

# 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

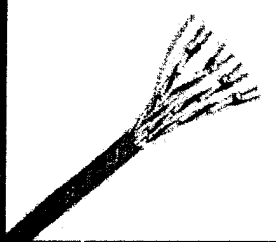
NB.

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.

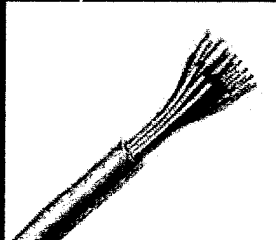
## 7. Guarantee

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).

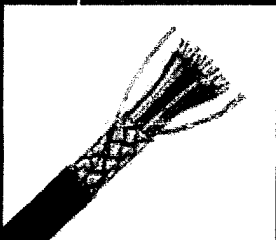
## Indoor Telephone Cable (0.5mm)



UTP Cable



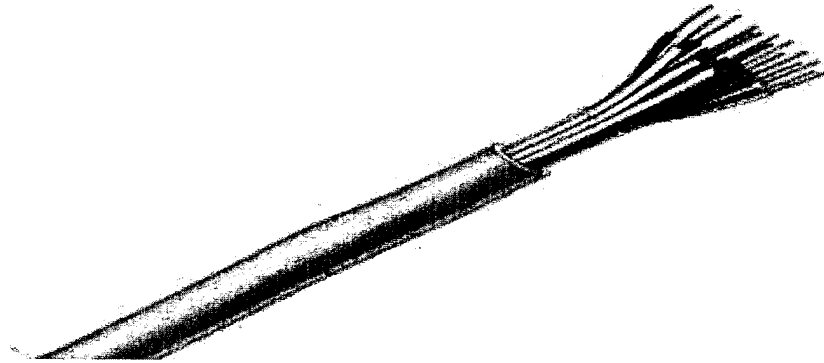
Telephone Cable



Braided Cable



Ripcord



### DESCRIPTION

Multi pairs twisted together indoor telephone cable with 0.5mm plain copper conductor, PVC insulated and PVC outer sheath.

### ELECTRICAL SPECIFICATIONS

Dimensions: 0.5mm solid plain copper  
 Insulation: 70 °C PVC  
 Lay Length: Various  
 Sheathing: 70 C PVC  
 Color: White  
 100% cover Mylar Tape covered with drain wire

Part Number	No. Of Pairs	Max Cable OD mm	Mass Per 100M KG.	Standard Drum Lengths M.
AKIT2101	1	3.1	1.4	1000
AKIT2102	2	4.6	2.4	1000
AKIT2103	3	4.9	3.1	500
AKIT2104	4	5.4	3.9	500
AKIT2106	6	6.6	5.8	1000
AKIT2108	8	7.1	7.1	1000
AKIT2110	10	7.9	8.8	1000
AKIT2112	12	8.3	10.1	1000
AKIT2115	15	9.2	12.7	1000
AKIT2120	20	9.9	15.9	1000
AKIT2125	25	10.6	19.0	1000
AKIT2130	30	12.1	23.4	1000

Note the above figures are calculated values and could be different to the actual manufacturing figures. Adlerkabel reserves the right to change product specifications from time to time and/or enhancements and accepts no liability arising from any differences between the published parameters of this specification and the finished product.

AFFILIATE PRODUCTS

**DATA SHEET: INDOOR-TEL268/01**

Pair No	Colour of Insulation		Pair No	Colour of Insulation		Pair No	Colour of Insulation	
	A-wire	B-wire		A-wire	B-wire		A-wire	B-wire
1	White	Blue	35	Blue-Black	Grey	69	Green-Red	Brown
2	White	Orange	36	Yellow-Blue	Blue	70	Green-Red	Grey
3	White	Green	37	Yellow-Blue	Orange	71	Green-Black	Blue
4	White	Brown	38	Yellow-Blue	Green	72	Green-Black	Orange
5	White	Grey	39	Yellow-Blue	Brown	73	Green-Black	Green
6	Red	Blue	40	Yellow-Blue	Grey	74	Green-Black	Brown
7	Red	Orange	41	White-Orange	Blue	75	Green-Black	Grey
8	Red	Green	42	White-Orange	Orange	76	Yellow-Green	Blue
9	Red	Brown	43	White-Orange	Green	77	Yellow-Green	Orange
10	Red	Grey	44	White-Orange	Brown	78	Yellow-Green	Green
11	Black	Blue	45	White-Orange	Grey	79	Yellow-Green	Brown
12	Black	Orange	46	Orange-Red	Blue	80	Yellow-Green	Grey
13	Black	Green	47	Orange-Red	Orange	81	White-Brown	Blue
14	Black	Brown	48	Orange-Red	Green	82	White-Brown	Orange
15	Black	Grey	49	Orange-Red	Brown	83	White-Brown	Green
16	Yellow	Blue	50	Orange-Red	Grey	84	White-Brown	Brown
17	Yellow	Orange	51	Orange-Black	Blue	85	White-Brown	Grey
18	Yellow	Green	52	Orange-Black	Orange	86	Red-Brown	Blue
19	Yellow	Brown	53	Orange-Black	Green	87	Red-Brown	Orange
20	Yellow	Grey	54	Orange-Black	Brown	88	Red-Brown	Green
21	White-Blue	Blue	55	Orange-Black	Grey	89	Red-Brown	Brown
22	White-Blue	Orange	56	Yellow-Orange	Blue	90	Red-Brown	Grey
23	White-Blue	Green	57	Yellow-Orange	Orange	91	Brown-Black	Blue
24	White-Blue	Brown	58	Yellow-Orange	Green	92	Brown-Black	Orange
25	White-Blue	Grey	59	Yellow-Orange	Brown	93	Brown-Black	Green
26	Red-Blue	Blue	60	Yellow-Orange	Grey	94	Brown-Black	Brown
27	Red-Blue	Orange	61	White-Green	Blue	95	Brown-Black	Grey
28	Red-Blue	Green	62	White-Green	Orange	96	Yellow-Brown	Blue
29	Red-Blue	Brown	63	White-Green	Green	97	Yellow-Brown	Orange
30	Red-Blue	Grey	64	White-Green	Brown	98	Yellow-Brown	Green
31	Blue-Black	Blue	65	White-Green	Grey	99	Yellow-Brown	Brown
32	Blue-Black	Orange	66	Green-Red	Blue	100	Yellow-Brown	Grey
33	Blue-Black	Green	67	Green-Red	Orange			
34	Blue-Black	Brown	68	Green-Red	Green			

**YOUR LINK TO THE WORLD OF COMMUNICATION**

**CBI Electric: Aberdare ATC Telecom Cables (Pty) Ltd**

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