

# Microsound - MH04

## HOME INTERCOM

### 1. Features

- Home intercommunicating intercom system
- Nine handsets
- Four gate stations
- Only four common wires throughout
- No switcher units required between door stations
- 2 Button door stations can call house or maid
- Communication with any handset from gate station with door release
- Door stations are robust surface mount with rain shield
- All handsets, call function
- Two handsets on one number
- Conference calls
- Central termination board for easy wiring & maintenance
- Power supply with lightning protection and optional battery backup
- Auxiliary PCB to trigger alarm panic
- Interface to PA

### 2. Operation

Lift handset, press required number.

Called handset will ring & Led will come on momentary.

Lift handset you are communicating with calling handset.

Replace handset when finished.

If the door station calls the house, all the handsets will ring and the Led's will flash.

Lift any handset, press "0" and you will be able to talk to the calling door station.

To open the gate press the # and replace handset.

### 3. Button Functions

- 1 - 8 Calls handsets in house
- 9 Calls maid or cottage
- 0 Calls door station
- # Opens gate when called from door station  
NB! Only opens gate at calling door station
- \*9 Calls all handsets
- \*1 Panic to house alarm
- \*2 PA interface function
- \*6 Enables/disables call from gate and all call
- \*7 Program handset number
- \*8 Check handset number

#### 4. Programming handsets

1. Switch power on, within 60 seconds dial \*7 then the handset number.
2. Handset numbers can be programmed at any time by dialing 49324 then pressing \*7 followed by the required handset number.
3. To exclude a handset from the door station call, dial \*6 from the desired handset. The handset Led will go off.
4. To include a handset from the door station call, dial \*6 from the desired handset. The handset Led will come on.
5. To check the handset number dial \*8, the Led will flash on & off corresponding to the intercom number.

#### 5. Installation

1. Four common wires, two pair twisted 0,5mm telephone cable between all handsets, door stations and termination board.
2. A core for Positive, Ground and Audio A and B
3. Between the termination board and PSU, a two core 0,5mm square cable.
4. The termination board is provided to allow each handset to be individually cabled to a central convenient point, with a 2 Pair cable. The termination board has 6 four-way pluggable connectors to terminate the two pair cables on. Two cables can be terminated on one connector. No other cable joints must be made anywhere. This makes fault finding very easy as handsets can be unplugged from the system to trace a fault.
5. The termination board has a two-way PSU connector for power, 13,8V regulated DC from the power supply. The 2 pair twisted cable can also be used for power but then double up on the cores, and use the Orange/White pair for Positive and the Blue/White for Ground.
6. A two pair twisted screened Fire Alarm cable also connects from the termination board to all the door stations 1, 2, 3 & 4. A four-way lightning protection PCB can also be added to the cable run for lightning protection.
7. The door station must also be wired to the gate motor or door strike. A separate 12V DC power supply is required for a door strike.
8. A potential free Relay contact with a link to select normally open or normally closed is provided to trigger the motor gate or the door strike, on gate station PCB.
9. If a door strike is used a IN4007 diode must be connected reversed biased across the door strike coil to block the back EMF.
10. No switchers are required between gate stations as the handsets will only communicate with and open the gate from where the call was made. The other gate stations will be busied out.

## Handset Connections - Two pair Twisted Telephone cable

Marking	Description	Wire Colours
+	Positive 13,8V from termination board	Orange
-	Ground from termination board	White
A	Audio from termination board	Blue
B	Audio from termination board	White

## Door Stations Connections - Two pair Fire Alarm cable

Marking	Description	Wire Colours
+	Positive 13,8V from termination board	Red
-	Ground from termination board	Blue
A	Audio from termination board	Yellow
B	Audio from termination board	Slate

## Power Supply Connections

Marking	Description	Wire Colours
+	Positive 13,8V from power supply	One pair Orange/White
-	Ground from power supply	One pair Blue/White

## Audio Level Adjustment

The handset and door stations both have two pre-set Pots. One for TX Audio and one for RX Audio. These Pots are pre-set at the factory and should not have to be adjusted.

P1 Adjust the TX Audio

P2 Adjust the RX Audio

## 6. Technical Information

Cable requirements:

A 2 pair 0,5mm twisted pair cable between all handsets, door stations and termination board. If the cable to the door stations goes outside and could be susceptible to lightning, then it must be a screened Fire Alarm cable.

MH04GS Gate Station:

Size: 136mm high x 101mm wide x 80/60mm deep

Mounting: Surface

Finish: Weather proof stainless steel powder coated box. The front is anodized aluminium.

Features: Two call button with backlit name plate

Busy Led

Relay output to trigger motor gate

Power: 13,8V DC idle current 25mA

Handset:  
Size: 180mm high, including curly cord 260mm  
60mm wide  
55mm deep  
Mounting: Handset base is only surface wall mounting  
Finnish: White ABS plastic with a black 3x4 keypad  
Power: 17mA idle

Total Power: A full system with 9 handsets and 4 door stations will draw 260mA in idle condition. The battery backup will power a full system for a period of 8 hours during a power failure.

## 7. Handset Mounting Instruction

The handset base is mounted to the wall with two counter sunk screws and wall plugs. Remove any bumps on the plaster so that the plastic back can sit flush with the wall, so it does not distort when the screws are fastened.

First drill and mount the back with only the bottom screw. Level the back then drill the second hole in the centre of the slot at the top. Small adjustments can then be made with the slotted screw hole, when level tighten both screws. Both screw heads must be below the base level so as not to short out the PCB.

The base has two cable entry points. One on the back next to the slotted screw hole and one break-out on the top right side of the cover, for surface wiring.

Place the PCB into the back with the four way connector to the top, terminate the four wires into the screw terminals. Secure PCB with the screw and fiber washer, plug in keypad and fit the base cover over the back. Refit top and bottom screws and then plug in handset RJ11 plug.

If the handset is going to be mounted on a 2x4 outlet box, use a Crabtree metal 2x4 blank cover plate to mount the handset on.

## 8. Test Voltages

+	Positive 13,8V DC from PSU only
G	Ground from PSU only
A	6V DC with respect to ground
B	6V DC with respect to ground

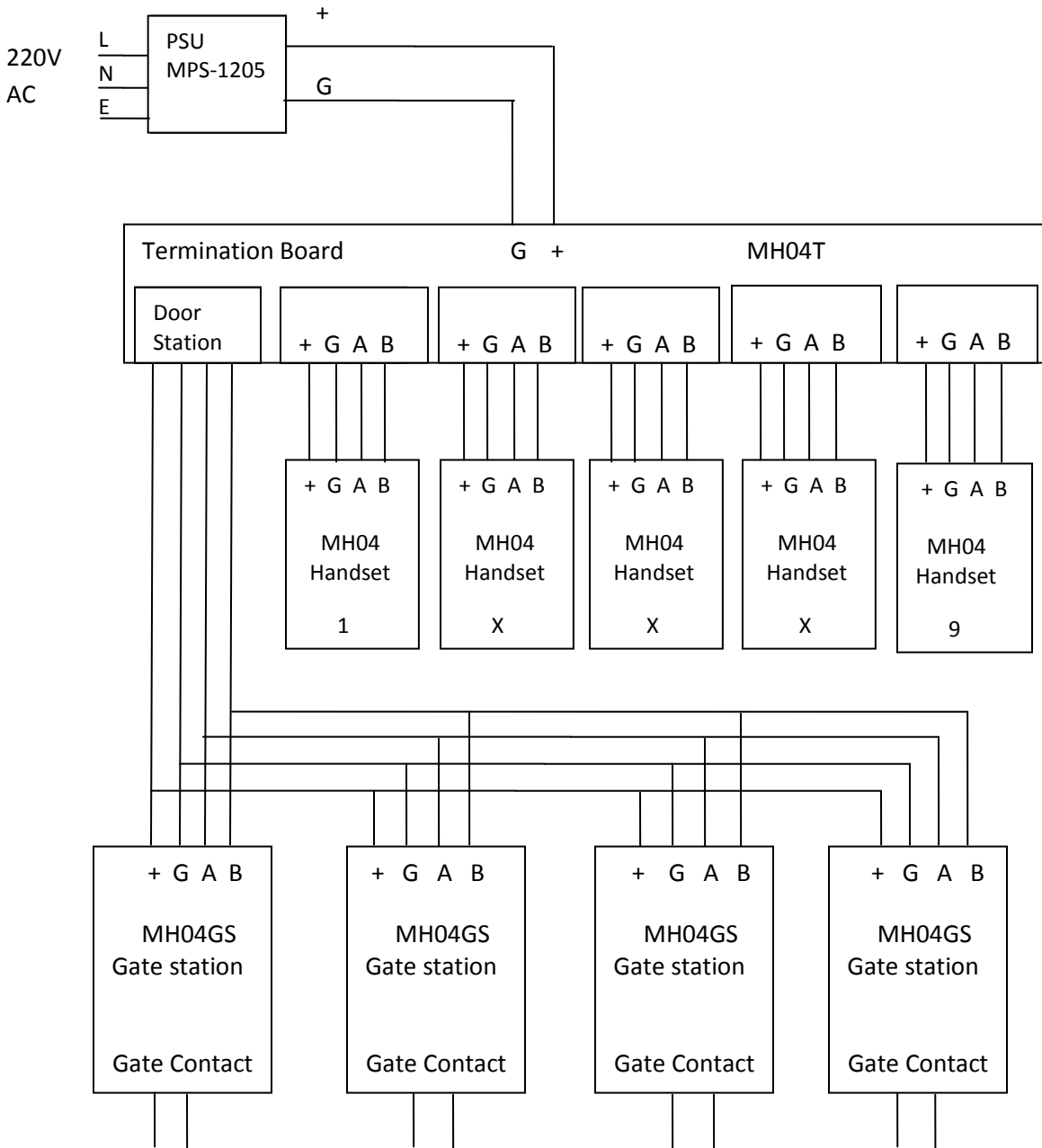
## 9. Operation

+ & G Lines  
Only power from the PSU to all handset, doorstation & termination PCB

A & B Lines  
Balanced audio pair for TX & RX audio

Code for data communication which include dialing, door release, busing out door station and alarm panic.

### 10. Wiring diagram



## 11. Guarantee

The MH04 home intercom is guaranteed by the manufacturer for a period of six months from the date of delivery against faulty components and faulty workmanship (ex factory).

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