



**Strata CIX40
R4.12 Software**

Installation and Maintenance Manual

Strata CIX40

General End User Information

The Strata CIX40 Digital Business Telephone System is registered in accordance with the provisions of Part 68 of the Federal Communications Commission's Rules and Regulations.

FCC Requirements

Means of Connection: The Federal Communications Commission (FCC) has established rules which permit the Strata CIX40 system to be connected directly to the telephone network. Connection points are provided by the telephone company—connections for this type of customer-provided equipment will not be provided on coin lines. Connections to party lines are subject to state tariffs.

Incidence of Harm: If the system is malfunctioning, it may also be disrupting the telephone network. The system should be disconnected until the problem can be determined and repaired. If this is not done, the telephone company may temporarily disconnect service. If possible, they will notify you in advance, but, if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Service or Repair: For service or repair, contact your local Toshiba telecommunications distributor. To obtain the nearest Toshiba telecommunications distributor in your area, log onto www.toshiba.com/taistds/pages/support_dealerlocator.html or call (800) 222-5805 and ask for a Toshiba Telecom Dealer.

Telephone Network Compatibility: The telephone company may make changes in its facilities, equipment, operations, and procedures. If such changes affect the compatibility or use of the Strata CIX100 or CIX670 system, the telephone company will notify you in advance to give you an opportunity to maintain uninterrupted service.

Notification of Telephone Company: Before connecting a Strata CIX system to the telephone network, the telephone company may request the following:

1. Your telephone number.
2. FCC registration number:
 - Strata CIX40 may be configured as a Key, Hybrid or PBX telephone system. The appropriate configuration for your system is dependent upon your operation of the system.
 - If the operation of your system is only manual selection of outgoing lines, it may be registered as a Key telephone system.
 - If your operation requires automatic selection of outgoing lines, such as dial access, Least Cost Routing, Pooled Line Buttons, etc., the system must be registered as a Hybrid telephone system. In addition to the above, certain features (tie Lines, Off-premises Stations, etc.) may also require Hybrid telephone system registration in some areas.
 - If you are unsure of your type of operation and/or the appropriate FCC registration number, contact your local Toshiba telecommunications distributor for assistance.
 - If you are unsure of your type of operation and/or the appropriate FCC registration number, contact your local Toshiba telecommunications distributor for assistance.
 - **CIX40 FCC/ACTA Registration Numbers**
Hybrid: CJ6MF03BDTCHS40, fully-protected multifunction systems
Key: CJ6KD03BDTCHS40, key systems for analog applications
 - Ringer equivalence number: 0.3B. The ringer equivalence number (REN) is useful to determine the quantity of devices which you may connect to your telephone line and still have all of those devices ring when your number is called. In most areas, but not all, the sum of the RENs of all devices connected to one line should not exceed five (5.0B). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to ascertain the maximum REN for your calling area.
 - Network connection information USOC jack required: RJ11/14C, RJ21/2E/2F/2G/2HX/RJ49C (see Network Requirements in this document). Items 2, 3 and 4 are also indicated on the equipment label.
3. Authorized Network Parts: 02LS2/GS2, 02RV2-T/O, OL13C/B, T11/12/31/32M, 04DU9-BN/DN/1SN, 02IS5, 04DU9-BN/DN/1SN1ZN

Radio Frequency Interference

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the manufacturer's instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case, the user, at his/her own expense, will be required to take whatever measures may be required to correct the interference.

This system is listed with Underwriters Laboratory.

UL Requirement: If wiring from any telephone exits the building or is subject to lightning or other electrical surges, then secondary protection is required. Secondary protection is also required on DID, OPS, and Tie lines. (Additional information is provided in this manual.)



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CP01, Issue 8, Part I Section 14.1

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the Equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION! Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

CP01, Issue 8, Part I Section 14.2

Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The terminal on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the Devices does not exceed 5.

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CIX-IM-CIX40-VA

Version A.3, July 2006

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This document explains how to install the Strata CIX40 system. It includes information on site requirements, wiring diagrams, and step-by-step instructions on how to install the unit(s), the ground wiring, AC power cabling, reserve power (battery backup) cabling, and Printed Circuit Boards. CIX40 programming requires eManager 4.12-A05 or later. GVPH programming requires UADM2 or later.

CIX40 Introduction

The Strata CIX40 system is designed for wall mounting and occupies very little space. It is a compact system that provides large system features. Refer to [Table 1-1](#) for cabinet dimensions and weight.



Figure 1-1 CIX40 Cabinet Front View

CIX40 System Capacities

The GCTU2 processor comes with a built-in maintenance modem (AMDS), one Music on Hold (MOH) interface, one IP interface (NIC), one External Paging interface, one relay contact, and one Secure Digital card slot.

The basic CIX40 system is equipped with GCTU2 and GMAU2 supporting:

- Eight digital telephone ports
- Three CO line ports with Caller ID interface
- One standard single line (2500-set) telephone port.

The system can be expanded, using optional interface cards, to a total of 36 ports supporting:

- 16 digital telephone ports and six analog CO line ports with Caller ID Interface with a GCDU2
- Two standard single line (2500-set) telephone ports with a GSTU1
- Eight IP Channels with a GIPH1 for IP telephones and Strata Net network channels.
- Four voicemail ports with up to 40 hours of storage for up to 360 mailboxes with a GVPH1

The system can be configured with four additional serial ports with an optional BSIS card.

The system is pre-programmed with a limited database that allows the system function from initial power-up for easy, cost effective installation.

The table below lists the CIX40 cabinet specifications.

Table 1-1 CIX40 Cabinet Specifications

Cabinet	Weight	Height	Width	Depth
Cabinet (CHSU40A) The system cabinet contains the GMAU2/GMAS2 motherboards	6.6 lbs. (3 kg)	17.7 in. (45 cm)	12.2 in. (31 cm)	3.3 in. (8.5 cm)

Safety Registration

- UL60950-1 (USA)
- CSA22.2 NO.60950-1-3 (Canada)

CIX40 FCC/ACTA Registration Numbers

- ACTA/FCC Part 68 Registration for Key System Code (KD): CJ6KD03BDTCHS40
- ACTA/FCC Part 68 Registration for Multifunction Code (MF): CJ6MF03BDTCHS40

CIX40 System Licenses

The analog CO lines, digital telephones, standard telephones, voice mail ports, DTMF circuits, attendant consoles, ACD VA ports and BSIS serial ports do not require a license for operation on the CIX40. IP Ports on the optional GIPH1 card require licensing on the GCTU2A processor as follows:

- Each Toshiba IPT2000 series telephone and SIP Telephone requires one LIC-CIX-IP_Port license.
- Each Strata Net IP channel requires a LIC-CIX-STRN-CH license.
- Toshiba SoftIPs require a LIC-SOFTIPT license and one LIC-CIX-IP_Port license for each SoftIPT.

Telephone Compatibility

The Strata CIX40 supports all current Toshiba 2000-series, 3000-series and 3200-series digital telephones, IP telephones, Add-on Modules, DSS Consoles, and CIX Attendant Consoles.

Generic single-line telephones (2500-sets) are compatible. The Strata CIX40 does not support analog electronic telephones (6500-series, 6000-series, etc.).

DKT stations connected to the CIX40 support Handset Off-hook Call Announce (OCA) but not Speaker OCA.

IPT stations connected to the CIX40 support both Handset Off-hook Call Announce (OCA) and Speaker OCA.

Note IPTs do not require BVSU to receive Speaker OCA (S-OCA) but do require an additional IP channel on the GIPH IP interface card. If an IPT is enabled to receive S-OCA a second IP channel will be reserved automatically for this IPT - if there are no available IP channel when enabling S-OCA, eManager will receive an error message. Only one IP End Point license is required for an IPT to receive speaker OCA even though two IP channels are needed. Use PROG 204-06 – To select Speaker OCA as the type of OCA to receive. Use PROG 103-38 – To enable a COS to receive OCA. Use PROG 200-04 – To put the telephone in a COS that is enabled to receive OCA.

Toshiba IP Telephones, Soft IPT and SIP phones are supported by the CIX40.

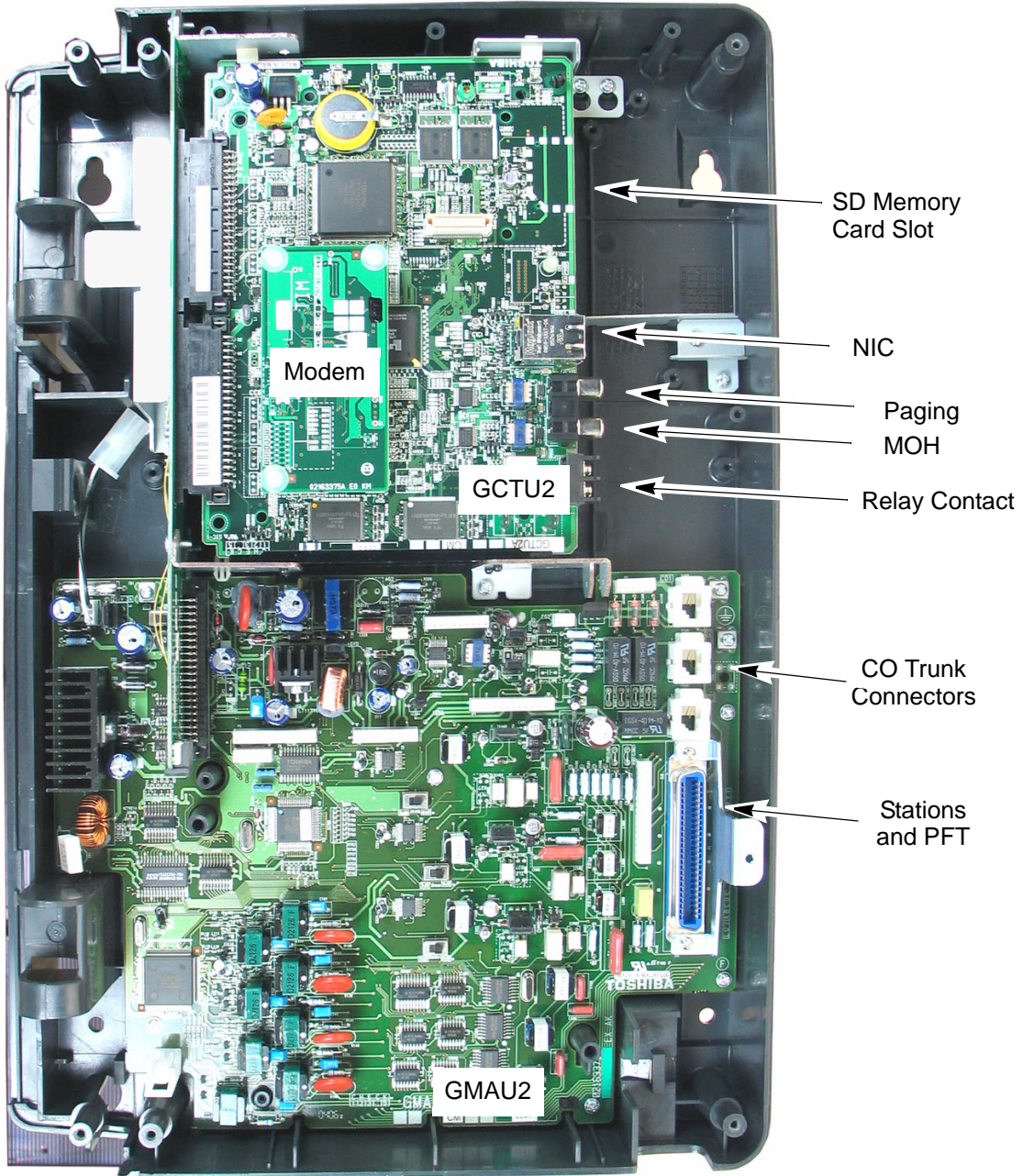


Figure 1-2 Basic CIX40 Interior

GCTU2 Processor Interfaces

Administration Interface

The processor card has both a built-in modem (AMDS card) and a Network Interface Connector. Either can be used to connect to CIX eManager R4.12A05 or later, for local or remote maintenance and administration.

Memory Protection Battery

If commercial AC power is lost or if a system is moved or stored without power, the processor has an on-board battery that protects data and the customer's programmed configuration from memory loss. This information will be maintained in a powerless system for at least six years.

Relay Control Interface

An on-board terminal strip provides an interface to a normally open relay contact which can be programmed to control a Night Bell, door lock or to mute the Background Music (BGM) during an external page.

External Page Interface

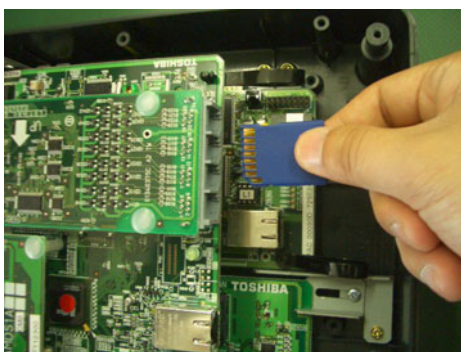
A 600 ohm RCA jack is built into the processor to interface with a Toshiba External Amplified Speaker (HESB or BESC) or a customer-supplied page amplifier and speaker(s) for external paging, night ring over external page, and external BGM applications.

Music-on-hold/Background Music Interface

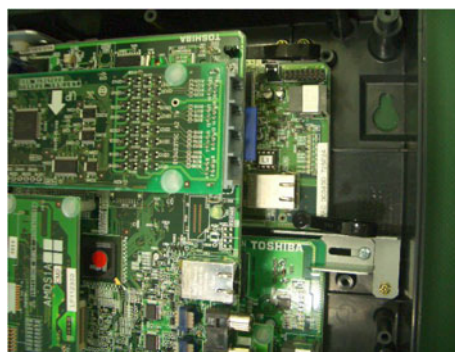
One 600-ohm RCA jack is provided on the processor to interface with Music-on-Hold (MOH) and/or BGM sources. With the CIX40, you can have up to three MOH/BGM source interfaces. The CIX40 Standard Telephone interfaces can be used to provide up to two MOH/BGM input sources in addition to the processor MOH/BGM interface.

SecureDigital Memory

The processor has an on-board SecureDigital™ memory card slot. A SecureDigital (SD) flash memory card can be inserted into the slot to backup and restore customer program data. It also makes it easy to upload operating system data for software upgrades and is used to store maintenance log files. Notice that the SD slot may be difficult to see. Insert the SD memory chip with the gold contacts to the front as shown in [Figure 1-5](#).



Insert SD Memory Chip



SD Memory Chip In Place

Figure 1-5 SD Memory Chip Insertion

CIX40 Processor Optional Subassembly

Optional BSIS (Serial Port Interface) subassembly – can be attached to the GCTU2 processor to provide up to four RS-232 interface ports; one port for an SMDR interface to Call Accounting devices, one port for SMDI to external Voice Mail devices, and two other applications.

Note The GVPH1 does not require a BSIS SMDI port.

Inspection

1. When the system is received, examine all packages carefully and note any visible damage. If any damage is found, do not open the packages. Contact the delivery carrier immediately and make the proper claims.
2. After unpacking (and before installing), check the system against the packing list and inspect all equipment for damage. If equipment is missing or damaged, contact your supplier immediately.
3. Be sure to retain original packaging materials for re-use when storing or transporting system hardware.

Packaging and Storage

CAUTION! When handling (installing, removing, examining) PC Bs, do not touch the back (soldered) side or edge connector. Always hold the PCB by its edges.

- When packaging and storing the system, remove PCBs from the system cabinet. PCBs should be packaged in their original antistatic bags for protection against electrostatic discharge. Be sure to package equipment in its original shipping containers.

Site Requirements

This section defines the installation site requirements necessary to ensure a proper operating environment for the CIX40. Also included are grounding requirements.

Input Power

The system requires an input power source of 115VAC \pm 10VAC, 50/60 Hz, 1.5 amps. The AC outlet is recommended to be dedicated and unswitched. (See “AC Power and Grounding Requirements” on page 1-10.)

A dedicated AC power circuit eliminates interference from branch circuit motor noise or the like, and to prevent accidental power-off. To avoid accidental power turn-off, Toshiba recommends that you do *not* use an On/Off wall switch on this dedicated AC circuit.

For the Strata CIX40, a reserve power source (HPFB-6) may be connected to the system to serve as a power failure backup (See Step 9 on page 1-29).

Clearance and Location

The minimum clearance requirements for the Strata CIX40 Base cabinet is shown in Figure 1-6. Refer to Figure 1-10 on page 1-13 for CIX40 cabinet mounting instructions.

Consider the following conditions when selecting a location for the cabinet:

The location must be:

- Dry and clean
- Well ventilated
- Well illuminated
- Easily accessible

The location must not be:

- Subject to extreme heat or cold
- Subject to corrosive fumes, dust, or other airborne contaminants
- Subject to excessive vibration
- Next to television, radio, office automation, or high frequency equipment

If reserve battery power (HPFB-6) is to be installed for the Strata CIX40, the batteries will require a well-ventilated location close to the CHSU40A.

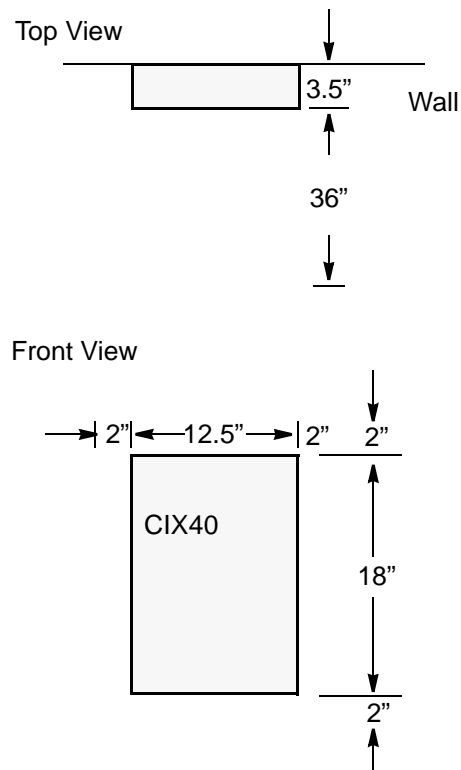


Figure 1-6 CIX40 Cabinet Clearance Requirements

Table 1-2 provides a summary of the electrical and environmental characteristics.

Table 1-2 Summary of Electrical/Environmental Characteristics

CIX40 Primary Power	
Input AC (Power Supply Specification)	105~125VAC
AC frequency	50/60 Hz
Power	CIX40 - 100 watts maximum
AC input current	1.5A maximum (100 VAC)
Environmental Specifications	
Operating temperature	32~104° F (0 ~40° C)
Operating humidity	20~80% relative humidity without condensation
Storage temperature	-4~140° F (-20~60° C)
Power	
Input DC	15V use the factory-shipped AC adapter
Power Converter	
DC voltage output specification	-24VDC (-26.3 ~ -28.3VDC) +5VDC (+4.5 ~ +5.5VDC)
Standard Telephone Ring Circuit (GMAU2 and GSTU1)	
Ring Voltage	180V p-p square wave
Ringling capability	1 REN, 1 circuit - one telephone per circuit

CIX40 Installation

AC Power and Grounding Requirements

The CIX40 requires an earth ground connection for proper operation. The two-wire AC power cord connects to a standard AC power outlet, and does not provide a ground connection. The ground for the CIX40 must originate at the building's main power distribution panel and have a solid connection to earth ground. Use a an insulated copper wire to connect the TB3 terminal on the GMAU2 to earth ground. This wire should be 10 AWG or larger. The total resistance from TB3 to the ground point must not exceed one ohm. Connect the ground wire to the common ground point or ground rod, usually located at the utility entrance of the building. (See [Figure 1-7](#).) Check local codes.

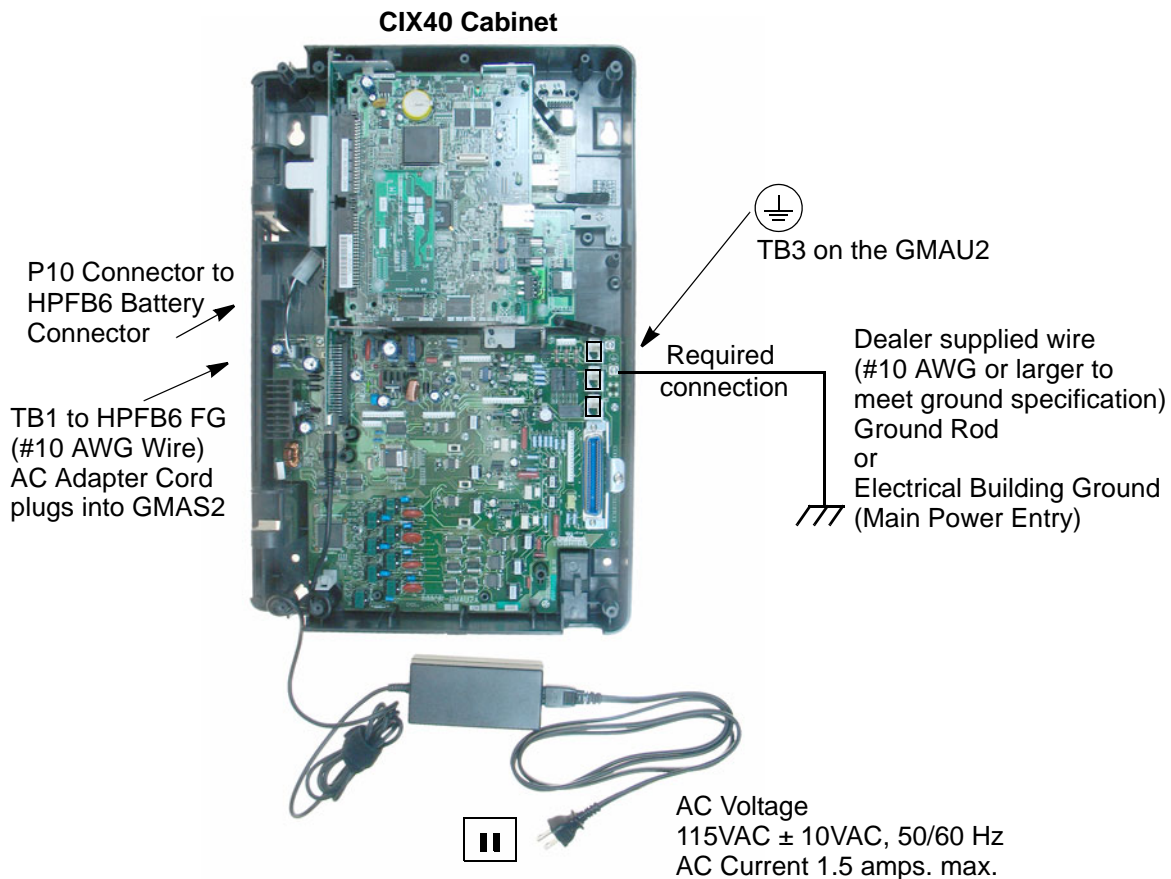


Figure 1-7 Ground and AC Power Cord

Important! Do not wrap the power cord around the AC adaptor. Excess cord should be gathered and secured with the supplied strap as shown in [Figure 1-7](#). Wrapping the cord around the adaptor, or bundling the output cord with the AC cord can cause noise on voice mail messages or other noise.

CAUTION! Lack of proper ground may cause improper operation and, in extreme cases, system failure.

WARNING! Failure to provide a proper ground may be a safety hazard to service personnel or lead to confusing trouble symptoms, such as noise on the talk path including GVPH1 greetings and messages. In extreme cases, system failure may result because the system is not properly protected from lightning or power transients.

Ground Wire Connection

The ground wire must have a customer supplied closed or eye type lug for connection to the GMAU2 terminal TB3. Refer to [Figure 1-8](#). The connector lug must be crimped onto the wire. The connection must be mechanical. The connector may also be soldered if desired. The connector must not be more than 0.25 in. (5.5 mm) wide and the hole must accept the M3 screw (0.125 in. or 3 mm).

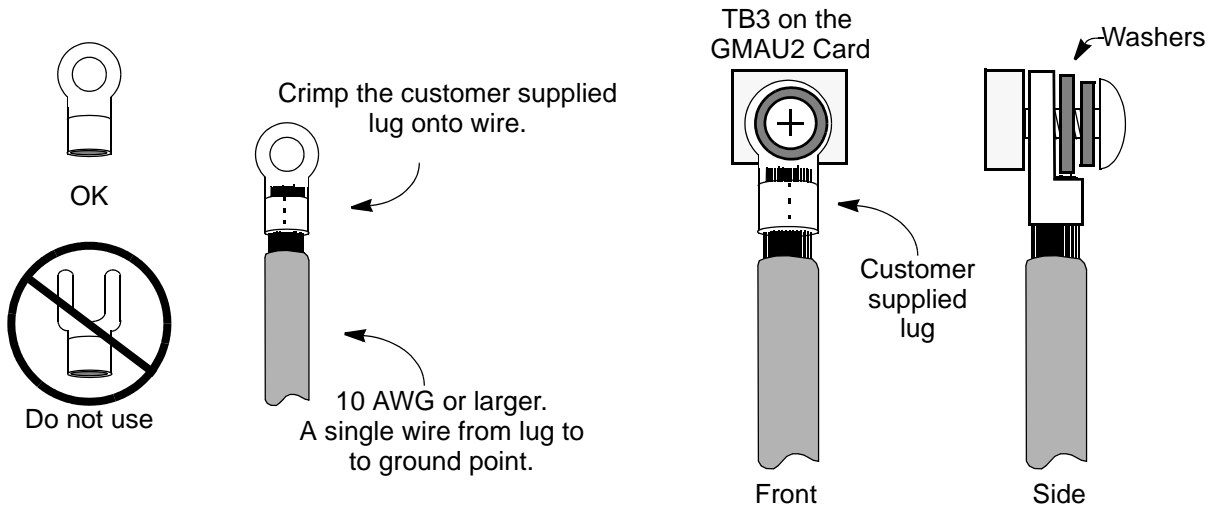


Figure 1-8 Ground Wire Connection

Ground Test

Test the “ground wire” for continuity by either measuring the resistance between the TB3 terminal (earth ground) on the GMAU2 and the common point ground on (or near) the MDF, or the utility entrance ground (maximum: 1 ohm), or by using a commercially available earth ground indicator.

Table 1-3 Ground Wiring Summary

Grounding Requirement	From	To	Description
System connects to earth ground	Earth ground	TB3 on GMAU2	Less than 1 ohm
FG of HPFB-6 connect to GMAU2	HPFB-6 FG Screw	TB1 on GMAU2	

Installing the CIX40 Cabinet

Check the items shipped.

- CHSU40A cabinet
- GMAU2 motherboard and GCTU2 processor PCB
- AC adapter
- Tie wrap for cable clamp
- Tie wrap for AC adapter
- Velcro strap for AC adapter cord

Step 1: Mount the Cabinet on the Wall

The Base cabinet is designed to be mounted on a wall or other vertical surface.

WARNING! To prevent electrical shock, make sure the power supply switch is turned Off.

► To mount the CIX40 Cabinet

1. Make sure the location for the CIX40 meets the minimum clearance requirements specified in [Figure 1-6 on page 1-8](#).
2. Loosen the screws on the front cover and the side cover of the cabinet, remove the covers (see [Figure 1-9](#)).

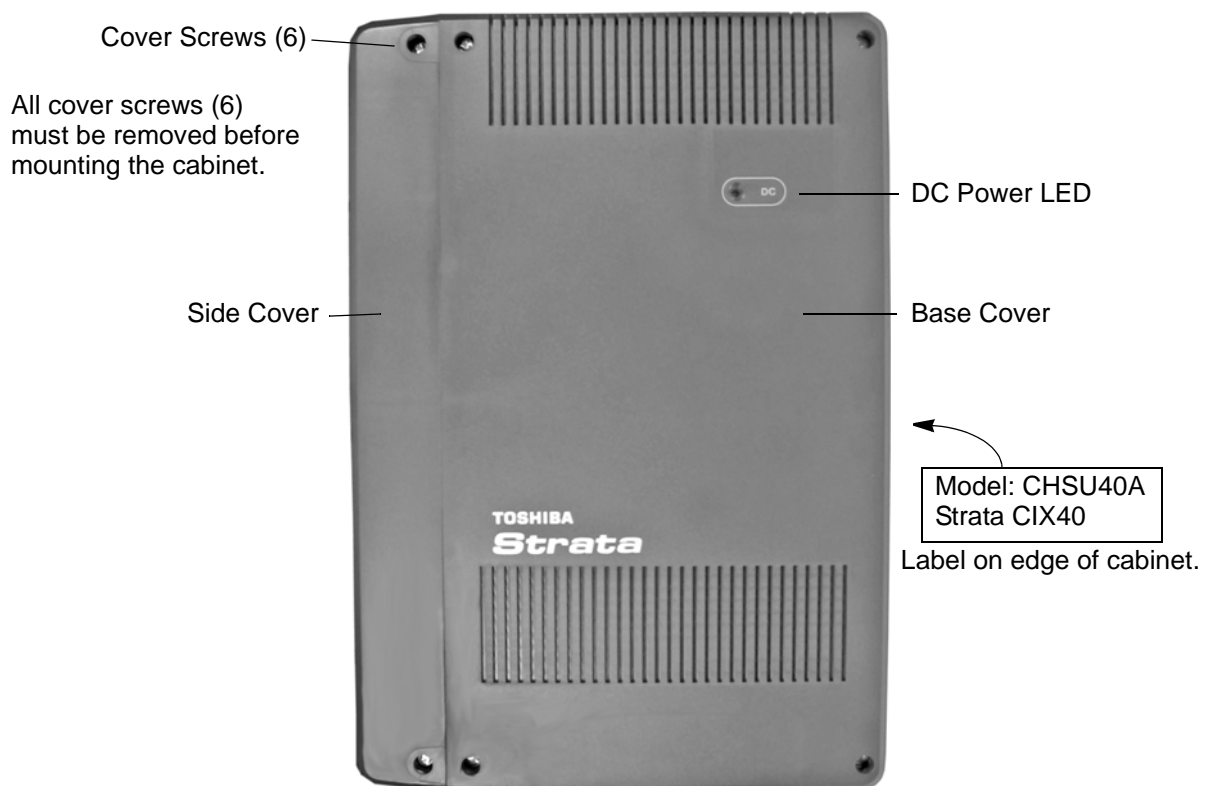


Figure 1-9 CIX40 Cabinet Exterior

3. Place the cabinet base on the desired location on the mounting surface and mark the location of the four screw holes. See [Figures 1-10](#) and [1-11](#).
4. Using a hard board between the cabinet and the wall, secure the hard board to the wall first, making certain that screws are aligned with studs. See [Figure 1-11](#).
5. Drill holes on these marks and secure screws approximately two thirds of the way into the top two holes on the mounting surface.
6. Hang the unit from the top two screws and then secure the top screws completely into the mounting surface.
7. Finish securing the unit to the mounting surface by completely screwing the bottom two screws into the wall.

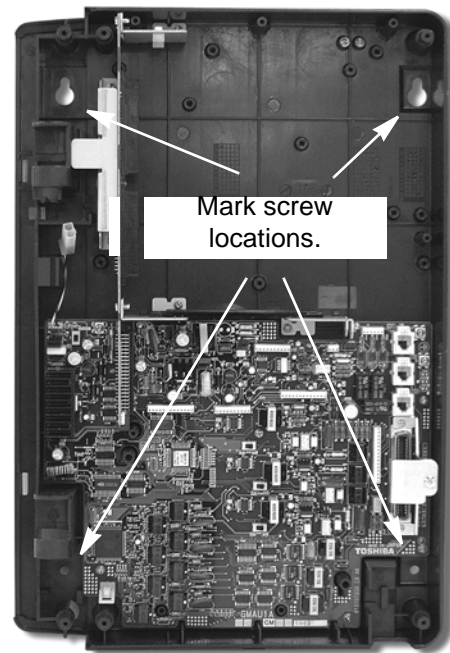
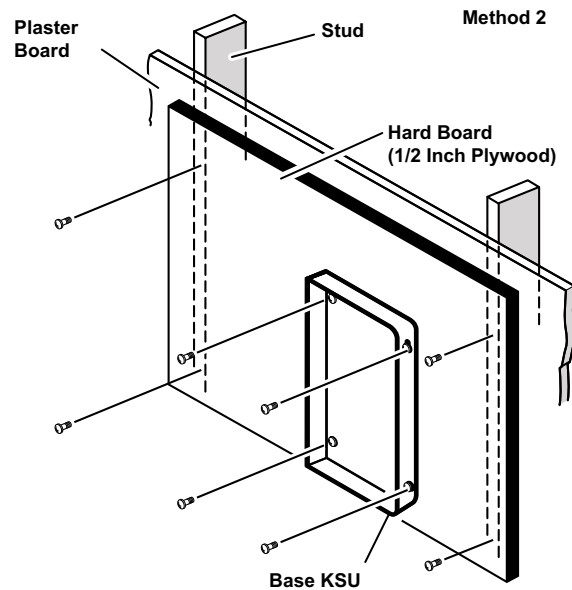


Figure 1-10 CIX40 Interior

7104



7114

Figure 1-11 CIX40 Cabinet Wall Mounting

8. Ground system according to [“AC Power and Grounding Requirements”](#) on page 1-10.

PCB Installation

Overview Instructions

The following is an overview for installing the Printed Circuit Boards (PCBs) into the Strata CIX40. After reading this section, proceed to the step-by-step instructions for each PCB.

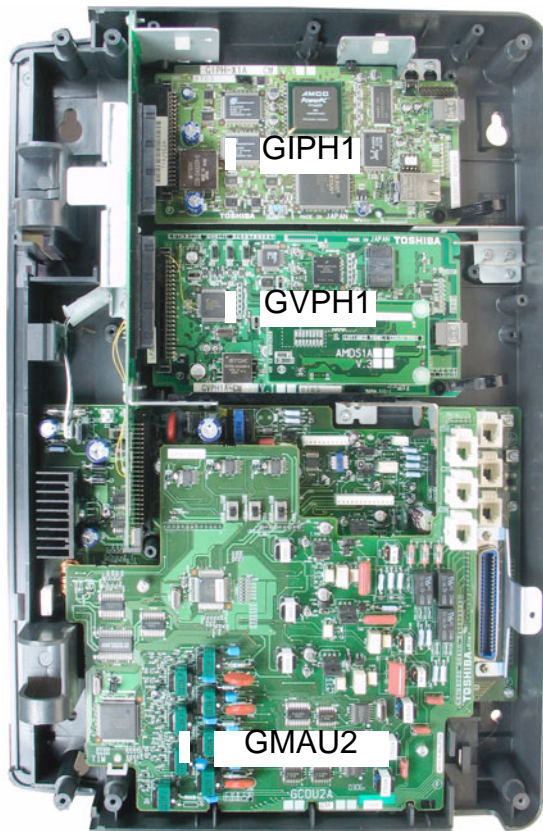
1. Apply proper settings on the GMAU2 (motherboard [Figure 1-14](#)).
2. If applicable, set SW6 battery jumper to ON and install the GVPH1 Voice Mail card ([Figures 1-15](#)).
3. Set P601 battery jumper to ON and install the GCTU2 (processor and [Figure 1-18 on Page 1-24](#)).
4. If applicable, install the GCDU2 (3 CO, 3 CLID and 8 DKT circuits [Figure 1-19](#)).
5. If applicable, install GSTU1 (standard telephone interface [Figure 1-20](#)).
6. If applicable, install the BSIS for SMDR ([Figure 1-18](#)).
7. If applicable, install HPFB-6 battery/charger ([Figure 1-23](#)).
8. Connect wiring ([Table 1-15](#)).
9. Connect AC Adaptor to P2 of the CIX40 sub-motherboard (GMAS, [Figures 1-24](#)) and plug the AC Adaptor into AC power.
10. Turn the System ON by sliding the SW1 ON/OFF switch down. The ON/OFF LED located by the GMAU2 label, STANDBY will light ([Figure 1-14](#)).

PCB Descriptions

This describes the CIX40 cabinet PCBs (see [Table 1-4](#) and [Figure 1-12](#).)

Table 1-4 CIX40 (CHSU40) Cabinet circuit cards

Part	Title	Description
GMAU2	Main Motherboard	The GMAU2 motherboard supports 3 CO lines, 3 CLIDs, 8 Digital Telephones, 1 Standard Telephone. The GCTU2, GVPH1, GIPH1, and AC power adaptor plug into the GMAS2 sub-motherboard dedicated slots.
GMAS2	Sub-motherboard	
GCTU2	Processor (with built-in modem/NIC)	Shipped in a separate box.
GVPH1	Voice Mail Circuit Card	(Optional) Voice Mail.
GCDU2	CO, CLID, DKT circuit card	(Optional) Supports 3 CO lines, 3 CLIDs, 8 Digital Telephones. The GCDU2 plugs onto the motherboard.
GSTU1	Standard Telephone Circuit Card	(Optional) Provides 1 Standard Telephone port.
GIPH1	8 Channel IP Interface Card	(Optional) 8-Channel IP Interface with LAN-NIC
BSIS	RS232C	(Optional) RS232-C. Provides 4 serial I/O ports.
HPFB6	External Battery	(Optional) Provides backup Reserve power.



GCTU2 removed
for clarity.



GVPH1 Card Stopper
Refer [Figure 1-13 on Page 1-16](#).

Figure 1-12 GVPH1 and GIPH1 Locations

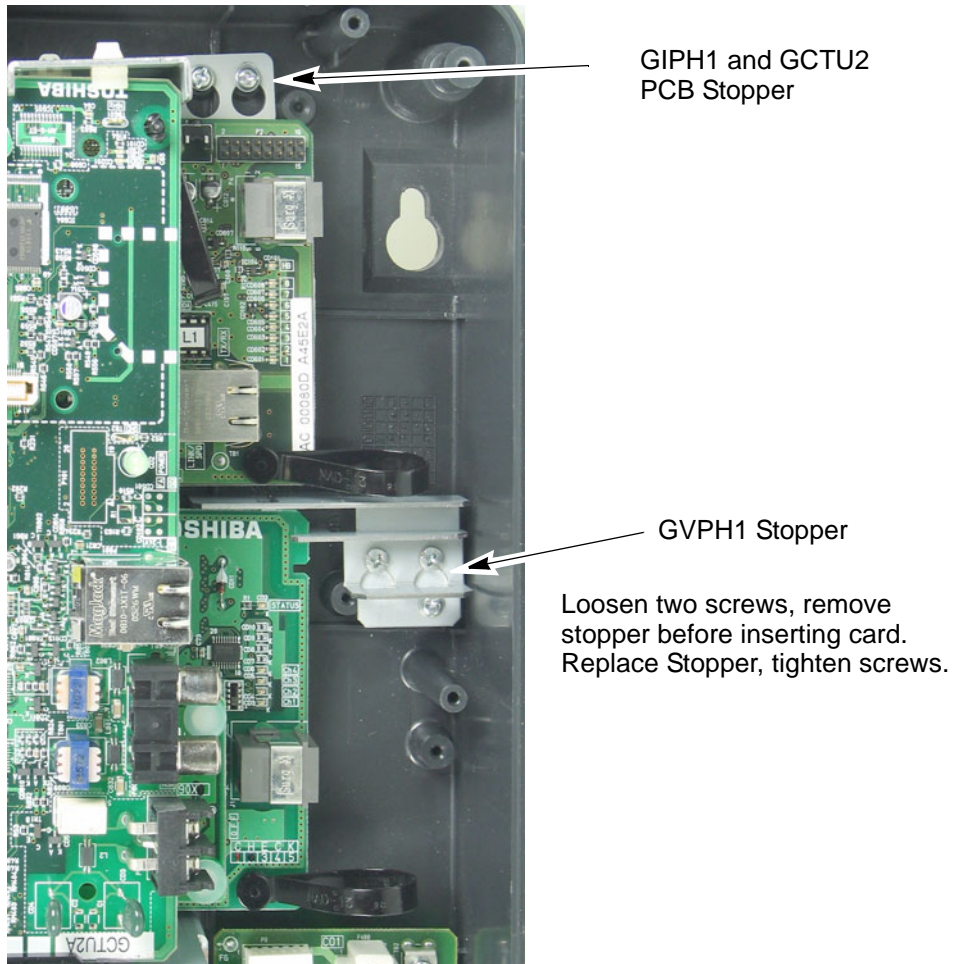


Figure 1-13 Card Stopper and Retainer

Step 2: Set Jumpers on the GMAU2 (Motherboard)

The GMAU2 (shown in Figure 1-14) supports up to 6 CO lines with Caller ID (CLID).

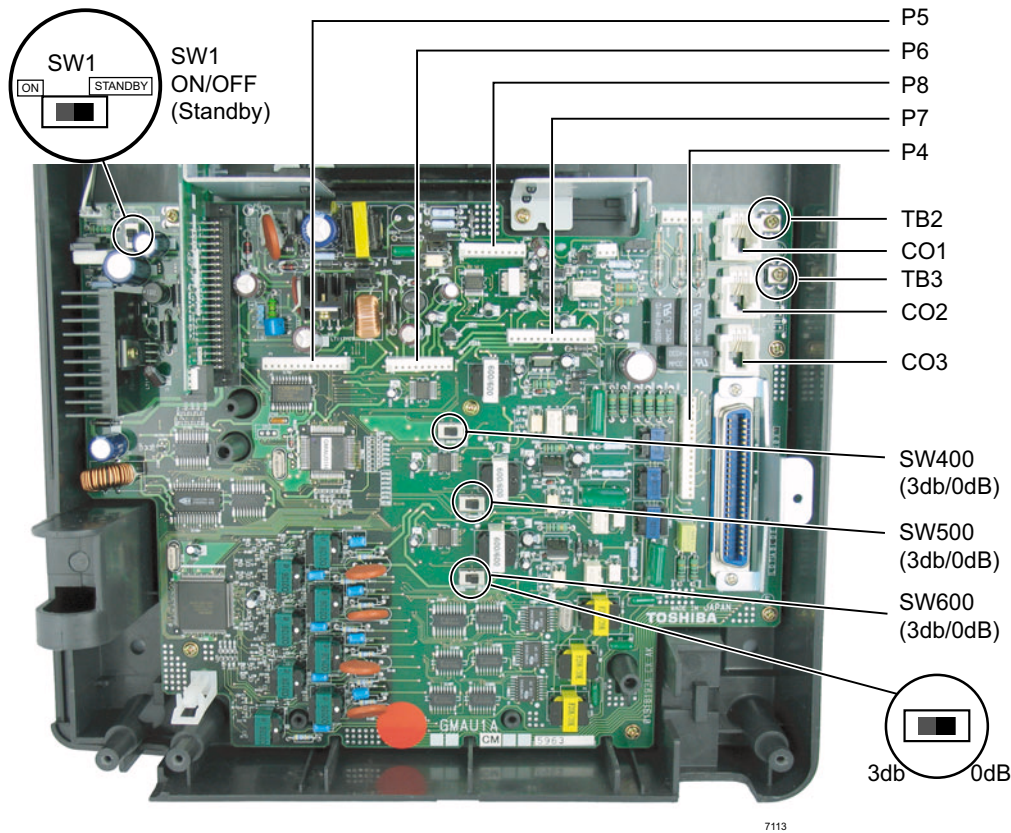


Figure 1-14 GMAU2 PCB

Table 1-5 GMAU2 Controls, Switches and Indicators

Control/Indicator/Connector	Type of Component	Description
SW1	2-position slide switch	Power Switch: [STANDBY] = no DC power supply. [ON] = DC voltage supplied. [ON] activates the reserve power from HPFB-6 battery pack.
SW400	2-position slide switch	3dB Pad switch
SW500		
SW600		
CD6	LED	Power indicator; Lit when SW1 is [ON], turned on and AC power or Reserve power is present. Dark when SW1 is [STANDBY], turned off.
TB1	Terminal with screw	Grounding for HPFB-6 external battery
TB3	Terminal with screw	Grounding for CIX40 system, connect to earth ground

Table 1-5 GMAU2 Controls, Switches and Indicators *(continued)*

Control/Indicator/Connector	Type of Component	Description
P1	50-pin Amphenol connector	DKT, SLT and Power Failure Transfer interface
P3	44-pin DIN connector	GMAS (sub-motherboard) interface
P4	16-pin female connector	GCDU2 DKT and loop start interface
P5	13-pin female connector	
P6	10-pin female connector	
P7	13-pin female connector	GSTU1 standard telephone interface
P8	10-pin female connector	
P9	6-pin female connector	GCDU2 interface
P10	3-pin connector	HPFB-6 external battery interface
P11	3-pin female connector	GSTU1 standard telephone interface
P400	Modular connector	Interface for CO Line circuit (CO1)
P500		Interface for CO Line circuit (CO2)
P600		Interface for CO Line circuit (CO3)
F1	2.0A Fuse	-24VDC Over current protection

Table 1-6 GMAS (Sub-motherboard)

Control/Indicator/Connector	Type of Component	Description
P1	44-pin DIN male connector	GMAU2 interface
P2	Pin Jack	DC-IN (DC15V) jack
J1	44-pin DIN female connector	GVPH1 interface
J2	44-pin DIN female connector	GCTU2 interface
J3		GIPH1 interface
J4		

Step 3: Install the GVPH1 Voice Mail PCB (optional)

The GVPH1 does not require a license.

1. In the CIX40 cabinet, remove the two screws and the GVPH1 stopper (Figure 1-17).
2. On the GVPH1, set the SW6 battery jumper to ON and set the Greeting language switch (Figure 1-15). Default language is "English." See Table 1-7 for other language settings.
3. Turn off system power. If the GCTU2 is installed remove it before installing the GVPH1.
4. Install the GVPH1 into the lower slot of the GMAS (sub-motherboard) (see Figure 1-12 and Figure 1-17).
5. Install the GCTU2.
6. Replace the GVPH1 stopper and secure with the original two screws.
7. Turn system power on.

Note To program GVPH1, refer to *Strata CIX40 Voice Processing Programming Manual* and use UADM2 software.

► **To restore the GVPH1 to the data that was stored on the GVPH1 on board RAM (see CAUTION! below)**

1. Turn off CIX40 system power and uninstall GCTU2 and GVPH1.
2. Remove the GVPH1 battery jumper for two minutes.
3. Place the GVPH1 battery jumper back to the ON position, then install the GVPH1 and GCTU2.
4. Turn system power on.

CAUTION! Initializing the GVPH1 will over-write all Names, Security codes and saved Messages with the data last saved to the on-board RAM during the last Backup. If the database was never backed up, the factory default data will be restored.

Note A GVMU database can not be restored to a GVPH.

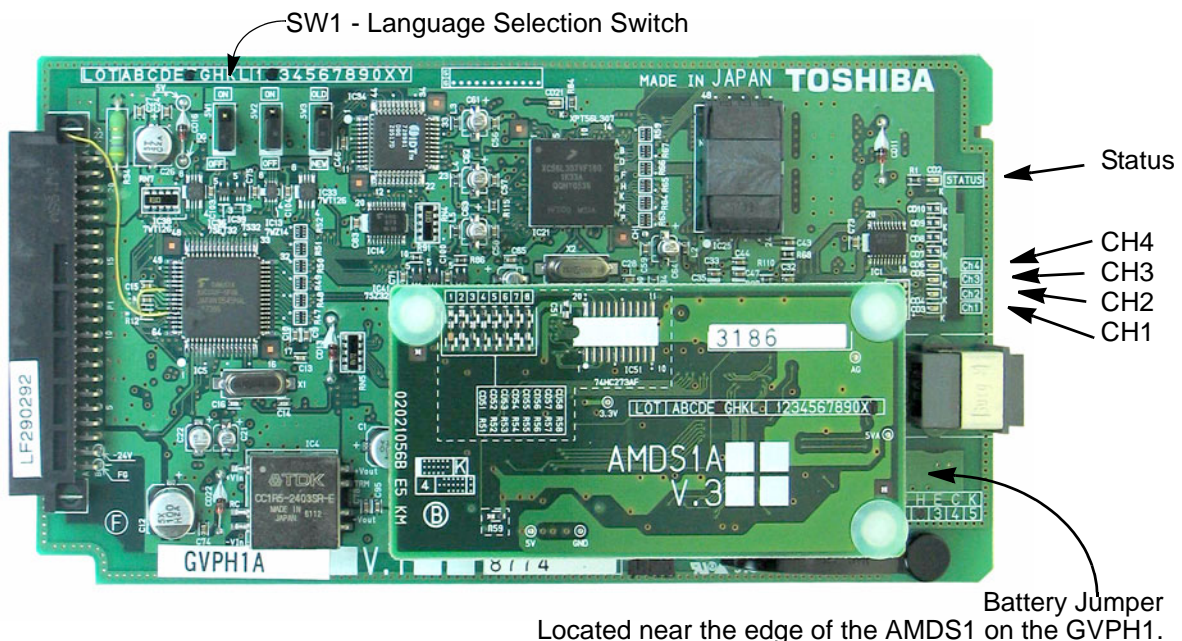


Figure 1-15 GVPH1 Card

Voice Mail and Telephone LCD Prompts

The Spanish Language option for CIX telephone LCD prompts and telephone are available in the CIX40 with a GVPH1. The jumpers on GVPH1 (Table 1-7) and the telephone LCD language settings control the default voice greetings and telephone LCD language. The telephone LCD language can be set from the telephone set or from eManager. Both methods are shown below.

From each telephone set:

- To change the language display on the telephone LCD, Dial #4951 for English.
- To change the language display on the telephone LCD, Dial #4954 for Spanish.

Use eManager:

- To set the Telephone LCD language use eManager > Station > Assignments > DKT (Program 204-20).

Table 1-7 Greetings Language Settings on the GVPH1

SW1	GVPH1 Language For 990 / 991 / 983 / 411		Prompt Language ¹
	Greeting 1	Greeting 2	
OFF	English	English then Spanish	English
ON	Spanish	Spanish then English	Spanish

1. Prompt language is set by SW1. The language set by the Admin PC has no effect.

Table 1-8 Other Switch Settings on the GVPH1

Switch	Position	Function
SW2	OFF	For using Admin PC - (Default setting)
	ON	For use by Field Engineer
SW3	New	Program update, latest- (Default setting)
	Old	Program update, previous

Table 1-9 LED Indicators on the GVPH1

Indication/ State	GVPH1 LEDs				
	Ch1	Ch2	Ch3	Ch4	Status
Power On (Initialize Sequence*)	All LEDs turn ON (Red), then all LEDs turn OFF and cycle ON/OFF through all ports for one to two minutes while initializing and then all LEDs turn off.				
Normal (Busy/Idle)	OFF ON = Busy; OFF = Idle	OFF	OFF	OFF	Blinking
Failure	Blinking	Blinking	Blinking	Blinking	OFF
Shut Down	ON	ON	ON	ON	OFF
Back Up/Restore	ON	ON	ON	ON	ON
No 1.8V input Voltage in GVPH1	ON	OFF	OFF	ON	ON
Not mounted/ defective	Light flickers and switches from the LED to LED (from Ch1~Ch4) + Status LED				
* The initialize sequence operates each time the CIX40 power is cycled off/on or the CIX40 processor is reset or initialized – GVPH1 program data remains saved. However, if the GVPH1 battery jumper is removed, GVPH1 program data and saved messages will be erased.					

Remote Connection

Remote communication to the GVPH1 requires the installation of a modem on the UADM PC (if a modem does not already exist). The GVPH1 comes equipped with an internal modem (AMDS daughter board) of 33.6 Kbps baud and does not require any additional equipment.

UADM PC Modem

Prepare the UADM PC by installing, connecting and configuring a modem. The modem must be capable of communicating at a minimum of 9600 baud.

CAUTION! Internal modems configured for COM ports 3 or 4 are not supported by UADM software.

The UADM PC's modem connects to the GVPH1 through User ID 993.

Step 4: Install the GIPH1 8-Channel IP Interface PCB (optional)

1. In the CIX40 cabinet, remove the two screws and the PCB stopper (Figure 1-17).
2. Turn off system power. If the GCTU2 is installed remove it before installing the GIPH1.
3. Install the GIPH1 into the GMAS (sub-motherboard) (see Figure 1-12 and Figure 1-17).
4. Install the GCTU2.
5. Replace the PCB stopper and secure with the original two screws.
6. Turn system power ON.

Note To program GIPH1, refer to the Strata CIX Programming Manual Vol. 1 and use eManager.

Licenses are required for IP Telephone and Strata Net IP. Use eManager R4.12A05, or later, to apply the necessary licenses to the GCTU2 for GIPH1 operations.

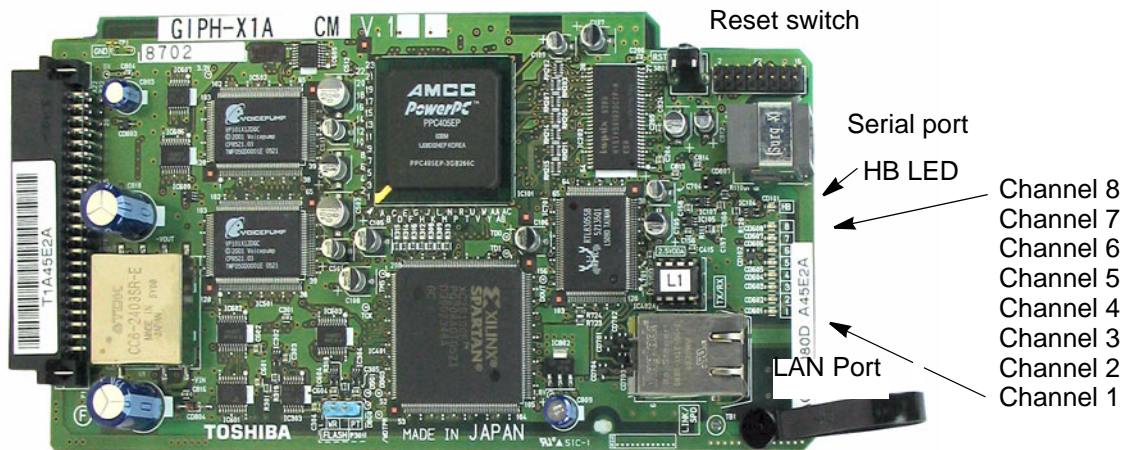
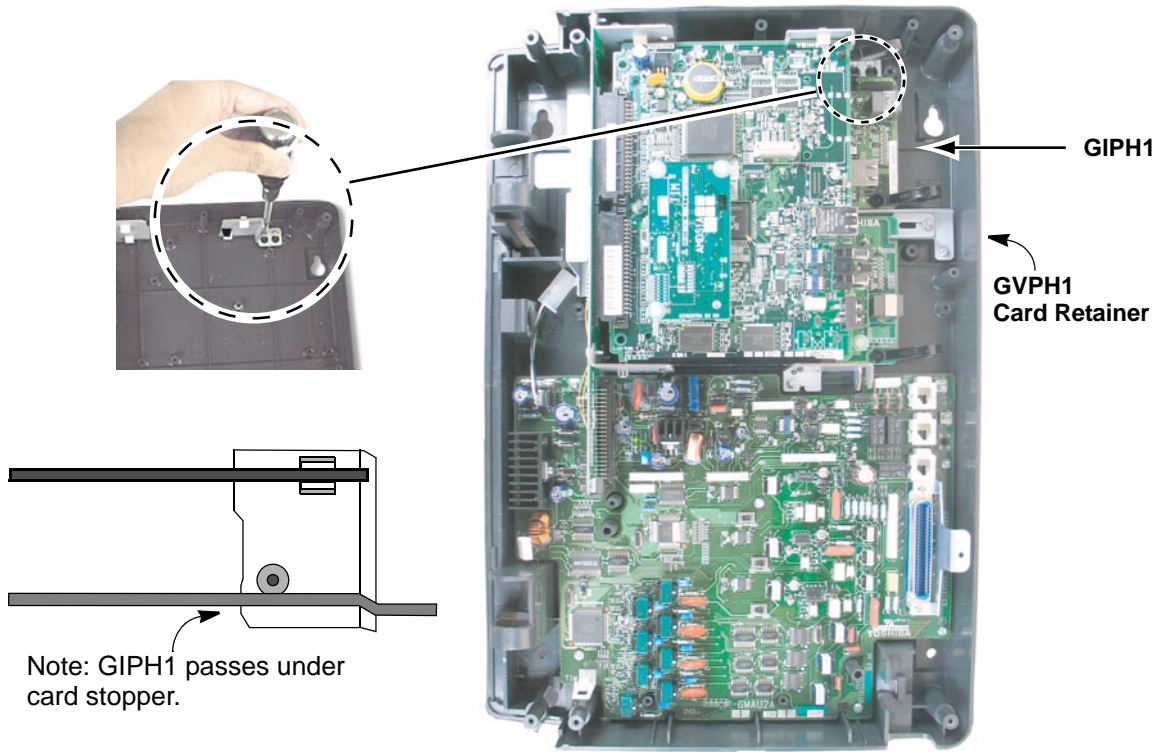


Figure 1-16 GIPH1 Card



0001-cx40

Figure 1-17 GIPH1 / GCTU2 PCB Stopper

CIX40 Installation

Step 5: Install the GCTU2 (Processor)

The GCTU2 is the main processor for the CIX40. It is shipped in a separate box, not in the CIX40 cabinet. The GCTU2A is considered a unit, separate from the cabinet for repair, return and warranty purposes.

► To install the GCTU2 into the CIX40

1. Skip this step if you have installed a Voice Mail PCB and already removed the PCB stopper. If you have not done this, then in the CIX40 cabinet, remove the two screws and the PCB stopper (see [Figure 1-17](#)).
2. Set the P601 battery jumper to ON (see [Figure 1-18](#)) and insert the GCTU2 in the upper slot of the GMAS sub-motherboard (see [Figure 1-12](#)). Place it next to the guide rail of the PCB stopper (see [Figure 1-17](#)).
3. Secure the PCB stopper with the original two screws.
4. Insert the SecureDigital card (gold contacts to left and front, notched corner faces forward and down) into the SecureDigital slot on the GCTU2 (see [Figure 1-18](#)).

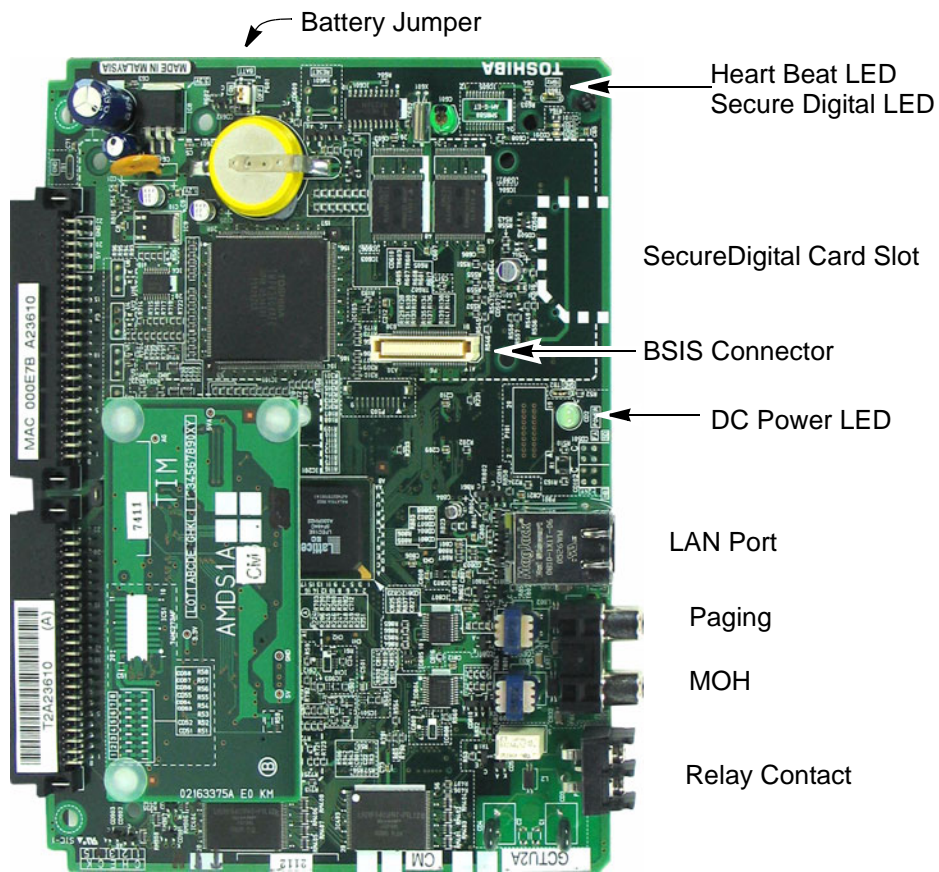


Figure 1-18 GCTU2 PCB

Table 1-10 GCTU2

Control/Indicator/Connector	Type of Component	Description
P6	60 pin connector	BSIS Interface
P501	Secure Digital port	Secure Digital interface
P601	Jumper plug	Must always be in the "ON" position to maintain customer data
P802	RCA Jack	Paging interface and BGM/MOH interface
P4	2 pin screw terminal	Relay contact
P2	44-pin male DIN connector	CIX40 Back plane connector
P3	44-pin male DIN connector	CIX40 Back plane connector
CD101	LED	Processor operation indication (heartbeat)
CD201	LED	Secure Digital access indicator
CD2	LED	Green DC power indicator for CIX40 system. Shown on front cover (see Figure 1-9).
P801	RJ45	Network interface port (LAN port)

Step 6: Install the GCDU2 (DKT and Loop Start Interface)

The GCDU2 PCB adds an additional 3 CO lines, 3 Caller ID units, and 8 digital telephone circuits with a single PCB. It attaches to the GMAU2 motherboard. With the GCDU2 installed, the CIX40 supports up to 16 digital telephones (DKTs), 6 CO lines and 6 Caller ID circuits. The GCDU2 does not require a license.

► To install the GCDU2

- Carefully place the GCDU2 pins over the GMAU2 connectors (see [Figure 1-12](#) and [Figure 1-19](#)). Press down on the PCB to secure the pins to the connectors (see [Table 1-11](#)).

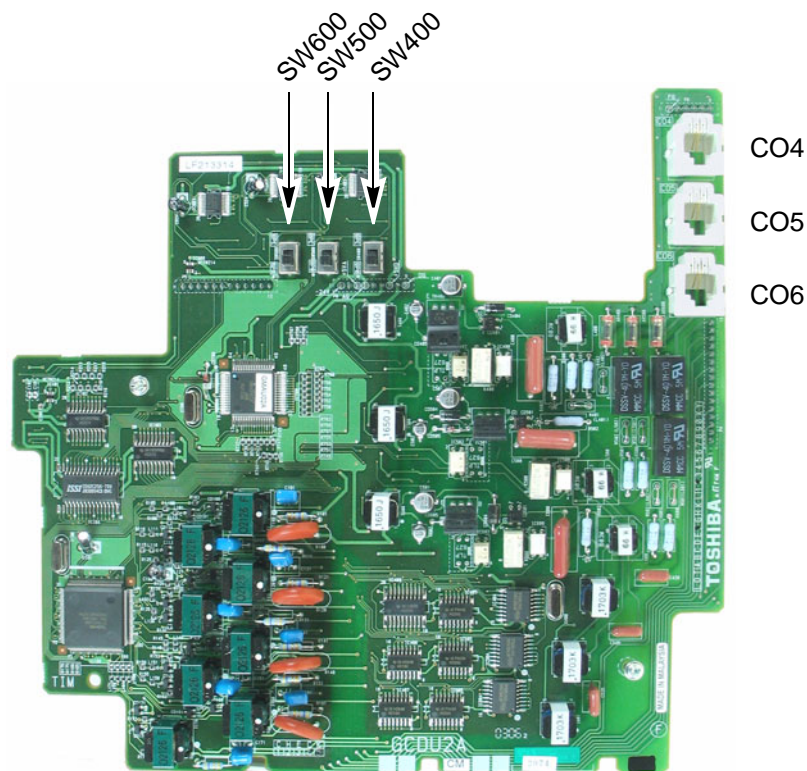


Figure 1-19 GCDU2 PCB

Table 1-11 GCDU2 Controls, Indicators and Connectors

Control/Indicator/Connector	Type of Component	Description
SW400	2-position slide switch	3dB Pad switch
SW500		
SW600		
P4	16-pin male connector	GMAU2 interface
P5	12-pin male connector	
P6	9-pin male connector	
P9	6-pin male connector	
P400	Modular connector	Interface for CO Line circuit (CO4)
P500		Interface for CO Line circuit (CO5)
P600		Interface for CO Line circuit (CO6)

Step 7: Install the GSTU1

The GSTU1 provides one additional standard telephone interface. The GSTU1 does not require a license.

- To install the GSTU1, align the GSTU1 pins over the GMAU2 motherboard and press down firmly. Refer to [Figure 1-20](#).

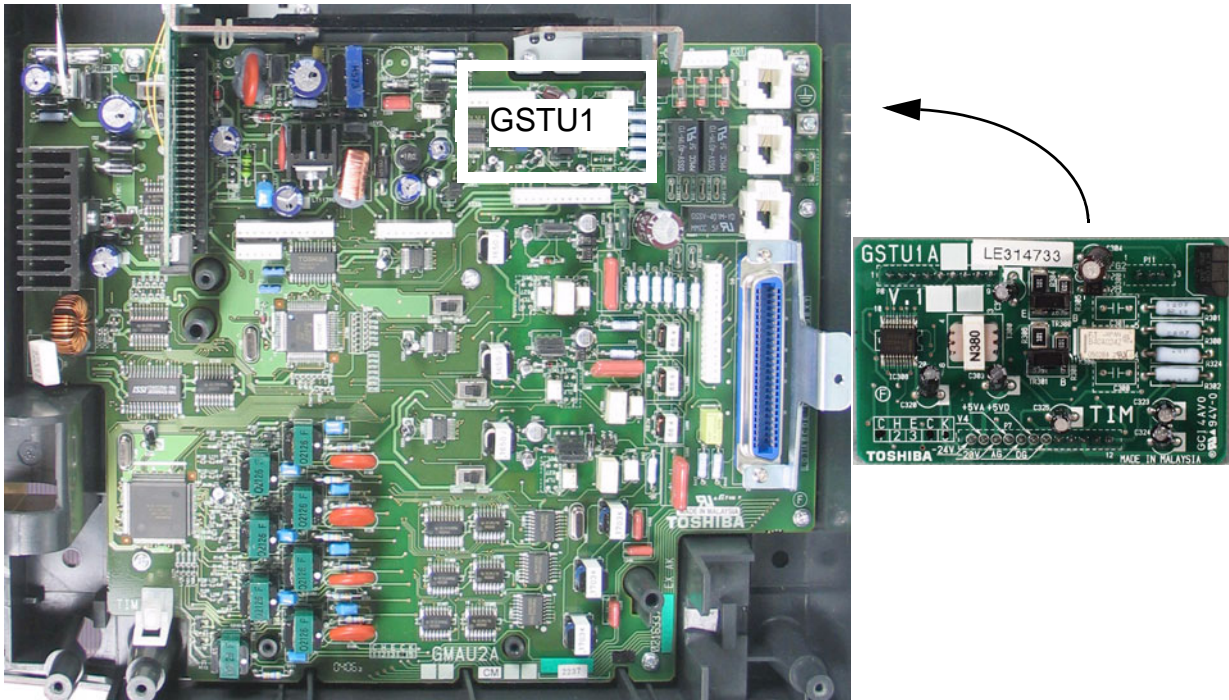


Figure 1-20 GSTU1 PCB

Table 1-12 GSTU1 Controls, Indicators, and Connectors

Control/Indicator/Connector	Type of Component	Description
P7	12-pin male connector	GMAU2 interface
P8	9-pin male connector	
P11	3-pin male connector	

Step 8: Install the BSIS (optional)

The BSIS provides four RS-232 serial ports.

- To install the BSIS, align the BSIS pins over the GCTU2 and press down firmly (see [Figure 1-18](#)). Note that if the BSIS card has an “Up Arrow” it will be pointed down. This is normal, it does not require adjustment, refer to [Figure 1-21](#).

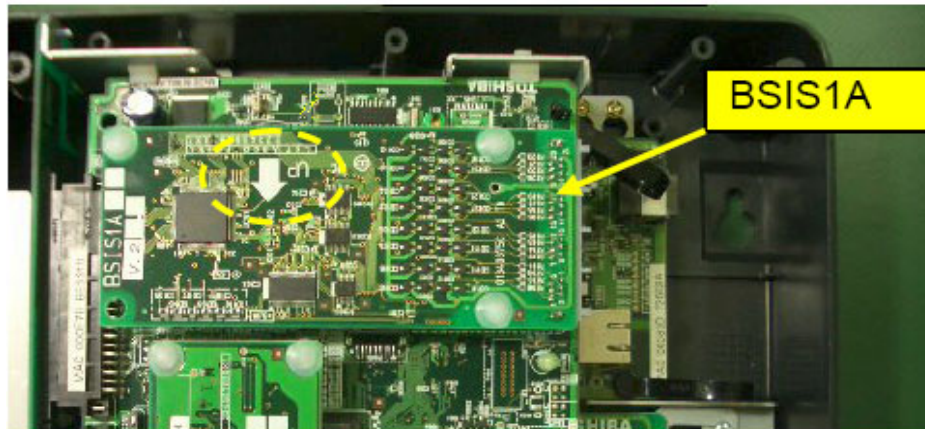


Figure 1-21 BSIS Card

Step 9: Install the HPFB-6 (Reserve Power Battery/Charger)

One or two HPFB-6 optional units can be added to the CIX40 to provide reserve power. The amount of reserve power time depends on the hardware (see [Table 1-13](#)). The table below is an estimate of battery backup time based on the premise that the HPFB-6 unit(s) are fully charged at the time of AC power failure. This estimated backup time is based on low call traffic, the time estimates will be reduced by as much as half with extreme heavy traffic volumes.

Table 1-13 CIX40 Reserve Power Duration Estimates

Hardware	1 HPFB-6	2 HPFB-6
3CO/8DKT - No GVPH1	1 hr. 40 min.	3 hr. 20 min.
3CO/8DKT - with GVPH1	1 hr. 30 min	3 hr.
6CO/16DKT - No GVPH1	1 hr. 5 min.	2 hr. 10 min.
6CO/16DKT - with GVPH1	1 hr.	2 hr.

1. Place the HPFB-6 directly below the Strata CIX40 Cabinet. See [Figure 1-23](#) for minimum clearance requirements. A second HPFB-6 can be installed directly below the unit to supply backup reserve power.
2. Mark the location of the two screw holes, then drill holes.
3. Screw the two screws two-thirds into the mounting surface.
4. Hang the HPFB-6 on the screws then tighten the screws into the mounting surface.
5. Remove the tape covering the BATT connector, the plug the first HPFB-6 connector into BATT connector P10 on GMAU2.

CIX40 Installation

Installing the CIX40 Cabinet

6. Connect a #10 ground AWG wire from the HPFB-6 “FG” screw to the CIX40 screw labeled “TB1” (Figure 1-22).

Note The CIX40 should be plugged into AC power and the DC power switch should be turned On when installing the HPFU-6. The HPFU-6 will not start to operate if AC power is not available during the initial installation.

7. The 24VDC LED on the HPFB-6 should light. If it does not light, press the battery Off switch with a pencil point or other small-tipped object.
8. Dress and tie-wrap the HPFB-6 cables.
9. To mount a second HPFB-6, repeat Steps 1~4, then plug the second HPFB-6 connector in the first HPFB-6 and connect an FG wire between each HPFB-6 FG screw.
10. To test the HPFB-6, remove the CIX40 AC plug from the AC outlet. The CIX40 AC LED will go out, but the CIX40 DC LED remains on. Also the system remains in normal working order and the HPFB-6 24V LED remains on.
11. If it is desired to turn off the HPFB-6 (after loss of AC power), use a pencil or other sharp object to press the Battery Off switch.

CAUTION! Once the HPFB-6 is turned Off or unplugged (during AC power loss) it will not operate again until AC power is restored to the CIX40 Cabinet.

Note The CIX40 Cabinet does not provide a battery charger, the HPFB-6 contains built-in batteries and a battery charger; therefore, do not connect any other type of batteries to the CIX40.

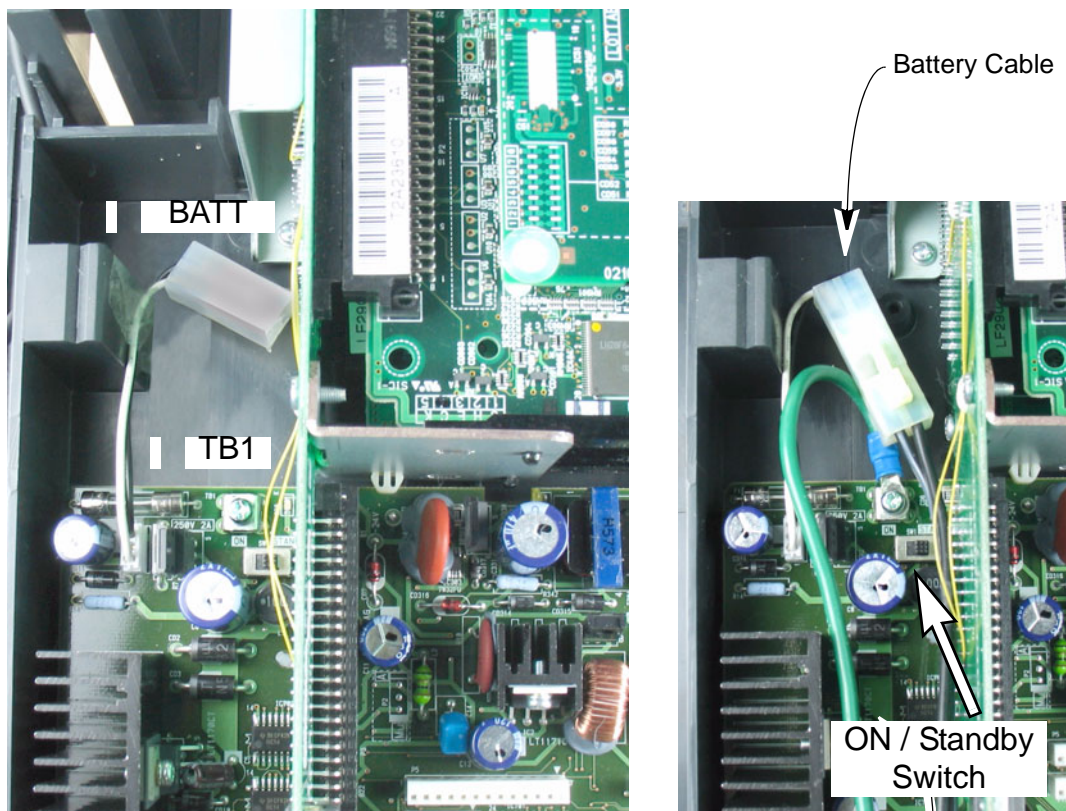


Figure 1-22 HPFB-6 Connection

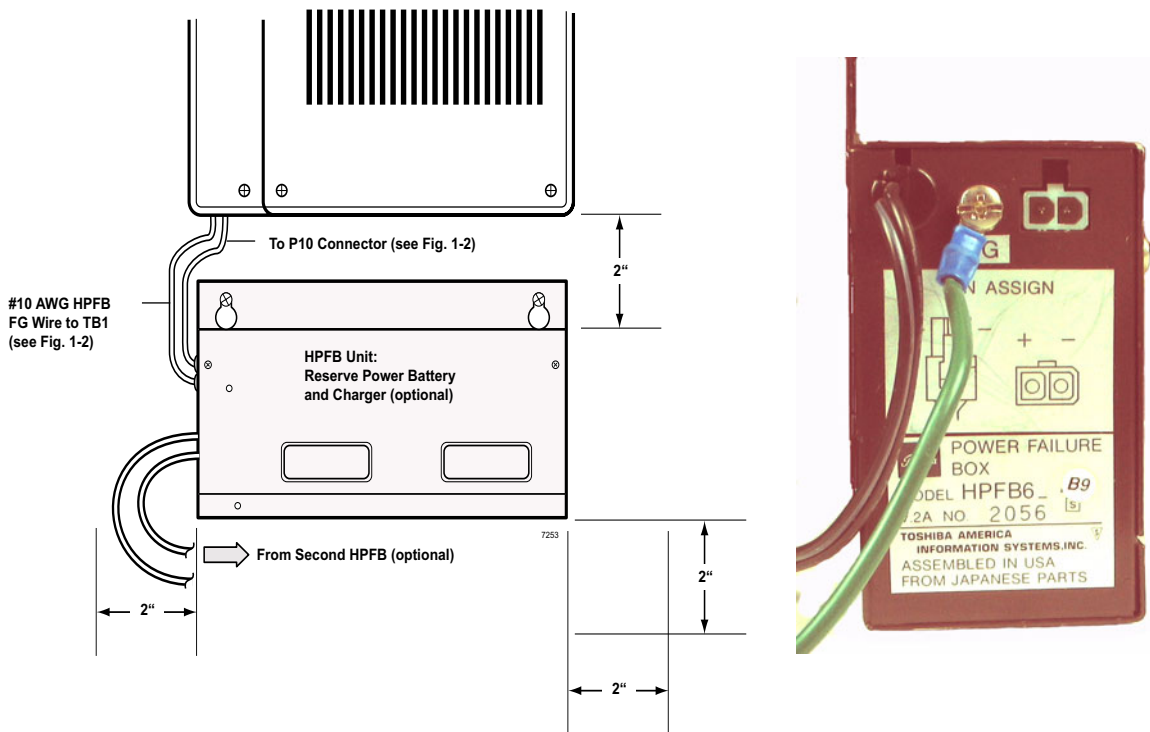


Figure 1-23 HPFB-6 Reserve Power Installation

Step 10: Install Wiring

1. Refer to [Figure 1-24](#) for the following steps. Loosen the screw on the Amphenol clamp and remove the clamp. Plug in the 25-pair Amphenol connector and replace the clamp to hold the Amphenol connector in place.
2. Connect all other PCB wiring (e.g., modular CO line cords, LAN cable, etc.). Slide the shorter tie-wrap through the holder. Then fasten wiring to the unit with the tie wrap that comes with the cabinet.
3. Connect the end of the AC adapter cable to the GMAS PCB as shown in [Figures 1-24](#) and [1-7](#).
4. Connect the other end of the GCTU2 (100Base TX) LAN cable to the LAN connected to a LAN switch or the eManager PC.
5. Plug the AC adapter into a power outlet.
6. Put the On/Standby switch on the GMAU2 into the “On” position. The DC LED should light green. The CIX40 is now ready to program.

WARNING! Do not smoke near batteries. Avoid creating any electrical sparks near batteries.

CAUTION! Do not wrap the power cord around the AC adaptor. Excess cord should be gathered and secured with the supplied strap as shown in [Figure 1-7](#). The cord bundle may be secured to the side of the adaptor.

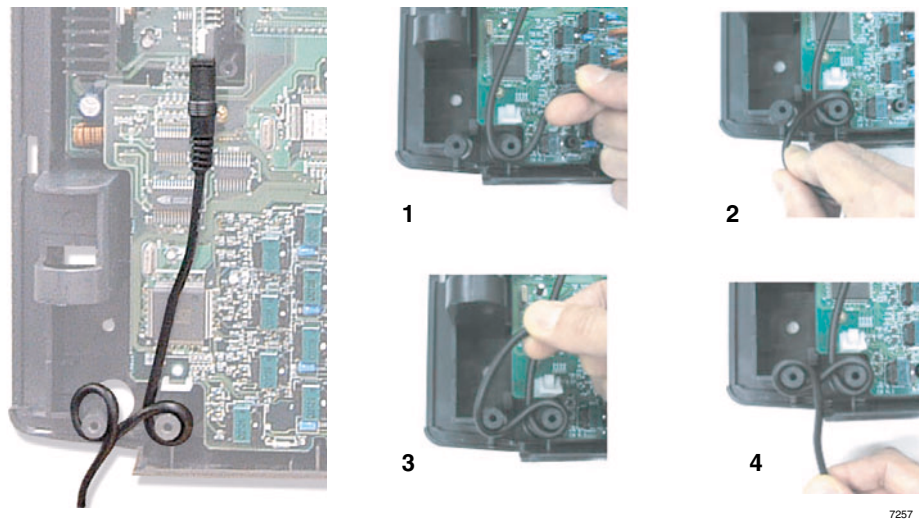


Figure 1-24 AC Adapter Wiring Procedure

Digital Telephone Connection

The Strata CIX40 supports any Toshiba 2000, 3000 and 3200 -series digital telephones, including the DKT3207-SD telephone (shown right).

The DKT3207-SD only works on the CIX40.

The DKT3207-SD works just like the DKT3220-SD and DKT3210-SD, except that it has seven flexible buttons.

The CIX40 supports all DKT2000, DKT3000 and DKT3200-series Add-on Modules and DSS Consoles.

CIX40 supports Handset Off-hook Call Announce (OCA), but not Speaker OCA. Refer to Chapter 15 of the Strata CIX and MAS Installation and Maintenance manual.



Figure 1-25 DKT3207-SD Telephone

Supported IP Telephones

- IPT2000-series (not IPT1020)
- SIP Telephones
- SoftIPT - refer to Chapter 11 of the Strata CIX and MAS Installation and Maintenance manual.

0001-T

Loop Limits

This section provides the maximum loop lengths for connection of telephones, lines, peripheral equipment, and power supplies. The following information applies to only the Strata CIX40 system (see [Table 1-14](#)).

Table 1-14 Digital Telephone/DIU/DDSS Console/ADM/Loop Limits

Mode	CIX40 Cabinet or Battery Backup ¹	Maximum line length (24 AWG)		
		1 Pair feet	1 Pair meters	
DKT3000, DKT3200-series or DKT2000-series models, DKT with BVSU ³ or DVSU or BHEU or HHEU.	CIX40 Cabinet	1000	303	1000 feet (303 meters)
	Battery Backup	695	204	
DKT with BPCI	CIX40 Cabinet	1000	303	
	Battery Backup	500	151	
DKT with BPCI and BHEU	CIX40 Cabinet	1000	303	
	Battery Backup	500	151	
DDSS3060 or 2060	CIX40 Cabinet	1000	303	
	Battery Backup	675	204	
DDCB3A	CIX40 Cabinet	165	50	
	Battery Backup	500	151	
BATI, RATI	CIX40 Cabinet	1000	303	
	Battery Backup	1000	303	
DKT with 1 ADM	CIX40 Cabinet	675	204	
	Battery Backup	165	50	
DKT with 2 ADMs	CIX40 Cabinet	500	151	
	Battery Backup	33	10	

1. Battery backup applies to instances when the system is being powered by batteries exclusively.
2. Digital cable runs must not have the following:
 - Cable splits (single or double)
 - Cable bridges (of any length)
 - High resistance or faulty cable splices
3. CIX40 does not support Speaker OCA.

CIX40 Secondary Protection

The following diagram (see [Figure 1-26](#)) shows where secondary protectors must be installed for outside wiring.

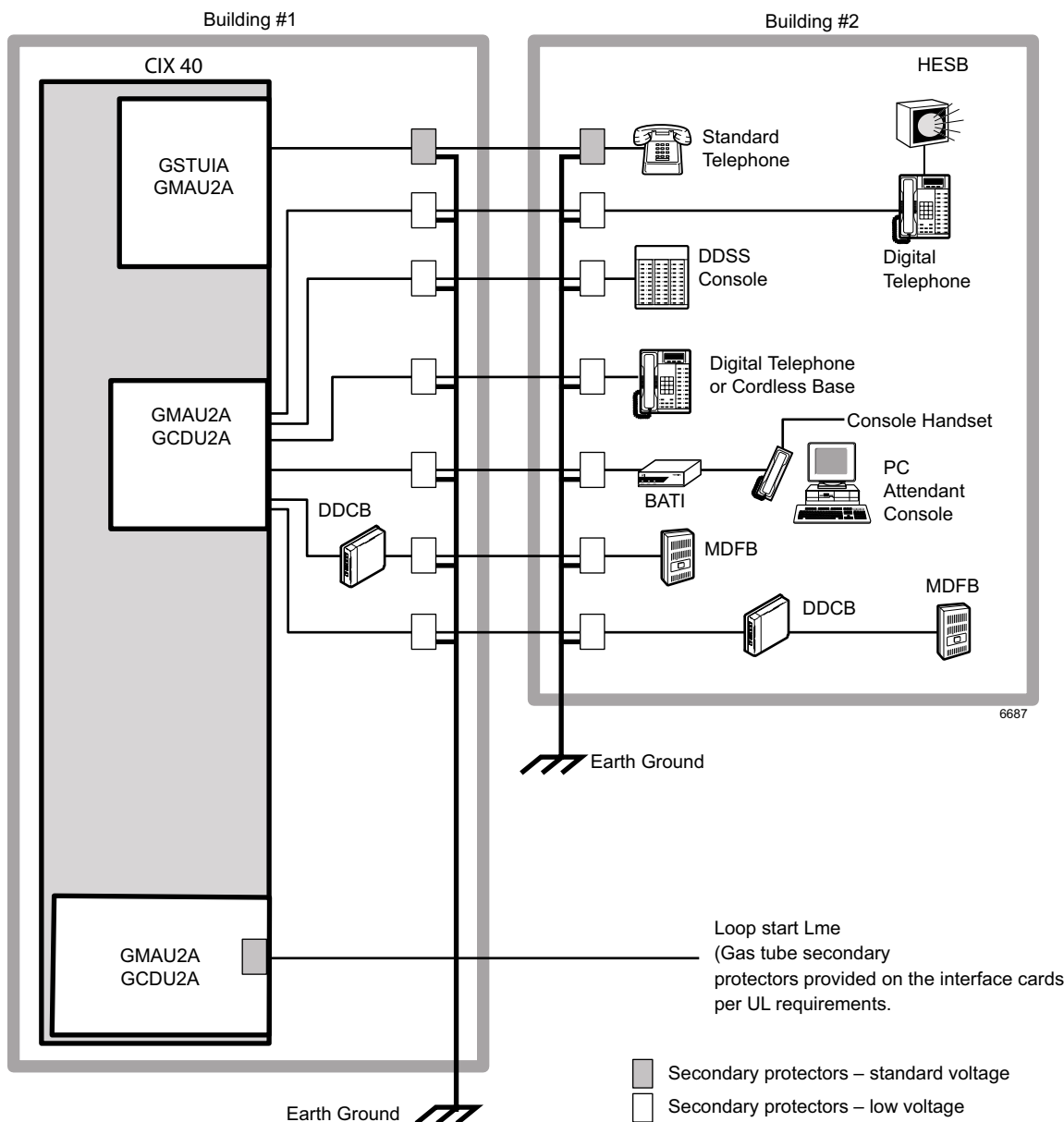


Figure 1-26 CIX40 Secondary Protector Diagram

Important! To protect against transient voltages and currents, solid state secondary protectors must be installed if there is outside wiring. These protectors, which contain fast semiconductors in addition to fuses, shall comply with the requirements for secondary protectors for communication circuits, UL 497A. Care must be taken to ensure that they are very well grounded to a reliable earth ground. Recommended protectors are available in the fast Series 6 line from ONEAC Corp., Libertyville, Illinois 60048, (800) 327-8801. Install and test the secondary protectors precisely to the installation instructions of these manufacturer.

MDF Wiring

For Registration information refer to "CIX40 FCC/ACTA Registration Numbers" on page 1-2.

Table 1-15 Station Wiring for Amphenol Connector (P1) on GMAU2

Pin No.	Signal	Pin No.	Signal	Station
1	VR1	26	VT1	DKT #1
2	VR2	27	VT2	DKT #2
3	VR3	28	VT3	DKT #3
4	VR4	29	VT4	DKT #4
5	VR5	30	VT5	DKT #5
6	VR6	31	VT6	DKT #6
7	VR7	32	VT7	DKT #7
8	VR8	33	VT8	DKT #8
9	VR9	34	VT9	DKT #9
10	VR10	35	VT10	DKT #10
11	VR11	36	VT11	DKT #11
12	VR12	37	VT12	DKT #12
13	VR13	38	VT13	DKT #13
14	VR14	39	VT14	DKT #14
15	VR15	40	VT15	DKT #15
16	VR16	41	VT16	DKT #16
17	(NC)	42	(NC)	
18	PF1R	43	PF1T	PFT circuit*
19	(NC)	44	(NC)	
20	(NC)	45	(NC)	
21	(NC)	46	(NC)	
22	(NC)	47	(NC)	
23	CR1	48	CT1	STU #1
24	(NC)	49	(NC)	
25	CR2	50	CT2	STU #2

* Connect a Standard Telephone to PFT pair to provide access to CO Line1 during a power failure.

CIX40 Installation

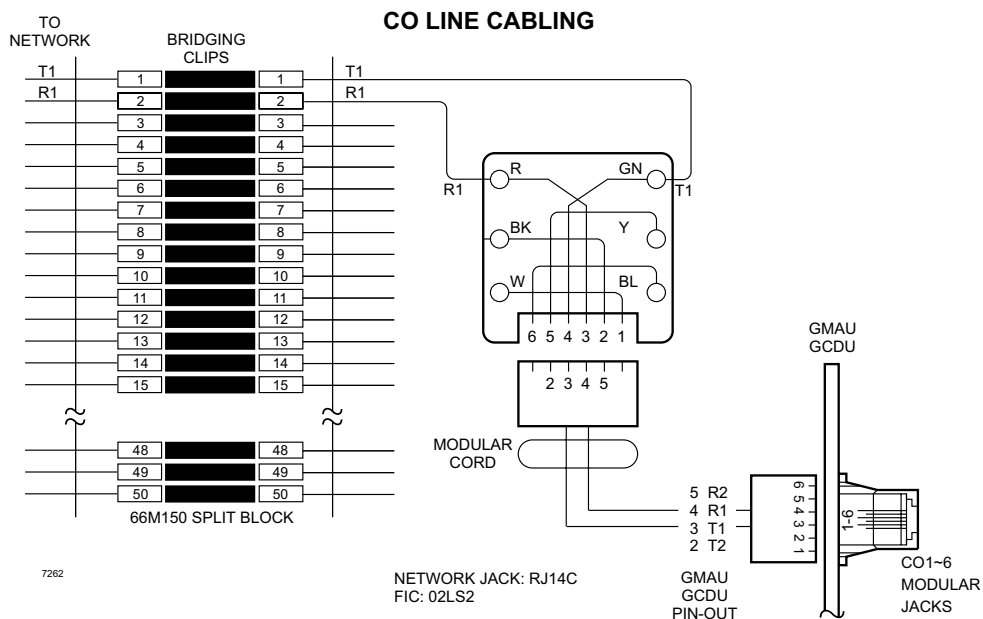


Figure 1-27 MDF Wiring to CO Lines (GMAU2 and GCDU2)

GVPH1 Administration PC Connections

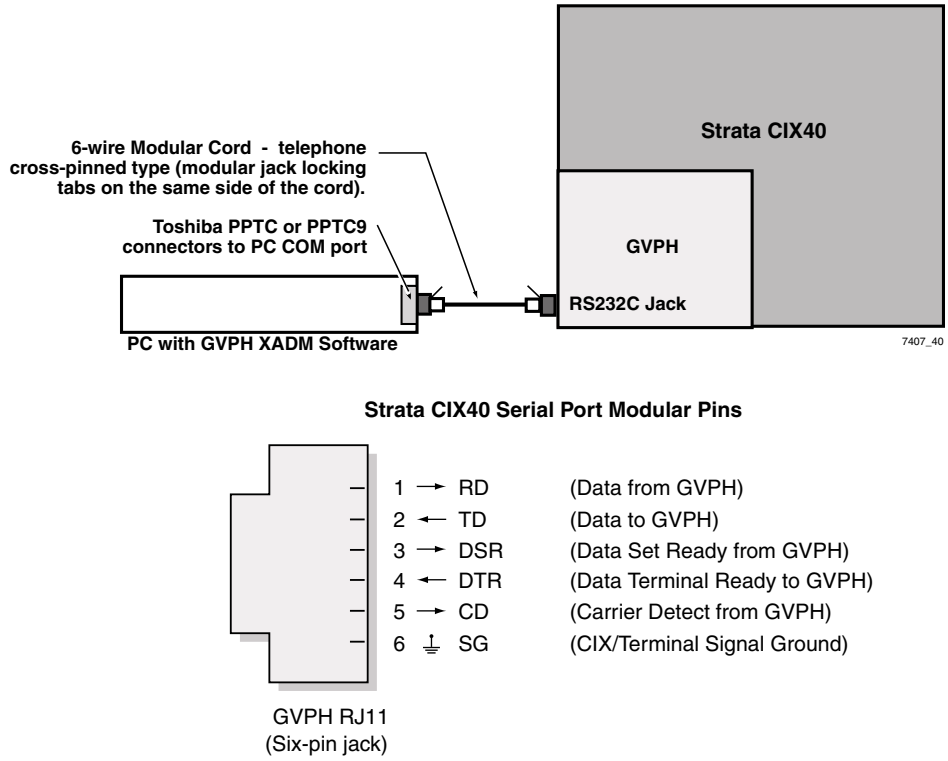


Figure 1-28 GVPH1 Serial Port Interface Connection

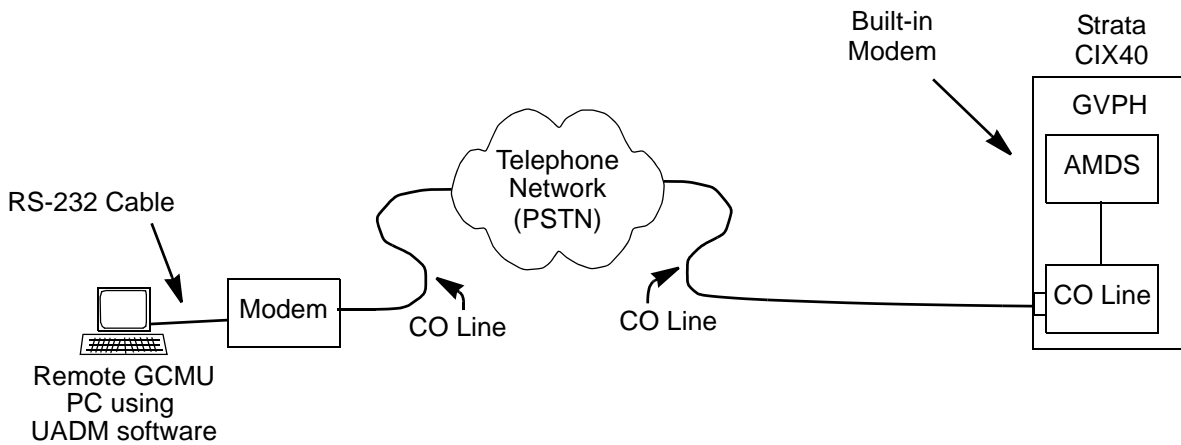


Figure 1-29 GVPH1 PC Modem Interface Connection

Station Loop Lengths

In a single site installation, the Base and optional Expansion Cabinets must be placed within the allowed maximum distance of each other as designated by [Table 1-16](#)

Table 1-16 Station Loop Lengths¹

Mode	Maximum line length (24 AWG)
DKT3000, DKT3200 or DKT2000-series	1000 ft. (303m)
Standard telephones, voice mail, standard single line telephone device, etc.	Approximately 3000 ft. (909 m) with 150 ohm device. ²

1. When the system is powered by backup battery, range may be less as the backup battery is discharged.
2. See manufacturer's product specifications for exact resistance of device.

DKT3x00-series telephone loop limits are in [Table 1-17](#).

Table 1-17 Loop Limits for DKT3000-series Telephones

Telephone/Device	Power Supply Unit (PSU) or Battery Backup	Maximum line length (24 AWG)
DKT3x00-series or DKT2000-series models, DKT with BVSU (Speaker OCA not supported) or DVSU or DKT with BHEU or HHEU	PSU	1000 ft. (303m)
	Battery Backup	675 ft. (204m)
DKT with BPCI	PSU	1000 ft. (303m)
	Battery Backup	500 ft. (151m)
DKT with BPCI + BHEU	PSU	1000 ft. (303m)
	Battery Backup	500 ft. (151m)
DKT with DADM3020 or DADM2020 (1 ADM)	PSU	675 ft. (204m)
	Battery Backup	165 ft. (50m)
DKT with DADM3020 or DADM2020 (2 ADMs)	PSU	500 ft. (151m)
	Battery Backup	33 ft. (10m)
DDCB3A	PSU	1000 ft. (303m)
	Battery Backup	165 ft. (50m)

CIX40 Default Initialized Data

The information in [Table 1-18](#) applies to the GCTU2A processor card IP connection.

Table 1-18 Prog 916 – System IP Address Default Data

FB1	IP Address	192.168.254.253
FB2	Subnet Address	255.255.255.0
FB3	Default Gateway Address	192.168.254.1

- The default programming data shown in [Table 1-19](#) applies even if the option units (GCDU2/GSTU1/GVPH1) are not mounted. This enables voice mail to be used as is if the GVPH1 is inserted. Default programming accommodates the other options similarly.
- When GCDU2 is unmounted, CO4-6 and DKTs 9-16 are “make-busy” and cannot be used.
- When GSTU1 is unmounted, SLT2 is not “make busy.”
- When GVPH1 is unmounted, VM ports 1-4 are “make busy.”

Table 1-19 CIX40 Digital Telephone Default Programming Data – Program 205

DKT1~8									
		DKT1	DKT2	DKT3	DKT4	DKT5	DKT6	DKT7	DKT8
FB7		CO6	CO6	CO6	CO6	CO6	CO6	CO6	CO6
FB6		CO5	CO5	CO5	CO5	CO5	CO5	CO5	CO5
FB5		CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4
FB4		CO3	CO3	CO3	CO3	CO3	CO3	CO3	CO3
FB3		CO2	CO2	CO2	CO2	CO2	CO2	CO2	CO2
FB2		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1
FB1	PDN	200	201	202	203	204	205	206	207
VMID	same as PDN								
DKT9~16 (Optional)									
		DKT9	DKT10	DKT11	DKT12	DKT13	DKT14	DKT15	DKT16
FB7		CO6	CO6	CO6	CO6	CO6	CO6	CO6	CO6
FB6		CO5	CO5	CO5	CO5	CO5	CO5	CO5	CO5
FB5		CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4
FB4		CO3	CO3	CO3	CO3	CO3	CO3	CO3	CO3
FB3		CO2	CO2	CO2	CO2	CO2	CO2	CO2	CO2
FB2		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1
FB1	PDN	209	210	211	212	213	214	215	216
VMID	same as PDN								

Table 1-20 Program 204 Default Data

In Program 204, all telephones are programmed as 20 buttons.
--

Table 1-21 Program 102 Default Data

Feature Code	Default Value	Function
870	#963	Call Monitor Log Off

Table 1-22 Program 205/213/215 Default Data

Feature Code	Function
870	Call Monitor Feature Button

Table 1-23 Program 313 Default Data

Caller ID	Prog 313	Function		CIX40 default
	FB1	Caller ID Receive Method	<u>nothing</u> /ANI-MCI/ANI-Sprint/CLASS	CLASS
	FB2	Caller ID Identification Notice Contents	<u>ANI and DNIS</u> /DNIS/DID	ANI or DNIS
Underlined values are CIX100 default.				
Note: Class Equipment number is not required for CIX40 because CLID circuits are built-in and dedicated to each CO line.				

Table 1-24 Program 100 Default Data

Virtual Slot Equip. Nos.	Circuits	PCB Code ¹	Station / Line Numbers	Connection
0101	8 - Digital Telephones (no spkr OCA)	017	200~207	GMAU2 (motherboard)
0102	3 - CO lines, with CLID	028	CO1~CO3	
0103	Not used			
0104	Standard Telephone 01~02	026	01~208 02~217	01-GMAU2 02-GSTU1
0105	4 - Voice Mail ports	026	220~223	GVPH1
0106	8 - Channel IP Interface	036	Not assigned ²	GIPH1
0107	8 - Digital Telephones	017	209~216	GCDU2 ³
0108	3 - CO Lines with CLID	028	CO4~CO6	
0205	Virtual BIOU	020	Relay Contact Page, MOH	GCTU2

*Slot codes are set during system initialization and cannot be changed.

1.The GMAU2, GIPH1, GVPH1 and GSTU1 PCB Slot Codes and the Station/CO Line numbers are set during initialization even if the cards are not installed in the cabinet. The GCDU2 must be installed in the cabinet before initialization for auto recognition of slot code, station numbers and CO line numbers.

2.The ports must be assigned, after the card is installed. The GIPH is the only CIX40 card that requires licensing. Use eManager to install Strata Net, End point and SoftIPT licenses and, assign PDNs and Strata Net channels.

3.When the GCDU2 is installed after the CIX40 is initialized use eManager to assign the slot code, station numbers and CO line numbers.

Table 1-25 Program 200 Default Data

		GMAU2								
FB0	DN	200	201	202	203	204	205	206	207	208
FB1	EQUIP	010101	010102	010103	010104	010105	010106	010107	010108	010401
FB2		DKT	DKT	DKT	DKT	DKT	DKT	DKT	DKT	SLT
FB3		Ext.	Ext.	Ext.	Ext.	Ext.	Ext.	Ext.	Ext.	Ext.
FB19	VM ID	200	201	202	203	204	205	206	207	208
FB22	VM MW Center Port	250	250	250	250	250	250	250	250	250
FB35	Station Speed Dial Bins	10	10	10	10	10	10	10	10	10

Table 1-26 Prog 200 Default Data for GCDU2

	GCDU2										GSTU1
FB0	DN	209	210	211	212	213	214	215	216	217	
FB1	EQUIP	010701	010702	010703	010704	010705	010706	010707	010708	010402	
FB2		DKT	DKT	DKT	DKT	DKT	DKT	DKT	DKT	SLT	
FB3		Ext.	Ext.	Ext.	Ext.	Ext.	Ext.	Ext.	Ext.	Ext.	
FB19	VM ID	209	210	211	212	213	214	215	216	217	
FB22	VM MW Center Port	250	250	250	250	250	250	250	250	250	
FB35	Station Speed Dial Bins	10	10	10	10	10	10	10	10	10	

Table 1-27 Prog 200 Default Data for GVPH1

	GVPH1				
FB0	DN	220	221	222	223
FB1	EQUIP	010501	010502	010503	010504
FB2		SLT	SLT	SLT	SLT
FB3		Voice Mail	Voice Mail	Voice Mail	Voice Mail
FB19	VM ID				
FB22	VM MW Center Port	Leave blank	Leave blank	Leave blank	Leave blank

Table 1-28 Prog 579 Default Data

FB04	Output of Class, ANI and DNIS	1 (Enable)	
FB05	Calling Number Digits Sent to VM	10	Same as CIX100 Do NOT change for GVPH1
FB16	VMDN (Distributed Hunt Group Pilot)	250	Measage Center Call-back
FB19	SMDI ANI / CLID Digit Length	10	Same as CIX100 Do NOT change for GVPH1

Note To log into GVPH1 boxes for the first time, enter the default telephone station number plus 997. Example: for Station 200, enter 200997 as the Voice Mail ID.

Table 1-29 Prog 580 – Voice Mail Data Assignment Default Data for GVPH1

FB0	DN	220	221	222	223
FB1	INBAND / SMDI	SMDI	SMDI	SMDI	SMDI
Note: In Program 209, the above Voice Mail ports are assigned to (distributed) Hunt Group 01. D. H. Pilot DN 250					

Table 1-30 Prog 218 – Voice Mail Hunt Group Assignment Default Data

FB0	GRP	1	1	1	1
FB1	INDEX	1	2	3	4
FB2	DN	220	221	222	223
Note: VM ports are assigned to Hunt Group 1 (distributed) in Prog. 209 in default data. D. H. Pilot DN 250					

Table 1-31 Prog 300 Default Data

FB0	TRK NO	1	2	3	4	5	6
FB1	EQUIP	010201	010202	010203	010801	010802	010803
FB2	ILG	1	1	1	1	1	1
FB3	OLG	1	1	1	1	1	1
FB4		DTMF	DTMF	DTMF	DTMF	DTMF	DTMF
FB5		LOOP	LOOP	LOOP	LOOP	LOOP	LOOP
FB12	HUNT ORDER	6	5	4	3	2	1

Table 1-32 Prog 310 Default Data (Trunk > Assignment > DIT)

FB0	Trunk Number	1	2	3	4	5	6
FB0	EQUIP	010201	010202	010203	010801	010802	010803
FB1	Day 1 Destination	No Data	No Data	No Data	No Data	No Data	No Data
FB2	Day 2 Destination	No Data	No Data	No Data	No Data	No Data	No Data
FB3	Day 3 Destination	No Data	No Data	No Data	No Data	No Data	No Data
FB4	Music on Hold Source	Processor MOH Jack	Processor MOH Jack	Processor MOH Jack	Processor MOH Jack	Processor MOH Jack	Processor MOH Jack

Table 1-33 Prog 304 Default Trunk Group

FB0	Group Number	1
FB1	Group Type	1 (Analog)
FB2	Line Type	1 (CO)
FB3	CO Service Type	DIT

Table 1-34 Prog 306 Default Trunk Type

FB0	Group Number	1
FB1	Group Type	1 (Analog)
FB2	Trunk Type	1 (CO)

IP Default Data for GIPH1 Card

The following applies when the GIPH1 card is installed.

Table 1-35 Prog 161 – GIPH1 Default Data

FB0	Cabinet and Card Slot Number	0106
FB1	IP Address	192.168.254.200
FB2	Subnet Address	255.255.255.0
FB3	Default Gateway Address	192.168.254.1

Table 1-36 Prog 304 Default Trunk Group

FB0	Group Number	7
FB1	Group Type	2 (ISDN)
FB2	Line Type	2 (TIE)
FB4	Private Service Type	QSIG

Table 1-37 Prog 306 Default Trunk Type

FB0	Group Number	4
FB1	Group Type	2 (ISDN)
FB2	Trunk Type	2 (TIE)
FB3	Service Type	2 (QSIG)

Call Monitor

Using the flexible **Call Monitor** button on your telephone, you can listen to the message a caller is recording in your voice mailbox. You can also answer the call and talk to the caller anytime during the message recording.

➤ To enable Call Monitor on your telephone

1. While on hook, press the idle **Call Monitor** button. The button's LED flashes red.
2. Enter your voice mail password (maximum of 16 digits; numbers 0~9).
3. Press **#**. The password displays with *****. The LCD now displays "Call Monitor Enabled" briefly and then displays the original information. The Call Monitor LED turns solid red indicating that the feature is enabled.

➤ To disable Call Monitor on your telephone

- With the Call Monitor LED solid red, press **Call Monitor**. The Call Monitor LED turns off.

➤ To monitor a call using Call Monitor

A flashing red Call Monitor LED indicates that a message is being recorded in voice mail.

- Using the speakerphone or handset, press **Call Monitor**. The Call Monitor LED lights green. You can hear the caller leaving the message, but the caller cannot hear you. The LCD displays "Monitoring Voice Mail."

➤ To answer the call during the message recording

- To talk to the caller during the recording, press **Call Monitor**. The recording stops and the LED turns solid red. The LCD display indicates the extension or line to which you are connected.

This chapter introduces IP telephones and Strata Net IP on the Strata CIX40 system. It includes information specific to the GIPH1 card. The subjects of IP Telephony, in general, and IP Telephone installation are covered, in detail, in the Strata CIX and MAS Installation and Maintenance Manual.

The GIPH1 printed circuit board (PCB) provides the interface for Toshiba IPT telephones, SIP telephones, the Strata MAS for SES and ACD, and StrataNet applications.

The GIPH1 has an IP network connector and an RJ-11 connector to provide an RS-232 maintenance port.

The GIPH1 must have a static public IP address or a static private IP Address.

The GIPH1 has up to eight IP channels. These channels can be used for IP Stations, SIP stations, ACD-Voice Announce, Voice Mail, Strata Net, or any mix.

The GIPH1 operates on the network at 100 Mbps and can be connected to a fast switch router, LAN, WAN, etc. When connecting to remote IP telephones over the Internet, a VPN router is needed to circumvent Network Address Translation (NAT) and fire wall issues.

IP Telephone, SIP Telephone, SoftIPT and Strata Net IP channels require licensing. Refer to ["CIX40 System Licenses" on page 1-3](#)

Install the GIPH1

GIPH1 Installation

1. Ensure that the GIPH1 is installed in the cabinet and that the card stopper is secured (see [Figure 1-13](#)).
2. Power up the system.
3. Program the CIX per the instructions in the *Strata CIX Programming Manual Vol. 1*, refer to the chapter titled “IP Telephone Programming” and “Appendix A – “Application Guide.”

Note When the GIPH1 is configured for G.729a codec use and the echo cancel delay is set to 32 ms the card will operate as follows:

- Six resources will function as G.729a with 32 ms echo cancel delay.
- Two resources will function as G.729a with 16 ms echo cancel delay.

When the echo cancel delay is set to 16 ms or the codec is G.711 this does not apply, all channels are available.

Connect GIPH1 to LAN or VPN Server

1. Plug one end of a straight-through CAT5/5E/6 LAN cable into the RJ45 Ethernet port on the GIPH1 in the CIX. (See [Figure 1-16](#).)
2. Plug the other end of the LAN cable into a LAN or server jack refer to [Figure 2-1](#). The GIPH1 cable is a straight-through cable.

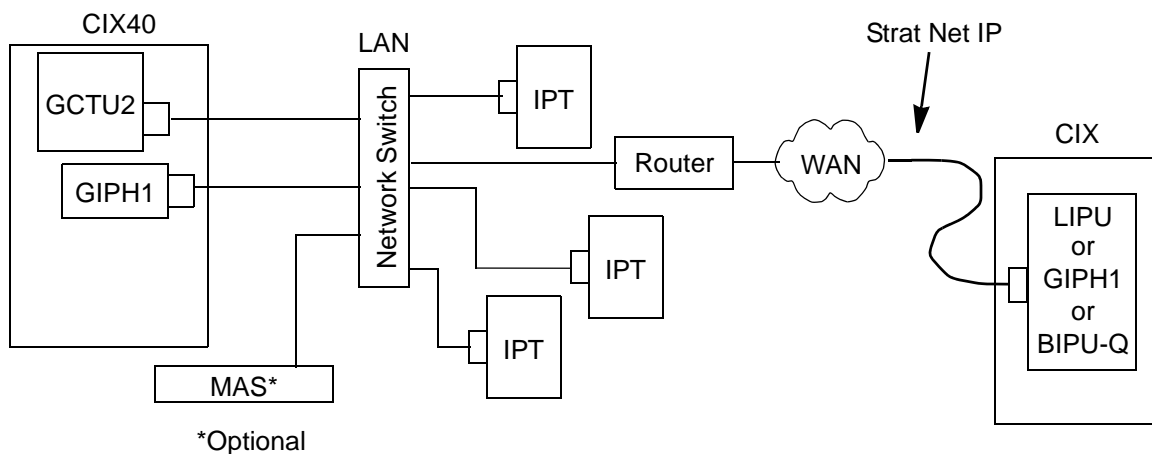


Figure 2-1 IP LAN Connections

Install IP Telephones

Install the IP Telephones and cables with the same care and considerations as any other device connected to the local network. Before installing any telephone wiring, read the following caution notes:

Power Adapter Connection

The IP Telephone (IPT) sets require external power. The power supply can be from the AC adapter included with the IPT or the LAN using a Power Over Ethernet (POE). POE must meet IEEE802.3af standard. Toshiba recommends the SMC6824MPE PoE switch. Refer to “Power over LAN” in the CIX and MAS Installation and Maintenance Manual.

The IPT 2000 series station power adapter have a 90 degree plug. This adapter plugs into the bottom of the IPT set. The right angle plug does not interfere with the tilt base or wall mounting. For desk top installation use the strain relief tab at the top of the set for the AC adapter cable.

DSS, ADM and External Speaker Control Box (BESCB)

The IPTs can each support two ADMs or three DSS modules. The station can support DSS or ADM but not a DSS and ADM. It is necessary to remove the tilt base from the IPT and ADM or DSS to Attach the brackets and cables. Refer to the CIX and MAS Installation and Maintenance Manual. Refer to the CIX and MAS Installation and Maintenance Manual for DSS, ADM and External Speaker Control Box installation.

This is the last page of the document.