

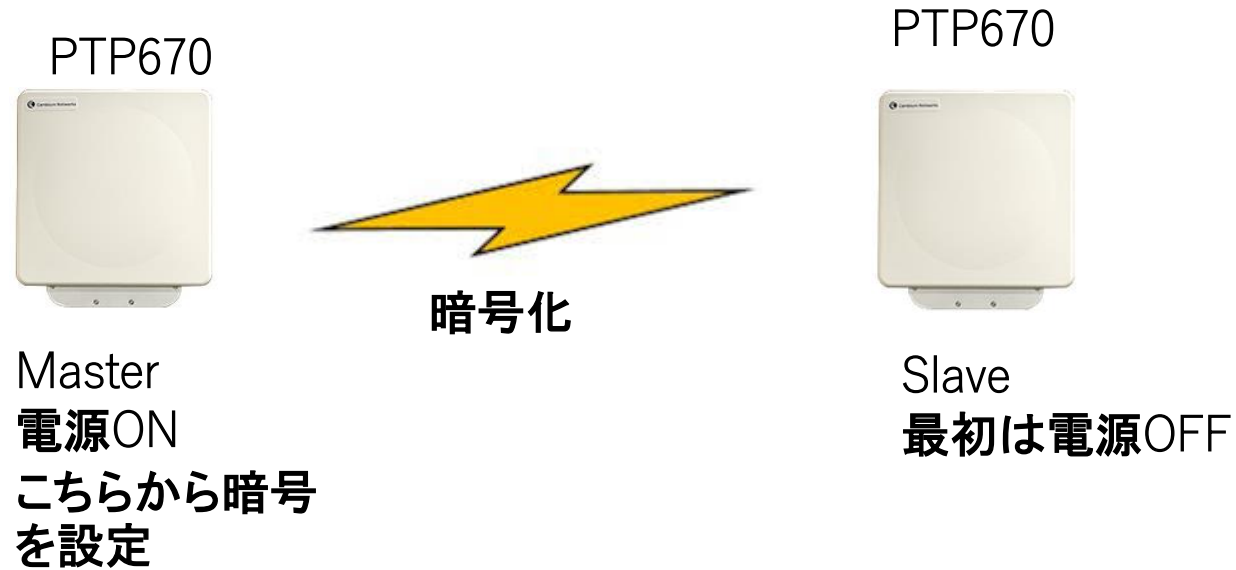
# PTP670-I/PTP670-C-H 無線回線暗号化設定 マニュアル

2021年12月14日

1. **本マニュアルはPTP670-I/PTP670-C-H の 128bit AES, 256bit AES の暗号化設定方法を示しております。**
2. **128bit AES, 256bit AES はオプションとしてライセンスの別途購入が必要になります。**
3. **PTP670ご購入後に128bit AES, 256bit AES をご購入の場合は別途ライセンスキーのインストールが必要になりますので、その時は購入元へお問い合わせ下さい。**
4. **事前に暗号化未設定の状態でMaster とSlave の設定を取説に基づいて行い、無線回線の確立を確認しておくことを推奨します。**

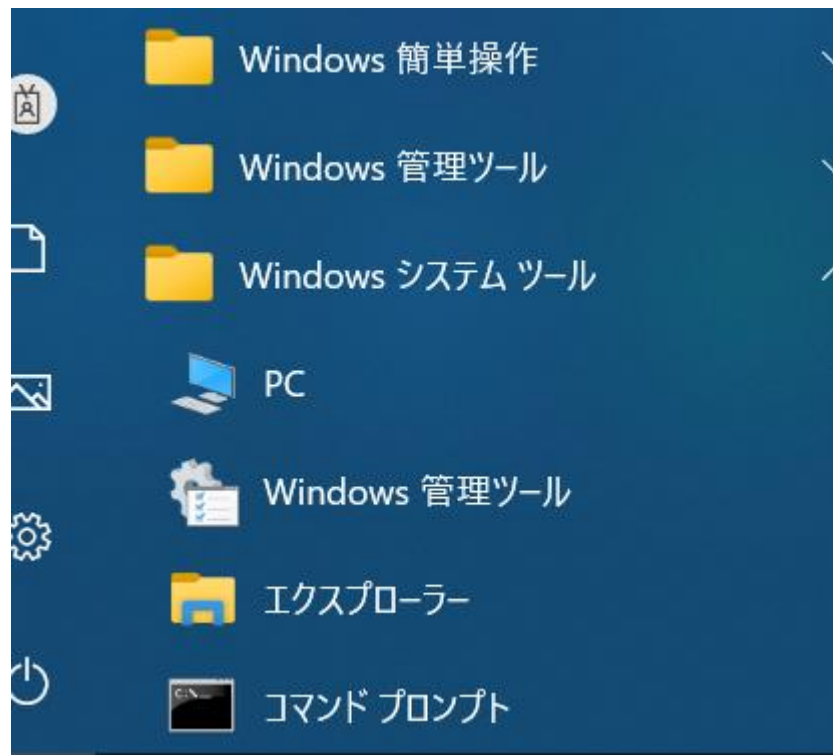
PCで以下の操作、確認が必要です。

P3	:目次
P4	:はじめに、Master局の作業
P5	:Ping連続打ちモードの設定
P6-7	:作業前のMaster局の画面確認
P8-22	:Master局 Security画面での作業、確認
P23-24	:Slave局の作業、確認
P25	:設定作業完了、最終確認へ
P26	:無線回線開通後のMaster局のStatus画面
P27	:無線回線開通後のSlave局のStatus画面



AESを使用した暗号の設定はMaster局から設定します。  
Master局の設定が終了してからSlave局の設定を行います。

はじめに: Pingを連続打ちモードにしておくことをお勧めします。



```
C:¥WINDOWS¥system32>ping 169.254.1.1 -t
```

169.254.1.1 に ping を送信しています 32 バイトのデータ:  
169.254.1.1 からの応答: バイト数 =32 時間 <1ms TTL=64  
169.254.1.1 からの応答: バイト数 =32 時間 <1ms TTL=64  
169.254.1.1 からの応答: バイト数 =32 時間 <1ms TTL=64  
169.254.1.1 からの応答: バイト数 =32 時間 <1ms TTL=64  
169.254.1.1 からの応答: バイト数 =32 時間 <1ms TTL=64  
169.254.1.1 からの応答: バイト数 =32 時間 <1ms TTL=64  
169.254.1.1 からの応答: バイト数 =32 時間 <1ms TTL=64

1. PCのコマンドプロンプトを起動します。Windows10ならWindowsシステムツールの配下にあります。
2. 設定を行うPTP670のIPアドレスが169.254.1.1 の場合は ping 169.254.1.1 -t と入力しEnter Keyを押すと、ping連続打ちモードが開始します。 は空白を意味します。
3. 疎通が成功すれば上右図の応答メッセージが現れます。

ログインしてMaster局のStatusにアクセスします

1. ここをクリック

**System Status - Point To Point - Master**

Attributes	Value	Units
<b>Equipment</b>		
Link Name	PTP670	
Unit Name	Master_58_0D_DB	
Site Name		
Software Version	50670-02-70	
Hardware Version	B0P01.01-C-FPS	
Unit ESN	000456580DDDB	
Unit MSN	U9TJ00SS42BF	
Regulatory Band	78 - 4.9 GHz - Japan	
Elapsed Time Indicator	00:04:14	
<b>Ethernet / Internet</b>		
Main PSU Port Status	Copper Link Up	
Main PSU Port Speed And Duplex	1000 Mbps Full Duplex	
MAC Address	00:04:56:58:0d:db	
<b>Remote Identification</b>		
Remote Unit Name	Not Available	
Remote MAC Address	Not Available	
Remote Internet Address	Not Available	
<b>TDD Synchronization</b>		
TDD Synchronization Interface	Disabled	
Status Page Refresh Period	600	Seconds

Attributes	Value	Units
<b>Wireless</b>		
Wireless Link Status	Searching	
Wireless Encryption	None	
Data Bridging Status	Disabled	
Maximum Transmit Power	14	dBm
EIRP	37.0	dBm
Remote Maximum Transmit Power	Not Available	dBm
Transmit Power	14.0, 11.4, -15.0, 14.0	dBm
Receive Power	-62.3, -100.8, -110.0, -110.0	dBm
Vector Error	7.2, 1.1, -31.5, 7.2	dB
Link Loss	0.0, 0.0, 0.0, 0.0	dB
Signal Strength Ratio	30.0, 26.8, 0.3, 30.0	dB
Transmit Data Rate	0.00, 0.00, 0.00, 0.00	Mbps
Receive Data Rate	0.00, 0.00, 0.00, 0.00	Mbps
Aggregate Data Rate	0.00, 0.00, 0.00, 0.00	Mbps
Link Capacity Variant	Full	
Link Capacity	0.00	Mbps
Wireless Link Availability	0.0000	%
Data Bridging Availability	0.0000	%
Transmit Modulation Mode	Acquisition (20 MHz)	
Receive Modulation Mode	Acquisition (20 MHz)	
Link Symmetry	1 to 1	
Receive Modulation Mode Detail	Restricted Because Installation Is Armed	
Range	7.5	km

2.Master局であることを確認します

3.未だ暗号化されていないことを確認します



**Cambium Networks™**

Link: PTP670 Site: Unit: Master\_58\_0D\_DB

### System Configuration

This page controls the day to day configuration of this unit.

Attributes	Value	Units
<b>Equipment</b>		
Enable Transmission	Enabled	
Link Name	PTP670	
Unit Name	Master_58_0D_DB	
Site Name		
Latitude		
Longitude		
Altitude	0	
IP Address Label	IPv4 Address	
<b>Wireless</b>		
Master Slave Mode	Master	
Dual Payload	Enabled	
Link Mode Optimization	IP Traffic	
Channel Bandwidth	20	MHz
Max Receive Modulation Mode	256QAM 0.81	
Lowest Data Modulation Mode	BPSK 0.63	
Antenna Gain	23.0	dBi
Cable Loss	0.0	dB
Maximum Transmit Power	14	dBm
ATPC Peer Rx Max Power	-54	dBm
<b>Wireless Encryption</b>		
Encryption Algorithm	<input checked="" type="radio"/> None <input type="radio"/> TLS RSA <input type="radio"/> TLS PSK 128-bit	

Submit Updated System Configuration Reset Form

1. ここをクリック

2. 未だ暗号化されていないことを確認します

※暗号化ライセンスがインストールされていない場合はこの項目は表示されません

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Link: PTP670 Site: Unit: Master\_58\_0D\_DB

### Security Configuration Wizard

This page shows a summary of the current security configuration.  
Press the 'Continue to Security Wizard' button below to change this configuration.

Security configuration

Attributes	Value	Units
Key of Keys	Not configured	
DRNG Entropy	Not configured	
User Defined Security Banner		
Require Acknowledgement Of Notices	No	
Display Login Information	No	
HTTPS Access Enabled	No	
Encryption Algorithm	None	
HTTP Access Enabled	Yes	
HTTP Port Number	80	
Telnet Access Enabled	No	
SNMP Control Of HTTP And Telnet	Enabled	
SNMP Control Of Passwords	Disabled	
TFTP Client	Enabled	
Debug Access Enabled	No	
Cross Site Request Forgery Protection	Enabled	


Continue to Security Wizard

1. ここをクリック

2. 未だ暗号化されて  
ないことを確認します

3. ここをクリック





Link: PTP670 Site: Unit: Master\_58\_OD\_DB

### Select Security Configuration Options

This page enables or disables the security features in the ODU. Key of Keys, Entropy, and HTTP and Telnet Options are always enabled. Enabled features are configured later in the Security Wizard.

Click on Next to continue.

Key of Keys	Yes
Entropy	Yes
Security Banner	<input checked="" type="radio"/> Yes <input type="radio"/> No
Login Information	<input checked="" type="radio"/> Yes <input type="radio"/> No
HTTPS Configuration	<input type="radio"/> Yes <input checked="" type="radio"/> No
Wireless Security	<input checked="" type="radio"/> Yes <input type="radio"/> No
HTTP and Telnet Options	Yes

Next ➡➡

**Left Sidebar:**

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  - Cable Diagnostics
  - Software Upgrade
  - Reboot
- » Installation
- » Management
- « Security (highlighted)
  - Zeroize CSPs
  - Change Password
  - Logout

1.HTTPS Configurationは  
Noを選択

2.ここをクリック

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Link: PTP670 Site: Unit: Master\_58\_OD\_DB

### Enter Key of Keys

Enter a 128-bit random number formatted as 32 hexadecimal characters.

For example:  
CB0DAB13C5E12409FA378307EFCF9B65.

Note: Use a different Key of Keys on each ODU. The Key of Keys is used to encrypt Critical Security Parameters (CSPs) stored in the unit's non-volatile memory. If the Key of Keys is changed, all of the remaining CSPs must be re-entered.

Click on Next to continue.

Key of Keys  Hide

Confirm Key of Keys  Show

Generate Random Key

Back Next

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Save And Restore

Reset Configuration

Spectrum Expert

» Statistics

» Diagnostics Plotter

Cable Diagnostics

Software Upgrade

Reboot

» Installation

» Management

« Security

Zeroize CSPs

Change Password

Logout

1.ここをクリック

2.Hideをクリック

3.Key of Keys が生成されるのでこのKeyをCopy&PasteでPCのメモ帳等に貼り付け保存します。後でSlave局の設定で使します

**Cambium Networks™**

Link: PTP670 Site: Unit: Master\_58\_OD\_DB

### Enter Random Number Entropy Input

Enter a 512-bit random number formatted as 128 hexadecimal characters.

For example:  
368BF4EE0E771421FD4CE5F8D7E6E7C82AE547D6B852F71A2A850443024625FAD2328F6BAB601102D9455C72CDD5A2FC5BEB64EE26EB846A58A6A268967EA5FE.

Note: Use a different Entropy Input on each ODU. The Entropy Input is used to seed the unit's random number generator.

Click on Next to continue.

Entropy Input

Confirm Entropy Input


« System

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  - LAN Configuration
  - QoS Configuration
  - Save And Restore
  - Reset Configuration
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- Cable Diagnostics
- Software Upgrade
- Reboot
- » Installation
- » Management
- « Security
  - Zeroize CSPs
  - Change Password
  - Logout


1.ここをクリック

2.Hideをクリック

3. Entorpy Input欄に符号が生成されるので、この符号をCopy&PasteでPCのメモ帳等に貼り付け保存します。後でSlave局の設定で使用します

**Cambium Networks™**

Link: PTP670   Site:   Unit: Master\_58\_0D\_DB



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    [Software Upgrade](#)  
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  [Change Password](#)  
  [Logout](#)

## Enter User Security Banner

Enter banner text to be displayed when users log in to web-based management. Select Yes to require the user to acknowledge the security banner.

Click on Next to continue.


Usage Summary	0 of 1499 characters used
User Defined Security Banner	<div></div>
Require Acknowledgement Of Notices	<input checked="" type="radio"/> No <input type="radio"/> Yes

◀◀ Back      Next ▶▶

Below is a presentation of the banner as it will appear on the login page

1.ここをクリック





Link: PTP670 Site: Unit: Master\_58\_0D\_DB

## Enter Login Information Settings

Login Information provides details of the most recent successful login and unsuccessful login attempts. An example of Login Information is shown below. Click on Next to continue.

Attributes	Value	Units
Display Login Information	<input checked="" type="radio"/> No <input type="radio"/> Yes	

◀ Back Next ▶▶

Below is a presentation of the Login Information as it will appear on the login page:

**Successful login**

Elapsed Time Since The Last Successful Login Attempt	00:12:59
Internet Address Of Last Login	169.254.1.97

**Unsuccessful login attempts**

Number Of Unsuccessful Login Attempts	0
New Unsuccessful Login Attempts	0
Internet Address Of Last Unsuccessful Login Attempt	

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  - Cable Diagnostics
  - Software Upgrade
  - Reboot
  - » Installation
  - » Management
  - « Security (selected)
- Zeroize CSPs
- Change Password
- Logout

1. ここをクリック

Cambium Networks™

Link: PTP670 Site: Unit: Master\_58\_OD\_DB

### Enter Wireless Link Encryption Settings

Wireless Security provides device authentication and privacy at the wireless interface. Select the same Encryption Algorithm for the local and remote ODUs.

With the TLS RSA option select "Factory" to use the factory-installed key and certificate or "User" to provide a user-generated key and certificate in a later page. Select the minimum security level that can be allowed in the link. With the TLS PSK options, provide a pre-shared key in a later page.

Click on Next to continue.

Attributes	Value	Units
Encryption Algorithm	<input type="radio"/> None <input type="radio"/> TLS RSA <input checked="" type="radio"/> TLS PSK 128-bit	

◀ Back Next ▶

Navigation menu on the left:

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  - Cable Diagnostics
  - Software Upgrade
  - Reboot
- » Installation
- » Management
- « Security (highlighted)
  - Zeroize C/SPs
  - Change Password
  - Logout

1. TLS PSK 128-bit  
を選択

※256bit AESのライセンスをイン  
ストールした場合は TLS  
PSK 256-bitも選択できます

2. ここをクリック



**Cambium Networks™**

Link: PTP670    Site:    Unit: Master\_58\_OD\_DB

### Enter Wireless Preshared Key

Enter a 128-bit random number formatted as 32 hexadecimal characters.

For example:  
A6ECBDCAD706A0CFFB3C5CC3E954AE3E.

Use the same Pre-shared Key for the local and remote ODU's. The Pre-shared Key is used to encrypt and decrypt data at the wireless interface.

Click on Next to continue.


Pre-shared Key	<input type="text" value="11038656087DE7683451B38C7595937D"/>	<input type="button" value="Hide"/>
Confirm Pre-shared Key	<input type="text" value="....."/>	<input type="button" value="Show"/>
<input type="button" value="Generate Random Key"/>		

Back    Next

1.ここをクリック

2.Hideをクリック

3. Pre-shared KeyにKeyが生成されるので、このKeyを  
Copy&PasteでPCのメモ帳等に貼り付け保存します。  
後でSlave局の設定で使します



Link: PTP670 Site: Unit: Master\_58\_OD\_DB

## Enter HTTP and Telnet Settings

Configure HTTP, Telnet, TFTP and Debug Access.

WARNING: Management access will be impossible if HTTP, HTTPS and SNMP are all disabled.  
To regain access, operate the ODU in recovery mode WARNING: Management access will be impossible if HTTP, HTTPS and SNMP are all disabled. To re-gain access, operate the ODU in recovery mode and select "Reset IP and Ethernet Configuration". Click on Next to see a summary of the security configuration.

Attributes	Value	Units
HTTP Access Enabled	<input type="radio"/> No <input type="radio"/> Yes	
HTTP Port Number	80	
Telnet Access Enabled	<input checked="" type="radio"/> No <input type="radio"/> Yes	
SNMP Control Of HTTP And Telnet	<input type="radio"/> Disabled <input checked="" type="radio"/> Enabled	
SNMP Control Of Passwords	<input checked="" type="radio"/> Disabled <input type="radio"/> Enabled	
TFTP Client	<input type="radio"/> Disabled <input checked="" type="radio"/> Enabled	
Debug Access Enabled	<input checked="" type="radio"/> No <input type="radio"/> Yes	
Cross Site Request Forgery Protection	<input type="radio"/> Disabled <input checked="" type="radio"/> Enabled	

◀◀ Back Next ▶▶

- Home
- Status
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  - Zeroize CSPs
  - Change Password
  - Logout

1.ここをクリック

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Link: PTP670 Site: Unit: Master\_58\_OD\_DB

You are about to reboot the wireless unit. Do you wish to continue?

OK キャンセル

### Confirm Security Configuration

Press the button to confirm the security configuration and reboot the ODU.

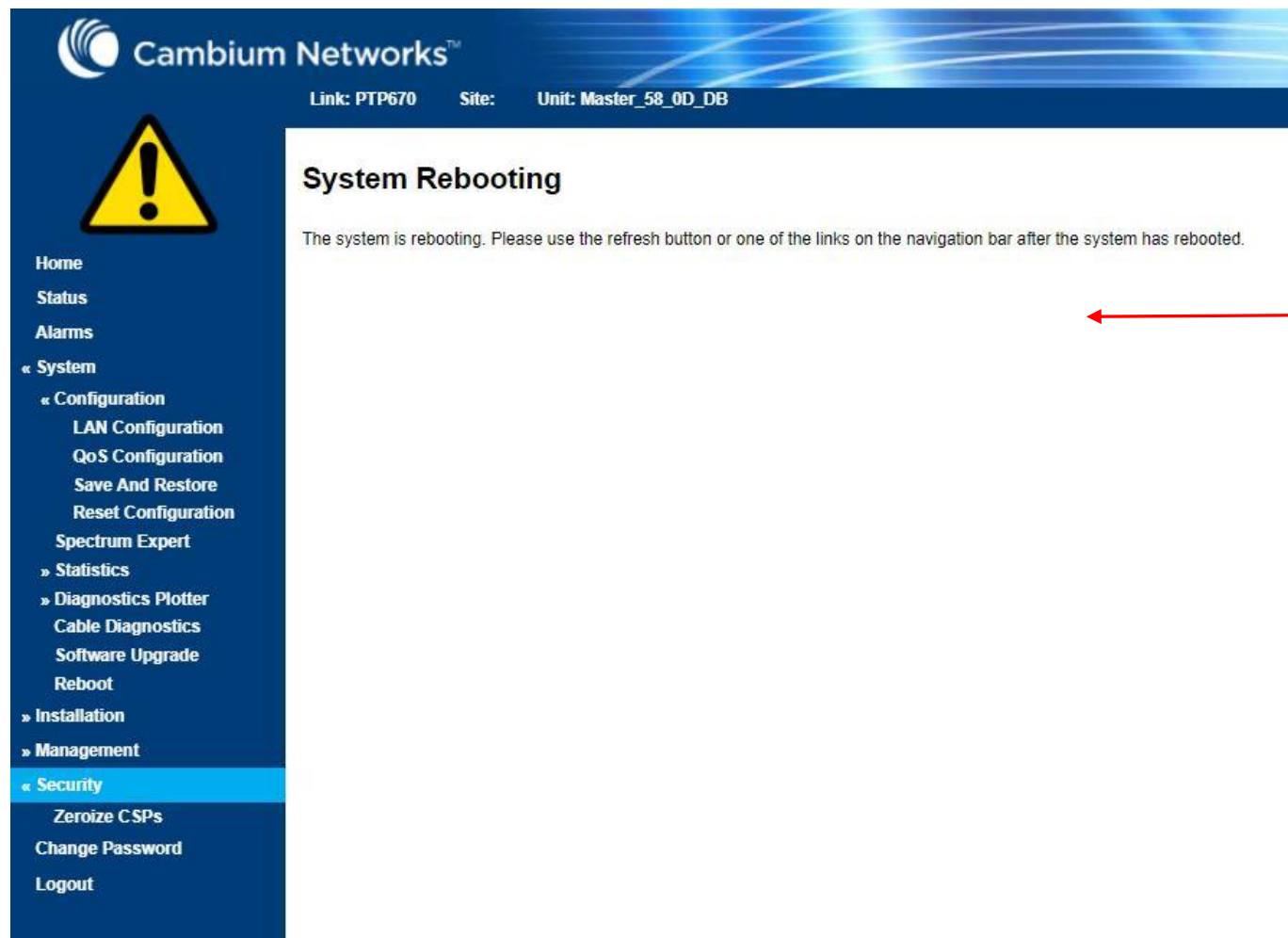
Attributes	Value	Units
Key of Keys	Modified	
DRNG Entropy	Modified	
User Defined Security Banner		
Require Acknowledgement Of Notices	No	
Display Login Information	No	
HTTPS Access Enabled	No	
Encryption Algorithm	TLS PSK 128-bit	
Wireless Encryption Key	Modified	
HTTP Access Enabled	Yes	
HTTP Port Number	80	
Telnet Access Enabled	No	
SNMP Control Of HTTP And Telnet	Enabled	
SNMP Control Of Passwords	Disabled	
TFTP Client	Enabled	
Debug Access Enabled	No	
Cross Site Request Forgery Protection	Enabled	

Confirm Security Configuration and Reboot

Back

1.ここをクリック

2. OKをクリックしてReboot開始



この画面に遷移しPingが通らなくなりますが2～3分で復旧します。  
次にブラウザの更新ボタンをクリックしてブラウザ画面を更新します。

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Link: PTP670 Site: Unit: Master\_58\_OD\_DB

Home  
Status  
Alarms  
» System  
» Installation  
» Management  
» Security  
Change Password  
Logout

Please login to gain access to this unit

Password:

Login

パスワードを設定していない場合はPassword欄に何も入力せずログインします



Cambium Networks™

Link: PTP670 Site: Unit: Master\_58\_0D\_DB

**System Status - Point To Point - Master**

**Equipment**

Attributes	Value	Units
Link Name	PTP670	
Unit Name	Master_58_0D_DB	
Site Name		
Software Version	50670-02-70	
Hardware Version	B0P01.01-C-FPS	
Unit ESN	000456580DDB	
Unit MSN	U9TJ00SS42BF	
Regulatory Band	78 - 4.9 GHz - Japan	
Elapsed Time Indicator	00:01:50	

**Ethernet / Internet**

Main PSU Port Status	Copper Link Up
Main PSU Port Speed And Duplex	1000 Mbps Full Duplex
MAC Address	00:04:56:58:0d:db

**Remote Identification**

Remote Unit Name	Not Available
Remote MAC Address	Not Available
Remote Internet Address	Not Available

**TDD Synchronization**

TDD Synchronization Interface	Disabled
-------------------------------	----------

Status Page Refresh Period:  Seconds

**Wireless**

Attributes	Value	Units
Wireless Link Status	Searching	
Wireless Encryption	None	
Data Bridging Status	Disabled	
Maximum Transmit Power	14	dBm
EIRP	37.0	dBm
Remote Maximum Transmit Power	Not Available	dBm
Transmit Power	14.0, 13.4, -15.0, 14.0	dBm
Receive Power	-110.0, -109.9, -110.0, -110.0	dBm
Vector Error	7.2, 7.2, 7.2, 7.2	dB
Link Loss	0.0, 0.0, 0.0, 0.0	dB
Signal Strength Ratio	0.3, 0.3, 0.3, 0.3	dB
Transmit Data Rate	0.00, 0.00, 0.00, 0.00	Mbps
Receive Data Rate	0.00, 0.00, 0.00, 0.00	Mbps
Aggregate Data Rate	0.00, 0.00, 0.00, 0.00	Mbps
Link Capacity Variant	Full	
Link Capacity	0.00	Mbps
Wireless Link Availability	0.0000	%
Data Bridging Availability	0.0000	%
Transmit Modulation Mode	Acquisition (20 MHz)	
Receive Modulation Mode	Acquisition (20 MHz)	
Link Symmetry	1 to 1	
Receive Modulation Mode Detail	Restricted Because Installation Is Armed	
Range	26.4	km

Update Page Refresh Period Reset form

1.ここをクリック

2.対向局と未だ通信できてないので作業前と表示は同じです



**Cambium Networks™**

Link: PTP670 Site: Unit: Master\_58\_0D\_DB

## System Configuration

This page controls the day to day configuration of this unit.

Attributes	Value	Units
<b>Equipment</b>		
Enable Transmission	Enabled	
Link Name	PTP670	
Unit Name	Master_58_0D_DB	
Site Name		
Latitude		
Longitude		
Altitude	0	
IP Address Label	IPv4 Address	
<b>Wireless</b>		
Master Slave Mode	Master	
Dual Payload	Enabled	
Link Mode Optimization	IP Traffic	
Channel Bandwidth	20	MHz
Max Receive Modulation Mode	256QAM 0.81	
Lowest Data Modulation Mode	BPSK 0.63	
Antenna Gain	23.0	dBi
Cable Loss	0.0	dB
Maximum Transmit Power	14	dBm
ATPC Peer Rx Max Power	-54	dBm
<b>Wireless Encryption</b>		
Encryption Algorithm	<input type="radio"/> None <input type="radio"/> TLS RSA <input checked="" type="radio"/> TLS PSK 128-bit	
Pre-shared Key	.....	Show
Confirm Pre-shared Key	.....	Show

Generate Random Key

Submit Updated System Configuration Reset Form

“TLS PSK 128-bit”が選択されていることを確認します

※256bit AESのライセンスをインストールした場合は TLS PSK 256-bitも表示されます

Cambium Networks™

Link: PTP670 Site: Unit: Master\_58\_0D\_DB

### Security Configuration Wizard

This page shows a summary of the current security configuration.  
Press the 'Continue to Security Wizard' button below to change this configuration.

Security configuration

Attributes	Value	Units
Key of Keys	Configured	
DRNG Entropy	Configured	
User Defined Security Banner		
Require Acknowledgement Of Notices	No	
Display Login Information	No	
HTTPS Access Enabled	No	
Encryption Algorithm	TLS PSK 128-bit	
Wireless Encryption Key	Configured	
HTTP Access Enabled	Yes	
HTTP Port Number	80	
Telnet Access Enabled	No	
SNMP Control Of HTTP And Telnet	Enabled	
SNMP Control Of Passwords	Disabled	
TFTP Client	Enabled	
Debug Access Enabled	No	
Cross Site Request Forgery Protection	Enabled	

Continue to Security Wizard

“TLS PSK 128-bit”が表示  
されることを確認します

※256bit AESのライセンスをイン  
ストールした場合は TLS  
PSK 256-bitと表示されます

これでMaster局の暗号化設定は完了です。

次にSlave局の電源をONし、P5～P22に示すMaster局の作業と同じ作業を行います。


ただし以下の3つのKeyや符号は、Master局作業でGenerateボタンをクリックして生成しCopy&Pasteで保存したものをSlave局に適用しPasteします。

P10 : Key of keys

P11 : Entropy Input

P15 : Pre-shared Key

Slave局の入力画面を次ページに示します。



**Enter Key of Keys**

Enter a 128-bit random number formatted as 32 hexadecimal characters.

For example:  
CB0DAB13C5E12409FA378307EFCF9B65.

Note: Use a different Key of Keys on each ODU. The Key of Keys is used to encrypt Critical Security Parameters (CSPs) stored in the unit's non-volatile memory. If the Key of Keys is changed, all of the remaining CSPs must be re-entered.

Click on Next to continue.


Key of Keys  Hide

Confirm Key of Keys  Show

Generate Random Key

Back Next

Master側で生成したKeyと同じ物を  
Paste



**Enter Random Number Entropy Input**

Enter a 512-bit random number formatted as 128 hexadecimal characters.

For example:  
368BF4EE0E771421FD4CE5F8D7E6E7C82AE547D6B852F71A2A850443024625FAD2328F6BAB601102D9455C72CDD5A2FC5BEB64EE26EB846A58A6A268967EA5FE.

Note: Use a different Entropy Input on each ODU. The Entropy Input is used to seed the unit's random number generator.

Click on Next to continue.


Entropy Input  Hide

Confirm Entropy Input  Show

Generate Random Key

Back Next

Master側で生成した符号と同じ物を  
Paste



**Enter Wireless Preshared Key**

Enter a 128-bit random number formatted as 32 hexadecimal characters.

For example:  
A6ECBDCAD706A0CFFB3C5CC3E954AE3E.

Use the same Pre-shared Key for the local and remote ODUs. The Pre-shared Key is used to encrypt and decrypt data at the wireless interface.

Click on Next to continue.

Pre-shared Key  Hide

Confirm Pre-shared Key  Show

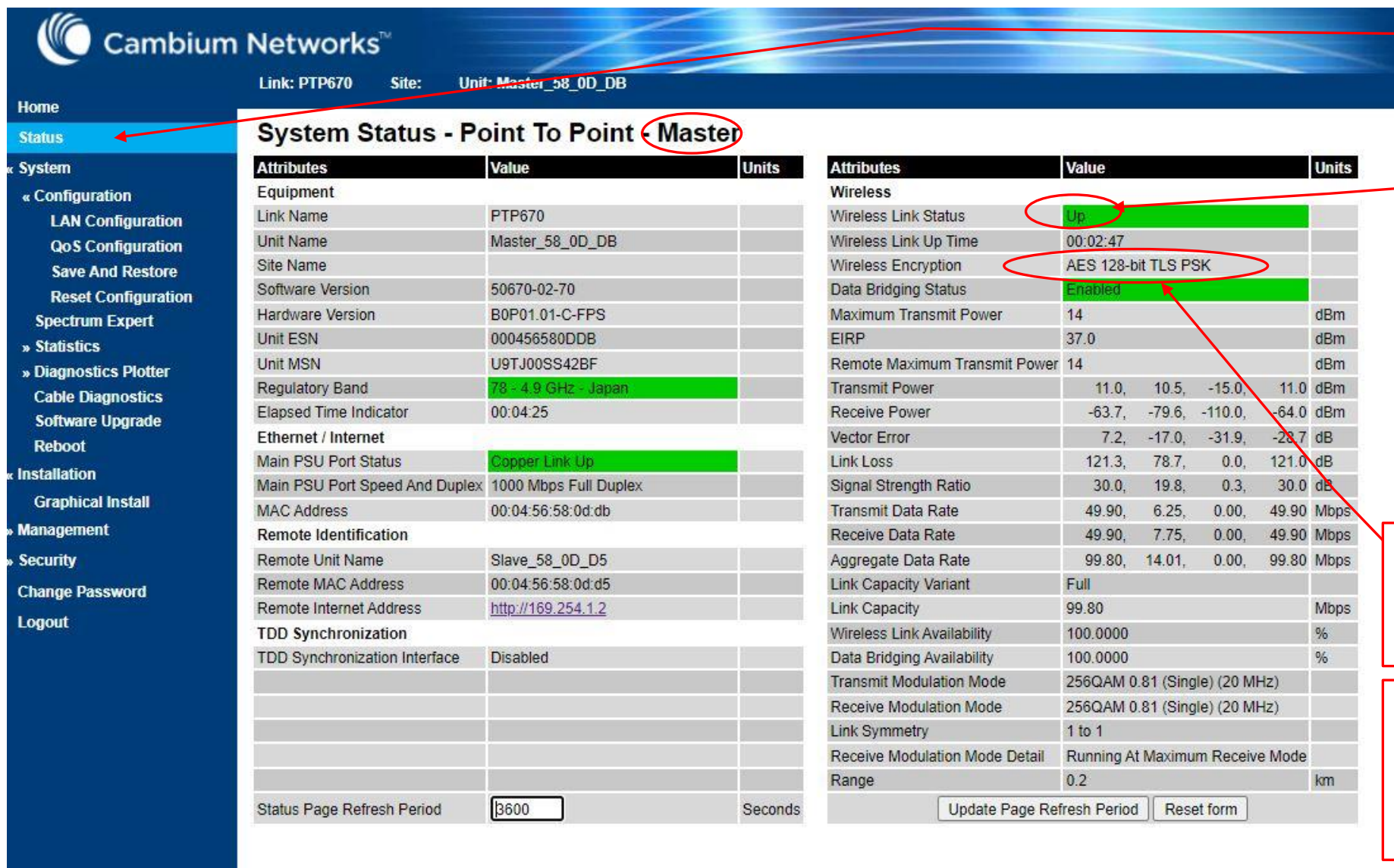
Generate Random Key

Back Next

Master側で生成したKeyと同じ物を  
Paste

**これでSlave局の暗号化設定は完了です。  
無線回線が開通すると次のStatus画面となります。**





Home

Link: PTP670 Site: Unit: Master\_58\_0D\_DB

**System Status - Point To Point - Master**

Attributes	Value	Units
<b>Equipment</b>		
Link Name	PTP670	
Unit Name	Master_58_0D_DB	
Site Name		
Software Version	50670-02-70	
Hardware Version	B0P01.01-C-FPS	
Unit ESN	000456580DDB	
Unit MSN	U9TJ00SS42BF	
Regulatory Band	78 - 4.9 GHz - Japan	
Elapsed Time Indicator	00:04:25	
<b>Ethernet / Internet</b>		
Main PSU Port Status	Copper Link Up	
Main PSU Port Speed And Duplex	1000 Mbps Full Duplex	
MAC Address	00:04:56:58:0d:db	
<b>Remote Identification</b>		
Remote Unit Name	Slave_58_0D_D5	
Remote MAC Address	00:04:56:58:0d:d5	
Remote Internet Address	<a href="http://169.254.1.2">http://169.254.1.2</a>	
<b>TDD Synchronization</b>		
TDD Synchronization Interface	Disabled	
Status Page Refresh Period	3600	Seconds

Attributes	Value	Units
<b>Wireless</b>		
Wireless Link Status	Up	
Wireless Link Up Time	00:02:47	
Wireless Encryption	AES 128-bit TLS PSK	
Data Bridging Status	Enabled	
Maximum Transmit Power	14	dBm
EIRP	37.0	dBm
Remote Maximum Transmit Power	14	dBm
Transmit Power	11.0, 10.5, -15.0, 11.0	dBm
Receive Power	-63.7, -79.6, -110.0, -64.0	dBm
Vector Error	7.2, -17.0, -31.9, -28.7	dB
Link Loss	121.3, 78.7, 0.0, 121.0	dB
Signal Strength Ratio	30.0, 19.8, 0.3, 30.0	dB
Transmit Data Rate	49.90, 6.25, 0.00, 49.90	Mbps
Receive Data Rate	49.90, 7.75, 0.00, 49.90	Mbps
Aggregate Data Rate	99.80, 14.01, 0.00, 99.80	Mbps
Link Capacity Variant	Full	
Link Capacity	99.80	Mbps
Wireless Link Availability	100.0000	%
Data Bridging Availability	100.0000	%
Transmit Modulation Mode	256QAM 0.81 (Single) (20 MHz)	
Receive Modulation Mode	256QAM 0.81 (Single) (20 MHz)	
Link Symmetry	1 to 1	
Receive Modulation Mode Detail	Running At Maximum Receive Mode	
Range	0.2	km

Update Page Refresh Period Reset form

1. ここをクリック

2. 対向局と開通するとUpと表示されます。

※MasterとSlaveの間でKeyや符号が一致しない場合、Upになりません

3. “AES 128-bit TLS PSK”が表示されます

※256bit AESのライセンスをインストールした場合は TLS PSK 256-bitと表示されます。



## 1. ここをクリック

2.対向局と開通するとUpと表示されます。

※MasterとSlaveの間でKeyや  
符号が一致しない場合、Upに  
なりません

### 3. “AES 128-bit TLS PSK”が表示されます

※256bit AESのライセンスをインストールした場合は TLS PSK 256-bitと表示されます。