

Panasonic®



Sales Guide

KX-TES824
KX-TEM824



Advanced Hybrid System

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Listed below are the abbreviations used in this sales guide.

AA: Automated Attendant	DTMF: Dual Tone Multi-Frequency
APT: Analogue Proprietary Telephone	ITS: Integrated Telephone System
BLF: Busy Lamp Field	LCD: Liquid Crystal Display
BSS: Busy Station Signalling	OGM: Outgoing Message
BV: Built-in Voice Message	PT: Proprietary Telephone
CO: Central Office (Line)	SLT: Single Line Telephone
COS: Class of Service	SMDR: Station Message Detail Recording
CPC: Calling Party Control	SMS: Short Message Service
DIL: Direct in Line	TAM: Telephone Answering Machine
DISA: Direct Inward System Access	UCD: Uniform Call Distribution
DND: Do Not Disturb	VPS: Voice Processing System
DSS: Direct Station Selector	

Superior Call-handling Efficiency

- 3-level Automatic Reception with Voice Guidance directs the caller to an appropriate section.
- DISA function plays customers a message before caller dials required extension or department directly.
- Fax tone detection automatically sends fax calls to fax extensions.
- Built-in Voice Message (BV) lets callers leave messages to personal / PBX's common message area.
- Uniform Call Distribution (UCD) where calls are distributed to a group of extensions.

Caller ID

- Optional module allows identifications of caller's numbers / names on proprietary telephones and single line telephones.

Flexible Design

- Supports variety of communication devices and proprietary telephones.
- Ease of system expansion with optional cards.

Economical Cost Management

- Call Activity Reports to monitor phone usage.
- Account code entry to identify outgoing calls for billing and call accounting.
- Toll restriction to minimize unauthorized calls.

Ease of Maintenance

- Program and maintenance can be done quickly and easily by proprietary telephone and PC.
- Maintenance Console software for easy operation.

Makes Communications Easy

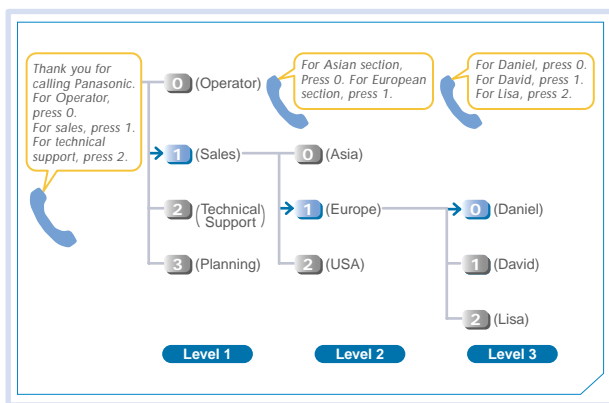
- Smart-looking telephones with programmable keys with Dual Colour LED, Navigator Key, and Tilt Angle Adjustment.

3-level Automatic Reception with Voice Guidance

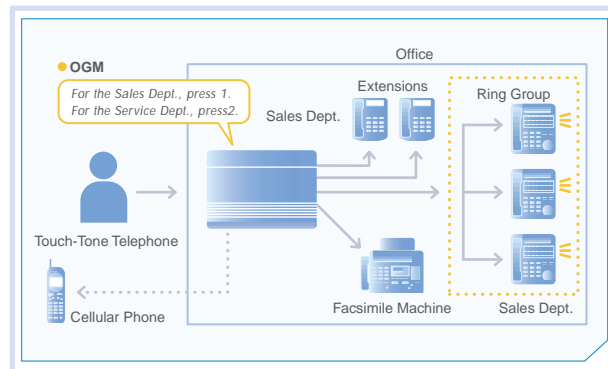
- More efficient handling of incoming calls.
- Callers can call after-hours and still access desired extensions.
- Shares the operator load.

3-level Automated Attendant (AA) service allows a caller to dial a single-digit number following the guidance of 3-level DISA* outgoing messages, and be directed to the appropriate section without having to go through an operator.

*DISA (Direct Inward System Access)



DISA (Direct Inward System Access) with message



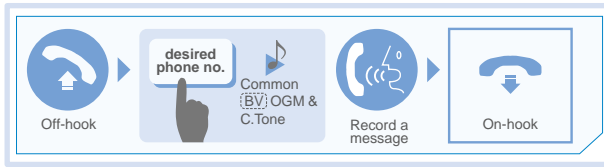
This feature allows outside callers to access any extension without having to go through an operator. Callers can dial the desired destination such as an extension or Ring Group⁺, or even outside lines. Greeting messages can be recorded by the operator or manager. One message may be used in day mode and the other in night mode, or they can be used for different outside (CO) lines. When the system receives a fax transmission signal by DISA, it automatically connects the specified fax extension (**Automatic Fax Transfer**). Fax calls can be received day or night without an operator and there is no need for a special fax phone line.

⁺All phones in the group will ring simultaneously, allowing any member of the group to answer the call.

(1) Callers can access an extension using a 1 digit number (DISA built-in auto attendant number). The system can store up to 10 numbers.

(2) This system can store up to 4 programmable DISA security codes which prevent the caller from making unauthorised calls.

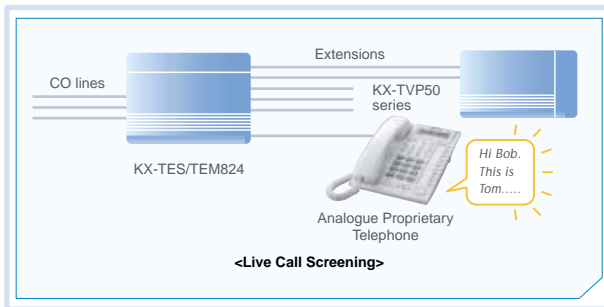
Built-in Voice Message (BV)*



* An optional voice message card is required.

Customise your mailbox by recording your own greeting messages that are played when you can't answer your phone. Your callers can record their messages directly into your personal mailbox, allowing you to receive private information without relying on hand-written notes and memos. Call Centres and Workgroups can use the common message area for recording caller messages that can be played back later by an operator or group member. **For more advanced voice messaging needs, a Panasonic Voice Processing System (VPS) gives you even more professional flexibility and control.**

Voice Mail Integration (DTMF/APT)



Allows you to use a Voice Processing System to forward your calls to a mailbox in the system. A caller can leave a message in your mailbox. Customisable service settings allow you to assign major functions to telephone keypad buttons. For example, after hearing an opening greeting, a caller can navigate through various menus in one of several languages. He can be routed to the appropriate department, suitable mailboxes, or a fax machine, or he can listen to up-to-date information.

When this system is digitally integrated with APT, there are a number of enhanced facilities available.

- Live Call Screening (LCS)

When the LCS mode is activated, you can monitor incoming calls and decide whether or not to take a call.

- Two-Way Recording

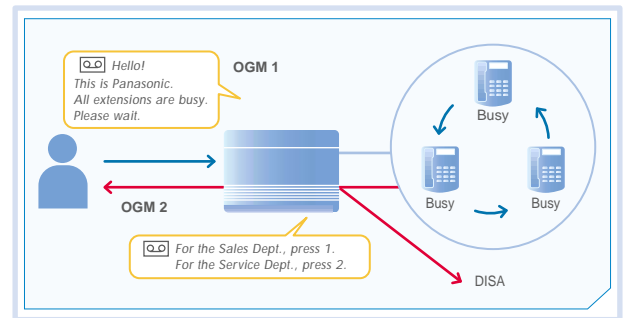
By pressing a Two-Way Recording button, your conversation will be recorded into your personal mailbox for future reference. You may record important conversations or important numbers into your mailbox.

- Two-Way Transfer

During a conversation, you can record the conversation in another person's mailbox.

UCD (Uniform Call Distribution) with message

- Improves the company image.
- Important business calls will not be missed.
- Shares the operator load.

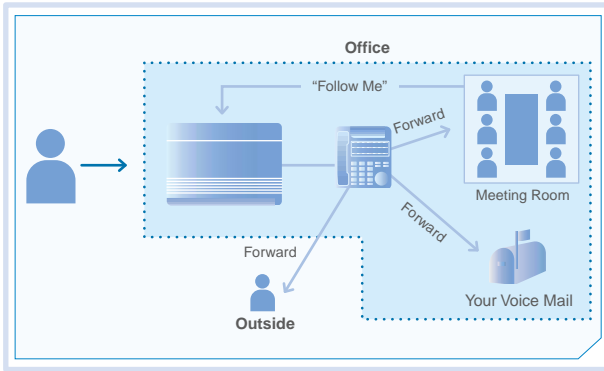


[UCD Hunting routes the call systematically until it finds an idle extension.]

For handling many incoming calls quickly and efficiently, this feature allows incoming calls to be distributed uniformly to a group of extensions. If all stations in the UCD group are busy, the system will play a message to the caller, acting like a receptionist. If still the UCD group remains busy, the call can be directed to the DISA feature and the caller hears a DISA OGM. This is especially useful for an office where many calls arrive at a group and there is only one person to take calls (queuing feature).

Call Forwarding (Busy/No Answer/Follow-Me/to Outside)

- Important business calls will not be missed.



Incoming, intercom and transferred calls to your extension can be forwarded to another destination when you are on the phone or away from your desk. Calls can be directed to a pre-programmed number, such as your mailbox, another phone, or even outside your office, improving efficiency and overall customer service.

The following types are available.

All Calls : All incoming calls are forwarded to another extension.

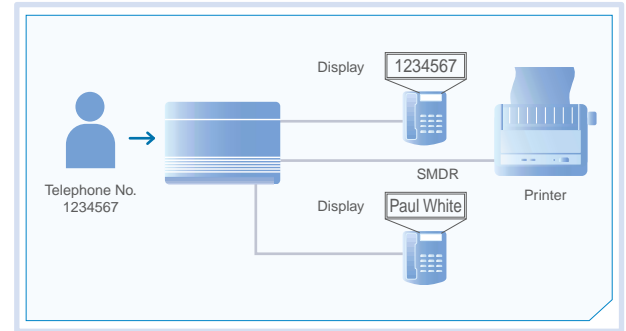
Busy or No Answer : All incoming calls are forwarded to another extension when the extension user does not answer within the programmed time or when the extension is busy.

To Outside (CO) Line : Allows an extension user to forward all incoming calls to an external party.

Follow Me : Allows you to remotely set Call Forwarding from another phone within your office (eg. meeting room), so calls to your extension will reach you while you are away from your desk.

Caller ID Display on SLT and APT*

- Caller Recognition.
- Better Call Management.



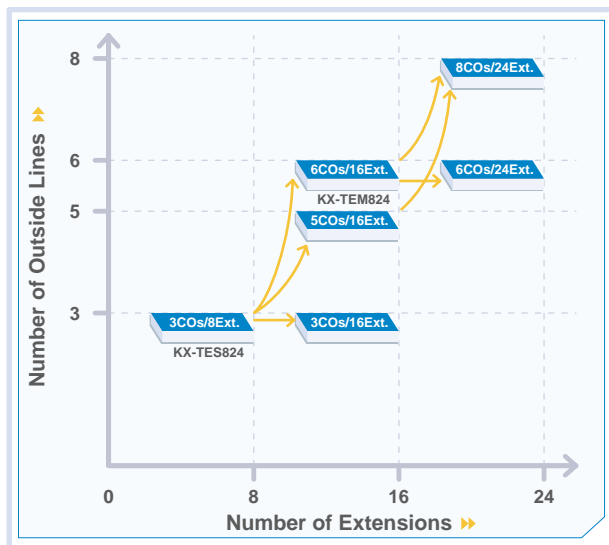
The system is compatible with Caller ID, which allows a user to see the caller's information on Single Line Telephones (SLTs)* and Analogue Proprietary Telephones (APTs). An assigned name in program "System Speed Dialling Name Setting" will be displayed when the caller's telephone number matches one of System Speed Dialling numbers assigned in program "System Speed Dialling Entry". Proprietary display telephones can be used to access the Caller ID log for the 20 most recent calls (Call Log). And the system has 300 common logs. The logged incoming calls can be called back easily.

* An optional card is required.

Please contact your dealer or phone company to confirm if the Caller ID service is available in your area.

*SLT that supports Caller ID is required.

Simple Expansion



Panasonic offers you unprecedented flexibility and simple expansion with optional cards. By adding optional cards, you can expand the system up to 8 COs / 24* extensions to meet your changing needs. No additional programming and costly rewiring are required.

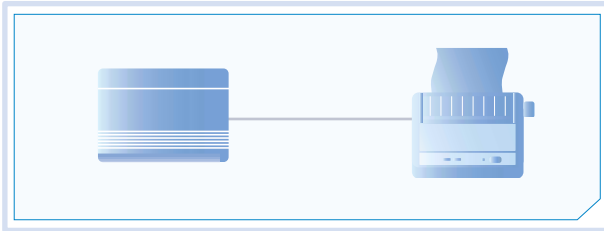
* 8 of the extensions are ports used for Single Line Telephones.

Hybrid System



The system allows you to integrate a wide range of communication equipment and proprietary telephones. Every "Hybrid" extension port can accommodate analogue proprietary telephones as well as any single-line device (such as a Panasonic ITS, fax machine, answering machine, cordless phone, computer modem, etc.) Additional cards or wiring are not required.

Calling Activity Reports (SMDR : Station Message Detail Recording)



Station Message Detail Recording (SMDR) automatically prints out detailed call information for outside calls. A printer connected to the Serial Interface (RS-232C) port can be used to print incoming and outgoing outside calls, as well as print a hard copy of system programming.

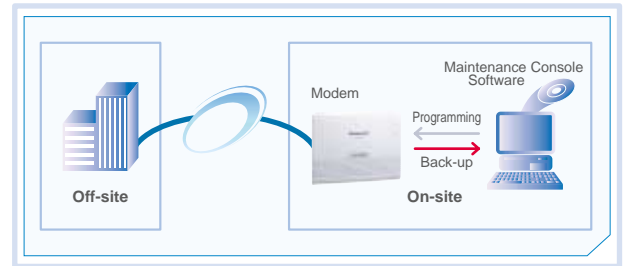
The following information is printed out.

- | | |
|----------------------|-------------------------------|
| (1) Date | (5) Number dialled / received |
| (2) Time | • Outgoing call |
| (3) Extension number | • Received call |
| (4) CO line number | • UCD waiting call |
| | (6) Duration |
| | (7) Account Code |

This system can store information of up to 64 calls. SMDR information can help you manage long distance call costs, staff productivity and phone system usage.

Account codes can be used to identify outgoing external calls for accounting and billing purposes. A person dialling a long distance number must enter a valid account code to temporarily override toll restriction (Verified Account Code Entry). The calling activities made with an ID code can be printed out (SMDR). Account codes and SMDR can be used to manage your telephone costs more effectively.

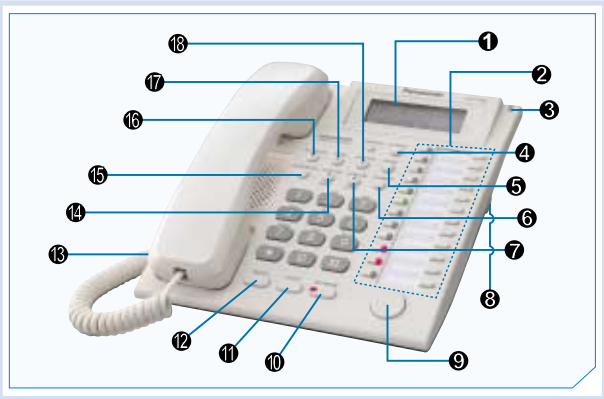
PBX features and settings can be customised using a PC and the KX-TE Maintenance Console Software.



- Customisation and maintenance can be done easily and efficiently using Windows-based PC programming software, with graphical icons to guide you.
- Programming can be performed both on-site, using a PC connected directly to the PBX, and off-site, by accessing the PBX via modem. This allows settings to be changed quickly to meet user's needs, locally or remotely.
- PBX settings can be downloaded from the PBX to a PC. The saved data can act as a backup, to protect against unexpected loss of PBX setting data.

And of course, the familiar Panasonic PT programming interface is also available, allowing you to quickly program the system using a PT.

KX-T7735 Display, Speakerphone Unit



- 1** Alphanumeric LCD

3 lines with 16 characters display provides useful information such as Absent Messages, call status, date and time, call duration, and Caller ID*.
- 2** 12 Programmable Keys with Dual Colour LED (Red/Green)

Programmable Feature (PF) Keys

Enjoy one-touch operation of features such as Direct Station Selection (DSS), Log-In/Log-Out, or voice mail transfer. Dual-colour LEDs show convenient information. A Busy Lamp Field (BLF) shows which extensions are in use.
- 3** Incoming Call/Message Lamp

This large, easy-to-see lamp announces incoming calls or messages, so you'll always know whose telephone is ringing – even from a distance.
- 4** Message

Use to leave a message-waiting indication, or to reply to one.
- 5** Pause

Inserts a pause in speed-dial numbers.
- 6** Transfer

For transferring calls to another extension or to voice mail.
- 7** Auto Dial/Store

For use with speed-dialling.
- 8** Tilt-Angle Adjustment

The telephone adjusts to either of two angles for easier use and a smaller, space-saving footprint.
- 9** Navigator Key

For quick adjustment of the volume and display contrast.
- 10** Speakerphone for Hands-Free Convenience

Dial or talk without picking up the handset.
- 11** Hold

Places a call on hold.
- 12** Redial

For redialling.
- 13** Headset Jack

Talk while using your keyboard.
- 14** Auto Answer/Mute

Auto Answer: For use with intercom calls.

Mute: Listen in without being heard.
- 15** Flash/Recall




Use to disconnect a call without hanging up, then to reconnect.
- 16** Intercom

Use to or receive an intercom call.
- 17** Conference

For making multi-party calls.
- 18** Call Forwarding/Do Not Disturb

Call forwarding transfers calls to a different telephone. The "Do Not Disturb" function blocks calls when you're busy.

*An optional card is required. Please contact your dealer or phone company to confirm if the Caller ID service is available in your area.

			
Feature \ Model	KX-T7730	KX-T7720	KX-T7750
Alphanumeric Display (Lines x Characters)	1 x 16	—	—
Programmable Keys with Dual Colour LED	12	12	12
Feature Access Keys for LCD	Navigator Key		
Hands-Free Speech	●	●	Monitor
SP-Phone (Monitor) Volume Control	Navigator Key	Up/Down Key	Up/Down Key
Handset Volume Control	Navigator Key	Up/Down Key	Up/Down Key
Ringer Volume Control	Slide Switch (Off/Low/High)	Slide Switch (Off/Low/High)	Slide Switch (Off/Low/High)
Contrast Control	Navigator Key	—	—
Incoming Call/Message Lamp	●	●	●
Auto Answer/Mute	●	●	—
Voice Call	—	—	●
Headset Compatible*	●		

*Only a 2.5 mm pin jack is connectable. The use of KX-TCA87 is recommendable.

Absent Message Capability (Showing Your Message on the Calling Party's Display)

This allows an extension user to set a message which will be displayed at the calling extension to show the reason for their absence. Six messages can be programmed as desired, which are available for any telephone (single line telephone or proprietary telephone). Setting or cancelling a message can be done by individual extension users but only callers with a LCD proprietary telephone can see the message.

The 6 messages are shown below. "%" means a parameter to be entered when assigning a message at an extension.

- (1) Will Return Soon
- (2) Gone Home
- (3) At Ext %%% (extension number)
- (4) Back at %:%:% AM (or PM) (hour : minute)
- (5) Out Until %% / %% (month / day)
- (6) In a Meeting

Account Code Entry (Calling with Account Codes)

An account code is used to identify incoming and outgoing outside calls for accounting and billing purposes. This feature gives each message on the SMDR the account code of the called and calling party.

- (1) **Option** : When the user wants to make a record, a 4 digit code may be entered during a conversation or within 30 seconds after a conversation, when a record is needed.
- (2) **Forced** : A 4 digit code must be entered within 5 seconds after an outside (CO) line is seized. The code can be any number.
- (3) **Verify - All** : Enables making an outside call within 5 seconds after an outside (CO) line is seized, if the entered code is the same as one of the programmed account codes.
- (4) **Verify - Toll** : Enables to make an outside call on a class of service (COS) basis. It depends on the code entered within 5 seconds after an outside (CO) line is seized. If it is the same as one of the programmed account codes, the call is made with the COS number 2. If an account code is not entered, the call is attempted with the caller's assigned COS.

Alternate Calling - Ring / Voice (Voice to Ring Only)

This system offers a proprietary telephone user 2 types of intercom calling, Voice Call mode and Tone (ring) Call mode. "Voice Call" informs the called party of an incoming call with the calling party's voice, while "Tone Call" uses a ring tone. A proprietary telephone user can select "Voice Call" or "Tone Call" in the proprietary telephone settings.

Automatic Callback Busy (Camp-On) (Making Your Telephone Ring Back Automatically When a Line Becomes Free)

When the selected outside (CO) line or dialled extension is busy, the system will automatically notify the extension user by callback ringing when it becomes available.

Automatic Configuration for Outside (CO) Line Type

The dialling mode of connected outside (CO) lines is automatically configured the first time the PBX is accessed with a PC using the KX-TE Maintenance Console Software, or after the PBX data has been cleared.

Busy Station Signalling (BSS) (Sending a Call Waiting Tone to a Busy Extension)

When an extension user calls a busy extension, the busy extension user will hear a Call Waiting tone to know that a call is waiting.

Calling Party Control (CPC) Signal Detection

The Calling Party Control (CPC) signal is a disconnect signal sent from the Central Office for an outside call.

Call Park (Placing a Call in the System Parking Area)

Allows an extension user to place a held call into a system parking area. Any extension user can retrieve the parked call to perform other operations. Up to 10 calls can be parked at the same time.

Call Pickup

(Picking up a Call Ringing at Another Extension)

Directed Call Pickup : Allows an extension user to answer a call ringing at any other extension.

Group Call Pickup : Allows an extension user to answer a call ringing at another extension, if the call is ringing within the user's extension group.

Call Pickup Deny : Allows an extension user to prevent other extensions from picking up a call ringing at the user's extension with the Call Pickup feature.

Call Retrieving from a TAM (Telephone Answering Machine) : Allows an extension user to answer an incoming call received by a TAM extension.

Call Routing for Fixed Line SMS (Short Message Service)

The system can route incoming calls sent from SMS centre to specific SLTs that support SMS.

Using SMS-enabled Panasonic SLTs are recommended.

Call Splitting

Allows an extension user to talk to 2 different parties. If a call is received while the user is already on the line, the user can place the current call on hold and have a conversation with the other party. This feature is not available during a doorphone call, paging or 5-party conference.

Call Transfer - to Extension

Allows an extension user to transfer a received call, an intercom or outside call, to another extension. Two types are available.

Screened Call Transfer : Announces the call to the other extension before completing the transfer.

Unscreened Call Transfer : Immediately releases the caller to the other extension without an announcement.

Call Transfer - to Outside (CO) Line

Allows an extension user to transfer a received call, an intercom or outside call, to an external party.

Call Waiting

During a conversation, a Call Waiting tone informs the extension user that there is a call waiting. The user can answer the second call by disconnecting the first call or placing it on hold.

Conference (5-party)

Up to 2 external parties can participate in a conference call. All 5 parties can be extensions.

Conference, Unattended (3-party)

When a proprietary telephone user is in a 3-party conference with 2 external parties, the user can leave the conference to allow the other 2 parties to continue the conversation. The user may return to the conference, if desired.

Data Line Security

Allows an extension user to be protected against interruptions from the Call Waiting and Executive Busy Override features. This feature also protects the user from a ring tone or alarm tone generated when a call is kept waiting longer than a pre-determined time. Data communication devices, such as computers and facsimiles, connected to an extension jack can operate without interruptions.

Direct In Line (DIL)

Enables an incoming outside call to go directly to a specified extension. The outside (CO) line can be used by multiple extension users to make a call, but can only be used by one extension to receive a call. DIL can have a different destination in the day, night and / or lunch modes.

Distinctive Dial Tones

An extension user will hear 5 types of dial tone patterns which give information about the features activated on the telephone.

Do Not Disturb (DND) (Rejecting Incoming Calls)

Allows an extension user to prevent other parties from disturbing the user. The extension will not receive intercom or outside calls.

Do Not Disturb (DND) Override

Allows an extension user to call an extension which has set the Do Not Disturb (DND) feature.

Doorphones, Door Openers and Doorbells

Up to 4 Doorphones can be installed. If a visitor presses the doorphone button, pre-assigned extension users can answer the call and talk to the visitor. Any extension user can call a doorphone. Standard doorbells can also be connected to the system to indicate doorphone calls with the familiar chime sound. The doorphones are also used for the Room Monitor feature. An optional Doorphone / Door Opener card must be installed to the system and a doorphone. Doorphones 1 and 2 cannot be used simultaneously. When one is in use, an extension user cannot have a conversation with the other. This is the same for Doorphones 3 and 4. Up to 4 Door Openers can be connected to the system.

DSS Console

The Direct Station Selection (DSS) Console provides direct access to extensions, a busy lamp display, as well as 16 PF (Programmable Feature) buttons. The DSS Console must be programmed to work with a proprietary telephone (PT). Up to 2 consoles can be installed per system.

Emergency Call

Allows an extension user to access a pre-assigned emergency number which can be dialled regardless of any restrictions. Up to 5 emergency numbers can be stored.

Executive Busy Override (Interrupting an Existing Call)

- **Executive Busy Override - Extension**

Allows an extension user to interrupt an existing intercom call. A 3-party conference will be established.

- **Executive Busy Override - Outside (CO) Line**

Allows a proprietary telephone user to interrupt an existing outside call or add a third party to the user's conversation.

A 3-party conference will be established.

- **Executive Busy Override Deny**

Allows an extension user to prevent other extension users from interrupting their conversation.

Extension Group

The system supports 8 extension groups. In an extension group, the following features can be activated.

Group Call Pickup : Any member of an extension group can pick up a call directed to another member in the same group.

Paging - Group : Any member of an extension group can make a voice announcement to another group member.

A hunting group, DISA ring group or UCD group is a specific extension group.

Extension Password/System Password

The extension password assigned to each extension by the manager (extension jack 01) can be used for the Toll Restriction Override by Extension Password and Walking COS features. The system password is used for entering System Programming and also before assigning the extension password.

External Feature Access

Allows an extension user to access special features (e.g. Call Waiting) offered by the Central Office or host PBX. This is performed by placing the current call on hold and sending a flash signal using either the FLASH button or the feature number. This feature is effective only during an outside call.

Flexible Extension Numbering

The numbering plan for extensions and feature commands can be adjusted according to your needs.*

Plan 1 : 100~199

Plan 2 : 100~499

Plan 3 : 10~49

*This numbering plan varies depending on the country.

Handsfree Answerback

Allows a user with a speakerphone proprietary telephone to answer an intercom call without lifting the handset. This feature is performed by pressing the AUTO ANSWER / MUTE or AUTO ANS / MUTE button.

Intercept Routing

Provides automatic redirection of incoming outside calls via the DISA or UCD feature. The Intercept Routing feature works in the following 2 cases.

- (1) **No Dial** : After hearing a dial tone (short beep) or a DISA outgoing message (OGM), if the caller does not dial anything or enters an unrecognised input, the call is redirected to preprogrammed intercept destinations in the following priority: DISA IRNA to BV – Day/Night/Lunch → Flexible Ringing – Day/Night/Lunch
- (2) **Intercept Routing – No Answer (IRNA)** : If a called party does not answer a call within a preprogrammed time period, the call is redirected to preprogrammed intercept destinations in the following priority: DISA IRNA to BV – Day/Night/Lunch → Flexible Ringing – Day/Night/Lunch

Intercom Calling

Allows an extension user to make a call to another extension.

Limited Call Duration

The system disconnects 2 types of outside outgoing calls when a pre-programmed time expires. One is a call with an external party. The other is an outside - to - outside (CO-to-CO) call using the Call Forwarding - to Outside (CO) Line, Call Transfer - to Outside (CO) Line, Unattended Conference feature, or DISA feature. An alarm tone will be sent to both parties 15 seconds before the assigned time limit. Limiting the time of the call can be assigned through system programming (1 ~ 32 minutes).

Log-In / Log-Out

(Joining or Leaving a Call Distribution Group)

Allows an extension user to join (Log-In) or leave (Log-Out) a hunting, DISA ring or UCD group temporarily. Extensions in the log-out mode will not receive calls by Station Hunting, DISA or UCD but will receive other calls, unlike the Do Not Disturb (DND) feature. The Log-In / Log-Out button can be assigned to a flexible button in the proprietary telephone settings.

Message Waiting

(Leaving a Message Notification)

Allows an extension user to notify the called extension of a message waiting when the called extension is busy or does not answer the call. Only proprietary telephone users with a MESSAGE button can know there is a message waiting if the LED on the MESSAGE button lights red. Pressing the lit MESSAGE button can call back the called party. The messages which are stored in the mailbox of the Voice Processing System can also be heard by following the Voice Mail prompts after pressing the lit MESSAGE button (Voice Mail Integration). The system supports a maximum of 8 simultaneous messages. The MESSAGE button is also used to Built-in Voice Message (BV) features.

Music on Hold / Background Music (BGM)

While an external party is on hold, music is generated automatically.

One-Touch Dialling

Allows a proprietary telephone user one-touch access to a desired party or system feature. This is done by storing an extension number, telephone number or feature number (up to 24 digits) in a One-Touch Dialling button. One-Touch Dialling buttons can be assigned to flexible buttons in the proprietary telephone settings.

Outgoing Message (OGM)

Allows the extension assigned as the operator or manager to record up to 32 outgoing voice messages (maximum 360 seconds). This message is played when a caller accesses the DISA or UCD feature.

The following are some OGM examples.

■ Uses the OGM for 3-level Automated Attendant Service

- Level 1 OGM : "This is A company. For operator, press 0.
For the sales division, press 1. For the service division, press 2."
- Level 2 OGM : "This is the sales division. For Asia group, press 1.
For Europe, press 2."
- Level 3 OGM : "For Daniel, press 1. For David, press 2.
For Lisa, press 3."

■ **Uses the OGM in the day, lunch, night, and various modes (OGM for DISA)**

Day OGM : "This is A company. For operator, press 0.
For the sales division, press 1. For the service division, press 2."

Lunch OGM : "We are sorry but now is lunch time.
Please call back later."

Night OGM : "Our office hour is 9 AM to 6 PM.
Please call back tomorrow."

Holiday OGM : "We are sorry but our office is closed today."

■ **Uses a different OGM when the line is busy (OGM for DISA)**

DISA OGM : "This is A company. For operator, press 0.
For the sales division, press 1. For the service division, press 2."

DISA OGM : "We are sorry. The line is currently busy.
If you want to call the operator, press 0."

■ **Uses the DISA feature when none of the extensions in the UCD group can answer a call (OGM for UCD and DISA)**

UCD OGM : "We are sorry. The line is currently busy.
Please hold."

DISA OGM : "This is A company. For operator, press 0.
For the sales division, press 1. For the service division, press 2."

■ **Uses the OGM for Personal, Common BV**

Personal BV OGM : "Hello, this is 204. Please leave your message after the beep."

Common BV OGM : "Thank you for calling. This is Panasonic.
Our office is closed today. Please leave a message after the beep."

Paging

Allows an extension user to make a voice announcement to several people at the same time. The message is announced over the built-in speakers of proprietary telephones and/or the external pager. The paged person can answer the page (Answering a Page) from any extension within the system. The following types are available.

- (1) **All Extensions** : Makes a voice announcement to all extensions over the built-in speakers of proprietary telephones.
- (2) **Group** : Makes a voice announcement to the designated extension group over the built-in speakers of proprietary telephones.
- (3) **External** : Makes a voice announcement over the external pager.
- (4) **All Extensions & External** : Makes a voice announcement to all extensions over the built-in speakers of proprietary telephones and the external pager.

Parallel Telephone Connection

Any analogue proprietary telephone can be connected in parallel with a single line device, such as single line telephone, facsimile and data terminal.

Pickup Dialling (Hot Line)

Allows a single line telephone user to make an outgoing call by going off-hook, if the user has stored the telephone number (up to 32 digits) beforehand. This feature is also known as Hot Line.

Polarity Reverse Detection

The circuit in the system can detect an outside (CO) line polarity reverse signal from the Central Office when trying to make an outside call. This detects the start (a called party goes off-hook) and end (the called party goes on-hook) of an outgoing outside call. The conversation time can be verified on the SMDR printout using this feature. When an outside call is received, the circuit can also detect the polarity reverse signal before ringing.

Power Failure Transfer

During a power failure, specific extension telephones are automatically connected to specified outside (CO) lines. This provides outside (CO) line conversations between the following extensions and outside (CO) lines.

Outside line 1 : extension jack number 01

Outside line 4 : extension jack number 09

Outside line 7 : extension jack number 17

A single line telephone (SLT) can work during a power failure.

Connect a SLT to the one of the above extension jacks.

Preferred Line Assignment

-Incoming

A proprietary telephone user can select the method to answer incoming outside calls from the following 3 line preferences.

- (1) **No Line Preference** : When an incoming call is received, the extension user must go off-hook and then press the flashing CO button.
- (2) **Prime Line Preference** : When incoming calls are received at the same time, the user can receive the call on the preferred outside (CO) line by only going off-hook.
- (3) **Ringing Line Preference** : When an incoming call is received, the user can receive the call ringing at their telephone by going off-hook.

-Outgoing

A proprietary telephone user can select the desired outgoing line preference to make outside calls from the following 3 line preferences.

- (1) **Idle Line Preference** : When the user goes off-hook, they are connected to an idle line. An idle line is automatically selected from the pre-assigned lines.
- (2) **Prime Line Preference** : When the user goes off-hook, they are connected to the pre-assigned line. Assign one prime line beforehand.
- (3) **No Line Preference** : No line is selected when the user goes off-hook. They must select a line to make a call.

Pulse to Tone Conversion

Allows an extension user to change the dialling mode from Pulse to Tone after entering a telephone number to access services, such as computer telephone services or Voice Mail, which require tones.

Redial

<Automatic> Allows a proprietary telephone user to redial the last number dialled, and saved number by the Saved Number Redial feature automatically. This is done by pressing the SP-PHONE or MONITOR button and corresponding button. Redial will be repeated automatically the assigned number of times until the called party answers.

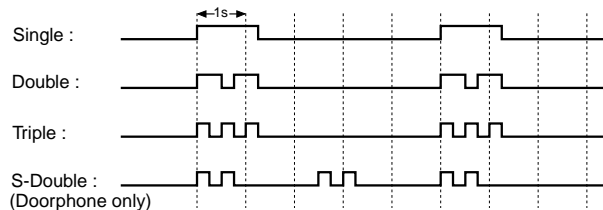
<Last Number> Every extension automatically saves the last telephone number dialled so that the extension user can make a call to the same party later using a simple operation.

<Saved Number> Allows a proprietary telephone user to save the current external telephone number in the SAVE button during a conversation, so that the extension user can redial the same party later using a simple operation. The saved number can be redialled until another number is stored. A flexible button can be assigned as the SAVE button in the proprietary telephone settings.

Ringing Pattern Selection

A ringing pattern can be selected depending on the type of call such as an outside call, intercom call or doorphone call.

The ringing patterns are as follows.



Room Monitor

Allows a proprietary telephone user to monitor a room or the front door through another proprietary telephone or doorphone without them knowing. The access tone will not be sent to the monitored proprietary telephone or doorphone when monitoring starts. This feature is not available for the KX-T7750.

Secret Dialling

Allows a proprietary telephone user to conceal all or part(s) of a System Speed Dialling number or One-Touch Dialling number assigned to a flexible button in the proprietary telephone settings which normally appears on the display when making a call.

Speed Dialling

System : The system supports 100 System Speed Dial numbers (up to 32 digits) assigned in programming, which are available to all extension users. A system Speed Dial number is dialled out by pressing the AUTO button or "X" and a 2-digit code (00 through 99). Toll Restriction for System Speed Dialling can be assigned.

Personal : Allows an extension user to store up to 10 speed dialling numbers (0 through 9) with a maximum of 24 digits per number. An extension number, telephone number or feature number can be stored. For example, storing extension numbers for each room in the house can be useful. (1=living room, 2=kitchen, etc.) When you make a call, you only have to dial #((##:Plan2 or Plan3) and the number.

Station Feature Clear (Cancelling the Feature Settings)

Allows an extension user to reset the following station features to the default settings.

- Absent Message Capability
- Automatic Callback Busy (Camp-On)
- Background Music (BGM)
- Call Forwarding
- Call Pickup Deny
- Call Waiting
- Data Line Security
- Do Not Disturb (DND)
- Executive Busy Override Deny
- Log-In / Log-Out
- Message Waiting - (All messages will be erased.)
- Pickup Dialling - (The stored telephone number will be erased.)
- Paging Deny
- Room Monitor
- Timed Reminder
- Voice Mail Integration

Station Hunting

If a called extension is busy, Station Hunting redirects the incoming call to an idle extension in an extension group in numerical order. Idle extensions are automatically hunted according to programming. The following 2 hunting types are available.

- (1) **Circular hunting** : The extensions are hunted once in numerical order. If all extensions are busy, a busy tone will be heard.
- (2) **Termination hunting** : The extensions are hunted until the extension which has the highest jack number in the group is reached. If all higher order numbers are busy, the search will end and a busy tone will be heard.

Station Lock (Locking Your Telephone)

<Electronic Station Lockout>

Allows an extension user to lock their station so that other users cannot make outside calls until it is unlocked. Any 4-digit code can be used to lock and unlock an extension.

<Electronic Station Lockout - CANCEL ALL>

The operator and manager can cancel Electronic Station Lockout for all extensions at one time.

<Remote Station Lock Control>

The operator and manager are given the privilege of controlling Electronic Station Lockout at any station by using the DSS console. The operator and manager can see the status of each extension, locked or unlocked, by the pre-assigned DSS button LED on the DSS console. For example, this feature is useful for a small hotel or motel

when guests are checked out. The Remote Station Lock Control overrides the Electronic Station Lockout. If the operator or manager sets Remote Station Lock at an extension that has already been locked by the extension user, the user cannot unlock it. A toll restriction class can be assigned to an extension which has set the Electronic Station Lockout and Remote Station Lock Control features. Certain types of outgoing outside calls are permitted depending on the assigned toll restriction class.

Time (Day / Night / Lunch) Service

The system supports the day, night and lunch operation modes. The system operation for making and receiving calls can be different for the day, night and lunch modes. The system operation for toll restriction can be arranged to prevent unauthorised toll calls for each mode.

Timed Reminder (Alarm Setting)

Allows an extension user to generate an alarm tone at a preset time as a wake-up alarm or a reminder. The user can set this to be activated once or everyday.

Timed Reminder, Remote (Wake-up Call)

The operator or manager can remotely set, cancel and confirm the Timed Reminder of an desired extension. For example, this is useful for a small hotel or motel to set an extension in a guest room for a wake-up call, or set an extension in a child's room for a mother.

Toll Restriction

This feature helps you to prevent unauthorised (long distance) calls from being made. Every extension is programmed to belong to one of 5 classes of service (COS). Each COS is programmed to have a toll restriction class for the day, night and lunch modes.

Walking COS (Class of Service) (Calling Using Your Privileges at Another Extension)

Allows an extension user who is not at their own telephone to override the toll restriction COS number of another extension by dialling their extension password. For the duration of the call, the COS of the extension is changed to the COS of their own extension.

- Absent Message Capability
- Account Code Entry (Option/Forced / Verified)
- Alternate Calling - Ring / Voice
- Automatic Callback Busy (Camp-on)
- Automatic Configuration for Outside (CO) Line Type
- Automatic Fax Transfer
- Battery Backup Interface (Built - in)
- Built-in Voice Message (BV)^{*1}
- Busy Station Signalling (BSS)
- Call Forwarding - All
 - Busy / No Answer
 - Follow Me
 - To Outside
- Caller ID Display on SLT and APT^{*1*2}
- Calling Party Control (CPC) Signal Detection⁺
- Call Park
- Call Pickup
- Call Routing for Fixed Line SMS
- Call Splitting
- Call Transfer - To Extension
 - To Outside (CO) Line
- Call Waiting
- Conference (3-Party / 5 -Party)
- Conference, Unattended (3-Party)
- Data Line Security
- Direct in Line (DIL)
- DISA (Direct Inward System Access) with message (3-Level, Max. 2CH, 360 sec)^{*1}
- Distinctive Dial Tone
- DND (Do Not Disturb)
- DND Override
- Door Opener^{*1}
- Doorphone Call^{*1}
- DSS Console
- Emergency Call
- Executive Busy Override (Extension / CO Line)
- Executive Busy Override Deny
- Extension Group
- Extension Password / System Password
- External Feature Access
- Flexible Extension Numbering
- Handsfree Answerback
- Intercept Routing
- Intercom Calling
- Limited Call Duration (1~32 minutes)
- Log-In / Log-Out
- Message Waiting
- Music on Hold / Background Music (BGM)
- One-Touch Dialling
- Operator Call
- Outgoing Message (OGM)
- Paging - All Extension
 - Group
 - External
- Paging Deny
- Parallel Telephone Connection
- Pickup Dialling (Hot Line)
- Polarity Reverse Detection⁺
- Power Failure Transfer
- Preferred Line Assignment - Incoming
 - Outgoing
- Programming (via PT/PC)
- Pulse to Tone Conversion
- Redial - Automatic
 - Last Number
 - Saved Number
- Ringing Pattern Selection
- Room Monitor (APT / Doorphone)
- Secret Dialling
- Speed Dialling - System
 - Personal
- Station Feature Clear
- Station Hunting
- Station Lock
- Station Lock, Remote
- SMDR (Station Message Detail Recording)
- Time (Day / Night / Lunch) Service - Automatic
 - Manual
- Timed Reminder
- Timed Reminder, Remote
- Toll Restriction
- Toll Restriction Override
- UCD (Uniform Call Distribution) with message
- Voice Mail Integration (APT / DTMF)
- Walking COS (Class of Service)

^{*1} An optional card is required.

^{*2} Please contact your dealer or phone company to confirm if the Caller ID service is available in your country.

⁺ CPC Signal Detection or Polarity Reverse Detection is subject to the telephone company services in your country.

■ Configuration

Basic		Option (KX-TE82480) 2 COs / 8 SLTs	Option (KX-TE82483) 3 COs / 8 Hybrid Extensions	Option (KX-TE82474) 8 SLTs
KX-TES824	Outside (CO) Lines: 3 Extensions: 8	→ 5 16		
			→ 6 16	
				→ 3 16
			→ 6 16	→ 6 24
		→ 5 16	→ 8 24	
KX-TEM824	Outside (CO) Lines: 6 Extensions: 16			→ 6 24
		→ 8 24		

■ System Capacity (Max.)

ITEM	KX-TES/TEM824
Operator	1
System Speed Dialling	100
Personal Speed Dialling	10 / Ext.
One-Touch Dialling	Max 24 / Ext.
Extension Groups	8
UCD Group	1
Toll Restriction Levels	5
Account Codes (Verified)	50
Call Park	10
Call Log (Caller ID)*1	20 (Personal) 300 (Common)
Absent Messages	6
Message Waiting	8 / Ext.
Emergency Codes	5
External Music Source	1
External Pager	1
Doorphones	4
Door Openers	4
DSS Consoles	2
DISA Outgoing Message	360 sec
BV Message	125 messages or 60 min. (/1ch)

• Interfaces

RS-232C
USB (V1.1)
Battery Interface
Doorphone / Door Opener
External Music Source
External Pager

ITEM	KX-TES824	KX-TEM824
Maximum Capacity	8 COs 24 Extensions (16: Hybrid 8: SLT)	8 COs 24 Extensions (16: Hybrid 8: SLT)
Intercom Paths	4	4
Dialling Method	External: Tone / Pulse (10 pps, 20 pps) Internal: Tone / Pulse (10 pps, 20 pps)	
Dialling Conversion	Pulse to tone	
Connections	CO Line: Modular Jack (2-wire) Intercom: Modular Jack (4-wire) Paging: Conductor Jack External Music: Conductor Jack SMDR: RS-232C I/F Port (9 pin D-SUB) Programming: RS-232C/USB/Remote modem	
SMDR	Detail Recording: Date, Time, Extension Number, CO Line Number, Dialed Number, Call Duration, Account Code, Caller ID*1	
Polarity Reverse Detection*	Yes	Yes
Voice Mail Ports	2 ports (APT or DTMF)	4 ports (APT or DTMF)
DTMF Receivers	2	4
DTMF Generator	1	1
CO - CO Transfer Path	2	2
Power Failure Transfer Ports	1	2
Direct Connection to External Battery	Yes	Yes
Power Source	AC 115 - 240 V, 50/60 Hz	
Power Consumption	45W	58W
Dimensions (W x H x D)	368 mm x 284 mm x 102 mm	
Weight (when fully expanded)	Approx. 3.5 kg	

Cards and Accessories

Option	Description	KX-TES824	KX-TEM824
KX-TE82461	4-Port Doorphone Interface Card*2	Max. 1	Max. 1
KX-TE82474	8-Port Single Line Telephone Extension Card	Max. 1	Max. 1
KX-TE82480	2-Port Analogue CO Line and 8-Port Single Line Telephone	Max. 1	Max. 1
KX-TE82483	3-Port Analogue CO Line and 8-Port Hybrid Extension Card	Max. 1	—
KX-TE82491	Message Expansion Card for OGM	Max. 1	Max. 1
KX-TE82492	2-Channel Voice Message Card	Max. 1	Max. 1
KX-TE82493	3-Port Caller ID Card	Max. 3	Max. 3
KX-T30865	Doorphone	Max. 4	Max. 4
KX-A227	Back-up Battery Cable		

*1 Please contact your dealer or phone company to confirm if the Caller ID service is available in your area.

*2 Doorphone #1 and Doorphone #2 can not be used at the same time.

Doorphone #3 and Doorphone #4 can not be used at the same time.

* Polarity Reverse Detection is subject to the telephone company services in your country.

KX-TES/TEM824 ▶▶

