



EN3003A

取扱説明書

安全にお使いいただくために
必ずお読み下さい

この取扱説明書には、あなたや他の人々への危険や財産への損害を未然に防ぎ、本商品を安全にお使いいただくために、守っていただきたい事項を示しています。本商品のご使用前に、本書をよくお読みのうえ、内容を理解してからお使いください。お読みになったあとも、本商品のそばなど、いつも手元においてお使いください。

安全情報の表示について

当社では人身事故や財産の損害を避けるために、危険の程度に応じて下記のようなシグナルワードを用いて安全に関する情報を提供しています。記述内容を十分理解して機器を操作するようにしてください。

下記の表示およびシンボルは、そのすべてが本器に使用されているとは限りません。また、外観図などが本書に含まれるとき、製品に貼り付けたラベルなどがその図に記入されていない場合があります。

説明書中の表示について



危険

回避しなければ、死亡または重傷に至る切迫した危険状況があることを警告しています。



警告

回避しなければ、死亡または重傷に至る可能性がある潜在的危険について警告しています。



注意

回避しなければ、軽度または中程度の人体の傷害に至る可能性がある潜在的危険、または、物的損害の発生のみが予測されるような危険状況について警告しています。

機器に表示または説明書に使用されるシンボルについて

機器の内部や操作か所の近くに、または説明書に、安全上あるいは操作上の注意を喚起するための表示があります。これらの表示に使用しているシンボルの意味についても十分理解して、注意に従ってください。



禁止行為を示します。丸の中や近くに禁止内容が描かれています。



守るべき義務的行為を示します。丸の中や近くに守るべき内容が描かれています。



警告や注意を喚起することを示します。三角の中や近くにその内容が描かれています。



注意すべきことを示します。四角の中にその内容が書かれています。

EN3003A

取扱説明書

2026年4月(初版)

- ・予告なしに本書の内容を変更することがあります。
- ・許可なしに本書の一部または全部を転載・複製することを禁じます。

安全にお使い頂くために

警告

修理



- 1 本装置は、お客様自身では、修理できません。ネジを取り外し、装置を分解しないでください。感電する恐れがあります。
保守に関しては、所定の訓練を受け、火災や感電事故等の危険を熟知した方、またはNTT東日本株式会社/NTT西日本株式会社の保守契約業者にご依頼ください。
- 2 本装置へ電源を供給するには、本装置に添付された3芯電源コードを接地極付コンセントへ接続し、本装置が接地されるようにして使用してください。接地極付コンセントがなく変換アダプタを使用する場合は、変換アダプタから出ている緑色の線の先端の端子を必ず接地してから、ご使用ください。接地しないで電源を投入すると、負傷または死につながる感電事故を引き起こす恐れがあります。また、精密部品を破損する可能性があります。

注意

- 1 電源端子の周囲のほこりを清掃してください。
電源コンセントに付着したほこりなどは、ときどき、清掃してお使いください。ほこりが電極にたまると火災になる恐れがあります。
- 2 本装置は、風通しの良い場所でお使いください。筐体の表面温度が高温になる場合がありますので火傷をする危険があります。
- 3 本装置は、メモリのバックアップ用電池として、フッ化黒鉛リチウム電池を使用しています。

電波妨害について

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI-A

輸出する際の注意事項

1. 本製品は日本国内仕様であり、外国の安全規格などに準拠していない場合もありますので、国外へ持ち出して使用された場合、当社は一切の責任を負いかねます。
 2. 本製品および添付マニュアル類は、輸出および国外持ち出しの際には、「外国為替および外国貿易法」により、日本国政府の輸出許可や役務取引許可を必要とする場合があります。また、米国の「輸出管理規則」により、日本からの再輸出には米国政府の再輸出許可を必要とする場合があります。本製品や添付マニュアル類を輸出または国外持ち出しをする場合は、事前に必ず当社の営業担当までご連絡ください。輸出規制を受ける製品やマニュアル類を廃棄処分する場合は、軍事用途等に不正使用されないよう、破碎または裁断処理していただきますようお願い致します。
-

廃棄対策について

本装置は、フッ化黒鉛リチウム電池を使用しています。
廃棄する場合は、関連法令に従ってください。

特記事項

本装置に搭載されているすべてのソフトウェアの解析（逆コンパイル、逆アセンブル、リバースエンジニアリングなど）、コピー、転売、改造を行うことを禁止します。

ソフトウェア使用許諾契約書

本使用許諾契約書（以下、「本契約書」といいます。）は、アンリツ株式会社 EN3003Aソフトウェア（以下、「本ソフトウェア」といいます。）に関してお客様とアンリツ株式会社（以下、「アンリツ」といいます。）の間に締結される法的な契約書です。

お客様は、本ソフトウェアを使用（実行、インストール、複製、記録等を含み以下、「使用」といいます。）する前に、本契約書をお読みください。お客様から本契約書の規定にご同意いただいた場合のみ、お客様は、本契約書に定められた範囲において、本ソフトウェアを使用することができます。お客様が本ソフトウェアを使用したとき、当該ご同意をいただいたものとし、本使用許諾契約（以下、「本契約」といいます。）が成立したものとみなされます。

本ソフトウェアは、著作権法および著作権に関する条約をはじめ、その他の無体財産権に関する法律およびその条約によって保護されています。本ソフトウェアはアンリツがお客様に対してその使用を許諾するものです。

なお、本ソフトウェアは、オープンソースソフトウェアを含んでいます。オープンソースソフトウェアに関しては、本書「付録B 第三者ソフトウェアライセンス」を参照してください。オープンソースソフトウェアのライセンス記述との間で矛盾が生じた場合は、オープンソースソフトウェアのライセンスの記述が優先されます。

1. 使用許諾

アンリツはお客様に対し以下の使用を許諾いたします。

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- (2) お客様は、本ソフトウェアをお客様の自社業務のために限り使用することができます。

2. 使用の制限

- (1) お客様は、本ソフトウェアをお客様の保有するもの、第三者の保有するものであることを問わず、いかなるコンピュータ上においても並行して使用しないものとします。
- (2) お客様は、本ソフトウェアについて、バックアップする目的以外の複製、または第三者に対し頒布、貸与、リース、担保設定等を行うことはできません。また、本ソフトウェアを使用する権利を第三者に譲渡、転売、または再使用許諾することはできません。お客様はいかなる状況においても、他の法人または団体の従業員および構成員に対して、本ソフトウェアを使用する権利を与えることはできません。
- (3) お客様は、本ソフトウェアまたは本ソフトウェアに関するドキュメントを修正、改変、翻訳、リバースエンジニアリング、逆コンパイル、逆アセンブルし、または本ソフトウェアの派生製品を作成することはできません。また、本ソフトウェアは一つの製品として許諾されており、お客様はその構成部分を分離して使用することはできません。

- (4) お客様は、本製品および本製品に添付される第三者ソフトウェアの権利表示を変更、または修正することはできません。

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- (1) お客様が、本契約の条項の一つにでも違反したとき、アンリツの著作権およびその他の権利を侵害したとき、暴力団等反社会的な団体に属しもしくは当該団体に属する者と社会的に非難されるべき関係があることが判明したとき、または法令に違反したとき等、本契約を継続できないと認められる相当の事由があるときは、アンリツは本契約をなんらの催告なくして即時に解除することができます。
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- (3) 本契約が解除されまたは終了したときは、お客様は直ちに、本ソフトウェア、その構成部分、本ソフトウェアに関するドキュメント、およびそれらの一切の複製物を破棄、またはコンピュータの記憶媒体上から完全に消去するものとし、使用を継続してはなりません。
- (4) 本契約の解除または終了に伴って本ソフトウェアの全部または一部が使用不可能となることによって、お客様および第三者が被った損害等について、アンリツは一切責任を負いません。

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- (2) アンリツは、本ソフトウェアの品質に契約内容と適合しない部分（いわゆるバグをいい、構造上の問題等を含みます。）が存していた場合に、これが修正されることを保証いたしません。また、アンリツの口頭または書面によるいかなる情報提供または助言も、新たな保証を行なうものではなく、その他いかなる意味においても本保証の範囲を拡大するものではありません。

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不法行為、契約その他いかなる法的根拠による場合でも、アンリツならびに本ソフトウェアの供給者、再販売業者、および各情報コンテンツの提供会社は、お客様その他の第三者に対し、本ソフトウェアの使用または使用不能に関して生じた営業価値の喪失、業務の停止、コンピュータの故障による損害、その他あらゆる商業的損害・損失等を含め一切の直接的、間接的、特殊的、付随的または結果的な損失または損害について責任を負いません。ただし、当該損失または損害がアンリツの故意または重大な過失により生じた場合はこの限りではありません。

6. 輸出法令の遵守

お客様は、本ソフトウェアを、直接、間接を問わず、核、化学・生物兵器およびミサイルなどの大量破壊兵器および通常兵器、ならびにこれらの製造設備等・関連資機材等の拡散防止の観点から、日本国の「外国為替及び外国貿易法」およびアメリカ合衆国の「輸出管理法」その他国内外の関

係する法律, 規則, 規格等に違反して, いかなる仕向け地, 自然人もしくは法人に対しても輸出しないものとし, または輸出させないものとし

7. 規定の変更

アンリツは, 本契約の規定の変更が, お客様の一般の利益に適う場合, または本契約の目的および変更に係る諸事情に照らして合理的な場合に, お客様の承諾を得ることなく変更を実施することができます。変更にあたりアンリツは, 原則として 45 日前までに, その旨(変更後の内容および実施日)を自己のホームページに掲載し, またはお客様に書面もしくは電子メールで通知します。

8. 損害賠償

お客様が本契約の規定に違反したことに起因してアンリツが損害を被った場合, アンリツはお客様に対して当該損害の賠償を請求することができます。

9. 協議

本契約の条項における個々の解釈について生じた疑義, または本契約に定めのない事項について, お客様およびアンリツは誠意をもって協議のうえ解決するものとします。

10. 準拠法および裁判管轄

本契約は, 日本法に準拠し, 日本法に従って解釈されるものとします。本契約に関する紛争の第一審の専属的合意管轄裁判所は, 東京地方裁判所とします。

改定履歴

2023 年 10 月 1 日

当社へのお問い合わせ

本製品の故障については、本装置に同梱されている「はじめにお読みください」に記載の「本製品についてのお問い合わせ窓口」へすみやかにご連絡ください。

本書の内容

この取扱説明書は、EN3003A（以下、本装置）の使用方法について記述したものです。

本説明書が適用できる本装置の形名を下記に示します。

・EN3003A

本装置の取扱説明書は、以下の①で構成されています。本書は①です。

① 取扱説明書

この説明書は、本装置の設置・取り扱い・保守の方法について記述してあります。

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第 1 章 概要

第1章 概要

1. 概要

1.1 概要

本装置は、既存のアナログ専用線（メタル回線）を IP 回線（光ファイバ）に変更する IP 変換装置です。

1.2 使用例

使用形態を図 1-1 に示します



図 1-1 使用形態図

1.3 品名

本装置の品名を表 1-1 に示します。

表 1-1 品名

品名	カナ品名	記事
EN3003A	EN3003A	【内訳】 ・ EN3003A 本体 1 台 ・ 添付品 1 式

本装置の添付品を表 1-2 に示します。

表 1-2 添付品

添付品名	記事
固定金具	EN3000 固定金具（取付用金具類一式）
取扱説明書	注意書「はじめにお読みください」 取扱説明書のダウンロードサイトのご案内
AC 電源ケーブル	長さ：2.5 m
端末インタフェースケーブル 2	アナログ端末接続用ケーブル（ローゼット付き）
保証書	—

本装置のオプション品を表 1-3 に示します。

表 1-3 オプション品

オプション品	記事
EY1085A	シリアルインタフェースケーブル EN3001A と共用可

第2章 仕様

2. 仕様

2.1 主要諸元

本装置の基本仕様を表 2-1 に示します。

表 2-1 EN3003A 基本仕様

項目	仕様概要
伝送路側インタフェース	<ul style="list-style-type: none"> ・イーサネット規格 100BASE-TX/10BASE-T オートネゴシエーション有効/無効 (オートネゴシエーション無効時は全二重通信固定) フロー制御有効固定 (Pause パケット受信時に送信停止) Auto MDIX/MDI-X あり ・LAN プロトコル Ethernet Ver2.0 (IEEE802.3 準拠) UDP/IP ・VLAN タグ 有/無設定可 (IEEE802.1Q 準拠) ・ポート数 1 ・コネクタ形状 RJ-45 型モジュージャック (ISO IS8877 準拠)
端末側インタフェース	<ul style="list-style-type: none"> ・周波数帯域 300~3400 Hz ・通信方式 4 線式または 2 線式 ・標準化周波数 8 kHz ・圧伸特性 $\mu=255$ 15 折線非直線符号化方式 ・符号器構成 シングルチャネル CODEC 方式 ・符号化ビット数 8 bit ・入出力レベル 入力レベル (4WS) : -8 dBr 出力レベル (4WR) : +4 dBr ± 1 dB 入力レベル (2WS) : 0 dBr 出力レベル (2WR) : -4 dBr ± 1 dB (但し, 送信周波数は, 1020 Hz) ・入出力インピーダンス 600 Ω 平衡 (公称インピーダンス) ・SS/SR 方式 TTC JJ-21.10 (電気的特性) による。 SR 方式には, 地気/開放の切替可 ・ポート数 1 ・コネクタ形状 RJ-45 型モジュージャック
ネットワーク管理	Telnet, SSH, Ping, SNMP, FTP
外形寸法	55 mm(W) \times 150 mm(H) \times 158 mm(D) 以下 (突起部を除く) [縦置き/横置き可]
質量	1.5 kg 以下
電源電圧	AC 100 V (動作範囲 90~110 V) (50 Hz/60 Hz)
消費電力	12VA 以下, 6W 以下
環境条件	周囲温度 : -10~+55 $^{\circ}$ C 相対湿度 : 20~85% (結露なきこと)

第3章 各部の名称と機能

3. 各部の名称と機能

3.1 外観図

本装置の外観図を図 3-1 に、解説を表 3-1 に示します。

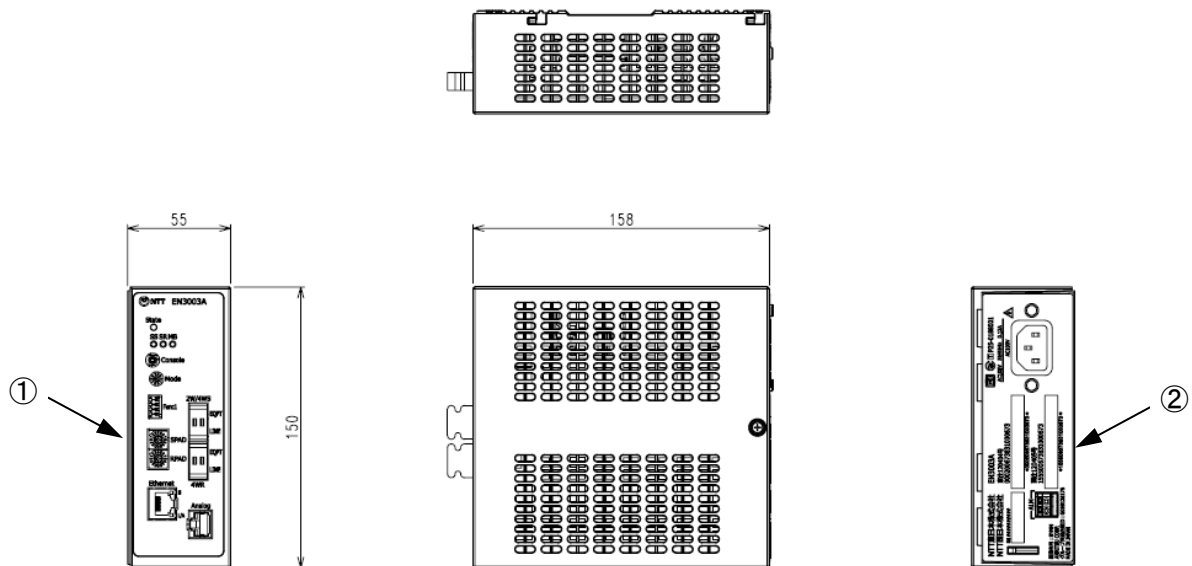


図 3-1 外観図

表 3-1 外観図解説

部位	名称	機能
①	正面パネル	詳細は表 3-2 参照。
②	背面パネル	詳細は表 3-3 参照。

3.2 正面パネルの名称

正面パネル図を図 3-2 に、解説を表 3-2 に示します。

表 3-2 正面パネル解説

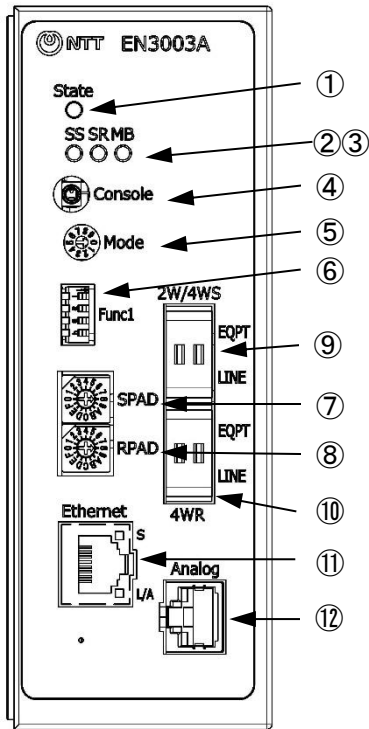


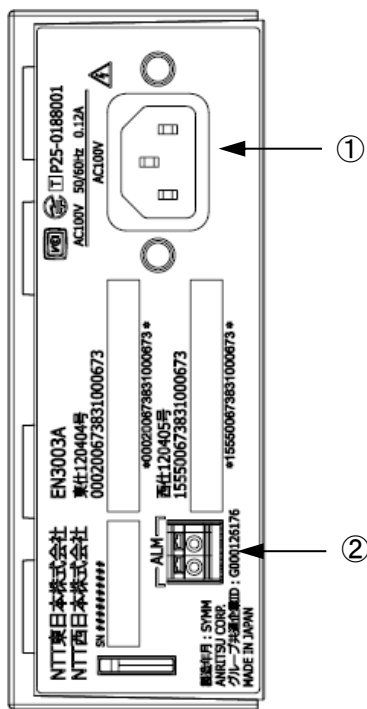
図 3-2 正面パネル図

部位	名称	機能
①	State (LED)	通常運用中に点灯(緑) 起動中または試験中に点灯(橙) 異常時に点灯(赤)
②	SS/SR (LED)	SS が ON 時状態で点灯(緑) SR が ON 時状態で点灯(緑)
③	MB (LED)	回線閉塞時に点灯(赤)
④	Console	シリアルインターフェース(オプション)にて、端末(PC等)と接続し、設定/確認を行います。
⑤	Mode	保守・試験時に使用します。 詳細は、表 6-1 参照
⑥	Func1	端末インタフェースの設定スイッチ 詳細は、表 4-1 参照
⑦	SPAD	送信アッテネータ (0~15 dB, 1 dB ステップ) 詳細は、表 4-2 参照
⑧	RPAD	受信アッテネータ (0~15 dB, 1 dB ステップ) 詳細は、表 4-2 参照
⑨⑩	U リンク	保守/試験時に外部測定器と接続して、切り分け確認します。
⑪	Ethernet	ネットワーク接続用ポート S(LED):Speed, L/A(LED):Link/Act
⑫	Analog	音声端末機器接続用ポート

3.3 背面パネルの名称

背面パネル図を図 3-3 に、解説を表 3-3 に示します。

表 3-3 背面パネル解説



部位	名称	機能
①	AC100V	AC インレット
②	ALM	ALM 接点出力

図 3-3 背面パネル図

3.4 アラーム表示

表 3-4 の発生条件がひとつでもあるとアラームが発生します。すべての解除条件が成立するとアラームを解除します。これらのうちの何が発生しているのかは、コンソールからの“show device status”コマンドの実行結果表示（Alarm Itemの項目）で確認することができます。また、システムログ情報でも確認できます。A.3 システムログ情報一覧を参照してください。

表 3-4 の項番 1~6 がアラーム発生中は、State LED が赤点灯します。

表 3-4 の項番 3, 5, 6 は、ALM 接点出力を有効（set alarm output enable）設定にしていれば、ALM 接点が閉じます。

表 3-4 アラームの発生条件と解除条件

項番	発生条件	解除条件
1	装置起動時にコンフィグレーションデータが読めなかった。	“save config”または“init config”コマンドを実行し再起動する。再起動しても解除されない場合は装置を交換する。
2	装置起動時に内蔵の LSI（FPGA）が動作しなかった。	装置を交換する。
3	CPU 温度が 95°C以上になった。	CPU 温度が 90°C未満になった。
4	内蔵の LSI（FPGA）が動作しなくなった。	自動的に再起動する。再起動しても解除されない場合は装置を交換する。
5	イーサネットポートのオートネゴシエーション結果が半二重になった。	イーサネットポートのオートネゴシエーション結果が全二重になった。または、Ethernetポートのオートネゴシエーションを無効とし通信速度を設定する。
6	実行中のプログラムで異常終了した。	自動的に再起動する。再起動しても解除されない場合は装置を交換する。

3.5 ピンアサイン

3.5.1 各種ポートのコネクタピンアサイン

Ethernet ポートを表 3-5 に、Analog ポートを表 3-6、Console ポートを表 3-7 に示します。

(1) Ethernet ポート

表 3-5 Ethernet ポートピンアサイン

ピン番号	機能 (100BASE-TX/10BASE-T)	
	MDI	MDI-X
1	Tx0b(+):送信データ(+)	Rx1b(+):受信データ(+)
2	Tx0b(-):送信データ(-)	Rx1b(-):受信データ(-)
3	Rx1b(+):受信データ(+)	Tx0b(+):送信データ(+)
4	—	—
5	—	—
6	Rx1b(-):受信データ(-)	Tx0b(-):送信データ(-)
7	—	—
8	—	—

注. Auto MDI/MDI-X機能があります。

(2) Analog ポート

表 3-6 Analog ポートピンアサイン

ピン番号	機能	
1	4WS(T):送信データ(T)	2WS(T):送受信データ(T)
2	4WS(R):送信データ(R)	2WS(R):送受信データ(R)
3	4WR(T):受信データ(T)	
4	—	
5	SG:信号グラウンド	
6	4WR(R):受信データ(R)	
7	SS:送信シグナリング	
8	SR:受信シグナリング	

第3章 各部の名称と機能

(3) Console ポート

表 3-7 Console ポートピンアサイン

	ピン番号	機 能
	1	TXD送信データ
	2	RXD受信データ
	3	GND

第4章 設置・設定

4. 設置・設定

設置方法について以下に説明します。

4.1 設置手順

本装置の設置手順を図 4-1 に示します。

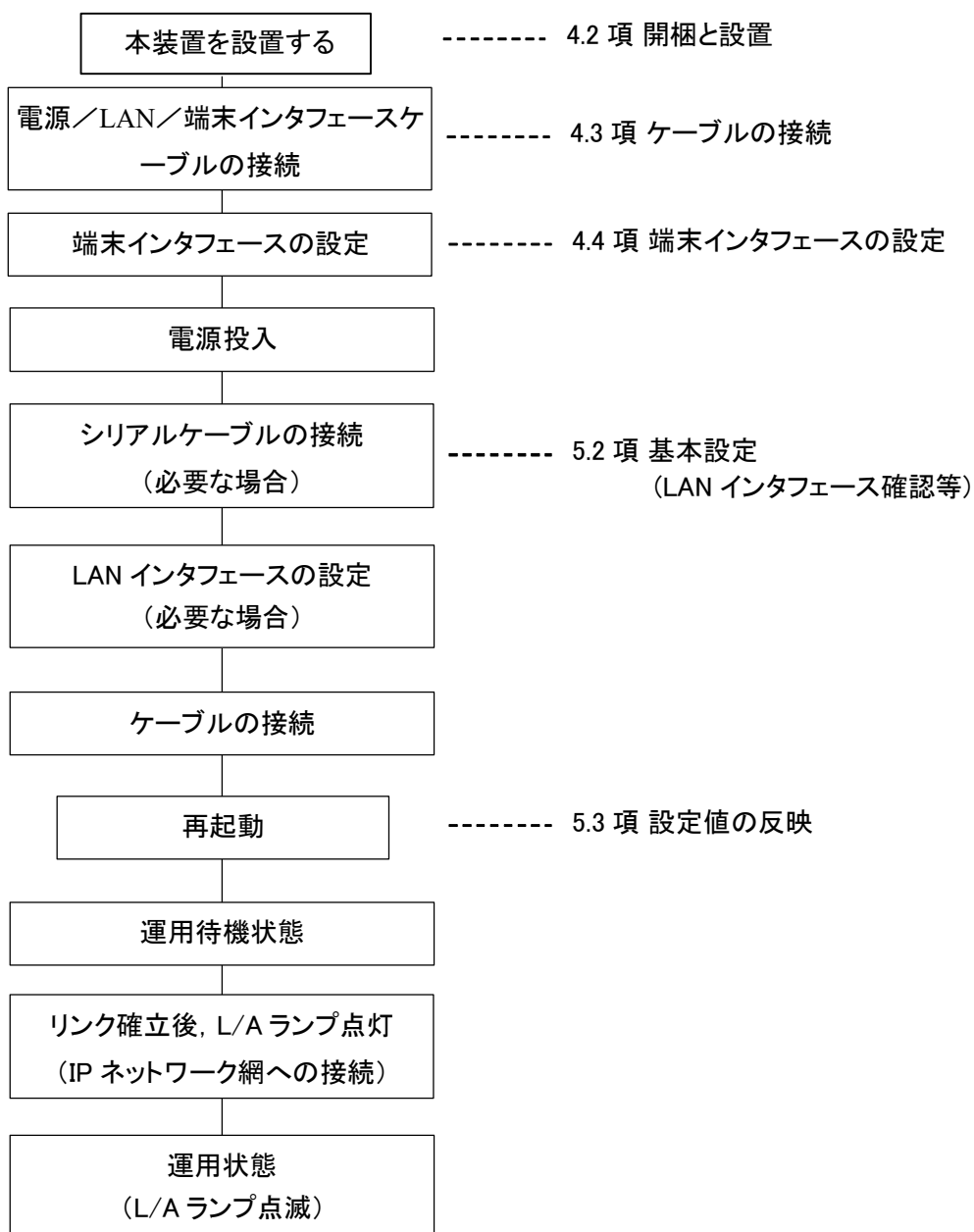


図 4-1 設置手順

4.2 開梱と設置

梱包を解いてから、設置するまでを説明します。

4.2.1 梱包内容のチェック

梱包箱から内容物を取り出し、本体、および本書の表 1-2 に記載の添付品が入っていることを確認してください。もし、不足品や輸送中に破損したものがあれば購入先に連絡してください。

再輸送に備えて、梱包箱やスペーサなどの梱包材料を保管しておいてください。

4.2.2 設置場所の選び方

本装置を設置するときは以下のような場所を避けてください。

- ・ 直射日光が当たる場所
- ・ 粉じんが多い環境
- ・ 屋外
- ・ 水、油、有機溶剤もしくは薬液などの液中、またはこれらの液体が付着する場所
- ・ 潮風、腐食性ガス（亜硫酸ガス、硫化水素、塩素、アンモニア、二酸化窒素、塩化水素など）がある場所
- ・ 静電気または電磁波の強い環境
- ・ 電源の瞬断または異常電圧が発生する環境
- ・ 部品が結露するような環境
- ・ 潤滑油からのオイルミストが発生する環境
- ・ 高度 2,000 m を超える環境
- ・ 振動または衝撃が多く発生する環境

潮風、腐食性ガス（亜硫酸ガス、硫化水素、塩素、アンモニア、二酸化窒素、塩化水素など）がある場所では、金属製 BOX 内に設置するなどの方法で、腐食性ガス等の影響を回避して使用してください。



本装置を上記のような場所に設置すると、転落落下、感電、火災の危険があるほか故障の原因となります。また、本装置は自然空冷のため、スペースのない積み重ね実装は避けてください。

4.2.3 再輸送

本装置を再輸送する場合は、納入時に使用されていた梱包材に入れて輸送してください。



納入時に使用されている梱包材を使用しないで輸送すると、振動、衝撃などにより故障する可能性があります。

4.3 ケーブルの接続

4.3.1 電源ケーブル

本装置へ電源を供給するには、添付の AC 電源ケーブルを AC インレットへ差し込んだ後に、接地極付コンセントへ接続し、本装置が接地されるようにして使用してください。



本装置および本装置と接続する装置は、確実に接地してください。

接地しないで電源に接続すると、負傷または死につながる感電事故を引き起こす恐れがあります。

本装置は、AC 電源コードのプラグをコンセントから抜くことにより電源を遮断するようになっています。作業者が容易に接近できるコンセントの近傍に、本装置を設置してください。また、接続するコンセントから容易にプラグを引き抜くことができるよう、本装置の設置場所や AC 電源コードの引き回しにご留意ください。

電源を容易に切断できないと火災などを引き起こし、死につながる恐れがあります。



-
- ・ 本装置に規定以外の電圧の電源を供給しないで下さい。装置の故障または火災の原因となることがあります。
 - ・ 本装置を接地しないで使用した場合、精密部品が破壊され、装置が故障する可能性があります。
-

4.3.2 LAN ケーブル

Ethernet ポートに接続します。ピンアサインは「表 3-5 Ethernet ポートピンアサイン」を参照してください。Auto MDI/MDI-X 機能があります。

4.3.3 端末インタフェースケーブル

Analog ポートに添付の端末インタフェースケーブル 2 を接続します。また、端末と接続するアナログ信号線を端末インタフェースケーブル 2 に付属されたローゼット (MJ-8S) の端子台に接続します。

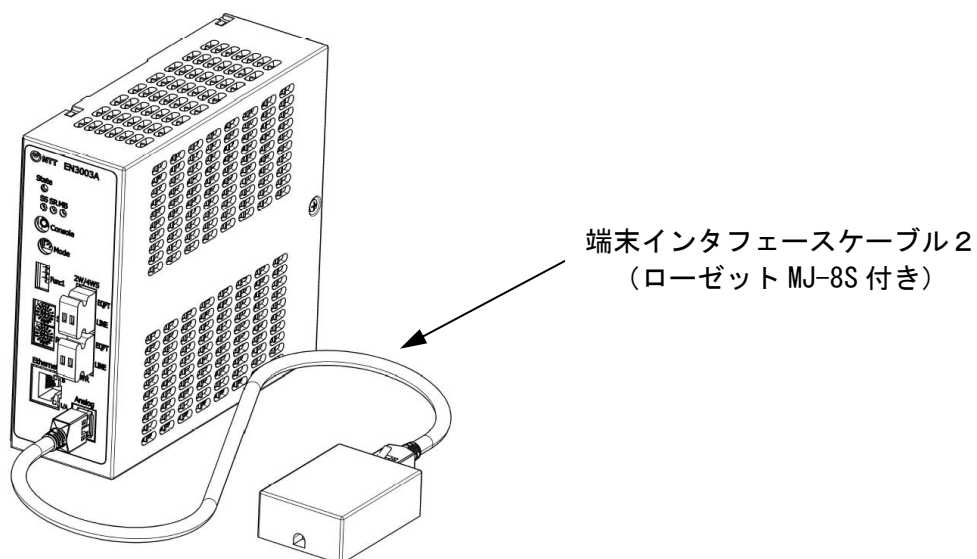


図 4-2 端末インタフェース 2 の接続

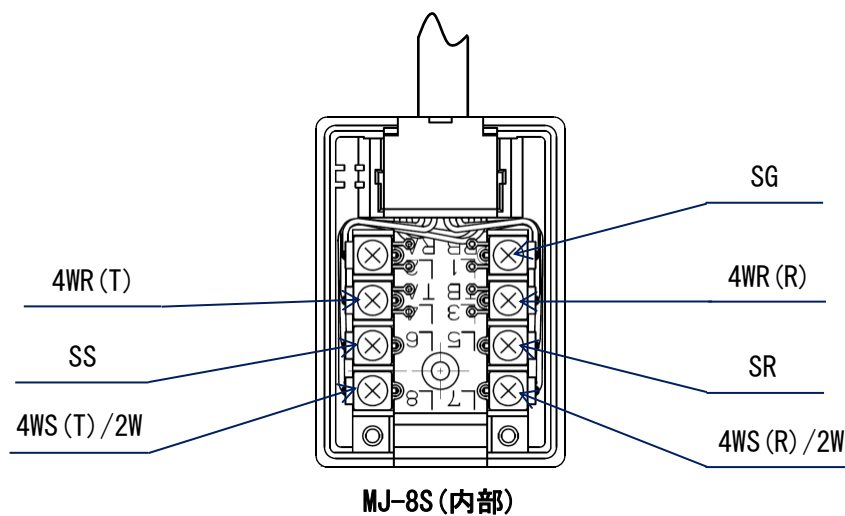


図 4-3 端末インタフェースケーブル2のローゼット端子台への接続

⚠ 注意

端末などを架空配線で接続する場合は落雷によって本装置が損傷する可能性があります。本装置の前に一次避雷器を実装してください。

4.3.4 シリアルインタフェースケーブル

オプションのシリアルインタフェースケーブルを Console ポートに接続して、各種設定を行ってください。

4.3.5 ALM 接点出力

アラーム接点出力を外部装置に接続することができます。
接続例を図4-4に示します。

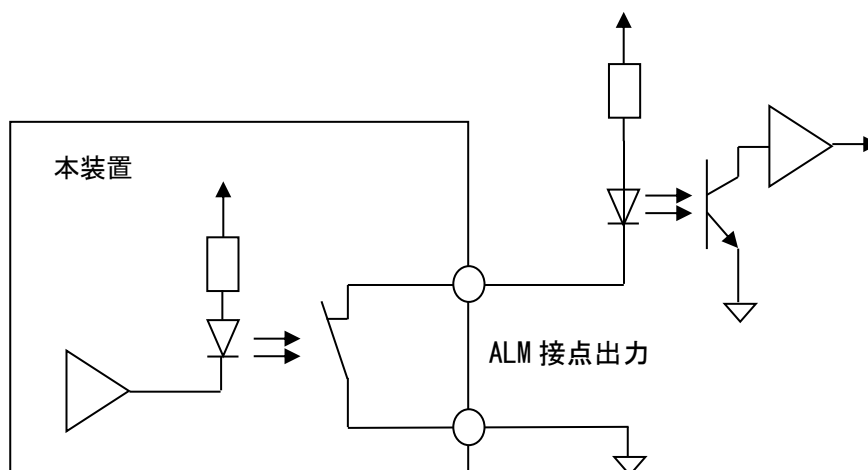


図4-4 ALM 接点出力の接続例

⚠ 注意

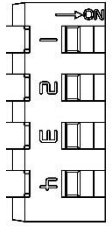
ALM 接点出力の印加最大電圧は DC 65 V、最大許容電流は 60 mA、最大許容電力は 200 mW です。本定格範囲内でご使用ください。
定格範囲外で使用すると、装置が破損する可能性があります。

4.4 端末インタフェースの設定

端末インタフェースの設定を表 4-1 に、レベル設定を表 4-2、表 4-3 に示します。

(1) 端末インタフェースの設定

表 4-1 端末インタフェースの設定

機能	番号	説明	備考	Func1 スイッチ
4W/2W 回線	1	OFF : 2 線式回線 ON : 4 線式回線	出荷時設定 全て OFF	
SR 信号方式	2	OFF : SR1 信号方式 ON : SR2 信号方式		
未使用	3	OFF にしてください。		
音声データモード	4	OFF : ノーマル ON : ショート		

注1. Func1 スイッチの設定は、装置の電源投入時または起動時にのみ動作が反映されます。

運用中に設定を変更しても、装置の動作には反映されません。

注2. SR1 信号方式の場合、電源故障時に SR 線が地気になります。

SR2 信号方式の場合、電源故障時に SR 線が開放になります

注3. 音声データモードがノーマルの場合、15.75 ms 毎に音声データパケットを転送します。

音声データモードがショートの場合、5.25 ms 毎に音声データパケットを転送します。

注4. 音声データモードがノーマルの場合、ゆらぎ吸収バッファの設定は、10ms 以上でご使用ください。

(2) レベル設定

表 4-2 レベル設定

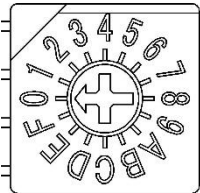
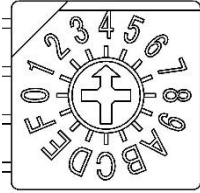
機能	アッテネータ		備考	SPAD/RPAD スイッチ
レベル設定	送信アッテネータ (SPAD)		出荷時設定 0 dB	
	スイッチ No.	減衰量 [dB]		
	0	0		
	1	1		
	.	.		
	.	.		
	.	.		
	E	14		
	F	15		
	受信アッテネータ (RPAD)		出荷時設定 4 dB	
	スイッチ No.	減衰量 [dB]		
	0	0		
	1	1		
	.	.		
.	.			
.	.			
E	14			
F	15			

表 4-3 出荷時設定のレベルダイヤ

回線方式	アッテネータ		レベルダイヤ	
	送信 (SPAD)	受信 (RPAD)	送信	受信
2 W	0 dB	4 dB	0 dBr	-8 dBr
4 W	8 dB	4 dB	0 dBr	0 dBr

注. レベル設定は、コマンド入力によっても実施可能です。

SPAD/RPAD スイッチによる設定を適用するか、コマンドで指定した設定を適用するかは、コマンドにより選択します。

4.5 取付方向と取付方法

4.5.1 取付方向

本装置は、縦置き設置と横置き設置の2通りがあります。図4-5、図4-6および図4-7、図4-8を参照し、添付の固定金具を取り付けて使用してください。

4.5.2 取付方法

本装置を縦置き設置する場合の本体に対する固定金具の取付方法を図4-5に、取付寸法を図4-6に示します。

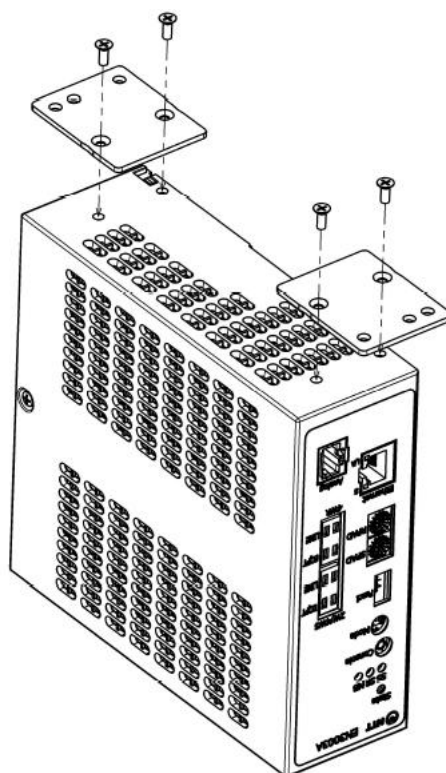
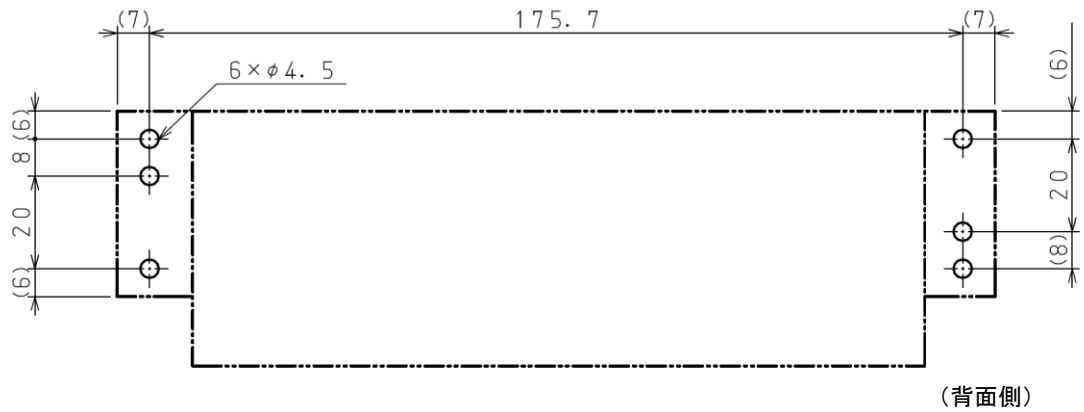


図4-5 縦置き設置時の固定金具取付方法



取付穴加工図（縦置の場合）

（装置の上方から見た図）

図 4-6 縦置き設置時の取付寸法

本装置を横置き設置する場合の本体に対する固定金具の取付方法を図 4-7 に、取付寸法を図 4-8 に示します。

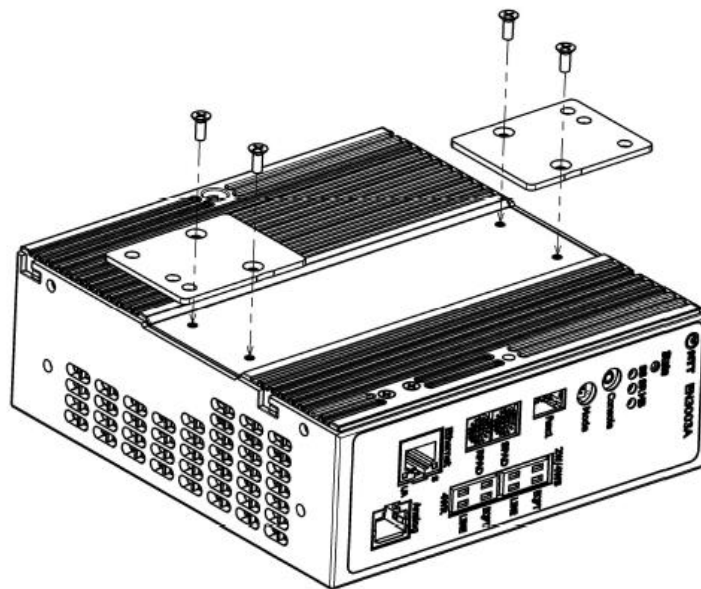
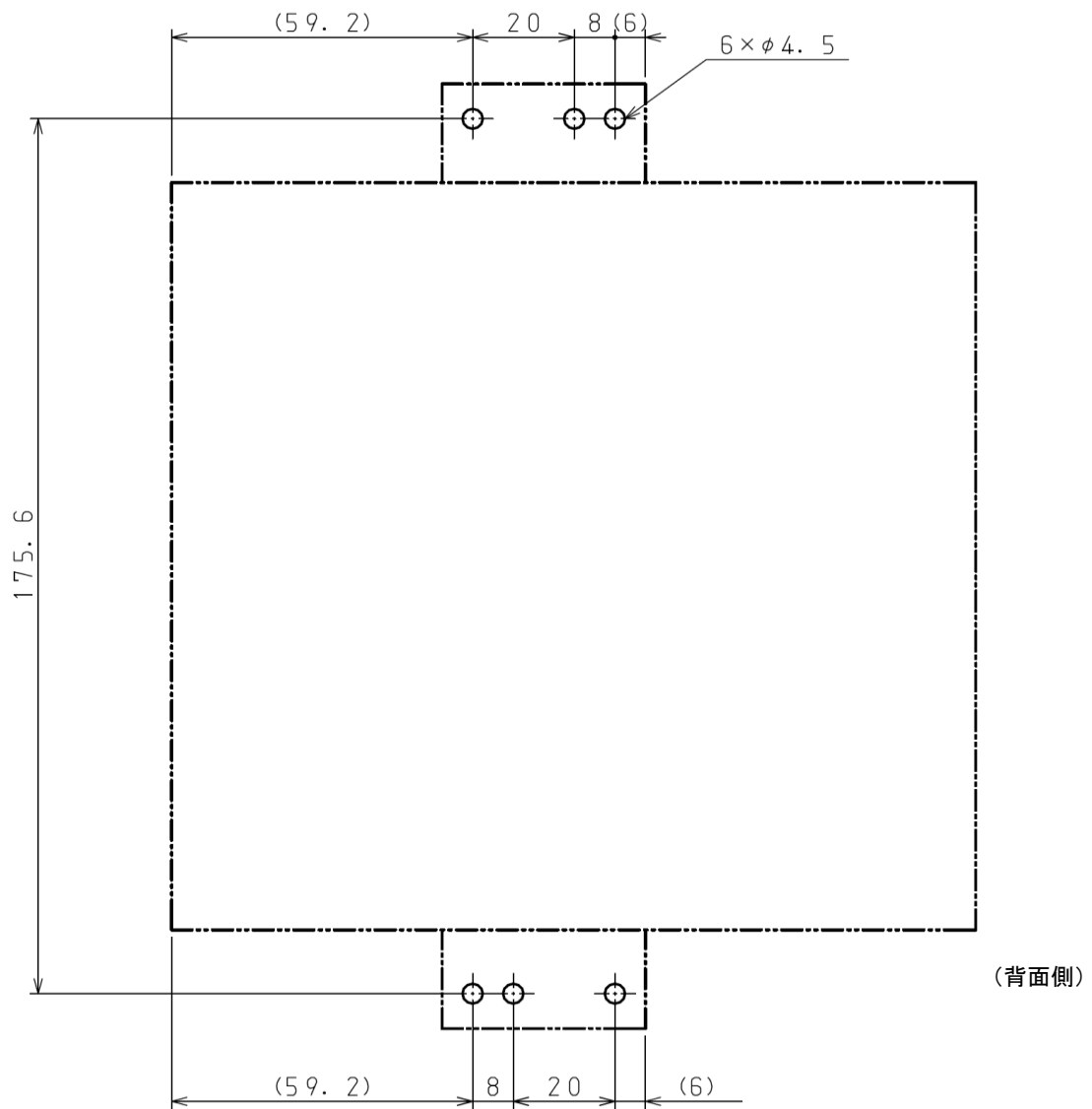


図 4-7 横置き設置時の固定金具取付方法



取付穴加工図 (横置の場合)

(装置の上方から見た図)

図 4-8 横置き設置時の取付寸法

第5章 運用

5. 運用

設定などの運用方法について以下に説明します。

5.1 コンソール

本装置のコンソールは、シリアル接続、SSH 接続、Telnet 接続で使用します。

シリアル接続は1セッションのみ使用可能です。SSH 接続と Telnet 接続は、シリアル接続と合わせて最大4セッションまで同時に使用可能です。

以下にコンソールの使用方法について示します。

5.1.1 コマンドラインインタフェース

コンソールは、本装置の基本的な動作条件の設定および動作状態を確認するためのコマンドラインインタフェース (CLI) です。本装置を初めて設置する時や動作条件の変更時には、必ず CLI で動作条件の設定を行ってください。

5.1.2 シリアル接続での通信設定

シリアル接続で CLI を使用する場合は、前面パネルの Console コネクタに、汎用の通信ターミナルソフトがインストールされたパソコン (PC) などを、オプションのシリアルインタフェースケーブルで接続してください。

シリアル接続の通信条件を表 5-1 に示します。

表 5-1 シリアル接続の通信条件

項目	設定値	備考
通信方式	調歩同期	—
通信速度	9600 bit/s	—
データビット長	8 ビット	—
ストップビット	1 ビット	—
パリティ	パリティなし	—
フロー制御	なし	—

注. シリアルインタフェースケーブルを延長して使用した場合やオプションのシリアルインタフェースケーブルを使用しない場合は、正常に動作しない可能性があります。

5.1.3 Telnet 接続または SSH 接続での設定

汎用の通信ターミナルソフトがインストールされたパソコン (PC) を、本装置の Ethernet ポートに LAN ケーブルで接続し、ターミナルソフトを使って本装置に Telnet または SSH で接続してください。本装置の Telnet 接続に使用される TCP ポート番号は 23、SSH 接続に使用する TCP ポート番号は 22 です。工場出荷時の IP アドレスは 192.168.10.1、ネットマスクは 255.255.255.0 に設定されています。また、工場出荷時のイーサネットインタフェースは VLAN タグ (VID=10) 付きで、オートネゴシエーションが有効になっています。

5.1.4 ログイン

工場出荷時の状態ではログインパスワードが設定されていないため、ユーザー名 “admin” を入力するだけでログインできます。

```
IPADP login: admin
```

```
If you are logged in with the default password, please change the password.
```

```
IPADP(A)>
```

ログインすると上記のプロンプトが表示されます。

パスワードを変更してから運用することをお勧めします。また、パスワードを忘れるとログインできなくなりますので、絶対に忘れないようにしてください。万が一忘れてしまった場合は、修理により設定を工場出荷時の状態に戻します。お問い合わせ窓口までご連絡ください。

5.1.5 ログアウト

コマンドプロンプトにログアウトコマンドを入力します。

```
IPADP(A)> logout
```

シリアル接続でログインしている場合は、次回ログインのためにユーザ名の入力待ち状態になります。SSH 接続または Telnet 接続でログインしている場合は、接続が切断されます。なお、プロンプトが表示されたまま何も入力しない状態が約 10 分間 (工場出荷時設定) 続くと、自動的にログアウトされます。

5.2 基本設定

ここでは基本的な設定方法を説明します。

5.2.1 設定手順

基本的な設定手順を図 5-1 に示します。

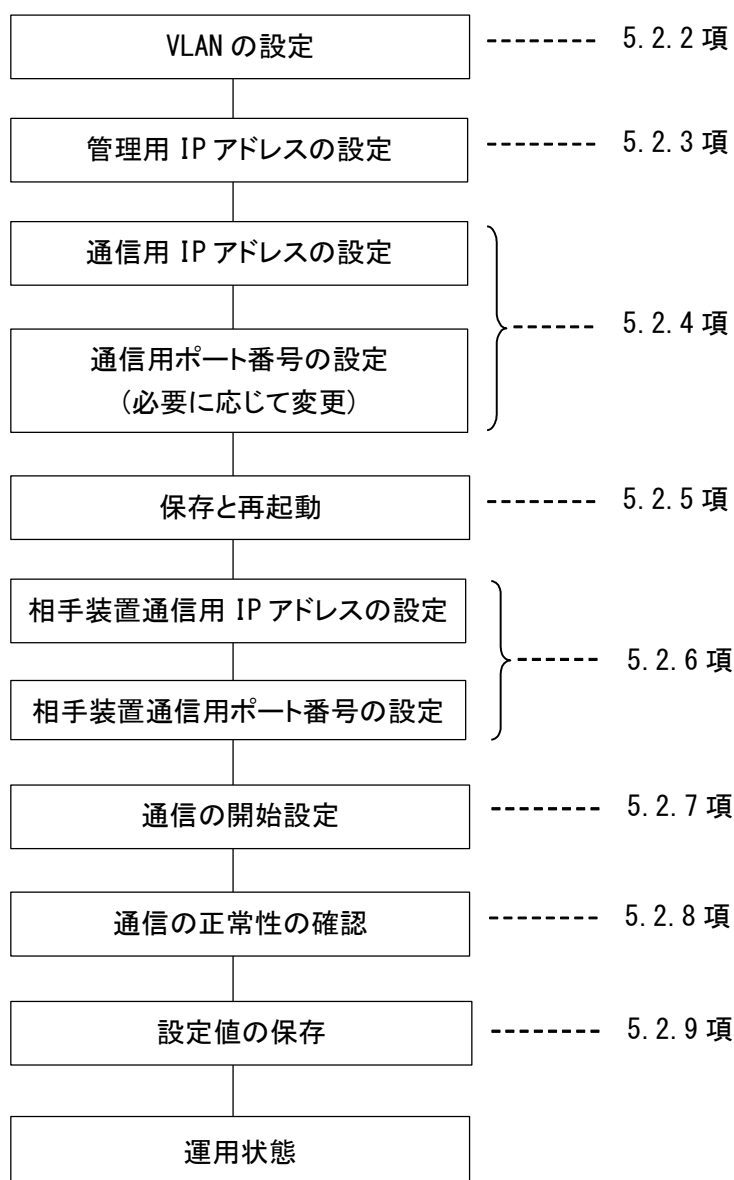


図 5-1 設定手順

5.2.2 VLAN の設定

本装置はイーサネットポートを IEEE802.1Q 準拠 VLAN タグに対応 (有効) するか否 (無効) かを設定することができます。VLAN タグに対応 (有効) する設定にすると、イーサネットポートから送信するパケットに IEEE802.1Q 準拠 VLAN タグを付加します。また、受信したパケットの VLAN タグの VLANID をチェックします。

工場出荷時には、VLAN タグが有効で、通信用は VLAN ID : 1・プライオリティ : 7、管理用は VLAN ID : 10・プライオリティ : 0 に設定されています。

通信用 VLAN ID : 10・プライオリティ : 5 に、管理用 VLAN ID : 20・プライオリティ : 1 に変更する場合は、以下のように設定します。

```
IPADP(A)> set vlan analog vid 10 priority 5
IPADP(A)> set vlan system vid 20 priority 1
```

VLAN タグを無効にする場合は、以下のように設定します。

```
IPADP(A)> set vlan disable
```

5.2.3 管理用 IP アドレスの設定

本装置には工場出荷時に IP アドレス 192.168.10.1、ネットマスク 255.255.255.0 が設定されています。ご使用になるネットワークに合わせ、各装置に割り当てられた IP アドレスとネットマスクに変更してください。以下の例では、管理用 IP アドレスを 192.168.20.11 に変更しています。

```
IPADP(A)> set ip interface system 192.168.20.11 netmask 255.255.255.0
```

SSH/Telnet を使用する PC などがルータを介して別のサブネットに接続されている場合は、デフォルトゲートウェイの設定が必要です。工場出荷時には設定されていません。以下の例では、デフォルトゲートウェイの IP アドレスとして 192.168.20.254 を設定しています。

```
IPADP(A)> add ip sroute default 192.168.20.254 interface system
```

5.2.4 通信用 IP アドレスと UDP ポート番号の設定

本装置の通信用 IP アドレスを設定します。

工場出荷時は 192.168.1.1 が設定されています。ご使用になるネットワークに合わせ、各装置に割り当てられた IP アドレスとネットマスクに変更してください。

以下の例では、通信用 IP アドレスを 192.168.10.11 に変更しています。

```
IPADP(A)> set ip interface analog 192.168.10.11 netmask 255.255.255.0
```

必要に応じて、自装置の通信用 UDP ポート番号を変更します。

本装置には工場出荷時に 50001 が設定されています。通常は変更する必要はありません。

変更する必要がある場合は、以下のコマンドで設定してください。

以下の例では UDP ポート番号を 60001 に設定する場合を示します。

```
IPADP(A)> set analog transmission local udp_port 60001
```

5.2.5 再起動による設定値の反映

ここまでの設定値は内蔵のフラッシュメモリに保存した後に、再起動することによって装置の動作に反映されます。

以下のコマンドで設定を保存します。コマンドを実行すると、確認のため問い合わせが表示されます。“y”を入力すると設定が保存されます。“n”を入力すると保存せずにコマンドを終了します。設定の保存には数秒かかります。

```
IPADP(A)> save config
```

```
Do you wish to save the system configuration into the flash memory (y/n)? y
```

以下のコマンドで再起動することができます。コマンドを実行すると、確認のため問い合わせが表示されます。“y”を入力すると再起動します。“n”を入力すると再起動せずにコマンドを終了します。再起動には数十秒かかります。

```
IPADP(A)> reboot system
```

```
Rebooting the system, ok(y/n)? y
```

```
·  
·  
·
```

```
ANRITSU CORPORATION IP Adapter EN3000-S001A
```

IPADP login:

5.2.6 相手装置通信用 IP アドレスと UDP ポート番号の設定

通信相手装置の IP アドレスを設定します。

通信相手装置の IP アドレスを 192.168.10.21 に設定する場合は示します。

```
IPADP(A)> set analog transmission peer 192.168.10.21
```

必要に応じて、通信相手装置の通信用 UDP ポート番号を変更します。

工場出荷時には 50001 が設定されています。通常は変更する必要はありません。

NN6001C3 と通信する場合には変更してください。

通信相手装置の通信用 UDP ポート番号を 60001 に設定する場合は示します。

```
IPADP(A)> set analog transmission peer 192.168.10.21 udp-port 60001
```

音声データパケットを受信する際に、通信相手装置の IP アドレスおよび UDP ポート番号を確認する機能があります。このチェック機能を有効にすると、通信相手装置として設定した IP アドレスや UDP ポート番号と一致しない音声データパケットは受信されません。

工場出荷時には、この機能は無効になっています。必要に応じて、有効にしてください。チェック機能を有効にするには、以下のコマンドを実行してください。

```
IPADP(A)> set analog receive check enable
```

5.2.7 通信の開始設定

以下のコマンドで通信を開始します。

```
IPADP(A)> set analog transmission enable
```

5.2.8 通信の正常性の確認

音声データパケットの送受信が開始されると前面パネルにある Ethernet ポートの L/A LED が点滅します。さらに、MB LED が消灯することを確認します。正常に通信されない場合は show config running などのコマンドで設定内容を再確認してください。

5.2.9 設定値の保存

5.2.5 項で再起動後に設定したデータを保存します。

```
IPADP(A)> save config
```

```
Do you wish to save the system configuration into the flash memory (y/n)? y
```

なお、設定作業中に再起動が必要な項目を再設定した場合は、再起動をもう一度行ってください。

5.3 設定値の反映

5.3.1 保存後に再起動が必要な設定

装置動作の反映に、設定の保存後に再起動が必要なコマンドを表 5-2 に示します。

表 5-2 設定保存後に再起動が必要なコマンド

No	コマンド名称	コマンド説明
1	set vlan	VLAN の有効/無効を設定する。
2	set vlan interface	インタフェースの VID とプライオリティを設定する。
3	set ip interface	インタフェースの IP アドレスとネットマスクを設定する。
4	add ip sroute	デフォルトゲートウェイの IP アドレスを設定する。
5	delete ip sroute	デフォルトゲートウェイの IP アドレスを削除する。
6	set analog transmission local	自装置の通信用 UDP ポート番号を設定する。

5.3.2 再起動方法

以下のどちらかで装置を再起動します。

- ・電源をいったん切り、再び投入します。
- ・CLI で“reboot system”コマンドを入力し、“y”と入力します。

5.3.3 再起動時の注意事項

再起動の前に、“save config”コマンドを実行して必ず設定を保存してください。

設定値の保存前に装置の再起動を行うと、設定変更前の値に戻りますので注意してください。

第6章 保守

6. 保守

運用後の保守について説明します。

6.1 ループバック試験

ループバック試験方法を説明します。

6.1.1 ループバック種別

本装置のループバック試験種別を表 6-1 に、ループバックポイントの概略を図 6-2 に示します。

前面パネルの Mode スイッチを 1 または 3 に設定するとループバックを行います。

ループバックを解除する場合は、Mode スイッチを 0 に設定します。

ループバックは、コマンドでも行うことができます。

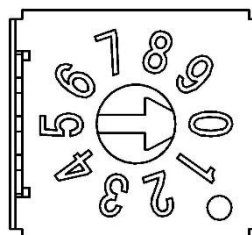
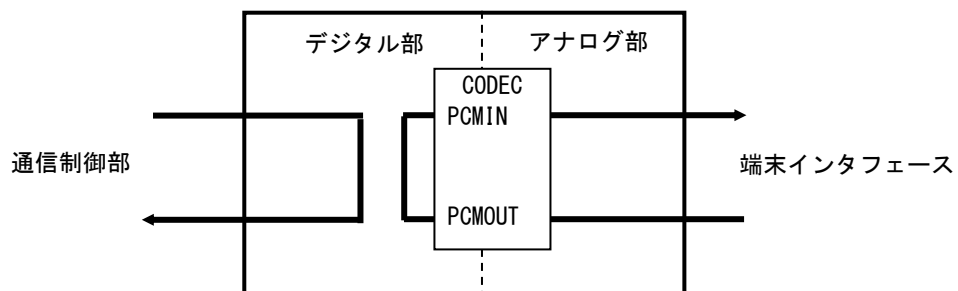


図 6-1 Mode スイッチ

表 6-1 ループバック試験種別

Mode スイッチ	ループバック	説明
0	解除	ループバックは行いません。
1	ローカルループバック 1 (Local LP1)	自装置のデジタル部でループバックを行います。 LED状態 自装置：橙点灯／対向装置：緑点灯
3	リモートループバック 1 (Remote LP1)	対向装置のデジタル部でループバックを行います。 LED状態 自装置：橙点灯／対向装置：橙点灯
2, 4, 5, 8, 9	解除	未使用です。Mode スイッチが 0 の時と同じ状態です。
6, 7	メーカー保守用	設定しないでください。



(a) ループバックポイント1 (LP1)

図 6-2 ループバックポイントの概略

6.1.2 ループバック試験例

4線式回線の場合に、オシレータ、レベルメータを用いたループバック試験例を図6-3に示します。

Modeスイッチをループバックに設定し、前面パネルのUリンクに接続して行います。端末機器（LINE側）と切り離して試験を行うときは、Uリンクを外して装置側（EQPT側）に接続してください。

試験終了後は必ず、Modeスイッチを元の位置に戻してください。

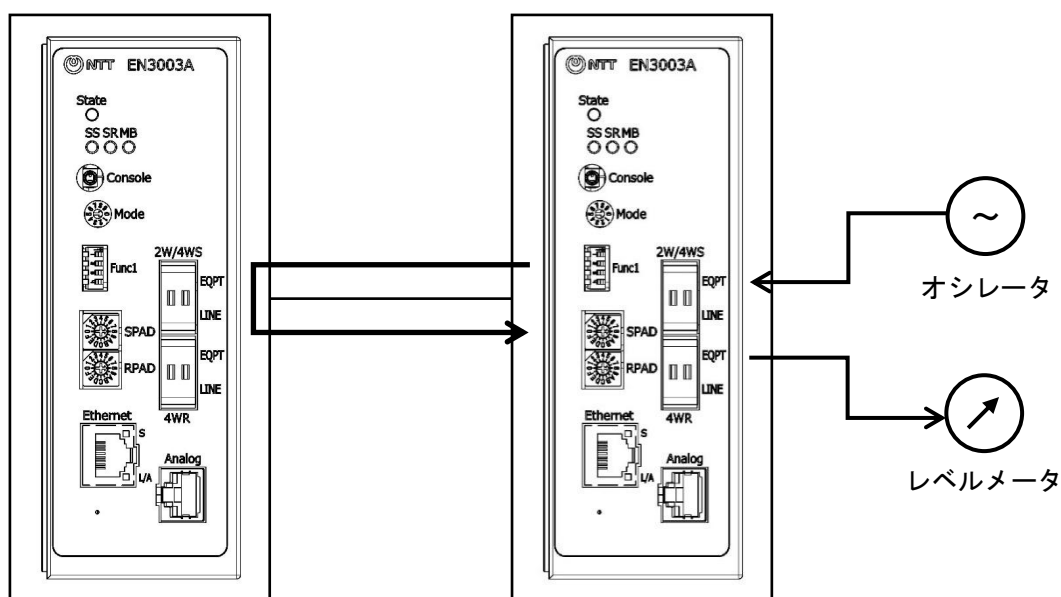


図 6-3 ループバック試験例

6.2 装置の交換

故障の契機は6.3項の故障探索フローを参照してください。

故障した装置は契約形態に応じて、交換を実施します。

お問い合わせ窓口まで、ご連絡をお願いします。



交換作業は保守に関する所定の訓練を受けた方が行ってください。

装置内部には高圧部や突起部があり、感電やけがの恐れがあります。

6.3 故障探索フロー

基本的な故障探索フローを以下に示します。

6.3.1 電源系探索フロー

電源系の故障探索フローを図 6-4 に示します。

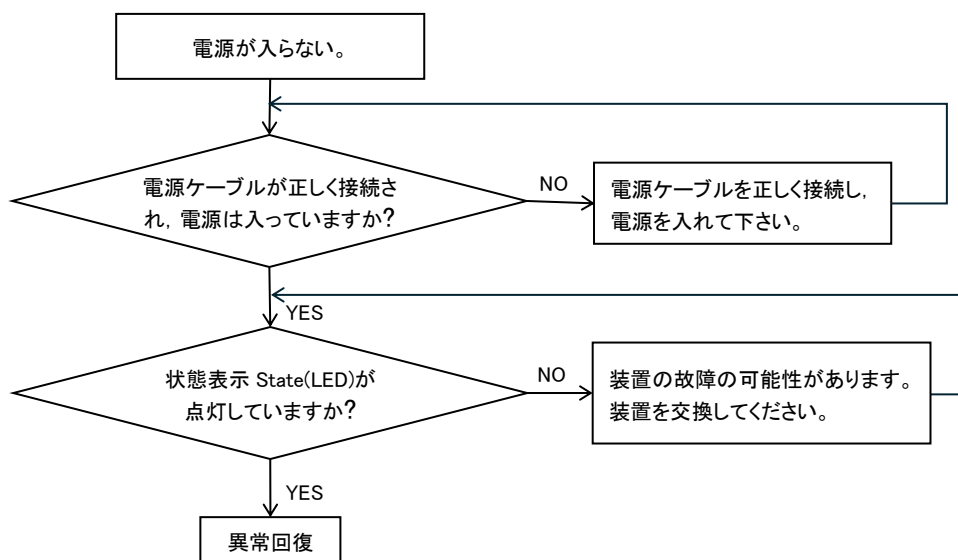


図 6-4 電源系の故障探索フロー

6.3.2 制御通信系探索フロー

制御通信系の故障探索フローを図 6-5 および図 6-6 に示します。

(1) 制御系の探索フロー

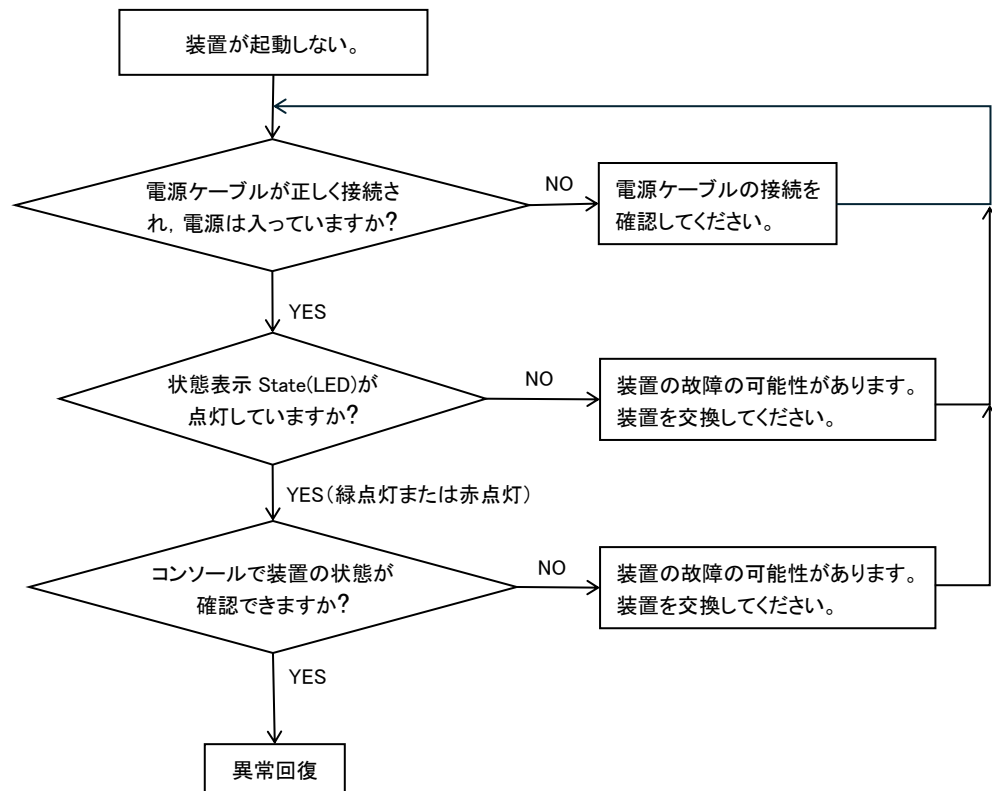


図 6-5 制御系故障探索フロー

(2) 通信系の探索フロー

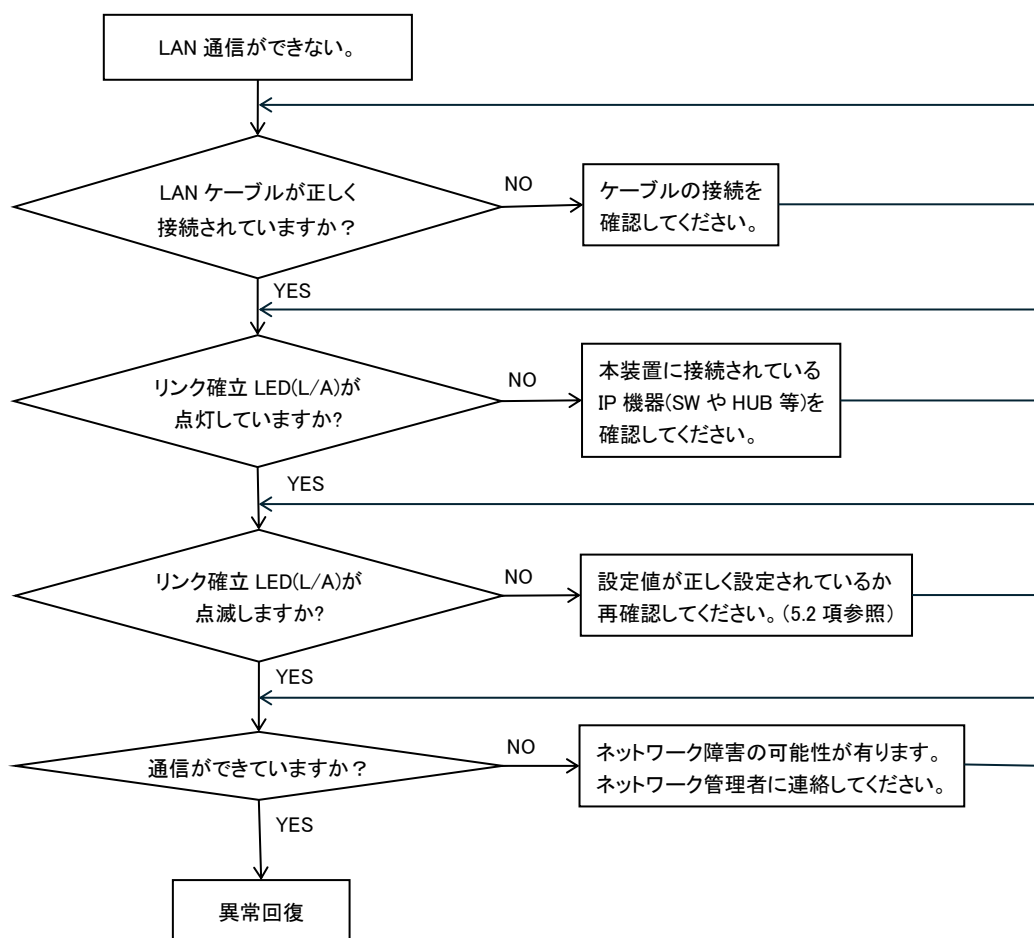


図 6-6 通信系故障探索フロー

6.3.3 端末系探索フロー

端末系の故障探索フローを図 6-7 に示します。

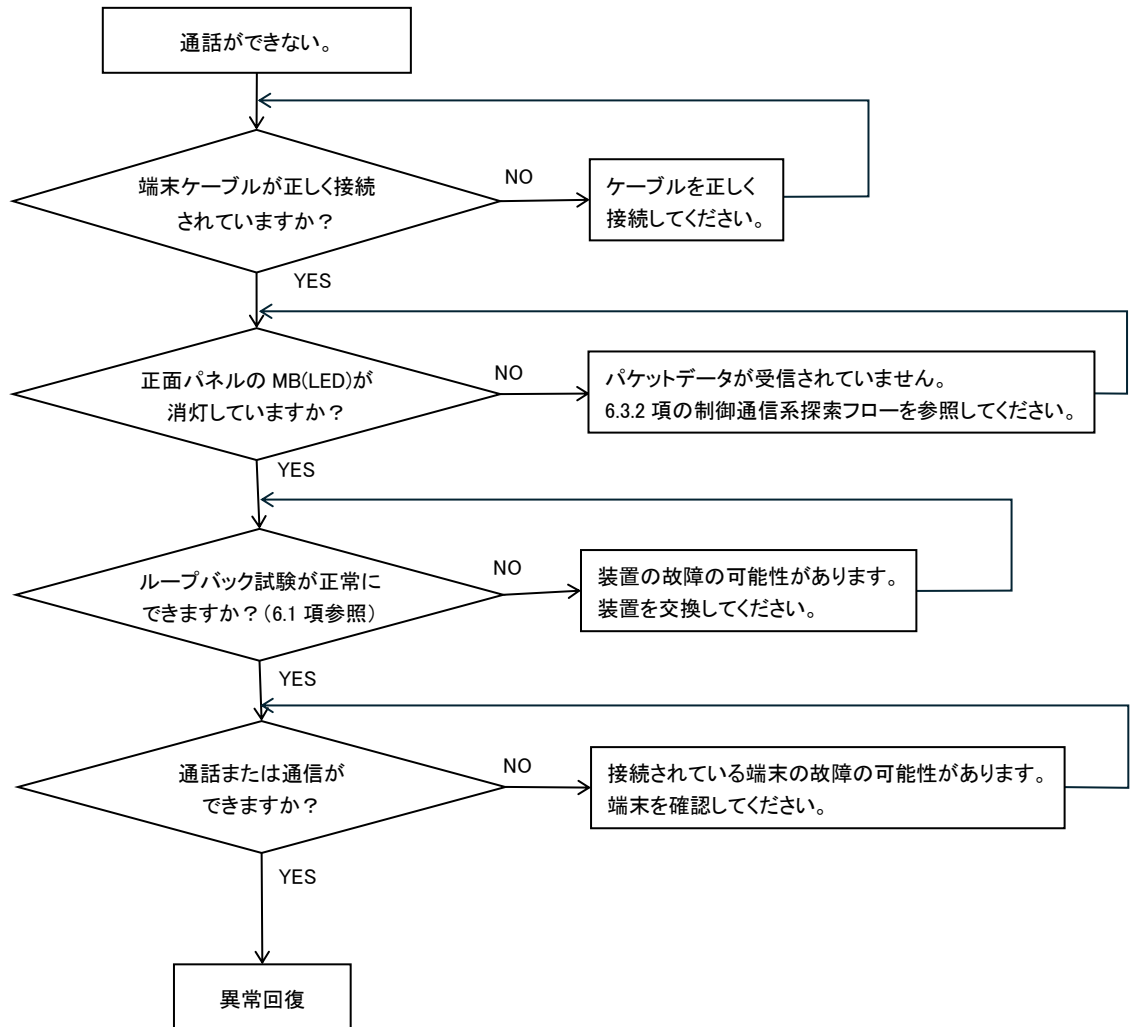


図 6-7 端末系故障探索フロー

6.4 工場出荷状態に戻す

ここでは各設定を工場出荷時の状態に戻す方法を説明します。

本製品を廃棄する際にも設定情報の漏洩防止のため、以下の手順を実施してください。

6.4.1 設定手順

工場出荷状態に戻すための設定手順を図 6-8 に示します。

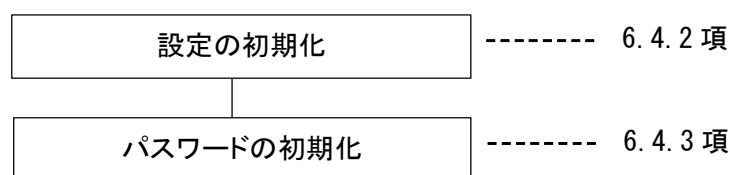


図 6-8 設定手順

6.4.2 設定の初期化

本装置を工場出荷状態に戻すために初期化コマンドを実行します。

```
IPADP(A)> init config
```

```
Do you wish to initialize flash memory (y/n)? y
```

```
The value of flash memory was set on the default value.
This set content becomes valid after the next re-start
```

```
Done
```

初期化コマンドの実行後、本装置を再起動してください。

6.4.3 パスワードの初期化

本装置を工場出荷状態に戻すためにパスワード設定コマンドを実行します。

“New password”と“Retype new password”の両方共, [Enter]キーを入力してください。

IPADP(A)> set password admin

New password:

Retype new password:

パスワードが未登録（[Enter]キーの入力のみでログインできる状態）になります。

付録 A

A. 付録

A.1 コマンド一覧

本装置のコマンド一覧を表 A-1 に示します。

表 A-1 コマンド一覧(1/3)

コマンド名称	コマンド説明
set port autonegotiation {enable disable}	イーサネットポートのオートネゴシエーション有効/無効を設定する。
set port speed {10M 100M}	オートネゴシエーション無効時のイーサネットポートの通信速度を設定する。
show port	イーサネットポートの設定と状態を表示する。
set vlan {enable disable}	VLAN の有効/無効を設定する。
set vlan interface {system analog} vid <VID> priority <priority>	管理用/通信用の VLAN ID とプライオリティを設定する。
show vlan	VLAN の情報を表示する。
set ip interface {system analog} <IP_address> netmask <netmask>	管理用/通信用の IP アドレスとネットマスクを設定する。
show ip interface	管理用/通信用の IP アドレスとネットマスクを表示する。
add ip sroute default <gateway> interface {system analog}	管理用/通信用デフォルトゲートウェイの IP アドレスを登録する。
delete ip sroute default <gateway> interface {system analog}	管理用/通信用デフォルトゲートウェイの IP アドレスを削除する。
show ip sroute	登録しているデフォルトゲートウェイの情報を表示する。
set analog transmission {enable disable}	音声データパケットの送受信の有効/無効を設定する。
set analog transmission local udp_port <UDP_port>	音声データパケットの受信 UDP ポート番号を設定する。
set analog transmission peer <IP_address> [udp_port <UDP_port>]	音声データパケットを送信する相手装置の IP アドレスと UDP ポート番号を設定する。
set analog transmission copymode {enable disable}	音声データパケットのコピー送信機能の有効/無効を設定する。
set analog receive buffer <time>	音声データパケットを受信するゆらぎ吸収バッファの量を設定する。
set analog receive peakcut <time>	回線閉塞 (MB) 解除後のゆらぎ吸収バッファのピークカット時間を設定する。
set analog receive check {enable disable}	音声データパケットの受信チェック (対向装置の IP アドレスと UDP ポート番号をチェックする) の有効/無効を設定する。
show analog	音声データパケットの通信設定に関する情報を表示する。

表 A-1 コマンド一覧 (2/3)

コマンド名称	コマンド説明
set device loopback digital {local remote} {off on}	装置内のループバックを設定する。
set device {spad rpad} {command switch}	端末インタフェースのアッテネータの設定方法を選択する。
set device {spad rpad} level <level>	端末インタフェースのアッテネータの減衰量を設定する。
show device status	装置の端末インタフェースの設定状態と警報状態を表示する。
set device oscout {ethernet analog} {enable disable}	保守用の装置内蔵のオシレータ機能の有効/無効を設定する。
monitor analog level	保守用の装置内蔵のレベル測定機能で測定した値を表示する。
show counter interface [{system analog}]	管理用/通信用インタフェースの統計情報を表示する。
clear counter interface	管理用/通信用インタフェースの統計情報をクリアする。
show analog statistics	音声データパケットに関する統計情報を表示する。
clear analog statistics	音声データパケットに関する統計情報をクリアする。
show analog histogram	音声データパケットの受信間隔に関する統計情報を表示する。
clear analog histogram	音声データパケットの受信間隔に関する統計情報をクリアする。
set alarm output {enable disable}	ALM 接点出力の有効/無効を設定する。
alarm output test {on off}	ALM 接点出力のテストをする。
show alarm	装置の警報発生と ALM 接点出力の状況を表示する。
ping <IP_address> interface {analog system}	疎通確認を行う。
telnet <IP_address> [<port>]	引数<IP_address>に telnet で接続する。
arp -a interface {analog system}	ARP テーブルの内容を表示する。
show syslog	システムログ情報を表示する。
show backup syslog [last second_last]	前回/前々回起動時のシステムログ情報を表示する。
clear syslog	システムログ情報をクリアする。
set date <yyymmddhhmmss>	装置内蔵の時刻を設定する。
show date	装置の時刻を表示する。
set sntp {enable disable}	SNTP クライアント機能の有効/無効を設定する。
set sntp server <IP_address>	SNTP/NTP サーバの IP アドレスを設定する。
set sntp interval <interval>	SNTP/NTP サーバへ定期的に時刻の問い合わせを行う間隔を設定する。
show sntp	SNTP クライアント機能の状態を表示する。
set autologout time <time_interval>	オートログアウト時間を設定する。
show autologout	設定されているオートログアウト時間を表示する。
set prompt [<prompt-string>]	プロンプトを設定する。
set pager {enable disable}	CLI のページャ機能の有効/無効を設定する。
show session	装置にログインしているターミナルの情報を表示する。

表 A-1 コマンド一覧 (3/3)

コマンド名称	コマンド説明
? help	使用できるコマンドを表示する。
exit logout quit	ログアウトする。
set password <user_name>	ログインパスワードを設定する。
show module	装置の各種モジュール情報を表示する。
show tech-support	テクニカルサポート情報を表示する。
init config	内蔵フラッシュメモリのコンフィギュレーションを工場出荷時の設定にする。
save config	現在動作中のコンフィギュレーション (running configuration) を内蔵フラッシュメモリに保存する。
show config running	現在動作中のコンフィギュレーションを表示する。
show config startup	内蔵フラッシュメモリのコンフィギュレーションを表示する。
download ftp obj <IP_address> <file>	装置のプログラムをFTPサーバから装置へダウンロードする。
download ftp conf <IP_address> <file>	装置のコンフィギュレーションをFTPサーバから内蔵フラッシュメモリにダウンロードする。
upload ftp conf <IP_address> <file>	内蔵フラッシュメモリのコンフィギュレーションをFTPサーバにアップロードする。
reboot system	装置を再起動する。

A.2 工場出荷時の設定一覧

主な設定値の工場出荷時の値を表 A-2 に示します。

表 A-2 工場出荷時の設定一覧

設定内容	デフォルト設定
VLAN 機能	有効
管理用 VLAN ID	10
管理用 VLAN プライオリティ	0
通信用 VLAN ID	1
通信用 VLAN プライオリティ	7
管理用 IP アドレス	192.168.10.1
管理用サブネットマスク	255.255.255.0
管理用デフォルトゲートウェイ	未登録
通信用 IP アドレス	192.168.1.1
通信用サブネットマスク	255.255.255.0
通信用デフォルトゲートウェイ	未登録
通信用 UDP ポート番号	50001
通信相手の IP アドレス	未登録
通信相手の UDP ポート番号	50001
通信状態	無効 (送受信停止)
受信データパケットのコピー機能	無効
受信ゆらぎ吸収バッファ量	30 ms
受信ゆらぎ吸収バッファのピークカット時間	5 秒
音声データパケットの受信チェック	無効
端末インタフェースのアッテネータ設定方法	前面パネルのスイッチ
ALM 接点出力	有効
イーサネットインタフェース	オートネゴシエーション有効
ログインパスワード	未登録
オートログアウト時間	10 分
プロンプト	IPADP
ページャ	有効
SNTP クライアント	無効

③ メッセージ

主なメッセージを表 A-3-2 に示します。

表 A-3-2 システムログ情報一覧(1/3)

Severity	メッセージ	説明
Emergency	Temperature[CPU] of the system is critical : <temperature>	CPU 温度が 95℃以上になった時に記録します。 <temperature>に検出した温度 (°C) を記録します。
Alert	Temperature[CPU] of the system is abnormal: <temperature>	CPU 温度が 90℃以上になった時に記録します。 <temperature>に検出した温度 (°C) を記録します。
Alert	Temperature[CPU] of the system is OK: <temperature>	CPU 温度が 85℃未満になった時に記録します。 <temperature>に検出した温度 (°C) を記録します。
Alert	[Ethernet] physically link up	イーサネットポートがリンクアップした時に記録します。
Alert	[Ethernet] physically link down	イーサネットポートがリンクダウンした時に記録します。
Alert	[Ethernet] physically link Half duplex alarm detected	イーサネットポートが半二重でリンクアップした時に記録します。
Alert	[Ethernet] physically link Half duplex alarm recovery	イーサネットポートが半二重になっている状態で、全二重でリンクアップした時に記録します。
Alert	Analog peer device [<IP-address>] response was lost.	通信中に<IP-address>の相手装置からキープライブ応答が受信できなくなった場合に記録します。
Alert	Analog peer device [<IP-address>] response was confirmed.	通信開始時、または通信中に<IP-address>の相手装置からキープライブ応答が受信できない状態で、キープライブ応答を確認できた場合に記録します。
Alert	Analog receive buffer failure	受信ゆらぎ吸収バッファが空になった場合に記録します。
Alert	Analog receive buffer recover	受信ゆらぎ吸収バッファが空でなくなった場合に記録します。

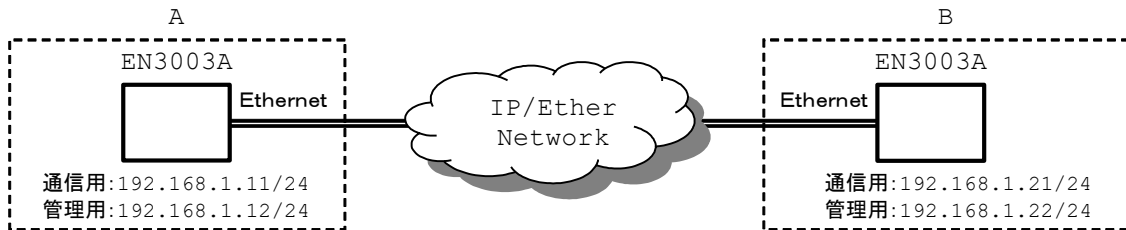
表 A-3-2 システムログ情報一覧 (2/3)

Severity	メッセージ	説明
Notice	Exceeds max no. of sessions.	シリアル, Telnet, SSH のいずれかで、すでに4つのセッションにログインしている状態で、さらにログインしようとした場合に記録されます。
Notice	Analog receive packet length error	音声データ通信で設定しているパケット長と異なる長さのパケットを受信した場合に記録します。
Notice	Analog receive sequence error [<no> times, <lost> (peak <peak>) packets/1 min].	音声データ通信でシーケンス番号エラーを検出した場合、1分間に何回発生したかを<no>に記録します。 シーケンス番号エラーを検出した時に、受信したシーケンス番号と直前に受信したシーケンス番号の差から欠落パケット数を求めます。1分間の欠落パケット数の合計を<lost>に記録します。欠落パケット数のうち、1分間の最大値を<peak>に記録します。
Informational	<process name> process is start	起動時に、起動したプロセスを<process name>に記録します。
Informational	ANRITSU CORPORATION EN3000-S001A Software Version <version>	起動時に記録します。 <version>には"1.1.1"のように起動したソフトウェアの版数を記録します。
Informational	Loading Object from Master.	内蔵フラッシュメモリの Master ファイルからソフトウェアを起動した場合に記録します。
Informational	Loading Object from Backup.	内蔵フラッシュメモリの Backup ファイルからソフトウェアを起動した場合に記録します。
Informational	Loading Configuration from Master.	起動時に、内蔵フラッシュメモリの Master ファイルからコンフィギュレーションファイルを読み込んだ場合に記録します。
Informational	Loading Configuration from Backup.	起動時に、内蔵フラッシュメモリの Backup ファイルからコンフィギュレーションファイルを読み込んだ場合に記録します。
Informational	System booting up complete	システム起動の完了時に記録します。

表 A-3-2 システムログ情報一覧 (3/3)

Severity	メッセージ	説明
Informational	User admin logged in by Telnet	Telnet でログインした場合に記録します。
Informational	User admin logged in by SSH	SSH でログインした場合に記録します。
Informational	SNTP corrected time. [<IP-address>]	NTP サーバ<IP-address>と同期し、時刻を修正した場合に記録します。
Informational	SNTP lost synchronization. [<IP-address>]	NTP サーバ<IP-address>と同期できなかった場合に記録します。
Informational	Reboot device	”reboot system”コマンド実行により装置を再起動させた場合に記録します。

A.4 EN3003A を VLAN 無効で対向接続する場合の設定例



【 A の設定例 】

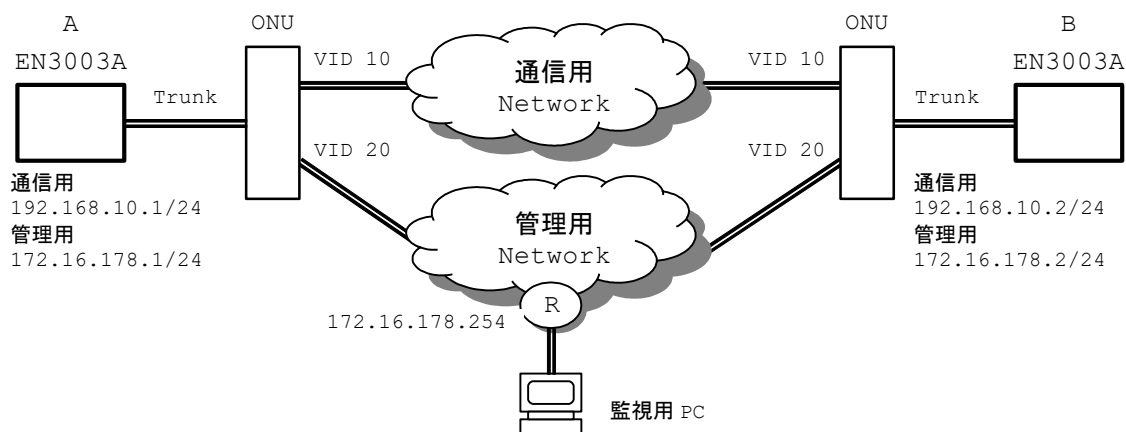
set vlan disable	VLAN を無効に設定
set ip interface analog 192.168.1.11 netmask 255.255.255.0	通信用 IP アドレスとネットマスクを設定
set ip interface system 192.168.1.12 netmask 255.255.255.0	管理用 IP アドレスとネットマスクを設定
set analog transmission peer 192.168.1.21	B の通信用 IP アドレスを設定
set analog transmission enable	通信を有効に設定
save config	設定を保存
reboot system	装置を再起動

【 B の設定例 】

set vlan disable	VLAN を無効に設定
set ip interface analog 192.168.1.21 netmask 255.255.255.0	通信用 IP アドレスとネットマスクを設定
set ip interface system 192.168.1.22 netmask 255.255.255.0	管理用 IP アドレスとネットマスクを設定
set analog transmission peer 192.168.1.11	A の通信用 IP アドレスを設定
set analog transmission enable	通信を有効に設定
save config	設定を保存
reboot system	装置を再起動

※ 本例は、工場出荷時の設定を基に、音声データ通信に必要な最小限の変更を加えたものです。ご利用環境に応じて追加の設定を行ってください。

A.5 EN3003A を VLAN 有効で対向接続する場合の設定例



【 A の設定例 】

```
set vlan interface analog vid 10 priority 7 通信用の VID と優先度 (最高) を設定
set vlan interface system vid 20 priority 0 管理用の VID と優先度 (最低) を設定
set vlan enable                               VLAN を有効に設定
```

```
set ip interface analog 192.168.10.1 netmask 255.255.255.0
```

通信用 IP アドレスとネットマスクを設定

```
set ip interface system 172.16.178.1 netmask 255.255.255.0
```

管理用 IP アドレスとネットマスクを設定

```
add ip sroute default 172.16.178.254 interface system
```

管理用デフォルトゲートウェイを設定

```
set analog transmission peer 192.168.10.2
```

B の通信用 IP アドレスを設定

```
set analog transmission enable
```

通信を有効に設定

```
save config
```

設定を保存

```
reboot system
```

装置を再起動

【 B の設定例 】

```
set vlan interface analog vid 10 priority 7 通信用の VID と優先度 (最高) を設定
set vlan interface system vid 20 priority 0 管理用の VID と優先度 (最低) を設定
set vlan enable                               VLAN を有効に設定
```

```
set ip interface analog 192.168.10.2 netmask 255.255.255.0
```

	通信用 IP アドレスとネットマスクを設定
set ip interface system 172.16.178.2 netmask 255.255.255.0	
	管理用 IP アドレスとネットマスクを設定
add ip sroute default 172.16.178.254 interface system	
	管理用デフォルトゲートウェイを設定
set analog transmission peer 192.168.10.1	A の通信用 IP アドレスを設定
set analog transmission enable	通信を有効に設定
save config	設定を保存
reboot system	装置を再起動

※ 本例は、工場出荷時の設定を基に、音声データ通信に必要な最小限の変更を加えたものです。ご利用環境に応じて追加の設定を行ってください。

A.6 技術基準適合認定

本装置の Ethernet ポートは、電気通信事業法第 56 条に基づく端末機器の設計認証を受けています。認証表示は、背面にあります。

◆ 認証番号 : P25-0188001

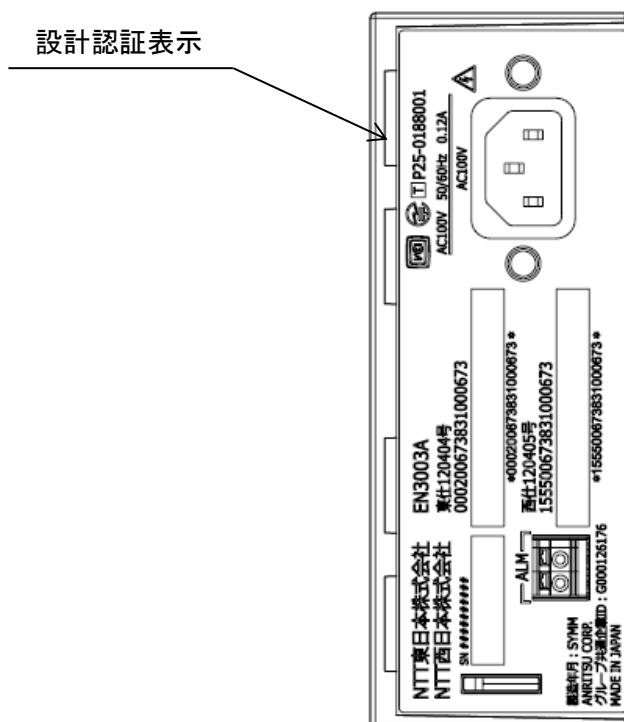


図 A-6 設計認証表示

付録 B

B. 付録

B.1 第三者ソフトウェア

本装置で使用しているライブラリ、アプリケーションなどで第三者ソフトウェアに該当するものは以下となります。これらのソフトウェアについては、当社のソフトウェア使用許諾の対象外とし、それぞれのソフトウェアに適用されているライセンスを尊重することとします。

表 B-1 ライブラリ、アプリケーションおよびライセンス一覧

名称	内容	ライセンス
u-boot	ブートローダ	GPLv2
linux	Linux カーネル	GPLv2
busybox	コマンドラインアプリケーション (Telnet クライアントなど)	GPLv2
net-tools	NET-3 ネットワークツール ネットワークサブシステムを制御するためのツール (arp, ifconfig, route など)	GPLv2
netkit-telnet	Telnet サーバ	BSD
ntp	NTP サーバ/SNTP クライアント	オリジナル
rsyslog	Syslog デーモン	GPLv3
libee	文字列操作ライブラリ	LGPLv2.1
libestr	文字列操作ライブラリ	LGPLv2.1
libuuid	識別子生成ライブラリ	BSD
sudo	特定のユーザに制限版スーパーユーザ権限を供与	ISC-style
shadow	パスワードとグループデータの変更および管理	オリジナル
libpam-modules	PAM 用プラグイン式認証モジュール	オリジナル
iptables	パケットフィルタリング	GPLv2
openssh	SSH サーバ	オリジナル
openssl	暗号化ライブラリ	apache
zlib	圧縮ライブラリ	オリジナル

次ページ以降に、それぞれのライセンスを掲示します。

B. 2 GPLv2

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Version 3, 29 June 2007

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B. 6 ntp

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B. 8 shadow

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B. 9 libpam-modules

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[Tatu continues]

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- GMP is no longer used, and instead we call BN code from OpenSSL
- Zlib is now external, in a library
- The make-ssh-known-hosts script is no longer included
- TSS has been removed
- MD5 is now external, in the OpenSSL library
- RC4 support has been replaced with ARC4 support from OpenSSL
- Blowfish is now external, in the OpenSSL library

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@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
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