

Panasonic



Digital Business System

Product Description

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System Parameters

System Microprocessor	68000 CPC-B / CPC-C 68020 CPC-EX
System Memory	3 Mb EPROM CPC-B / CPC-C 6 Mb EPROM CPC-EX
Digital Bandwidth (1 B+D)	8 Kilobytes/Second
Voice Channel	16 Kbps
Signalling	64Kbps
Cabling (digital)	1 pair (2 wires)
Analogue (SLTs)	1 pair (2 wires)
Modulation	Pulse code
Intercom Paths	Non blocking

System Hardware

Cabinets

	DBS38	DBS68	DBS90	DBS128	DBS158	DBS180
Maximum port configurations						
Exchange line ports	6	12	18	24	30	36
Extension ports	24	48	64	88	112	128
Common (line/extn ports)	6/8	6/8	6/8	6/8+6/8	6/8+6/8	6/8+6/8
Max number of keyphones	32	56	72	104	128	144
Max number of SLTs	24	48	64	96	120	136
Max number of DSSs	4	4	4	4	4	4
Max number of AC15A (CPC-EX)	3	6	6	12	12	12
Max number of E&M	3	6	6	12	12	12
Max number of ISDN Channels	30	30	30	30	30	30

Note: This table shows the maximum values possible in the system, the actual values will depend upon the configuration of the specific system and its components.

Modular Cards & Options

Central Processor Card

This is a 16 bit, 68000 microprocessor, with 356Kb RAM and 512 Kb ROM, controller card for the DBS system. It also holds the system software and programming settings used to control the system operation.

There are three types currently available, dependant upon the system options required.

CPC-B	card for systems using E&M private circuit connections
CPC-C	card for systems using DASS II ISDN lines
CPC-EX	card for combination of ISDN, E&M and AC15A connections

System Control Card

This card provides the tone generation for the system's internal traffic and controls the RS232 interface used for programming and call logging. It is required in every system alongside a CPC card.

Exchange Line Card

Interface card to allow connection of 6 PSTN or equivalent lines. Each cabinet will allow one or more line cards to be installed depending upon the cabinet size and other options installed.

DASSII ISDN Trunk Card 1

The ISDN trunk card allows the connection of 1 primary rate ISDN circuit operating the DASS II protocol. This allows upto 30 ISDN channels to be used from a single supplier connection.

DASSII ISDN Trunk Card 2

For use with the CPC-EX with software version 1.5 or later, this card allows the connection of one or two DASSII ISDN pipes to the DBS, giving upto 48 digital channels. As a single card fitted to the system it operates in the same way as the original DASSII Trunk card, but when fitted to a double cabinet CCU (DBS128, DBS158 or DBS180) it can link to a second DASSII Trunk card to give 48 channels. Since the ISDN card is fitted in the universal slot only one can be installed in each system cabinet.

Note: The secondary DASSII card can be a DASSII Trunk Card 1 or 2, for channels 31 - 48.

E-ISDN Trunk Card

The E-ISDN trunk card allows the connection of a Euro-ISDN (Q931) ISDN pipe to the DBS. It has the same facility as the DASSII Trunk card 2, giving upto 48 digital channels. As a single card fitted to the system it operates in the same way as the original DASSII Trunk card, but when fitted to a double cabinet CCU (DBS128, DBS158 or DBS180) it can link to a second E-ISDN Trunk card to give 48 channels. Since the ISDN card is fitted in the universal slot only one can be installed in each system cabinet.

Note: Either DASSII or E-ISDN can be fitted to a DBS system. Protocols cannot be combined on the same system, therefore when using a second ISDN card it must be the same type as the first one.

E&M Card

The E&M card allows connection of 2 wire plus E&M (DC5) circuits to the DBS. Each card will provide connection for 3 such circuits. The maximum number of cards a system can support is dependant upon size and configuration, upto a maximum of 4 (max 12 circuit connections to 3 destinations).

AC15A Card

The AC15A card allows connection of 4 wire AC15A circuits to the DBS. Each card will provide connection for 3 such circuits. The maximum number of cards a system can support is dependant upon size and configuration, upto a maximum of 4 (max 12 circuit connections to 3 destinations).

Digital Extension Card

Interface card for the connection of upto 8 proprietary digital keyphones. The first extension card in the system must be a digital extension card. Other extension card slots can be populated by digital or analogue extension cards (see below).

Analogue Extension Card

Interface for 8 analogue telephones, also called Single Line Telephones (SLTs). All extension slots except the first in any system can be used for analogue extensions. If the analogue extension card is used the system will also require SLT ring generators and DTMF receiver cards and the handsets to be connected must be tone dialling and time break recall.

DTMF Receiver Card

Provides 4 or 8 detection circuits for Dual Tone Multi-Frequency (DTMF) tones from single line telephones and DISA calls, dependant upon the size of DTMF receiver card selected. For most systems using SLTs one 8 circuit DTMF receiver card will be sufficient for 60 extensions or less. For more extensions or extensions in heavy use a second card will be required to ensure smooth operation.

SLT Ring Generator

A power supply controlled by the DBS to provide ringing voltage for SLTs connected using the analogue extension card. One ring generator must be connected to each system cabinet, to which SLTs are connected, to provide ringing for a maximum of 20 analogue extensions simultaneously.

Meter Pulse Detection Card

Detects exchange line charging pulses (optionally rented from the network carrier) where they are available during outgoing calls to allow the DBS to calculate the cost of a call for call logging purposes. One is required for each line using meter pulses and when fitted also require the -48v power supply to provide the correct working voltages.

-48v Power Supply

Power supply for Meter Pulse Detection cards and E&M private circuit cards. 1 required per control unit.

Remote Administration Interface

A 300/1200 bps modem card which mounts on the SCC card to provide the DBS with a remote programming option.

Built In Battery

Internally fitted lead acid cells, charged by the DBS and used to maintain system operation during power failure. There are different size batteries for the DBS38 and the DBS68/90. In each case they keep the system running for about 30 minutes when fully configured and the batteries fully charged.

External Battery

Housed externally to the system in a custom cabinet these batteries will allow system operation during power failure, in the same way as the internal batteries, but for a longer period. Backup times of around 3 to 4 hours are possible with a fully configured system.

Doorphone Interface And Doorphones

An interface which enables connection of 1 or 2 doorphones. It uses an exchange line port to connect onto the system. There is a choice of two doorphone units small, and large. These are proprietary, weather resistant units for use with the interface. The interface has two sets of relays for controlling a remote doorlock for each doorphone.

Connecting Cable

The connecting cable is used to connect a DBS90 cabinet to a DBS38, DBS68 or DBS90 to build a double cabinet system for larger systems.

Handset Options

The Digital Business System offers the choice of a wide range of key handsets.

The features which are available to handset users will depend upon the type of handset being used.

Handset Features

Key features of the DBS handsets are:

One-Touch keys	The one-touch keys provide single key access to personal speed dials, allowing them to be dialled with a single key press.
FF keys	Flexible Function (FF) keys are used as line use indicators. Unused FF keys can be programmed with other system functions or used as extension calling and busy lamp field keys.
Dual colour LEDs	The FF keys each have a dual colour LED which is used when the key is programmed as a line or extension call key to show the line / extension status.
Message lamp	Each key telephone has an LED lamp which is used to give visual indication of messages.
Distinctive HOLD key	The HOLD key's orange colour and prominent position make it easy to locate and operate.
Volume control	To adjust ringing and where available handsfree volume..
LCD display	Certain key telephone models have a seven segment or alphanumeric display allowing the display of information and messages which enhance its functionality.

Handset Types

The tables below lists the DBS handset types and their key specifications.

Model	Description	FF Keys	One Touch Keys	Dual colour LEDs	Message LED	Alphanumeric Display	Handsfree
VB3011	0 key handset	0	0		4		
VB3411	12 key standard	12	10	4	4		
VB3411DS	12 key executive	12	10	4	4	4	4
VB3411LDS	12 key large display	12	10	4	4	4	4
VB3611D	24 key display	24	10	4	4	4	
VB3611DS	24 key executive	24	10	4	4	4	4
VB3631	72 key console	72	0	4			

The models below were introduced in April 1996 as replacements to those listed above. Information on additional features follow.

Model	Description	FF Keys	One Touch Keys	Dual colour LEDs	Message LED	Alphanumeric Display	Handsfree
VB3011	0 key handset	0	0		4		
VBD411	12 key standard	12	10	4	4		
VBD411DS	12 key executive	12	10	4	4	4	4
VBD411LDS	12 key large display	12	10	4	4	4	4
VBD611D	24 key display	24	10	4	4	4	
VBD611DS	24 key executive	24	10	4	4	4	4
VBD631	72 key console	72	0	4			

New Handset Features

'LINE' Key

The LINE key is a specially designated key for selecting a free exchange line, equivalent to dialling On/Off 9. Therefore for the LINE key to operate the extension must be a member of a dial 9 or tenant group. The LINE key setting is fixed and is not programmable.

'MIC' Key

The MIC key has been removed from the new handsets. It has been replaced by an additional FF key code which is used to configure an FF key as a MIC key for those users who require it.

'MUTE' Key

The MUTE key is a new feature which allows the handset microphone to be muted. When taking or making a call using the handset pressing the MUTE key will cut the outgoing speech. Incoming speech can still be heard and the MUTE key will illuminate green on the keyset. It functions as a toggle so a second press will restore outgoing speech and return to two way conversation. MUTE will operate for internal, external and conference calls. If a call which is muted is held or transferred the MUTE function is cancelled and normal speech resumes.

Volume Control

The new handsets can set internal and external ringing volume.

Using The New Handsets With CPC-B And CPC-C

The new handsets can be used with the older version CPC-B and CPC-C cards. However they will not be able to use the following features: Individual volume control, off hook monitor and handset mute.

TRANSFER Key

The transfer key is used to transfer calls to outside lines.

Answering Calls

Direct Inward System Access (DISA)

Description

Any number of exchange lines can be assigned as DISA lines. A line assigned as a DISA line is automatically answered by the system and the incoming caller receives internal dial tone and therefore has the ability to dial any extension number within the system. If the extension is busy or unanswered by pressing the "~" key the caller will return to internal dial tone or the "#" key will transform the call to a PSTN incoming call or clear down dependant upon the customer requirements.

Remote programming can also be accessed via DISA lines after entering a password.

Benefits

Allows internal personnel and regular callers to access the system without tying up the operator or to access extensions during the evening or unattended operator hours.

DISA Break Out (CPC-EX and later only)

Description

DISA breakout allows an external caller to dial into the DBS and using a preset code break out on another line. To use this facility the code, called Transfer ID, must be stored and lines must be available to the dial 9 and tenant group chosen. There are 5 Transfer IDs that can be configured for the system.

When call charging information is available (Meter Pulse Detection or ISDN Call Charge Information) the operator extension can be used to check the accumulated totals for calls made by each ID code.

Benefits

In organisations where local staff work off site and need to call long distance, these calls can be routed via the DBS and out to the destination. The caller usually on a mobile telephone will be charged for a local call and the long distance call is charged to the DBS system owner at land line rates. This will keep mobile fleet call costs to a minimum and charge long distance calls to the company at the cheaper land line rates.

Flexible Ringing Assignment

Description

The ringing assignment is completely flexible so any line can be assigned to ring at any station. The ringing assignment can be different in day and night modes depending on user requirements

Benefits

Assures coverage for outside lines, increases customer satisfaction. Allows for customisation of the system in order to meet a wide variety of applications.

Incoming Line Name Assignment (from v4.1 / ISDN 1.2)

Line ports on the DBS can be assigned an alphanumeric name of up to 16 characters. When a name is assigned it will be displayed instead of the 'INCOMING nn' message when a call is received. If the port is a DASS II channel with CLI in use the CLI will override the name display.

Call Pick Up (Group / Direct)

Description

Group call pick up allows a user to answer calls for other extensions in the same pick up group by activating a feature button or dialling an access code.

Direct call pick up allows a user to answer a specific ringing extension by dialling an access code followed by the extension number. The alphanumeric display advises the picking -up station of the calling extension or exchange line.

Benefits

Provides improved call coverage by allowing extension users to answer ringing stations without leaving their desk.

Off Hook Signalling

Description

When a user is talking on an outside line, they may be alerted of another incoming call by the system sending a call waiting tone.

Answer & Release Keys

Description

Answer Key : Any time a call is made, both outside and inside the system the operator simply presses the answer key to connect to the calling party. This eliminates the need to visually identify the calling source.

Release Key -: After the operator has answered a call the only steps necessary to transfer the call is to depress an associated DSS button and a release key. Pressing the release key without selecting an extension to transfer to will end the call.

Benefits

Ensures calls are handled quickly and in the order they were received. Adds to the ease of use and makes training quick and easy.

Voice Announce Unit

The Voice Announce Unit (VAU) is an optional unit for use with the DBS. It is connected to digital extension ports. The VAU provides recorded messages to callers, then transfers them to another extension following the callers' DTMF dialled instructions.

Each Voice Announce Unit contains two answering circuits each can have a different message or messages recorded. Each circuit is associated with one DEC port. Circuit 1 for port 1 and circuit 2 for port 2.

The recorded messages and programmed information have a battery backup which will hold the data for up to 5 days in the event of a power failure once the unit has been installed for 48 hours.

When the VAU detects a call, it answers and plays a recorded message. If the VAU is used to back up an operator, or group of people, a delay to answer can be inserted, this allows the original persons time to answer the call if they are available. Recall ringing will override the delay to answer timer and the call will be answered immediately.

In the event that a caller is using an LD/pulse dialling telephone, or the DTMF level is low, the VAU will automatically transfer the call to a predetermined extension.

Voicemail Connection

The DBS supports the connection of voicemail systems by providing special extension ports designed for connection to voice processing systems.

Voice systems on the DBS can be configured in one of three ways:

Automated Attendant (AA)	Calls ring into the voice system which then handles them in a similar way to a central operator eventually transferring them to a required extension.
Voicemail (VM)	Calls received are routed to a specified user mailbox where the caller can leave a message.
Combined AA/VM	Has ports configured to do both of the AA and VM functions on a single system.

Voicemail related commands

The following commands are used to provide interaction with voice systems.

Message Lamps

The DBS will allow operation of the message waiting lamps on keysets by the voice system. Message setting and cancelling must be controlled by the voice system to ensure messages are correctly set and cancelled.

Call Forward Identification Dialling

System extensions can have a call forward ID set which will be automatically dialled when that extension call forwards to a Voicemail port. This ID is only sent to Voicemail ports when a call is forwarded, non Voicemail ports will not receive it.

The ID code can be upto 20 digits consisting of 0 - 9,*,# or Redial (to give a pause)

Flexible Function Keys

Description

The Flexible Function keys (FF keys) can be programmed to access a feature by pressing a single button. The features which can be placed under an FF key are as follows:

1	Exchange line key	16	Loud ring bell pick-up
2	Direct line access	17	Account code entry
3	Pooled / Group line key	18	Speed dial
4	Extension busy / selection key	19	Message recall
5	Paging access	20	Message cancel
6	'Meet me' paging answer	21	Save / repeat dial
7	Call park	22	Dial tone on/off
8	Intercom key	23	Headset on/off
9	Do not disturb	24	BGM on/off
10	Call forward	25	Night transfer
11	Absence message	26	Answer key
12	Alarm	27	Release key
13	Station lock	28	Talk back key
14	Direct call pick-up	29	Microphone on/off
15	Group call pick-up	30	Mute key (CPC-EX & VBDxxx handsets)

NOTE: Feature keys can be programmed by the user on each telephone

Benefits

This provides the flexibility to customise a phone to the customers needs. It makes easy, one step feature access available as an alternative to feature access codes.

Flexible Night Service

Description

When the system is placed into night mode the extensions can be assigned to ring on a per line / per extension basis, differently than during the day mode. In addition, the call restriction per line / per extension can be changed. The night service can be set to turn on automatically at a set time.

Benefits

Provides flexible ringing for businesses with extended hours of operation or shift workers. Enhances management control of call abuse by providing different call restriction options for night operation.

Call Traffic Management

Description

The operator's phone can monitor the usage of lines and extensions on the display as follows:

1. Number of incoming calls on a specific line
2. Number of outgoing calls on a specific line
3. Number of times a system speed dial number was used
4. Reset the above
5. Cost of calls on a specific exchange line
6. Cost of calls on a specific extension
7. Reset the cost of calls on a specific exchange line
8. Reset the cost of calls on a specific extension

Note: Meter pulse detection cards and exchange meter pulses are required to display the cost of calls.

Benefits

Allows a simple way to monitor call abuse and exchange line usage

Operator Setting/Cancellation

Description

This feature allows the operator to set and cancel the following features on an extension.

Can set for use by all extensions:

Absence Messages
Call Waiting Messages
System Speed Dial Numbers
System Speed Dial Names
Time And Date

Can set for specific extensions:

Call Forward (useful for system with voicemail fitted)
Call Forward ID Dial (used for voicemail access)
Lock Code

Can cancel for a specific extension:

Lock
Do Not Disturb
Call Forward
Absence Message

Benefits

Enables the operator to send important or emergency calls through to blocked stations. Allows the operator to monitor and update an extension's status

Holding Calls

System Hold

Description

This feature allows an extension to put a call on hold and for the call to be retrieved from any phone by pressing the associated line key.

Exclusive Hold

Description

This feature permits a extension user to maintain private and exclusive access to an exchange line while the called party is on hold. Only the station placing the call on hold can retrieve the "held" line.

When a call is placed on exclusive hold by pressing the LINE key, it automatically returns as an "incoming call" after a predetermined period of time.

Benefits

Prevents inadvertent interruption by other extensions by providing a busy indication on other keyphones with the same line appearance

Call Park / Park Pickup

Description

There are two park hold options, system park hold, which has 10 set hold positions, and extension park hold, which allows a call to be held at an extension. Any user can place a call in the "park" mode which acts like an exclusive hold. Any other extension, by simply pressing the call park pick- up button, or the feature code, can pick up that parked call.

Benefits

Better call handling capabilities Applications include: A party can not be reached at his/her extension, the caller can "Park" the call and page to that person to pick up the call.

Automatic Hold

Description

This programmable option allows exchange lines to be placed on hold automatically when another line key is pressed. Thereby allowing a "broker hold" function. To drop a call the user must press a key assigned as a release key or hang up the handset.

Benefits

Allows for simple handling in high traffic situations

Transferring & Intercom Calls

Internal Voice / Tone Calls

Description

The DBS can be set up to either voice call or tone call for intercom calls. With a voice call the callers announcement is heard over the speaker of the called extension if it is not busy and the recipient can use the handsfree answerback if their extension supports the facility. Tone call will sound a tone at the receiving extension until the call is answered or the caller gives up. This option is set up with system programming.

Benefits

Allows each customer to select which method would best suit their business environment.

Transfer (screened / unscreened)

Description

The screened transfer feature requires that the called extension has answered and the call is announced before the transfer takes place.

The unscreened feature allows extension users to transfer their internal or external calls without having to announce the caller (system programmable).

Unanswered calls will return to the extension that originated the transfer, if the call is still left unanswered it will return to the operator.

The system may be set to allow screened calls only.

Benefits

Provides efficient call processing
User friendly operation

Conference Calls

Description

This feature enables the user to conference up to 3 internal or 1 external and 2 internal parties, as the system is digital, there is no internal loss.

NOTES: The system can accommodate up to three simultaneous conference calls. The busy override function can be used to set-up conferences.

Privacy & Privacy Release

Description

Privacy :- the system has built in privacy so other people cannot accidentally break into an existing conversation.

Privacy Release :- a station user can release privacy on external calls to establish a three party conference.

Benefits

Ensures confidentiality on important calls.

Gives the flexibility to release privacy when desired.

Allows telemarketing / teaching applications to conference in a colleague for assistance.

Group Ringing (from version 4.1 / ISDN 1.2)

Description

The DBS can support upto 50 ringing groups of 8 members each, for ISDN DDI or analogue incoming calls.

When a call is passed to a group ringing is presented and all idle extensions in the group ring. If an extension that was busy when the call arrived becomes idle before the call is answered it will not begin to ring.

Calls can be transferred to a group from another extension, as soon as ringing is heard by hanging up. The group is searched for free extensions when the extension calls the group and again when the call is transferred before answer.

If the group is busy and a forced transfer is performed the group will be continually searched until an extension becomes free or the reversion timer has elapsed. Multiple calls can be transferred to a busy group.

If the call is not answered before the recall or reversion timers have elapsed then the call will recall to the transferring extension.

Call Forward To An External Number (from CPC-EX)

Call forward to an external number can be set by any extension (except the operator) which is not restricted via programming from doing so.

The number to which calls are to be forwarded must be stored in the extension's own Personal Speed Dials or the System Speed Dials before setting up the forward function.

Multiple calls can be redirected by external call forward from a single extension. However be sure there is sufficient capacity at the destination number to handle many calls if multiple calls are to be forwarded or the callers will get busy tone.

The operator extension cannot set a call forward to an external number, even if internal call forward has been enabled.

The types of call which will follow an external call forward, when allowed by programming are:

Internal tone and voice calls

Calls from the private wire (DC5) if breakout is set

Transferred calls

ISDN Personal DDI calls

When call forward to external is set the extension's status is indicated in several ways. The DND/CF LED is lit, DSS keys for the extension will show green, SLTs and VB3011 will have a broken dial tone when taken off hook, display keysets will show FWD NNNN (where NNNN is the memory used to forward) on the second line of the display.

When a call is forwarded the extension is making an external call. Call barring, tenant groups, LCR and call logging functions will all operate as normal, barring the call if the number is restricted to that extension.

Trunk To Trunk Transfer & Conference (from CPC-EX)

A call on hold at an extension can be transferred to an external number by the extension. With the call on hold a line is selected and the new number dialled, the call can then be transferred by going back on hook, pressing RECALL on the VB3xxx range of handsets or PROG on the VBDxxxx range of handsets, pressing an FF key programmed as a RELEASE key or RELEASE on the DSS, an FF key programmed as a TRANSFER key (*6) or using the new large display menu option.

If the DBS is linked using a networking card an extension on system A can transfer calls to system B by a similar method using on hook or RELEASE key transfer.

Calls can also be transferred between lines by dropping out of a conference using the methods described above.

A conference call can be initiated by holding a call, setting up a new call and then pressing the CONF key. When a call is conferenced in this way DTMF transmission to the lines during the call is disabled. If the extension making the call places the calls on hold both external parties are placed on hold and held separate from each other.

Locating Calls

Paging With Meet Me

Description

The DBS has seven paging zones available plus an all zone. Both internal and external paging is possible. Paging zones are designated zones 00-07. An external paging system can be connected to operate with any or all of the internal paging groups.

Paging will not be heard from the speakers of extensions which are busy or for which Do Not Disturb, Call Forward or Absence Message settings are currently active.

A "meet me answer page" allows a user upon being paged to be connected to the extension paging by entering a code.

Benefits

Improves efficiency in locating personnel by providing dial access to paging equipment and to extensions in designated paging zones.

Improves customer service by providing faster response time to calling parties.

Camp On

Description

This feature allows extensions to queue calls to a busy extension.

The camp on tone can be programmed as a one burst tone or as a continuous tone this is programmed on a per extension basis.

Benefits

Saves time and improves productivity by eliminating repeated dialling to gain access to busy extensions.

Talk Back Key

Description

A line key can be programmed as a talkback key which will flash when another extension "camps on" to the phone. By pressing the flashing talk back key, the outside call is automatically placed on hold while the two internal parties can now have a conversation. This talk back feature allows switching of the call between the outside party and the internal party.

Benefits

Allows answering of internal calls without having to end external calls.

Camp On With Message

Description

When a user is talking on an outside line, another extension can alert him/her that another call is waiting by sending a call waiting tone.

In addition, the internal party also has the option of sending 1 of 5 programmable messages that will appear on the called extensions display, these are set as standard as:

VISITOR HERE
NEED HELP
IMPORTANT
URGENT
EMERGENCY

Benefits

Allows internal users to alert busy stations to other calls and urgent messages

Voice Announce

Description

When a user is on an outside line, an internal party has the ability to break into a conversation and announce a call. The voice comes through the handset earpiece but it cannot be heard by the outside caller. The intruding party cannot hear any of the conversation. The permission to do this is set via system programming.

Benefits

Gives the ability to interrupt a conversation without the calling party hearing the message.

Note: Will work on keyphones and single line telephones.

Busy Override / Break In

Description

An extension may break into a conversation in progress and establish a conference. First an alert tone is heard and then the call becomes a 3 party conference call. System programming sets whether each extension can be overridden and/or can override other extensions.

Benefit

Ensures the ability to notify people of emergency calls.

Manager Secretary Groups

Description

This feature enables sixteen groups with up to six manager extensions and up to two secretary extensions to be placed into any one group. The secretaries can screen any intercom, DISA and exchange line calls to any of the designated managers.

In addition a flexible function key can be programmed on the secretary's phone in order to provide constant visual indication of the manager(s) extension as well as one button access and transfer

Benefits

Increases productivity of key personnel by enabling screening of outside calls provides a simple method of effectively sharing secretarial support.

Do Not Disturb

Description

Do not disturb enables a user to stop all intercom and exchange line calls from ringing on their extension. When activated a busy signal is sent to the calling party.

Benefits

Enables user to quickly and easily initiate privacy for important meetings, etc.

Call Forwarding

Description

Incoming calls (internal and external) can be routed to another extension by selecting a feature key assigned as "call forward" or by dialling the call forward code and then the extension number. The name of the extension or outside line number of the calling party appears on the display of the destination extension.

1. There are 4 kinds of call forward:
 1. All calls
 2. No answer/Busy
 3. Busy
 4. No Answer
 5. Call Forward To An External Number (CPC-EX and later)

Benefits

Ensures immediate call coverage for personnel that are out of the office and not part of a hunt group.

Operator Call Forward (CPC-EX v1.5 and later)

The Operator Extension can set a call forward for all calls (721 xxx) provided the night ring telephone is set to a port other than 1.

Suppression Of Call Forward Indication On Display and Busy Lamp Field (from v4.1 / ISDN 1.2)

It is now possible to suppress the display of call forward indication from the second line of a keyset LCD and green LED indication on BLF keys, when an extension sets call forward. This is useful when many users will be setting forward to voicemail and do not want these indications present.

When suppressed the DND/CF LED on keysets will still be illuminated to indicate call forward status.

Absence Message

Description

This feature, when activated, sends a status message to the calling party's display. A total of ten messages of which five are user defined can be provided. The messages are user interactive allowing a time of return to be entered, so the caller knows when the party will return.

The following is a list of default messages:

	Code Message		Code Message
0	In meeting	5	Absence No.5
1	At lunch	6	Absence No.6
2	Out of office	7	Absence No.7
3	Holiday	8	Absence No.8
4	Another office	9	Absence No.9

These can be reprogrammed from the operator extension.

A green LED indication is displayed on the DSS console or BLF key assigned to the station that has left an absence message. When the associated key is pressed the message will be displayed.

Note: Extensions without a display will get busy tone.

Benefits

Makes internal office communications more efficient and minimises telephone tag.

Hunt Groups

Description

This feature enables calls to be directed to a specific group of extensions and for the call to "hunt" for a free extension in that group. There are up to sixteen hunt groups with up to eight members in each group. Hunt groups may be linked so if all members of one group are busy, the call will trip onto the next designated group.

There are two types of hunt groups circular and terminate. Circular allows entry to the group on any extension number and hunts if any extension is busy. Terminate only hunts if member number one is called and is busy. If any other extension is called and is busy, busy tone is sent.

Benefits

Allows calls to be routed to departments without the need to redial if an extension is busy.

Hunt Group Enhancements (from CPC-EX)

The hunt group facilities have been substantially extended with the CPC-EX processor card. The DBS will now support up to 24 hunt groups of up to 32 member extensions. Cyclic hunting and No Answer hunting (ringing hunting) are now also available.

Cyclic Hunting

The first incoming call will hunt from member 1 upwards until a free extension is located and ring there. The next call will begin to hunt from the member extension following the last one which received a cyclic hunt call, until a free extension is located, and so on for successive calls to the group. When the last member is reached hunting continues from member 1 and the cycle repeats. This will give an even call distribution across the members of the hunt group.

To operate Cyclic Hunting the hunt group type must be set to 'cyclic' and all calls directed to the first member extension.

No Answer Hunting

An internal call will ring on a member extension, and if unanswered will move onto the next extension and continue to do this until answered or transferred to a non No Answer Hunting group.

If all members are busy the call will wait at the extension it was directed to until the member no answer timer elapses at which point it will hunt again.

Ringling Hunting For External Calls (CPC-EX v1.5 and later)

External calls can now be made to ring around a hunt group on no answer. Set up the hunt groups in the normal way, select circular or cyclic and set the member and group no answer timers to the required settings (16 seconds and 320 seconds give a good ringling cycle). Make the incoming calls ring to the first member extension and they will hunt until answered.

Outgoing Calls

Pooled Exchange Line Access

Description

A group of outside lines can be combined together under one line key, for access to outside lines. When there are available routes the LED will remain off or green if you are currently using a line in the group, when all routes are busy the LED will show red.

Benefits

This allows for maximum utilisation of the line keys on a keytelephone.

Trunk Queuing (Exchange Line Camp On)

Description

If an exchange line or line group is busy a user can dial "6" after receiving busy tone, so when the line becomes available the system will ring the extension and reserve the line for the extension.

Benefits

Increases productivity by allowing users to continue working while waiting for an available line. Eliminates the need to manually monitor lines.

Speed Dialling - Personal

Description

Any of the extensions can store up to ten personal speed dial numbers which are unique to that extension.

Benefits

Saves time and increases productivity by allowing the extension user to use abbreviated dialling to access frequently called numbers.

Note: Personal speed dial numbers do not override an extensions call barring restriction.

Speed Dialling - System

Description

There are 180 system memory locations which can be split into two groups of ninety system speed dial numbers. Either all or if split, one of the groups, are available to any or all of the extensions within the DBS. Any number up to 16 digits in length can be stored in a memory location. The system speed dial numbers can be assigned to override call restriction on a system wide basis.

Benefits

All extensions can share a common list of frequently dialled numbers.
Two groups allow the memories to be split for use by different departments or different companies.

180 System Speed Dial Availability (from v4.1 / ISDN 1.2)

The new versions of software allow for the DBS to be configured for 2 x 90 SSD groups or 1 x 180 SSD group. This is set via programming and requires a power off/on reset to take effect. Changing this setting will not erase the contents of the SSDs.

The SSD numbering changes dependant upon the mode selected.

With 2 x 90	the SSD locations are numbered	00~89 in each group
With 1 x 180	the SSD locations are numbered	100~189,200~289

Internal DTMF Dialling From Stored Number Memories (from v4.1 / ISDN 1.2)

It is now possible to send DTMF signals internally from memories on the DBS. This will allow single key access to voicemail systems to be set up.

When using a memory to send internal DTMF in this way the keypad of the extension is disabled until dialling is complete and if the extension is a display keyset the LCD is blank. The blank LCD will keep passwords secret.

When dialling the tones can be audible or silent dependant upon system program setting. If the memory is sent during a conversation the contents will be DTMF dialled over the speech.

Memories can be 'chained' together provided that the total length of the combined memories does not exceed 24 digits.

The facility can also be used over an E&M link, in which case the DTMF is sent after E&M answer is received and any stored pause ignored.

Last Number Redial

Description

Pressing the REDIAL key redials the last number dialled without having to clear the line. If the line has been cleared the redial key will re seize the line and redial the last number dialled.

Benefits

Saves time and frustration when trying to reach a busy number.

Save / Repeat Dial

Description

This feature allows the extension user to store a dialled number by dialling a feature code during an outside call and later redial the number even if other calls have been made between times.

Benefit

Allows other calls to be made if a called party is busy without the need to look up the number again.

Least Cost Routing (LCR)

Description

With least cost routing feature, the system can choose the most cost-effective outgoing network based on the outside number dialled. After the outgoing destination number is dialled, the LCR stores and examines the number on the basis of area code used, the time of day and day of week.

The system will first check the route of the dialled number. Once verified the system will then check the restriction level of the user.

Up to seven different carriers can be connected to the DBS. Priorities may be set for either time of day (four sets of tables) and days of week (four patterns).

Benefits

Improves management of telephone expenses by providing automatic routing of outgoing calls over the most economical facility available.

DASS II Interface

The DASS II interface and associated equipment allows the connection of Primary Rate ISDN to the Digital Business System (DBS). A maximum of 30 digital channels can be connected to any of the DBS systems irrespective of the system size. Connection of the digital circuits will reduce the number of analogue lines which can be connected to the system. If the DASS II interface is fitted the E&M feature of the DBS is not available.

DASS II Features

The following features are supported by the DBS DASS II interface.

Direct Dial In	(DDI)
Call Charge Information	(CCI)
Calling Line Identity	(CLI including OLI & TLI)

DDI , CCI and CLI require rental of network services.

DASS II Features For Future Use

The following features are intended for inclusion in future developments. These are proposed features and their development in future products is not guaranteed.

Customer Controlled Diversion	Call Charge Rate Data
Customer Controlled Channel Busying	Customer Controlled Call Barring

DASSII Enhancements With CPC-EX v1.5

From CPC-EX v1.5 the DBS can support one or two DASSII cards. To achieve this there is a new version DASSII card. This card allows the connection of one or two DASSII ISDN pipes to the DBS, giving upto 48 digital channels. As a single card fitted to the system it operates in the same way as the original DASSII Trunk card, but when fitted to a double cabinet CCU (DBS128, DBS158 or DBS180) it can link to a second DASSII Trunk card to give 48 channels. Since the ISDN card is fitted in the universal slot only one can be installed in each system cabinet.

The DDI routing has been extended to include a follow on extension option for each DDI on the system with the call reverting to the operator if both destinations are unanswered for any reason.

Note: The secondary DASSII card can be a DASSI Trunk Card 1 or 2, for channels 31 - 48.

DASS II Feature Descriptions

Direct Dial In

The network can send the last digits of the number dialled by the caller to the DBS. This string can be 1 to 6 digits long dependant upon configuration and the network services being subscribed to by the user. The DBS will use these digits to route the call to a specific extension or group of extensions using a look up table.

Call Charge Indication

When using the DASS II interface and renting the optional call charge service from your network provider the DBS can receive and print the precise cost of the call upon its completion, as part of its call logging output.

**Panasonic Digital Business System
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The call charge is sent to the DBS at the end of an outgoing call. This data can be printed on the call logger and/or optionally displayed on keysets with an LCD.

Calling Line Identity

The calling party's number or called party's number can be displayed on a keyset with an LCD. The Incoming CLI from a caller is called Originating Line Identification (OLI) and the number returned from the network from a called party is Terminating Line Identification (TLI).

DDI Group Name Display (from v4.1 / ISDN 1.2)

The DDI group name can be displayed on the second line of a keyset LCD when an incoming DASS II DDI call is received by a DDI group. This will clear after answer.

Calling Line Identity - Name Display (from CPC-EX)

On an incoming ISDN call with CLI enabled and rented from the network operator the DBS can check the CLI data against its SSD memories. If it finds a match it can then display the SSD name instead of the CLI number.

When ringing, the name will appear on the first line of the display and drop to the second line after answer. The incoming CLI must be an exact match including the STD code for the search to generate a name and the receiving keyset must be a display keyset.

When speaking on a call, or making a call, the name will appear on the second line of the display if names are set to appear and TLI is received from the network and matches an SSD or the number dialled matches an SSD.

The following table indicates the display when an ISDN call is received under the various possible circumstances.

	ISDN Call Type	Normal	DISA	Personal DDI	Group DDI	Personal DDI > ATT	Group DDI > ATT
Trunk Name Display OFF	No CLI Sent CLI Name OFF	Trunk No.	DISA Incoming	Trunk No.	Trunk No.	Extension & Trunk No.	Group Name & Trunk No.
	CLI Sent CLI Name OFF	CLI No.	DISA Incoming	CLI No.	CLI No.	Extension & Trunk No.	Group Name & Trunk No.
	No CLI Sent CLI Name ON	CLI No.	DISA Incoming	CLI No.	CLI No.	Extension & Trunk No.	Group Name & Trunk No.
	CLI Sent CLI Name ON	CLI Name	DISA Incoming	CLI Name	CLI Name	Extension & Trunk No.	Group Name & Trunk No.
Trunk Name Display ON	No CLI Sent CLI Name Off	Trunk Name	DISA Incoming	Trunk Name	Trunk Name	Extension & Trunk No.	Group Name & Trunk No.
	CLI Sent CLI Name OFF	CLI No.	DISA Incoming	CLI No.	CLI No.	Extension & Trunk No.	Group Name & Trunk No.
	No CLI Sent CLI Name ON	CLI No.	DISA Incoming	CLI No.	CLI No.	Extension & Trunk No.	Group Name & Trunk No.
	CLI Sent CLI Name ON	CLI Name	DISA Incoming	CLI Name	CLI Name	Extension & Trunk No.	Group Name & Trunk No.

DASS II System Configuration Tables

The following tables show the permissible configuration combinations of analogue exchange lines and digital channels.

DBS 38			
An. Lines			
Trunk No.	0	6	12
1	1	1	1
2	2	2	2
3	30	3	3
4	29	4	4
5	28	5	5
6	27	6	6
7	26		7
8	25		8
9	24	24	9
10	23	23	10
11	22	22	11
12	21	21	12
13	20	20	
14	19	19	
15	18	18	
16	17	17	
17	16	16	
18	15	15	
19	14	14	
20	13	13	
21	12	12	
22	11	11	
23	10	10	
24	9	9	
25	8	8	
26	7	7	
27	6	6	
28	5	5	
29	4	4	
30	3	3	
31	2	2	
32	1	1	

DBS 68				
An. Lines				
Trunk No.	0	6	12	18
1	1	1	1	1
2	2	2	2	2
3	30	3	3	3
4	29	4	4	4
5	28	5	5	5
6	27	6	6	6
7	26		7	7
8	25		8	8
9	24	24	9	9
10	23	23	10	10
11	22	22	11	11
12	21	21	12	12
13	20	20		13
14	19	19		14
15	18	18		15
16	17	17		16
17	16	16	16	17
18	15	15	15	18
19	14	14	14	
20	13	13	13	
21	12	12	12	
22	11	11	11	
23	10	10	10	
24	9	9	9	
25	8	8	8	
26	7	7	7	
27	6	6	6	
28	5	5	5	
29	4	4	4	
30	3	3	3	
31	2	2	2	
32	1	1	1	

DBS 90					
Analogue Lines					
Trunk No.	0	6	12	18	24
1	1	1	1	1	1
2	2	2	2	2	2
3	30	3	3	3	3
4	29	4	4	4	4
5	28	5	5	5	5
6	27	6	6	6	6
7	26		7	7	7
8	25		8	8	8
9	24	24	9	9	9
10	23	23	10	10	10
11	22	22	11	11	11
12	21	21	12	12	12
13	20	20		13	13
14	19	19		14	14
15	18	18		15	15
16	17	17		16	16
17	16	16	16	17	17
18	15	15	15	18	18
19	14	14	14		19
20	13	13	13		20
21	12	12	12		21
22	11	11	11		22
23	10	10	10		23
24	9	9	9		24
25	8	8	8	8	
26	7	7	7	7	
27	6	6	6	6	
28	5	5	5	5	
29	4	4	4	4	
30	3	3	3	3	
31	2	2	2	2	
32	1	1	1	1	

DBS Analogue Lines vs. Digital Channel Configurations

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Product Description**

DBS 128							
Trunk No.	0	6	12	18	24	30	36
1		1	1	1	1	1	1
2		2	2	2	2	2	2
3		3	3	3	3	3	3
4		4	4	4	4	4	4
5		5	5	5	5	5	5
6		6	6	6	6	6	6
7			7	7	7	7	7
8			8	8	8	8	8
9			9	9	9	9	9
10			10	10	10	10	10
11			11	11	11	11	11
12			12	12	12	12	12
13				13	13	13	13
14				14	14	14	14
15				15	15	15	15
16				16	16	16	16
17				17	17	17	17
18				18	18	18	18
19	30	30	30	30	19	19	19
20	29	29	29	29	20	20	20
21	28	28	28	28	21	21	21
22	27	27	27	27	22	22	22
23	26	26	26	26	23	23	23
24	25	25	25	25	24	24	24
25	24	24	24	24	24	25	25
26	23	23	23	23	23	26	26
27	22	22	22	22	22	27	27
28	21	21	21	21	21	28	28
29	20	20	20	20	20	29	29
30	19	19	19	19	19	30	30
31	18	18	18	18	18		31
32	17	17	17	17	17		32
33	16	16	16	16	16	16	33
34	15	15	15	15	15	15	34
35	14	14	14	14	14	14	35
36	13	13	13	13	13	13	36
37	12	12	12	12	12	12	
38	11	11	11	11	11	11	
39	10	10	10	10	10	10	
40	9	9	9	9	9	9	
41	8	8	8	8	8	8	
42	7	7	7	7	7	7	
43	6	6	6	6	6	6	
44	5	5	5	5	5	5	
45	4	4	4	4	4	4	
46	3	3	3	3	3	3	
47	2	2	2	2	2	2	
48	1	1	1	1	1	1	

DBS 156								
Trunk No.	0	6	12	18	24	30	36	42
1		1	1	1	1	1	1	1
2		2	2	2	2	2	2	2
3		3	3	3	3	3	3	3
4		4	4	4	4	4	4	4
5		5	5	5	5	5	5	5
6		6	6	6	6	6	6	6
7			7	7	7	7	7	7
8			8	8	8	8	8	8
9			9	9	9	9	9	9
10			10	10	10	10	10	10
11			11	11	11	11	11	11
12			12	12	12	12	12	12
13				13	13	13	13	13
14				14	14	14	14	14
15				15	15	15	15	15
16				16	16	16	16	16
17				17	17	17	17	17
18				18	18	18	18	18
19	30	30	30	30	19	19	19	19
20	29	29	29	29	20	20	20	20
21	28	28	28	28	21	21	21	21
22	27	27	27	27	22	22	22	22
23	26	26	26	26	23	23	23	23
24	25	25	25	25	24	24	24	24
25	24	24	24	24	24	25	25	25
26	23	23	23	23	23	26	26	26
27	22	22	22	22	22	27	27	27
28	21	21	21	21	21	28	28	28
29	20	20	20	20	20	29	29	29
30	19	19	19	19	19	30	30	30
31	18	18	18	18	18		31	31
32	17	17	17	17	17		32	32
33	16	16	16	16	16	16	33	33
34	15	15	15	15	15	15	34	34
35	14	14	14	14	14	14	35	35
36	13	13	13	13	13	13	36	36
37	12	12	12	12	12	12		37
38	11	11	11	11	11	11		38
39	10	10	10	10	10	10		39
40	9	9	9	9	9	9		40
41	8	8	8	8	8	8	8	41
42	7	7	7	7	7	7	7	42
43	6	6	6	6	6	6	6	
44	5	5	5	5	5	5	5	
45	4	4	4	4	4	4	4	
46	3	3	3	3	3	3	3	
47	2	2	2	2	2	2	2	
48	1	1	1	1	1	1	1	

DBS Analogue Lines vs. Digital Channel Configurations

**Panasonic Digital Business System
Product Description**

DBS 180									
Trunk No.	0	6	12	18	24	30	36	42	48
1		1	1	1	1	1	1	1	1
2		2	2	2	2	2	2	2	2
3		3	3	3	3	3	3	3	3
4		4	4	4	4	4	4	4	4
5		5	5	5	5	5	5	5	5
6		6	6	6	6	6	6	6	6
7			7	7	7	7	7	7	7
8			8	8	8	8	8	8	8
9			9	9	9	9	9	9	9
10			10	10	10	10	10	10	10
11			11	11	11	11	11	11	11
12			12	12	12	12	12	12	12
13				13	13	13	13	13	13
14				14	14	14	14	14	14
15				15	15	15	15	15	15
16				16	16	16	16	16	16
17				17	17	17	17	17	17
18				18	18	18	18	18	18
19	30	30	30	30	19	19	19	19	19
20	29	29	29	29	20	20	20	20	20
21	28	28	28	28	21	21	21	21	21
22	27	27	27	27	22	22	22	22	22
23	26	26	26	26	23	23	23	23	23
24	25	25	25	25	24	24	24	24	24
25	24	24	24	24	24	25	25	25	25
26	23	23	23	23	23	26	26	26	26
27	22	22	22	22	22	27	27	27	27
28	21	21	21	21	21	28	28	28	28
29	20	20	20	20	20	29	29	29	29
30	19	19	19	19	19	30	30	30	30
31	18	18	18	18	18		31	31	31
32	17	17	17	17	17		32	32	32
33	16	16	16	16	16	16	33	33	33
34	15	15	15	15	15	15	34	34	34
35	14	14	14	14	14	14	35	35	35
36	13	13	13	13	13	13	36	36	36
37	12	12	12	12	12	12		37	37
38	11	11	11	11	11	11		38	38
39	10	10	10	10	10	10		39	39
40	9	9	9	9	9	9		40	40
41	8	8	8	8	8	8	8	41	41
42	7	7	7	7	7	7	7	42	42
43	6	6	6	6	6	6	6		43
44	5	5	5	5	5	5	5		44
45	4	4	4	4	4	4	4		45
46	3	3	3	3	3	3	3		46
47	2	2	2	2	2	2	2		47
48	1	1	1	1	1	1	1		48

DBS Analogue Lines vs. Digital Channel Configurations

**Panasonic Digital Business System
Product Description**




DBS 128							
Trunk No.	0	6	12	18	24	30	36
1	18	1	1	1	1	1	1
2	17	2	2	2	2	2	2
3	16	3	3	3	3	3	3
4	15	4	4	4	4	4	4
5	14	5	5	5	5	5	5
6	13	6	6	6	6	6	6
7	12	12	7	7	7	7	7
8	11	11	8	8	8	8	8
9	10	10	9	9	9	9	9
10	9	9	10	10	10	10	10
11	8	8	11	11	11	11	11
12	7	7	12	12	12	12	12
13	6	6	6	13	13	13	13
14	5	5	5	14	14	14	14
15	4	4	4	15	15	15	15
16	3	3	3	16	16	16	16
17	2	2	2	17	17	17	17
18	1	1	1	18	18	18	18
19	30	30	30	30	19	19	19
20	29	29	29	29	20	20	20
21	28	28	28	28	21	21	21
22	27	27	27	27	22	22	22
23	26	26	26	26	23	23	23
24	25	25	25	25	24	24	24
25	24	24	24	24	24	25	25
26	23	23	23	23	23	26	26
27	22	22	22	22	22	27	27
28	21	21	21	21	21	28	28
29	20	20	20	20	20	29	29
30	19	19	19	19	19	30	30
31	18	18	18	18	18	18	31
32	17	17	17	17	17	17	32
33	16	16	16	16	16	16	33
34	15	15	15	15	15	15	34
35	14	14	14	14	14	14	35
36	13	13	13	13	13	13	36
37	12	12	12	12	12	12	
38	11	11	11	11	11	11	
39	10	10	10	10	10	10	
40	9	9	9	9	9	9	
41	8	8	8	8	8	8	
42	7	7	7	7	7	7	
43	6	6	6	6	6	6	
44	5	5	5	5	5	5	
45	4	4	4	4	4	4	
46	3	3	3	3	3	3	
47	2	2	2	2	2	2	
48	1	1	1	1	1	1	

DBS 156								
Trunk No.	0	6	12	18	24	30	36	42
1	18	1	1	1	1	1	1	1
2	17	2	2	2	2	2	2	2
3	16	3	3	3	3	3	3	3
4	15	4	4	4	4	4	4	4
5	14	5	5	5	5	5	5	5
6	13	6	6	6	6	6	6	6
7	12	12	7	7	7	7	7	7
8	11	11	8	8	8	8	8	8
9	10	10	9	9	9	9	9	9
10	9	9	10	10	10	10	10	10
11	8	8	11	11	11	11	11	11
12	7	7	12	12	12	12	12	12
13	6	6	6	13	13	13	13	13
14	5	5	5	14	14	14	14	14
15	4	4	4	15	15	15	15	15
16	3	3	3	16	16	16	16	16
17	2	2	2	17	17	17	17	17
18	1	1	1	18	18	18	18	18
19	30	30	30	30	19	19	19	19
20	29	29	29	29	20	20	20	20
21	28	28	28	28	21	21	21	21
22	27	27	27	27	22	22	22	22
23	26	26	26	26	23	23	23	23
24	25	25	25	25	24	24	24	24
25	24	24	24	24	24	25	25	25
26	23	23	23	23	23	26	26	26
27	22	22	22	22	22	27	27	27
28	21	21	21	21	21	28	28	28
29	20	20	20	20	20	29	29	29
30	19	19	19	19	19	30	30	30
31	18	18	18	18	18	18	31	31
32	17	17	17	17	17	17	32	32
33	16	16	16	16	16	16	33	33
34	15	15	15	15	15	15	34	34
35	14	14	14	14	14	14	35	35
36	13	13	13	13	13	13	36	36
37	12	12	12	12	12	12	12	37
38	11	11	11	11	11	11	11	38
39	10	10	10	10	10	10	10	39
40	9	9	9	9	9	9	9	40
41	8	8	8	8	8	8	8	41
42	7	7	7	7	7	7	7	42
43	6	6	6	6	6	6	6	
44	5	5	5	5	5	5	5	
45	4	4	4	4	4	4	4	
46	3	3	3	3	3	3	3	
47	2	2	2	2	2	2	2	
48	1	1	1	1	1	1	1	

**DBS Analogue Lines vs. Digital Channel Configurations
When Using CPC-EX v1.5 Or Later**

**Panasonic Digital Business System
Product Description**

DBS 180									
Trunk No.	0	6	12	18	24	30	36	42	48
1	18	1	1	1	1	1	1	1	1
2	17	2	2	2	2	2	2	2	2
3	16	3	3	3	3	3	3	3	3
4	15	4	4	4	4	4	4	4	4
5	14	5	5	5	5	5	5	5	5
6	13	6	6	6	6	6	6	6	6
7	12	12	7	7	7	7	7	7	7
8	11	11	8	8	8	8	8	8	8
9	10	10	9	9	9	9	9	9	9
10	9	9	10	10	10	10	10	10	10
11	8	8	11	11	11	11	11	11	11
12	7	7	12	12	12	12	12	12	12
13	6	6	6	13	13	13	13	13	13
14	5	5	5	14	14	14	14	14	14
15	4	4	4	15	15	15	15	15	15
16	3	3	3	16	16	16	16	16	16
17	2	2	2	17	17	17	17	17	17
18	1	1	1	18	18	18	18	18	18
19	30	30	30	30	19	19	19	19	19
20	29	29	29	29	20	20	20	20	20
21	28	28	28	28	21	21	21	21	21
22	27	27	27	27	22	22	22	22	22
23	26	26	26	26	23	23	23	23	23
24	25	25	25	25	24	24	24	24	24
25	24	24	24	24	24	25	25	25	25
26	23	23	23	23	23	26	26	26	26
27	22	22	22	22	22	27	27	27	27
28	21	21	21	21	21	28	28	28	28
29	20	20	20	20	20	29	29	29	29
30	19	19	19	19	19	30	30	30	30
31	18	18	18	18	18	18	31	31	31
32	17	17	17	17	17	17	32	32	32
33	16	16	16	16	16	16	33	33	33
34	15	15	15	15	15	15	34	34	34
35	14	14	14	14	14	14	35	35	35
36	13	13	13	13	13	13	36	36	36
37	12	12	12	12	12	12	12	37	37
38	11	11	11	11	11	11	11	38	38
39	10	10	10	10	10	10	10	39	39
40	9	9	9	9	9	9	9	9	40
41	8	8	8	8	8	8	8	8	41
42	7	7	7	7	7	7	7	7	42
43	6	6	6	6	6	6	6	6	43
44	5	5	5	5	5	5	5	5	44
45	4	4	4	4	4	4	4	4	45
46	3	3	3	3	3	3	3	3	46
47	2	2	2	2	2	2	2	2	47
48	1	1	1	1	1	1	1	1	48

	PSTN
	ISDN From Master CCU
	ISDN From Slave CCU

**DBS Analogue Lines vs. Digital Channel Configurations
When Using CPC-EX v1.5 Or Later**

E-ISDN Interface

The CPC-EX v1.5 software provides the ability to connect to either DASSII or Q.931 ISDN protocols. In addition a second digital trunk card may be fitted to double cabinet DBS systems to give a full 48 (maximum allowed by DBS) channels split over two digital 'pipes'. In this case both cards must be running the same ISDN protocol. Channels can be split as required between the two cards up to a maximum of 48.

The Euro ISDN protocol supports Sub-addressing and 3.1Khz Audio calls in addition to the DDI and CLI facilities available with DASSII. Sub-addressing is a DISA like function over the digital network. Digits are dialled after the telephone number and these are passed to the receiving system and used to route the call internally. 3.1Khz Audio is a setting which allows calls requiring limited bandwidth (modem and fax calls) to only take up the minimum required bandwidth and not reserve system resources from calls which require the full channel bandwidth.

The DDI routing has been extended to include a follow on extension option for each DDI on the system with the call reverting to the operator if both destinations are unanswered for any reason.

Configurations are similar to the DASSII interface and the same set of table son the preceding pages can be used.

E&M Private Circuit Connection

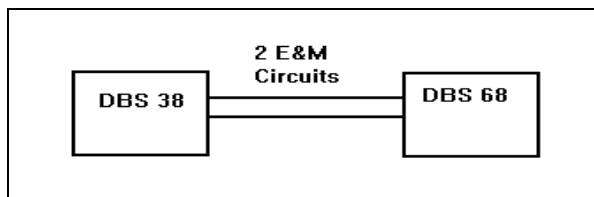
The E&M card (VB3663) is an interface card to provide a wide area DBS networking facility using E&M Private lines. Each E&M card provides three circuit connections.

The E&M card allows the DBS to be connected to equipment with a 2-wire plus E&M (ABEM) / DC5 interface. This type of equipment includes DC5/AC15 converters and Multiplexers (MUXs).

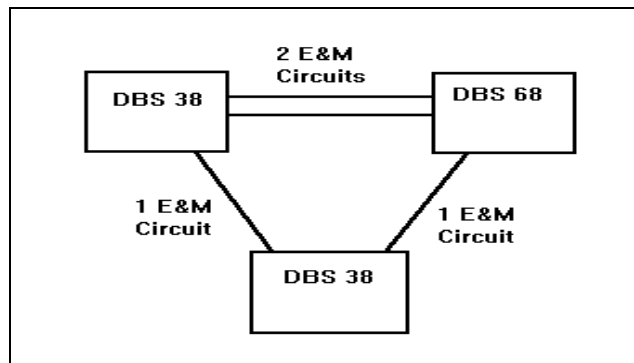
Up to four DBS's can be networked. When building a network, any connection pattern can be used provided private circuit connections are available. Each E&M Card will support up to 3 circuits.

When the E&M interface is fitted the DASS II interface option is not available.

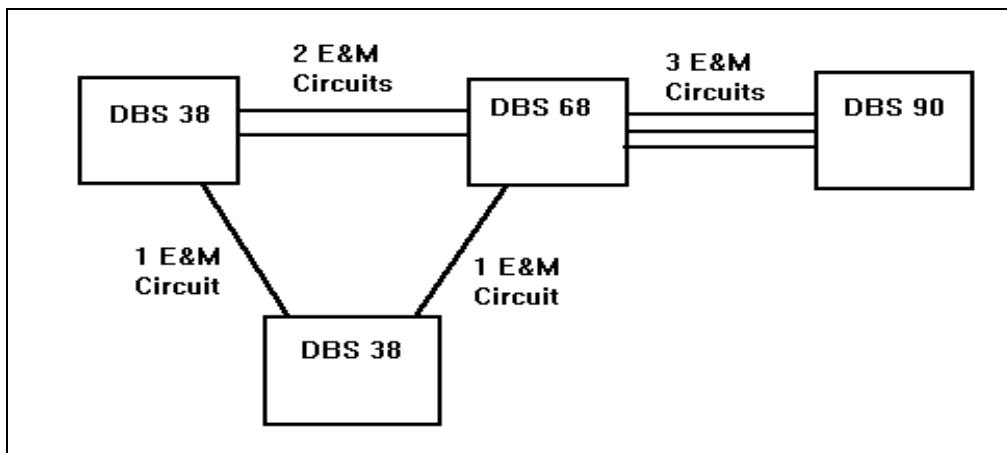
Typical Examples Of E&M Linked Systems



E&M 2-system configuration



E&M 3-system configuration



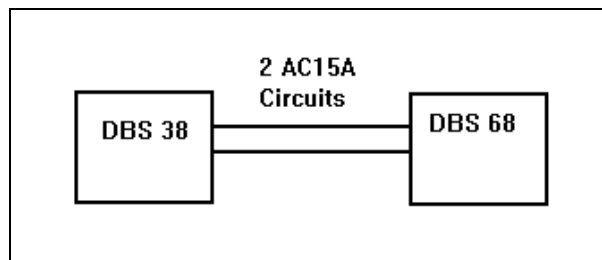
E&M 4-system configuration

AC15A Card (from CPC-EX)

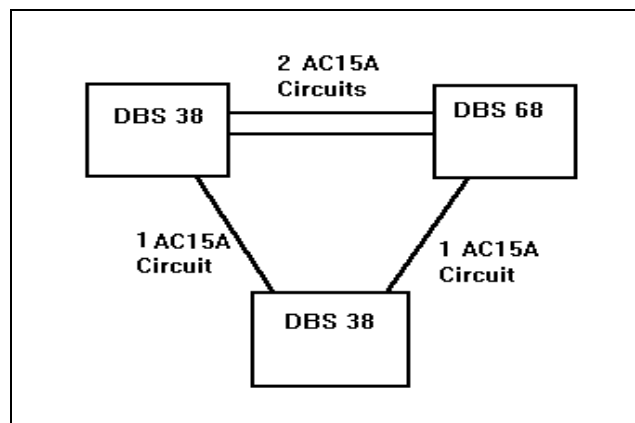
The AC15A card (VB3673) is an interface card to provide a wide area DBS networking facility using AC15A Private lines. Each AC15A card provides three circuit connections.

The AC15A card allows the DBS to be connected to equipment with a 4 wire AC15A circuit. This type of equipment includes converters and Multiplexers (MUXs).

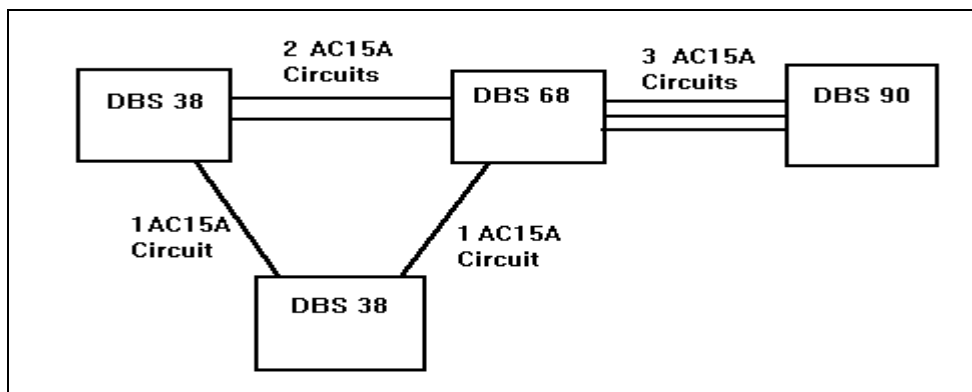
Typical Examples



AC15A 2-system configuration



AC15A 3-system configuration



AC15A 4-system configuration

Call Restriction

Description

Call restriction in the DBS allows the control of access to outside lines on a per extension and per line basis. This restriction can vary in the day or night mode. The five classes of restriction are as follows:

Class	Restriction
1	Internal & "999" calls only
2	Internal & "999" plus local Calls
3	Internal & "999" & local calls plus national calls
4	Internal & "999" & local calls & national plus international calls
5	No restrictions

Access to dialling using the SSD may also be allowed / disallowed on a system wide basis.

For class of service 2 ,up to 50 numbers of upto 8 digits may be restricted. The class of service to use when an extension is locked may also be set on a system wide basis.

The "*" or "#" key may be barred to stop switching to tone dialling (on pulse dialling systems) or to stop access to certain network services.

Benefits

Controls call costs and prevents call abuse by providing automatic blocking of calls placed to restricted numbers.

Call Logging Interface

Description

By attaching a serial printer or call management system to the RS232C port , a detailed record of all incoming and outgoing calls , selectable for local or long distance, can be kept for future reference.

The data contains information on the extension making or receiving the call , the time of the call, length of the call, the number dialled, the type of call and whether the call was answered and transferred.

When using the DASS II interface and renting the optional call charge service from your network provider the DBS can receive and print the precise cost of the call upon its completion, as part of its call logging output.

Benefits

Provides accounting management tool for allocation of telephone expenses. Identifies areas for system or feature upgrade. Provides customer with record of telephone usage which can be used in making budgetary and planning forecasts. Prevents telephone abuse and misuse by identifying unauthorised outgoing calls.

Call Logging Indication Of Held And Transferred Calls (from v4.1 / ISDN 1.2)

The call logging output has been updated to show DASS II calls and calls which have been held or transferred.

The new condition codes are shown below:

Condition Code	Meaning
H	Call has been held and retrieved or recalled. The time field shows when the call was retrieved and the duration will shown how long it was held for. If the caller cleared when on hold the line number will be preceded by a '*'. Type of hold is not detected.
T	Call has been transferred or held and retrieved or recalled at some point. This will print at the end of the call where the start time is the time it was transferred or retrieved and the duration is the time since it was transferred or retrieved.
i	Incoming DASS II call
o	Outgoing DASS II call
Z	Incoming DASS II DDI call

Other Features

Flexible Line Assignment

Description

The function keys on the keysets can be used to display lines connected to the system in a 2 different ways.

1. Direct appearance (1 line per key) of each exchange line.
2. Pooled line appearance (lines grouped under one key)

The keys can be programmed to show the lines in any order and group and single line keys can be mixed on the same extension.

Benefits

Provides for private line ability.
Separates departments.
Conserves the number of keys to use for other features.

Prime Line Preference

Description

Prime line preference allows a user to automatically select a preset line or line group for dialling out on when the handset is lifted or speakerphone is activated, thus eliminating the need to manually select lines.

The line or group to be selected is programmed under the first line key on the extension and another key is programmed as an intercom key so that internal calls can still be made.

Benefits

Eliminates a step for dialling out.
Allows for better control of specific lines set for specific extensions.

Account Codes

Description

This feature allows a user to enter an accounting code or a client billing code (up to 10 digits) which will print out with the call record on the printer. The account code entry can be voluntary or forced dependant upon requirements.

Benefits

Provides cost accounting tool to allocate telephone expenses (outgoing call costs) to specific clients/departments.
Provides verification of correct entry by displaying account code on extensions alphanumeric display.
Provides record keeping confidentiality by allowing account code entry without interruption to ongoing conversation.
Ideal for Lawyers, accountants, etc.

Headset Connection

Description

All keyphones are headset compatible. A flexible feature key can be programmed as a headset activate/de-activate switch. When the switch is activated all audio is switched to the headset, including speaker audio. The headset feature can also be used with the "release , answer" and "on/off" keys to allow ease of use.

Benefits

Allows headset operation from any keyphone thereby increasing the efficiency of user.

Station Lock

Description

Each telephone can be given a unique four digit code, which when entered locks the extension. External calls will be disabled, or the phone will be barred to a pre-programmed class of service.(The COS in this case is set on a system wide basis.)

Benefits

Provides added control over telephone usage.

Enables certain telephones to be used only by authorised personnel that have access to codes.

Applications include warehouse phones, reception phones, etc.

Handsfree Answerback

Description

All keyphones, except the VB3011, are equipped with handsfree answerback for intercom calls. When an internal call is received the extension user being called can reply to the caller without lifting the handset.

Note: This is a separate feature to the speakerphone (handsfree) option on some keysets.

Benefits

Simplifies call processing by allowing internal calls to be answered without having to pick up the handset. Ideal for hands free environments such as engineers, architects, executives, doctors etc.

Automatic Recall

Description

All calls transferred through the operator and left unanswered will automatically revert back to the operator after a set time. The DBS also has adjustable recall timers for calls placed in each of the holding modes and for internal or external calls when transferred,.

Benefit

Improves customer service by ensuring that calls are processed and handled within a given time.

Alternative Answering Position

Description

Two operator consoles can be installed on the system allowing the incoming traffic to be handled by two operators or in two places at different times of day.

Benefits

Allows for better control of high traffic situations.

On Hook Dialling

Description

There is no need to lift the handset when placing a call with any keyphone. When placing a call simply press the line or ON/OFF key and dial the required number. Also, while in a conversation, it is possible to monitor the conversation by simply pressing the on/off key and replacing the handset. If you are using a non speaker phone simply pick up the handset to continue your conversation.

Benefits

Increases productivity by freeing up users and allowing them to do paperwork, etc.

Dial Tone Mute

Description

The internal dial tone can be turned off if desired.

Benefits

Useful in environments where the hands free dialling capability is important but there is too much noise generated. Telemarketing, customer service, etc.

Alarm

Description

Each extension may set the system to call back at a specific time as a reminder of an event or meeting.

Benefits

Provides a built in alarm function.

Volume and LCD Contrast Adjustment

Description

There are different volume control functions available to keysets on a per extension basis. One volume control for the speaker, background music and internal dial tone and another for the ring and voice levels via the speaker.. It is also possible to adjust the LCD display contrast.

Dual Colour LEDs

Description

Each FF key has a dual colour LED. Red is a busy line and green is the line you are speaking on. When a key is assigned as a BLF these dual colours are also utilised to indicate busy extensions, extensions that are in a DND mode, and extensions utilising absence messaging etc.

Benefits

Lets you know which line you are talking on, especially when a call is put on hold.
When a call is transferred to another extension, in addition to ringing, the line will also flash green indicating which line is being transferred.
Applications include manager /secretary operation.

Microphone Mute

Description

Users have the ability to switch off their microphone for privacy.

Benefits

To ensure privacy when someone intercoms a station or while using speakerphone.

Doorphone Interface

Description

Up to 2 door boxes can be attached to the system via a doorphone interface option connected to an exchange line port, which may be set to ring on any combination of extensions. The doorphone interface also contains a relay to control a door release mechanism.

The opener can be controlled via any system phone.

Benefits

Provides security for companies in which entrances may be left unattended.

Background Music

Description

An external music input allows for connection of a music source to the DBS. This source can be used as a background music function and be played through the speakers of keyphones.

Benefits

Creates a pleasant working environment.

Pulse / DTMF Dialling

Description

Each of the exchange lines can be programmed for DTMF (dual tone multi frequency) or loop disconnect (pulse) dialling on a per line basis.

Benefits

This allows for different types of lines to be attached to the system without the need for special equipment.

Operator Call Queuing (from CPC-EX)

Internal callers dialling the operator using 0 will always receive ringing tone and will queue if the operator is busy. Dialling the operator by extension number instead of 0 will not invoke the queuing function.

There is no limit to the number of such calls that can queue. Queuing internal calls will not be subject to Operator Call Overflow and will not transfer if the overflow facility is configured.

The order in which the queued calls are answered will be determined by the Incoming Ringing Priority set for the system. If external calls are given highest priority the internal calls will queue behind any incoming external calls; if internal calls are highest priority they will be queued in front of incoming external calls. In both cases the internal calls will be queued in the order they are received.

If a second operator is set up, the internal calls will queue for both and ring through to the first one to become free. If Off Hook Signalling is set a call waiting tone will be sent.

In Night Mode, dial 0 will queue to the designated night ring telephone. If no night ring telephone is set it will return busy tone. If the system mode changes between Day/Night or Night/Day whilst calls are queuing those calls will be unaffected and continue to queue until answered at the current extension.

Incoming Call Ring Priority (from CPC-EX)

The priority of incoming calls can now be determined via programming. Either internal calls or external calls can be given highest priority and will override lower priority calls which may be ringing at an extension when they are received.

If 2 calls of the same priority level are ringing they are answered on a first come first served basis, except DDI and DISA calls which will not camp on.

BLF DSS (from CPC-EX)

The BLF DSS uses the existing DSS console (VB3631 / VBD361) as an extended BLF unit which can be assigned to work with any non-operator key station. The BLF DSS will not operate in conjunction with the VB3011 or an SLT and any keyset can only have 1 BLF DSS unit associated with it. Up to four such BLF DSS units can be assigned for the system.

When used as a keyset BLF DSS the console will operate only as a BLF. Single key transfer will operate, but extension pick up will not be supported.

PAD Level Control (from CPC-EX)

During conversations involving two lines differences in the line levels can lead to howling. To prevent this the cross connection levels between the installed line types can be adjusted to remove the howl. To use these setting the Synchronisation unit VB3668UK must be installed on the CPC-EX card.

New Bus Monitor / Remote Programming Serial Port (from CPC-EX)

With the introduction of the CPC-EX a second serial port has been added for use when collecting Bus Monitor data and performing remote programming. It is located directly on the PCB of the CPC-EX card .

In addition to the second serial port the maximum port speed has been increased from 9600 bps to 19200bps. The ports' usage is also separated, i.e. The call logging port is for call logging only and the new port for system monitor and programming only. When in programming mode the call logging is suspended and buffered and resumes when programming is complete. When programming mode is exited the system will return top call logging and bus monitor modes.

Summary Of Software Enhancements From August 1995

In August 1995 two new levels of software were released, which further enhanced the features of the DBS.

The following features became available:

- % Group Ringing
- % Incoming Line Name Assignment
- % Internal DTMF Dialling From SSD And PSD
- % Call Logging Indication For Hold And Transfer
- % All 180 SSD Can Be Made Available To Each Extension
- % Call Charge Increased To 4 Digits
- % Call Forward To Voicemail LED/LCD Indication Switchable Via Programming
- % DDI Group Name Display On Incoming Calls (ISDN v1.1 Only)
- % Absence Message Entry By Numeric Keys For Operator Without DSS
- % Call Forward No Answer Can Be Set From Large Display Keypad Menus

The Expanded Processor Card (CPC-EX) Summary

The CPC-EX card is an expanded and enhanced CPU card for the DBS. providing new facilities to further enhance the functionality of the DBS.

The CPC-EX can be fitted to any DBS system,

In conjunction with the CPC-EX there is a new range of handsets, which can directly replace the current range and offer expanded features over the previous models. The new handsets will only operate with the CPC-EX or later software, earlier handsets will still operate with CPC-EX.

The following new features are available with the CPC-EX.

- ☎ DC5 & ISDN features on a single CPC card
- ☎ Incoming ringing priority for internal or external calls
- ☎ Internal call queuing at the operator
- ☎ Call forward to an external number
- ☎ Trunk to trunk transfer
- ☎ Trunk to trunk conference
- ☎ DISA break out
- ☎ Expanded hunt groups to 24 groups of 32 extensions
- ☎ Cyclic hunting mode
- ☎ Ringing hunting mode
- ☎ Support for 4 BLF DSS units
- ☎ ISDN CLI lookup using SSD names
- ☎ Support for new DBS handset range

The new handsets offer the following in addition to the current range.

- ☎ Live keypad
- ☎ Volume control for
 - Incoming internal call ringing
 - Incoming external call ringing
 - Internal call monitor
 - External call monitor
- ☎ Off hook monitor
- ☎ Handset mute
- ☎ Large LED for ringing and message indication
- ☎ LINE key
- ☎ MIC key now an FF key function

The new extension model numbers are listed below:

VBD3411	12 Key standard
VBD3411DS	12 Key display speakerphone
VBD3611D	24 Key display
VBD3611DS	24 Key display speakerphone
VBD3411LDS	12 Key large display speakerphone

CPC-EX v1.5 Software Enhancements Summary

The new facilities for the DBS provided with the CPC-EX v1.5.

These facilities are:

- % Euro ISDN
- % Multiple ISDN pipes
- % Alternative DDI Destination
- % DDI Group Ring With Call Forward
- % Ringing Hunting For External Calls
- % Operator Call Forward All Calls
- % Extension Feature Clear
- % Programming Mode At Any Display Keypad