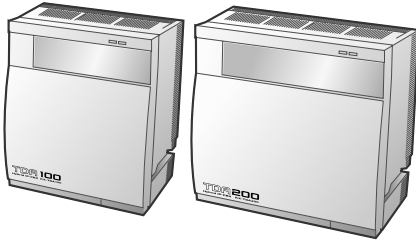


Panasonic

Hybrid IP PBX

Installation Manual



KX-TDA100

Model No. **KX-TDA200**



Please read this manual before connecting the Hybrid IP PBX.
Thank you for purchasing the Panasonic Model KX-TDA100/KX-TDA200, Hybrid IP PBX.

System Components

System Components Table

| | Model | Description |
|----------------------------|--------------|---|
| Shelves | KX-TDA100 | Basic Shelf |
| | KX-TDA200 | Basic Shelf |
| Main Processor Card | | MPR (Main Central Processing Unit Circuit) Card |
| MPR Option Cards | KX-TDA0196 | RMT (Remote Maintenance Trunk) Card |
| Trunk Cards | KX-TDA0180 | LCOT8 (8-port Loop Start Central Office Trunk) Card |
| | KX-TDA0189 | CID/PAY8 (8-port Caller ID / Pay Tone) Card |
| | KX-TDA0193 | CID8 (8-port Caller ID) Card |
| | KX-TDA0181 | LCOT16 (16-port Loop Start Central Office Trunk) Card |
| | KX-TDA0187 | T1 (T-1 Line Trunk) Card |
| | KX-TDA0188 | E1 (E-1 Line Trunk) Card |
| | KX-TDA0184 | E&M8 (8-port E&M) Card |
| | KX-TDA0284 | BRI4 (4-port ISDN Basic Rate Access Interface) Card |
| | KX-TDA0288 | BRI8 (8-port ISDN Basic Rate Access Interface) Card |
| | KX-TDA0290 | PRI30 (ISDN Primary Rate Access Interface) Card |
| | KX-TDA0290 | PRI23 (ISDN Primary Rate Access Interface) Card |
| | KX-TDA0480 | IP-GW4 (IP-Gateway Circuit) Card |
| Extension Cards | KX-TDA0170 | DHLC8 (8-port Digital Hybrid Line Circuit) Card |
| | KX-TDA0172 | DLC16 (16-port Digital Proprietary Line Circuit) Card |
| | KX-TDA0171 | DLC8 (8-port Digital Proprietary Line Circuit) Card |
| | KX-TDA0175 | MSLC16 (16-port SLT with Message Waiting Lamp Circuit) Card |
| | KX-TDA0174 | SLC16 (16-port SLT Circuit) Card |
| | KX-TDA0173 | SLC8 (8-port SLT Circuit) Card |
| | KX-TDA0143 | CSIF4 (4-port Cell Station Interface Circuit) Card |
| | KX-TDA0144 | CSIF8 (8-port Cell Station Interface Circuit) Card |

System Components Table

| | Model | Description |
|--------------------------|------------|---|
| Option Cards | KX-TDA0190 | OPB3 (Option Base 3 Circuit) Card |
| | KX-TDA0191 | MSG4 (Message Circuit) Card |
| | KX-TDA0161 | DPH4 (Doorphone Circuit) Card |
| | KX-TDA0162 | DPH2 (Doorphone Circuit) Card |
| | KX-TDA0164 | EIO4 (External I/O Circuit) Card |
| | KX-TDA0166 | ECHO16 (16-port Echo Cancelling Circuit) Card |
| | KX-TDA0410 | CTI-LINK (CTI-Link) Card |
| Power Supply Unit | KX-TDA0103 | L-Type Power Supply Unit |
| | KX-TDA0104 | M-Type Power Supply Unit |

Notice

- There are some optional service cards and features which are not available for certain countries. Consult your authorised Panasonic dealer for detailed instructions.
- The power supply capacity of the main unit may differ from the values described in this manual depending on the suffix of the model number, please consult your dealer for detailed information.

System Components Table

| | Model | Description |
|---|---|--|
| Digital Proprietary Telephones (DPTs) | KX-T7625 | DPT with SP-PHONE (24-CO) |
| | KX-T7630 | DPT with SP-PHONE, 3-Line Display (24-CO) |
| | KX-T7633 | DPT with SP-PHONE, 3-Line Display (24-CO) |
| | KX-T7636 | DPT with SP-PHONE, 6-Line Display (24-CO) |
| | KX-T7520 | DPT with SP-PHONE (12-CO) |
| | KX-T7531 | DPT with SP-PHONE, 1-Line Display (12-CO) |
| | KX-T7533 | DPT with SP-PHONE, 3-Line Display (12-CO) |
| | KX-T7536 | DPT with SP-PHONE, 6-Line Display (12-CO) |
| | KX-T7550 | DPT with MONITOR (12-CO) |
| | KX-T7560 | DPT with MONITOR (8-CO) |
| | KX-T7565 | DPT with SP-PHONE, 1-Line Display (8-CO) |
| | KX-T7420 | DPT with SP-PHONE (12-CO) |
| | KX-T7425 | DPT with SP-PHONE (24-CO) |
| | KX-T7431 | DPT with SP-PHONE, 1-Line Display (12-CO) |
| | KX-T7433 | DPT with SP-PHONE, 3-Line Display (24-CO) |
| | KX-T7436 | DPT with SP-PHONE, 6-Line Display (24-CO) |
| | KX-T7450 | DPT with MONITOR (12-CO) |
| | KX-T7451 | DPT with MONITOR (4-CO) |
| | KX-T7220 | DPT with SP-PHONE (24-CO) |
| | KX-T7230 | DPT with SP-PHONE, 2-Line Display (24-CO) |
| KX-T7235 | DPT with SP-PHONE, 6-Line Display (12-CO) | |
| KX-T7250 | DPT with MONITOR (6-CO) | |
| Analogue Proprietary Telephones (APTs) | KX-T7320 | APT with SP-PHONE (12-CO) |
| | KX-T7330 | APT with SP-PHONE, 1-Line Display (12-CO) |
| | KX-T7350 | APT with MONITOR (12-CO) |
| | KX-T7130 | APT with SP-PHONE, 1-Line Display (12-CO) |
| | KX-T7020 | APT with SP-PHONE (12-CO) |
| | KX-T7030 | APT with SP-PHONE, 1-Line Display (12-CO) |
| | KX-T7033 | APT with SP-PHONE (12-CO) |
| | KX-T7050 | APT with MONITOR (12-CO) |
| KX-T7055 | APT with MONITOR (3-CO) | |
| Single Line Telephones (SLTs) | KX-T7310 | SLT with FLASH button and Message Waiting Lamp |
| | KX-T7315 | SLT with FLASH button and Message Waiting Lamp |

System Components Table

| | Model | Description |
|------------------------------|--------------|--|
| Proprietary Equipment | KX-T7640 | DSS Console (66-DSS) |
| | KX-T7540 | DSS Console (66-DSS) |
| | KX-T7541 | DSS Console with ANSWER and RELEASE buttons (48-DSS) |
| | KX-T7545 | Add-on Key Module (12-CO for expansion) |
| | KX-T7440 | DSS Console (66-DSS) |
| | KX-T7441 | DSS Console with ANSWER and RELEASE buttons (48-DSS) |
| | KX-T7340 | DSS Console (32-DSS, 16-PF) |
| | KX-T7240 | DSS Console (32-DSS, 16-PF) |
| | KX-T7040 | DSS Console (32-DSS, 16-PF) |
| | KX-TDA0142CE | 4 Channel Cell Station (DECT) |
| | KX-TDA0142 | 3 Channel Cell Station (2.4 G) |
| | KX-TD7580 | DECT Portable Station |
| | KX-TD7590 | DECT Portable Station |
| | KX-TD7690 | 2.4 G Portable Station |
| | KX-T30865 | Doorphone |
| | KX-T7090 | Headset |
| | KX-A228 | Battery Cable for S-type and M-type power supply units |
| | KX-A229 | Battery Cable for L-type power supply unit |
| | KX-T7601 | USB Expansion Card |
| | KX-T7603 | Function Key Expansion Charger |

Note

- CO : Trunk button
DSS : Direct Station Selection button
PF : Programmable Feature button

Note

- The following old models are not supported by KX-TDA100/KX-TDA200.
- KX-T308xx series PT, DSS console
 - KX-T616xx series PT, DSS console
 - KX-T1232xx series PT, DSS console

Note

- This product is designed to interwork with the:
 - Pan-European Integrated Services Digital Network (ISDN) using ISDN basic rate access
 - Pan-European Integrated Services Digital Network (ISDN) using ISDN primary rate access
 - Spanish analogue Public Switched Telephone Network (PSTN)

Important Safety Instructions

SAFETY REQUIREMENTS

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- 1.** Read and understand all instructions.
- 2.** Follow all warnings and instructions marked on the product.
- 3.** Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 4.** Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
- 5.** Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
- 6.** Slots and openings in the cabinet and the back or bottom are provided for ventilation, to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on the bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
- 7.** This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
- 8.** This product is equipped with a three wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
- 9.** Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by people walking on it.
- 10.** Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
- 11.** Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
- 12.** To reduce the risk of electric shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.
- 13.** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a)** When the power supply cord or plug is damaged or frayed.
 - b)** If liquid has been spilled into the product.
 - c)** If the product has been exposed to rain or water.

- d) If the product does not operate normally by following the operating instructions. Adjust only those controls, that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - e) If the product has been dropped or the cabinet has been damaged.
 - f) If the product exhibits a distinct change in performance.
- 14.** Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- 15.** Do not use the telephone to report a gas leak in the vicinity of the leak.

SAVE THESE INSTRUCTIONS

Precaution

- Keep the unit away from heating appliances and electrical noise generating devices such as fluorescent lamps, motors and television. These noise sources can interfere with the performance of the Hybrid IP PBX.
- This unit should be kept free of dust, moisture, high temperature (more than 40 °C) and vibration, and should not be exposed to direct sunlight.
- Never attempt to insert wires, pins, etc. into the vents or other holes of this unit.
- If there is any trouble, disconnect the unit from the telephone line. Plug a single line telephone into the telephone line. If the telephone operates properly, do not reconnect the unit to the line until the trouble has been repaired by an authorized Panasonic Factory Service Center. If the telephone does not operate properly, chances are that the trouble is in the telephone system, and not in the unit.
- Do not use benzine, thinner, or the like, or any abrasive powder to clean the cabinet. Wipe it with a soft cloth.

WARNING

THIS UNIT MAY ONLY BE INSTALLED AND SERVICED BY QUALIFIED SERVICE PERSONNEL.

WHEN A FAILURE OCCURS WHICH RESULTS IN THE INTERNAL PARTS BECOMING ACCESSIBLE, DISCONNECT THE POWER SUPPLY CORD IMMEDIATELY AND RETURN THIS UNIT TO YOUR DEALER.

DISCONNECT THE TELECOM CONNECTION BEFORE DISCONNECTING THE POWER CONNECTION PRIOR TO RELOCATING THE EQUIPMENT, AND RECONNECT THE POWER FIRST.

THIS UNIT IS EQUIPPED WITH AN EARTHING CONTACT PLUG. FOR SAFETY REASONS THIS PLUG MUST ONLY BE CONNECTED TO AN EARTHING CONTACT SOCKET WHICH HAS BEEN INSTALLED ACCORDING TO REGULATIONS.

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

THE POWER SUPPLY CORD IS USED AS THE MAIN DISCONNECT DEVICE, ENSURE THAT THE SOCKET-OUTLET IS LOCATED/INSTALLED NEAR THE EQUIPMENT AND IS EASILY ACCESSIBLE.

The serial number of this product may be found on the label affixed to the bottom of the unit. You should note the model number and the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid in identification in the event of theft.

MODEL No.:

SERIAL No.:

For your future reference

DATE OF PURCHASE _____

NAME OF DEALER _____

DEALER'S ADDRESS _____

DEALER'S TEL. NO. _____

Introduction

This Installation Manual is designed to serve as an overall technical reference for the Panasonic Hybrid IP PBX, KX-TDA100/KX-TDA200. It provides instructions for installing the hardware, and programming the system using the Maintenance Console software for a Personal Computer.

The Structure of This Manual

This manual contains the following sections:

Section 1 System Outline

Provides general information on the system including system capacity and specifications.

Section 2 Installation

Contains the basic system installation and wiring instructions, as well as how to install the optional cards and units including environmental requirements.

Section 3 Maintenance Console Guide

Explains the structure of the Maintenance Console software and the basic information you need.

Section 4 Troubleshooting

Provides information for system and telephone troubleshooting.

About the Other Manuals

Along with this Installation Manual, the following manuals are available:

Features Guide

Describes every basic, optional and programmable features of the KX-TDA100/KX-TDA200.

User Manual

Provides operating instructions For the end users using Proprietary Telephones (PTs), Single Line Telephones (SLTs) or DSS Consoles.

Programming Guide

Describes step-by-step instruction for performing system programming using a proprietary telephone.

Telephone Company and F.C.C. Requirements and Responsibilities

Telephone Company and F.C.C. Requirements and Responsibility

1. Notification to the Telephone Company

Customers, before connecting terminal equipment to the telephone network, shall upon request of the Telephone Company, inform the Telephone Company of the particular line(s) to which such connection is made, the F.C.C. registration number (see the label on the bottom of the unit) and ringer equivalence number (REN) of the registered terminal equipment.

The REN is useful in determining the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). 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 determine the maximum REN for your calling area.

2. Connection to Telephone Line

This unit must not be connected to a coin operated line. If you are on a party line, check with your local telephone company.

3. Incidence of Harm to the Telephone Lines

Should terminal equipment cause harm to the telephone network, the telephone company shall, where practical, notify the customer that temporary discontinuance of service may be required. However, where prior notice is not practical, the telephone company may temporarily discontinue service forthwith, if such action is reasonable in the circumstances. In case of such unnotified temporary discontinuance of service, the telephone company shall:

- 1) Promptly notify the customer of such temporary discontinuance of service.
- 2) Afford the customer the opportunity to correct the situation which gave rise to the temporary discontinuance.
- 3) Inform the customer of the right to bring a complaint to the Federal Communication Commission pursuant to the procedures set out in Subpart E of Part 68 of FCC Telephone Equipment Rules.

4. Compatibility of the Telephone Network and Terminal Equipment

a) Availability of telephone interface information.

Technical information concerning interface parameters and specifications not specified in FCC Rules, including the number of Ringers which may be connected to a particular telephone line, which is needed to permit Terminal Equipment to operate in a manner compatible with Telephone Company communications facilities, shall be provided by the Telephone Company upon customer's request.

b) Changes in Telephone Company Communications Facilities, Equipment, Operations and Procedures.

The Telephone Company may make changes in its communications facilities, equipment, operations or procedures, where such action is reasonably required in the

operation of its business and is not inconsistent with the rules and regulations in FCC Part 68.

If such changes can be reasonably expected to render any customer Terminal Equipment incompatible with Telephone Company Communications Facilities, or require modification or alteration of such Terminal Equipment, or otherwise materially affect its use or performance, the customer shall be given adequate notice in writing, to allow the customer an opportunity to maintain uninterrupted service.

Notify the Telephone Company

Installation must be performed by a qualified professional installer. If required, provide the telephone company with the following technical information:

- Telephone numbers to which the system will be connected
- Make: Panasonic
- Model: KX-TDA100 and KX-TDA200
- FCC Registration No.: found on the side of the unit
- Ringer Equivalence No.:
- Facility Interface Code:
- Service Order Code:
- Required Network Interface Jack:

Note

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

CAUTION

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

When programming emergency numbers and / or making test calls to emergency numbers:

- 1. Remain on the line and briefly explain to the dispatcher the reason for the call before hanging up.*
- 2. Perform such activities in the off-peak hours, such as early morning hours or late evenings.*

For Cell Station

CAUTION

Any changes or modifications not expressly approved by the party responsible for compliance could void user's authority to operate this device.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Some wireless telephones operate at frequencies that may cause interference to nearby TVs and VCRs. To minimize or prevent such interference, the base of the wireless telephone should not be placed near or on top of a TV or VCR. If interference is experienced, move the wireless telephone further away from the TV or VCR. This will often reduce, or eliminate, interference. Operating near 2.4 GHz electrical appliances may cause interference. Move away from the electrical appliances and/or press the CH(Channel) button.

CAUTION

To comply with with FCC RF exposure requirements, the base unit should be installed with its antenna located at 20 cm or more from persons.

• **Medical** – *consult the manufacturer of any personal medical devices, such as pacemakers, to determine if they are adequately shielded from external RF(radio frequency) energy. (The unit operates in the frequency range of 2401 MHz to 2480 MHz, and the power output level can range from 0.004 watts to 0.4 watts.) Do not use the unit in health care facilities if any regulations posted in the area instruct you not to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF(radio frequency) energy.*