

SMART

PA SYSTEM. MODEL MCS-II

**(DISTRIBUTED AMPLIFIER BASED DESIGN)
(NON BLOCKING TYPE).**

SMART INDUSTRIAL PA SYSTEM (MODEL MCS II) Distributed Amplifier Design Concept INDUSTRIAL PA SYSTEM with unique features of MULTIPLE PAGE CHANNELS & PRIVATE INTERCOM CHANNELS for Paging and talkback facility.

The system allows for locating individuals anywhere in the plant by using the Individual location paging, zone paging & ALL call paging feature. Multiple Private Intercom Channel allows two way private Communications. The **PLANT EPABX** Interface allows user to make and receive telephone calls to and from the outside world.

SMART INDUSTRIAL PA SYSTEM is essential for growing organizations because of its unique features, flexibility and compatibility with **PLANT EPABX** (The backbone of every establishment communication.)

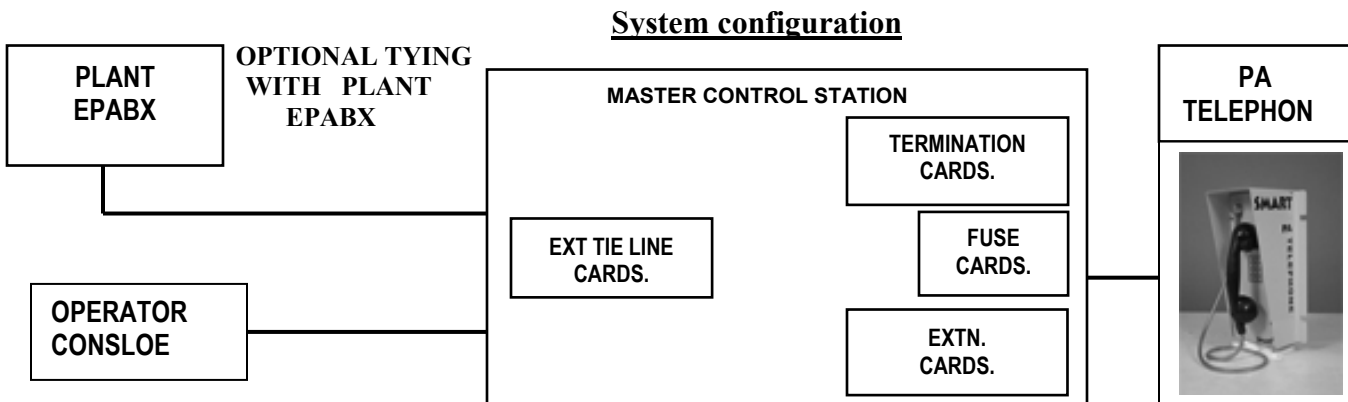


MULTIPLE PAGE CHANNEL: This feature is used for:-

- MULTI CHANNEL SMART PA TELEPHONE PAGING.
- SIMULTANEOUS DIFFERENT ZONE PAGE CALL FROM MULTIPLE LOCATIONS.
- ALL CALL paging.
- The SMART PA TELEPHONES IN AN AREA formed as Zones.
- UPTO 12 ZONES.
- Locating and contacting people in a Particular location, zone or all over the plant.

MULTIPLE PRIVATE INTERCOM CHANNEL: This feature is used for:-

- Multi Channel point to point communication.
- Selective communication by dialing individual access code.
- Talk back after Individual / zone & All Call page by called person in private mode.



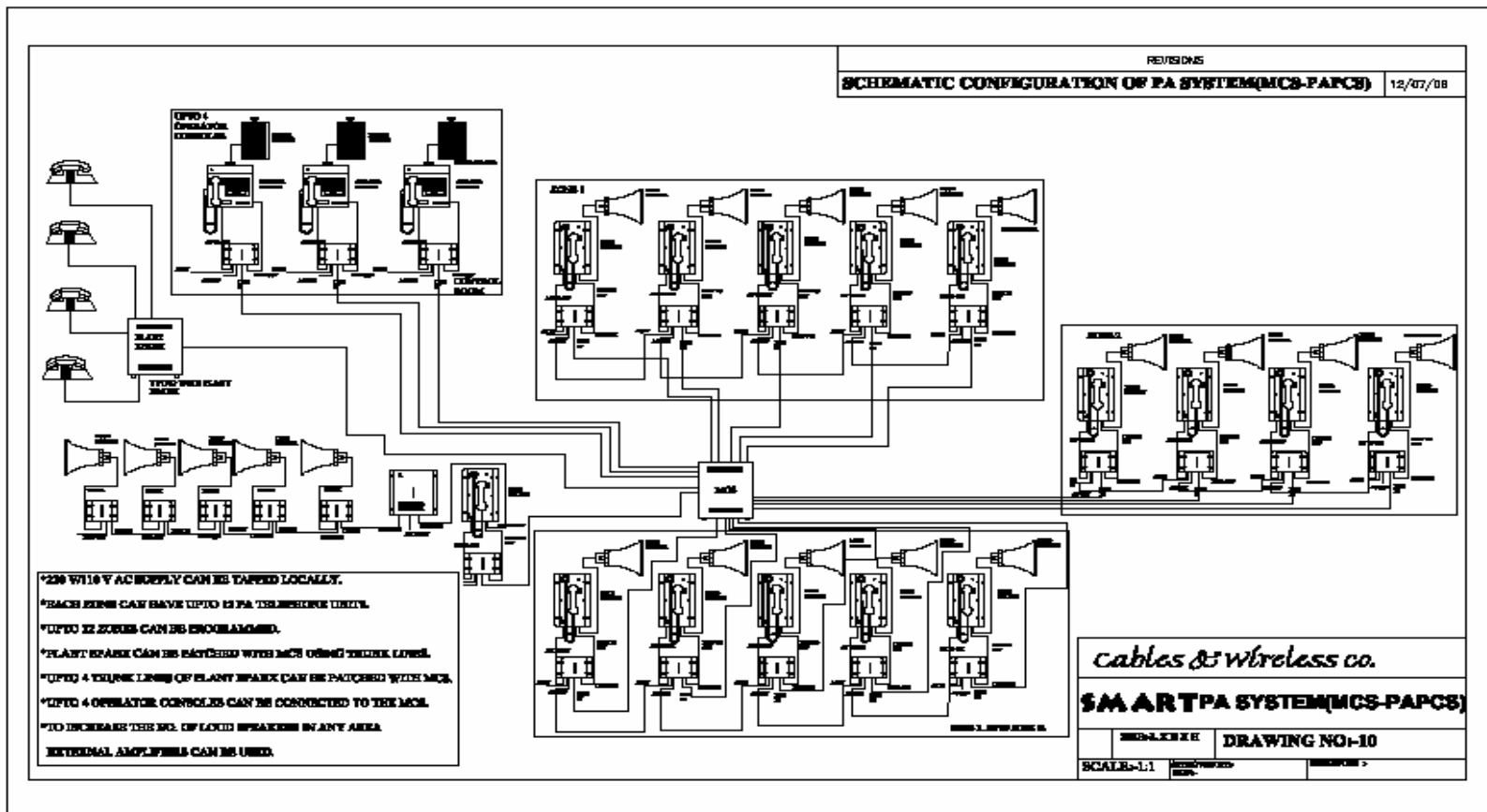
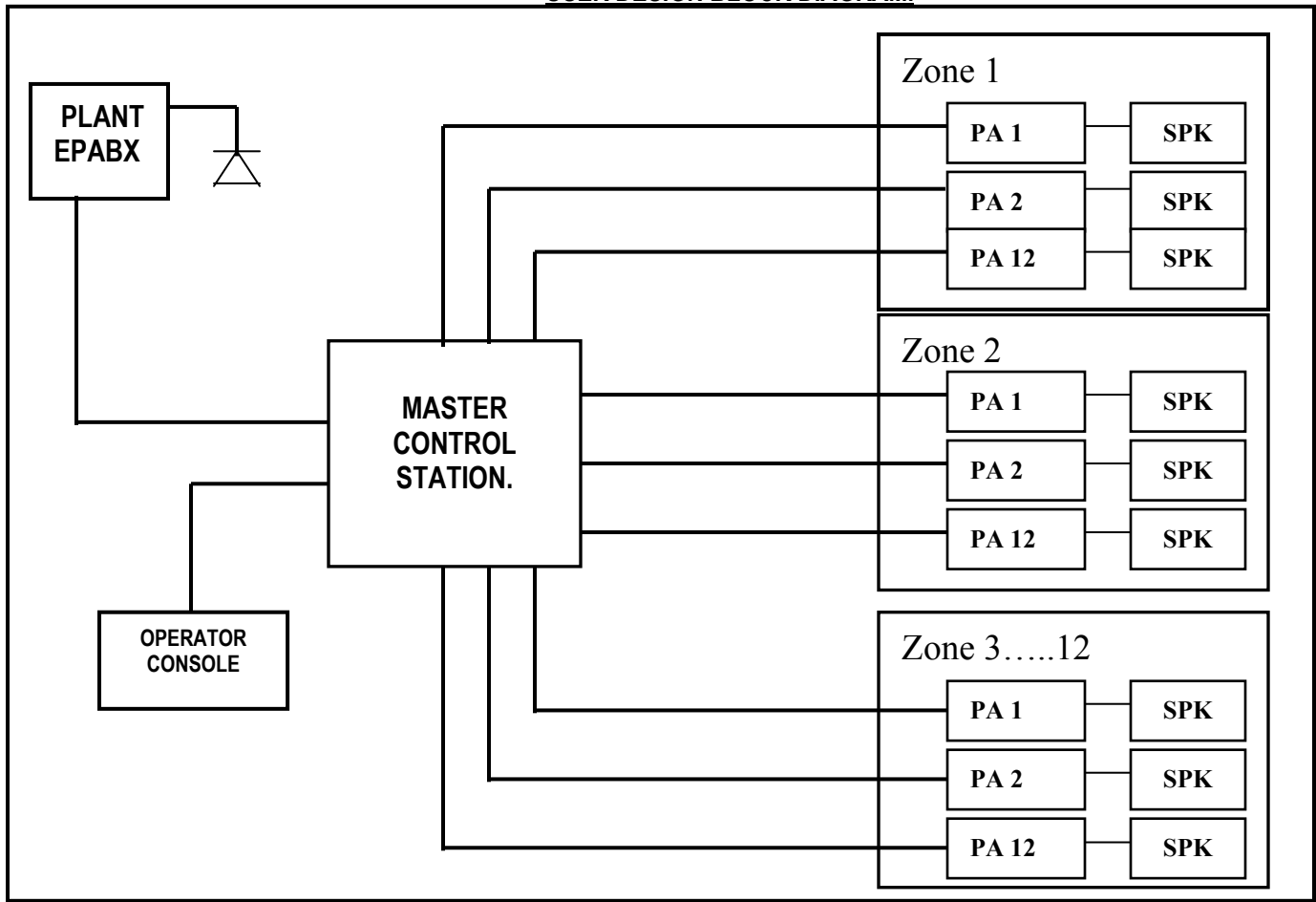
SMART PA TELEPHONE's are connected to extensions of the **MCS**. Control room operator can have one or more **SMART OPERATOR CONSOLE** units connected through **MCS**. On dialing individual extension number of any **PA TELEPHONE** the required person may be paged from any other **PA TELEPHONE**, **SMART OPERATOR CONSOLE UNIT** OR from any normal telephone connected to **plant EPABX**.

SMART CHOICE:-

- MULTIPLE PAGE CHANNEL'S.
- MULTIPLE PRIVATE INTERCOM CHANNEL'S.
- SINGLE CODE ALL PAGE CALL FROM FIELD.
- SINGLE CODE PRIVATE LINE COMMUNICATION AFTER ZONE / ALL PAGE CALL.
- DIAL KEYPAD FOR SELECTIVE PAGING.
- DISTRIBUTED AMPLIFIER DESIGN CONCEPT.
- ANY NUMBER OF LOUDSPEAKER'S CAN BE CONNECTED TO A SMART PA TELEPHONE BY USING SMART EXTERNAL AMPLIFIERS.
- SYSTEM DESIGNED FOR 12 ZONES.
- UPTO 12 SMART PA TELEPHONE IN EACH ZONE.
- ANY PA TELEPHONE CAN BE INCLUDED IN MULTIPLE ZONES.
- SMART PA TELEPHONE MODEL WMHS-II , WMHF-II USED AS FIELD UNITS.
- **NO NEED OF HIGH POWER AMPLIFIERS.**
- **NO NEED OF BULKY RELAY BASED LOUDSPEAKER CONTROLLERS.**
- **NO NEED OF 19" EQUIPMENT RACK.**
- SOFTWARE PROGRAMMABLE ZONE AND ALL CALL FEATURE.
- **UNI DIRECTIONAL** PAGING CALL TO ALL SMART PA TELEPHONES.
- **UNI DIRECTIONAL** PAGING CALL TO SMART PA TELEPHONES IN A ZONE.
- **BI DIRECTIONAL** PAGING CALL TO INDIVIDUAL SMART PA TELEPHONE.
- OPERATING VOLTAGE 220 V / 110 V AC FOR SMART PA TELEPHONES / OPERATOR CONSOLES / MCS II.
- DIRECT ACCESS SWITCH FOR VARIOUS ZONES AND ALL CALL FROM OC.
- KEYPAD FOR SELECTIVE PAGING FROM OC.
- ADDITIONAL EXTERNAL SMART ALARM UNIT FOR VARIOUS USER DEFINED PRE PROGRAMMED ALARMS.
- SIMULTANEOUS MULTI PAGE CALLS FROM DIFFERENT LOCATIONS.
- EASY EXPANSION REQUIRING NO HARDWARE CHANGE.
- INDIVIDUAL UNIT IN MULTIPLE ZONES POSSIBLE.
- TO INCREASE THE NUMBER OF LOUD SPEAKERS IN A SMART PA TELEPHONE, SMART EXTERNAL AMPLIFIERS ARE REQUIRED. THE AMPLIFIER WILL BE DRIVEN BY A PA TELEPHONE.

SMART INDUSTRIAL PA SYSTEM MCS-II.

USER DESIGN BLOCK DIAGRAM.



WORKING PROTOCOL: -

CONTROL ROOM TO ANY PA TELEPHONE (DIRECT CALLING)

Lift the handset off the cradle (Off-Hook), Dial the individual extn of PA TELEPHONE after hearing the beep tone Control room operator makes the paging announcement from handset of OC. After hearing the announcement, the called person approaches the called PA TELEPHONE lifts the handset and communicates. The communication is in the private mode and the same shall not be heard over the loudspeakers. In case no pick up or one-way paging the PA TELEPHONE will reset automatically on blank after operator hangs up. THE INDIVIDUAL PAGE CALL IS BI DIRECTIONAL.

CONTROL ROOM TO ZONE (ZONE PAGE CALL):

Lift the handset off the cradle (Off-Hook), Press ZONE 1/ZONE 2/ZONE 3 / ZONE 4/ZONE 12 BUTTONS from OC. All PA TELEPHONE's in that zone activates; announcement made from operator console is heard over all the on hook PA TELEPHONE's loudspeakers. The ZONE page call is UNI DIRECTIONAL only. The concerned person dials the code for talk back from any of the called PA TELEPHONE for private communication with the operator.

CONTROL ROOM TO ALL PA TELEPHONE (ALL PAGE CALL): -

Lift the handset off the cradle (Off-Hook), Press ALL CALL BUTTON from OC of control room. All the PA TELEPHONE gets activated; announcement made from MIC of operator console is heard over all the on hook PA TELEPHONE loudspeakers. The all page call is UNI DIRECTIONAL only. The concerned person dials the code for talk back from any of the PA TELEPHONE for private communication with the OPERATOR.

PA TELEPHONE TO CONTROL ROOM (DIRECT CALLING)

Lift the handset off the cradle (Off-Hook) of nearest PA TELEPHONE dial the ACCESS CODE of the control room, the Operator console gets activated automatically and the announcement from the field is heard over its speakers. The communication is established by speaking over the mic by the operator.

PA TELEPHONE TO PA TELEPHONE

From any PA TELEPHONE of the zone dial the ACCESS CODE of any other PA TELEPHONE. After hearing the beep tone make the paging announcement. After hearing the announcement, the called person approaches the called PA TELEPHONE, lifts the handset and communicates. The communication is in the private mode and the same shall not be heard over the loudspeakers. In case no pick up or one-way paging the PA TELEPHONE will reset automatically on blank after calling party hangs up.

PA TELEPHONE TO INDIVIDUAL ZONE PAGE CALL: -

From the any PA TELEPHONE dial the ACCESS CODE for ZONE 1, 2, 3, 4, 5,12. ALL the PA TELEPHONE of that zone gets activated and announcement is heard over its loudspeaker after a beep tone of 1 kHz. The PA TELEPHONE will reset automatically after calling party hangs up. The zone page call is UNI DIRECTIONAL only. The concerned person dials TALKBACK code from any called PA TELEPHONES for private communication with the calling person after the paging is over.

PA TELEPHONE TO ALL ZONE PAGE CALL: -

From the any PA TELEPHONE dial the ACCESS CODE for ALL ZONE CALL, the PA TELEPHONE of ALL the zones get activated and announcement is heard over their loudspeakers after a beep tone of 1 kHz. The PA TELEPHONE will reset automatically after calling party hangs up. The all zone page call is UNI DIRECTIONAL only. The concerned person dials TALKBACK code from any called PA TELEPHONES for private communication with the calling person.

General features of all the Equipment's in SMART PA SYSTEM(MCS-II)

SMART MASTER CONTROL STATION (MODEL MCS-II): -

SMART MASTER CONTROL STATION MCS-II is 100% non-blocking TDM/PCM based system. The system is designed for MINIMUM 24 ports.

- Main CPU card
- PA TELEPHONE connection card
- All Zone selection card
- Termination card
- Motherboard card
- Expandable Up to 112 PA TELEPHONE ports
- All call up to 64 PA TELEPHONE ports
- Up to 12 predefined zones (user defined configuration)
- Up to 12 PA TELEPHONES can be grouped in each zone.
- Installation in multiple of 16 PA TELEPHONE possible.
- Long loop supported covering large distance (upto 2000mtrs).
- Operates on 220 V / 110 V AC.
- Line voltage 40 V
- Tone dialing
- Can be patched with the existing PLANT EPABX.
- Up to 4 operator consoles can be connected

SMART PA TELEPHONE (MODEL WMHS/HF-II): -

- Simple Installation.
- Simple Operation.
- One-piece waterproof non-tactile keypad.
- Magnetic reed hook-switch reduces moving parts subject to wear.(WMHS-II)
- 16-gauge rugged steel powder coated construction.
- Heavy industrial ABS handset & cord.(WMHS-II)
- Connect, Release & PTT SWITCH for communication(WMHF-II)
- Noise canceling dynamic microphone.
- Environment Protected.
- Single PCB design for plug & play operation.
- Easy troubleshooting ensuring minimum downtime.

SMART INDUSTRIAL LOUDSPEAKER HORNS (MODEL LSOD/LSIN): -

SMART LOUDSPEAKER HORNS (MODEL LSOD):-Outdoor weatherproof loudspeaker horns

- Max power handling capacity :-8 Ohms 60WATTS (RMS)
- Sound pressure level 107 dB
- Re-entrant type loudspeakers
- ABS constructions
- 'C' clamp for Mounting

SMART INDOOR BOX SPEAKERS (MODEL LSIN):-Indoor speaker box with metallic construction

- Max power handling capacity:-8 Ohms 10 WATTS (RMS)
- Sound pressure level 90 dB
- Used at indoor locations
- 'L' clamp for Mounting.

SMART OPERATOR CONSOLE STATION (MODEL DTHS-II): -

The Operator Console station is desktop type unit installed in the control room. The unit comprises of:

- ABS HAND SET TYPE
- All CALL PAGE switch
- Individual ZONE CALL PAGE switches
- CONNECT, RELEASE & FLASH SWITCHES
- Keypad for dialing.
- Volume controller POT
- Magnetic reed hook-switch
- Full duplex telephony type communication
- In built amplifier

SMART JUNCTION BOX (MODEL JB-II):-

SMART JUNCTION BOXES are meant to be connected with SMART PA SYSTEM WITH MCS-II it has single PCB based design with built in surge protection.

- 16 gauge rugged steel powder coated construction
- Integrated Canopy design for weather protection
- Single PCB design
- Wall mountable type

PATCHING WITH PLANT EPABX: -

MCS can be patched with plant EPABX by :

TRUNK LINES OF PLANT EPABX -EXTENSION TIE LINES OF MCS.

Upto 4 trunk lines from PLANT EPABX can be connected to MCS.

Connect TRUNK LINES of Plant EPABX- EXTENSION TIE LINE of MCS.

INWARD CALLING (PLANT EPABX-MCS)

Access the trunk from TELEPHONE of plant EPABX by dialing the assigned code, calling party will get the dial tone of MCS. Dial desired access codes of MCS.

OUTWARD CALLING (MCS-PLANT EPABX)

USING DID (DIRECT INWARD DIALING) FACILITY

Dial the assigned access code of ETL from any pa telephone of MCS, the DID message of plant EPABX will be heard, dial the desired EXTN no of plant EPABX TELEPHONE.

In case DID is not available the call will land on the operator console of plant EPABX.

POWER RATINGS OF VARIOUS EQUIPMENTS FOR CALCULATING UPS LOAD;-

SMART MASTER CONSOLE STATION (MODEL MCS-II)		
MCS FOR 24 PORTS	50 VA (RMS)	PEAK 90 VA
MCS FOR 112 PORTS	130 VA (RMS)	PEAK 220 VA
SMART PA TELEPHONE (MODEL WMHS-II)	30 VA (RMS)	PEAK 55 VA
SMART OPERATOR CONSOLE STATION (MODEL DTHS-II)	20 VA (RMS)	PEAK 45 VA

SPECIFICATIONS (MCS): -

Electrical Requirement :-

Power Source	220 volts / 110 volts AC
PA TELEPHONE line	40 VOLTS.
Power consumption	< 100 Watts.
Insulation	600 v for 3 min between power source & Telephone line.
Ringer Voltage	50 VAC (100 V PP).

Mechanical Specifications :-

Dimensions	320 X 380 X 200 (in mm).
Weight	8.5 Kgs.
Construction	16 gauge Powder Coated Steel Body.
Standard mounting	Vertical wall / desktop.

Environmental :-

Moisture Resistance	0 to 95% humidity with PCB conformal coated.
Temperature Range	0 to +60C.

SMART CABLES:-

NON SPECIALITY, NON CRITICAL CABLES

SMART MASTER CONTROL STATION (MODEL MCS-II): -

- 0.5 mm, 2 CORE, PVC insulated, Twin twisted, TELEPHONE CABLE FROM MCS TO EACH LOCATION.
- 1.5 sq mm 3 CORE, ATC, PVC insulated, overall PVC sheathed POWER cable for POWER SUPPLY UNIT OF MCS FROM NEAREST POWER BOARD

SMART PA TELEPHONES (MODEL WMHS-II): -

- 0.5 mm, 2 CORE, PVC insulated, Twin twisted, TELEPHONE CABLE for FOR EACH SMART PA TELEPHONES FROM MCS.
- 1.5 sq mm 3 CORE, ATC, PVC insulated, overall PVC sheathed POWER cable for EACH SMART PA TELEPHONES FROM NEAREST POWER JB
- 0.75 mm mm, 2 core, ATC, PVC insulated, Twin twisted, and flexible cable for LOUDSPEAKERS HORNS FROM SMART PA TELEPHONES.

SMART OPERATOR CONSOLE STATIONS(MODEL DTHS-II) : -

- 0.5 mm, 2 CORE, PVC insulated, Twin twisted, TELEPHONE CABLE for FOR SMART OPERATOR CONSOLE UNIT FROM MCS.
- 1.5 sq mm 3 CORE, ATC, PVC insulated, overall PVC sheathed POWER cable for SMART OPERATOR CONSOLE UNIT FROM NEAREST POWER JB

INDUSTRIAL COMMUNICATIONS SIMPLIFIED .

Cables & Wireless Co.

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“(Specifications and description subjected to change without prior notice)”