUPPLIED SOFTWARE CONSTITUTES ACCEPTANCE OF THIS AGREEMENT.**

INSCAPE DATA CORPORATION OR ITS SUBSIDIARY LICENSING THE SOFTWARE INSTEAD OF INSCAPE DATA CORPORATION (“INSCAPE DATA”) IS WILLING TO LICENSE ITS SOFTWARE TO YOU ONLY UPON THE CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN THIS END USER LICENSE AGREEMENT PLUS ANY ADDITIONAL LIMITATIONS ON THE LICENSE SET FORTH IN A SUPPLEMENTAL LICENSE AGREEMENT ACCOMPANYING THE PRODUCT (COLLECTIVELY THE “AGREEMENT”). TO THE EXTENT OF ANY CONFLICT BETWEEN THE TERMS OF THIS END USER LICENSE AGREEMENT AND ANY SUPPLEMENTAL LICENSE AGREEMENT, THE SUPPLEMENTAL LICENSE AGREEMENT SHALL APPLY. BY DOWNLOADING, INSTALLING, OR USING THE SOFTWARE, YOU ARE BINDING YOURSELF AND THE BUSINESS ENTITY THAT YOU REPRESENT (COLLECTIVELY, “CUSTOMER”) TO THE AGREEMENT. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THE AGREEMENT, THEN INSCAPE DATA IS UNWILLING TO LICENSE THE SOFTWARE TO YOU AND (A) YOU MAY NOT DOWNLOAD, INSTALL OR USE THE SOFTWARE, AND (B) YOU MAY RETURN THE SOFTWARE (INCLUDING ANY UNOPENED CD PACKAGE AND ANY WRITTEN MATERIALS) FOR A FULL REFUND, OR, IF THE SOFTWARE AND WRITTEN MATERIALS ARE SUPPLIED AS PART OF ANOTHER PRODUCT, YOU MAY RETURN THE ENTIRE PRODUCT FOR A FULL REFUND. YOUR RIGHT TO RETURN AND REFUND EXPIRES 30 DAYS AFTER PURCHASE FROM INSCAPE DATA OR AN AUTHORIZED INSCAPE DATA RESELLER, AND APPLIES ONLY IF YOU ARE THE ORIGINAL END USER PURCHASER.

*THE FOLLOWING TERMS OF THE AGREEMENT GOVERN CUSTOMER’S ACCESS AND USE OF EACH INSCAPE DATA OR INSCAPE DATA-SUPPLIED SOFTWARE (“SOFTWARE”), EXCEPT TO*

*THE EXTENT: (A) THERE IS A SEPARATE SIGNED CONTRACT BETWEEN CUSTOMER AND INSCAPE DATA GOVERNING CUSTOMER'S USE OF THE SOFTWARE, OR (B) THE SOFTWARE INCLUDES A SEPARATE "CLICK-ACCEPT" LICENSE AGREEMENT OR THIRD PARTY LICENSE AGREEMENT AS PART OF THE INSTALLATION AND/OR DOWNLOAD PROCESS GOVERNING CUSTOMER'S USE OF THE SOFTWARE. TO THE EXTENT OF A CONFLICT BETWEEN THE PROVISIONS OF THE FOREGOING DOCUMENTS, THE ORDER OF PRECEDENCE SHALL BE (1)THE SIGNED CONTRACT, (2) THE CLICK-ACCEPT AGREEMENT OR THIRD PARTY LICENSE AGREEMENT, AND (3) THE AGREEMENT.*

**License.** Conditioned upon compliance with the terms and conditions of the Agreement, Inscape Data grants to Customer a nonexclusive and nontransferable license to use for Customer's internal business purposes the Software and the Documentation for which Customer has paid the required license fees. "Documentation" means written information (whether contained in user or technical manuals, training materials, specifications or otherwise) pertaining to the Software and made available by Inscape Data with the Software in any manner (including on CD-ROM, or on-line). In order to use the Software, Customer may be required to input a registration number or product authorization key and register Customer's copy of the Software online at Inscape Data's website to obtain the necessary license key or license file.

### **End User License Agreement**

Customer's license to use the Software shall be limited to, and Customer shall not use the Software in excess of, a single hardware chassis or card or such other limitations as are set forth in the applicable Supplemental License Agreement or in the applicable purchase order which has been accepted by Inscape Data and for which Customer has paid to Inscape Data the required license fee (the "Purchase Order"). Unless otherwise expressly provided in the Documentation or any applicable Supplemental License Agreement, Customer shall use the Software solely as embedded in, for execution on, or (where the applicable Documentation permits installation on non-Inscape Data equipment) for communication with Inscape Data equipment owned or leased by Customer and used for Customer's internal business purposes. No other licenses are granted by implication, estoppel or otherwise.

For evaluation or beta copies for which Inscape Data does not charge a license fee, the above requirement to pay license fees does not apply.

**General Limitations.** This is a license, not a transfer of title, to the Software and Documentation, and Inscape Data retains ownership of all copies of the Software and Documentation. Customer acknowledges that the Software and Documentation contain trade secrets of Inscape Data or its suppliers or licensors, including but not limited to the specific internal design and structure of individual programs and associated interface information. Except as otherwise expressly provided under the Agreement, Customer shall have no right, and Customer specifically agrees not to:

- (i) transfer, assign or sublicense its license rights to any other person or entity (other than in compliance with any Inscape Data relicensing/transfer policy then in force), or use the Software on unauthorized or secondhand Inscape Data equipment, and Customer acknowledges that any attempted transfer, assignment, sublicense or use shall be void;
- (ii) make error corrections to or otherwise modify or adapt the Software or create derivative works based upon the Software, or permit third parties to do the same;
- (iii) reverse engineer or decompile, decrypt, disassemble or otherwise reduce the Software to human-readable form, except to the extent otherwise expressly permitted under applicable law notwithstanding this restriction;
- (iv) publish any results of benchmark tests run on the Software;
- (v) use or permit the Software to be used to perform services for third parties, whether on a service bureau or time sharing basis or otherwise, without the express written authorization of Inscape Data; or
- (vi) disclose, provide, or otherwise make available trade secrets contained within the Software and Documentation in any form to any third party without the prior written consent of Inscape Data. Customer shall implement reasonable security measures to protect such trade secrets.

To the extent required by applicable law, and at Customer's written request, Inscape Data shall provide Customer with the interface information needed to achieve interoperability between the Software and another independently created program, on payment of Inscape Data's applicable fee, if any. Customer shall observe strict obligations of confidentiality with respect to such information and shall use such information in compliance with any applicable terms and conditions upon which Inscape Data makes such information available.

**Software, Upgrades and Additional Copies.** For purposes of the Agreement, "Software" shall include (and the terms and conditions of the Agreement shall apply to) computer programs, including firmware, as provided to Customer by Inscape Data or an authorized Inscape Data reseller, and any upgrades,



updates, bug fixes or modified versions thereto (collectively, “Upgrades”) or backup copies of any of the foregoing. NOTWITHSTANDING ANY OTHER PROVISION OF THE AGREEMENT: (1) CUSTOMER HAS NO LICENSE OR RIGHT TO MAKE OR USE ANY ADDITIONAL COPIES OR UPGRADES UNLESS CUSTOMER, AT THE TIME OF MAKING OR ACQUIRING SUCH COPY OR UPGRADE, ALREADY HOLDS A VALID LICENSE TO THE ORIGINAL SOFTWARE AND HAS PAID THE APPLICABLE FEE FOR THE UPGRADE OR ADDITIONAL COPIES; (2) USE OF UPGRADES IS LIMITED TO INSCAPE DATA EQUIPMENT FOR WHICH CUSTOMER IS THE ORIGINAL END USER PURCHASER OR LESSEE OR OTHERWISE HOLDS A VALID LICENSE TO USE THE SOFTWARE WHICH IS BEING UPGRADED; AND (3) THE MAKING AND USE OF ADDITIONAL COPIES IS LIMITED TO NECESSARY BACKUP PURPOSES ONLY.

***Proprietary Notices.*** Customer agrees to maintain and reproduce all copyright and other proprietary notices on all copies, in any form, of the Software in the same form and manner that such copyright and other proprietary notices are included on the Software. Except as expressly authorized in the Agreement, Customer shall not make any copies or duplicates of any Software without the prior written permission of Inscape Data.

***Term and Termination.*** The Agreement and the license granted herein shall remain effective until terminated. Customer may terminate the Agreement and the license at any time by destroying all copies of Software and any Documentation. Customer’s rights under the Agreement will terminate immediately without notice from Inscape Data if Customer fails to comply with any provision of the Agreement. Upon termination, Customer shall destroy all copies of Software and Documentation in its possession or control. All confidentiality obligations of Customer and all limitations of liability and disclaimers and restrictions of warranty shall survive termination of this Agreement. In addition, the provisions of the sections titled “U.S. Government End User Purchasers” and “General Terms Applicable to the Limited Warranty Statement and End User License Agreement” shall survive termination of the Agreement.

***Customer Records.*** Customer grants to Inscape Data and its independent accountants the right to examine Customer’s books, records and accounts during Customer’s normal business hours to verify compliance with this Agreement. In the event such audit discloses non-compliance with this Agreement, Customer shall promptly pay to Inscape Data the appropriate license fees, plus the reasonable cost of conducting the audit.

***Export, Re-Export, Transfer and Use Controls.*** The Software, Documentation and technology or direct products thereof (hereafter referred to as Software and Technology), supplied by Inscape Data under the Agreement are subject to export controls under the laws and regulations of the United States (U.S.) and any other applicable countries' laws and regulations. Customer shall comply with such laws and regulations governing export, re-export, transfer and use of Inscape Data Software and Technology and will obtain all required U.S. and local authorizations, permits, or licenses. Inscape Data and Customer each agree to provide the other information, support documents, and assistance as may reasonably be required by the other in connection with securing authorizations or licenses.

### **End User License Agreement**

***U.S. Government End User Purchasers.*** The Software and Documentation qualify as "commercial items," as that term is defined at Federal Acquisition Regulation ("FAR") (48 C.F.R.) 2.101, consisting of "commercial computer software" and "commercial computer software documentation" as such terms are used in FAR 12.212. Consistent with FAR 12.212 and DoD FAR Supp. 227.7202-1 through 227.7202-4, and notwithstanding any other FAR or other contractual clause to the contrary in any agreement into which the Agreement may be incorporated, Customer may provide to Government end user or, if the Agreement is direct, Government end user will acquire, the Software and Documentation with only those rights set forth in the Agreement. Use of either the Software or Documentation or both constitutes agreement by the Government that the Software and Documentation are "commercial computer software" and "commercial computer software documentation," and constitutes acceptance of the rights and restrictions herein.

### **Limited Warranty**

Subject to the limitations and conditions set forth herein, Inscape Data warrants that commencing from the date of shipment to Customer (but in case of resale by an authorized Inscape Data reseller, commencing not more than ninety (90) days after original shipment by Inscape Data), and continuing for a period of the longer of (a) ninety (90) days or (b) the warranty period (if any) expressly set forth as applicable specifically to software in the warranty card accompanying the product of which the Software is a part (the "Product") (if any): (a) the media on which the Software is furnished will be free of defects in materials and workmanship under normal use; and (b) the Software substantially conforms to the Documentation. The date of shipment of a Product by Inscape Data is set forth on the packaging material in which the Product is shipped. Except for the foregoing, the Software is provided "AS IS".

This limited warranty extends only to the Customer who is the original licensee. Customer's sole and exclusive remedy and the entire liability of Inscape Data and its suppliers under this limited warranty will be (i) replacement of defective media and/or (ii) at Inscape Data's option, repair, replacement, or refund of the purchase price of the Software, in both cases subject to the condition that any error or defect constituting a breach of this limited warranty is reported to Inscape Data or the party supplying the Software to Customer, if different than Inscape Data, within the warranty period. Inscape Data or the party supplying the Software to Customer may, at its option, require return of the Software and/or Documentation as a condition to the remedy. In no event does Inscape Data warrant that the Software is error free or that Customer will be able to operate the Software without problems or interruptions. In addition, due to the continual development of new techniques for intruding upon and attacking networks, Inscape Data does not warrant that the Software or any equipment, system or network on which the Software is used will be free of vulnerability to intrusion or attack.

***Restrictions.*** This warranty does not apply if the Software, Product or any other equipment upon which the Software is authorized to be used (a) has been altered, except by Inscape Data or its authorized representative, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Inscape Data, (c) has been subjected to abnormal physical or electrical stress, abnormal environmental conditions, misuse, negligence, or accident; or (d) is licensed for beta, evaluation, testing or demonstration purposes. The Software warranty also does not apply to (e) any temporary Software modules; or (f) any Software for which Inscape Data does not receive a license fee.

## **DISCLAIMER OF WARRANTY**

EXCEPT AS SPECIFIED IN THIS WARRANTY SECTION, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, SATISFACTORY QUALITY, NON-INTERFERENCE, ACCURACY OF INFORMATIONAL CONTENT, OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW AND ARE EXPRESSLY DISCLAIMED BY INSCAPE DATA, ITS SUPPLIERS AND LICENSORS. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE

LIMITATION MAY NOT APPLY. THIS WARRANTY GIVES CUSTOMER SPECIFIC LEGAL RIGHTS, AND CUSTOMER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. This disclaimer and exclusion shall apply even if the express warranty set forth above fails of its essential purpose.

**General Terms Applicable to the Limited Warranty Statement, End User License Agreement, and Supplemental License Agreement**

***Disclaimer of Liabilities - Limitation of Liability.*** IF YOU ACQUIRED THE SOFTWARE IN THE UNITED STATES, LATIN AMERICA, CANADA, JAPAN OR THE CARIBBEAN, NOTWITHSTANDING ANYTHING ELSE IN THE AGREEMENT TO THE CONTRARY, ALL LIABILITY OF INSCAPE DATA, ITS AFFILIATES, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUPPLIERS AND LICENSORS COLLECTIVELY, TO CUSTOMER, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), BREACH OF WARRANTY OR OTHERWISE, SHALL NOT EXCEED THE PRICE PAID BY CUSTOMER TO INSCAPE DATA FOR THE SOFTWARE THAT GAVE RISE TO THE CLAIM OR IF THE SOFTWARE IS PART OF ANOTHER PRODUCT, THE PRICE PAID FOR SUCH OTHER PRODUCT. THIS LIMITATION OF LIABILITY FOR SOFTWARE IS CUMULATIVE AND NOT PER INCIDENT (I.E. THE EXISTENCE OF TWO OR MORE CLAIMS WILL NOT ENLARGE THIS LIMIT). IF YOU ACQUIRED THE SOFTWARE IN EUROPE, THE MIDDLE EAST, AFRICA, ASIA OR OCEANIA, NOTWITHSTANDING ANYTHING ELSE IN THE AGREEMENT TO THE CONTRARY, ALL LIABILITY OF INSCAPE DATA, ITS AFFILIATES, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUPPLIERS AND LICENSORS COLLECTIVELY, TO CUSTOMER, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), BREACH OF WARRANTY OR OTHERWISE, SHALL NOT EXCEED THE PRICE PAID BY CUSTOMER TO INSCAPE DATA FOR THE SOFTWARE THAT GAVE RISE TO THE CLAIM OR IF THE SOFTWARE IS PART OF ANOTHER PRODUCT, THE PRICE PAID FOR SUCH OTHER PRODUCT. THIS LIMITATION OF LIABILITY FOR SOFTWARE IS CUMULATIVE AND NOT PER INCIDENT (I.E. THE EXISTENCE OF TWO OR MORE CLAIMS WILL NOT ENLARGE THIS LIMIT). NOTHING IN THE AGREEMENT SHALL LIMIT (I) THE LIABILITY OF INSCAPE DATA, ITS AFFILIATES, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUPPLIERS AND LICENSORS TO CUSTOMER FOR PERSONAL INJURY OR DEATH CAUSED BY THEIR NEGLIGENCE, (II) INSCAPE DATA'S LIABILITY FOR FRAUDULENT MISREPRESENTATION, OR (III) ANY LIABILITY OF INSCAPE DATA WHICH CANNOT BE EXCLUDED UNDER APPLICABLE LAW.

### ***End User License Agreement***

***Disclaimer of Liabilities - Waiver of Consequential Damages and Other Losses.*** IF YOU ACQUIRED THE SOFTWARE IN THE UNITED STATES, LATIN AMERICA, THE CARIBBEAN OR CANADA, REGARDLESS OF WHETHER ANY REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE OR OTHERWISE, IN NO EVENT WILL INSCAPE DATA OR ITS SUPPLIERS BE LIABLE FOR ANY LOST REVENUE, PROFIT, OR LOST OR DAMAGED DATA, BUSINESS INTERRUPTION, LOSS OF CAPITAL, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR PUNITIVE DAMAGES HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY OR WHETHER ARISING OUT OF THE USE OF OR INABILITY TO USE SOFTWARE OR OTHERWISE AND EVEN IF INSCAPE DATA OR ITS SUPPLIERS OR LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATION OR EXCLUSION OF CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

IF YOU ACQUIRED THE SOFTWARE IN JAPAN, EXCEPT FOR LIABILITY ARISING OUT OF OR IN CONNECTION WITH DEATH OR PERSONAL INJURY, FRAUDULENT MISREPRESENTATION, AND REGARDLESS OF WHETHER ANY REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE OR OTHERWISE, IN NO EVENT WILL INSCAPE DATA, ITS AFFILIATES, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUPPLIERS AND LICENSORS BE LIABLE FOR ANY LOST REVENUE, PROFIT, OR LOST OR DAMAGED DATA, BUSINESS INTERRUPTION, LOSS OF CAPITAL, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR PUNITIVE DAMAGES HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY OR WHETHER ARISING OUT OF THE USE OF OR INABILITY TO USE SOFTWARE OR OTHERWISE AND EVEN IF INSCAPE DATA OR ITS SUPPLIERS OR LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

IF YOU ACQUIRED THE SOFTWARE IN EUROPE, THE MIDDLE EAST, AFRICA, ASIA OR OCEANIA, IN NO EVENT WILL INSCAPE DATA, ITS AFFILIATES, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUPPLIERS AND LICENSORS, BE LIABLE FOR ANY LOST REVENUE, LOST PROFIT, OR LOST OR DAMAGED DATA, BUSINESS INTERRUPTION, LOSS

OF CAPITAL, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR PUNITIVE DAMAGES, HOWSOEVER ARISING, INCLUDING, WITHOUT LIMITATION, IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR WHETHER ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE, EVEN IF, IN EACH CASE, INSCAPE DATA, ITS AFFILIATES, OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUPPLIERS AND LICENSORS, HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATION OR EXCLUSION OF CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT FULLY APPLY TO YOU. THE FOREGOING WAIVER SHALL NOT APPLY TO ANY LIABILITY ARISING OUT OF OR IN CONNECTION WITH: (I) DEATH OR PERSONAL INJURY, (II) FRAUDULENT MISREPRESENTATION, OR (III) INSCAPE DATA'S LIABILITY IN CONNECTION WITH ANY TERMS THAT CANNOT BE EXCLUDED UNDER APPLICABLE LAW.

For all countries referred to above, Customer agrees that the limitations of liability and disclaimers set forth herein will apply regardless of whether Customer has accepted the Software or any other product or service delivered by Inscape Data. Customer acknowledges and agrees that Inscape Data has set its prices and entered into the Agreement in reliance upon the disclaimers of warranty and the limitations of liability set forth herein, that the same reflect an allocation of risk between the parties (including the risk that a contract remedy may fail of its essential purpose and cause consequential loss), and that the same form an essential basis of the bargain between the parties.

***Controlling Law, Jurisdiction.*** If you acquired the Software in the United States, Latin America, or the Caribbean, the Agreement and Hardware and Software warranties (“Warranties”) are controlled by and construed under the laws of the State of California, United States of America, notwithstanding any conflicts of law provisions; and the state and federal courts of California shall have exclusive jurisdiction over any claim arising under the Agreement or Warranties. If you acquired the Software in Canada, unless expressly prohibited by local law, the Agreement and Warranties are controlled by and construed under the laws of the Province of Ontario, Canada, notwithstanding any conflicts of law provisions; and the courts of the Province of Ontario shall have exclusive jurisdiction over any claim arising under the Agreement or Warranties. If you acquired the Software in Europe, the Middle East, Africa, Asia or Oceania (excluding Australia), unless expressly prohibited by local law, the Agreement and Warranties are controlled by and construed under the laws of England, notwithstanding any conflicts of law provisions; and the English courts shall have exclusive jurisdiction over any claim

arising under the Agreement or Warranties. In addition, if the Agreement is controlled by the laws of England, no person who is not a party to the Agreement shall be entitled to enforce or take the benefit of any of its terms under the Contracts (Rights of Third Parties) Act 1999. If you acquired the Software in Japan, unless expressly prohibited by local law, the Agreement and Warranties are controlled by and construed under the laws of Japan, notwithstanding any conflicts of law provisions; and the Tokyo District Court of Japan shall have exclusive jurisdiction over any claim arising under the Agreement or Warranties. If you acquired the Software in Australia, unless expressly prohibited by local law, the Agreement and Warranties are controlled by and construed under the laws of the State of New South Wales, Australia, notwithstanding any conflicts of law provisions; and the State and federal courts of New South Wales shall have exclusive jurisdiction over any claim arising under the Agreement or Warranties. If you acquired the Software in any other country, unless expressly prohibited by local law, the Agreement and Warranties are controlled by and construed under the laws of the State of California, United States of America, notwithstanding any conflicts of law provisions; and the state and federal courts of California shall have exclusive jurisdiction over any claim arising under the Agreement or Warranties.

For all countries referred to above, the parties specifically disclaim the application of the UN Convention on Contracts for the International Sale of Goods. Notwithstanding the foregoing, either party may seek interim injunctive relief in any court of appropriate jurisdiction with respect to any alleged breach of such party's intellectual property or proprietary rights. If any portion hereof is found to be void or unenforceable, the remaining provisions of the Agreement and Warranties shall remain in full force and effect. Except as expressly provided herein, the Agreement constitutes the entire agreement between the parties with respect to the license of the Software and Documentation and supersedes any conflicting or additional terms contained in any Purchase Order or elsewhere, all of which terms are excluded. The Agreement has been written in the English language, and the parties agree that the English version will govern.

© 2007, 2008, 2009, & 2012 Inscape Data Corporation, All rights reserved.

## **Safety Summary**

The following general safety precautions must be observed during all phases of operation of this instrument. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the instrument. Inscope Data Corporation assumes no liability for the customer's failure to comply with these requirements.

### **Before Applying Power**

Verify that the product is set to match the available line voltage and all safety precautions are taken.

### **Over Temperature Warning**

To prevent the switch from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of (70°C). To prevent product cooling restriction, allow at least 3 inches (7.6 cm) of clearance around the product after installation.

### **Ground the Instrument**

To minimize shock hazard, the instrument chassis and cabinet must be connected to an electrical ground. The instrument must be connected to the ac power supply mains through a three-conductor power cable, with the third wire firmly connected to an electrical ground (safety ground) at the power outlet. For instruments designed to be hard-wired to the ac power lines (supply mains), connect the protective earth terminal to a protective conductor before any other connection is made. Any interruption of the protective (grounding) conductor or disconnection of the protective earth terminal will cause a potential shock hazard that could result in personal injury.

When installing the unit, always make the ground connection first and disconnect it last.

### **Jewelry Removal Warning**

Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.

### **Do not Operate in Explosive Atmosphere**



Do not operate the product in the presence of flammable gases or fumes.

### **Chassis Power Connection**

Before connecting or disconnecting ground or power wires to the chassis, ensure that power is removed from the device. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the device, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.

### **Work During Lightning Activity**

Do not work on the system or connect or disconnect cables during periods of lightning activity.

### **Comply with Local and National Electrical Codes**

Installation of the equipment must comply with local and national electrical codes

### **Do Not Exceed Input and Output Ratings**

Do not operate the product to exceed the power input and output ratings.

## Table of Contents

<b>Foreword</b>	20
<b>Chapter 1 Access Device</b>	21
1.1    Access Method	21
1.2    Login Configuration	21
1.3    User Login	21
<b>Chapter 2 Switch Management</b>	23
2.1    Authentication Configuration	23
2.2    System IP Configuration	24
2.3    System Status	24
2.4    Load Default Setting	25
2.5    Firmware Update / Upgrade	26
2.6    Reboot Device	27
<b>Chapter 3 Port Setting</b>	29
3.1    Port Configuration	29
3.2    Port Mirroring	30
3.3    Bandwidth Control	31
3.4    Broadcast Storm Control	32
<b>Chapter 4 VLAN Setting</b>	34
4.1    VLAN mode	34
4.2    VLAN Member	35
<b>Chapter 5 Port Packet Count</b>	37
5.1    Port Packet Count	37
<b>Chapter 6 QoS Setting</b>	39
6.1    Priority Mode	39
<b>Chapter 7 Packet Security Filter</b>	40
7.1    MAC Address Binding	40
7.2    TCP/UDP Filter	41

<b>Chapter 8 Spanning Tree Settings .....</b>	<b>42</b>
8.1    STP Bridge Settings .....	42
8.2    STP Port Settings .....	43
8.3    Loopback Detection Settings.....	45
<b>Chapter 9 Link Aggregation Settings .....</b>	<b>46</b>
9.1    Link Aggregation Settings.....	46
<b>Chapter 9 DHCP Relay Agent Configuration .....</b>	<b>47</b>
10.1    DHCP Relay Agent Setting.....	47
10.2    Relay Server Setting .....	47
10.3    VLAN MAP Relay Agent Setting.....	47
<b>Chapter 11 Configuration Backup/Recovery .....</b>	<b>49</b>
11.1    Configuration Backup/Recovery .....	49
<b>Chapter 12 Miscellaneous .....</b>	<b>50</b>
12.1    Miscellaneous Setting .....	50
<b>Chapter 13 Hardware Default Value Recovery .....</b>	<b>52</b>
Appendix 1    Common Fault Diagnosis .....	53
Appendix 2    Terminology Descriptions.....	54
Appendix 3    Network Cable Production .....	56
RJ-45 connector .....	56
Network Cable Production.....	57

# Foreword

## Introduction



This manual is written for LPS1800 Managed PoE (Power over Ethernet) Switch, and all the major functions of the fast Ethernet switch are described in detail. Through reading of this manual, you will understand the functions of the switch's characteristic, port Settings, VLAN, QoS Settings, and so on various system configurations.

## Reader objects

This manual requires a certain network knowledge from the user, such as understanding of a network device and be familiar with the Ethernet equipment configuration and the role of a system administrator.

## Book Convention

### Icon Description

Icon	Note Type	Description
	Hint Message	The additional information for the content
	Attention Message	Remind matters that should be paid attention to during the process of operation

# Chapter 1 Access Device

## 1.1 Access Method

Via the WEB login to the device configuration page, to conduct all the configuration management, including switches port Settings and VLAN Settings, and so on through the WEB pages. You can use a Web browser (it is recommended to use the Internet Explorer5.0 above).

## 1.2 Login Configuration

All network ports of this device support WEB management equipment, IP management by default 192.168.2.1, subnet mask: 255.255.255.0, the default gateway: 192.168.2.254. The administrator of the PC as long as you can communicate with the equipment management.


Default IP Address: 192.168.2.1

Default login **user**: "admin" and login **password**: "system".

## 1.3 User Login

Using Web page to login in your Web browser address bar and enter the following device IP address, ***192.168.2.1***.

(Note: When the maintenance administrator's PC and the switch device are connected), press "Enter", then below Log In screen will display:



**USER LOG IN**

Site: 192.168.2.1

ID:

Password:

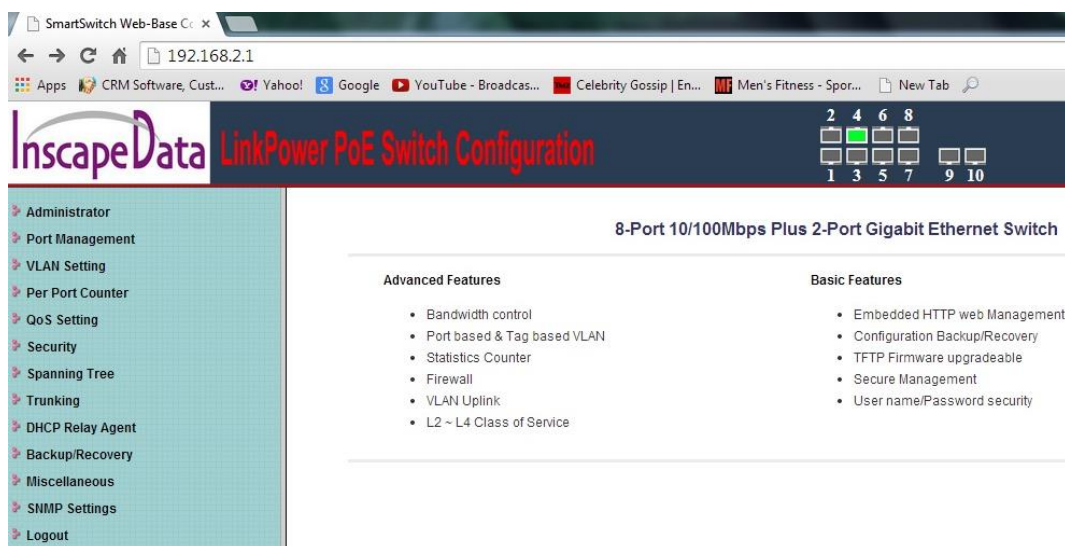
In the "user name" and "password" column Users input corresponding user name and password, press [sure], can enter the configuration main page.



Note: Default login ID: "admin" and login password: "system".

Corresponding user name and password can be modified in the [password setting](#) .

After successfully login, the main page is displayed as below:



SmartSwitch Web-Base Configuration

192.168.2.1

Apps CRM Software, Cust... Yahoo! Google YouTube - Broadcas... Celebrity Gossip | En... Men's Fitness - Spor... New Tab

**InscapeData LinkPower PoE Switch Configuration**

2 4 6 8  
1 3 5 7 9 10

**8-Port 10/100Mbps Plus 2-Port Gigabit Ethernet Switch**

Advanced Features	Basic Features
<ul style="list-style-type: none"> <li>Bandwidth control</li> <li>Port based &amp; Tag based VLAN</li> <li>Statistics Counter</li> <li>Firewall</li> <li>VLAN Uplink</li> <li>L2 ~ L4 Class of Service</li> </ul>	<ul style="list-style-type: none"> <li>Embedded HTTP web Management</li> <li>Configuration Backup/Recovery</li> <li>TFTP Firmware upgradeable</li> <li>Secure Management</li> <li>User name/Password security</li> </ul>

Left sidebar menu:

- Administrator
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Page left margin lists respectively each option directory, right border shows the switch's "advanced features" and "basic features" introduction

# Chapter 2 Switch Management

## 2.1 Authentication Configuration

Click "Authentication configuration" in the directory (Administrator) of the "switch management" on the left side, go to the following page

### Authentication Configuration

---

Setting	Value
Username	<input type="text" value="admin"/> max:15
Password Confirm	<div><input type="password" value="....."/> max:15 <input type="password" value="....."/></div>
<div>Update</div>	

**Note:**

Username & Password can only use "a-z", "A-Z", "0-9", "\_", "+", "-", "=".

This page is used to modify the current login user name and password

Click "Update" configuration. If you modify successfully, then it will go to the following page:

**Update  
Successfully!!**

Please Click "Reboot" to use new setting to login

Reboot

Click on the "back", re-enter the password Settings page.



Note: the user name and password can only use letters or Numbers.

## 2.2 System IP Configuration

Click “System IP Configuration” in the directory “Administrator” of the “Switch Management “on the left side, go to the following page:

### System IP Configuration

Setting	Value
IP Address	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="2"/> . <input type="text" value="1"/>
Subnet Mask	<input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/>
Gateway	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="2"/> . <input type="text" value="254"/>
IP Configure	<input checked="" type="radio"/> Static <input type="radio"/> DHCP
<input type="button" value="Update"/>	

Here, you can configure the IP Address, Subnet Mask, Gateway, and IP Configure of the switch. IP address configuration can't be all zeros, all F and multicast address .Click "Update" configuration, after the success of the configuration need to restart your device.

## 2.3 System Status

On the System status page, display including the switch MAC Address, port Number type (Number of Ports), machine identifier (Comment) , System Version , Idle Time Security Setting (Idle Time Security ).The diagram as below:



## System Status

MAC Address	10:f0:13:f0:18:26
Number of Ports	24+2
Comment	<input type="text" value="switch"/> MAX:15
System Version	IP1826D_WebCtrl_IP210L3.95_PoEPD69100_v108.1
<input type="checkbox"/> Idle Time Security	Idle Time: <input type="text" value="0"/> (1~30 Minutes)  <input type="radio"/> Auto Logout(Default). <input type="radio"/> Back to the last display.
<input type="button" value="Update"/>	

Note:  
Comment name only can use "a-z","A-Z","\_","+", "-", "0-9"

In “comment “(machine identifier) input box, input machine id, click the “Update” (submit) can modify successfully, the marks will be shown in the login page.

## 2.4 Load Default Setting

Restore the default value of the switch configuration back to the initial state, but does not include the IP address of the device, the user name and password.

Click “Load Default Setting “in directory Administrator on the left side, go to the following page

### Load Default Setting

recover switch default setting excluding the IP address, User name and Password

Click on the "Load" button, after the success of the Settings, need restart your device.

## 2.5 Firmware Update / Upgrade

The switch firmware update and upgrade can be done the following two ways:

### 1. Web Browser

Click directory [Firmware Update] listed in the directory [Administrator] on the left side, jump following page



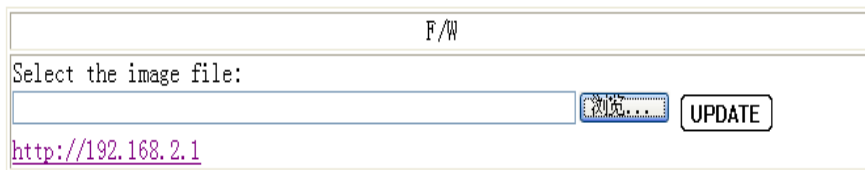
The screenshot shows a web page titled "Firmware Update". The main content area contains the text "Please input the password to continue the Firmware Update process." followed by two input fields labeled "Password" and "ReConfirm". Below these fields is a button labeled "Update".

**Notice:**

After clicking the "UPDATE" button, IF the firmware update webpage is not redirected correctly or is shown as "Webpage not found".

Please connect to <http://192.168.2.1>

Enter the password and confirm (the same as the user password), click "Update" to enter the flash erase page, after the flash erase will pop up the following page



The screenshot shows a web page titled "F/W". The main content area contains the text "Select the image file:" followed by a file selection box with a "Browse..." button. To the right of the file selection box is a button labeled "UPDATE". Below the file selection box is a URL <http://192.168.2.1>.

Click on the "browse", select the upgrade file that you need in the file selection box, click "Update" to **upgrade**.

**The whole upgrade process takes 2 to 5 minutes or so, after the successful upgrade will automatically jump to the system login page.**

If error in the flash erase process, the system will automatically be renewed erasures.

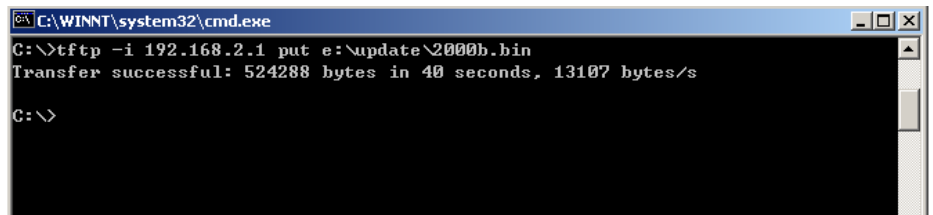
OK!

Continue

Firmware upgrade is complete, click the "Continue"

## 2. TFTP upgrades

After the flash erase, in Microsoft's command line window to run a TFTP client program, here assumes that the IP address is 192.168.2.1 for the equipment, input format: c: \ TFTP -i 192.168.2.1 put file path \ filename. Bin, press the return key. .As shown in figure:



```
C:\WINNT\system32\cmd.exe
C:\>tftp -i 192.168.2.1 put e:\update\2000b.bin
Transfer successful: 524288 bytes in 40 seconds, 13107 bytes/s
C:\>
```

Please log in again after the completion of systems



Note: The default update password is 123456.If return an error or the time for upgrading the firmware update page is too long, please reconnect according to the login page text. Please make sure that you don't shut off the power during flash erase and upgrade.

## 2.6 Reboot Device

Click directory [Reboot Device] of the left [Administrator], jump following page

Reboot Device:

Click "Confirm" to Reboot the Device

Confirm

Click "Confirm"

# Chapter 3 Port Setting

## 3.1 Port Configuration

In port configuration page, setting the port features include: automatic negotiation (Auto-Negotiation), speed rate (Speed), Duplex mode (Duplex), flow control (802.3 x/backpressure) and port learning (Addr. Learning) function

**Port Configuration**

Function: Tx/Rx Ability, Auto-Negotiation, Speed, Duplex, Pause, Backpressure, Addr. Learning

Select Port No.: 01 02 03 04 05 06 07 08 09 10


**Current Status**


Port	Link	Speed	Duplex	FlowCtrl	Tx/Rx Ability	Auto-Nego	Speed	Duplex	Pause	Backpressure	Addr. Learning
1	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
2	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
3	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
4	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
5	●	100M	FULL	ON	ON	AUTO	100M	FULL	ON	ON	ON
6	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
7	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
8	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
9	---	---	---	---	ON	AUTO	1G	FULL	ON	ON	OFF
10	---	---	---	---	ON	AUTO	1G	FULL	ON	ON	OFF

**Setting Status**

In [the Select Port No.] Port, check the configuration on the function of the drop-down box to choose Port configuration, click "Update" configuration.

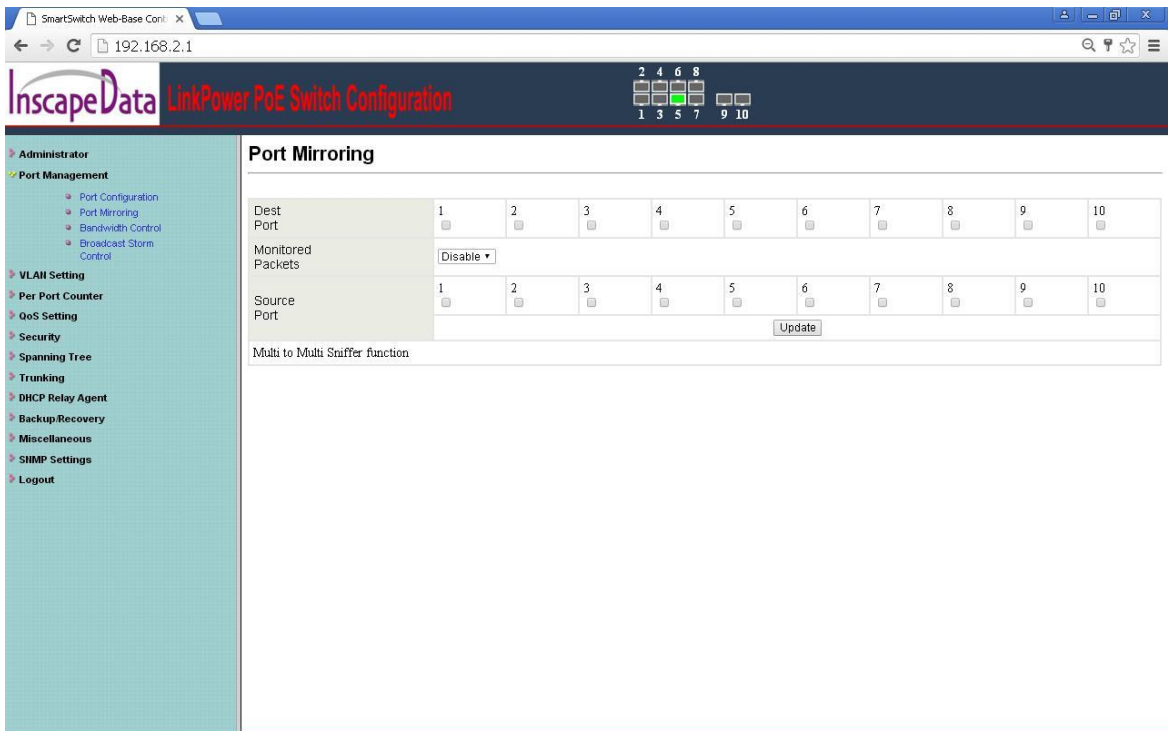
The Switch's 【 port status 】 (Current Status) and 【 port configuration 】 (Setting Status) :

Port	Current Status				Setting Status						
	Link	Speed	Duplex	FlowCtrl	Tx/Rx Ability	Auto-Nego	Speed	Duplex	Pause	Backpressure	Addr. Learning
1	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
2	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
3	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
4	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
5		100M	FULL	ON	ON	AUTO	100M	FULL	ON	ON	ON
6	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
7	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
8	---	---	---	---	ON	AUTO	100M	FULL	ON	ON	OFF
9	---	---	---	---	ON	AUTO	1G	FULL	ON	ON	OFF
10	---	---	---	---	ON	AUTO	1G	FULL	ON	ON	OFF

【Port status  bar refers to the actual status of port link after consultation.

## 3.2 Port Mirroring

The system provides port-based mirroring, you can assign one or more ports packets copied to monitoring port, used to analyze and monitor packets. As shown below, the [destination port] (Dest Port), select the mirror port, in [Source Port] (Source Port) is selected to be mirrored port. [Prison probe type] (Monitored Packets) include: disable (turn off), Rx (inbound), Tx (out) and Rx & Tx (bidirectional) four strategies. Users according to their needs, choose to configure the switch port for many-monitoring probe. Click [Submit] (Update) configuration.



### 3.3 Bandwidth Control

In this function, the user can configure the maximum sending rate and receiving rate for each port. Rate granularity as follows: Low: 32Kbps and High: 512Kbps.

The formula: maximum transmit / receive rate

= Rate control (0 ~ 255) x 32 kbps (low bandwidth)

= Rate control (0 ~ 255) x 512 kbps (high bandwidth)

Click [Submit] (Update) is configured successfully. Click [Reply default] (Load Default) can restore the default. After the restore default values, the speed rate for each port is connection speed. As shown.

## Bandwidth Control

Port No	Tx Rate	Rx Rate
01 ▾	(0~255) <input type="text"/> (0:Full Speed)	(0~255) <input type="text"/> (0:Full Speed)
Speed Base	<div>Low ▾</div> <div>Low: (1)32Kbps Tx/Rx bandwidth resolution for port 1~ port 26. Actual Tx/Rx bandwidth =Rate value x 32 kbps. The rate value is 1~255.</div> <div>High: (1)256Kbps Tx/Rx bandwidth resolution for port 1~ port 24. Actual Tx/Rx bandwidth=Rate value x 256Kbps. The rate value is 1~255. When link speed is 10MB. The rate value is 1~39.</div> <div>(2)the bandwidth resolution is 2048Kbps for port 25, port 26. Actual Tx/Rx bandwidth=Rate value x 2048Kbps. The rate value is 1~255. When link speed is 10MB. The rate value is 1~4. When link speed is 100MB. The rate value is 1~48.</div>	
<div>Update LoadDefault</div>		
If the link speed of selected port is lower than the rate that you seting, this system will use the value of link speed as your setting rate.		

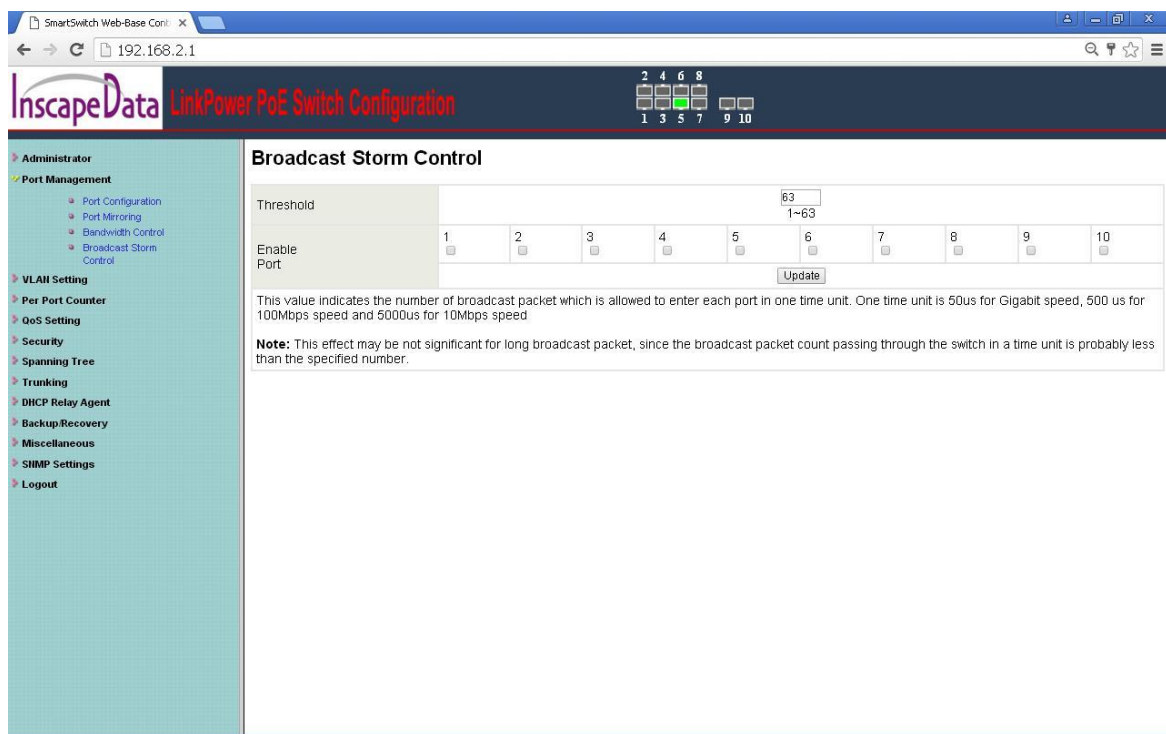


Note: if the selected port connection rate is less than the bandwidth control rate, the system will be connected rate as bandwidth control rate.

### 3.4 Broadcast Storm Control

As shown in [Port Enable] (Enable Port), the selected configuration port, it says the maximum broadcast packets of the port that are allowed to enter the port in a unit time.





# Chapter 4 VLAN Setting

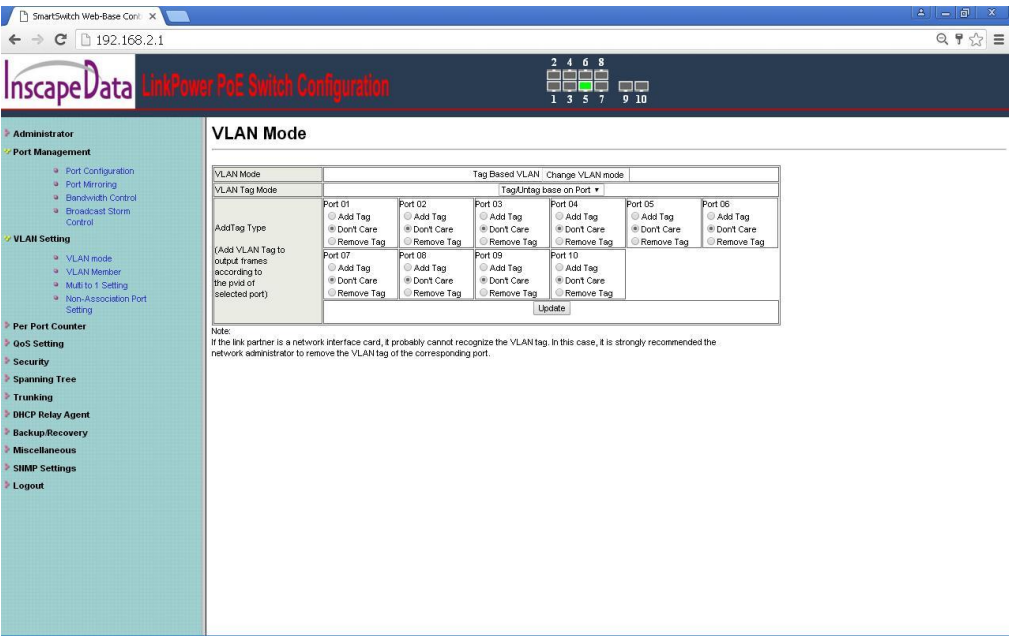
## 4.1 VLAN mode

VLAN mode is divided into the Port -based VLAN and Tag Base VLAN. The default mode is the Port -based VLAN mode. The following figure:

### VLAN Mode

VLAN Mode	Port Based VLAN	Change VLAN mode
-----------	-----------------	------------------

Click "Change VLAN Mode" can be switched systems VLAN mode. In the Tag Base VLAN mode page, the user can configure the port Tag property, including three kinds: Tag, Unmodify, Untag, as shown below:





Note: if the connection to end is a PC card, generally it's unable to identify 802.1 Q Tag.

In this case, please set the corresponding port to Untagged properties

## 4.2 VLAN Member

Based on the system, VLAN mode can be divided into:

### 1. Port Based VLAN Member Setting

The screenshot displays the SmartSwitch Web-Base Configuration interface. The browser address bar shows the URL 192.168.2.1. The page title is "LinkPower PoE Switch Configuration". The left sidebar contains a navigation menu with the following items: Administrator, Port Management (Port Configuration, Port Mirroring, Bandwidth Control, Broadcast Storm Control), VLAN Setting (VLAN mode, VLAN Member, Multi to 1 Setting, Non-Association Port Setting), Per Port Counter, QoS Setting, Security, Spanning Tree, Trunking, DHCP Relay Agent, Backup/Recovery, Miscellaneous, SNMP Settings, and Logout.

The main content area is titled "VLAN Member Setting (Tag Based)". It includes a table for adding and managing VLAN members. The table has columns for VID (1-4094), Name (Max 8 characters), and buttons for Add, Delete, and Update. Below the table, there are instructions for adding and deleting VLAN entries.

The table shows the following data:

VLAN Setting	01	02	03	04	05	06	07	08
member select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PVID select	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VLAN Setting	09	10	-	-	-	-	-	-
member select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	-
PVID select	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-	-	-	-

Below the table, there is a "Port VID Map" section with a table showing the mapping of ports to VLANs:

Port	01	02	03	04	05	06	07	08
VID	1	1	1	1	1	1	1	1
Port	09	10	-	-	-	-	-	-
VID	1	1	-	-	-	-	-	-

At the bottom, there is a "VLAN MEMBER" table showing the configuration for each VLAN member:

Name(VID)	01	02	03	04	05	06	07	08	09	10
CPU_CTRL(1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Port] (Dest PORT) used for uplink port settings, [members port selection] (select) used for down link port setting, [Restore Default] (Load Default) to restore the default settings. For example, set port 16 to be uplink port, set port 01 to 15 to be the downlink ports, so that, the port 16 of the switch will forward the packets to the port 01 to 15 of the switch. The Configuration is shown below:

Click [Restore Default] (Load Default) to restore the default values in this mode, the last port is uplink port, the other port is downlink port,



Description: Set in the downlink ports must include uplink port, such as, [member port selection] (select) must include the port 01.as above figure

# Chapter 5 Port Packet Count

## 5.1 Port Packet Count

Port Count mode includes four types: the Receive Packet & Transmit Packet, the Transmit Packet & Collision Count, the Receive Packet & Drop the Packet and the Receive Packet & CRC error Packet. After choosing type, click the "submit" (Update) can set the Count type. Click on the "Refresh" (Refresh) Refresh count .Click the "reset" (Clear) reset the count.

The screenshot displays the SmartSwitch Web-Base Configuration interface. The browser address bar shows the URL 192.168.2.1. The page title is "LinkPower PoE Switch Configuration". The left sidebar contains a navigation menu with the following items: Administrator, Port Management (with sub-items: Port Configuration, Port Mirroring, Bandwidth Control, Broadcast Storm Control), VLAN Setting (with sub-items: VLAN mode, VLAN Member, Multi to 1 Setting, Non-Association Port Setting), Per Port Counter (with sub-item: Port Counter), QoS Setting, Security, Spanning Tree, Trunking, DHCP Relay Agent, Backup/Recovery, Miscellaneous, SNMP Settings, and Logout. The main content area is titled "Counter Category". It features a "Counter Mode Selection" dropdown menu set to "Transmit Packet & Receive Packet" and an "Update" button. Below this is a table with 10 rows representing ports 01 to 10. The table has three columns: "Port", "Transmit Packet", and "Receive Packet". The data for each port is as follows:

Port	Transmit Packet	Receive Packet
01	0	0
02	0	0
03	0	0
04	0	0
05	6386	5579
06	0	0
07	0	0
08	0	0
09	0	0
10	0	0

At the bottom of the table, there are "Clear" and "Refresh" buttons.



Note: system does not automatically refresh the count, must manually click on the "refresh". When the count value reaches the maximum value, will be reset automatically

# Chapter 6 QoS Setting

## 6.1 Priority Mode

### 1. Priority mode including:

First-in priority scheduling( First - In - First Out) When Queue scheduling, according to the time order of message in the queue, switch to first-in priority scheduling rule processing first message system (by default) for the pattern.

### 2. Strict priority scheduling (All - High - Before - Low)

When Queue scheduling, All - High - Before - Low, in strict accordance with the order of the priority from High to Low priority to send groups of higher priority queue, when the higher priority queue is empty, and then send a lower priority queue grouping of All - High - Before - Low queue scheduling, is the key for business-critical application design. Key business has a important features, that is, when congestion occurs request the priority service to reduce response delay.

### 3. The queue weight scheduling (Weighted Round Robin, WRR)

#### Priority Mode

Priority Mode	
Mode	<input checked="" type="radio"/> First-In-First-Out <input type="radio"/> All-High-before-Low <input type="radio"/> Weight-Round-Robin.    Low weight: <input type="text" value="0"/> High weight: <input type="text" value="0"/>
<input type="button" value="Update"/>	
<p><b>Note:</b> When the queue weight is set to "0", it will be treated as "8". The "low weight" and "high weight" means the ratio of the packet in the transmit queue. For example, If "low weight" and "high weight" are set to "3" and "5", the ratio of the trasmit packet for the low priority to high priority is 3/5.</p>	



Note: when the queue weight is set to 0, the actual treated as 8.





# 7.2 TCP/UDP Filter

## TCP\_UDP Filter Configuration

Function Enable	<div>Disable</div>							
Port Filtering Rule	<div>negative</div> <p>Note: (1)The outgoing packet with selected protocol will be either forwarded or dropped at secure WAN port as the figure shwon below. (2)'negative' means the selected protocol will be dropped and other protocols will be forwarded. 'positive' means the selected protocol will be forwarded and other protocol will be dropped.</p>							
Protocol	<div><input type="checkbox"/> FTP(20,21)</div>	<div><input type="checkbox"/> SSH(22)</div>	<div><input type="checkbox"/> TELNET(23)</div>	<div><input type="checkbox"/> SMTP(25)</div>	<div><input type="checkbox"/> DNS(53)</div>	<div><input type="checkbox"/> TFTP(69)</div>	<div><input type="checkbox"/> HTTP(80,8080)</div>	<div><input type="checkbox"/> POP3(110)</div>
	<div><input type="checkbox"/> NEWS(119)</div>	<div><input type="checkbox"/> SNMP(123)</div>	<div><input type="checkbox"/> NetBIOS(137~139)</div>	<div><input type="checkbox"/> IMAP(143,220)</div>	<div><input type="checkbox"/> SNMP(161,162)</div>	<div><input type="checkbox"/> HTTPS(443)</div>	<div><input type="checkbox"/> XRD_RDP(3389)</div>	<div><input type="checkbox"/> BOOTP_DHCP(67,68)</div>
	<div><input type="checkbox"/> User_Define_a</div>	<div><input type="checkbox"/> User_Define_b</div>	<div><input type="checkbox"/> User_Define_c</div>	<div><input type="checkbox"/> User_Define_d</div>				
Note: These User-defined A/B/C TCP/UDP settings use the smae port number settings as the Users-defined A/B/C Port number settings in Qos's Class of Service webpage.								
Secure WAN port	<div><input type="checkbox"/> Port01</div>	<div><input type="checkbox"/> Port02</div>	<div><input type="checkbox"/> Port03</div>	<div><input type="checkbox"/> Port04</div>	<div><input type="checkbox"/> Port05</div>	<div><input type="checkbox"/> Port06</div>	<div><input type="checkbox"/> Port07</div>	<div><input type="checkbox"/> Port08</div>
	<div><input type="checkbox"/> Port09</div>	<div><input type="checkbox"/> Port10</div>	<div><input type="checkbox"/> Port11</div>	<div><input type="checkbox"/> Port12</div>	<div><input type="checkbox"/> Port13</div>	<div><input type="checkbox"/> Port14</div>	<div><input type="checkbox"/> Port15</div>	<div><input type="checkbox"/> Port16</div>
	<div><input type="checkbox"/> Port17</div>	<div><input type="checkbox"/> Port18</div>	<div><input type="checkbox"/> Port19</div>	<div><input type="checkbox"/> Port20</div>	<div><input type="checkbox"/> Port21</div>	<div><input type="checkbox"/> Port22</div>	<div><input type="checkbox"/> Port23</div>	<div><input type="checkbox"/> Port24</div>
	<div><input type="checkbox"/> Port25</div>	<div><input type="checkbox"/> Port26</div>						
<div>Update</div>								

【Function Enable】 (Function Enable) drop-down boxes“ Enable ”makes this function be available , otherwise it is invalid.

【Port Filter rules】 (Port Filter Rule) option Deny is said the selected protocol Port message is discarded, other protocol Port is forwarded message, Allow is said the selected protocol Port is forwarded message, other protocol Port packet is discarded.

【Secure Port】 is said set TCP/UDP filtering function switches WAN Port;

【Protocol】 includes 20 different network protocols. In addition, UserDEF\_a, UserDEF\_b and UserDEF\_c protocols are user customized port protocols (the three agreements should be set in "Qos based on TCP/UDP" page Settings first)

For example, this “Enable” function , set port filtering rules as “Deny”, choose “secure port01”, choose the Protcol agreement. as “FTP ”. After the success of the configuration, switches port01 will discard the FTP protocol packets.

# Chapter 8 Spanning Tree Settings

## 8.1 STP Bridge Settings

There is an example of STP Bridge Setting:

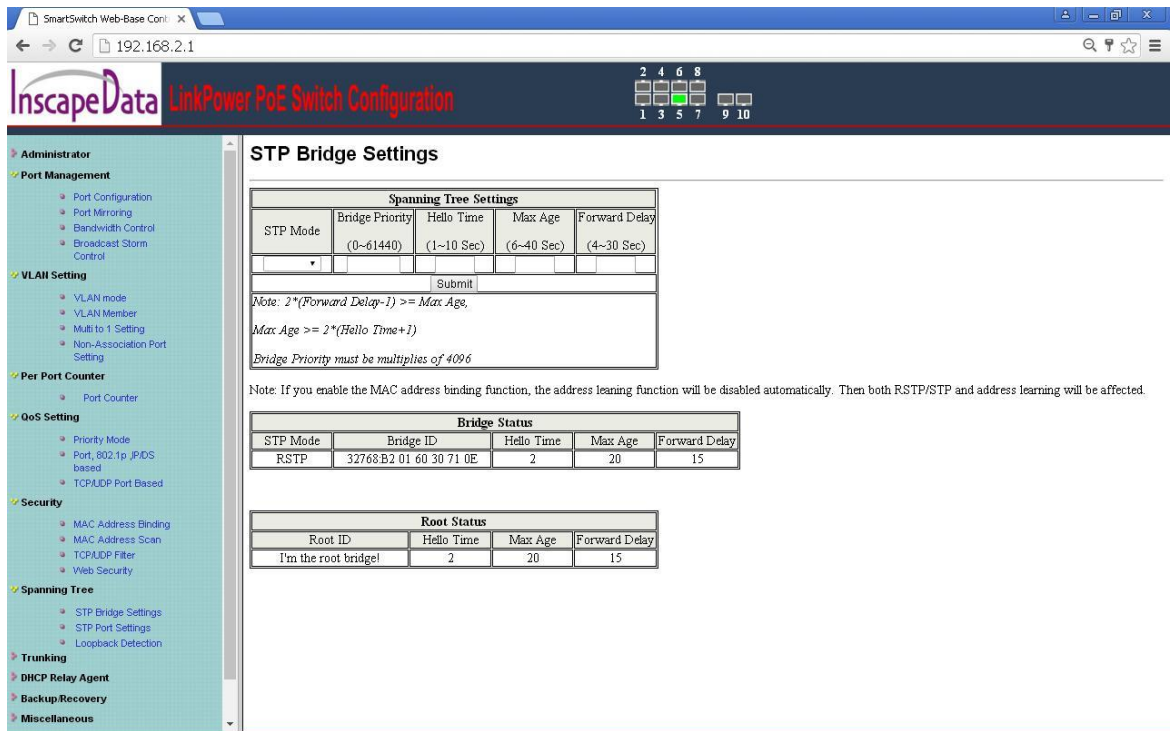
STP mode: disable、stp、rstp

Bridge Priority: 0-61440

Hello Time: 1-10 seconds

Max Age: 6-40 seconds

Forward Delay: 4-30 seconds



SmartSwitch Web-Base Config 192.168.2.1

InscapeData LinkPower PoE Switch Configuration

2 4 6 8  
1 3 5 7 9 10

**STP Bridge Settings**

Spanning Tree Settings				
STP Mode	Bridge Priority	Hello Time	Max Age	Forward Delay
	(0-61440)	(1-10 Sec)	(6-40 Sec)	(4-30 Sec)
Submit				

Note:  $2 * (\text{Forward Delay} - 1) \geq \text{Max Age}$   
 $\text{Max Age} \geq 2 * (\text{Hello Time} + 1)$   
 $\text{Bridge Priority must be multiples of } 4096$

Note: If you enable the MAC address binding function, the address learning function will be disabled automatically. Then both RSTP/STP and address learning will be affected.

Bridge Status				
STP Mode	Bridge ID	Hello Time	Max Age	Forward Delay
RSTP	32768:B2 01 60 30 71 0E	2	20	15

Root Status			
Root ID	Hello Time	Max Age	Forward Delay
I'm the root bridge!	2	20	15

## 8.2 STP Port Settings

### 1. STP Port Settings

To set port priority and port path cost

### 2. STP Port Status

To display port path cost, priority, forward status, STP port states, and so on

SmartSwitch Web-Base Confi
192.168.2.1
InscapeData
LinkPower PoE Switch Configuration
2 4 6 8  
1 3 5 7 9 10

Administrator
Port Management
Port Configuration
Port Mirroring
Bandwidth Control
Broadcast Storm Control
VLAN Setting
VLAN mode
VLAN Member
Multi to 1 Setting
Non-Association Port Setting
Per Port Counter
Port Counter
QoS Setting
Priority Mode
Port, 802.1p /P/Ds based
TCP/UDP Port Based
Security
MAC Address Binding
MAC Address Scan
TCP/UDP Filter
Web Security
Spanning Tree
STP Bridge Settings
STP Port Settings
Loopback Detection
Trunking
DHCP Relay Agent
Backup/Recovery
Miscellaneous

### STP Port Settings

STP Port Settings		
Port No.	Priority (0~240)	RPC (1~2000000000) 0=Auto
Submit		
Priority should be a multiple of 16		

STP Port Status						
Port No.	RPC	Priority	State	Status	Designated Bridge	Designated Port
1	Auto:0	0x80	--	Disable	--	--
2	Auto:0	0x80	--	Disable	--	--
3	Auto:0	0x80	--	Disable	--	--
4	Auto:0	0x80	--	Disable	--	--
5	Auto:2000000	0x80	Designated Port	Forwarding	--	--
6	Auto:0	0x80	--	Disable	--	--
7	Auto:0	0x80	--	Disable	--	--
8	Auto:0	0x80	--	Disable	--	--
9	Auto:0	0x80	--	Disable	--	--
10	Auto:0	0x80	--	Disable	--	--

# 8.3 Loopback Detection Settings

## 1. Loopback Detect Function

Enable: on; Disable: off

## 2. Auto Wake Up

Enable: on                  Disable: off

## 3. Wake-Up Time Interval

Open Auto wake up, there are loop of ports Discard the duration of the state.

## Loopback Detection Settings

Loopback Detect Function	Disable ▾
Auto Wake Up	Disable ▾
Wake-Up Time Interval	10 sec ▾
<input type="button" value="Submit"/>	

Port No.	Status
1	--
2	--
3	--
4	--
5	--
6	--
7	--
8	--
9	--
10	--

# Chapter 9 Link Aggregation Settings

## 9.1 Link Aggregation Settings

Link Aggregation Settings function are divided into four strategies: the port ID, SA, DA and SA&DA as per hash logic relations based on relations System by default is the port ID type.

SmartSwitch Web-Base Configuration

192.168.2.1

LinkPower PoE Switch Configuration

2 4 6 8  
1 3 5 7 9 10

**Trunking**

System Priority: 1 (1~65535)

Link Aggregation Algorithm: MAC Src&Dst

Submit

Refresh

Link Group 3		
Member	P9	P10
State	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Type	Disable	Passive
Operation Key	3 (1~65535)	Short Time Out
Time Out	Passive	Submit

Note: If you enable LACP on some specified ports and their link partners are normal port without LACP, these specified ports cannot transmit packet to/receive packet from the link partner.



Note: alone choose a port as Link Aggregation is void Settings. Please do not connect two-channel Link Aggregation to the switch, when there is a broadcasting packet sent, cannot limit the loop.

# Chapter 9 DHCP Relay Agent Configuration

## 10.1 DHCP Relay Agent Setting

【DHCP Relay State】 : when selecting “ Enable “ , its function is on ; when selecting “ Disable “ , it’s off . Hops count limit range is 1 ~ 16. 【DHCP Relay Option 82 state】 when selecting “ Enable “ , its function is on ; when selecting “ Disable “ , it’s off .

**DHCP Relay Agent**

DHCP Relay State :	Disable ▾
DHCP Relay Hops Count Limit (1-16):	16
DHCP Relay Option 82 State :	Disable ▾
<div>Update</div>	

## 10.2 Relay Server Setting

Add the Relay Server, can add up to three Relay Server. Enter the Server IP 192.168.2.10, for example, click”Add”, if need delete, please click “DEL”.

**DHCP Relay Agent**

DHCP Server IP

Add

DHCP Server IP List

## 10.3 VLAN MAP Relay Agent Setting

Add Relay Server IP Mapping VLAN ID, input VLANI, such as , 1 , select Server IP192.168.2.10

click “Add”.

**DHCP Relay Agent**

VLAN ID	<input type="text" value="1-4094"/>	Map Server IP <input type="button" value="v"/>	<input type="button" value="Add"/>
---------	-------------------------------------	--	------------------------------------

**MAP List**

VLAN ID	Server IP	Action
---------	-----------	--------



# Chapter 11 Configuration Backup/Recovery

## 11.1 Configuration Backup/Recovery

### 1. Configuring Backup

Click "download"(Download) the file download box will pop up, choose path to save to the local in Bin file format.

### 2.Configuring Recovery

Click on the "Browse", the file selection box will pop up, open the configuration file in the corresponding local path .

Input password, the default password is 123456, click " Update " , restart the device after the success of configuration .

#### Configuration Backup/Recovery

**Backup(Switch→PC)**  
Please check "Download" to download EEPROM contents.

**Recovery(PC→Switch)**  
Select the image file :  No file selected.  
Password:



Note: the contents of the configuration recovery do not include the switch's MAC address , user name, password, IP address..

# Chapter 12 Miscellaneous

## 12.1 Miscellaneous Setting

### **Miscellaneous Setting includes:**

#### **1. The output queue aging time:**

The Output Queue Packet Aging time can be set to 200 ms, 400 ms, 600 ms and 800 ms, Disable shows no aging.

#### **2. VLAN Striding**

After the feature enabled, even two ports are not in the same VLAN, the switch will also forward destination MAC known single broadcast packets to the port of destination.

#### **3. IGMP Snooping V1 and V2**

The IGMP snooping function settings: when setting 'Enable", this function is open; when setting 'Disable", this function is not open;

SmartSwitch Web-Base Confi
192.168.2.1
InscapeData
LinkPower PoE Switch Configuration
2 4 6 8
1 3 5 7 9 10

- Port Mirroring
- Bandwidth Control
- Broadcast Storm Control
- VLAN Setting**
  - VLAN mode
  - VLAN Member
  - Multi to 1 Setting
  - Non-Association Port Setting
- Per Port Counter**
  - Port Counter
- QoS Setting**
  - Priority Mode
  - Port, 802.1p, IP/D5 based
  - TCPAUDP Port Based
- Security**
  - MAC Address Binding
  - MAC Address Scan
  - TCPAUDP Filter
  - Web Security
- Spanning Tree**
  - STP Bridge Settings
  - STP Port Settings
  - Loopback Detection
- Trunking**
  - Link Aggregation Settings
- DHCP Relay Agent**
- Backup/Recovery**
- Miscellaneous**
- SNMP Settings**
- Logout**

### Miscellaneous Setting

#### Output Queue Aging Time

Aging time Disable	The output queue aging function allows the administrator to select the aging time of a packet stored in the output queue. A packet stored in the output queue for a long time will lower the free packet buffer, resulting in the poor utilization of the buffer and the poor switch performance.
-----------------------	---

#### VLAN Striding

VLAN Striding Disable	When this function is enabled, the switch will forward a uni-cast packet to the destination port. No matter whether the destination port is in the same VLAN group.
--------------------------	---

#### IGMP Snooping V1 & V2

IGMP Snooping Disable	IGMP Snooping V1 & V2 function enable
IGMP Leave Packet Disable	Leave packet will be forwarded to IGMP router ports.

#### VLAN Uplink Setting

Port 01 Uplink1 Uplink2	Port 02 Uplink1 Uplink2	Port 03 Uplink1 Uplink2	Port 04 Uplink1 Uplink2	Port 05 Uplink1 Uplink2	Port 06 Uplink1 Uplink2	Port 07 Uplink1 Uplink2	Port 08 Uplink1 Uplink2	Port 09 Uplink1 Uplink2
Port 10 Uplink1 Uplink2								

Clear Uplink1  
Clear Uplink2  
Update

# Chapter 13 Hardware Default Value Recovery

## 13.1 Hardware Default Value Recovery

Before the users to start, i.e., turn on, the switch for the first time, it is suggested that to restore the default hardware setting. After switch on electricity, hold down the RESET button, loosen after 5 seconds .The switch will automatically restore the default Settings, you can see the System LED flashing. After the system LED restore normal flashing frequency (*i.e.*, flashing at 1Hz ), then login the system again.



Note: Hardware Default Value Recovery in addition to restoring the parameters of the software, also including restoring the switch IP address, user name and password, but does not include the MAC address of the switch.

## Appendix 1 Common Fault Diagnosis

Fault phenomenon	Fault causes	Solving methods
When Power up, all the lights are not bright	Power supply connection error or the power supply is not normal	Check the power cord and plug
The Link/Active light is not bright	Cable damage; Cable type error; Ethernet cable is too long, beyond the allowed scope ; Wiring poor contact; Connecting each other can't work properly	Replace the cable; Reconnect the cables; Check the connection is working correctly
The Link/Active indicators are bright, but the network is Impassable.	The working patterns between Switches and network terminal Ethernet ports don't match each other. Network setup is not correct	Set the Ethernet ports working mode to make it match or set it to be adaptive work mode; Check the network Settings, including the switch Settings and connection Settings
All the Link/Active LEDs are flashing, the rates are slower or the network is Impassable	Broadcast Storm	Check whether the network connection forms a loop, the rational allocation of network; Check whether there is a site to send a large number of broadcast packets
Stop to work after working normally some time	Power supply is abnormal; Overheating; Abnormal program work	To check whether there is poor contact, power supply voltage is too low or too high; Check the surrounding environment, the vent was clear; Power up to reset again

## Appendix 2 Terminology Descriptions

Terminologies	Descriptions
Backbone	The main path of transmission between network segment traffic network
Bandwidth	The bandwidth of network channel usually indicates the ability of network data transmission channel
Broadcast Storm	Due to a large number of broadcast packets Ethernet packet , make network congestion , this caused by network failure
10BASE-T	IEEE802.3 short terminology, said 10 MBPS Ethernet on the Cat3 or better twisted-pair cable based on Manchester signal coding
100BASE-TX	IEEE802.3 short terminology, said 100 Mbps fast Ethernet based on 4B / 5B signal coding and the use of two-pair Cat5 twisted-pair cable
100BASE-FX	EEE802.3 short terminology , said 100 Mbps fast Ethernet based on 4B / 5B signal coding
Automatic Negotiation	Automated negotiation model is the port as per the other end of the equipment connection rate and duplex mode, automatically adjust the speed to the highest public level, namely on both ends of the line can with the fastest speed and duplex mode
QoS	Quality of Service
HOL	Head-Of-Line, thread blocking, refers to go out on the port congestion to limit the non-blocking port throughput, has nothing to do with the overload
Full Duplex	A kind of communication method that allows equipment to send and receive data at the same time
Half Duplex	A kind of communication method that only send or receive

	data
MDI	Medium interface, it is the name of the connector that's used between the transceiver and media to set up physical and electrical connection
MDIX	Cross media interface, it can send the sending signal of a device to the receiving end of another device , and vice versa.
RJ-45	A 8-pin module connector used in Twisted-pair link
Bridge	A network packets forwarding process according to the address of the link layer of the OSI network model,
SNMP	Simple network management protocol

# Appendix 3    Network Cable Production

## RJ-45 connector

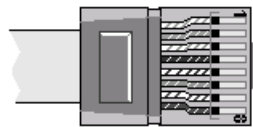


Figure 1 RJ-45 connector

Attached figure 1 is a RJ - 45 connector (the pressed the twisted-pair RJ - 45), from top to bottom, pin number named are from 1 to 8 in turn.

Table 1 shows the function definition of each pin about the RJ - 45 connector on the MDI mode function

Table 2 shows the function definition of each pin about the RJ - 45 connector on the MDIX mode function

Table 1    RJ-45 MDI interface pin assignment

Pin No.	Signal	Function
1	TxData+	sending data
2	TxData-	sending data
3	RxData+	receiving data
4	reserve	
5	reserve	
6	RxData-	receiving data
7	reserve	
8	reserve	



Table 2 MDIX interface pin assignment

Pin No.	Signal	Function
1	RxData+	receiving data
2	RxData-	receiving data
3	TxData+	sending data
4	reserve	
5	reserve	
6	TxData -	sending data
7	reserve	
8	reserve	

Network Cable Production

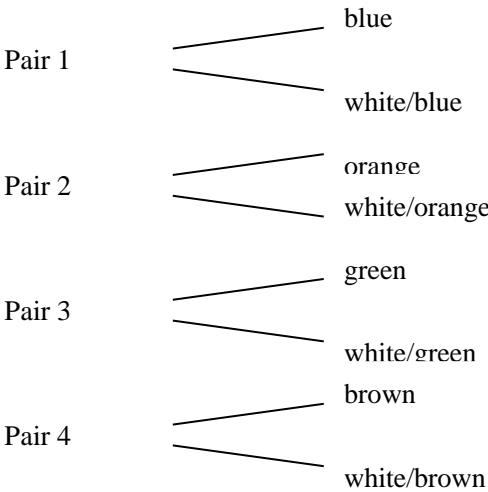


Chart 2 Cat 5 twisted-pair cable schematic diagram

Chart 2 is the production of Cat5 twisted-pair RJ - 45 connector Ethernet cable sample, reference for users to use. Cat5 twisted pair is composed of 8-core thread, use the color of the thread on the outer insulation layer to group identity. Usually use single color and monochrome with white as standard in pairs, also coloring point pairs are identified. This example used is the former.

Attached Cart 3, 4, is the arrangement of straight line and cross line connection methods, having regard to the different application requirements should choose respectively. In the traditional network, when the LAN cards connect with the hubs, switches, and so on, using straight-through cable; When the connection between LAN card and LAN card, the connection between the switches and the switches, the switches connect with the hubs routers , need use crossover cable. In the picture, "SIDE1" and "SIDE2" respectively mean both ends of the network cable, "1 ~ 8" Numbers are RJ - 45 connector pin numbers.

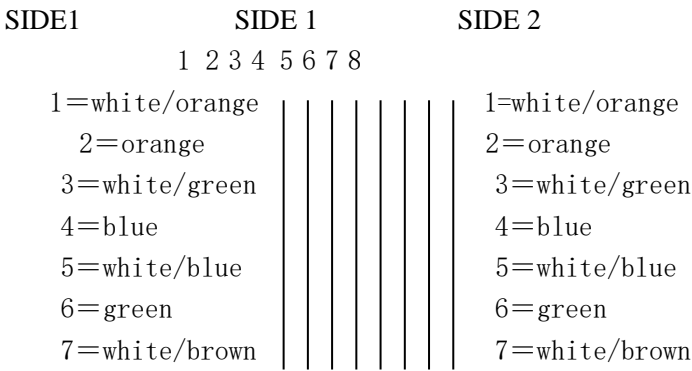
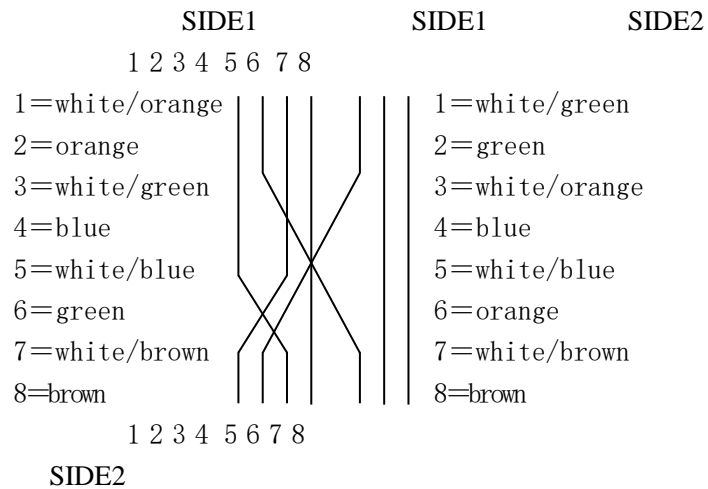


Chart 2 Cat 5 twisted-pair cable schematic diagram



## SIDE2

### Cart 3 straight-through network cable production



### Cart 4 cross network cable production