MIM-LINK™ WIRELESS

(Interface Module Unit)

Installation and Operating Instructions Manual

Read these instructions completely before installing or operating this unit.

TABLE OF CONTENTS

INSTALLATION

MOUNTING OF INTERFACE MODULE 1

Figure #1: Cabinet Mounting Holes 1

Figure #2: Cabinet Front Panel Securing Screws 2

Figure #3: MIM-LINK™ Interface Module 3

Figure #4: MIM-LINK Connection to Computer 4

Figure #5: Surge Arrestor on 120 VAC Circuit at Main Electrical Panel 4

Figure #6: Installation Detail for Base Antenna, Coaxial Cable and Grounding Wires 8

Figure #7: Antenna Grounding Lug Mounting Detail 9

Figure #8: Weatherproofing Coaxial Cable Connections 10

Figure #9: Coaxial Cable Connection to MIM-LINK Module 11

Figure #10: Mounting & Wiring of PolyPhaser Surge Arrestor 12

Figure #11: Installation Detail for 3-Rod Grounding Grid at Central 14

OPERATION 17

Module Function 17
Figure #12: Front Panel Assembly 17

Memory Switch 18
Figure #13: Memory Switch 18

Channel/Station Switch 19
Figure #14: Channel/Station Switch 19

Channel Activity Lights 20
Figure #15: Channel Activity Lights 20

Station Activity Lights 22
Figure #16: Station Activity Lights 22

TABLE OF CONTENTS CONT'D.

Output Circuit Breakers 23

Mode of Operation Switch 24
Figure #17: Mode Switch 24

Group Window & Up/Down Buttons 25
Figure #18: Group Window 25

Channel Windows & Up/Down Buttons 26
Figure #19: Channel Windows 26

Manual Operation of a Satellite 27
Figure #20: Start/Advance & Cancel Switches 27

Test Switch 8
Figure #21: Test Switch 28

Status Lights 29
Figure #22: Status Lights 29

INSTALLATION

INTRODUCTION:

The MIM-LINK™ Interface Module Unit is used to pass the information, received from the Central Computer, on to the field "Link Type" Satellite Controllers via Radio Transmission. In a like manner, it also passes "Feed Back" information, received by Radio Transmission from the field "Link Type" Satellite Controllers, on to the Central Computer. In so doing, the MIM-LINK Interface Module can retain and/or display a certain amount of information for viewing by the operator.

The MIM-LINK Interface Module is capable of being in communication with FOUR (4) different GROUPS of "Link Type" field Satellites, at all times. Each GROUP of Satellites can consist of up to 28 "Link Type" Satellites maximum.

All information, for any GROUP Activity, CHANNEL Activity and STATION Activity is displayed on the MIM-LINK Interface Module.

A MEMORY Switch provides for the preserving of Status information or Operational information for viewing at some future time.

Full MANUAL Operation of any Satellite, on the system, may be performed from the MIM-LINK Interface Module.

Status lights indicate when the system is in proper operating condition and when communication with the MAXI® computer is occurring.

MOUNTING OF INTERFACE MODULE

FOR: MIM-LINK™

STEP #1:

Remove the Interface Unit from the carton. Be sure you do not lose the power cord.

STEP #2:

Determine a suitable wall mounting location for the unit near the central computer. Unit dimensions are: 15 1/2" W x 12 1/2" H x 6" D. The Unit should be mounted at EVE-LEVEL for ease of observation and operation.

STEP #3:

See Figure #1:

Mount the unit to the wall, using 3 large flat bead, #6 screws, 1/2" to 3/4" long or other suitable screws, bolts, etc. as the wall material may dictate. Locate the screws on the wall of the mounting location, in the geometric pattern as shown in the following figure.

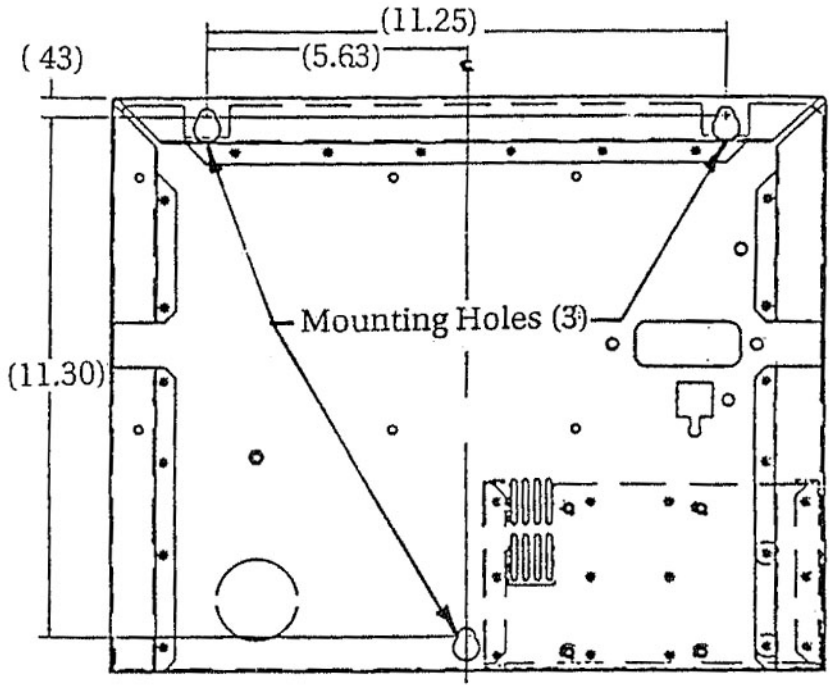


FIGURE #1: Cabinet Mounting Holes

SUGGESTION: *Do Not install screws full depth. Leave the head of the screws 1/8" from the wall, to allow cabinet to slip over it. Then tighten the screws, once the cabinet is in place.*

NOTE ! *Screws need only to be turned 1/4 turn to "unlock".*

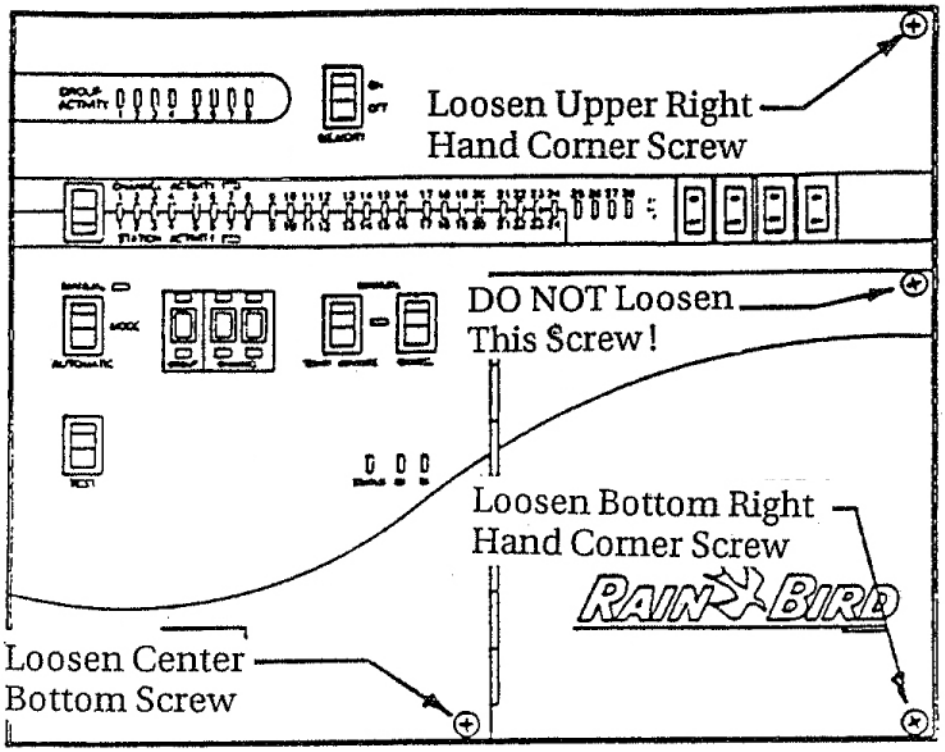


FIGURE #2: Cabinet Front-Panel Securing Screws

STEP #4:

See Figure #2:

Open the Front Panel of the MIM-LINK™ Interface Module.

To do this, loosen the screw in the upper Right Hand corner. Also loosen the screw in the lower Right Hand corner. Finally loosen the screw at the Bottom in the Center of the panel.

With the front panel now loosened slip the unit over the screw heads and then seat it firmly "DOWN" onto the screws. When properly "seated" the screw heads should be in the small part of the Key Hole mounting holes. When seated properly secure it to the wall by tightening the screws.

STEP #5:

See Figure #3:

With the Front Panel of the MIM-LINK™ unit open, feed the RS-232-C telephone type cable through the square opening in the back of the cabinet. Be sure that the cable is routed through the rubber grommet to prevent damage to the cable. Route the cable down the back of the cabinet behind the MIM-LINK unit. Also route the Coaxial Cable, of the Radio/Modem unit through the rectangular opening (just above the square opening) and down behind the back of the MIM-LINK Interface Module.

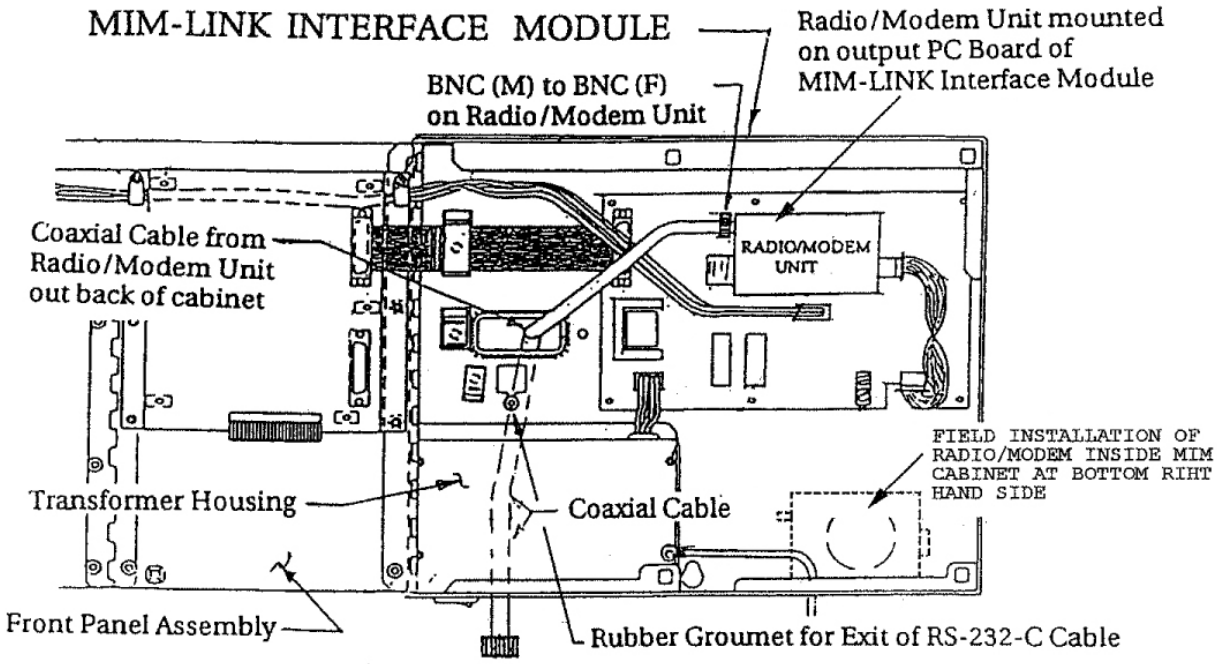


FIGURE #3: MIM-LINK Interface Module

STEP #6:

See Figure #2:

Close the Front Panel and secure the Upper Right Hand corner screw and the Bottom Center screw. DO NOT secure the Bottom Right Hand screw.

STEP #7:

See Figure #4:

Connect the RS-232-C cable to the Serial Port output of the computer, using the adapter plug which is furnished as part of the MIM-LINK unit, at the computer.

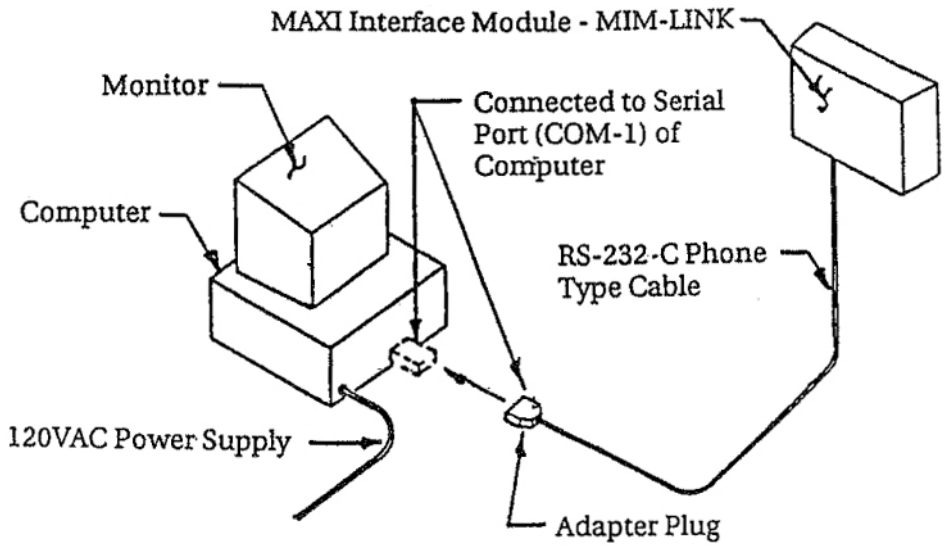


FIGURE #4: MIM-LINK Interface Module Connection to Computer

STEP #8:

See Figure #5:

Connect the 120 Volt Power Cord, that was furnished as part of the MIM-LINK™ unit, into the connector on the bottom Left back corner of the MIM-LINK unit. Plug the cord into a suitable 120 Volt grounded duplex outlet. The circuit supplying this unit and the computer equipment should be protected by a "ZAP TRAP" Surge Arrestor device as manufactured by TyteWadd, Springfield, MO 65807 - Phone 417887-3770.

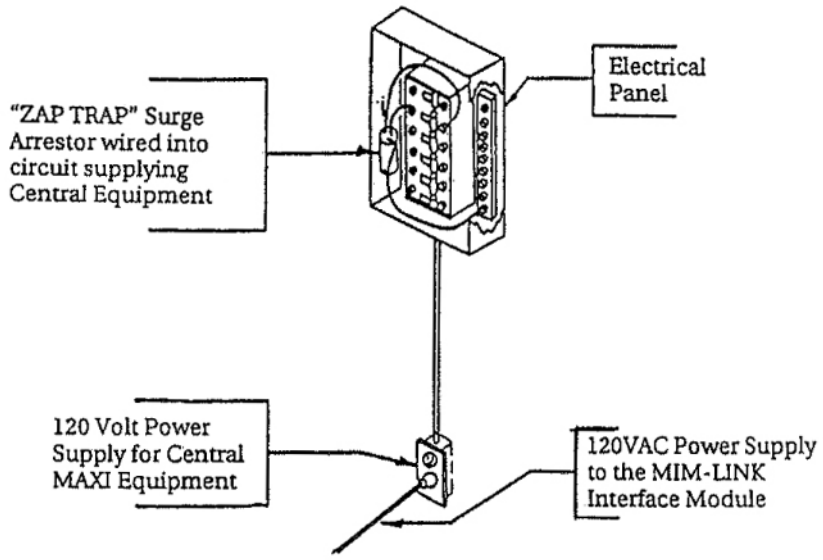


FIGURE #5: Surge Arrestor on 120VAC Circuit at Main Electrical Panel

STEP #9:

See Figure #6:

On the building, that houses the Central Equipment and the MIM-LINK™ Interface Module, or on a suitable Antenna Tower mount a Model "ANT02", "ANT-03" or a Yagi Type Base Antenna, for the MIM-LINK unit.

The installation will require the following equipment for a successful installation.

> Base Type Antenna (Not furnished as part of the MIM-LINK Unit) Rain Bird Model "ANT-02", "ANT-03" or Yagi Type Antenna.

> Metal Mounting Clamps or Brackets, as required for mounting the Antenna to the building or tower. Mounting hardware is available from:

Decibel Products
3184 Quebec Street. Dallas, Texas 75356-9610
Phone 1-800-676-5342 FAX 1-800-229-4706

> Panduit Model CX70-14-C copper grounding terminal lug (Not furnished as part of the Antenna Assembly) for connection of ground wire to Antenna.

> RFN-1034-1 Connector - N (F) x UHF (F). Not furnished as part of the Antenna Assembly. Connector is available from:

Communications Works
923 West 9th Street. Denver, CO 80204
Phone 1-800-726-6245 FAX 303-820-2809

> Two (2) 25'-0" long Coaxial Cables Model RG8 Type Cable with UHF (M) x UHF (M) connectors Cable is NOT furnished as part of the Antenna Assembly.

> Coaxial Cable Waterproofing Sealant Putty material. Not furnished as part of the Antenna Assembly. Available from a local source.

> Plastic Electrical Tape as required for sealing Coaxial Cable connection. Not furnished as part of the Antenna Assembly. Available from a local source.

> #10 Gauge or larger bare copper ground wire - length as may be required. Not furnished as part of the Antenna Assembly. Available from a local source. Ground wire is for grounding the Antenna and the Surge Arrestor for the Coaxial Cable.

> 4'-0" long Coaxial Cable - Model SP58A-48BM/UM with BNC (M) x UHF (M) connectors, (May be used in place of the 25'-0" RG8 Type Cable.) Not furnished as

part of the Antenna Assembly. Cable is available from:

Communications Works
923 West 9th Street. Denver, CO 80204
Phone 1-800-726-6245

PolyPhaser Surge Arrestor - Model IS-IE50LU-C1. Not furnished as part of the Antenna Assembly. Surge Arrestor is available from:

PolyPhaser Corp.
P.O. Box 9000. Minden, NV 89423 -9000
Phone 1-800-325-7170 FAX 702-782-4476

> Metal or Plastic straps (quantity as required) for attaching Coaxial Cable and ground wire to building or tower. Not furnished as part of the Antenna Assembly. Available from a local source.

STEP #9:

See Figure #6:

Select a suitable location for the Antenna, as close to the MIM-LINK™ unit as possible. NOT further than 25'-0" as the total length of the Coaxial Cable is only 25'-0".

STEP #10:

See Figure #6:

Using the mounting clamps or brackets secure the Antenna to the building or Antenna tower.

NOTE ! *In case a YAGI Antenna is being used - be sure to orient the antenna properly in respect to the MIM-LINK unit.*

STEP #11:

See Figures #6 & #7:

Install the Panduit Model CX70 -14-C copper grounding lug to one bolt of one of the mounting clamps.

STEP #12:

See Figure #6:

Install a #10 Gauge or larger ground wire into the copper grounding lug and extend this wire down the side of the building or tower. Connect it to one rod of a 3-rod grounding grid, located at the Central Equipment location. The grounding grid should be located as close to the MIM-LINK™ unit as possible so that it can be grounded to this grid with the shortest length of ground wire possible and with wire being straight and with no "kinks" in it.

STEP #13:

Using the 25'-0" Type RG8 Coaxial Cable connect one end to the N (F) connector of the RFN-1034-1 Cable connector.

STEP #14:

Connect the UHF (F) end of the RFN-1034-1 connector to the N (M) connector of the Antenna.

STEP #15:

See Figure #8:

This completed connection shall be sealed and Waterproofed, as shown in detail in Figure #8.

STEP #16:

See Figure #6:

Route the Coaxial Cable down the antenna and the side of the building or antenna tower. Secure the cable to the building or tower using suitable straps.

STEP #17:

See Figures #6 & #10:

At the bottom of the Cable - form a "Drip Loop" and then feed the cable through the wall, just below the location where the PolyPhaser Surge Arrestor will be mounted on the inside of the wall.

STEP #18:
See Figure #10:

Mount the PolyPhaser Surge Arrestor on the inside wall, near the MIM-LINK™ unit and near the floor. Use lag screws or other type fastners, as may be dictated by the type of wall material, for securing the unit to the wall. Make sure that "Antenna" terminal is "Down" toward the floor.

STEP #19:
See Figures #6 & #10:

Connect the UHF (M) connector of the RG8 Coaxial Cable, coming from the Antenna, to the terminal, marked "Antenna" and located on the bottom of the PolyPhaser Surge Arrestor.

STEP #20:
See Figures #6 & #10:

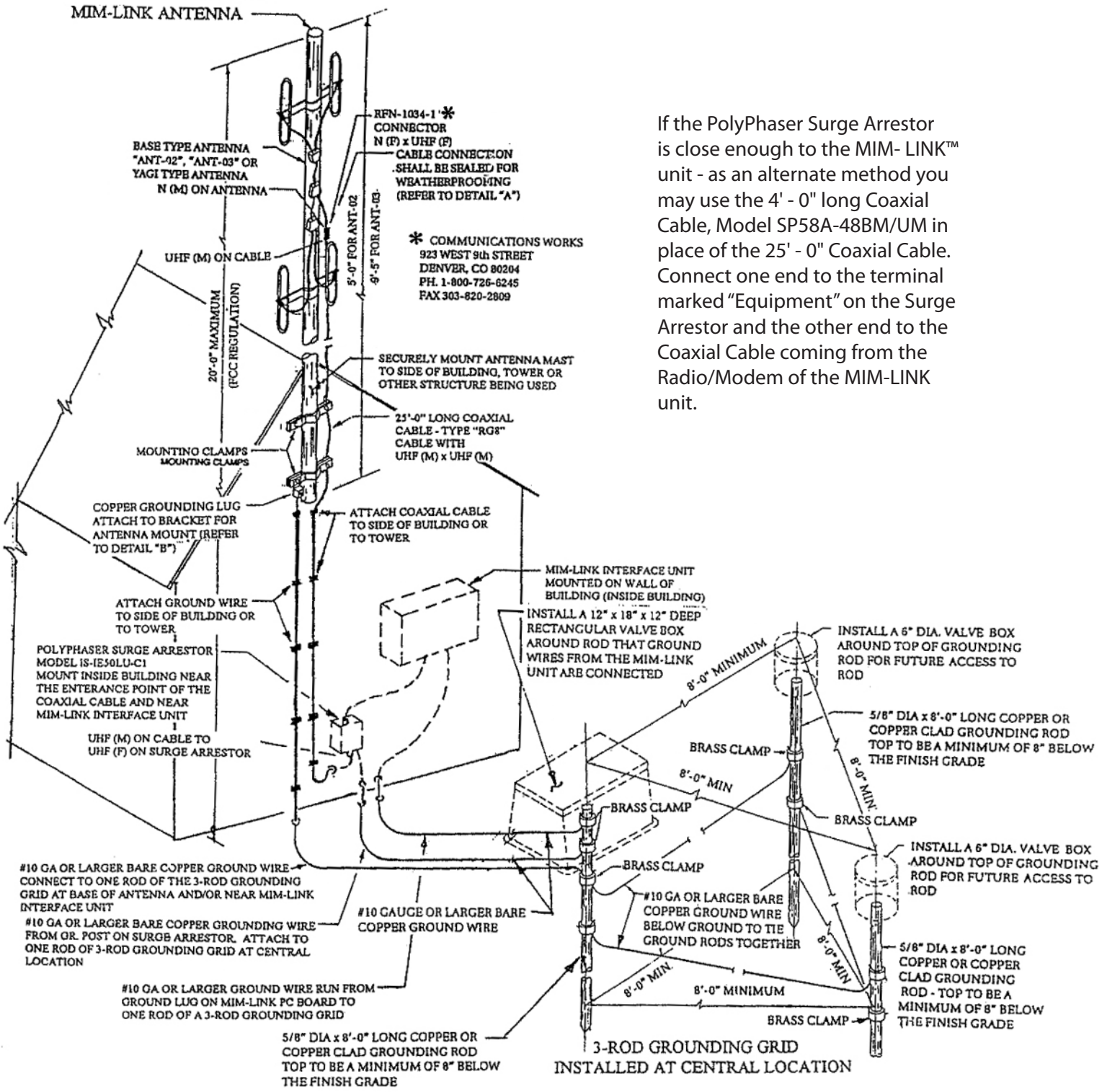
Use a ring type lug, on the end of a #10 gauge or larger bare copper wire, connect it to the Ground Terminal on the PolyPhaser Surge Arrestor.

STEP #21:
See Figure #6:

Route the Ground Wire, from the PolyPhaser Surge Arrestor, thru the exterior wall and connect it to one rod of the 3-rod grounding grid, using a brass ground rod clamp.

STEP #22:
See Figures #6, #9 & #10:

Take the second 25'-0" RG8 Type Coaxial Cable and connect the UHF (M) connector to the terminal marked "Equipment" on the PolyPhaser Surge Arrestor. Connect the UHF (M) connector on the other end of this cable to the Coaxial Cable coming from the Radio /Modem unit in the MIM-LINK unit. You will need to use a BNC (F) to UHF (M) adapter for the connection.



If the PolyPhaser Surge Arrestor is close enough to the MIM- LINK™ unit - as an alternate method you may use the 4' - 0" long Coaxial Cable, Model SP58A-48BM/UM in place of the 25' - 0" Coaxial Cable. Connect one end to the terminal marked "Equipment" on the Surge Arrestor and the other end to the Coaxial Cable coming from the Radio/Modem of the MIM-LINK unit.

FIGURE #6: Installation Detail for Base Antenna, Coaxial Cable & Grounding Wires

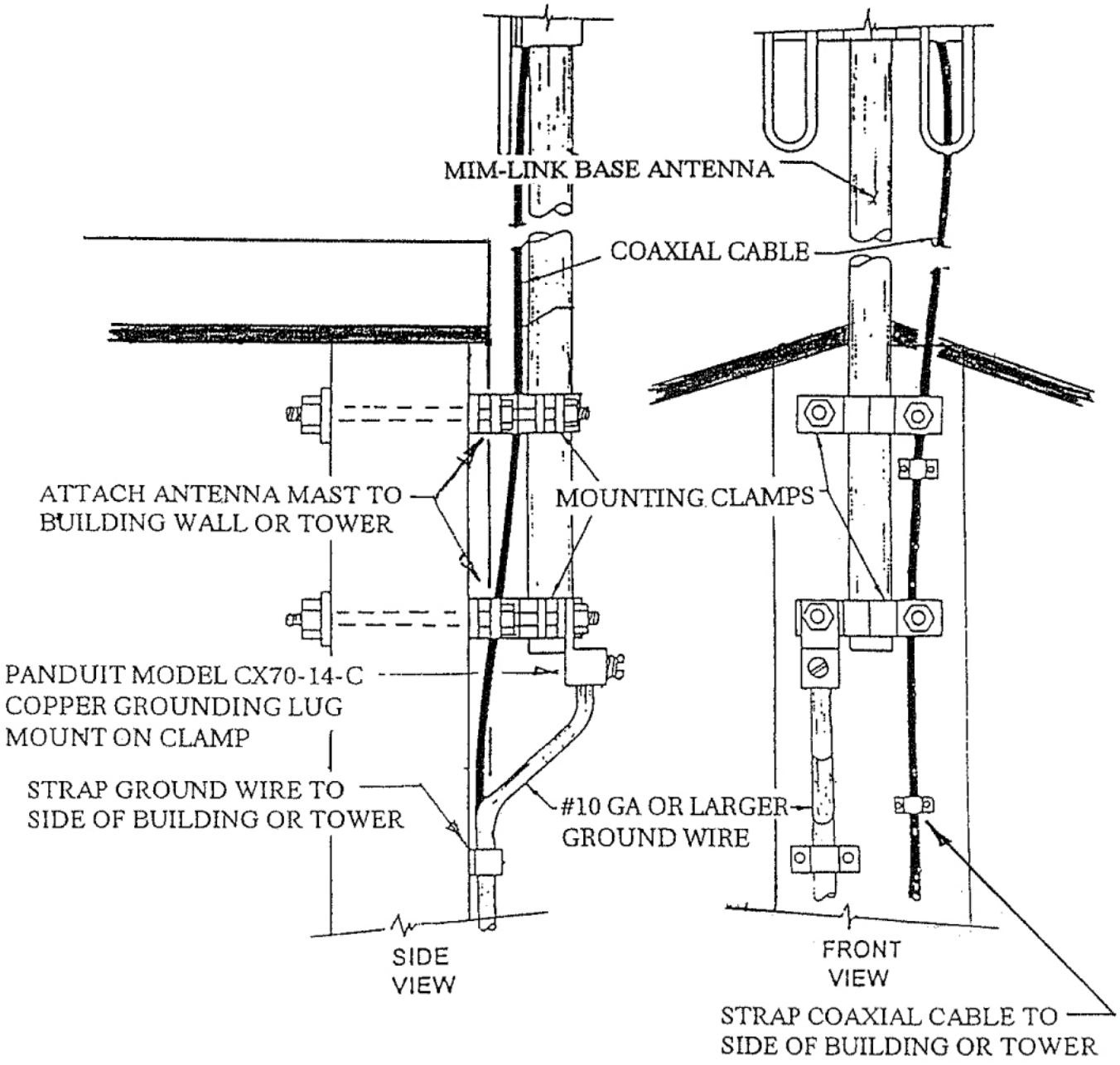
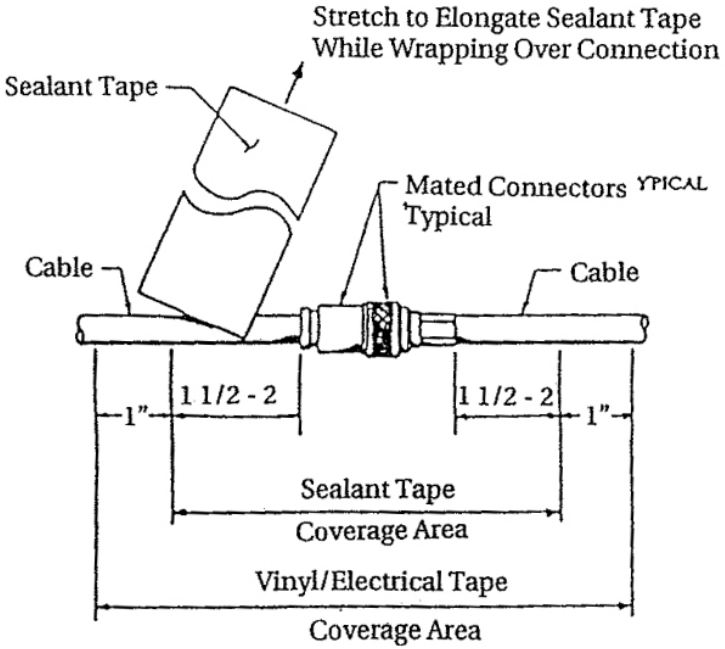
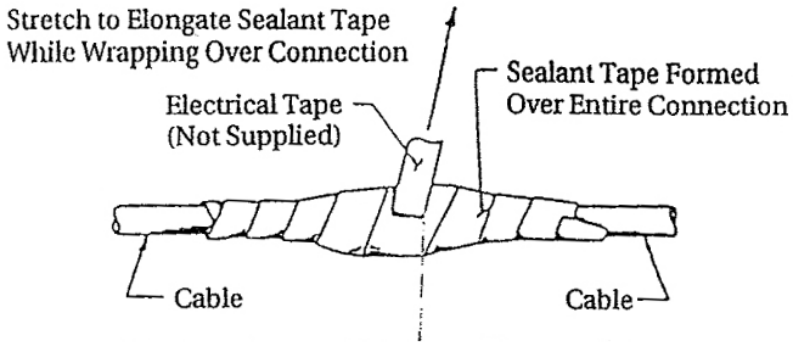


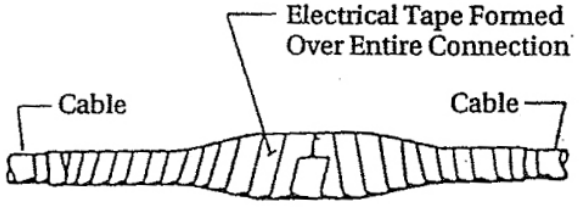
FIGURE #7: Antenna Grounding Lug Mounting Detail



1. Wrap Sealant Tape Over Entire Connection, Overlapping Half-Width.



2. Gently Press on the Sealant Tape forming it to the Connection itself and the Cable Jacket.



Electrical Tape Wrapped Tightly
Against Cable Jacket - Both Ends

3. By overlapping half-width, wrap electrical tape over the entire sealant tape connection, while stretching tape. Begin at center of formed sealant tape and wrap towards one end approximately one inch beyond end of sealant tape. Insure tight electrical tape coverage onto cable jacket. Without breaking electrical tape, reverse direction and wrap to other end. Again extending approximately one inch beyond end of sealant tape. Insure tight coverage onto cable jacket. Reverse direction again and wrap electrical tape to cent& of connection and stop.

FIGURE #8: Weatherproofing Coaxial Cable Connections

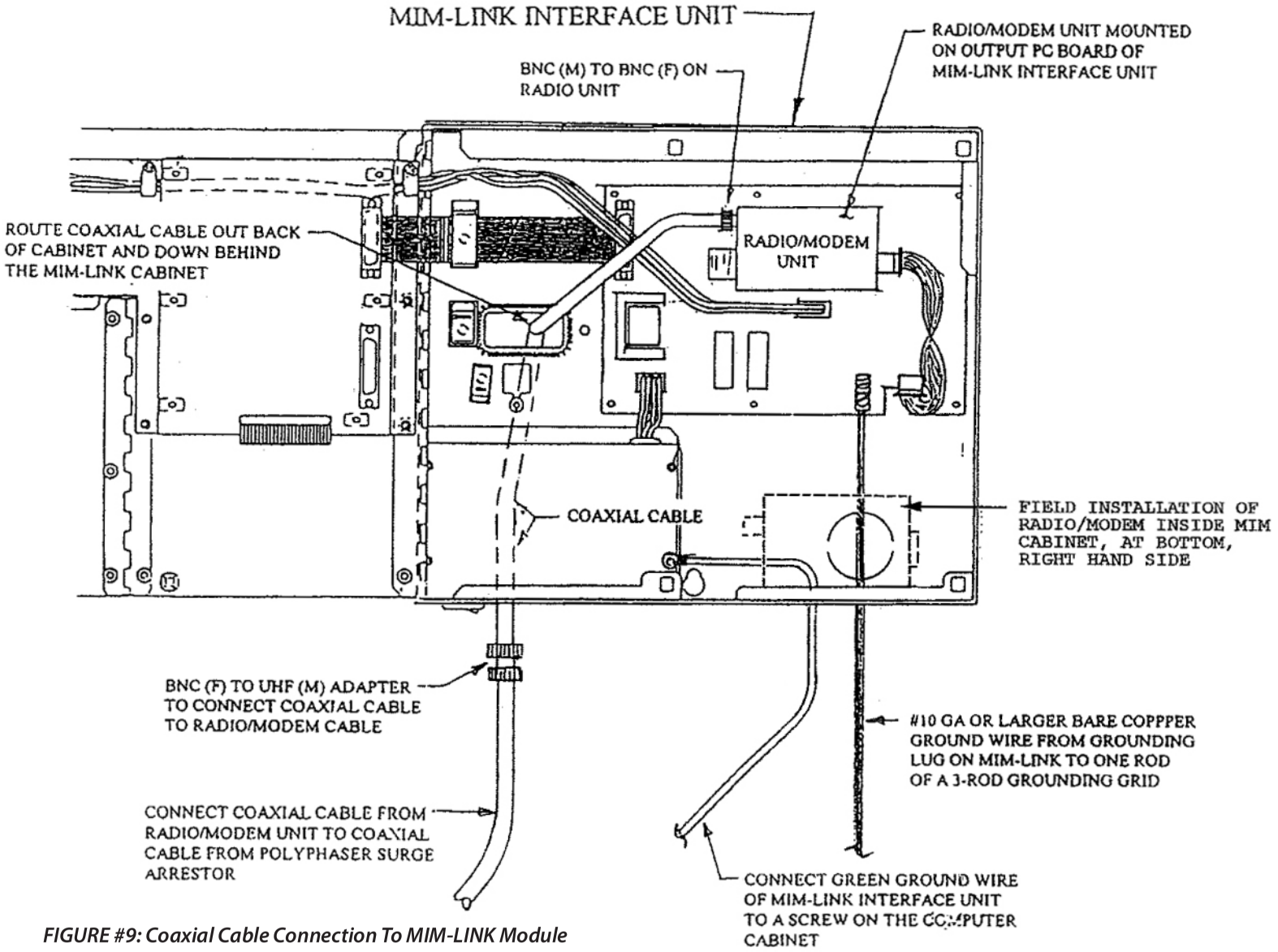


FIGURE #9: Coaxial Cable Connection To MIM-LINK Module

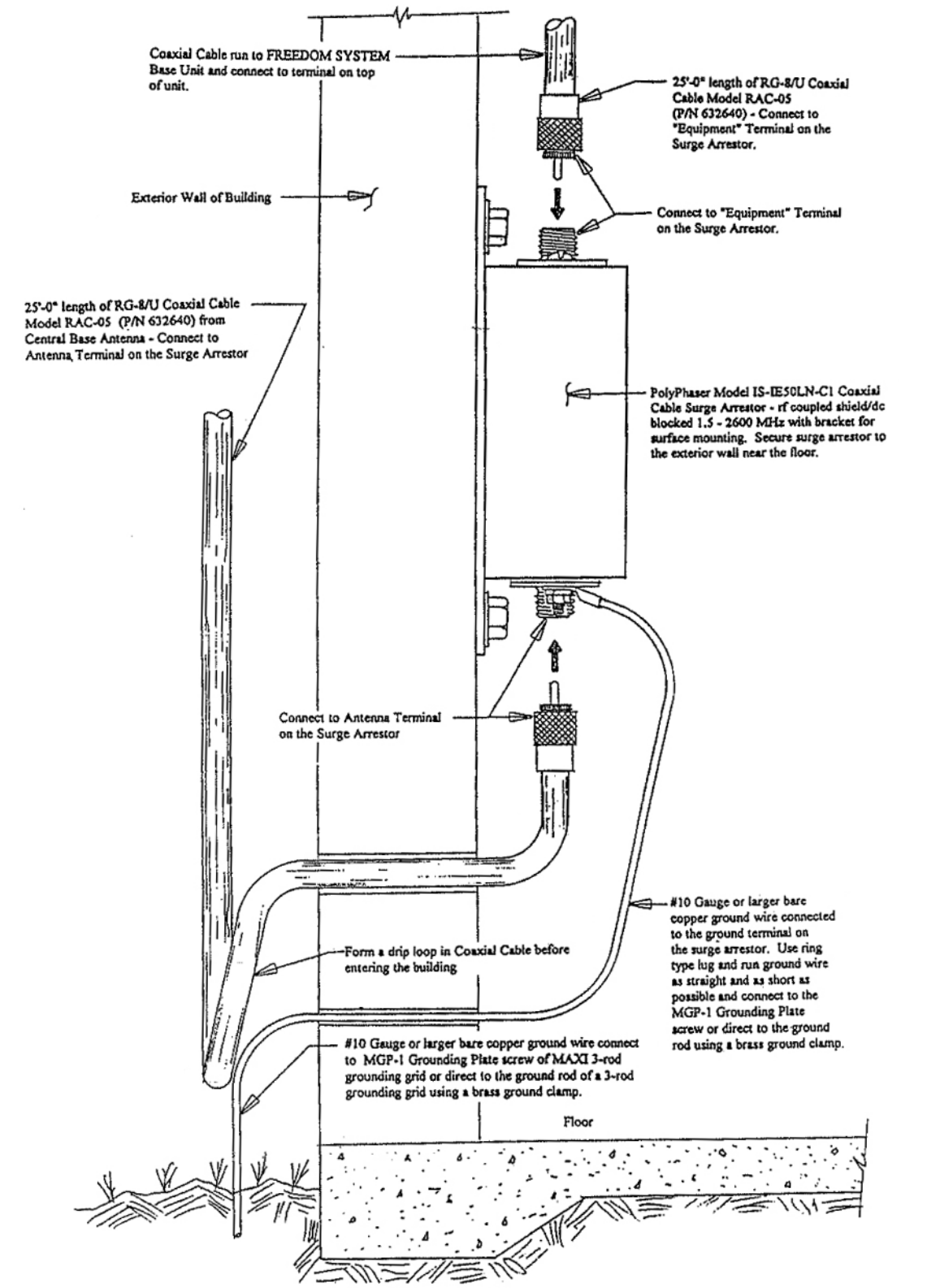


FIGURE #10: Mounting & Wiring of PolyPhaser Surge Arrestor

STEP #23:

See Figures #6, #9 & #11:

As close to the Central location as possible, install a 3-rod Earth Grounding Grid. A typical 3-rod grounding grid shall consist of THREE (3) - 5/8" diameter x 8' - 0" long copper clad grounding rods. The rods shall be installed in a triangular arrangement, if at all possible. If it is impossible to arrange the rods in a triangular pattern then they may be arranged in a straight line (although NOT as effective) with each rod at least 8' - 0" from any other rod. Refer to Figure #11.

NOTE ! *If rods longer than 8' - 0" are used, they shall be spaced no closer than the length of the rod from each other.*

The three (3) rods shall be driven into the ground with top of rod at least six inches (6") below the finish grade. The rods shall be tied together below grade with #10 gauge or larger bare copper wire. The wire shall be attached to the rod using a brass clamp. A separate brass clamp shall be used for each attachment.

Any rod that has a ground wire connected to it, coming from a surge arrestor, or the equipment, or where an MGP-1 Grounding Plate Assembly is attached to it, shall have a standard 12" x 18" rectangular valve box installed around the top of the rod. This shall provide future access to inspect and/or maintain the MGP-1 grounding plate assembly, brass clamps and ground wires should this be necessary. Any of the other rods in the grid shall have a standard 6" diameter round valve box and cover installed around the top of the rod or future access.

At the 3-rod grounding grid, it is recommended to maintain a ground resistance of 5 OHMS or less, if at all possible. Anything above 15 OHMS is of little value for protection. In order for the surge arrestors to be effective they must be able to discharge to ground rather than allow the surge to go to the electronic components of the equipment. Therefore, the "HIGHER" the resistance of the ground (higher OHM readings) the less chance of the surge being shunted to ground rather than go to the electronic components. This is the reason it is also IMPORTANT to maintain a "GOOD GROUND" at ALL TIMES.

When a grounding grid is first installed, it may not be possible to get a true OHMS reading, since the rod surface will not be in good contact with the soil. The grid must be installed for 5 or 6 weeks before a meaningful reading can be obtained. It is also recommended that the grounds be checked at least once a year - using a Meggar, Vibra-Ground or other type measuring instrument. In severe lightning areas perhaps as often as two or three times a year maybe more prudent.

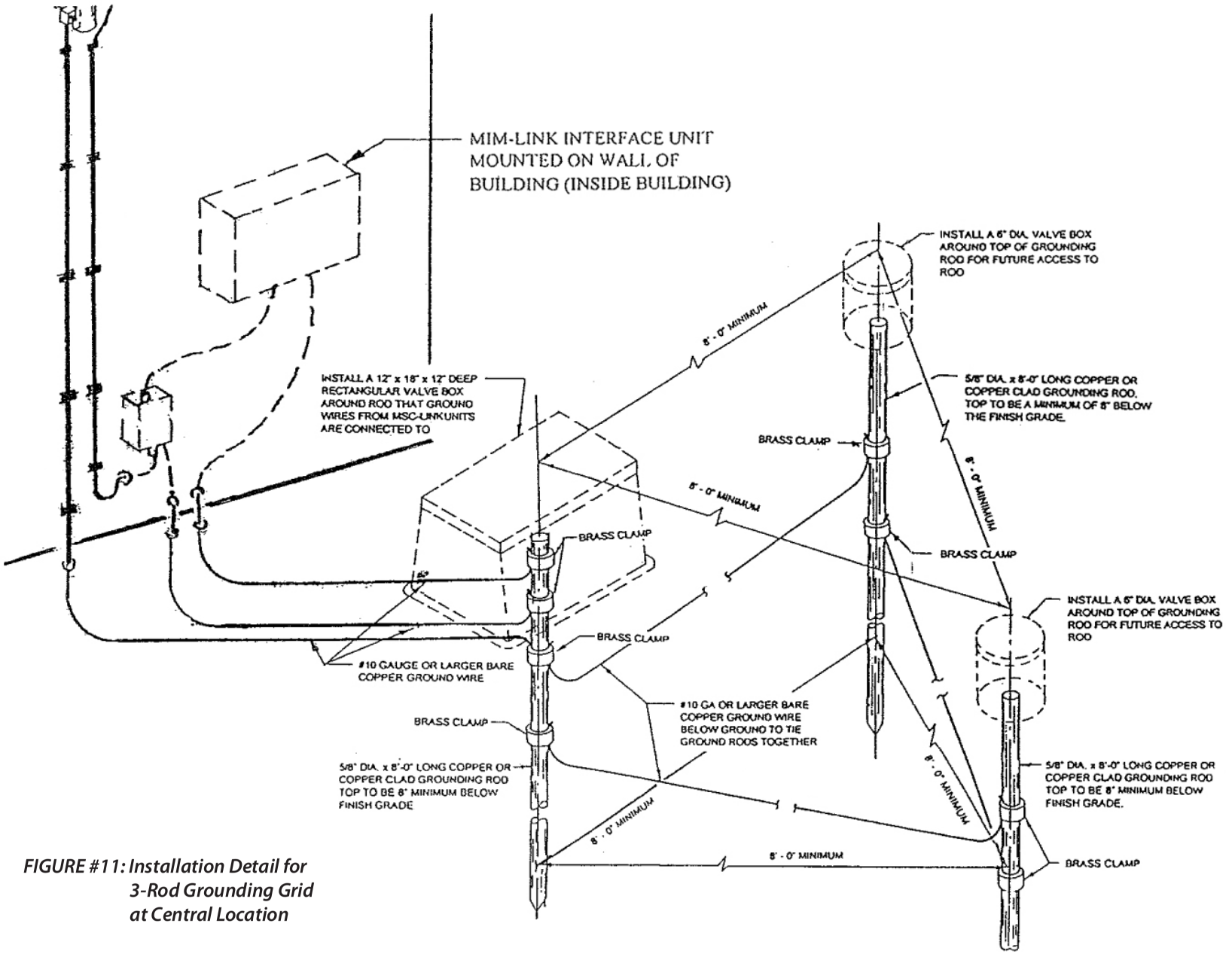


FIGURE #11: Installation Detail for 3-Rod Grounding Grid at Central Location

STEP #24:

See Figures #6, #9, #10 & #11:

Run a #10 Gauge or larger bare copper wire, from the grounding lug of the MIM-LINK™ Interface Unit, out and connect it to one rod of the 3-rod grounding grid, using a brass clamp.

STEP #25:

See Figures #10 & #11:

Run a #10 Gauge or larger bare copper ground wire, from the grounding terminal on the PolyPhaser Surge Arrestor, out and connect it to one rod of the 3-rod grounding grid, using a brass clamp.

STEP #26:

See Figures #6, #7 & #11:

Run a #10 Gauge or larger bare copper grounding wire, from the grounding lug that you installed on the Antenna mounting clamp, and connect it to one rod of the 3-rod grounding grid, using a brass clamp.

STEP #27:

See Figure #9:

The Green Ground Wire, that is attached to one screw on the transformer housing of the MIM-LINK Interface Module, shall be extended over and connected to a screw on the cabinet of the Computer. This then provides a common grounding path for both the computer and the MIM-LINK Interface Module.

THE INSTALLATION OF THE "MIM-LINK" UNIT SHOULD NOW BE COMPLETE.

OPERATION

MODULE FUNCTION

The MIM-LINK™ Interface Module function is to take the signal from the computer Serial Output Port and transform it to a signal to be transmitted to the Field Satellite Controllers. Through this communication transmission, via radio signals, the field Satellite Controllers are instructed "When" to operate and what "Stations" to operate.

In addition the MIM-LINK Interface Module also receives, via radio transmission, "Feed Back" information from the field Satellite Controllers. This "Feed Back" information is passed on to the computer by the MIM-LINK unit The MIM-LINK unit also displays some of this information, directly to the user by various LED display lights located on its front panel, including current operation and previous operation.

A third function, of the MIM-LINK unit is to provide a means of MANUAL Operation of the Field Satellite Controllers, directly from it with out the computer.

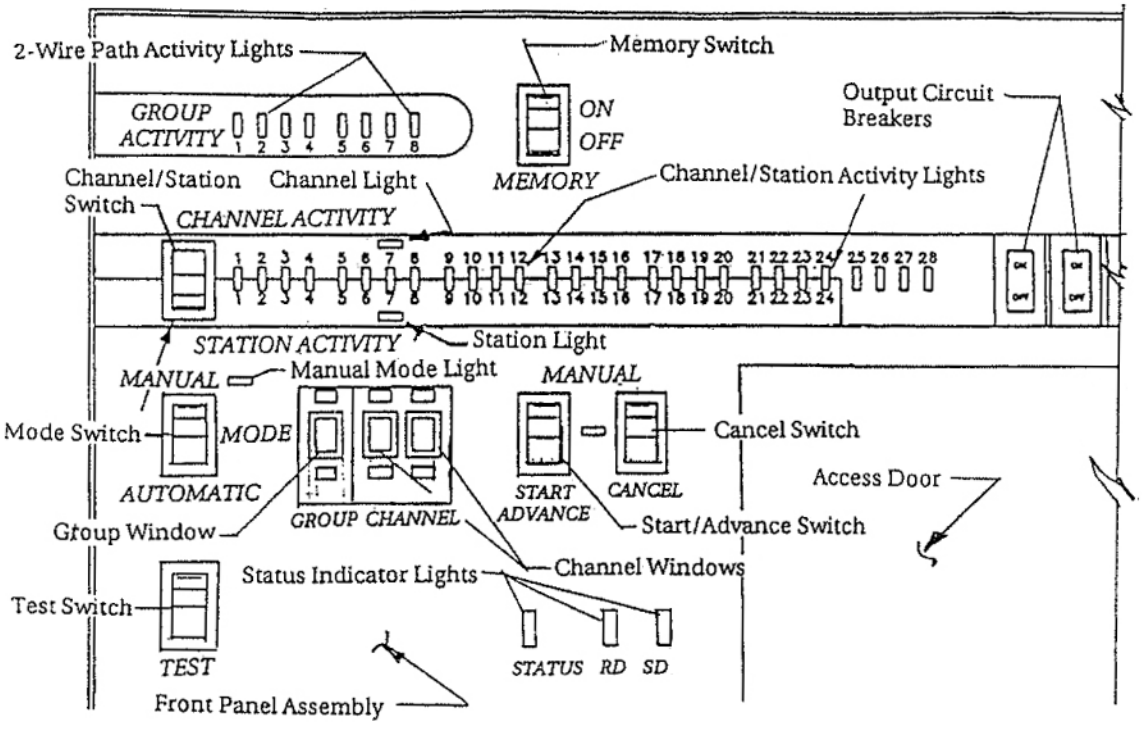


FIGURE #12: Front Panel Assembly

MEMORY SWITCH

See Figure #13:

PURPOSE...
To provide a visual indication of "PAST" activity on the various Groups.

OPERATION...
To the immediate RIGHT of the GROUP ACTIVITY LIGHTS is a two-position Rocker Type MEMORY Switch, having an "ON" and an "OFF' position. With the MEMORY Switch in the "OFF" position the GROUP ACTIVITY LIGHTS will function as described under "GROUP ACTIVITY LIGHTS".

With the MEMORY Switch in the "ON" position - once activity has taken place on any of the Groups - the GROUP ACTIVITY LIGHT will REMAIN lighted. This will occur even though all satellites have finished operation and have returned to their "REST" position. Thus you have a visual indication that activity has taken place some time prior to the present time. To "RESET" the activity lights - place the MEMORY Switch in the "OFF" position and then switch back to "ON", if desired. The Lights will now be reset

CAUTION ! *Before doing so, however, be sure you have checked all other status information that you desire to observe, as this information will also be "RESET".*

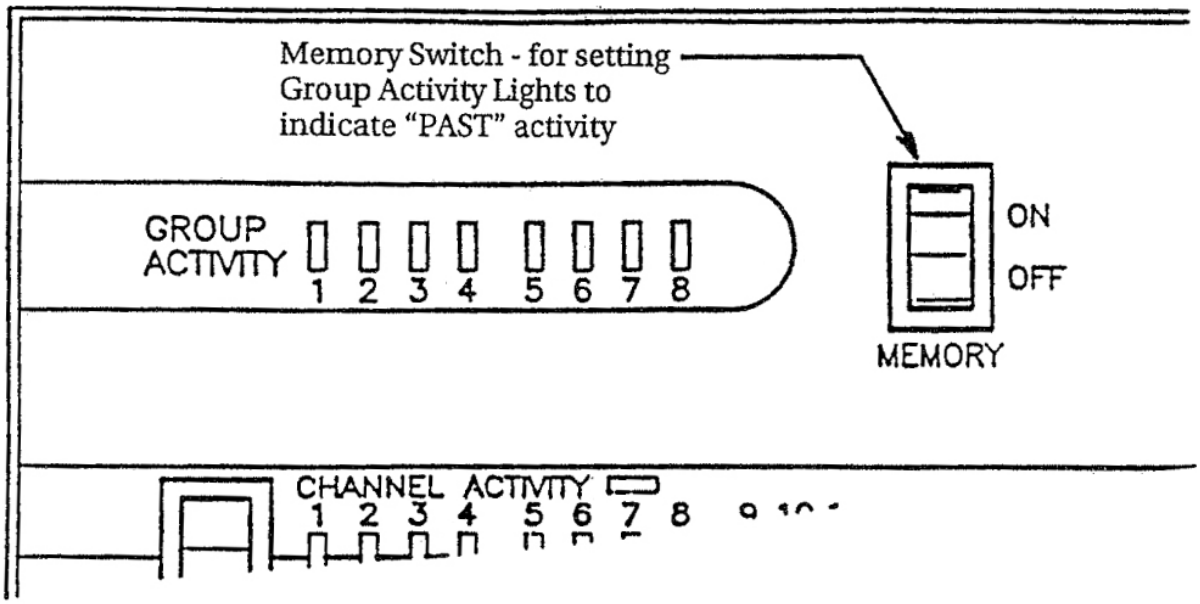


FIGURE #13: Memory Switch

CHANNEL/STATION SWITCH

See Figure #14:

PURPOSE...
To provide selection of either the CHANNEL ACTIVITY LIGHTS or the STATION ACTIVITY LIGHTS.

OPERATION...
Just below the Group Activity Lights is a two-position Rocker Type Channel/Station Switch.

This Switch, when in the "UP" position, selects the display lights to indicate CHANNEL ACTIVITY. When the Switch is in the "DOWN" position it selects the display lights to indicate the STATION ACTIVITY.

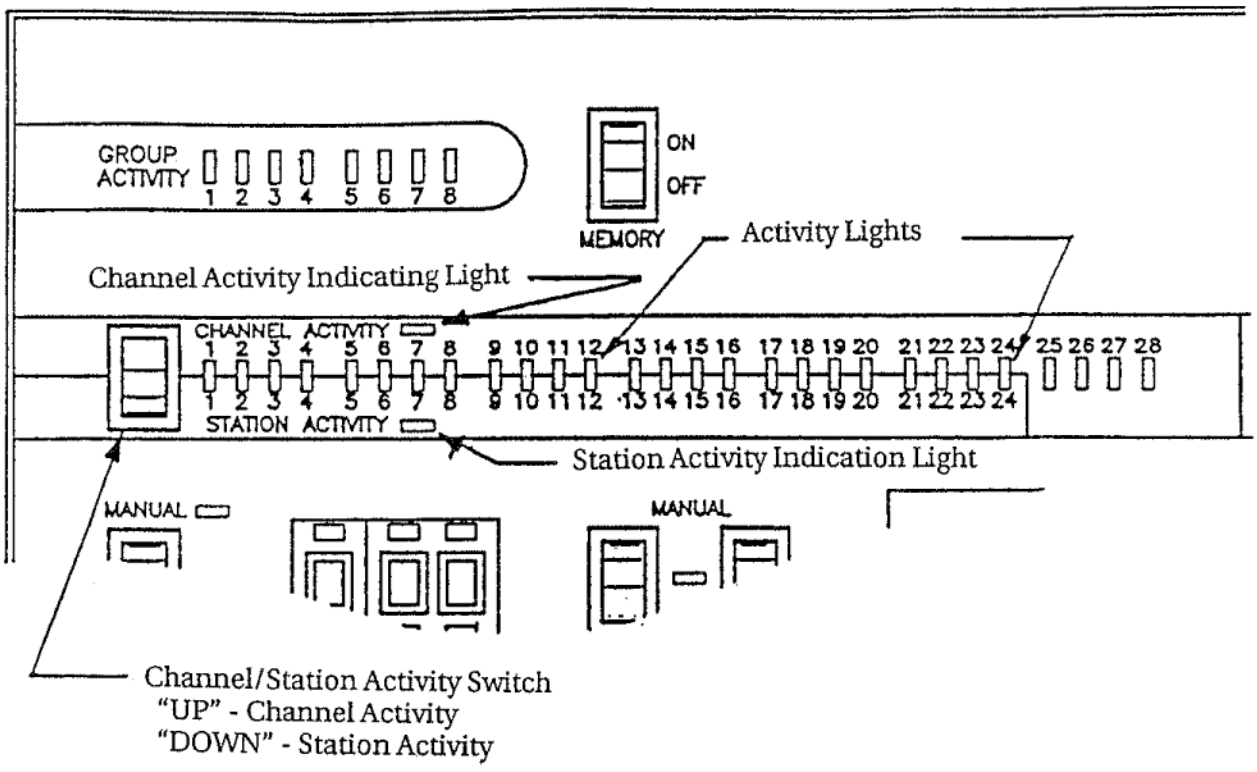


FIGURE #14: Channel/Station Switch

CHANNEL ACTIVITY LIGHTS

See Figure #15:

PURPOSE...
To provide an indication of CHANNEL Activity or Satellite operation, on a given Group.

OPERATION...
Just to the Right of the TOP of the Channel/Station Switch and just after the Channel Activity designation, is an indicating light. When the Channel/Station Switch is in the "UP" position - this indicating light will be lighted - indicating that the activity lights are now set to display CHANNEL Activity or SATELLITE Activity on a given Group.

Just to the Right of the CENTER of the Channel/Station Switch, are twenty eight (28) Channel Activity Lights - one for each of the twenty eight (28) individual channels available on a given Group.

With the MEMORY Switch in the "OFF" position, each of these Channel Activity Lights will indicate when a given channel or satellite, on a particular Group, is in operation.

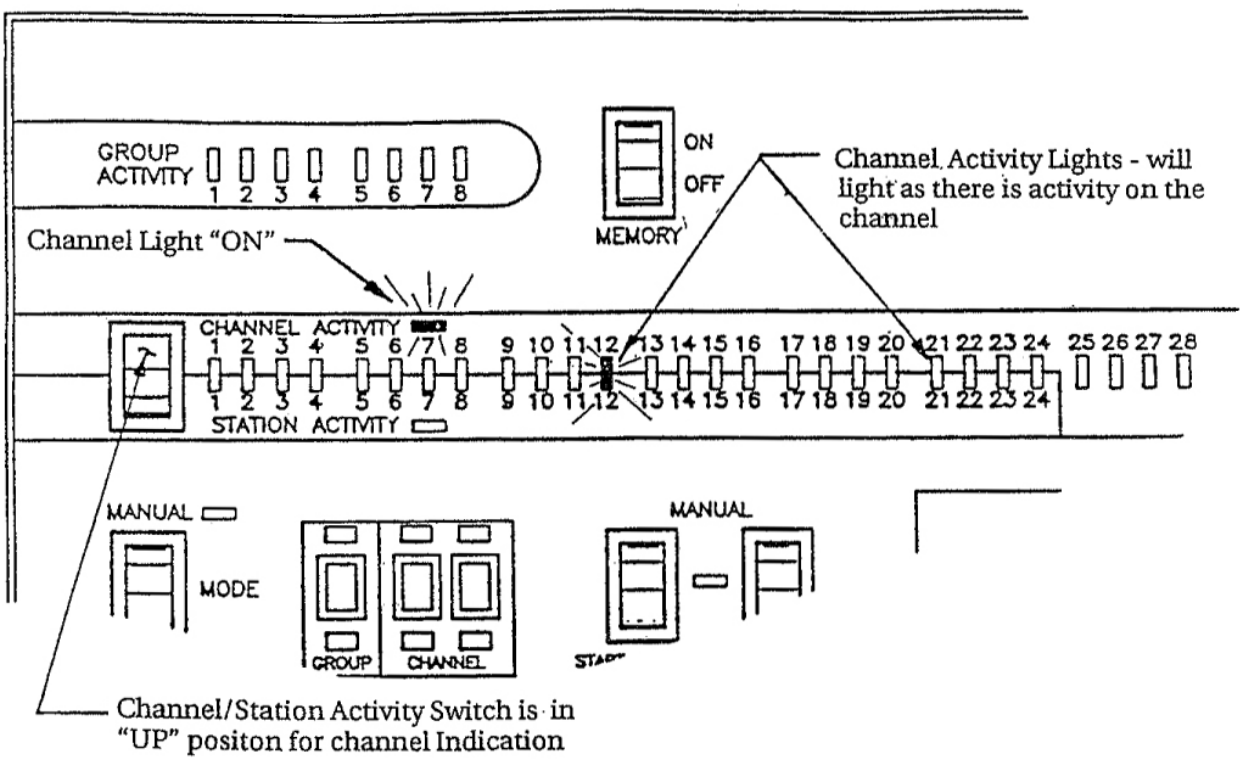


FIGURE #15: Channel Activity Lights

CHANNEL ACTIVITY LIGHTS *Cont'd.*

See Figure #15:

ACTIVITY...
Activity of the Channel Indicating Lights may be initiated in any of the following ways:

a) By a PROGRAM from the Computer.

b) Manually from the Interface Module.

c) Manually from the Satellite in the Field.

SATELLITE FAILURE TO RESPOND...
With the MEMORY Switch in the "OFF" position - any satellite failing to "respond" (failing to send back the "Feed Back" signal), when it has been addressed, will be indicated by its CHANNEL ACTIVITY LIGHT "blinking".

With the MEMORY Switch in the "ON" position - once a satellite has "responded", even though it may now be at its "REST" position, the CHANNEL ACTIVITY LIGHT for it - will remain "lighted". Thus you have a visual indication that activity, by that satellite has taken place some time prior to the present time.

To "RESET" the CHANNEL ACTIVITY LIGHTS - place the MEMORY Switch to the "OFF" position and then back to the "ON" position, if desired.

CAUTION ! *Before so doing, however, be sure you have checked all other status information, that you may desire to observe, as this information will also be "RESET".*

(CONTINUE ON PAGE 22)

STATION ACTIVITY LIGHTS

See Figure #16:

PURPOSE...
To provide an indication of STATION ACTIVITY, on a given Satellite, that is in operation, at the present time.

OPERATION...
Just to the RIGHT, of the BOTTOM, of the Channel/Station Switch and just after the Station Activity designation is an indicating light. When the Channel/Station Switch is in the "DOWN" position - this indicating light will be lighted indicating that the Activity lights are now set to display SATELLITE STATION Activity for any satellite in operation at the present time.

Just to the RIGHT, of the CENTER, of the Channel/Station Switch are twenty four STATION ACTIVITY LIGHTS - one for each of the 24 stations available on one channel assigned to a group of 24 stations on a field satellite. (A satellite, with more than 24 stations, must have one channel number assigned for the first stations 1-24 and a second channel number assigned for stations beyond station #24 - as #25 thru #48). The STATION ACTIVITY LIGHTS are the SAME indicating lights that are used to indicate Channel Activity, as described in the preceding section.

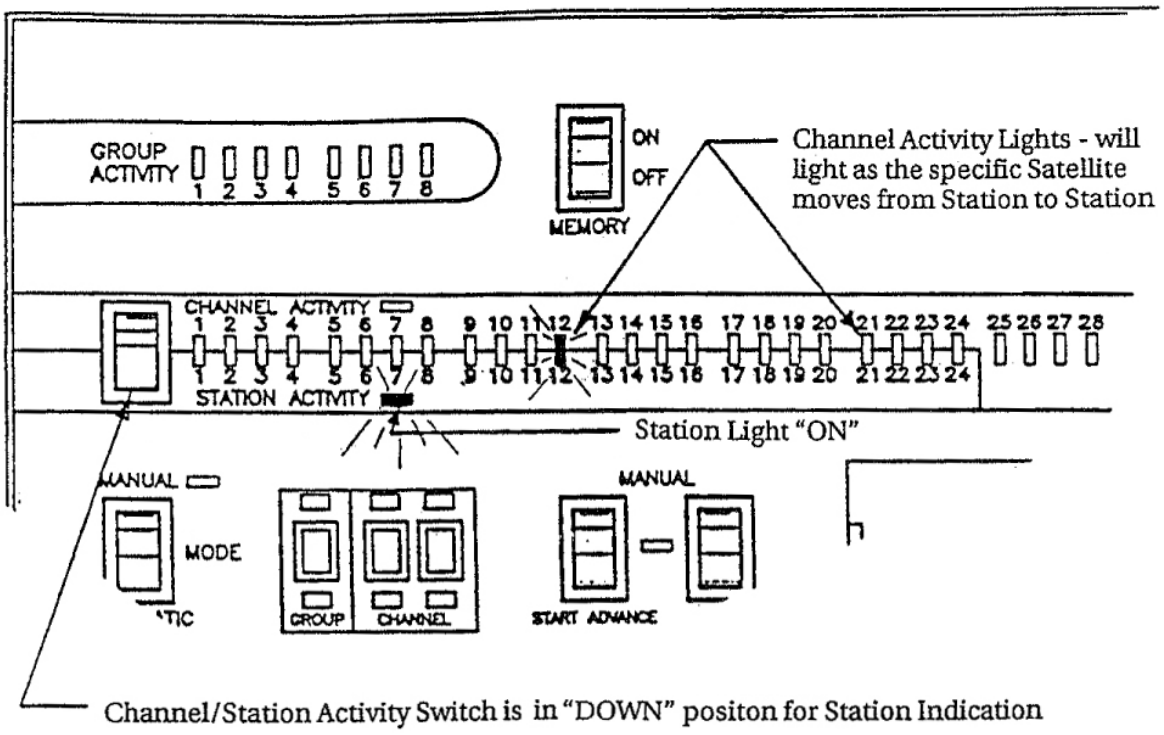


FIGURE #16: Station Activity Lights

STATION ACTIVITY LIGHTS *Cont'd.*

See Figure #16:

OPERATION Cont'd... With the MEMORY Switch in the "OFF" position, the STATION ACTIVITY LIGHTS will indicate which station or stations, of a given satellite, are in operation. This occurs when the satellite has been started either by a program in the computer or started manually from the Interface Module.

NOTE ! *The specific satellite, for which you wish to observe station activity, MUST have the CHANNEL Number "dialed" into the CHANNEL Windows - as well as the GROUP Number entered in the GROUP Window.*

NOTE ! *If the satellite has been started or is being operated manually, at the satellite in the field, there will be NO Station Indication at the Interface Module.*

STATION FAILURE TO RESPOND...
With the MEMORY Switch in the "OFF" position - any station, of a given selected satellite, falling to "respond", when it is being addressed, will be indicated by the STATION ACTIVITY LIGHT for that station "blinking".

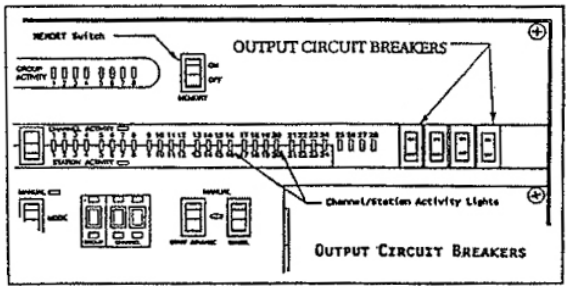
STATION MEMORY INDICATION...
With the MEMORY Switch in the "ON" position - once the selected satellite has "stopped" on a station, even though it may now be on some other station or be at the "REST" position, the STATION ACTIVITY LIGHT, for that station will REMAIN LIGHTED. Thus you have a visual indication of each station that has operated in the past.

RESET...
To "RESET" the STATION ACTIVITY LIGHTS - place the MEMORY switch in the "OFF" position and then back to the "ON" position, if desired.

CAUTION ! *Before so doing, however, be sure you have checked all other status information, that you may desire to observe, as this information will also be "RESET".*

OUTPUT CIRCUIT BREAKERS

The Output Circuit Breakers have NO function on the MIM-LINK™ Interface Module and may be in either the "ON" or "OFF" position.



(CONTINUE ON PAGE 24)

MODE OF OPERATION SWITCH

See Figure #17

PURPOSE...
This Switch provides the means for "MANUAL" operation of the satellites from the Interface Module or for "AUTOMATIC" operation of the satellites from the Computer.

OPERATION...
Just below the CHANNEL/STATION Switch is the two (2) position rocker type MODE of OPERATION Switch.

With this switch in the "UP" or "MANUAL" position the light to the RIGHT of the word "MANUAL" will be lighted - indicating that the INTERFACE MODULE is now to be operated MANUALLY and NOT from the Computer. With the switch in this position, Field Satellite units can ONLY be operated MANUALLY from the Interface Module or from the Field Satellite unit itself. Field Satellites CAN NOT be Automatically operated from the Computer. The MANUAL INDICATING LIGHT will ALWAYS be lighted to give you visual indication that the system is in the MANUAL MODE of operation.

With the MODE of OPERATION switch in the "DOWN" or "AUTOMATIC" position - Field Satellite units maybe operated Automatically from programs in the computer or manually operated from the field satellite unit itself. The indicating light, to the RIGHT of the word MANUAL will be "OFF", when the MODE of OPERATION switch is in the "AUTOMATIC" position.

With the MODE switch in either the MANUAL or AUTOMATIC position, the GROUP ACTIVITY LIGHTS, the CHANNEL ACTIVITY LIGHTS and/or the STATION ACTIVITY LIGHTS will function as previously described.

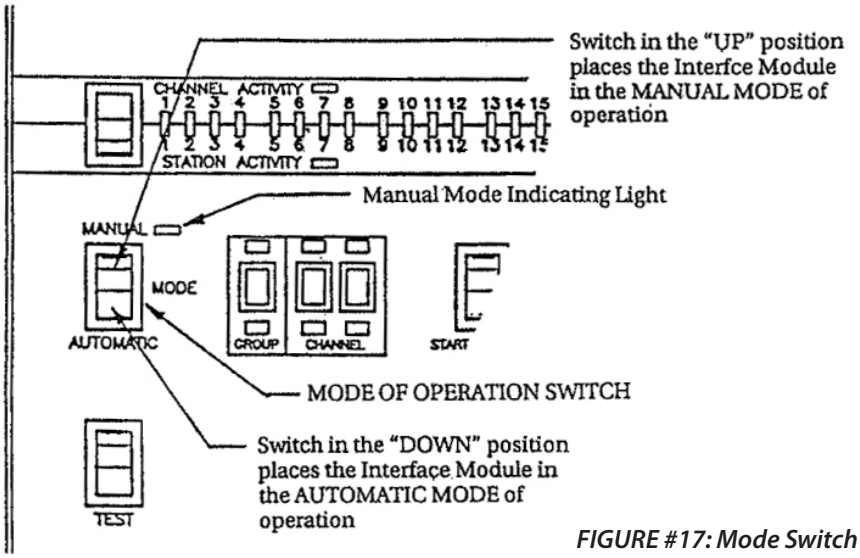


FIGURE #17: Mode Switch

GROUP WINDOW & UP/DOWN BUTTONS

See Figure #18:

PURPOSE...
This function provides the means for identifying the GROUP NUMBER for both the CHANNEL ACTIVITY LIGHTS and the STATION ACTIVITY LIGHTS and for MANUALLY "STARTING" or "ADVANCING" a given Field Satellite on the specified GROUP.

OPERATION...
Located just to the RIGHT of the MODE Switch is the GROUP WINDOW with "UP" button above the window and "DOWN" button below the window.

By use of the "UP"/"DOWN" buttons you can identify, in the window, which of the GROUPS you wish to observe or manually operate. The CHANNEL ACTIVITY and STATION ACTIVITY LIGHTS will then correspond to this GROUP NUMBER displayed in the GROUP WINDOW.

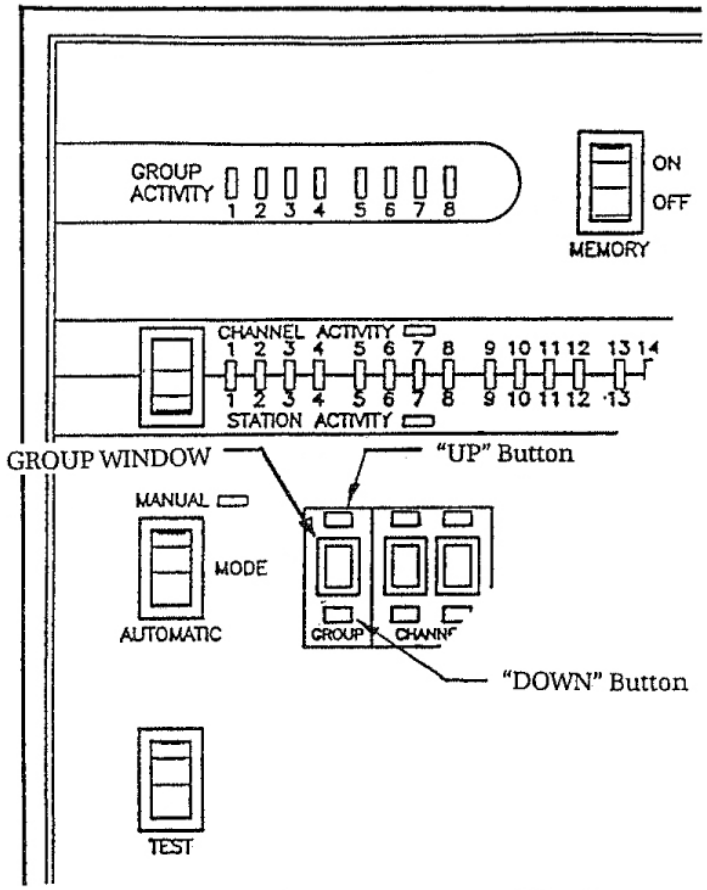


FIGURE #18: Group Window

CHANNEL WINDOWS & UP/DOWN BUTTONS

See Figure #19:

PURPOSE...
This function provides the means of identifying the CHANNEL NUMBER or SATELLITE NUMBER, on the previously identified Group, for the STATION ACTIVITY LIGHTS or of the SATELLITE you wish to MANUALLY operate.

OPERATION...
Located just to the RIGHT of the GROUP WINDOW are the two (2) CHANNEL WINDOWS with an "UP" button above each window and a "DOWN" button below each window.

By use of the "UP"/"DOWN" buttons you can identify, in the windows, which of the channels on the previously identified Group, you wish to observe or MANUALLY operate. The STATION ACTIVITY LIGHTS will then display information for the Satellite identified in the CHANNEL WINDOWS and on the GROUP identified in the GROUP WINDOW.

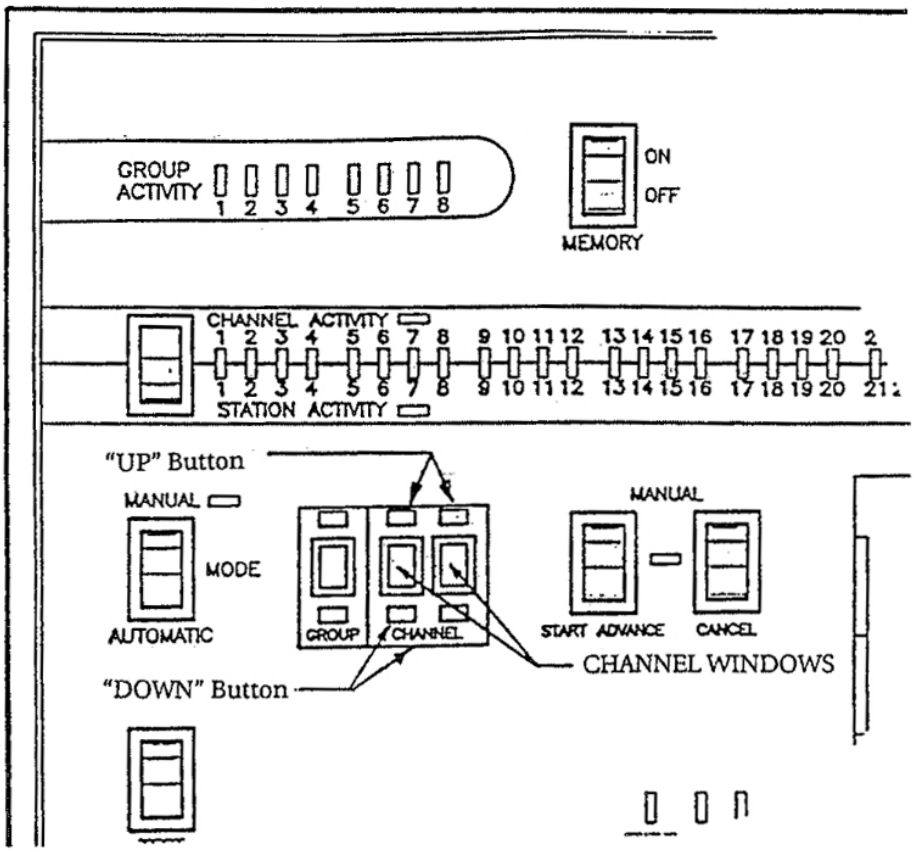


FIGURE #19: Channel Windows

MANUAL OPERATION OF A SATELLITE

See Figure #20:

PURPOSE...
This function provides the means of MANUAL OPERATION for any Satellite on the system, directly from the Interface Module. Any Satellite may be manually "STARTED", "ADVANCED" or "CANCELED" from the Interface Module.

OPERATION...
Just to the RIGHT of the CHANNEL WINDOWS are two (2) momentary contact, rocker type, switches used for MANUAL OPERATION of a satellite. The LEFT Switch is the "START/ADVANCE" switch and the RIGHT Switch is the "CANCEL" Switch.

An indicating light, located between the two switches will be lighted, whenever MANUAL OPERATION is taking place. If the START/ADVANCE switch is "PUSHED", when the MODE switch is in the MANUAL position - the Satellite, whose Channel Number is identified in the CHANNEL WINDOWS and that is on the Group identified in the GROUP WINDOW - will "START" or if already in operation, will "ADVANCE" to the next station.

If the "CANCEL" switch is "PUSHED" when the MODE switch is in the MANUAL position the Satellite, whose Channel Number is identified in the CHANNEL WINDOWS and that is on the Group identified in the GROUP WINDOW - will be "CANCELLED" and will return to the "REST" position.

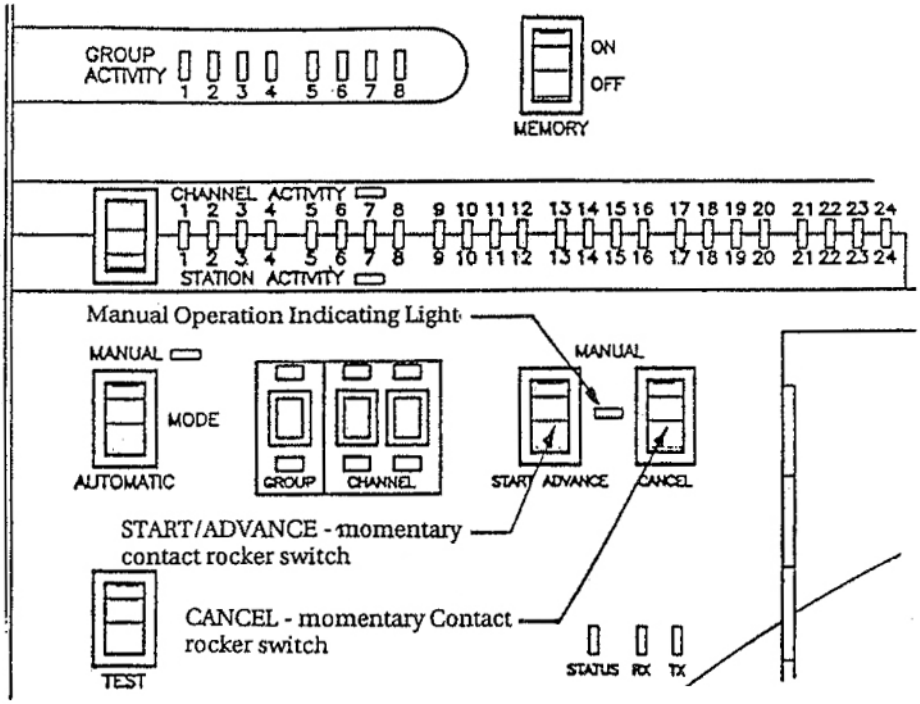


FIGURE #20: Start/Advance & Cancel Switches

TEST SWITCH

See Figure #21:

PURPOSE...
On the LEFT side of the panel and just below the MODE Switch is a momentary contact, rocker type, TEST Switch.

When this Switch is activated it AUTOMATICALLY TESTS the Interface Module - exercising all the indicating lights, etc. This provides a visual indication that the MODULE is in operating condition. This process will take a minute or so to be completed.

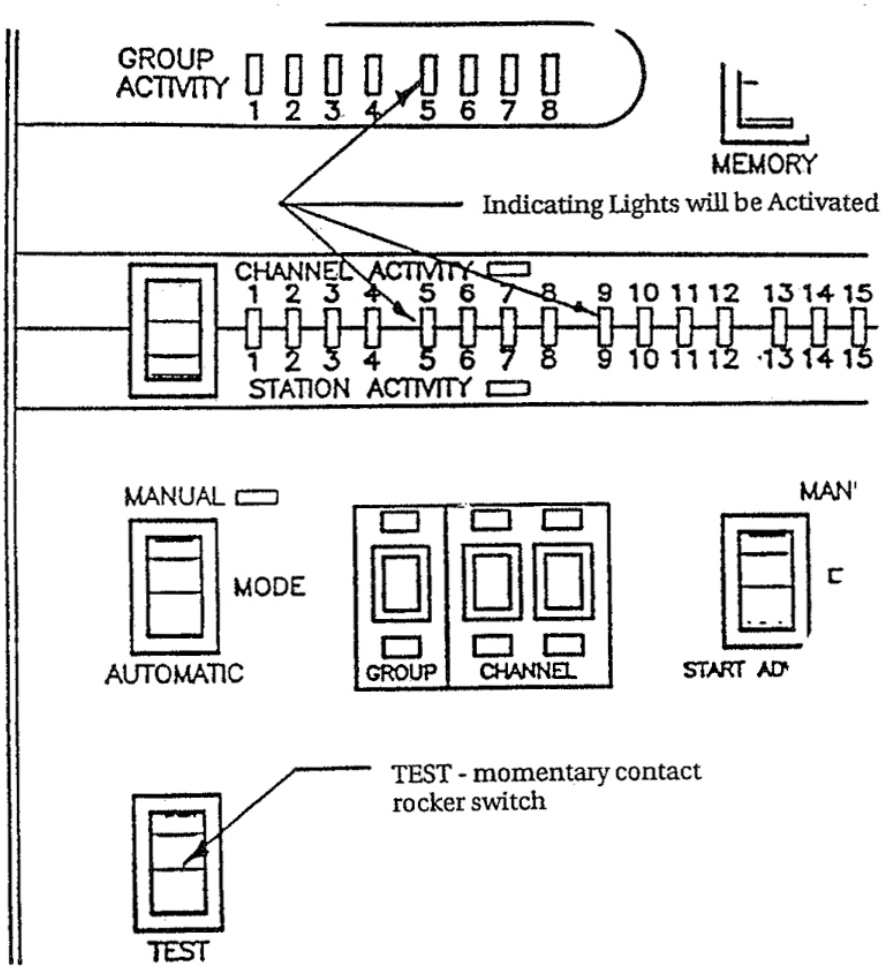


FIGURE #21: Test Switch

STATUS LIGHTS

See Figure #22:

PURPOSE...
To provide some indication that communication to the field is taking place and/or that "Feed Back" information is being received from the field.

OPERATION...
Located to the RIGHT of the TEST Switch, there are three (3) STATUS INDICATING LIGHTS.

The light on the LEFT is the STATUS INDICATING LIGHT. When it is "blinking", it indicates that the Interface Module is functioning properly. If the indicating light burns "steady" it indicates that the MIM is powered but is NOT functioning properly.

The "RD" LIGHT will be lighted any time that there is "Feed Back" information coming from the field to the Interface module ("RD" stands for RECEIVE DATA).

The "SD" LIGHT will be lighted any time that the Interface Module is "Sending" information to the field ("SD" stands for SEND DATA).

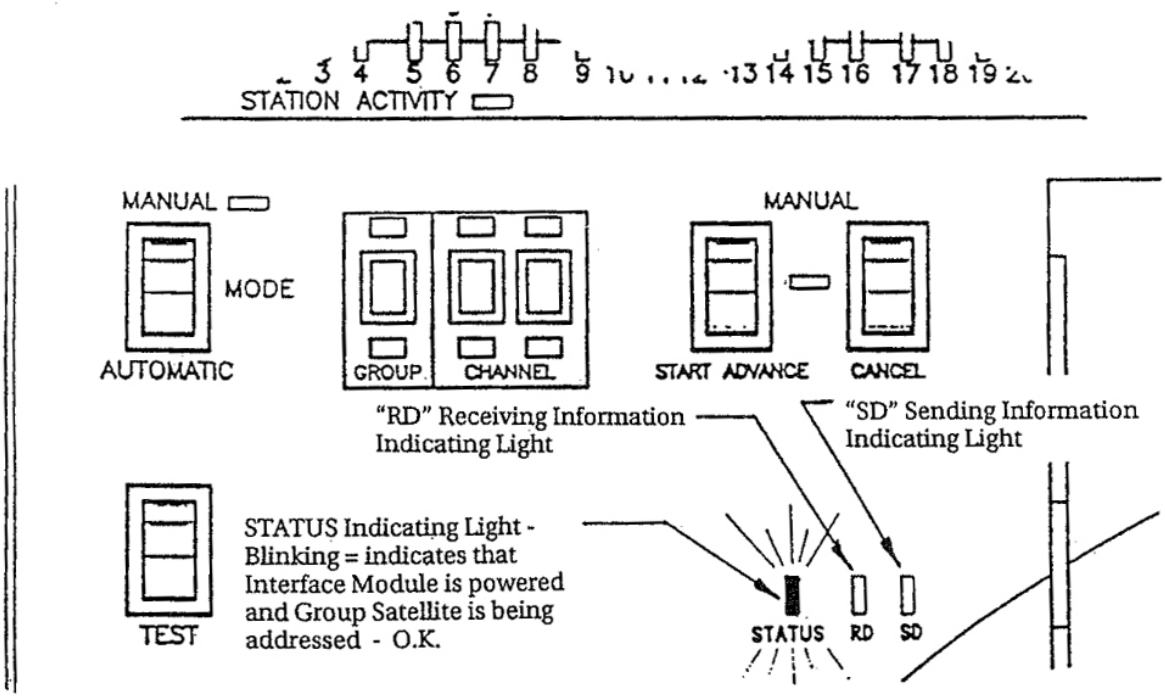


FIGURE #22: Status Lights

FCC - 15.818

CLASS A COMPUTING DEVICE

INFORMATION TO USER:

WARNING ! This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with this manual may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to correct the interference.

Rain Bird Sales, Inc. - Golf Division
970 West Sierra Madre Avenue
Azusa, CA 91702, USA
Phone: 800-984-9311
Fax: 800-446-5309

Rain Bird International, Inc.
145 North Grand Avenue
Glendora, CA 91741 USA
Phone: 818-963-9311
Fax: 818-963-4287

notes !

Rain Bird Sales, Inc., Golf Division
970 West Sierra Madre Avenue
Azusa, California 91702, USA
(800) 984-2255 Fax: (800) 446-5309

Rain Bird International, Inc.
145 North Grand Avenue
Glendora, California 91741, USA
(626) 963-9311 Fax: (626) 963-4287
GT27131

P/N 634089 Revised 4/13/98