

**Crystal**<sup>™</sup>

Telecom • Energy Meter • CCTV

CONNECT TO A SUPERIOR TECHNOLOGY TODAY

Hybrid EPABX  
Key Telephone System



Intelligence Communication | Empower with Protection\*

CREATING BENCHMARKS SINCE 1981

Telecom | Multi Floor Apartment Solution | Audio-Video Broadcasting | Surveillance  
Multi Floor Home Alarm | Smart Energy Meter

## PLUTO Model



- 104**
  - 1 Trunk
  - 4 Extension
- 205**
  - 2 Trunk
  - 5 Extension



CALLER ID\*



MMOH\*



Battery Backup\*



KTS\*



Paging\*

## ALPHA Model



- 207exe**
  - 2 Trunk
  - 7 Extension



- 207KY**
  - 2 Trunk
  - 7 Extension
- 308KY**
  - 3 Trunk
  - 8 Extension



Electric Gadget Control\*



Voice Message\*



Computer\*

### PLUTO 104 / 205

Extension Function
Auto Call Back on Busy
Caller ID (Extn. and Trunk)
Call transfer
Call transfer to busy extn
Call Hold
Call pickup
Call toggle
Conference (3 party)
Call Forward: All calls
Call Privacy
Bargein
Monitor
Do not Disturb

  

Trunk Function
Round Robin Ring
Simultaneous Ring
Day / Night Mode ( Manual)
Class of service: Local / STD / ISD
DTMF Dialing
Last no. Redial
Auto shut dynamic lock
Global Memory Bank (50 no. for All Extn.)

### Extension Function ← 207 exe / 207 KY / 308 KY → Trunk Function

Standard	Customize	Administrative	Incoming	Outgoing	Cost Control
Auto Call Back on Busy / no Reply	Hunting Group ( Busy)	Bargein	Round Robin Ring	Access Group for Trunk	Auto shut dynamic lock
Caller ID (Extn. To Extn.)	Boss Secretary system	Executive Ring	Simultaneous Ring	Class of service: Local / STD / ISD	Accepted & Denied Table
Call Camp on	Call Forward: Busy / All calls / no reply	Flexible Numbering	Delayed Simultaneous Ring	DTMF / PULSE Dialing	Call Disconnect with warning (In/Out call)
Call Hold	Call Privacy	Monitor	DiD (Direct Inward Dialing)#	External Call Forwarding (ECF)	Call Budgeting
Call Parking	Follow me	Un supervised conference (2 party)	Direct Outward Station Access (DOSA)#	Hot Line Dialing (Trunk No.)	Global 90 Memory Bank (Common for All extn.)
Call pickup (Internal / Common / Parked)		Virtual Extension	Day / Night Mode	Last no. Redial	Personal 10 Memory Bank (for each Extn.)
Call toggle				Reserve junction line	
Conference (3 party)				Selective Trunk Barring	
Flash Time				Walk in Class of Service	
Hot Line Dialing (For intercom)					

### Inbuilt Value Added Function of 207 KY / 308 KY

#### Extended Function

- Power Failure Trunk Transfer
- Direct TRK Trf. to Respect Extn. System Control
- Password Protected
- Jn. Tie line count
- Remote Programming
- Two line Cordless Phone Ring

#### Exclusive Function

- Alarm
  - One time • Daily • Remote • Duration
- Auto FAX Homing
- Auto Day / Night Mode
- Linear Access Mode (LAM)
- Least Call Routing (LCR)-100No.

#### Trunk Call Buffer

- Call Buffer: 1150 No.
- ON Line / OFF Line Call Storage
- ASMDR with Billing in Rs.
  - Unit Rate • Service Charge
- Time slab (Weekday/Holiday)
- Accurate Billing By ACPD Logic

#### Trunk Call Printout

- Trunk Call Report
- Date wise Call Report
- Extn. Wise Call Report
- All Call Report
- Incoming Call Report with Duration
- Summary Report
- Unanswered / Missed Call Report

### Optional Value Added Function of 207exe / 207KY / 308 KY

207 exe / 308 KY	External Caller ID (DTMF/FSK)	MMOH (120 sec ) (For ALL Model)	207 KY / 308 KY	Voice Disa & Fax Tel (FDVC)	Serial & KTS Interface	Relay & Paging Interface
	TRK Caller ID Number on Extn					
	Transferable Caller ID (FSK/DTMF)	Voice Recordable		Welcome Greeting	To connect PC	Control Elect. Gadget
	Outgoing No. Transfer on EXTN/KTS	Put on Hold Replay		Auto Fax Tel	To connect KTS int.	10 Set of Timings
	CLI Transfer from Non CLI Phone			Day & Night Greeting	KTS interface	Paging
					2 Port for 2 KTS	Day / Night Option
						Alert tone

### Technical Specification

Technology	Microcontroller Based SPC
Trunk Loop Resistance	1200 ohms
Crosstalk	Better than 70 db
Input Power	AC 220V, 50Hz
Power Consumption	Max. 20W
Extn Voltage	35 V DC (Pluto / 207exe)
	48 V DC (207KY / 308KY)
Cabling	KTS on 2 pair & SLT on single pair

\*Required additional Hardware

### Configuration & Dimension

EPABX Model	Total Port	TRK (Max.)	Extn (Max.)	Dimension (cm)		
				W	H	D
104	5	1	4	22	21	5.5
205	7	2	5	22	21	5.5
207exe	9	2	7	27	28	6
207KY	9	2	7	27.5	28	6
308KY	11	3	8	27.5	28	6

\*Optional Utility / Function

### Power Management

EPABX Model	Power Supply	SMPS Battery Backup cum Charger (Optional)	Req. No. of Battery & Rating*
104	Inbuilt PS	N. A.	N. A.
205			
207exe		Internal / External SMPS (AVR	1 no., 12V,7AH
207KY		150V to 300V), 12V Battery	
308KY		Backup (without battery)	

N.A. (Not applicable)

## GAMMA Model



**16ZX (412 ZX)**  
 ◀ Max. 4 Trunk  
 ▶ Max. 14 Extension

**24ZX (618 ZX)**  
 ◀ Max. 6 Trunk  
 ▶ Max. 22 Extension

**40 ZX**  
 ▶ Max. 10 Trunk  
 ▶ Max. 38 Extension



**56 KX**  
 ▶ Max. 12 Trunk  
 ▶ Max. 54 Extension

**96 KX**  
 ▶ Max. 12 Trunk  
 ▶ Max. 94 Extension



CALLER ID\*



MMOH\*



Battery Backup\*



KTS\*



Paging\*



Electric Gadget Control\*



Voice Message\*



Computer\*

### Trunk Function

#### Ideal Incoming

- ◀ Round Robin Ring
- ◀ Simultaneous Ring
- ◀ Delay Simultaneous Ring
- ◀ FAX Homing
- ◀ Direct Inward Dialing (DID)#
- ◀ DID By Extension Number
- ◀ DID By Extension Name (ZX only)
- ◀ Direct Outward Station Access (DOSA)#
- ◀ To make external call
- ◀ To Relay control from Remote Location
- ◀ Day / Night Mode (Auto / Manual)#

#### Ideal Outgoing

- ◀ Access Group for Trunk
- ◀ Class of service: Local / STD / ISD
- ◀ DTMF / PULSE Dialing
- ◀ External Call Forwarding (ECF)
- ◀ Hot Line Dialing (Trunk No.)
- ◀ Last no. Redial
- ◀ Linear Access Mode (LAM)
- ◀ Reserve junction line
- ◀ Selective Trunk Barring
- ◀ Walk in Class of Service

#### Call Cost Control Outgoing

- ◀ Auto shut dynamic lock
- ◀ Accepted & Denied Table
- ◀ Call Disconnect (Incoming / Outgoing)
- ◀ Call Disconnect Warning Tone
- ◀ Call Budgeting
- ◀ Least Call Routing (LCR)-100 Number
- ◀ Global Memory Bank (Common for All extn.)
- ◀ ( ZX Model - 90\*5 no. with Name )
- ◀ ( KX Model 90 no. without name )
- ◀ Personal Memory Bank (Individual for Extn.)
- ◀ ( ZX Model - 9\*5no. With Name )
- ◀ ( KX Model 10 no. without name )

### Extension Function

#### Standard

- ◀ Auto Call Back on Busy / no Reply
- ◀ Caller ID (Extn. To Extn.)
- ◀ Call Camp on
- ◀ Call Hold
- ◀ Call Parking
- ◀ Call pickup (Internal/Common/Parked)
- ◀ Call toggle
- ◀ Conference (3 party)
- ◀ Do not Disturb (ZX model only)
- ◀ Flash Time
- ◀ Hot Line Dialing (For intercom)

#### Customize

- ◀ Alarm
- ◀ One time Alarm      Daily Alarm
- ◀ Remote Alarm      Duration Alarm
- ◀ Hunting Group ( Busy)
- ◀ Boss Secretary system
- ◀ Call Forward: Busy / All calls / no reply
- ◀ Call Privacy
- ◀ Follow me

#### Administrative

- ◀ Bargein
- ◀ Executive Ring
- ◀ Flexible Numbering
- ◀ Monitor
- ◀ Un supervised conference (2 party)
- ◀ Virtual Extension

#### Relay & Paging

- ◀ 1 port - 16 / 24 ZX (Elect. Gadget & D-Lock)
- ◀ 2 port - 40 ZX (Elect. Gadget & D-lock)
- ◀ 1 port- 56 / 96 KX (Elect. Gadget)
- ◀ 24 / 10 Set of Time for ZX / KX Model
- ◀ Automatic ON/OFF with time duration
- ◀ Relay control from Remote Location
- ◀ Paging (with / without Alert tone)
- ◀ Day / Night Mode option

### ASMDR Buffer

- ◀ Call Buffer 2150 No. (ZX Model)
- ◀ Call Buffer 1250 No. (KX Model)
- ◀ ON Line / OFF Line Call Storage
- ◀ ASMDR with Billing in Rs
- ◀ Unit Rate
- ◀ Service Charge
- ◀ Time slab setting (Weekday / Holiday)
- ◀ Accurate Billing By ACPD Logic

### Trunk Call Printout

- ◀ Trunk Call Report
- ◀ Date wise Call Report
- ◀ Extn. Wise Call Report
- ◀ All Call Report
- ◀ Incoming Call Report with Duration
- ◀ Summary Report
- ◀ Unanswered / Missed Call Report

### System Control

- ◀ Password Protected
- ◀ Built in RTC
- ◀ Bulk Programming
- ◀ Jn. Tie line count
- ◀ Remote Programming
- ◀ Two line Cordless Phone Ring
- ◀ Programming via PC
- ◀ 40ZX
- ◀ 56 KX / 96 KX
- ◀ Music/Ring back tone setting (ZX only)
- ◀ Power Failure Trunk Transfer
- ◀ Automatic TRK Trf. to Respective Extn.

### HOTEL Function

#### Standard

- ◀ Room no. wise extn no
- ◀ Floor wise room service
- ◀ Room call budgeting
- ◀ Message Reminder
- ◀ Single digit access to op-con
- ◀ Wakeup call service

#### Administrative

- ◀ Alarm no reply info at console
- ◀ Check in / out through
- ◀ Console
- ◀ Phone
- ◀ Computer
- ◀ Check in with guest name
- ◀ Caller ID-Guest name at console
- ◀ Guest station grouping
- ◀ Guest station service restriction
- ◀ Group Function
- ◀ Individual
- ◀ Guest
- ◀ Service
- ◀ Room Call Barring / open
- ◀ Room Status View at Console
- ◀ Temporary Check IN /OUT
- ◀ Welcome message

### Trunk Call Printout

#### Hotel Mode

- ◀ Room call printout
- ◀ Daily call printout
- ◀ Date wise call Report
- ◀ Hotel Name at printout report
- ◀ Guest Name at printout report
- ◀ 16 KHZ. Reversal Detection

### Optional Value Added Function of ZX / KX Model

#### External Caller ID (DTMF/FSK)

- TRK Caller ID Number on Extn
- Transferable Caller ID (FSK/DTMF)
- Outgoing No. Transfer on EXTN/KTS
- CLI Transfer from Non CLI Phone
- CLI Based Call Routing

#### Voice Disa (Multi-level)

- (1 CH / 2 CH for ZX & 1 CH for KX Model)
- Independent time slot of each level
- Multilevel Recordable Message for-ZX Model
- Welcome • Alarm • Emergency
- Extn. Busy • No. Reply • Wrong No.
- KX Model (Welcome Message only)

#### Door Phone & Sensor Interface (ZX Model)

- To connect Audio Door Phone
- To connect Security Sensor
- Operate Sensor (Fire/Panic)
- Auto Dialer (3 location)
- Voice Prompt

#### Serial / KTS interface

- ZX Model**
- Combo of KTS/Serial port
- 4 Port KTS int.
- KX Model**
- Inbuilt Serial Port
- Optional 2 port KTS Int.

#### MMOH (120 sec) (For All Model)

- Music Recordable
- Voice Recordable
- Put on Hold Replay

#### Op-Con Interface

- ZX Model**
- N. A. for 412 / 618
- Optional for 40ZX
- KX Model**
- Inbuilt Op-con port

### Technical Specification

Technology	Microcontroller Based SPC
Insertion Loss	Less than 1 db (Extn. To Trunk)
Trunk Loop Resistance	1200 ohms
Crosstalk	Better than 70 db
Input Power	AC 220V, 50Hz
Power Consumption	40 watt Max.
Extn Voltage	48 V DC (ZX / KX Model)
Cabling	KTS on 2 pair & SLT on single pair

#Required additional Hardware

### Configuration & Dimension

EPABX Model	Total Port	TRK (Max.)	Extn (Max.)	Expansion Step	Dimension (cm)		
					W	H	D
412 ZX	16	4	14	103/004	28	30	11
618 ZX	24	6	22	103/004	28	38	11
40 ZX	40	10	38	103/004	28.5	32.5	13
56 KX	56	12	54	206/008	25	32	15.5
96 KX	96	12	94	206/008	43	36.5	19.5

\*Optional Utility / Function

### Power Management

EPABX Model	Power Supply	SMPS Battery Backup cum Charger (Optional)	Req. No. of Battery & Rating*
412 ZX*	SMPS	12V Battery Backup (without battery)	1 no. , 12V,7AH
618ZX with 40ZX	AVR	24V Battery Backup (without battery)	2no. , 12V,7AH
56KX	150V to		
96KX	300V		

N.A. (Not applicable)

## Panic Sensor (16ZX / 24ZX / 40ZX)

- Operate Sensor (Panic/Fire/Gas)
- Auto Dialer (3 location)
- Voice Prompt

Any number of panic sensors can be connect. When panic is activated, pre-programmed number shall be dialed



## Sensor & Switch

### Panic Switch

Wired NO/NC EMERGENCY panic switch.

### Smoke Sensor

Photoelectric smoke Detector with additional built in siren for stand alone operations.

### Gas Sensor

Gas Leak Detector for LPG / Natural Gas works on AC 220V with build in additional siren for stand alone operations.

## Operator Console (40ZX / 56KX / 96KX)

- Caller-ID Number Display
- Extn. Name Storage
- Day, Date & Time Display
- Conferencing

28 (14+14) Programmable DSS Keys and 10 Junction



DSS 30

### Features

- Message to guide at various stages
- Internal Caller's / Guest Name Display
- Auto Answer Mode
- Display of Pending Extn. & Trunk
- Call Queuing
- Call Answering in Incoming Order
- Selective Call Answering
- Operator Absent / Present Mode
- Night Mode Indication
- Buffer Status Indication
- Message Wait Display
- Total Call Charge Display of each Extns.

DSS 72



- Caller-ID Number Display
- Extn. Name Storage
- Day, Date & Time Display
- Conferencing

72 (36+36) Programmable DSS Keys and 10 Junction

## Key Telephone System (KTS)

### Features

- Alphanumeric 2 X 16 Backlit LCD
- Dial By Name
- Caller -ID (Numeric & By name)
- Auto Answer
- Direct Transfer
- SMS
- H/F Speaker Phone
- Digital Volume Control
- Status Message
- Call History
- Tri Colour LED -
  - Extn
  - Trunk
  - Busy

Keys with Tri Colour LED



KX - 30

28 (14+14) Programmable and 13 Function Key

- Caller ID by Name** - Displays the name of the Extension / Jn. Caller.
- Status Message** - Display Status Message like "Ext.203 Free", "P&T Ring at 201", "205 SP with Ext." etc.
- SMS** - (KTS to KTS & PBT to KTS) KTS can send / receive predefined SMS's (e.g.-"Greeting Message", Meeting Message" etc.). The KTS will receive SMS even while busy.
- Call History** - Memory of 100 incoming/ missed calls & SMS's.
- Dial By Name** - Memory to store 100 frequently user numbers with name.
- Auto Answer** - Active auto hands free mode on receiving incoming ring & auto cancelled after caller disconnection.

## Audio Door Phone (412ZX / 618ZX / 40ZX)



- Hands Free Function
- Two-way Communication
- Round Robin Ring at 5 Extn
- Simultaneous Ring at 5 Extn
- Display CLI as "Door phone Ring"
- Programmable Display CLI Name

## LED DISPLAY (56KX / 96KX)



- LED Display
- Run Status
- Night Mode Status
- Buffer Status
- Extension Status
- Trunk Status

## Line Protection Unit (LPU)



- Lighting Protected
- RF Noise Filter
- Models
  - 1 Port
  - 2 Ports
  - 4 Ports

## COMPANION PRODUCTS

### Crystal DVR & Camera



- DVR 4/8/16/32 ch
- Camera IR/NPR/IP

### Crystal Multi Floor Society Intercom



- GX-16 to 48 Ports
- G2K-16 to 2048 Ports

### Crystal Video Door Phone



- 4", 5.6" with Handset VDP
- 4", 7" Hands Free VDP

### Crystal A/V Broadcasting



- Audio 16 Ports
- Audio-Video 16-256 Ports

### Crystal Scheduler



- Stand Alone Automatic Bell
- Integrate with Broadcast

### Crystal Multi Floor Home Alarm System



- 16 Ports to 2048 Ports
- SMS, Panic info

### Crystal Smart Energy Meter



- Dual Sense
- Pre-Paid

## जय श्री बाला जी

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