



GENERAL

DESCRIPTION

BX SERIES

(C) AUTO TELECOM 2000

THIS MANUAL WAS WRITTEN FOR SOFTWARE VERSION I00r(B1-408), CX8-I03o (BX8) & MS-I01s9 (BX320) . WHILE ALL CARE HAS BEEN TAKEN TO ENSURE ACCURACY IT RESTS WITH THE INSTALLER TO ENSURE THAT THE FUNCTIONS PERFORM AS TO THE CUSTOMERS REQUIREMENTS. THE POLICY OF AUTO TELECOM IS ONE OF CONTINUAL IMPROVEMENT AND LATER VERSIONS OF HARDWARE AND SOFTWARE MAY CONTAIN ENHANCEMENTS TO THE OPERATION OR FUNCTIONS OF THE HYBEX. AUTO TELECOM DOES NOT AUTOMATICALLY PROVIDE LATER HARDWARE OR SOFTWARE VERSIONS TO ENHANCE FEATURES OR OPERATION AND A CHARGE MAY BE INCURRED FOR UPGRADES.

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AUTO TELECOM AUSTRALIA

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Description:

The B Series consist of 3 models The B1-408, BX8 and BX320. They use an **IAPX8088** microprocessor in the Central Processing Unit for distributed control, and "**Space Division Matrix**" for network switching. They work with proprietary Functional Key Telephones (AK1-21/AK1-22/AK1-33) and (KPU 61/KPU62/KPU63) , Single Line Telephones, or Optional Equipment (Doorphone, Door Open Switch, Fax Machine, Digital Voice Service, Radio/Tape Player -- External Music Source and sensor). They feature the following advantages:

Economy and Efficiency

- ! A maximum of **4/8/40** CO lines and **8/24/248** Extensions can be accommodated. This allows a wide variety of system applications.
- ! **Extensions can include** industry standard Single Line Telephones or Keyphones.
- ! Versatile programming and options for ease of selection and expanded service.

Easy Installation

- ! The Key Service Unit's small size takes little space for installation.
- ! Initial default system data base for quick programming.
- ! Quick Connectors for easy installation on B1 and BX8.

Easy Maintenance

- ! Solid-state design minimizes problems and daily maintenance or inspection.

Easy Expansion

- ! Various Optional Interface Cards for future expansion.

Key Telephone Features

- ! 32-character LCD Display (optional) shows:
 - . Time
 - . Last number dialed
 - . Dialed telephone number
 - . The status of operation/function
 - . Speed dial number
 - . Input data during system data entry
- ! 4/8 volume levels can be adjusted by Keypad.
- ! Distinctive Ring for each key telephone on AK series.
- ! Flexible Function Key Assignment to customize individual telephones.
- ! Help List for System and station programming.
- ! Dual-Color LED's to indicate the status of trunks.
- ! And many other features.
 - . Message waiting.
 - . System alarm.
 - . Toll restriction.
 - . Call accounting.
 - . Text messaging.
 - . Conference call.
 - . Morning call, etc.

General Specifications

SYSTEM CAPACITY B1-408:

(Model	: 208	408
(CO/PABX Lines	: 2	4
(Key Telephones (Maximum)	: 8	8
(Single Line Phones(Maximum)	: 8	8
(Control Relay	: 1	1
(External Input Sensor	: 1	1
(Intercom Paths (Local)	: 3	3
(Doorphone	: 1	1
(External Music	: 1	1

SYSTEM CAPACITY BX8:

(Model	:408	416	424	808	816	824	
(CO/PABX Lines	: 4	4	4	8	8	8	
(Key Telephones (Maximum)	: 8	16	24	8	16	24	
(Single Line Phones(Maximum)	: 8	16	24	8	16	24	
(Power Failure Phone	: 1	1	1	2	2	2	
(Fax Monitor	: 1	1	1	2	2	2	
(Control Relay	: 1	1	1	2	2	2	
(External Input Sensor		: 1	2	3	1	2	3
(Intercom Paths (Local)	:				6		
(Doorphone	:				2		
(External Paging	:				1		
(External Music	:				2		

(Speed dial B1-408 and BX8	: Total 600 sets for Private/Common Speed Dial.
	Private Speed Dial: 20 sets per station(Max.)
	Common Speed Dial: 600 sets (Max.)

SYSTEM CAPACITY BX320:

(CO/PABX/ISDN Lines:	0 to 40
(Key Telephones:	0 to 248
(Single Line Phones:	0 to 248
(Control Relay:	0 to 12
(External Input Sensor:	0 to 8
(Intercom Paths (Local):	6 to 38
(Doorphone:	2
(External Paging:	1
(External Music:	2

(Speed dial BX320	: Total 600 sets for Private/Common Speed Dial.
	Private Speed Dial: 20 sets per station(Max.)
	Common Speed Dial: 600 sets (Max.)

To achieve the maximum capacity and features some optional equipment may be required.

Electrical Specifications

CONTROL SYSTEM: Stored Program CPU: 8 /16 bits CPU

SWITCHING METHOD: SDM (Space Division Matrix)

B1-408

POWER REQUIREMENTS:

- (Input 100 - 120 V AC, (50/60Hz) 0.9 AMPS
- 200 - 270 V AC, (50/60Hz) 0.45 AMPS
- Dedicated AC line and a good earth ground for power supply.

POWER FAILURE:

- (System operation for 120 minutes (full load) or for 4 - 5 hours (normal load) by installing batteries (two x 12 V DC batteries 6.5 AH each).

POWER DISSIPATION:

- (Common Equipment Unit ... (idle) 21 W
- (full) 60 W

BX8

POWER REQUIREMENTS:

- (Input: 205 - 265 V AC, (50/60Hz) 0.45 AMPS
- Dedicated AC line and a good earth ground for power supply.

POWER FAILURE:

- (System operation for 60 minutes (full load) or for 2 - 3 hours (normal load) by installing batteries (two 12 V DC batteries 6.5 AH).

POWER DISSIPATION:

- (Common Equipment Unit ... (idle) 27 W

BX320

POWER REQUIREMENTS:

- (Input 200 - 265V AC, (50/60Hz) 1.5 AMPS
- Dedicated AC line with a 3 wire connection to provide a good earth ground for power supply and CO line protection..

POWER FAILURE:

- (System operation for 30 minutes (full load) or for 1 hours (normal load) by installing batteries (two 12 V DC batteries 6.5 AH).

POWER DISSIPATION:

- (Common Equipment Unit ... (idle) 46.2 W

- (Each Telephone:
 AK1-21/AK1-22/AK1-33 max. 2.8W
 Single Line Phone 1.25 W

DIALING:

- (Outward :Dial Pulse - 10 pps (Pulses Per Second), DTMF
- (Internal :Dial Pulse - 10 pps (Pulses Per Second) / DTMF / Digital

MAXIMUM LOOP RESISTANCE/IMPEDANCE:

- (Key Telephone Less than 40 ohms 26 AWG (0.4 mm) 150 m
- (Single Line telephone Less than 800 ohms 26 AWG (0.4 mm) 2000 m

- (Doorphone Less than 40 ohms
- (Music Source Input Impedance : 600 ohms
 Maximum Input : 0.775 VRMS

INTERNAL RELAY CONTACTS:

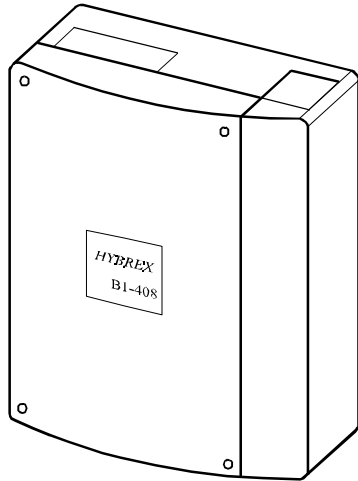
- Type: SPDT
- Rating: 3 AMP, 110VAC/220VAC
- Function: Door Switch, Music on Hold, etc

CABLE REQUIREMENTS:

- (CO/PABX Line: Twisted 1 Pair (2 wires)
- (Key Telephone: Twisted 2 Pairs (4 wires)
- (Doorphone: Twisted 1 Pair (2 wires)
- (Door Switch: Twisted 1 Pair (2 wires)
- (External Music Source: Twisted 1 Pair (2 wires)
- (Single Line Telephone: Twisted 1 Pair (2 wires)

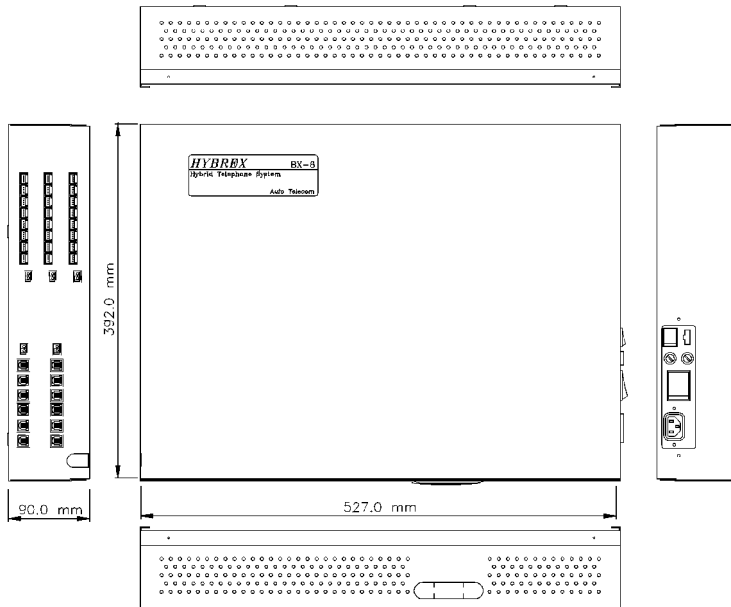
Mechanical Specifications

- (Cabinet Dimensions B1-408
 233mm W x 76mm D x 290mm H
 9.17" 2.99" 11.4"
- (Weights 2.3 Kg (Configuration: 2 x 8)
 5.0 lbs

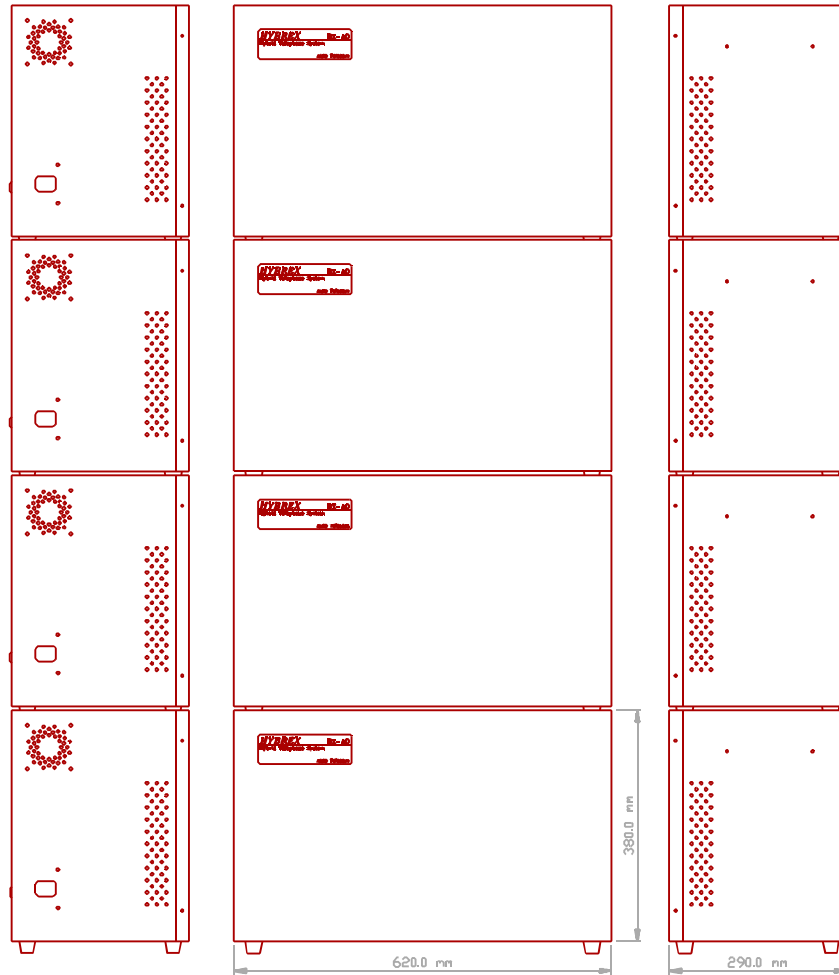


- (Cabinet Dimensions BX8
 392mm W x 90mm D x 527 mm H
 15.43" 3.54" 20.75"
- (Weights 11.8 Kg (Configuration: 4 x 8)

26.02
lbs



- (Cabinet Dimensions BX320
 380mm H x 290mm D x 620 mm W
 14.96" 11.42" 24.41"
- (Weight 17 Kg (Configuration: CBM with PSU)
 37.4 lbs



Environmental Specifications - All Systems

OPERATING CONDITIONS:

Temperature 0° to 45° C
 (32° to 113° F)
 Humidity 10 to 95% relative
 non-condensing

STORAGE CONDITIONS:

-40° to 66° C
 (-40° to 150° F)
 10 to 95% relative
 non-condensing

Features:



System Features:

- (Alarm - System
- (Attendant Console Assignment
- (Automatic Call Distribution
- (Automatic Line Access

- (Battery Charge Circuit

- (Daytime/Night Time Weekly Schedule
- (Day/Night Mode Manual/Automatic Switch
- (Dial Mode Selection(DP/DTMF)

- (Easy Installation and Operation

- (Flash Time - Programmable
- (Flexible Expansion
- (Flexible Ringing Assignment
- (Forced Account Code Assignment

- (Hold Recall
- (Host PABX Access
- (Hot line

- (Intercom Dialling Restriction

- (Link Maintenance

- (Message Waiting
- (Music On Hold

- (Night Transfer
- (Name for CO Line

- (On Call Programming

- (Password For DISA, System, Toll, and Others
- ('Pause' Stored for Speed Dial/Redial
- (Preventing Illegal Dialing (Quick Dialer)

- (Security Code
- (SLT Message Waiting Type
- (SLT HOLD Operation
- (SLT Calling Proof Capability
- (SLT Busy Remind Tone
- (SLT Programming Digit
- (System Speed Dial and Personal Speed Dial
- (System Data & Time Setting
- (System Resetting
- (System Time-Reminding Service

- (Toll Restriction
- (Trunk Administration



Station Features:

- (Absent Message
- (Access to System Programming
- (Account Code Capability
- (Alarm - Station
- (Answer
- (Answer Call Waiting
- (Automatic Call Back (Camp-On)
- (Automatic Answer-Intercom
- (Automatic Line Access
- (Automatic Redial

- (Call Waiting
- (Call Transfer
- (Call Forwarding (Follow Me)
- (Calling Doorphone
- (Camp On
- (Conference

- (Day Mode (Console)
- (Dial Access to Attendant
- (Direct Call Pickup
- (Directory Dial for Intercom
- (Directory Dial for Speed Dial
- (Do Not Disturb (DND)
- (Duration Time Display

- (Executive Override (Barge-In)
- (Flash (Open Loop Timed Flash)

- (Handsfree

- (Intercom

- (Last Number Redial
- (Lock Up/Unlock Extensions

- (Music On Hold

- (Night Mode (Console)

- (One Touch Dialing
- (Outward Dialing

- (Paging/Meet-Me Page
- (Privacy Release
- (Programmable Key (DSS Key)
- (Pulse/Tone Conversion

- (Ring Frequency Selection

- (Saved Number Redial
- (Speed Dialing
- (Store Speed Dial/DSS Number

- (Text Message
- (Toll Restriction Override
(Forced Account Code)
- (Trunk Queuing

- (Volume Controls

- (Zone Paging (Internal)



Optional Features:

- (Direct Inward System Access (DISA)
- (Doorphone
- (Door Switch
- (Dual Port

- (External Music Source

- (Relay Control
- (RS232

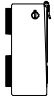
- (Sensor/Door Open Indication
- (Station Message Detail Record (SMDR)
- (System Data Print Out

- (VSC for DISA



System Modules - B1-408

<i>Model</i>	<i>Description</i>
B1-208K	Key Service Unit (2 Trunks and 8 Key Telephone Ports)
B1-208H2	Key Service Unit (2 Trunks and 6 Key Telephone Ports, 2 Hybrid Ports)
B1-208H8	Key Service Unit (2 Trunks and 8 Hybrid Ports)
B1-TKC	Expanded Trunk Card (2 Trunks)
B1-SLC/2	Hybrid Station Interface Card (2 Hybrid Ports)
B1-SLC/8	Hybrid Station Interface Card (8 Hybrid Ports)
B1-RGU	Ring Generator Unit



Optional Interface Cards -B1-408

<i>Model</i>	<i>Description</i>
B1-VSC	Voice Processing Card (1 Channel) - Attached on B1-MBU
B1-MSC	Relay/Sensor/External Music Interface/Door Phone Interface
B1-MSC-R	RS232/Relay/Sensor/Door Phone Interface/External Music Interface
B1-CKC	Calendar/Clock Card/RS232



System Modules - BX8

<i>Model</i>	<i>Description</i>
BX408	Key Service Unit (4 Trunks and 8 Hybrid Ports)
B2-TKU	Trunk Interface Unit (4 Trunks)
B2-HSU88	Hybrid Station Interface Unit (8 Hybrid Ports)
B2-HSU80	Station Interface Unit (8 Key Phones)



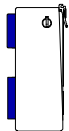
Optional Interface Cards - BX8

<i>Model</i>	<i>Description</i>
B2-VPC	Voice Processing Card (1 Channel-8 sections-60 secs) - Mounted on MBU
B2-RSC	RS-232 Interface Card - Mounted on MBU
B2-RPC	Remote Programming Card - Mounted on MBU
MDC50	Meter Pulse Detector / 50 Hz - Mounted on B2-TKU
MDC12	Meter Pulse Detector / 12K Hz - Mounted on B2-TKU



System Modules - BX320

Model	Description
B4-CBM	Cabinet for BX-320, with Motherboard and B3-PSU
B4-MPU	Main Processing Unit of BX-320
B4-IPU	Interface Processing Unit of BX-320
B4-TKU	Trunk Unit (Loop Start) - 4 CO Lines
B3-STU	Station Interface Unit - 8 Key Telephones
B3-SLU	Single Line Phone Unit - 8 Single Line Telephones



Optional Interface Cards - BX320

Model	Description
B4-EMC	Expansion Memory Card (128KB) - Attached on B4-MPU
B2-RSC	RS232 Interface Card - Attached on B4-MPU/B4-IPU
B2-RPC	Remote Programming Card - Attached on B4-MPU
B3-VSU	Voice Service Unit (4 Channels)
B3-SIU-A	ISDN System Unit 4 S/T Interface
B3-SIC-A	ISDN S/T Interface Expansion Card 4 ports
MPD50	Meter Pulse Detection Unit 50 Hz - Mounted on B3-TKU
MDC12	Meter Pulse Detection unit 12 KHz - Mounted on B3-TKU
WP5011	Expansion Cable for Connecting BX320 Expansion Cabinets (2 Required)



Type of Phones - All Systems

<i>Model</i>	<i>Description</i>
AK1-21	LCD Phone with Handsfree/16 Dual Color DSS/9 Programmable Function Keys
AK1-22	Handsfree Phone with 16 Dual Color DSS/9 Programmable Function Keys
AK1-23	Standard Phone with 16 Dual Color DSS/9 Programmable Function Keys
AK1-33	Standard Phone with 4 Dual Color DSS/6 Programmable Function Keys
KPU61	Executive Phone with LCD Display & 25 DSS Keys
KPU61H	As Above With Headset Interface
KPU62	Hands Free Phone with 25 DSS Buttons
KPU63	Standard Phone with 25 DSS Buttons
DSS60B	DSS with Dual Color LED'S (60 keys) BX8 and BX320 Only



Peripheral Software Packages

<i>Model</i>	<i>Description</i>
SMBX	BX8 System Manager
SMBX320	BX320 System Manager



Peripheral Devices - All Systems

<i>Model</i>	<i>Description</i>
DPU05	Door Phone - 2 Wires
BBOX1	Battery Box with Battery



Spare Parts B1-408

<i>Model</i>	<i>Description</i>
B1-PWU	Power Supply Board of B1-408
B1-MBU	Mother Board of B1-408



Spare Parts - BX8

<i>Model</i>	<i>Description</i>
B2-PWU	BX8 Power Supply Board
B2-MBU	BX8 Mother Board
B2-DFU	DTMF Generator/Decoder Board - Mounted on B2-MBU
B2-BAC	Bi-Directional Amplifier Module - Mounted on B2-TKU



Spare Parts - BX320

Model	Description
B3-PWU	Power Supply Unit For BX-320
B4-DGC	DTMF Generation Card - attached on B4-IPU
B4-MBU	Mother Board Unit of BX-320
B3-BAC	Bi-Directional Amplifier Card - attached on B3-TKU

Configuration B1-408:

	MODEL NO.	DESCRIPTION
Service Unit	208K	Power Unit (B1-PWU x 1) Mother Board Unit (B1-MBU x 1) Trunk Unit (B1-TKU x 1)
	208H2	Power Unit (B1-PWU x 1) Ring Generator Unit (B1-RGU x 1) Mother Board Unit (B1-MBU x 1) Trunk Unit (B1-TKU x 1) Hybrid Station Card (B1-SLC/2 x 1)
	208H8	Power Unit (B1-PWU x 1) Ring Generator Unit (B1-RGU x 1) Mother Board Unit (B1-MBU x 1) Trunk Unit (B1-TKU x 1) Hybrid Station Card (B1-SLC/8 x 1)

Note: The user can add an Expanded Trunk Card(B1-TKC) to the service unit to get the additional two

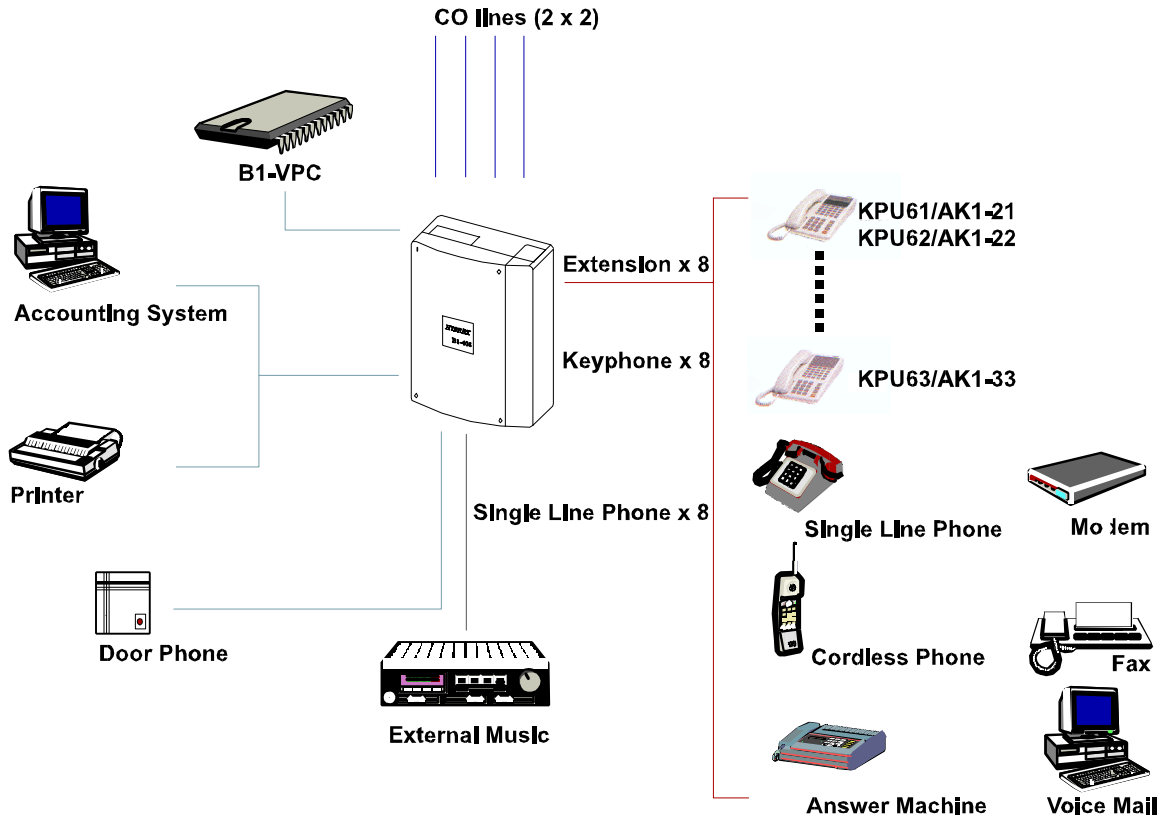
trunk interfaces.

Configuration BX8:

	MODEL NO.	DESCRIPTION
	408	Power Unit (B2-PWU x 1) Mother Board Unit (B2-MBU x 1) Trunk Unit (B2-TKU x 1) Hybrid Station Unit (B2-HSU x 1)
	416	Power Unit (B2-PWU x 1) Mother Board Unit (B2-MBU x 1) Trunk Unit (B2-TKU x 1) Hybrid Station Unit (B2-HSU x 2)
	424	Power Unit (B2-PWU x 1) Mother Board Unit (B2-MBU x 1) Trunk Unit (B2-TKU x 1) Hybrid Station Unit (B2-HSU x 3)
	808	Power Unit (B2-PWU x 1) Mother Board Unit (B2-MBU x 1) Trunk Unit (B2-TKU x 2) Hybrid Station Unit (B2-HSU x 1)
	816	Power Unit (B2-PWU x 1) Mother Board Unit (B2-MBU x 1) Trunk Unit (B2-TKU x 2) Hybrid Station Unit (B2-HSU x 2)
	824	Power Unit (B2-PWU x 1) Mother Board Unit (B2-MBU x 1) Trunk Unit (B2-TKU x 2) Hybrid Station Unit (B2-HSU x 3)

Installation Capability:

B1 - 408



BX8

