

# M20 SCHOOL INTERCOM

## 1. General Description

The M20 range of school intercoms is a cost effective basic intercom, where only one Master Station and up to a maximum of 60 class room Sub Stations are required.

The range includes a 6-way M630, 12-way M1230, 20-way M20x20, 40-way M20x40 and 60-way M20x60.

The system consists of the Master Station with all the selection switches. A power supply box which also contains the main audio/control PCB which is connected to the master via a 3 meter cable. A Termination Box with plug in terminals for all the connections to the Sub Station, it is also connected to the master via a 3 meter cable.

The system requires a 220/240vac power point. A battery backup is available for the system.

The M630 and M1230 do not have a Termination Box, the connection to the Sub Station can be made with connector blocks.

## 2. Applications

Primary and High schools, Crèches, Old Age Homes, Parking Garages, Lifts, Access Control for Buildings and Hotels & Lodges.

## 3. Facilities

Master to Sub Communication

Master to Handset Communication

Master to P.A. Calls

All Call to Subs

Random Call to Subs

Change of Period Tone

Call Tone at Sub Station

Sub Stations with no Call Back, Non Latching Call Back and Latching Call Back

LED and Tone Alert for Call Backs

## 4. Operation

### 4.1 Normal Call

1. Select required number switch or switches (random call) to the on position.
2. Press the "TALK" button momentary (the call tone is sent out to the selected substation).
3. The audio from the selected number will then be heard at the master station.
4. Press the "TALK" button to talk to the sub station.

5. Release the “TALK” button to listen to the sub station.
6. When the conversation is complete press the “OFF” button and switch the selected sub station’s switch to the off position.

## **4.2 All Call**

1. Press the “ALL CALL” button in until the announcement is complete then release. The system will switch off automatically.

## **4.3 Callback**

1. If the callback button on the substation is pressed the corresponding LED on the master station will light and the buzzer will sound, this will only occur when the callback button is pressed. There is a twenty second delay after a call is cancelled before the buzzer will sound for another callback. The LED will always come on immediately.
2. If a latching function is required for callback, a substation with latching callback must be used.

## **5. Installation Requirements**

1. A 220v AC outlet socket is required to power the intercom.
2. Unplug the Mains before working on the system.
3. One 0,5mm twisted pair cable per Sub Station from the Termination Box must be used.
4. The Twisted cable must never be shorted out as this can blow the call back LED’s.
5. The twisted pair cable is polarised and the + and – cores are marked on the Termination PCB and Sub Station PCB.
6. The impedance of the Sub Stations must be at least 300 ohms.
7. Never run cables near telephone cables.
8. The connectors in the Termination Box are pluggable to allow for isolating individual pairs.
9. The Power Supply Box & Termination Box must be wall mounted and have ventilation.
10. Before switching on, check all cable pairs for shorts and earth faults.
11. Outdoor cable must be screened cables and earthed at one point.
12. The audio volume can be adjusted by P1 on the Audio/Control PCB in the Power Supply Box. This adjusts the volume in both ways.
13. The Change of Period input from the Microsound TS631 normally open relay contact connects to connector A&B on Audio/Control PCB.
14. Horn Speakers can be connected directly to the system to cover small areas.
15. To cover Play Grounds and larger areas the Microsound MBA30 Intercom Booster Amp can be connected to an intercom number, and then drive the Horn Speakers for extra power.

## 6. Cable Colour Codes

### 20, 40 & 60-Way

No.	+	-
1	Red	Blue
2	Slate	Light green
3	Orange	Pink
4	White/brown	Brown/black
5	Slate/green	Yellow/brown
6	Slate/brown	Yellow/purple
7	White/red	Yellow/red
8	Slate/purple	Pink/purple
9	Red/blue	Green/red
10	White/purple	Purple/black
11	Red/brown	Red/black
12	White	Black
13	Yellow/blue	White/blue
14	Light green/blue	Light green/black
15	Orange/blue	Blue/black
16	Slate/blue	Green/blue
17	Brown	Purple
18	Yellow	Green
19	Yellow/green	White/green
20	Green/black	Orange/green

### M1230

No.	+	-
1	Red	Blue
2	Slate	Light green
3	Orange	Pink
4	Brown	Purple
5	White	Black
6	Yellow	Green
7	Red/blue	Green/red
8	Red/brown	Red/black
9	White/red	Yellow/red
10	Yellow/blue	White/blue
11	Orange/blue	Blue/black
12	Slate/blue	Green/blue

### M630

No.	+	-
1	Red	Blue
2	Slate	Light green
3	Orange	Pink
4	Brown	Purple
5	White	Black
6	Yellow	Green

NB.

1. M20 40-way and M20 60-way the cable colours are repeated.
2. Pairs not used must be isolated as not to cause shorts.

## 7. Guarantee

The M20 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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