

VALET

**HOME
COMMUNICATION
EQUIPMENT**

VM2000_{LCD}

INSTALLATION INSTRUCTIONS

GENERAL

The following general procedures must be observed in relation to the location and installation of stations for the VM2000 Intercom System:

- Stations are not to be installed "back to back" or in view of each other as this will cause feed-back (squealing).
- Where external stations are exposed to extreme weather i.e. heavy rain, appropriate measures should be taken to weatherproof the station.
- Intercom cables are not to be run parallel to electrical wiring.
- Intercom cables are not to be run parallel to other intercom cables for more than five (5) metres i.e. cables are to be spread out as much as possible.
- The power supply (transformer) is not to be installed in a cavity wall or any area (roof etc) where temperatures exceed 30 degrees celsius.
- Where any station is to be installed more than fifty metres from the master station consult your authorised Valet Dealer so as to avoid the possibility of power (voltage) drop to that station.

CAUTION: Failure to use specified wire may cause problems with performance of the system and will void warranty on equipment.

IMPORTANT: Valet cannot be responsible for improper system operation that results from improper wire use or interference generated by light dimmers, flourescent lighting fixtures and similar electrical products, such interference must be corrected at the source. As an aid to help reduce this interference, all system wires and cables must be placed at least 12 inches from any A.C. power wiring.

LOCATION OF ALL STANDARD AND OPTIONAL EQUIPMENT

Master Station

The Master Station is generally located above the breakfast bar in the kitchen/family room area at a suggested height of fourteen hundred (1400) millimetres from the floor to the centre of the unit. As all wiring from other stations is terminated at the rear of the master, the walls should be no less than 70 millimetres in depth (preferably 100 millimetres if possible). a timber wall box should be inserted so as to allow for correct support of the master station.

IMPORTANT:

- The master station should only be installed in a cavity wall and not a single brick wall, to facilitate all wiring behind it.
- Ensure that where there is wall tiling around or near to the master station, it is mounted either completely within the tiled area or completely clear of it. Failure to do so will result in an uneven surface on which to affix the master station.

Mini Master/Room Stations

- Careful consideration must be given to present and/or future furniture layout so as not to locate stations in inappropriate positions.
- To avoid audio feed-back, room stations should be kept at least four-five metres apart from all other stations (never two in the same room).
- They should not be installed "back to back", in view of each other or next to dimmer switches.
- A suitable height is 1400 millimetres from the floor to the centre of the unit but may be less if required in easy reach of a bed.
- Stations located on timber frame walls will
 - a) in the case of mini masters, require a timber wall box to be installed adjacent to a stud and nogging.
 - b) in the case of room stations, require no special fixing method but should be located adjacent to a stud to allow for firm fixing.
- Stations located on cavity brick walls will require the installation of wall boxes.

Mini masters should not be installed on single brick walls and for a room station, where the only alternative available is a single brick wall, a wall box still must be installed and the cable chased and conduited into the brick wall. Since a wall box is almost the same depth as a brick, the back of the single brick wall must have either:

 - a) cement render to cover the back of the wall box and the chase for the conduit and cable or
 - b) some form of wall lining (timber/plaster etc.) or a cupboard behind the station to hide the back of the wall box/wiring.
- Where stations are required in bathrooms or laundries
 - a) they must be kept clear of water or steam and
 - b) should there be tiling surrounds, a wall box must be installed prior to lining/tiling of the walls and a clear directive given to the tiler to cut out the tiles to the inside dimensions of the wall box.

Mini Master/Room Stations

- Mini masters should not be exposed to the weather whilst room stations will require weatherproof covers to be fitted. Consult your local Valet dealer for details.
- STATIONS MUST NOT BE INSTALLED IN SAUNAS.

Front Door/Gate Station(s)

- These stations are best located adjacent to the front door or at the front gate at a suggested height of 1400 millimetres and depending upon the surface to which they are to be affixed, may require a wall box to be inserted.
- Stations exposed to the weather will require a weatherproof cover to be installed, available from your local Valet dealer.
- Where stations are to be installed in solid brick or concrete columns, conduit may be required to be built into the fixture to ground level so as to avoid unsightly external wiring.

Power Supply

- The power supply (transformer) is usually located no less than two (2) metres and not more than five (5) metres from the master unit and adjacent to a power point. suggested suitable locations are in the kitchen cupboards, pantry, broom cupboard etc., but not in the roof space of the dwelling as very hot conditions in summer will cause it's "thermal cut out" to activate.

Auxiliary Input Jack (DIN Socket)

- This allows for music to be played through the Intercom System using a tape recorder or record player and hence is best located as close as possible to your stereo system.
- Note: The Manufacturer/Distributor cannot guarantee that the input jack is suitable for all stereo equipment.

Antenna (AM/FM Aerials)

- The setting of the antennas is a critical part of the installation if "quality radio" is desired. In pitched roofs the optimum location is in the crest, at least 2 metres away from any household electrical or intercom wiring. Should the roof be lined with foil insulation, the AM aerial must be located above the foil.
- Where the dwelling has a flat, metal deck roof for or is in an area with poor reception.
 - a) The AM aerial - an externally mounted gutter whip antenna is recommended,

AND

- b) The FM aerial - is best located under the eave but as FM reception is dependent upon direction, an FM aerial, similar to a T.V. aerial, may be required.

Door Latch (Optional Extra)

- The standard electric door latch replaces the striker plate and is located in the door jamb of the doorway.

Electric Deadlock (Optional Extra)

- The electric deadlock replaces the lock in the door and performs the same function as a standard deadlock as well as incorporating the ability to open the door electrically via the intercom system.

WHERE TO RUN THE CABLE

- Cables can be run either
 - in the roof space
 - in false ceilings/bulkhead areas
 - through and/or around external walls
 - under the floors (subject to access being available)
- It is essential to spread the cables as far apart as possible and to ensure they are not run parallel to either electrical or other intercom cable for distances of more than 3-4 metres.

HOMES UNDER CONSTRUCTION

- Where mini masters are to be located on timber frame walls, install the appropriate wall box.
- Where room stations are to be located on timber frame walls, securely fix the wiring to the stud so that the tradesman lining the wall can pull the cables through.
- Where room stations are to be located on cavity brick walls, ensure the wiring is pulled through any one of the holes in the back of the wall box.
- It is preferable to install wall boxes either as the brick work is going up or prior to cement rendering.
- All aerial cables should be taken to the highest and most accessible point in the roof and must be installed as per the instructions.

IMPORTANT:

- ALLOW APPROXIMATELY ONE (1) ADDITIONAL METRE OF CABLE AT THE MASTER WALL BOX (ALL CABLE) SO THAT THE MASTER STATION CONNECTOR CAN EASILY BE PLACED ON THE BENCH/TABLE TOP DURING TERMINATION AND CONNECTION OF THE EDGE CONNECTOR ON TO THE BACK OF THE MASTER STATION. TESTING CAN THEN TAKE PLACE ON THE BENCH PRIOR TO SECURING THE MASTER ONTO THE WALL.

WHAT CABLE TO USE

Master To Mini Master Stations

- Valet Intercom cable and fig 8 cable is to be run from the master to mini master(s)
- Warning: Do not loop cables from one station to another.

Master To Room Stations - Front Door/Gate Station(s)

- Valet Intercom cable is to be run from the master to all room stations + front door + gate stations.
- Warning: Do not loop cables from one station to another

Power Supply

- 'Figure 8' cable is to be run from the transformer to the master station (not to exceed 5 metres in length).

Auxiliary Input Jack (DIN Socket)

- Two (2) core shielded cable is to be run between the master station and input jack.

FM Aerial

- 300 OHM T.V. ribbon is to be run from the master station to the highest and most accessible point in the roof - supplied in kit.

AM Aerial

- Run Co-axial cable supplied in kit from the master station to the highest and most accessible point in the roof. Cut off the plug at the Master station end of cable.

Electronic Door Latch/ Dead Lock (Optional)

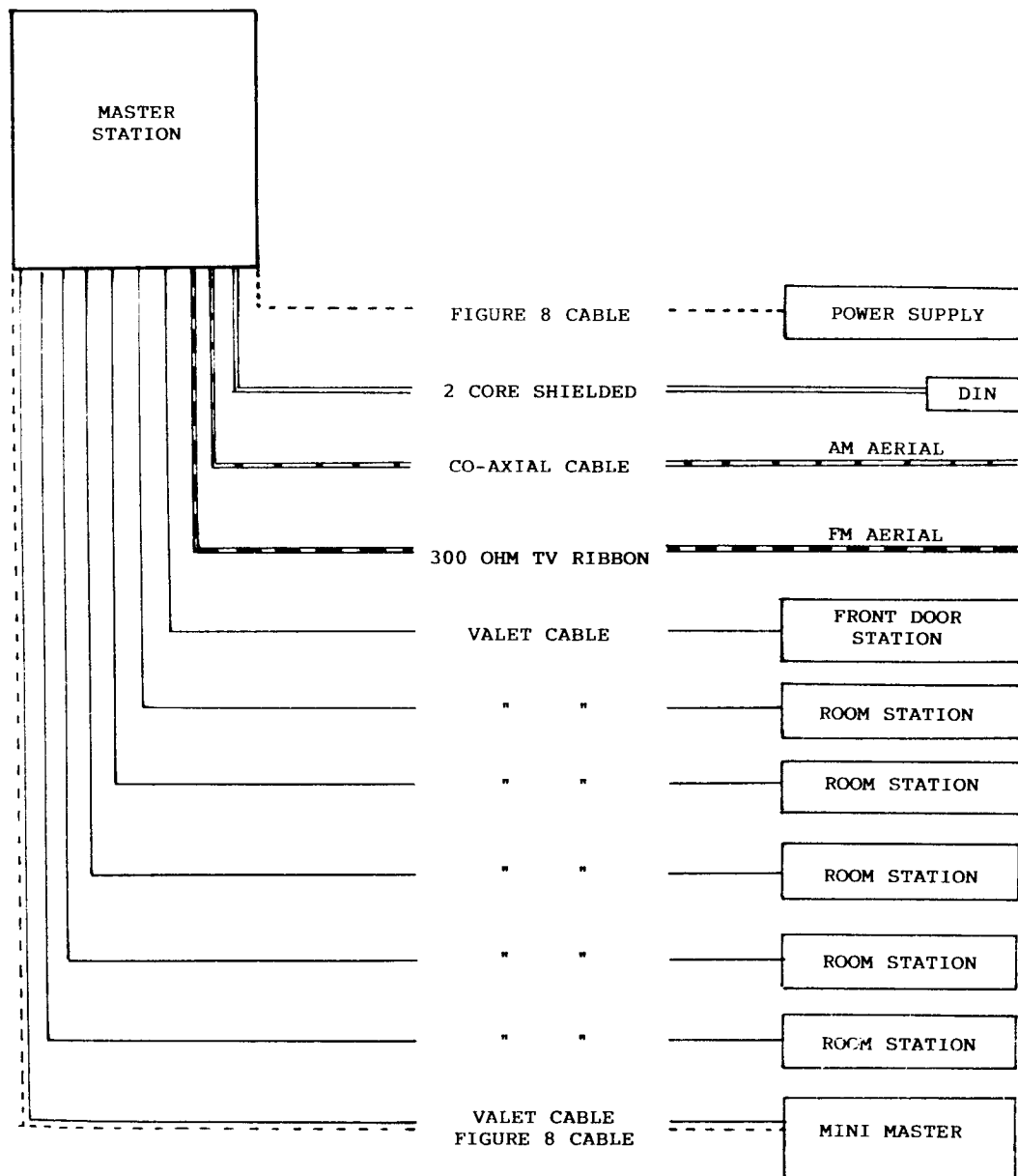
Figure 8 cable is to be run from the electric door release mechanism to the master station.

WHAT CABLE TO USE CONT.

IMPORTANT:

- CLEARLY MARK/TAG ALL CABLES AT THE MASTER STATION WITH DETAILS OF THE LOCATIONS THOSE CABLES COME FROM. THIS WILL NOT ONLY HELP TO ELIMINATE CONFUSION WITH FITTING OFF THE CONNECTOR BUT COULD ASSIST IN ISOLATING DAMAGED WIRING.

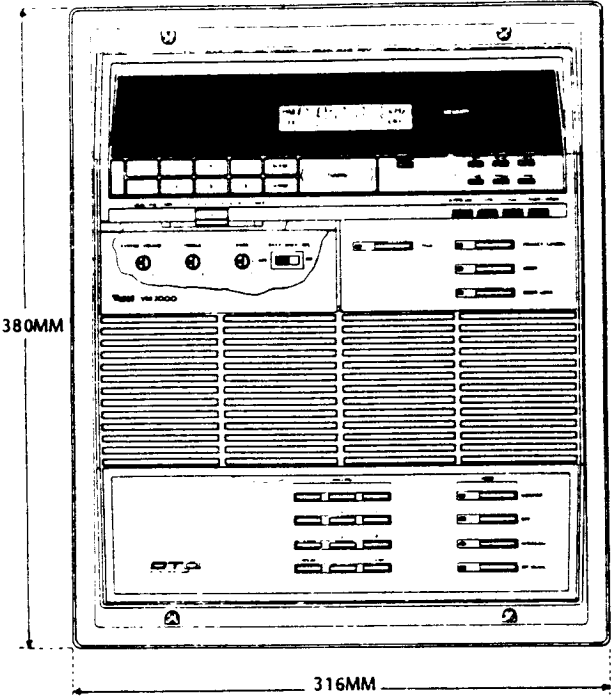
VM2000 WIRING SCHEMATIC



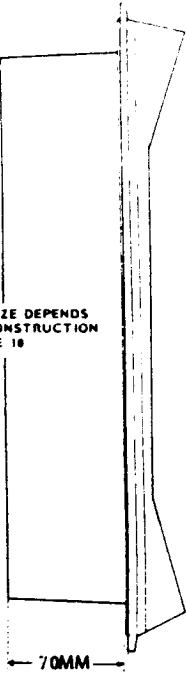
FOR ELECTRIC DOOR LATCH/DEAD LOCKS
Run Figure 8 cable from Latch/lock to Master Station

DIMENSIONS

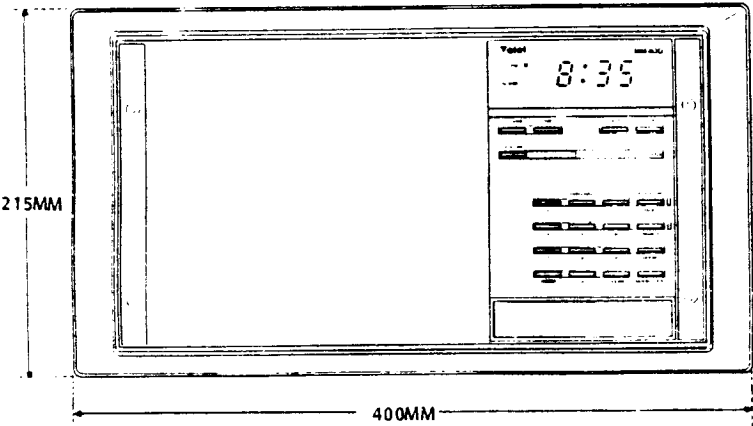
MASTER STATION



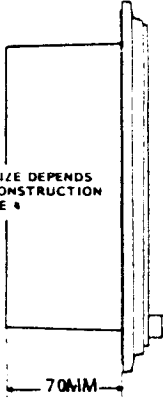
CUT OUT SIZE DEPENDS
ON WALL CONSTRUCTION
REFER PAGE 18



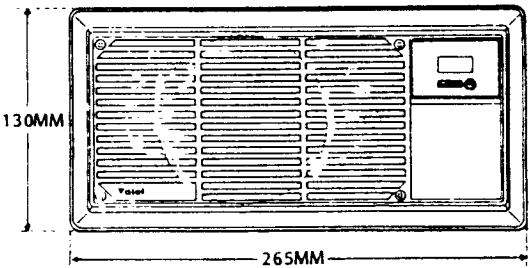
MINI MASTER STATION



CUT OUT SIZE DEPENDS
ON WALL CONSTRUCTION
REFER PAGE 4



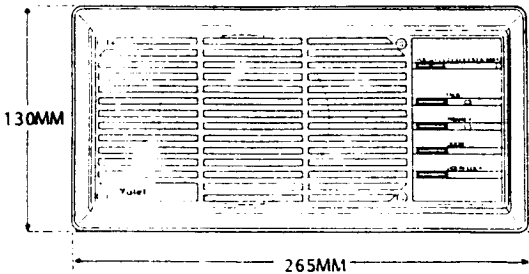
FRONT DOOR STATION



CUT OUT SIZES DEPEND
ON WALL CONSTRUCTION
REFER PAGES 6 & 8



ROOM STATION (VR200 + VR300)



Installation of Mini Master MM400

Mini Master Station(s) In Timber Frame Walls

Timber Frame Wall Not Lined

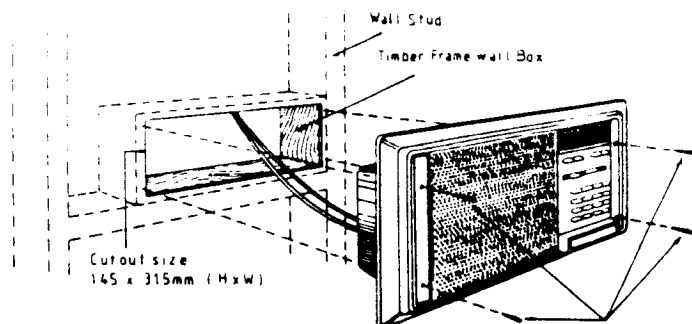
- Install the mini master wall box flush with the front of stud and brace it so as to limit any movement of the box when fitting the master station.
- After the wall has been lined, cut out an opening to the inside dimensions of the wall box.

Timber Frame Wall Already Lined

- Cut out an opening in the wall lining (145mm x 315mm - H x W) exposing a wall stud at the side.
- Slide in the mini master wall box and firmly nail it to the stud so that it is flush with the front of the stud.
- Pull the cables through the back of the wall box, then:
 - Strip back (approx 200mm) all white plastic insulating the cable.
 - Strip back to bare cable (approx 30mm) all the coloured cables inside the Valet cable and the fig 8 cable.
- Firmly fix all bare cables onto the screw terminals at the back of the mini master station ensuring any bare wiring on one terminal is not touching another terminal.
- Fit the mini master into the wall box cut out and secure it using the 44mm black mounting screws
- Note: It is suggested that they only be partly screwed in until the system has been fully tested. This will allow for the easy checking of the cable termination should the system not operate correctly.

Mini Master Station(s) In Brick Walls (Cavity Only)

- As detailed in the manual "Station Location & Wiring Instructions - VM 2000 Intercom", mini masters should not be located on single brick walls.
- Remove bricks and install wall box.
- For homes under construction, install the wall box as the brick work is going up.
- Fitting procedure is then the same as for timber frame walls.



Note: The cutout size is intentionally smaller than the actual size of the wall box to allow for firmer fixing. Therefore insert the wall box into the opening on its side, then straighten it up.

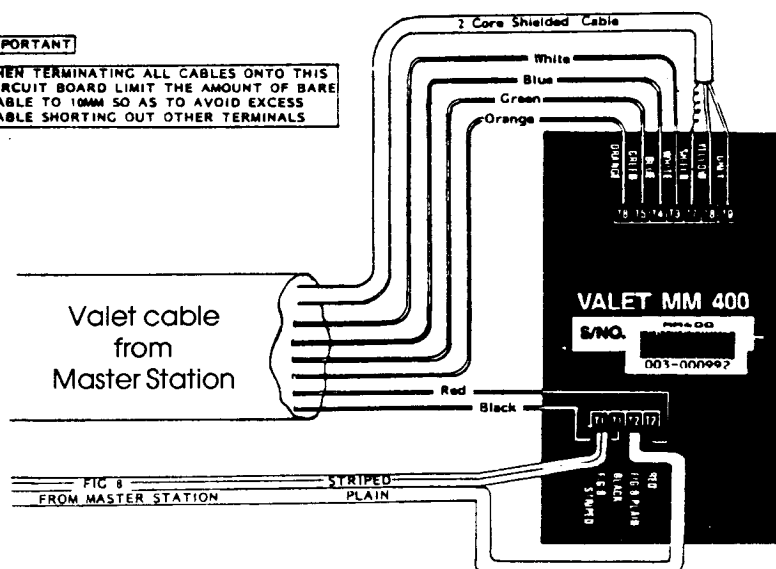
4 Black Mounting Screws (44mm)

MM 400 MINI STATION - TIMBER FRAME WALL -

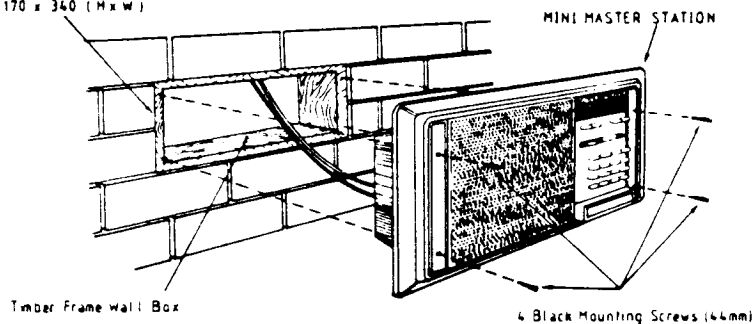
CABLE TERMINATION MINI MASTER STATION (8 WIRE)

IMPORTANT

WHEN TERMINATING ALL CABLES ONTO THIS CIRCUIT BOARD LIMIT THE AMOUNT OF BARE CABLE TO 10MM SO AS TO AVOID EXCESS CABLE SHORTING OUT OTHER TERMINALS



Brickwork Cutout Size
170 x 340 (H x W)



MM 400 MINI STATION - CAVITY BRICK WALL -

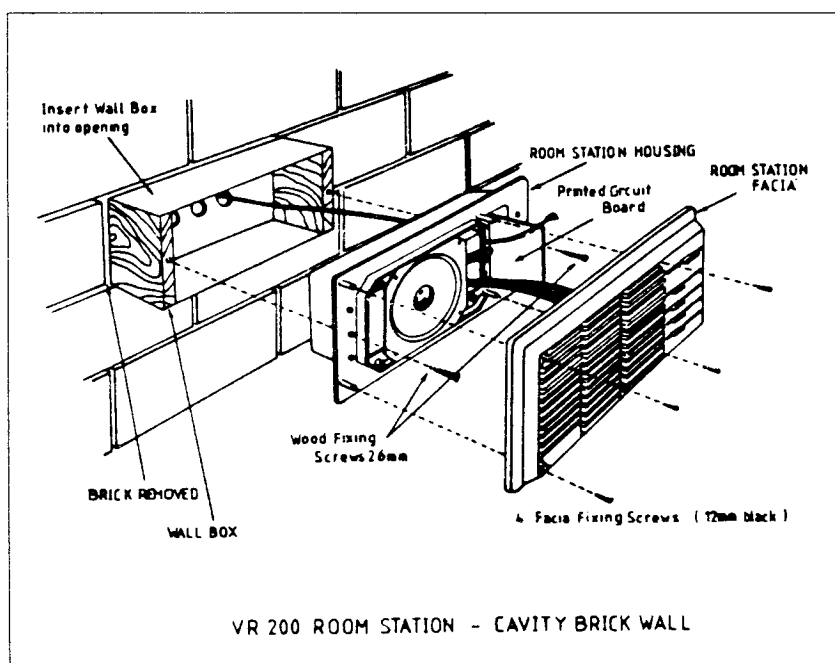
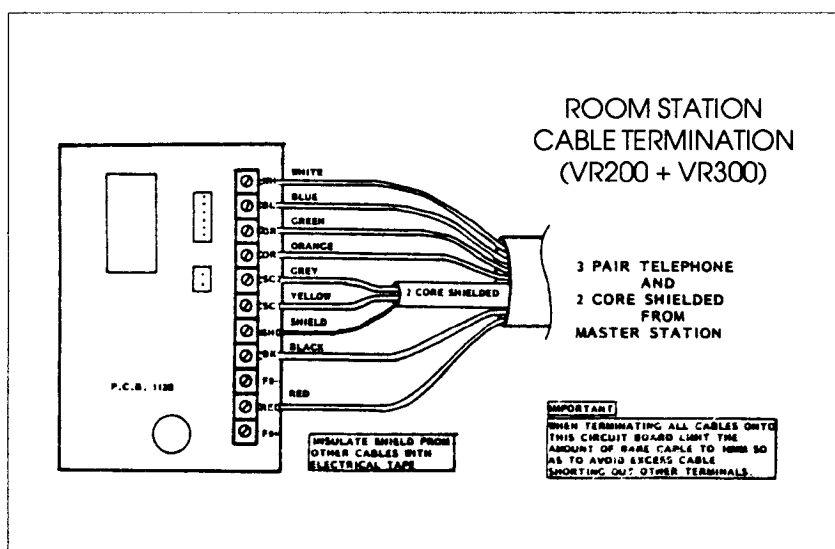
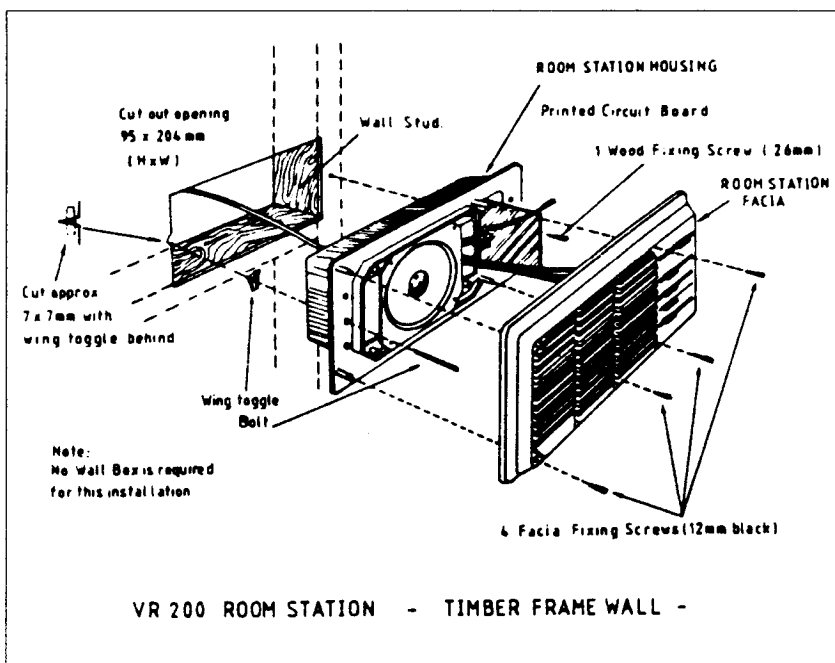
Installation of VR200 & VR300 Room Stations

Room Stations in Timber Frame Walls

- Cut out hole in wall lining keeping one side of the cut out adjacent to a stud so as to allow for firm fixing.
- Fit room station housing into cut out and mark positions for wall fixing attachments. Remove housing and cut out a 5-7 millimetre vee for the fixing point of the wing toggle bolt.
- Feed the cables from inside the wall through the circular hole at the rear of the room station housing.
- Fit the room station housing back into the cut out hole and secure it with the fixing attachments provided.
- Remove the printed circuit board from the main housing
- Strip back the outer white cable covering (approx 200mm) then the coloured cables inside (approx 30mm bare cable) and firmly fix all bare cables onto the screw terminals of the circuit board. Make sure any bare wiring on one terminal is not touching another terminal.
- Insert the printed circuit board with the wires affixed (see diagram opposite) back into the opening provided in the main housing.
- Secure the front facia onto the main housing using the four 12 millimetre black screws provided.
- Note: It is suggested that they only be partly screwed in until the system has been fully tested. This will allow for the easy checking of the cable termination should the system not operate correctly.

Room Stations in Cavity Brick Walls

- Remove the brick and mortar and insert the wall box ensuring that all cables are first pulled through any one of the holes in the back of the wall box.
- Installation procedure is then the same as for timber frame walls with the exception of using another wood fixing screw instead of a wing toggle bolt (see drawing/diagram opposite)



Front Door/gate Station(s)

- Depending upon the type of wall to which the station is to be affixed i.e. timber or brick, installation and cable termination is then the same as for room stations.
- Where stations are exposed to extreme weather, consult your authorised dealer with a view to weatherproofing.

Auxiliary Input Jack (DIN Socket)

A. Installation At Frame Stage Prior to Lining of Walls

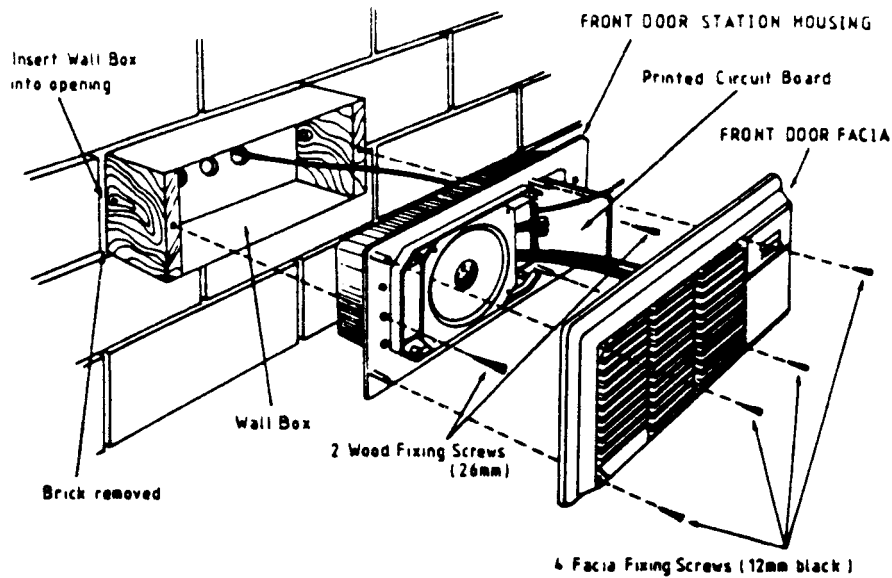
- Secure the plate provided (Part No. 155) to the stud wall adjacent to the power point for your stereo, and pull the shielded cable through the opening of the plate.
- After the walls have been lined, cut out inside diameter of plate, strip the shielded cable and solder onto the terminals as indicated on diagram on opposite page.
- Screw the input jack onto the plate.

B. Installation in Timber Frame Walls Already Lined

- Ensure the shielded cable can be run to the location selected and that no noggings are in the way.
- Cut out wall lining and insert the plate provided then pull the wire through the opening.
- Installation is then the same as above.

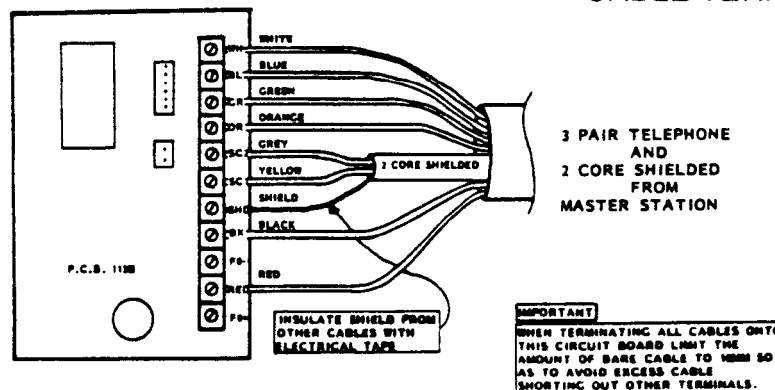
C. Installation In Cavity Brick Walls

- Drill through the brick work to the cavity.
- Enlarge the hole slightly so as to allow the pins of the input jack to recess into the brick work.
- Pull the shielded cable through the opening, strip the shielded cable and solder onto the terminals as indicated on opposite page.
- Drill and plug the brick work for the mounting screws and screw the input jack onto wall.

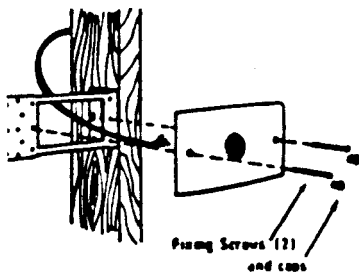


VF 80 FRONT DOOR STATION - CAVITY BRICK WALL

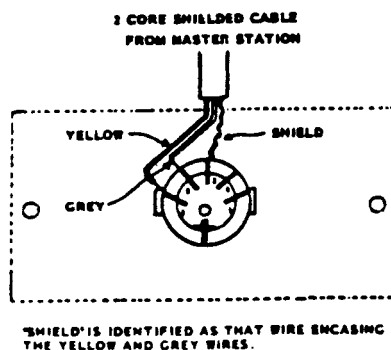
FRONT DOOR STATION CABLE TERMINATION



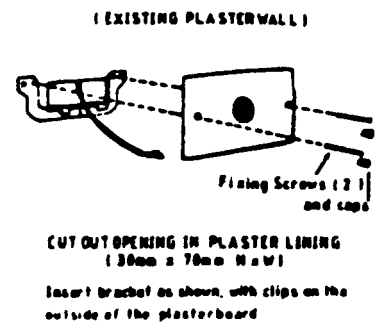
WALL BRACKET DIN SOCKET - PN155



AUXILIARY INPUT JACK (DIN)



PLASTER BRACKET DIN SOCKET - PN 154



Master Station in Timber Frame Walls

Timber Frame Wall Not Lined

- Install the master wall box flush with the front of stud and brace it so as to limit any movement of the box when fitting the master station.
- After the wall has been lined cut out an opening to the inside dimensions of the wall box.

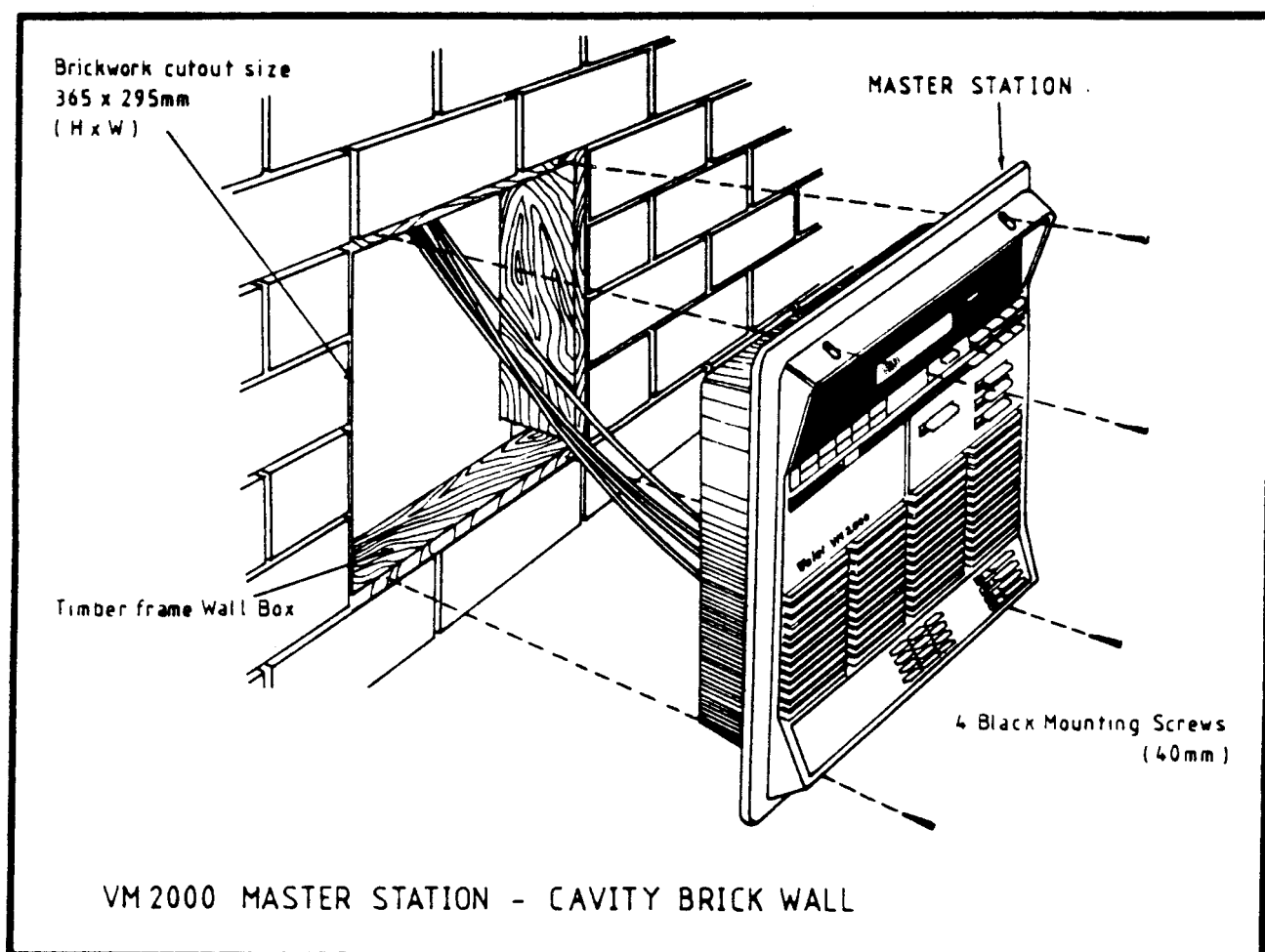
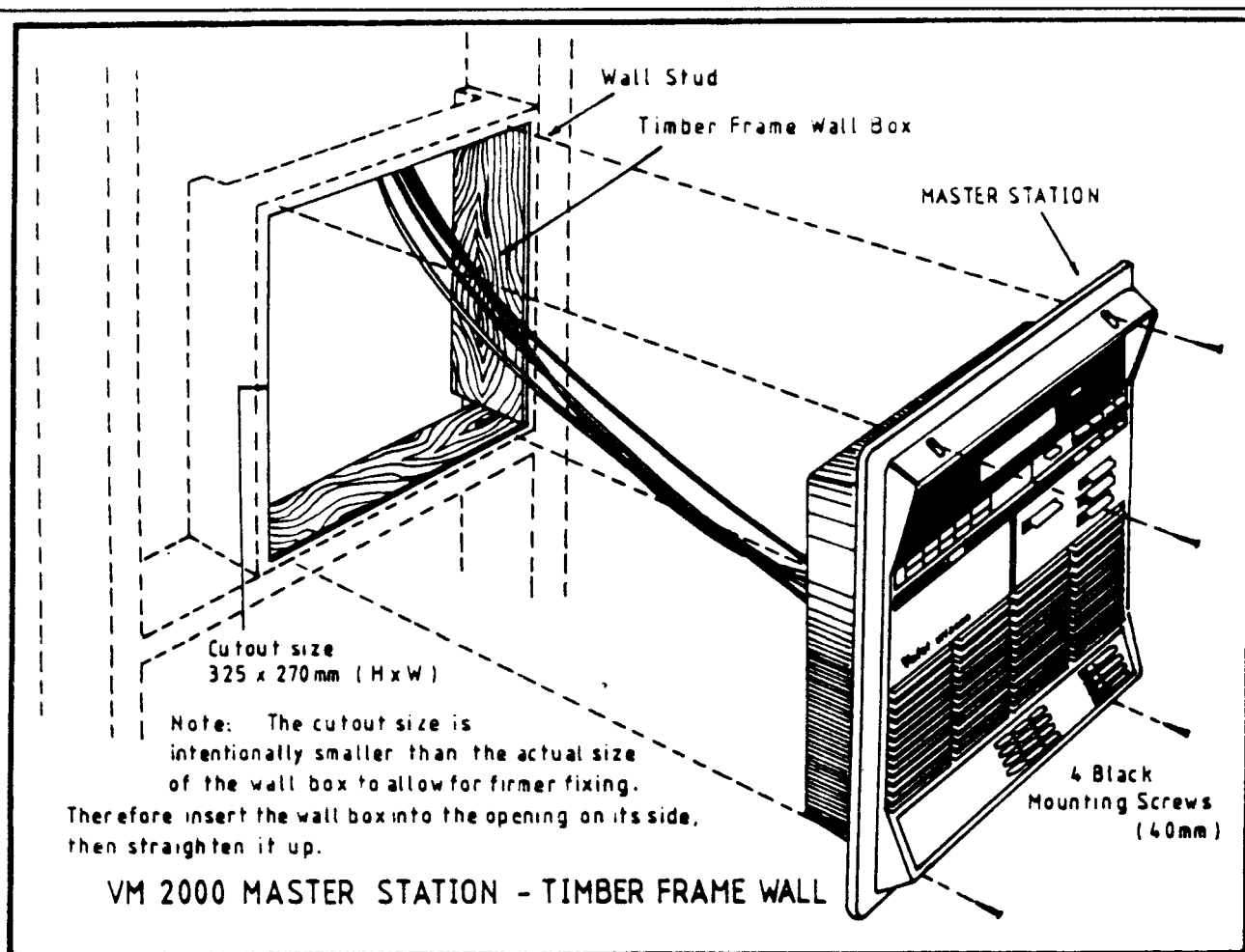
Timber Frame Wall already Lined

- Cut out an opening in the wall lining (325mm x 270mm - H x W) within 12mm of wall stud.
- Slide in the master wall box and firmly nail it to the stud so that it is flush with the front on the stud.
- Pull the cables through the back of the wall box, then:
 - Strip back (approx 200mm) all the white plastic insulating the Valet cable
 - Strip back to bare cable (approx 30mm) all the coloured cables inside the Valet cable from all room stations/front doors and twist them together in their appropriate colours ie. white with white, blues with blues etc.
- The two wiring terminal blocks on the back of the master station affix to the main board of the master station. They are removable should service be required for the master station but are best left on during this stage of the installation.
- Place the master upside down on a bench or support making sure it is resting on a soft surface so as to avoid any marking of the fascia.
- Terminate all wiring into the appropriate terminals and ensure all 'stranded shield wires' are insulated with electrical tape once installed.
- Make sure that all wiring is securely fixed to the terminal blocks.

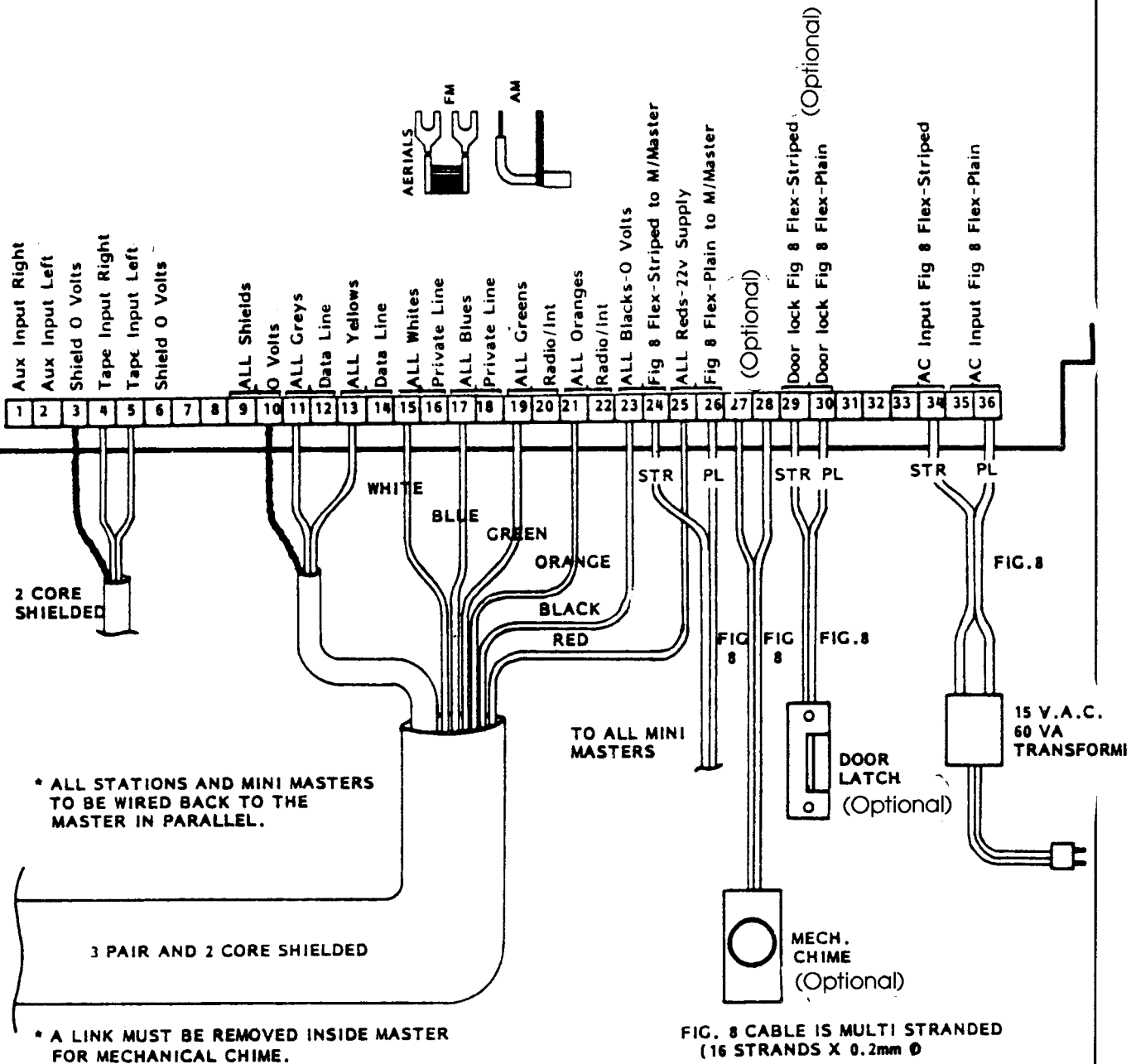
Note: Do not secure the unit onto the wall until such time as all functions have been tested.

Master Station in Brick Wall (Cavity Only)

- Remove bricks and install wall box.
- For homes under construction, install the wall box as the brick work is going up.
- Fitting procedure is than the same as for timber frame walls.

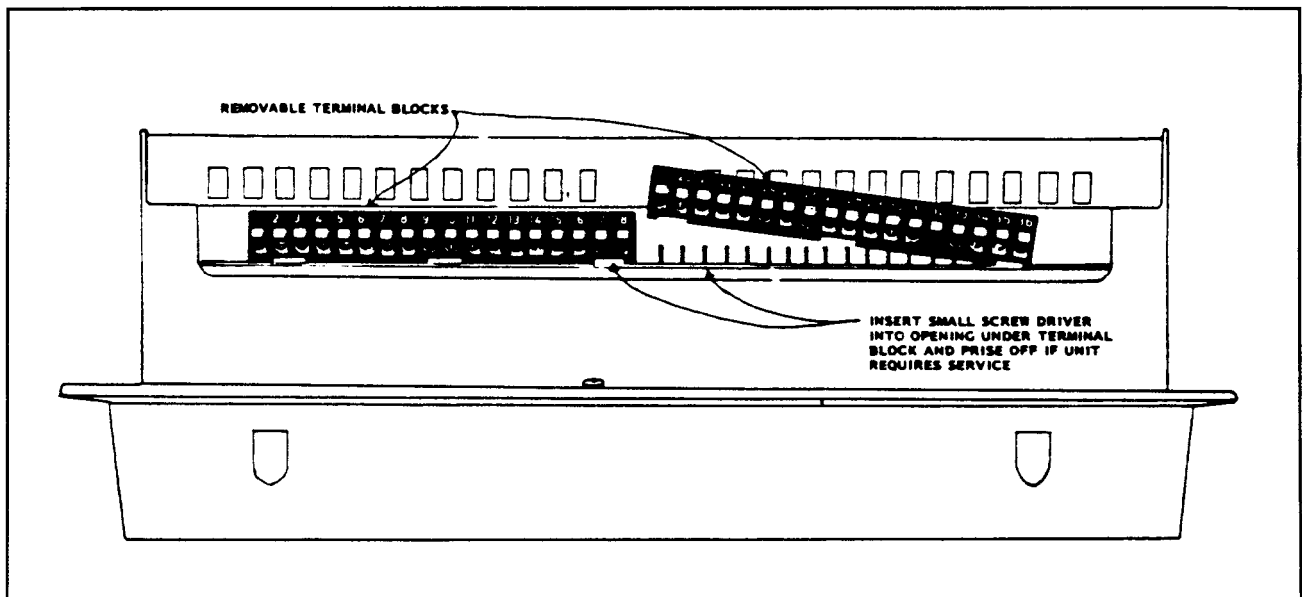


MASTER STATION TERMINATIONS ONTO TERMINAL BLOCKS 8 WIRE



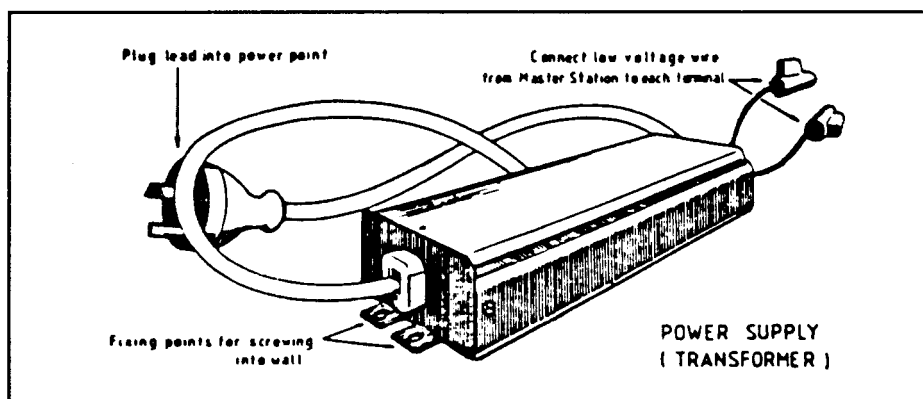
REMOVAL OF TERMINAL BLOCKS FROM MASTER STATION

- As detailed in the INSTALLATION OF THE MASTER STATION page 17 the two terminal blocks are removable should the unit need to be serviced.
- To do so, insert a small screw driver into the openings provided and slowly prise each block off the main circuit board.



POWER SUPPLY

- Connect the 'figure 8' cable (from the master) onto the terminals of the power supply which should be adjacent to its designated power point.
- Screw the power supply onto the wall using appropriate fixing points.
- Put three (3) pin plug into power point and turn power on.

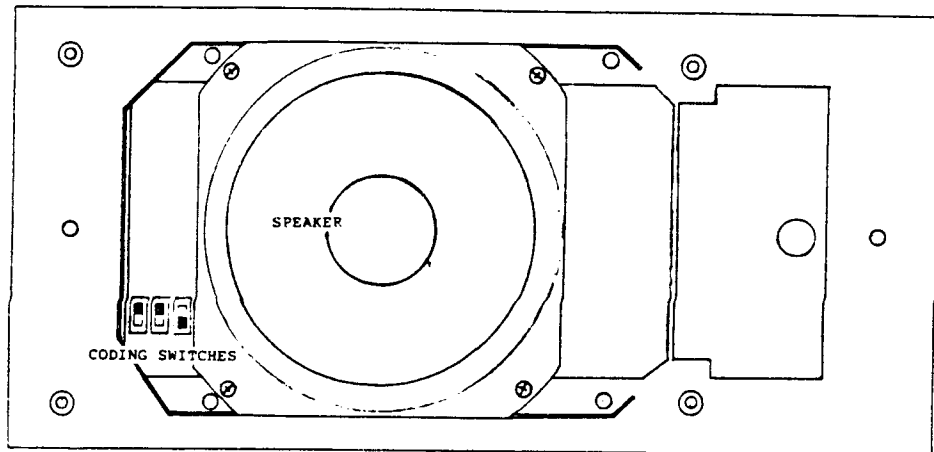


ROOM STATION CODING

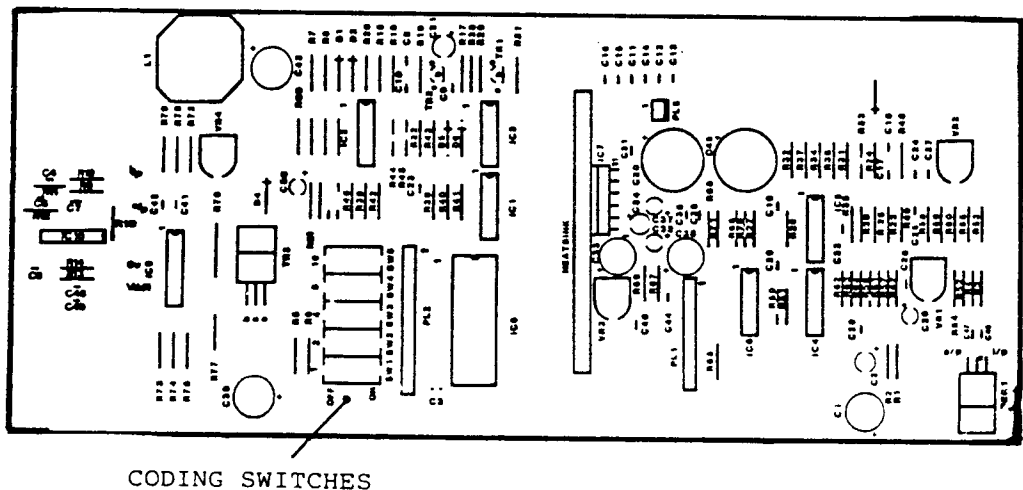
VM2000 series Intercoms require that all Room Stations and Mini-Masters are allocated their own specific code. This coding enables the master to distinguish between individual stations. Therefore it is extremely important that no two stations are coded to the same number.

The diagrams below show where the coding switches are located.

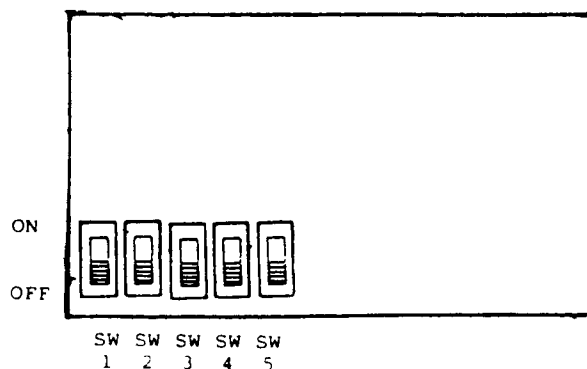
VR200
VR300
VF80



MM400



The coding procedure is as follows:



| Switch No. | Binary Value |
|------------|--------------|
| 1 | 1 |
| 2 | 2 |
| 3 | 4 |
| 4 | 8 |
| 5 | 16 |

ROOM STATION CODING (Cont'd)

Each switch has its own numeric or binary value (as shown). By selecting different combinations of switches on, and then adding the value of those switches, we are able to code the stations to the number required from 0 to 31.

For example:

To code a station to station 11:

Switches 1, 2 & 4 are "ON"
Therefore $1 + 2 + 8 = 11$
Station is coded to 11

Specific codes must be allocated to certain stations as follows:-

BINARY CODE

0
1 - 22
23 - 27
28-31

STATION TYPE

Master Only
Mini Master & Room Stations
Mini Master & Room Stations
Without door lock facility
Door Stations

POWER BOOSTERS

When adding extra stations to a standard VM2000 kit, additional Power Booster(s) and Transformer(s) may be required. The following chart is to be used as a guide to calculate the number of Boosters (if any) that may be required.

To use the chart, draw an imaginary line between the number of Room Stations required and the number of mini-masters required.

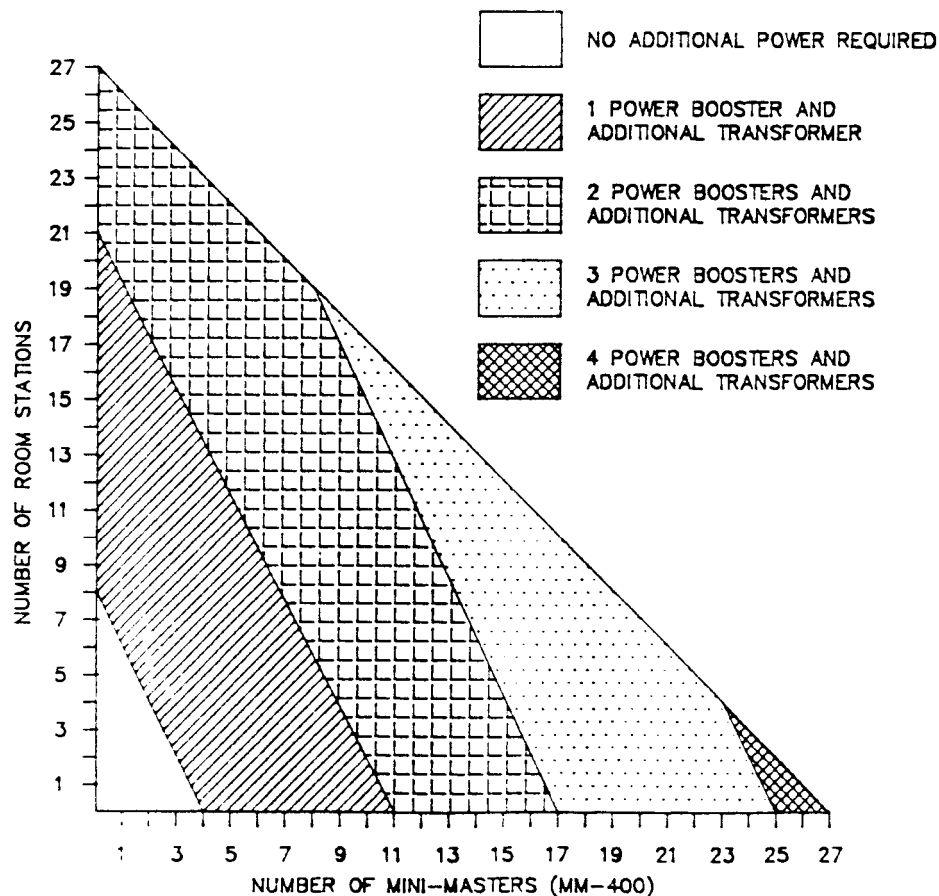
e.g. 4 Room Stations (VR200 or VR300)

4 Mini Masters (MM400)

This example would require its original Transformer as well as 1 Power Booster and additional Transformer.

VM 2000 POWER REQUIREMENTS

CHART TAKES INTO CONSIDERATION MASTER AND DOOR STATIONS




To connect the Booster to the Master, connect the red output to terminal 25 and connect the black output to terminal 23.




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