Hanwha Vision

ネットワークカメラ
ユーザーマニュアル

QNP-6230RH

CE

ネットワークカメラ
ユーザーマニュアル

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❖ 設計および仕様は予告なく変更する場合があります。

❖ デフォルトの管理者IDは"admin"です。パスワードは初めてログインするときに設定する必要があります。
個人情報を安全に保護し、情報窃盗による被害を防ぐため、パスワードは3か月ごとに変更してください。
パスワードの不正管理によって発生したセキュリティおよびその他の問題は、ユーザー側の責任であることに御注意ください。

重要な安全ガイド

1. 本書の説明をよく読んで下さい。
2. 本書の指示を守ってください。
3. 全ての警告を留意してください。
4. 全ての指示に従って下さい。
5. 本機を水の傍で使用しないで下さい。
6. 柔らかく乾いた布か湿った布で製品表面の汚れた部分を拭き取ります。
(アルコール成分、溶剤、界面活性剤や油分を含む洗剤や化粧品を使用しないでください。製品の変形や損傷につながる恐れがあります。)
7. どの換気孔も塞がないようにして下さい。メーカーの指示に従って取り付けて下さい。
8. ラジエーター、熱レジスタ、あるいは熱を発するその他の装置（アンプを含む）などの熱源の傍に設置しないで下さい。
9. 分極タイプあるいは接地タイプのプラグの安全目的を必ず守ってください。 分極プラグには一方が他方より幅広い2本の足が付います。 接地プラグには2本の足とアース（接地）差込み先が付いています。2本の平たい足あるいは3本めの差込み先はユーザーの安全のために付いています。提供されたプラグがお使いのコンセントに合わない場合には、旧式のコンセントの交換について電気技師にご相談下さい。
10. 特にプラグ、ソケット、機器との接点でコードが踏まれたり引っ張っられたりしないよう電源コードを保護してください。
11. メーカーが指定する付属品のみを使用してください。
12. カート、スタンド、三脚、ブラケットはメーカー指定のもの、あるいは製品と一緒に販売されたもののみを使用してください。 カート使用する場合、カートと製品を動かす際には転倒による損傷に注意してください。

13. 雷雨のときまたは長期間使用しないは場合は、製品の電源プラグを抜いてください。
14. 全ての修理は資格のあるサービス・スタッフに任せて下さい。修理は電源コードあるいはプラグの損傷、液体をこぼした、または物体を機器内に落としてしまった、機器を雨や湿度にさらしてしまった、正常に機能しない、あるいは機能の低下など、様々な原因で機器が損傷した場合に必要となります。
15. この製品は「Class 2」または「LPS」に表示されPoE(55 Vdc)、min. 0.93Aまたは24Vac (50または60Hz)、min. 4.25Aである電源デバイスのリストのみ使用してください。
16. 本製品接続の外部電源は、絶縁電源を使用してください。
17. 製品取付け時に力を入れ過ぎると、カメラが損傷し、誤作動を起こす場合があります。
適切でないツールを使用して製品を力まかせに取り付けると、カメラが損傷する場合があります。
18. 化学物質やオイルミストが存在する、または生成される可能性のある場所には製品を取り付けないでください。大豆油のような食用油によって製品が損傷を受けたりゆがんだりするため、キッチンやキッチンテーブル付近には製品を取り付けないでください。
製品に損傷を与える原因となります。
19. 製品を取り付ける場合、製品表面が化学物質で汚染されないように注意してください。
クリーナーや接着剤のような化学溶剤は、製品表面に深刻な損傷を与える原因となります。
20. 推奨されない方法で製品を取り付け/取り外した場合、製品の機能/性能は保証できません。
ユーザーマニュアルの"取付けと接続"を参照して製品を取付けます。
21. 水中での製品の取付けや使用は、製品への深刻な損傷の原因となります。
22. 24時間 Auto Pan 動作は禁止
23. Auto Pan 動作は1時間動作後、他のSequence (Swing・Tour・Group)を 1時間以上運用後、Auto Pan機能を使うこと。
24. 製品が正常動作する場合、プリセットの精密度は0.2˚です。停電、ファームウェアアップグレードによって再起動する時には、プリセット設定の変更有無を確認してから誤差を調整する必要があります。

警告

火災または感電防止のため、この装置を雨または湿気にさらさないでください。本製品の換気グリルまたはその他の開口部から金属製物質を差し込まないでください。

製品に液体をこぼしたりかけたりせず、また花瓶のように液体が入った物体を製品の上に載せたりしないでください。

損傷を防止するため、本製品を設置説明に従って壁/天井にしっかりと取り付けてください。

Pan / Tilt / ZoomモーターおよびSlip ringは連続動作する場合、部品寿命を1年保証します。

注意

注意

感電の危険がありますので開けないで下さい

注意：感電の恐れがありますので裏カバーは開けないで下さい。
如何なる場合にも本品の分解や改造を行わないで下さい。
資格のあるサービス・スタッフにお問い合わせ下さい。

グラフィック記号の説明

正三角形内の稲妻型の矢印は、本製品の筐体に人が感電する恐れのある"高圧電流"が存在することを、ユーザーに警告するものです。

正三角形内の感嘆符は、製品の操作およびメンテナンス（修理）に関する重要な付属説明書があることをユーザーに知らせるこものです。

クラスI構造

クラスI構造を持つ装置は保護接地接続のある本線ソケットに接続してください。

バッテリー

電源(バッテリーパックまたは取り付けた状態のバッテリー)は直射日光の当る場所や、熱器具の近くには置かないでください。

バッテリーは交換できません。

デバイスの切断

問題がある場合は、装置からメインプラグを抜きます。次にお住まいの地域の修理会社に電話してください。

米国外では、認証機関が採用している取付け金具用のHARコードが使用される場合があります。

注意

これらの保守説明書は、資格のあるサービススタッフのみが使用するものです。
感電の危険性を低減するために、資格がある場合を除き操作説明書に含まれていない修理は行わないでください。

本製品のCVBSアウト端子は、簡単なインストールのために提供されており、監視目的にはお勧めできません。

入力電源は1台のカメラにのみ使用し、他のデバイスを接続しないでください。

ITEは、外部の施設へルーティングなしで、PoEネットワークのみに接続することになっています。

次に示す安全のための推奨注意事項を熟読してください。

- 本製品は平らな場所に置いてください。
- 直射日光の当たる場所、暖房設備または低温区域の近くには取付けないでください。
- 本製品を導電性の高い物体の近くに置かないでください。
- 本製品は自分で修理しないでください。
- 本製品の上に水の入ったコップを置かないでくだ
- 磁気源のそばに取付けないでください。
- 換気口は塞がないようにしてください。
- 本製品の上に重いものを置かないでください。
- カメラを取り付ける/取り外すときは、保護手袋を着用してください。
  製品表面は高温になるため、やけどの原因となる場合があります。

ユーザーマニュアルは、本製品の使用方法に関するガイドブックです。

このマニュアルで使用する用語の意味を次に示します。

- 参照: 製品の使用方法についてのヘルプ情報を示す場合。
- 注意: 指示に従わないことで、ものや人に損害が発生する可能性がある場合。

※ 製品を使用する前に安全のためこのマニュアルを読み、大切に保管しておいてください。

特定なインストール環境で無線通信に干渉が発生する場合があります。
製品と周囲の無線通信デバイスの間に電磁波干渉が発生する場合、無線通信デバイスとの間隔を拡張したり、通信用のアンテナ方向を調整することをお勧めします。

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推奨する PC 仕様

- CPU：Intel(R) Core(TM) i7 3.4 GH以降
- RAM : 8G以上
- 対応OS : Windows 7, 8.1, 10, Mac OS X 10.12, 10.13, 10.14
- 推奨するブラウザ : Google Chrome
  サポートするブラウザ : MS Explore11, MS Edge, Mozilla Firefox (Window 64bitのみ)、Apple Safari (Mac OSXのみ)

※ 確認済みのOSとブラウザに関する詳細情報は、付録を参照してください。

推奨マイクロSD/SDHC/SDXCメモリカード仕様

- 推奨容量 : 推奨容量：16GB～256GB（MLCタイプ）
- 推奨製造会社：SanDisk、Transcend
- 製品群：High endurance
- カードの製造会社別/タイプ別の互換性は異なる場合があります。

NAS推奨仕様

- 推奨容量 : 200GB又はそれ以上を推奨します。
- 同時アクセス : NAS1台で最大16台のカメラ接続を受けられます。
- このカメラのために、NASを以下の製造仕様で利用することを推奨します。

推奨製品	入手可能なサイズ
QNAP NAS	最大16台のカメラが同時にアクセスできます。
Synology NAS	最大16台のカメラが同時にアクセスできます。

- NAS装置をビデオ映像の保存以外の目的で使用する場合、利用できるカメラの数は減る場合があります。

キット内容

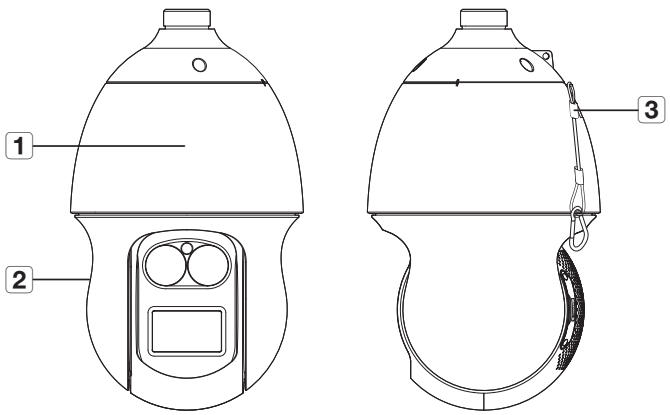
製品パッケージに、カメラと付属品がすべて同梱されていることをご確認ください。
（販売国ごとに付属品が異なるため。）

外観	品目名	数量	説明
	本体	1	
	ユーザーマニュアル	1	
	クイックガイド (オプション)	1	
	保証書 (オプション)	1	
	テストモニタ用ケーブル	1	ポータブルディスプレイデバイスとカメラとの接続をテストするために使用します
	オーディオ/RS-485ケーブル	1	オーディオ&RS-485ポート接続時使用
	六角ネジ	3	設置ベースをカメラに取り付けるために使用します。
	L型レンチ	1	設置ベースをカメラに取り付た後で固定するために使用します。

外観	品目名	数量	説明
	設置ベース	1	製品設置のためのブラケット
	防水付属品	1	湿度の高い場所に取り付けて使用します。

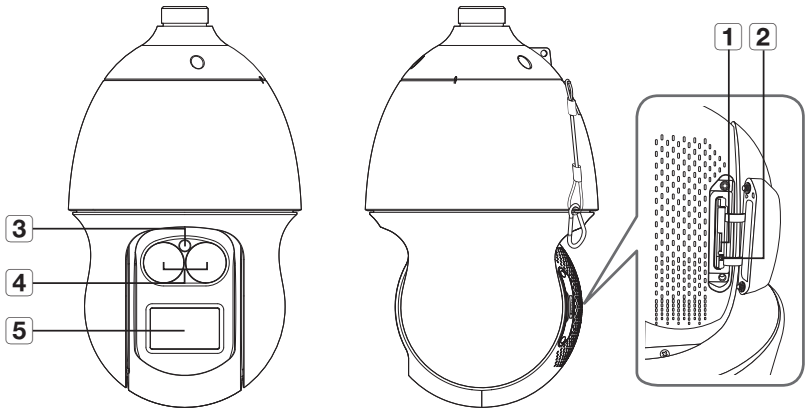
概観

外観



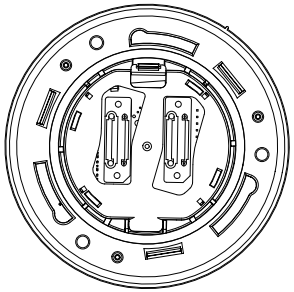
項目	説明
1 メインユニット	内部のPTZ装置を直射日光、雨、または外部の衝撃から保護します。
2 シールドカバー	レンズと本体を保護するためのシールドカバーです。
3 安全ケーブル	ケーブルは、取り付け時の製品落下を防止します。

内部

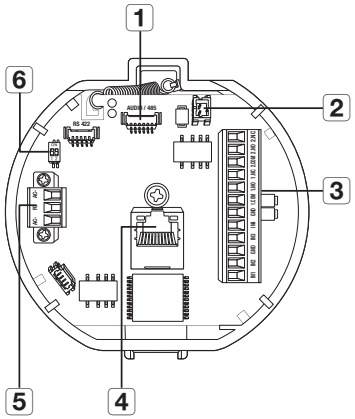


項目	説明
1 マイクロSDメモリカードの区画	マイクロSDメモリカードの区画です。 ✎ <**マイクロSD メモリカードの挿入および取り外し**>を参照して、マイクロSDメモリカードの挿入位置を確認してください。(10 ページ)
2 リセット・ボタン	すべてのカメラ設定を工場出荷時のデフォルトに復元します。 約5秒間押し続けてシステムを再起動します。 ! カメラをリセットすると、DHCPを有効化されるようにネットワーク設定が調整されます。ネットワーク内にDHCPサーバーがない場合は、Device Managerプログラムを用いて基本的なネットワーク設定(IPアドレス、Subnet Mask、Gatewayなど)を再設定してから接続することができます。
3 照度センサー	入射光を検知して、赤外線LEDを制御します。
4 赤外線LED	これらの赤外線LEDは照度センサーによって制御されます。
5 レンズ	カメラのレンズ。

設置ベースの底面図



設置ベースの内部構造



項目	説明
1 オーディオ/RS-485接続ポート	オーディオ&RS-485ケーブルに接続するポートです。
2 ビデオ出力ポート	アナログビデオ出力ポートです。(設置用)
3 アラーム入出力ポート	アラーム入出力ケーブルの接続に使用します。
4 HPoE接続ポート	HPoEインジェクターで電源とネットワークを接続させるポートです。
5 電源ポート	電源の接続に使用します。
6 通信設定スイッチ	通信プロトコル(RS-485)を設定し、終了するか指定します。

インストール

- 本カメラは防水であり、IP66仕様に準拠していますが、外部ケーブルに接続されるジャックはそうではありません。ケーブルが外部に突出するのを防止するために軒先の下に本製品をインストールすることをお勧めします。

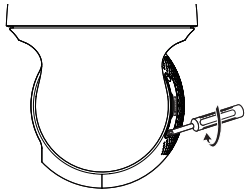
取付けに関する注意事項

カメラを取り付ける前に、以下の指示をよく読んでください。

- カメラの重量の5倍以上の重さを固定できる取付け場所を選んでください。
- 引っかかっていたり、はがれたケーブルは製品の損傷または火災の原因となります。
- 安全のため、設置場所に人を近づけないでください。
  また、万が一のため持ち物は取付け場所には置かないでください。
- 過剰な力で製品を取り付けると、故障によりカメラが損傷する場合があります。不適切なツールを使用して無理やり組み立てると、製品が損傷する場合があります。

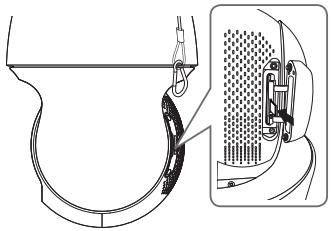
Micro SDメモリカード挿入

1. ドライバーを用いてSDホルダーブラケットにある2つのネジを反時計回りに外してください。



- マイクロSDメモリカードを挿入する前に、カメラの電源ケーブルを抜いてください。
- 雨あるいは高湿度の状態でMicroSDカードを挿入したり取り出したりすることは推奨されません。
- Micro SDメモリカードを搭載/除去するときには、部品流失&落下事故を防止するために必ず製品本体を平地においてから作業してください。
- ネジを安全に除去しないでください。

2. SDホルダーブラケットを上に取り出した後、図に示すようにMicro SDメモリカードを矢印の方向に押し込んでください。



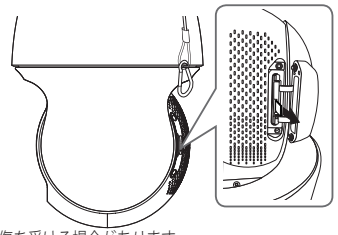
- 逆方向で無理に挿入しないでください。マイクロSDメモリカードと製品が破損するおそれがあります。

3. Micro Sdメモリカードを挿入した後、分離した逆順に組み合わせてください。

- 組み立てる時に防水に問題がないようにネジをしっかり締めてください。

Micro SDメモリカード外し

図に示されているように、メモリカードの露出部分を慎重に押して、スロットからメモリカードを取り出します。



- マイクロSDカードを取り出すときに、しっかりと押してから離すと、飛び出る場合があるので注意してください。
- Micro SDメモリカードを除去する前に<**設定(** ⚙ **)**>メニューの<**イベント**> - <**保存**>からデバイスを<**未使用**>に設定して[**適用**]ボタンを押してからカメラ電源を消してください。
- カメラのスイッチを切るか、データの入っているマイクロ SDメモリーカードを製品から抜くと、データが失われるか、または損傷を受ける場合があります。

カメラブラケットの準備と設置

ブラケットおよびハウジングの設置ガイドラインについては、ブラケットまたはハウジングに同梱されている設置マニュアルを参照してください。

- **使用可能なブラケットモデル**

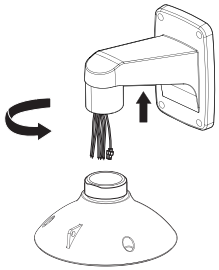
モデル	項目
SBP-300WMW1	壁面取付けブラケット
SBP-300WM	
SBP-300CMW	天井マウント
SBP-300LMW	手すりマウント
SBP-300KMW	コーナーマウント
SBP-300PMW	ポールマウント

- 各ブラケット（別売り）の外観については、"**設置のためのオプション付属品**"を参照してください。（13ページ）

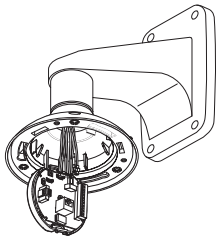
ウォールマウントによる設置

■ 設置ベースをブラケットに固定します

1. ベースを時計回りに回してブラケットに固定します。



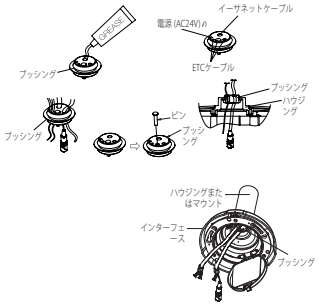
2. 下の図に示されているように、設置ベースの下部にある蝶番の扉の突起部分をゆっくり押して、上に開けます。 配線については、14ページの“**カメラ配線インタフェースボード**”を参照してください。



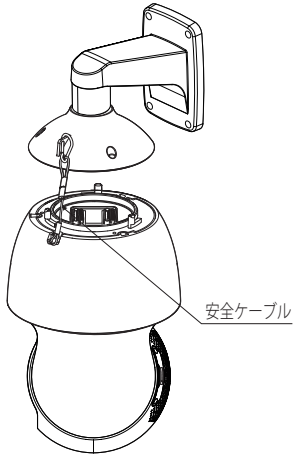
- 設置が完了するまで、カメラをコンセントに接続しないでください。 設置の途中で電力を供給すると、火災や製品の破損の原因となる場合があります。

ケーブル接続方法を確認して取り付けます。

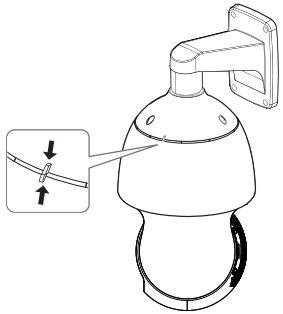
- **パイプ**または**マウント**を通して湿気にさらされる室外での取付け作業用に**ブッ シング**が用意されています。湿気が入り込まないように、**ブッシング**を使用して ハウジングを設置してください。
  - 組立て前に、**ブッシング**に適量のグリスを塗布してください。次に、ブッ シングのそれぞれの穴にケーブルを通してください。ケーブルが通っていな い穴を**ピン**でふさいでください。
  - 次の図に示すように、**ブッシングをハウジング**の内側の上部に取付けます。その際、図に示すように、ブッシングに対して均等に圧力をかけて**ハウジン グ**をしっかりと固定してください。



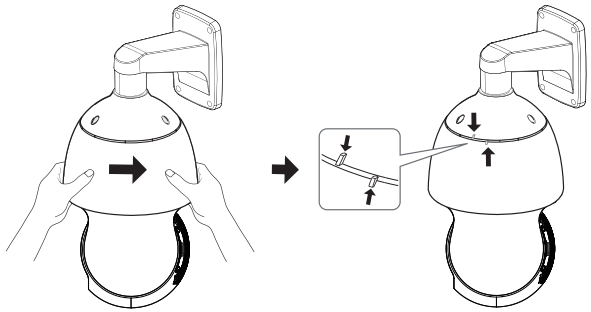
3. カメラの安全ワイヤを設置ベースに接続します。



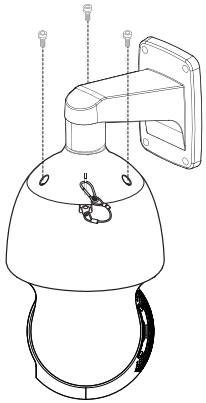
4. カメラと設置ベースの組立て
取付け方向ガイドを合わせて、設置ベースとカメラを組み立てます。



5. カメラの取付け
図に示す通り、カメラの本体を時計回りに回し、上部セクションと下部セクションのリファレンスマークの位置を定めます。



6. カメラと設置ベースの固定
下の図に示されているように、3本の六角ネジを使用して設置ベースとカメラを固定します。



防水に関するご注意

このモデルは屋外での取り付け用の総合ハウジング製品です。

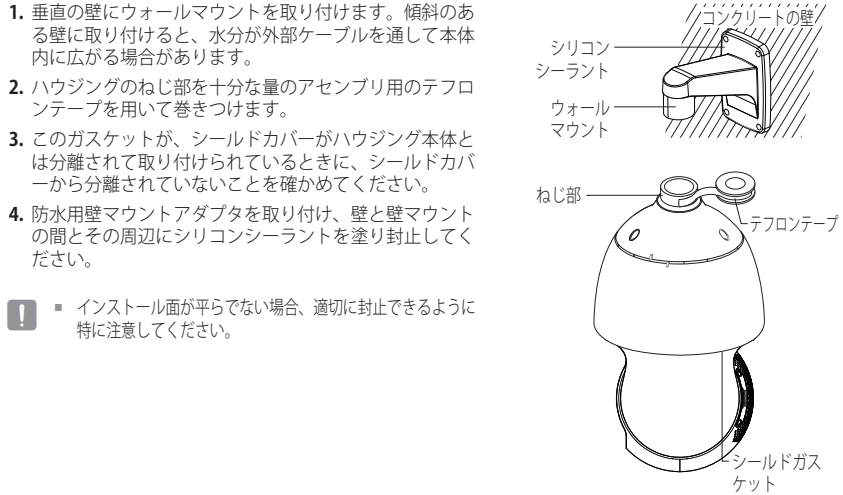
▪ 本体と壁のマウントを接続し、壁に取り付ける場合

1. 垂直の壁にウォールマウントを取り付けます。傾斜のある壁に取り付けると、水分が外部ケーブルを通して本体内に広がる場合があります。

2. ハウジングのねじ部を十分な量のアセンブリ用のテフロンテープを用いて巻きつけます。

3. このガスケットが、シールドカバーがハウジング本体とは分離されて取り付けられているときに、シールドカバーから分離されていないことを確かめてください。

4. 防水用壁マウントアダプタを取り付け、壁と壁マウントの間とその周辺にシリコンシーラントを塗り封止してください。



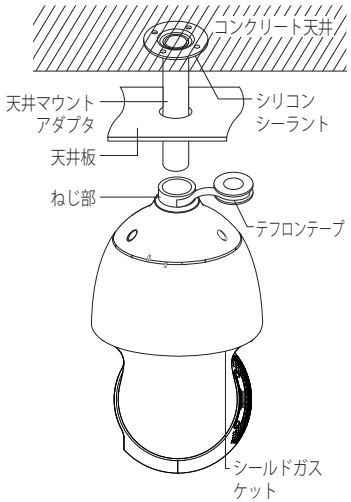
! ▪ インストール面が平らでない場合、適切に封止できるように特に注意してください。

▪ 本体と天井の取り付けアダプターを接続し、壁への取り付けを行う場合

1. 十分な量のアセンブリ用テフロンテープを用いてハウジングのねじ部を巻きつけて覆います。

2. このガスケットが、シールドカバーがハウジング本体とは分離されて取り付けられているときに、シールドカバーから分離されていないことを確かめてください。

3. 防水用天井マウントアダプタをインストールし、壁と天井マウントの間とその周辺にシリコンシーラントを塗り封止します。



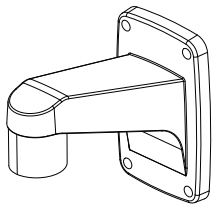
! ▪ インストール面が平らでない場合、適切に封止できるよう特に注意してください。

設置のためのオプション付属品

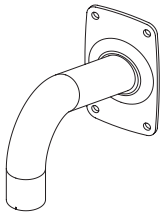
設置を容易にするため、適切なオプション付属品を購入できます。

1. カメラを壁に設置する場合

- 壁面取付けブラケット (SBP-300WMW1)

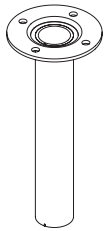


- 壁面取付けブラケット (SBP-300WM)



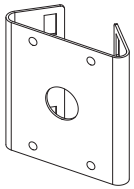
2. カメラを天井に設置する場合

- 天井マウント (SBP-300CMW)



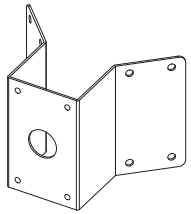
3. 長さ80mm以上の円柱にウォールマウント（SBP-300WM/SBP-300WMW1）を設置する場合

- ポールマウント (SBP-300PMW)



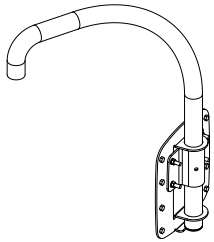
4. 壁面コーナーにウォールマウント（SBP-300WM /SBP-300WMW1）を設置する場合

- コーナーマウント (SBP-300KMW)

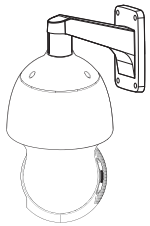


5. 建物の屋根に設置する場合

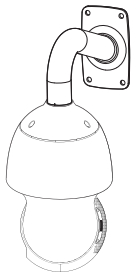
- 手すりマウント (SBP-300LMW)



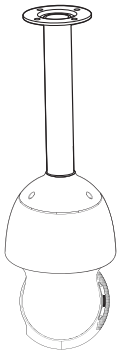
■ マウント用継手



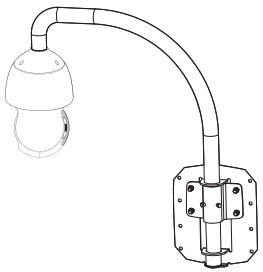
壁面取付けブラケット (SBP-300WMW1)



壁面取付けブラケット (SBP-300WM)



天井マウント (SBP-300CMW)

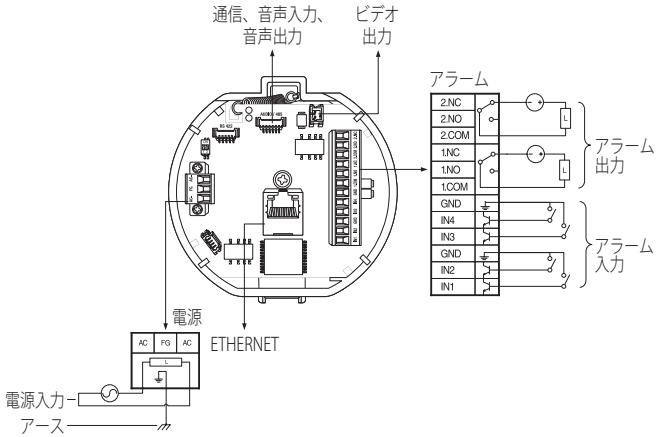


手すりマウント (SBP-300LMW)

他のデバイスとの接続

カメラ配線インタフェースボード

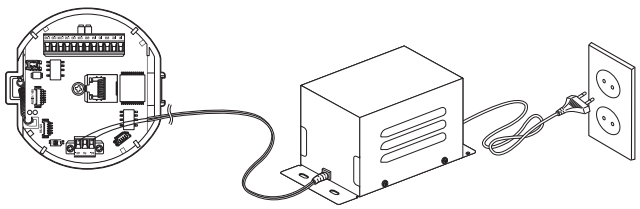
カメラの配線については、下図を参照してください。



- 設定メニューのN.O.を選択します。
  - センサ入力は、接触型では"ショート"の時、或いはアクティブタイプが "低"レベルの時に作動します。
- 設定メニューからN.C.を選択します。
  - センサ入力は、接触型ではオープンの時、或いはアクティブタイプでは高インピーダンス状態（オープンコレクタ）の時に作動します。
- アラーム出力ターミナルの最大能力は、30V DC/2A、125V AC/0.5Aおよび250V AC/0.25Aです。
- アラーム入力ケーブルおよびアラーム出力ケーブルを接続する際には、各ケーブルを確実にそれぞれの端末に接続してください。
- カメラの容量を超える製品を接続する場合は、追加のリレーデバイスを使用してください。
- 電源ケーブルと接地 ケーブルが適切にNC/NOまたはCOMポートに接続されていないと、装置が壊れたり出火したりすることがあります。

アダプタとケーブルの準備

- カメラを電源アダプタに接続します。次に、アダプタの電源コードを電源コンセントに差し込みます。



接続する前に、定格電圧および電流を確認してください。

定格電力	許容入力電圧	消費電流
AC 24V	AC 22V ~ 26V	6 A

- 本製品は-50℃以下の周辺温度では使用できません。.
- 取り付け場所が-50℃の場合、場所によっては解凍できない場合があります。
- 本製品を低温環境に放置した場合、通常の操作状態になるまでに2時間要します。
- IR調光機能のズームは、-40℃以下の環境では速度が落ちる場合があります。
- 本製品が-20℃以下の環境に一定時間さらされた後にオンにする場合は、時刻をリセットしてください。
- 外部機器に接続する時には、必ず接続するデバイスの電源をオフにした状況で接続します。

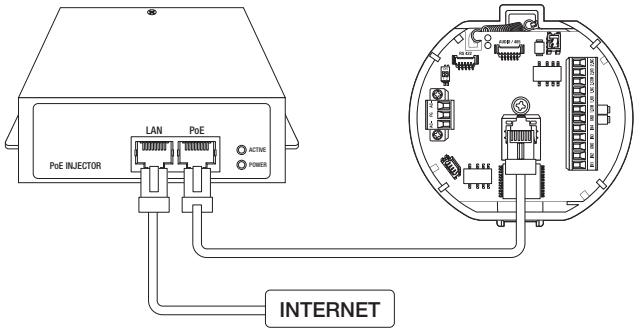
電源ケーブル仕様

AC 24V電源入力の場合

線タイプ(AWG)	#16	#14
最大ケーブルの長さ	14m	23m

電源とネットワーク

HPoEデバイスとカメラのHPoEポートを接続してください。



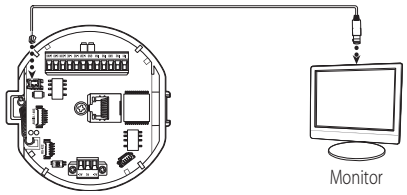
- HPoE機能が可能なルーターを接続して使用してください。
- HPoEは、IEEE802.3bt規格を対応する装備を使用してください。

ネットワークケーブルの仕様

アイテム	コンテンツ	備考
コネクタ	RJ45 (10/100/1000ベース-T)	
イーサネット	10/100/1000ベース-T	
ケーブル	UTP カテゴリ 6	
最大距離	100M	直流抵抗 ≤ 0.125 Ω/m
HPoE サポート	HPoE	

設置モニターの接続

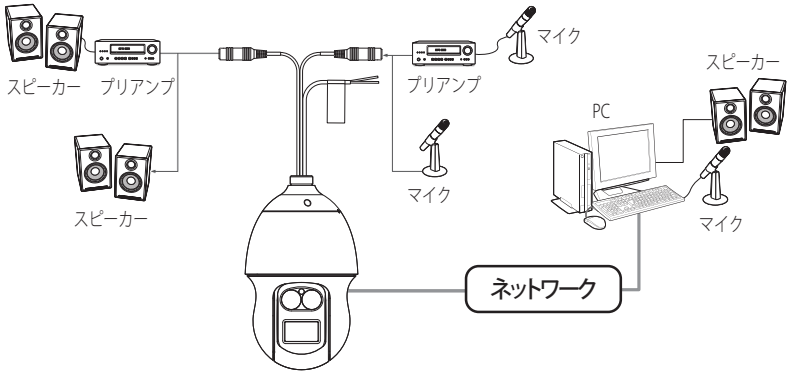
ケーブルをカメラの背面にあるビデオ出力端子および設置モニターのビデオ入力端子に接続します。



- 配線は、ご使用のモニターの種類と周辺デバイスによって異なります。
  各デバイスのユーザーマニュアルを参照してください。
- 接続する際には、モニターとカメラの電源がオフになっていることを確認してください。

- 本製品は、ネットワーク経由で映像を転送するネットワークカメラです。設置するカメラの撮像範囲を設定するために、ビデオ出力端子を使用します。
- モニタリングのために端子を使用すると、映像画質の劣化などの問題が発生する可能性があります。
- 24時間監視をする場合、専門的なCRTモニターや、TFT/LCD携帯モニターの使用は適切ではありません。
- 24時間モニタリングと保存向けにネットワーク転送スクリーンを使用します。

音声入力/出力への接続



1. カメラのAUDIO INポートにマイクか、マイクが接続されているアンプのLINE OUTポートを接続します。
2. カメラのAUDIO OUTポートにスピーカーか、スピーカーが接続されているアンプのLINE INポートを接続します。
3. 音声入力の仕様を確認します。

- **音声コーデック**
  - 音声入力：G.711PCM（ビットレート：64kbps / サンプリング周波数：8kHz）、G.726ADPCM（ビットレート：16Kbps、24Kbps、32Kbps、40Kbps / サンプリング周波数：8kHz）, AAC (Bit Rate: 48Kbps / Sampling Frequency: 16kHz)
  - 音声出力：G.711PCM（ビットレート：64kbps / サンプリング周波数：8kHz）
- **全二重音声**
- **音声入力** : 選択可能 (マイク/ライン入力)、サポートされる電圧: 2.5VDC (4mA)、入力インピーダンス: 2K オーム
- **音声出力** : Line-out (3.5mmモノジャック)、最大出力: 1Vms
- **インピーダンスライン出力** : 600Ω

DIPスイッチの設定

通信プロトコルDIPスイッチの設定（SW1）

SW1ピン番号	目的
1	リザーブド
2	終端設定

- **終端設定**
  カメラとコントローラの間で通信信号が減衰するのを防ぐために、回線の両端の項目について終端設定を行わなければなりません。

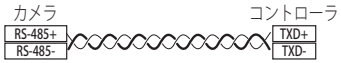
カメラ入力位置	SW1-#2
最長パスの終端	ON
パス上	OFF

- デフォルト値は、各設定表内で網掛けされています。
- 本製品とともにサードパーティコントローラを使用する場合は、弊社のアフターサービスまたは技術部門までお問い合せください。

カメラ配線

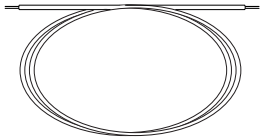
制御信号接続

- RS-485通信



通信ケーブル

カメラがコントローラと通信できるようにするには、RS-485通信回線が必要です。



- 接続には、長さ30メートル以下のケーブルの使用をお勧めします。
- 通信ケーブルはカメラに同梱されていません。

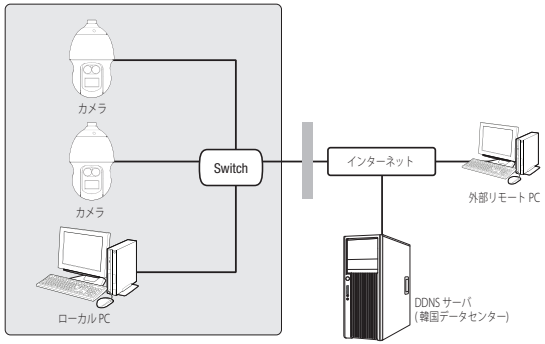
ネットワーク接続と設定

使用中のネットワーク環境に合わせてネットワークを設定することができます。

カメラを直接ローカルネットワークに接続する

LAN のローカル PC からカメラに接続する

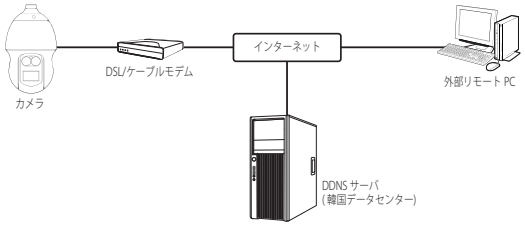
1. ローカル PC でインターネットブラウザを起動します。
2. ブラウザのアドレスバーにカメラの IP アドレスを入力します。



<ローカルネットワーク>

- LAN ネットワーク範囲外の外部インターネットのリモート PC は、ポート転送がきちんと設定されていない場合やファイアウォールが有効の場合には、設置済みカメラとインターネット接続ができない場合があります。
  この場合、ネットワーク管理者にお問い合わせください。
- 工場出荷時の設定で、IPアドレスがDHCPサーバーから自動的に割り当てられます。
  使用可能なDHCPサーバーがない場合、IPアドレスは192.168.1.100に設定されます。
  IPアドレスを変更するためには、Device Managerを使用してください。
  Device Managerの使い方は、「**Device Managerを使用する**」をご参照ください。(19ページ)

カメラを直接DHCPベースのDSL/ケーブルモデムに接続する



1. ユーザのPCをネットワークカメラに直接接続します。
2. Device Managerを使用してカメラのIPアドレスをユーザーのパソコンからインターネットブラウザで接続できるIPアドレスに変更してください。
3. インターネットブラウザを使用してWeb Viewerと接続します。
4. [**設定**]ページに移動します。
5. [**ネットワーク**] – [**DDNS**]に移動し、DDNSの設定を行います。
6. [**Basic**] – [**IP & ポート**]へ移動し、IP方式を [**DHCP**] に設定します。
7. PCから取り外したカメラを直接モデムに接続します。
8. カメラを再起動します。

- DDNSの設定方法についての情報は、ウェブビューアのオンラインヘルプを参照してください。
- IPフォーマットの設定方法についての情報は、ウェブビューアのオンラインヘルプを参照してください。

DEVICE MANAGERを使用する

- Device Managerプログラムは、Hanwha Visionのウェブサイト(https://www.HanwhaVision.com)に接続して<**顧客支援**>-<**オンラインツール**>でダウンロードすることができます。
- Device Managerの詳しい使い方は、トップの<**ヘルプ**>メニューで確認することができます。

自動にカメラを検索する

Device ManagerがインストールされたPCと同じネットワークにカメラが接続された場合、検索機能でネットワークカメラを探すことができます。

1. Device Managerのトップで<**検索**>をクリックしてください。
2. 検索リストで検索したいカメラが表示されているか確認してください。
   - カメラに付着されたステッカーでMACアドレスを確認してください。

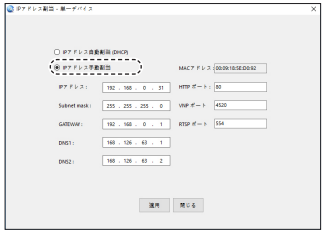
IPアドレスを設定する

カメラのネットワーク設定を変更するためには、<**状態**>項目に<**Login OK**>と表示される必要があります。Device Managerのトップで<**認証**>をクリックすると、ログインできます。

Static IPを設定する

IPアドレス&ポート情報を手動で入力して設定します。

1. 検索リストでIP設定を変更するカメラをクリックしてください。
2. Device Managerのトップで<**IP割り当てる**>をクリックしてください。
3. <**IPアドレス手動割当**>を選択してください。
   - カメラのIP情報が既存に設定されている値で 表示されます。
4. IP関連項目&ポート関連項目を入力してください。



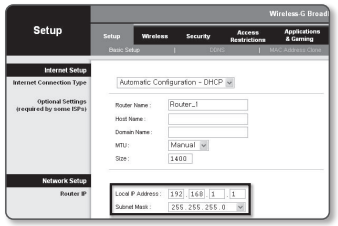
ブロードバンドルーターを使用しない場合

ネットワークマネージャーに<**IPアドレス**>、<**Subnet Mask**>、<**Gateway**>の設定値をお問い合わせください。

- HTTP ポート : インターネットブラウザを使用してカメラにアクセスする際に使用します。初期設定は80です。
- RTSPポート：リアルタイム・ストリーミングを制御するポートであり、初期値は554です。

ブロードバンドルーター使用の場合

- IP Address : ブロードバンドルーターによって指定されたIP範囲でアドレスを入力します。
  例）192.168.1.2~254、192.168.0.2~254、
  192.168.XXX.2～254
- Subnet Mask : ブロードバンドルーターの<**Subnet Mask**>が、カメラの<**Subnet Mask**>となります。
- Gateway : ブロードバンドルーターの<**Local IP Address**>が、カメラの<**Gateway**>となります。



- 設定は、接続しているブロードバンドルーターのモデルによって異なる場合があります。
  詳細は、該当するルーターのユーザーマニュアルを参照してください。
- ブロードバンドルーターのポートフォワーディングの詳細については、"**ートフォワード（ポートマッピング)の設定**"を参照してください。（21ページ）

ブロードバンドルーターに複数のカメラが接続されている場合

IPに関する設定と、ポートに関する設定は別々に設定します。

例)

カテゴリ		カメラ #1	カメラ #2
IP設定	IPアドレス Subnet Mask Gateway	192.168.1.100 255.255.255.0 192.168.1.1	192.168.1.101 255.255.255.0 192.168.1.1
ポート設定	HTTP ポート RTSP ポート	8080 554	8081 555

- <**HTTP Port**>が80以外に設定されている場合、カメラにアクセスするには、インターネットブラウザのアドレスバーで<**Port**>番号を設定する必要があります。
  例) http://IPアドレス: HTTPポート
  http://192.168.1.100:8080

5. [**適用**]ボタンをクリックしてください。
6. 成功確認メッセージが表示されたら、[**OK**]ボタンをクリックしてください。

ダイナミックIPを設定する

IPアドレスをDHCPで自動に割り当てられます。

- 動的IP環境の例
  - カメラに接続しているブロードバンドルーターが、DHCPサーバーでIPアドレスを割り当てられている場合
  - DHCPプロトコルを使用して直接カメラをモデムに接続する場合
  - IPがLAN経由で内部DHCPサーバーに割り当てられている場合

1. 検索リストでIP設定を変更するカメラをクリックしてください。
2. Device Managerのトップで<**IP割り当てる**>をクリックしてください。
3. <**IPアドレス自動割当(DHCP)**>を選択してください。
4. [**適用**]ボタンをクリックしてください。
5. 成功確認メッセージが表示されたら、[**OK**]ボタンをクリックしてください。

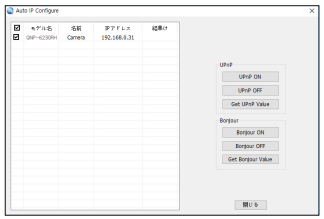
手動でカメラを登録する

検索機能でカメラを探せなかったり、外部ネットワークにカメラを接続した場合、IP情報を手動で入力してリモートでカメラを探して登録することができます。

1. Device Managerのトップで<**デバイス追加**> - <**装備の手動登録**>をクリックしてください。
2. 検索するIPアドレス範囲を入力してください。
3. 登録するカメラの<**モデル名**>を選択してHTTPポート、ID、パスワードを入力してください。
4. [**登録**]ボタンをクリックしてください。
5. リストでカメラが登録されているか確認してください。
   - カメラに付着されたステッカーでMACアドレスを確認してください。

自動にIPを設定する

1. 検索リストでIPを自動に設定するカメラをクリックしてください。
2. Device Managerのトップで< + >をクリックしてください。
   - デバイス設定メニューが表示されます。
3. デバイス設定メニューで<**Auto IP Configure (IP自動設定)**>をクリックしてください。
4. [**閉じる**]ボタンをクリックしてください。

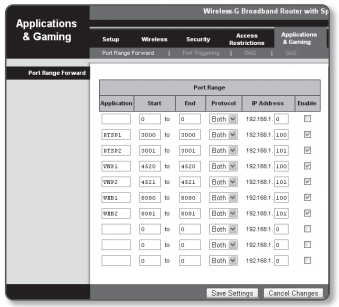


ートフォワード（ポートマッピング）の設定

カメラを接続したままブロードバンドルーターをインストールした場合は、ブロードバンドルーター上でポート範囲フォワードを設定し、ルーター内のカメラにリモートPCからアクセスできるようにする必要があります。

手動ポートフォワード

1. ブロードバンドルーターの設定メニューから<**Applications & Gaming**> - <**Port Range Forward**>を選択します。
   サードパーティのブロードバンドルーター用にポートフォワードを設定するには、ブロードバンドルーターのユーザーマニュアルを参照してください。
2. ブロードバンドルーターに接続されている各カメラ用の、<**TCP**>と<**UDP Port**>を選択します。
   IPルーターに設定する各ポートの数字は、カメラWeb Viewerの<**設定**> - <**Basic**> - <**IP & ポート**>に指定されるポート番号に合わせて設定しなければなりません。
3. 完了後、[**Save Settings**]をクリックします。
   設定が保存されます。

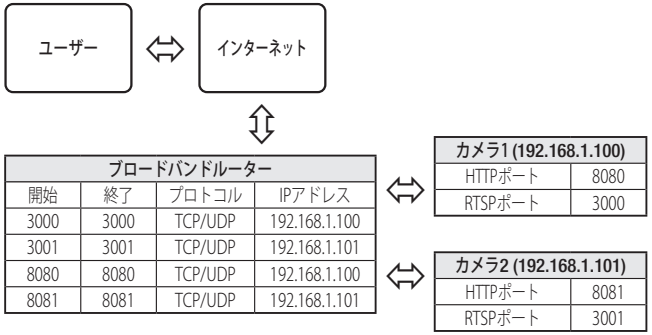


- ポートフォーワーディング設定の説明は、CISCO IPのルーターで設定した例示です。
- 設定は、接続しているブロードバンドルーターのモデルによって異なる場合があります。
  詳細は、該当するルーターのユーザーマニュアルを参照してください。

複数のネットワークカメラに関するポートフォワード範囲設定

- ブロードバンドルーターデバイスの設定Webページで、ポートフォワーディングのルールを設定することができます。
- ユーザーは、カメラ設定画面を使って各ポートを変更できます。

カメラ1とカメラ2がルーターに接続されている場合:



- ルータがUPnP（ユニバーサルプラグアンドプレイ）機能をサポートしている場合、ポートフォワーディングを追加ルータの設定なしで行うことができます。
  ネットワークカメラ接続後、メニューから、"**設定** -> **ネットワーク** -> DDNS"の<**DDNS**>の<**クイック接続**>のチェックボックスを選択します。

共有ローカルPCからカメラへの接続

1. Device Managerを起動してください。
   接続されているカメラをスキャンし、そのリストを表示します。
2. アクセスするカメラをダブルクリックします。
   インターネットブラウザが起動し、カメラに接続されます。

- インターネットブラウザのアドレスバーに検出されたカメラのIPアドレスを入力し、カメラにアクセスすることもできます。

リモートPCからインターネット経由でのカメラへの接続

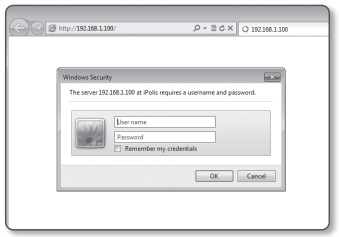
IPルーターのネットワーククラスター外部のリモートパソコンでは、ユーザーがカメラのDDNS URLを用いてIPルーターのネットワーク内部にあるカメラにアクセスすることができます。

1. ブロードバンドルーターのネットワーク内のカメラへアクセスする前に、ブロードバンドルーターにポートフォワードを設定しておく必要があります。
2. リモートPCから、インターネットブラウザを起動しカメラのDDNS URLアドレスを入力するか、アドレスバーでブロードバンドルーターのIPアドレスを入力します。
   例）http://ddns.hanwha-security.com/ID

- DDNSを有効にするためには、DDNSのウェブサイト(http://ddns.hanwha-security.com)で会員登録をした後、[**My DDNS**]>[**製品登録**]で先に製品を登録する必要があります。

カメラへの接続

通常の方法



1. インターネットブラウザを起動します。
2. アドレスバーにカメラのIPアドレスを入力します。
   例) • IPアドレス(IPv4) : 192.168.1.100 ➞ http://192.168.1.100
   - ログインダイアログが表示されます。
   • IPアドレス(IPv6) : 2001:230:abcd: ffff:0000:0000:ffff:1111
   ➞ http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - ログインダイアログが表示されます。

HTTPポートが80以外の場合

1. インターネットブラウザを起動します。
2. アドレスバーにカメラのIPアドレスとHTTPのポート番号を入力します。
   例） IPアドレス : 192.168.1.100:HTTPのポート番号(8080)
   ➞ http://192.168.1.100:8080 - ログインダイアログが表示されます。

URLを使用する場合

1. インターネットブラウザを起動します。
2. アドレスバーにカメラのDDNS URLを入力します。
   例）URLアドレス : http://ddns.hanwha-security.com/ID
   - ログインダイアログが表示されます。

- ネットワーク接続はLANのみの環境では無効になります。

UPnPを介した接続

1. UPnPプロトコルをサポートするために、クライアント或いはオペレーティングシステムを実行します。
2. 検索するカメラ名をクリックします。
   Windowsオペレーティングシステムでは、ネットワークメニューから検索したカメラ名をクリックします。
   - ログインウィンドウが表示されます。

Bonjourを介した接続

1. Bonjourプロトコルをサポートするためにクライアント或いはオペレーティングシステムを実行します。
2. 検索するカメラ名をクリックします。
   Macのオペレーティングシステムでは、SafariのBonjourタブから検索したカメラ名をクリックします。
   - ログインウィンドウが表示されます。

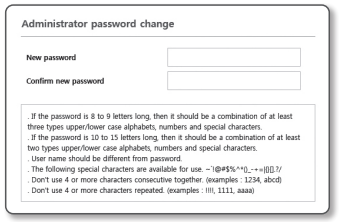
DDNSアドレスを確認するには

カメラを直接DHCPベースのケーブルモデムまたはDSLモデムに接続すると、ISP(ユーザーが契約する会社)に接続を試行する度にIPアドレスが変更されます。
その場合、DDNSによるIPアドレスの変更は通知されません。

動的なIPベースのデバイスをDDNSサーバーに登録すると、そのデバイスにアクセスするときに、変更されたIPを簡単に確認することができます。
使用するデバイスを<**DDNS**>サーバーに登録するには、http://ddns.hanwha-security.comにアクセスして最初にデバイスを登録し、Web Viewerの<**ネットワーク**> - <**DDNS**>を<**DDNS**>に設定し、DDNS登録に使用した<**製品ID**>を指定します。

パスワード設定

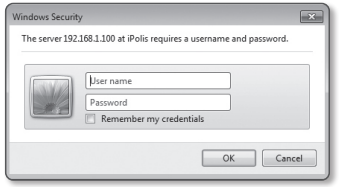
本製品を初めて使用する場合、ログインパスワードを登録する必要があります。



- 新しいパスワードが8～9桁の場合、以下のうち3種類以上を使用する必要があります： 大文字/小文字、数字、特殊文字。パスワードが10～15桁の場合、2種類以上を使用する必要があります。
  - 認められている特別文字： ~`!@#$%^*()_-+=|{}[].?/
- 安全性を高めるため、同じ文字を繰り返したり、キーボード上の連続した文字を入力したりするのはお勧めしません。
- パスワードをなくした場合、[**RESET**]を押して製品を初期化します。そのため、メモ帳を利用したり、記憶したりして、パスワードをなくさないようにしてください。

ログイン

カメラにアクセスするたびに、ログインウィンドウが表示されます。
ユーザーIDとパスワードを入力してカメラにアクセスします。



1. <**User name**>入力ボックスに"**admin**"と入力します。
   管理者ID"**admin**"は、確定されており変更できません。
2. <**Password**>入力欄に入力します。
3. [**OK**]をクリックします。
   正常にログインすると、Live Viewerの画面が表示されます。

- カメラのWebビューアーにアクセスする場合は、画像データが暗号化されているか確認し、セキュリティに特にご注意ください。

- 入力完了時に、"**Remember my credentials**"オプションをチェックしておくと、次回からはログイン情報の入力を求められることなく自動的にログインします。
- 画面サイズが100%である場合、映像画質が最高の状態になります。倍率を小さくすると、境界線上の画像がカットされます。

カメラ・ウェブビューアーの設定

1. [**設定 (⚙)**]アイコンをクリックします。
2. 設定画面が現れます。
3. カメラの基本情報、ビデオ、オーディオ、ネットワーク、イベント、分析、ネットワーク全体のシステムの設定を構成することができます。
4. <**ヘルプ (ⓘ)**> をクリックして、それぞれの機能の詳細説明を表示します。

仕様

項目		説明
		QNP-6230RH
映像	撮像素子	1/2.8" 2MP CMOS
	有効画素数	1944(H)x1212(V)
	最低照度	色:0.05ルクス (F1.6, 1/30秒) 白黒:0ルクス (IR LED入)
	ビデオ出力	CVBS : 1.0Vp-p/75Ωコンポジット、720x480(N)、720x576(P)、取付け用
レンズ	焦点距離(ズーム倍率)	4.44~102.2mm(23x) ズーム
	最大口径比	F1.6 (広角) ~ F3.6 (望遠)
	画角	H : 61.8˚(広角) ~ 3.08˚(望遠) / V : 36.2˚(広角) ~ 1.73˚(望遠)
	最短被写体距離	広角: 1.5m(4.92ft), 望遠: 2m(6.56ft)
	焦点制御	Oneshot AF
	レンズタイプ	DC自動絞り
パンニング/チルト/回転	パンニング範囲	360˚エンドレス
	パンニング速度	プリセット : 400˚/秒、マニュアル : 0.024˚/ 秒 ~250˚/秒
	チルト範囲	95˚(-5˚ ~ 90˚)
	チルト速度	プリセット : 250˚/秒、マニュアル : 0.024˚/ 秒~250˚/秒
	シーケンス	プリセット(各300)、スウィング、グループ(各6)、 トレース、ツアー、オートラン、スケジュール
	プリセット精度	±0.2˚
	方位角	対応
	オートトラッキング	対応
操作関係	夜間可視距離	100m(328.08ft)
	カメラタイトル	最大85文字表示
	昼/夜	自動(ICR)
	逆光補正	BLC, HLC, WDR, SSDR
	ワイドダイナミックレンジ	120デシベル

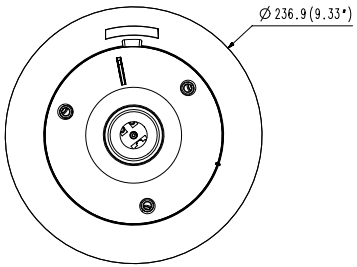
項目		説明
		QNP-6230RH
操作関係	デジタルノイズリダクション	SSNR V
	デジタル手ブレ補正	対応(ジャイロセンサー内蔵)
	曇り除去	対応
	モーション検知	8つ、8点の多角形対応
	プライバシーマスク	24つ、四角対応 - 色:グレー/緑/赤/青/黒/白 - モザイク
	利得調整	低/中/高
	ホワイトバランス	ATW / AWC / マニュアル / 室内 / 屋外
	電子シャッター速度	最小 / 最大 / アンチフリッカー (2 ~ 1/12,000秒)
	ビデオ回転	フリップ、ミラー
	インテリジェント映像分析	方向検知、モーション検知、出/入検知、タンパリング、バーチャルライン、侵入
	シリアルインターフェイス	RS-485(Samsung-T、Pelco-D/P、Panasonic、Bosch、AD、GE、Vicon、Honeywell)
	アラーム入出力	入力4個/出力2個
	アラームトリガー	アナリティクス、ネットワーク切断、アラーム入力
	アラームイベント	• FTP、Eメール経由のファイルアップロード • Eメール通知 • アラームトリガー発生時、SD/SDHC/SDXCメモリカードやNASに録画 • アラーム出力 • PTZプリセット
	オーディオ入力	選択可能 (マイク入力/ライン入力)、 供給電圧: 2.5VDC(4mA)、入力インピーダンス: 約2Kオーム
	オーディオ出力	ライン出力、最大出力レベル:1Vrms

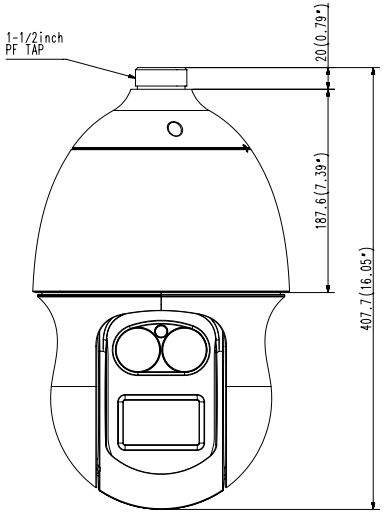
項目		説明
		QNP-6230RH
ネットワーク	イーサネット	RJ-45 (10/100BASE-T)、SFP(オプション)
	ビデオ圧縮フォーマット	H.265/H.264、MJPEG
	解像度	1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
	最大フレームレート	H.265/H.264 : 最大60fps/50fps(60Hz/50Hz) MJPEG: 最大30fps/25fps(60Hz/50Hz)
	スマートコーデック	手動（5ea領域）, WiseStreamII
	ビデオ品質調整	H.264/H.265 : ビットレートレベルコントロール MJPEG : ビットレートレベルコントロール
	ビットレート制御	H.264/H.265 : CBRまたはVBR MJPEG : VBR
	ストリーミング	ユニキャスト（10ユーザー）/ マルチキャスト マルチストリーミング（最大10プロファイル）
	オーディオ圧縮	G.711 u-law /G.726 選択可能 G.726 (ADPCM) 8KHz, G.711 8KHz G.726 :16Kbps、24Kbps、32Kbps、40Kbps AAC-LC : 16KHzで48Kbps
	プロトコル	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour,LLDP, SRTP
	セキュリティ	HTTPS（SSL）ログイン認証 ダイジェストログイン認証 IPアドレスフィルタリング ユーザーアクセスログ 802.1x認証方式 (EAP-TLS, EAP-LEAP)
	エッジストレージ	Micro SD/SDHC/SDXC 1スロット 256 GB

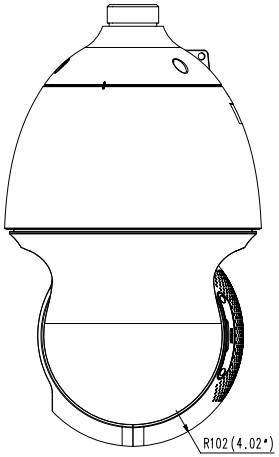
項目		説明
		QNP-6230RH
ネットワーク	アプリケーションプログラミングインターフェース	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet・オープンプラットフォーム
	Webページの言語	英語、韓国語、中国語、フランス語、イタリア語、スペイン語、ドイツ語、日本語、ロシア語、スウェーデン語、ポルトガル語、チェコ語、ポーランド語、トルコ語、オランダ語、ハンガリー語、ギリシャ語
	Web Viewer	対応OS : Windows 7 / 8.1 / 10, MAC OS X 10.12, 10.13, 10.14 推奨するブラウザ : Google Chrome 対応ブラウザ : MS Explore11, MS Edge, Mozilla Firefox (Windows 64ビットのみ), Apple Safari 10 (Mac OS Xでのみサポート)
	メモリー	1024MB RAM, 256MB Flash
環境関係	動作温度/湿度	AC24V : -50℃~+55℃ (-58°F~ +131°F) / RH90%以下 HPoE : -40℃ ~ +55℃ (-40°F ~ +131°F) / RH90%以下 * 起動は-35℃以上で行われなければなりません。
	保存温度/湿度	-50℃ ~ +60℃ (-58°F ~ +140°F) / RH90%以下
	バンダル抵抗	IP66, IK10
電気関係	入力電圧/電流	24VAC, HPoE(IEEE802.3bt、クラス7)
	消費電力	24VAC : Max. 83W (標準 : 30W) HPoE : Max. 51W (標準 : 30W)
メカニカル	色/材質	本体 : アイボリー / プラスチック, ヘッド : ブラック / プラスチック
	製品寸法/重量	Ø236.9x407.7mm(9.33x16.05”), 6.8kg(14.99 lb)

製品ビュー

単位: mm(インチ)







トラブルシューティング

問題	解決策
Safariを使用してHTTPS経由でプラグインフリーのWeb Viewerにアクセスすると、映像は表示されません。	• https初回接続時に表示されるウェブサイトの認証ポップアップで<証明書の表示>をクリックした後、<Webビューアの設定IPに接続する際、常に信頼する>の項目のチェックボックスを選択してください。 • 以下のメッセージウィンドウで「次へ」を選択した後にWeb Viewerでの表示に失敗する場合、commandキー + Qを押してSafariブラウザを終了し、再度アクセスして上述の手順に従います。
ウェブブラウザからカメラにアクセスできない。	• カメラのネットワーク設定が適切か確認します。 • ネットワークケーブルがすべてきちんと接続されているか確認します。 • DHCP を使用して接続した場合、カメラが問題なく動的 IPアドレスを取得できたか確認します。 • カメラがブロードバンドルーターに接続している場合、ポート転送がきちんと 設定されているか確認します。
閲覧中にビューアが遮断された。	• カメラまたはネットワーク設定に変更が生じた場合、接続済みビューアは遮断されます。 • ネットワーク接続をすべて確認します。
Device Managerプログラムでネットワークに接続されたカメラが検索できません。	• 使用中の PC のファイアウォールを無効にし、カメラを再検索してください。
画像がオーバーラップする。	• 複数のカメラが個々のアドレスではなく、単一のマルチキャスト アドレスに設定されているか確認します。複数のカメラが単一アドレスを使用すると、画像がオーバーラップする原因になります。
画像が表示されない。	• 送信方法がマルチキャストに設定されている場合、カメラが接続しているLAN にマルチキャストに対応しているルータがあるか確認します。 • レンズモジュールが正しく動作しているかどうかを確認します。

問題	解決策
<アナリティクス>の <モーション検知>は<イベント>に設定されていますが、分析イベントが発生したときであっても、通知用のEメールは到着しません。	• 設定を次の順序で確認します。 A. <日付＆時間>設定をチェックします。 B. <モーション検知>が<使用>に設定されていることを確認します。 C. <イベント設定>メニューの<E-mail>オプションが選択されて使用可能になっているかどうか確認してください。
インテリジェント映像分析イベントが生成されていても、アラーム出力ポートに信号が検出されません。	• アラーム出力ポートの設定をチェックしてください。
Micro SDメモリカードに録画できません。	• メモリカードに問題がないか確認してください。
Micro SDメモリカードを挿入しても、カメラが正しく動作しません。	• メモリカードが正しい方向で挿入されているかを確認してください。他のデバイスで初期化されたメモリカードの場合は、このカメラ装置で正常に動作しない可能性があります。 • メモリカードを<設定> → <イベント> → <ストレージ>メニューで再度初期化してください。
NASに記録できません。	• NASに登録した情報が正しいことを確認します。
NAS設定が失敗したと報告が出ています。	• NASのIPアドレスが有効であること。 • NASのID/パスワードが有効であること。 • NASのIDを使う基本フォルダに指定したフォルダにアクセスできること。 • NAS SMB/CIFSの項目をチェックしていないこと。 • NAS IPアドレスとカメラIPアドレスが同じフォーマットであることを確認します。 例) NASとカメラのサブネットマスク値は255.255.255.0です。 IPアドレスが192.168.20.32である場合、NAS IPアドレスは192.168.20.1～192.168.20.255の範囲にある必要があります。 • 保存または使用する基本フォルダを初期化せずに、別のユーザーとして利用しようとしていたかを確認します。 • 推奨されているNAS装置を使用したかどうか確認します。

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GPL SW

Component Name	License	URL
Base Kernel	GPL 2.0	
Busybox	GPL 2.0	http://www.busybox.net/downloads/snapshots
iproute2-4.3.0	GPL 2.0	
iptables-1.4.21	GPL 2.0	http://ftp.netfilter.org/pub/iptables
ethtool-4.2	GPL 2.0	
mtd-1.5.2	GPL 2.0	ftp://ftp.infradead.org/pub/mtd-utils
mii-diag-2.11	GPL 2.0	
rp-pppoe-3.11	GPL 2.0	http://www.roaringpenguin.com/pppoe/
wpa_supplicant-2.5	GPL 2.0	
bash-4.3.30	GPL 3.0	
zeroconf	GPL 2.0	

LGPL SW

Component Name	License	URL
gLibc	LGPL 2.0	
Inetutils	LGPL 3.0	
neon-0.29.6	LGPL 2.0	http://www.webdav.org/neon/

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MiniUPnP Project Client	BSD 2.0	
pppd-2.4.7	BSD 2.0	http://opensource.org/licenses/BSD-3-Clause

lighttpd is a secure, fast, compliant, and very flexible webserver that has been optimized for high-performance environments. It has a very low memory footprint compared to other webservers and takes care of cpuload. Its advanced feature-set (FastCGI, CGI, Auth, Output-Compression, URL-Rewriting and many more) make lighttpd the perfect webserver-software for every server that suffers load problems. Simple Network Management Protocol (SNMP) is an Internetstandard protocol for managing devices on IP networks. It is used mostly in network management systems to monitor the devices attached to the network for conditions that need administrative attention. Net-SNMP is a suite of applications used to implement SNMP v1, SNMP v2c and SNMP v3 using both IPv4 and IPv6. For more additional information, send email to help.cctv@hanwha.com.

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It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

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T-License [License Agreement for Source Code of T-Kernel]

established by T-Engine Forum
on January 23, 2004
revised on June 17, 2004
revised on December 21, 2006
revised on March 24, 2009

Article 1. Scope of License Agreement

1. This License Agreement sets forth copyrights and the terms and conditions of use applicable to the source code of T-Kernel distributed by T-Engine Forum and any derivative work created therefrom.

Article 2. Definition

1. "T-Kernel" means a real-time operating system controlled and distributed by T-Engine Forum on behalf of the copyright holder thereof.

2. "Source Code" means a source program, including related comments and documentations, for the T-Kernel and the Ported Source Code defined in Article 2.8 which is registered with T-Engine Forum.

3. "Hardware-dependent Part" means the part of the Source Code which depends on hardware and needs to be changed when the Source Code is ported and operated on the target hardware, and is designated and separated as such part.

4. "Compiler-dependent Part" means the part of the Source Code which depends on compiler and needs to be changed when the Source Code is ported and operated on the target hardware, and is designated and separated as such part.

5. "Header File" means the part of the Source Code which contains definitions necessary to develop application programs.

6. "T-Engine Hardware" means the hardware which is manufactured in accordance with the T-Engine Hardware specifications or the μT-Engine Hardware specifications issued by T-Engine Forum, and registered with T-Engine Forum.

7. "Similar Hardware to T-Engine Hardware" means any hardware (including software which emulates hardware) other than that defined in Article 2.6 above, on which the T-Kernel can be operated.

8. "Ported Source Code" means a source program produced from the Source Code by modifying only its Hardwaredependent Part and/or Compiler-dependent Part to enable it to be operated on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware. The Ported Source Code which is registered with T-Engine Forum shall be included in the Source Code.

9. "Modified Source Code" means a source program modified from the Source Code for the purpose of improving its performance, increasing or decreasing its function, and the like. The Ported Source Code shall not be included in the Modified Source Code.

10. "Binary Code" means an executable code form which is created by compiling programs, which include all or part of the Source Code or the Modified Source Code.

11. "Derivative Work" means the Modified Source Code or the Binary Code.

12. "Embedded Product" means any product which operates with executable code form of the Source Code, the Modified Source Code or the Binary Code loaded on its hardware.

13. "End User" means a consumer who uses the Embedded Product.

14. "System Developer" means any person who develops the Embedded Product by itself or has a third party develop the same, and provides, whether with or without payment, the End User with the Embedded Product.

15. "Distributor of Modification" means any person who produces the Modified Source Code and, whether with or without payment, distributes the same to any third party.

16. "Patch for Modification" means a difference, program, system, or the like in order to create the Modified Source Code from the Source Code or the Binary

Code thereof.

17. "Vicarious Execution of Patch Processing" means vicarious execution service to create the Modified Source Code applying the Patch for Modification to the Source Code or the Binary Code thereof.

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2. to transmit a work to the general public through the Internet communication, broadcasting, and the like automatically in response to a request from the public; and

3. to distribute a copy of a work to the general public or a large number of specific persons.

Article 3. Copyright

1. The copyrights of the Source Code shall be owned by Ken Sakamura.

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1. As provided for in this Article, T-Engine Forum shall provide, and grant a license to use, the Source Code free of charge to any person who has taken the necessary procedure for registration as prescribed by T-Engine Forum and agreed to the T-License.

2. The Source Code shall be distributed exclusively by T-Engine Forum. Any person who obtains the Source Code under Article 4.1 above shall not make any re-Distribution of the Source Code.

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1. to copy and/or modify the Source Code provided by T-Engine Forum hereunder for its own research, development and the like.

2. to run the Source Code provided by T-Engine Forum hereunder for its own research, development and the like.

3. to run the Source Code modified in accordance with the provision of Article 4.3 (1) above for its own research, development and the like.

4. to distribute the Binary Code created from the Source Code provided by T-Engine Forum hereunder or from the Source Code modified in accordance with the provision of Article 4.3 (1) above.

4. In accordance with the license granted under Article 4.1 above, the System Developer may perform the following acts:

1. to perform any and all acts set forth in the Article 4.3 above.

2. to develop and manufacture the Embedded Product containing the Binary Code, and, whether with or without payment, provide the End User with the same and make the Binary Code available to the End User on the Embedded Product.

5. The Source Code User and the System Developer shall be obligated to give a notice that the Source Code is used, in such a way as separately specified by T-Engine Forum, when they use the Source Code or the Binary Code, or make the Binary Code available for the End User on the Embedded Product.

Article 5. Distribution of Modified Source Code

1. Any of A- members of T-Engine Forum may become the Distributor of Modification by obtaining the approval of T-Engine Forum through the registration procedure as prescribed by the Forum provided that only the department of the A- member which has taken the registration procedure may distribute the Modified Source Code in such a way as provided for in this Article as long as it holds the Amembership.

2. The Distributor of Modification may create the Modified Source Code based on the Source Code provided by T-Engine Forum and the Patch for Modification to be applied to create such Modified Source Code from the Source Code.

3. The Distributor of Modification shall, prior to the distribution, inform T-Engine Forum of and register a name and description of the Modified Source Code in such a way as specified by T-Engine Forum.

4. The Distributor of Modification shall determine the name of the Modified Source Code subject to the rules separately established by T-Engine Forum and publish an appropriate notice as required by the rules on the Patch for Modification and the Modified Source Code.

5. The Distributor of Modification may distribute the Modified Source Code to a third party, whether with or without payment, provided that the Distributor of Modification shall take the necessary measures to prohibit the third party from making the re-Distribution of the Modified Source Code.

6. Developer with the Patch for Modification. Provided, however, that the Distributor of Modification shall be obligated to confirm that the System Developer is the Source Code User duly licensed under Article 4.1.

7. The Distributor of Modification may perform the Vicarious Execution of Patch Processing for the System Developer.

8. The System Developer shall not distribute the Modified Source Code in further modified form to any third party as a stand-alone software product.

9. The System Developer may, under the same obligation as imposed in Article 4.5, make the Embedded Product available for the End User through use of the Patch for Modification distributed by the Distributor of Modification or the Derivative Works obtained through the Vicarious Execution of Patch Processing.

Article 6. Distribution and Registration of the Ported Source Code

1. The Source Code User and the System Developer may, whether with or without charge, distribute to any third party only the following parts of the Ported Source Code on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware:

1. The Hardware-dependent Part and/or Compiler-dependent Part; provided that the Source Code User and the System Developer shall inform T-Engine Forum of, and T-Engine Forum may publish, a method for distributing said Part(s) to third parties.

2. The Header File; provided that the Header File shall be distributed together with the Binary Code of the Ported Source Code.

2. Any member of T-Engine Forum may request T-Engine Forum to register and distribute, as an original source code for T-Kernel, the Ported Source Code on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware.

3. Any member of T-Engine Forum who requests the distribution mentioned in the preceding paragraph shall accede to the following conditions:

1. The member shall confirm that the object hardware is the T-Engine Hardware or the Similar Hardware to T-Engine Hardware.

2. The member shall provide T-Engine Forum with a complete set of operational environment for the object hardware and T-Kernel free of charge when requesting the distribution.

3. The member shall submit test results of the Ported Source Code to T-Engine Forum when requesting the distribution.

4. In the event that T-Engine Forum accepts the request mentioned in Article 6.2, T-Engine Forum shall register and distribute the Ported Source Code as the Source Code for T-Kernel. Provided, however, that the Ported Source Code may be treated in the same way as the Modified Source Code until the time of registration hereunder.

5. The provision set forth in Article 3 shall apply to the Ported Source Code registered in accordance with this Article.

Article 7. Use for Other Purpose

1. Any use of the Source Code, the Modified Source Code or the Ported Source Code other than those stipulated in Articles 4, 5 and 6 shall be subject to the prior approval of T-Engine Forum.

Article 8. Limited Warranty

1. T-Engine Forum and the copyright holder of the Source Code warrant that the Source Code does not infringe third party's copyrights. Provided, however, that T-Engine Forum and the copyright holder of the Source Code make no warranty as to the Hardware-dependent Part and/or Compiler- dependent Part set forth in Article 6.2 in the Ported Source Code by any third party.

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2. In case of breach of this License Agreement by a member of T-Engine Forum, T-Engine Forum may take appropriate measures against the member; for example, the member is disqualified from membership, depending on what kind of breach has been committed by it.

3. Any legal dispute which may arise in relation to any breach of this License Agreement shall be subject to the exclusive jurisdiction of the Tokyo District Court.

Article 11. Governing Law and Language

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2. This License Agreement is executed in both Japanese text and English text provided that the Japanese text shall govern the interpretation and performance of this License Agreement.

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Iperf performance test

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The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files http://www.ietf.org/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).

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