

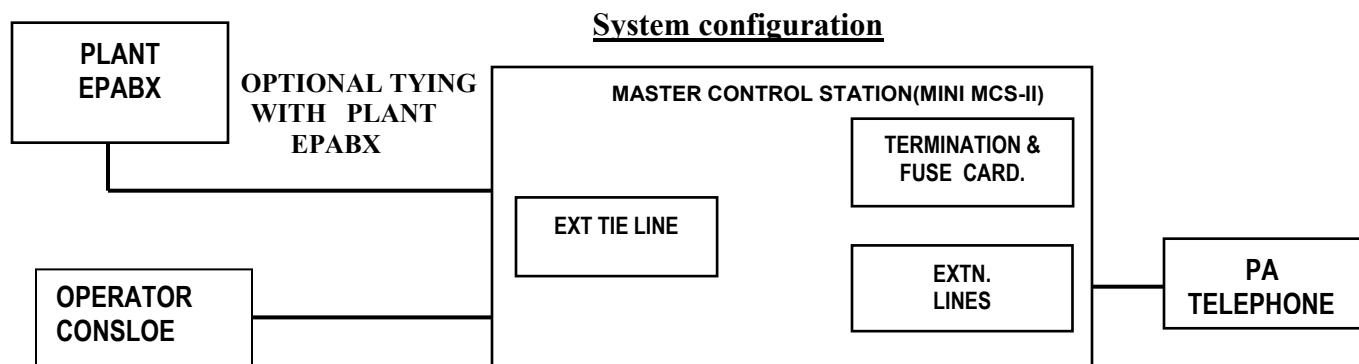
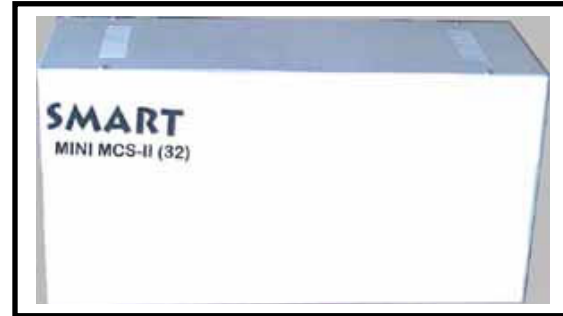
SMART

PA SYSTEM. MODEL MINI MCS-II

(DISTRIBUTED AMPLIFIER BASED DESIGN) (NON BLOCKING TYPE)

SMART INDUSTRIAL PA SYSTEM MINI MCS-II provides communication in industrial environment and hazardous locations where reliability and ease of operation are of utmost importance. Individuals can be paged from any station and two or more persons can communicate on any available free line. The PLANT EPABX Interface allows user to make and receive telephone calls to and from the outside world.

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



SYSTEM FEATURES: -

- The system is designed for 24 PORTS
- EXPANDABLE UPTO MAXIMUM 32 PORTS.
- Single zone and all zone page control.
- One-way PAGE call to all SMART PA TELEPHONE. (ALL-CALL)
- One-way PAGE call to individual zone. (ZONE PAGE CALL)
- Two way call to individual PA TELEPHONE.
- Making zone call and all call by dialing ACCESS CODES.
- Volume controls and amplifiers built-in in each field locations.
- No high power amplifier required.
- 24/0.2 mm, 2 core, ATC, PVC insulated, Twin twisted cable for loudspeaker horn from PA Telephone to speakers.
- 0.5 mm, 2 pair, PVC insulated, Twin twisted, telephone cable for individual PA telephone from MCS.
- PA telephones operate on 220 V AC / 110 V AC switch able
- System based on distributed amplifier design.
- Easy expansion requiring no hardware change.
- Individual PA TELEPHONES in multiple zones possible.

SMART PA TELEPHONE connected to each individual extension of the **MINI MCS-II**. Control room operator can have SMART OPERATOR CONSOLE connected to the **MCS**. By dialing individual extension number of the PA TELEPHONE the required person can be paged.

The usage is very simple and maintenance is negligible. The telephones are built in with single plug and play card they can be easily replaced, thus reducing the downtime. The failure of individual SMART PA TELEPHONE will not lead to failure of entire system.

This system is based on distributed amplifier principle and requires non-critical, non-specility field cabling. The system uses only single pair telephone cable from MCS to each SMART PA TELEPHONE location. The power can be taken individually from any nearest location. The loudspeakers are placed close to the field PA TELEPHONE (approx 5 Mtr).

The system being easy to install, expand, maintain and is widely being used by Indian industries for their communication needs.

SMART INDUSTRIAL PA SYSTEM MINI MCS is based on Distributed amplifier design, there is no dependency on single amplifier, thus in case a set fails it can be replaced or removed. Due to stand-alone PA TELEPHONE complete plant communication failure is negated.

The Field units are designed on 'surface-mount' construction principles which guarantees rigid, easy and rapid installation; ensures long trouble free operating life, minimizes weight/space requirements, gives easy access for routine maintenance and reduces through-life costs.

The system uses non-critical, non-speciality field cabling. The cabling of the system is very limited. The PA TELEPHONE are wired with 2 pair telephone cable (one pair spare) from **MCS**. The AC supply can be provided from nearest junction box. The industrial loud speakers are wired from each PA TELEPHONE only.

SMART INDUSTRIAL PA SYSTEM can be configured and designed to meet all types of needs. The SMART MASTER CONTROL STATION(MINI MCS) equipment is modular in construction, SUPPORTS 24 line PA TELEPHONE PORTS can be expanded TO 40 PA TELEPHONE PORTS by adding one 16 line PA TELEPHONE PORT CARD without any hardware changes. The system is software programmable type thus any changes in the configuration can be done on the consumers own end without any costly hardware changes.

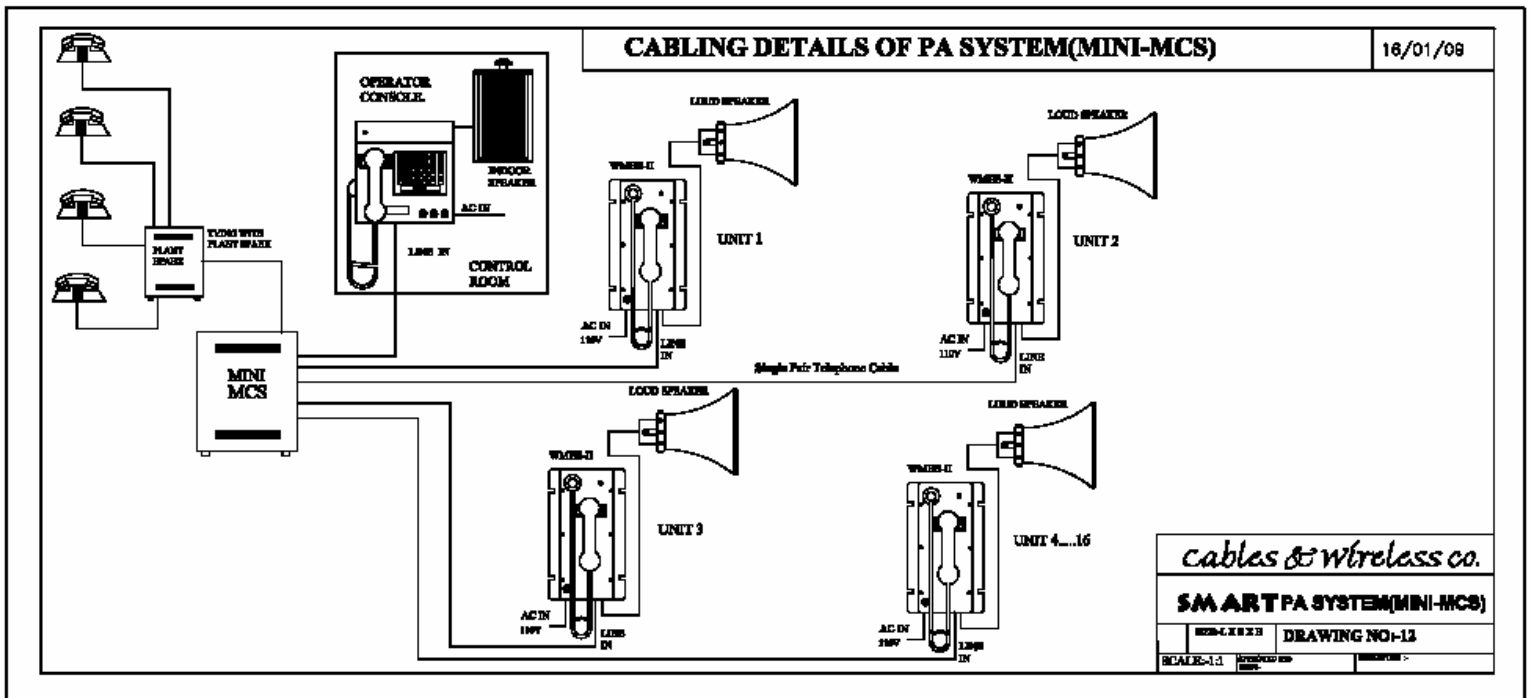
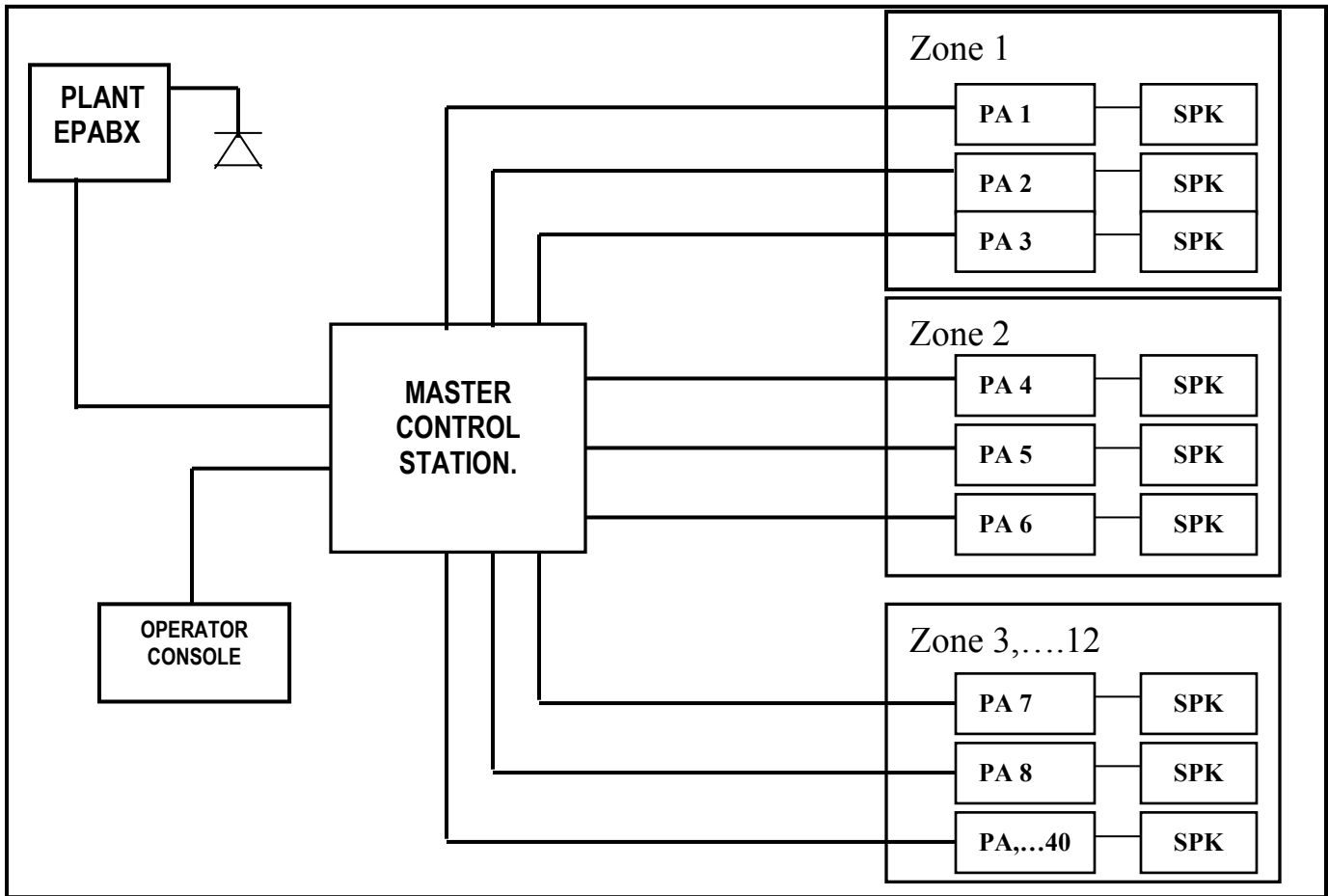
The PA TELEPHONE units are rugged, elegant and is weatherproof type with integrated canopy. The equipment is constructed from tough 16 gauge steel sheet and is properly designed to meet the harshest of industrial environment. The units are rugged, robust in construction, corrosion resistance and are least susceptible to hostile environmental conditions like dust, water, high ambient noise, high temperatures etc. each unit has built in amplifier of 30 watts (RMS) and has built in protection for short circuit and overloading.

ADVANTAGES: -

- Using telephone cable (Class 2 wiring) eliminates costly outdoor/indoor conduits.
- Low voltage operation means much less power dissipation (heat), therefore the longevity of the paging Equipment is increased dramatically.
- Talkback, one-way or combination systems are easy to configure.
- Individual volume controls built-in to each **SMART PA TELEPHONE** for volume adjustment after system is installed.
- It is cost-effective to install one telephone cable versus installing 6 core signal cable or 70 volt shielded loud speaker paging cable
- Unlimited speaker expansion using **SMART EXTERNAL AMPLIFIERS**.
- Many localities require conduit for "high voltage" (Class 1) conductors, this is rarely a necessity with a distributed amplifier system.
- Being single PCB design it is easy to maintain.
- The rated output of a distributed amplified paging speaker or horn is always available due to the fact that the actual audio signal amplification is accomplished on an individual zone basis. In central amplifier the rated output is available if it is actually providing a full 70 volts to the speaker or horn and the audio signal line losses are negligible

SMART INDUSTRIAL PA COMMUNICATION SYSTEM.

USER DESIGN BLOCK DIAGRAM.



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

SMART MASTER CONTROL STATION is 100% non-blocking TDM/PCM based system. The system is designed for MINIMUM 24 PORTS & MAXIMUM 32 PORTS (INCLUDING PA PORTS, OC PORTS & PATCHING PORT.)

- Main CPU
- PA connection
- All Zone selection
- MINIMUM 24 PA PORTS
- MAXIMUM 32 PA PORTS
- Fuse & Termination card
- All call UPTO 32 ports
- Individual PA TELEPHONE calling by dialing access code
- Predefined zones (user defined configuration)
- Single code call back after zone and all call paging.
- Line voltage 40 V
- Tone / Pulse dialing
- Can be patched with the existing PLANT EPABX.
- ANY PA TELEPHONE OF ANY LOCATION CAN BE INCLUDED IN ANY ZONE.
- No need to press any access code for TALK BACK on individual PA TELEPHONE paging.
- Operator console 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.
- Auto disconnect to free line for next call.
- Environment Protected.
- Single PCB design for plug & play operation.
- Easy troubleshooting insuring minimum downtime.

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

- The outdoor loudspeakers are connected to individual PA TELEPHONE; up to two loud speakers can be connected to each PA TELEPHONE. For more number of loudspeakers in each location SMART EXTERNAL AMPLIFIERS can be connected to PA TELEPHONE
- Indoor speakers in box type construction are connected to OPERATOR CONSOLE UNIT's (10 WATTS RMS)

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

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.

WORKING PROTOCOL: -

CONTROL ROOM TO ANY PA TELEPHONE (DIRECT CALLING)

Dial the individual ACCESS CODE of PA TELEPHONE after hearing the beep tone Control room operator makes the paging announcement from MIC/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 IS TWO WAY CALL.

CONTROL ROOM TO ZONE (ZONE PAGE CALL):

Press ZONE 1/ZONE 2/ZONE 3 / ZONE 4/ZONE 12 BUTTON from OC. All PA TELEPHONE's in the zone activates; announcement made from MIC/HANDSET of operator console which is heard over all the on hook PA TELEPHONE loudspeakers. The ZONE page call is ONE way only. The concerned person dials the code for call back from any of the called PA TELEPHONE for private communication with the operator.

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

Press ALL CALL BUTTON from OC of control room. The entire PA TELEPHONE gets activated; announcement made from MIC/HANDSET of operator console is heard over all the on hook PA loudspeakers. The all page call is ONE way only. The concerned person dials the code for call 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 PRESSING connect button conversation can be done by speaking in the S mic/HANDSET by the operator.

PA TELEPHONE TO PA TELEPHONE (WITHIN SAME ZONE)

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 PA TELEPHONE (DIFFERENT ZONE): -

From any PA TELEPHONE of the zone dial the ACCESS CODE of any other PA TELEPHONE (IN DIFFERENT ZONE). 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 TELEPHONES 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 ONE way only. The concerned person dials CALL BACK 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 ONE way only. The concerned person dials CALL BACK code from any called PA TELEPHONES for private communication with the calling person.

SPECIFICATIONS (PA TELEPHONE): -

Electrical Requirement :-

Power Source	220 volts / 110 volts AC (SWITCH ABLE).
PA Telephone line	40 VOLTS.
Power consumption	< 35 Watts.
Stand by consumption	< 5 Watts.
Amplifier	30 watts (RMS).
Horn Speaker	60 watts, 8 ohms.
Handset	Standard hand set, four feet stainless steel Armour tube.
Insulation	600 v for 3 min between power source & Telephone line.
Ringer Voltage	35-75 VAC (150 V PP).

Mechanical Specifications :-

Dimensions	360 X 160 X 180 (in mm).
Weight	5 Kgs.
Construction	16 gauge Powder Coated Steel Body.
Cradle	Magnetic reed switch > 10,00,000 operations.
Hand set construction	High impact ABS.
Standard mounting	Vertical wall / panel.
Microphone	Noise canceling dynamic.

Environmental :-

Moisture Resistance	0 to 95% humidity with PCB conformal coated.
Temperature Range	0 to +60C.
Dust resistance	Fully weather proof enclosure.

SPECIFICATIONS (MCS): -

Electrical Requirement :-

Power Source	220 volts / 110 volts AC
PA TELEPHONE line	40 VOLTS.
Power consumption	< 30 Watts.
Ringer Voltage	50 VAC (100 V PP).

Mechanical Specifications :-

Weight	3.5 Kgs.
Construction	16 gauge Powder Coated Steel Body.
Standard mounting	Desktop.

Environmental :-

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

INDUSTRIAL COMMUNICATIONS SIMPLIFIED .

Cables & Wireless Co.

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"(Specifications and description subjected to change without prior notice)"