NEWMAR LIMITED WARRANTY

NEWMAR warrants with the original purchase of products sold by NEWMAR, that they shall be free from defects and material and workmanship for two years from the date of purchase.

In the event of a product failure caused by defect of material or workmanship you must return the entire product with original packing if possible, freight pre-paid, to the place of purchase or to NEWMAR, 2911 W. Garry Avenue, Santa Ana, California 92704. Besides paying to send back the product, you must include proof of purchase reflecting where the product was purchased, the date of purchase and a written explanation of the alleged defect. If this product is determined to be defective by NEWMAR, we will repair the product and ship it back to you without charge. If non-repairable within 30 days, we will ship an equivalent or better replacement product or provide you with a refund of your purchase price.

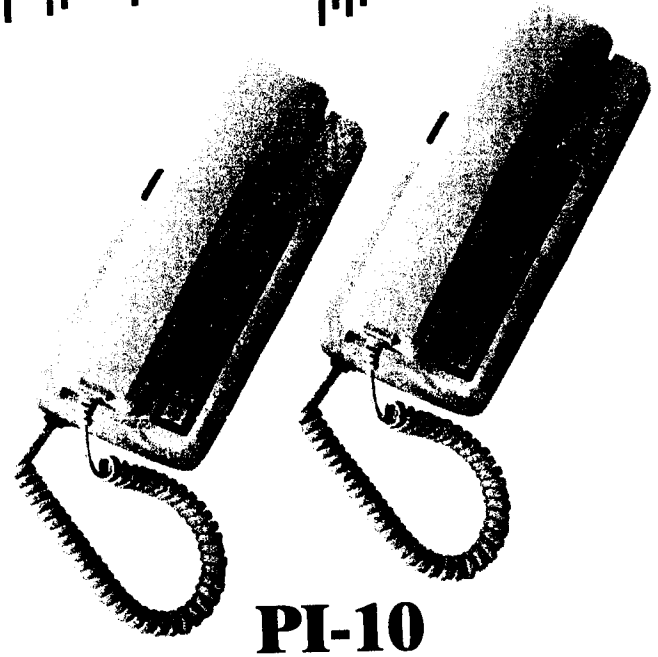
Repairs or adjustments to be made on the defective product shall be determined by NEWMAR in its sole discretion. If you have any questions concerning this Limited Warranty, contact us at the above address or call Customer Service at 1-714-751-0488.

This Limited Warranty does not apply to products that have not been installed properly or maintained adequately. This Limited Warranty does not apply to damage through accident, negligence, misuse, abuse, or normal wear and tear. Further, this warranty does not cover products that have been altered or modified from their original sale condition. For information regarding proper installation, please consult the instructions enclosed with the product. You may contact NEWMAR or an authorized retailer for additional installation instructions. It is your responsibility to check the product upon receipt for any damage during shipping and to contact the carrier or shipper regarding such damage. No person, including any NEWMAR dealer, is authorized to assume any further liability for NEWMAR beyond this Limited Warranty, in connection with products sold by NEWMAR. A customer's sole and exclusive recourse against NEWMAR is this Limited Warranty, regardless of a customer's recourse against a seller.

THERE ARE NO WARRANTIES EXPRESS OR IMPLIED WHICH EXIST BEYOND THE TERMS OF THIS LIMITED WARRANTY. THIS LIMITED WARRANTY IS NEWMAR'S SOLE OBLIGATION TO YOU FOR THIS PRODUCT AND CONSTITUTES YOUR EXCLUSIVE REMEDY UNDER THE LAW. NEWMAR SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES CAUSED AS A RESULT OF ANY DEFECT IN MATERIALS OR WORKMANSHIP. NEWMAR' S LIABILITY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCT. NEWMAR IS NOT RESPONSIBLE FOR ANY DAMAGE THIS PRODUCT CAUSES TO ANY OTHER EQUIPMENT OR ANY OTHER PRODUCT.

Some states do not allow limitations in how long an implied warranty may last, so the above limitation may not apply to you. Also, some states do not allow the exclusional limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. Finally, this warranty gives you specific legal rights; however, you may also have other rights which vary from state to state.

PHONE-COM™



PI-10
PHONE INTERCOM SYSTEM

INSTALLATION / OPERATION MANUAL

NEWMAR®

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PI-10
PHONE INTERCOM SYSTEM
INSTALLATION / OPERATION

It is recommended that you read these instructions completely prior to acquiring tools and materials for the installation of the Phone-Com in order to help you decide which tools and materials are appropriate for your particular installation.

Recommended Tools:

Phillips screwdriver, slotted screwdriver, wire cutter, wire stripper, wire crimper.

Recommended Materials:

#8 mounting screws (two per phone), color-coded multi-conductor cable* (22 AWG minimum,), cable ties, inline fuse assembly, wire splices.

*To determine the number of conductors needed for your installation, simply add 3 to the number of phones in your system, i.e., for a 5 phone system, you will require cable with at least 8 conductors.

Mounting:

1) Select a suitable location for mounting each Phone-Com. Any conveniently located vertical or horizontal flat surface will suffice - wood, metal or fiberglass. You may leave the phone unmounted on a tabletop, but fixed mounting will decrease the chance of eventual strain on the wiring which may cause loose connections. The Phone-Com is not waterproof and should not be located where it will be exposed to spray or excessive moisture. Avoid mounting the Phone-Com near fluorescent lights as these may interfere with its operation.

2) Remove the mounting bracket from the base of the Phone-Com by sliding it downward until it releases. Using two each #8 mounting screws, securely attach the bracket to the mounting surface with the "L" shaped securing tabs facing outward and upward.

Wiring:

1) Wiring the Phone-Com will probably be made easiest by securing it first to the mounting bracket. Align the slots on the back of the base with the mounting bracket securing tabs and slide downward. The Phone-Com will lock into place.

2) Disconnect the phone plug which attaches the handset to the base. Set the handset aside for the time being.

3) Using a phillips screwdriver, remove the copper-colored screw which is on the front of the base where the mouthpiece normally rests. Remove the base cover by pulling outward slightly at the bottom and pushing it upward to release it. Note the terminal block in the center of the base with fourteen terminals labeled "+", "CH", "B", "-", and "1" through "10", respectively.

4) Repeat all of the above steps for the other stations.

5) Route your multi-conductor cable between the various Phone-Com calling stations and then cut it to the appropriate length. The Phone-Coms will all be wired in series. (See **Wiring Diagram**.) Note that the cable is routed into the Phone-Com via a small port located beside the phone jack at the bottom of the base. Color coded wiring is recommended to insure that wires are connected to the proper terminals.

5, 10 and 15 conductor cable is available from NEWMAR. Request part number 110-2205 for 5 conductor cable, 110-2210-0 for 10 conductor cable or 110-2215-0 for 15 conductor cable.

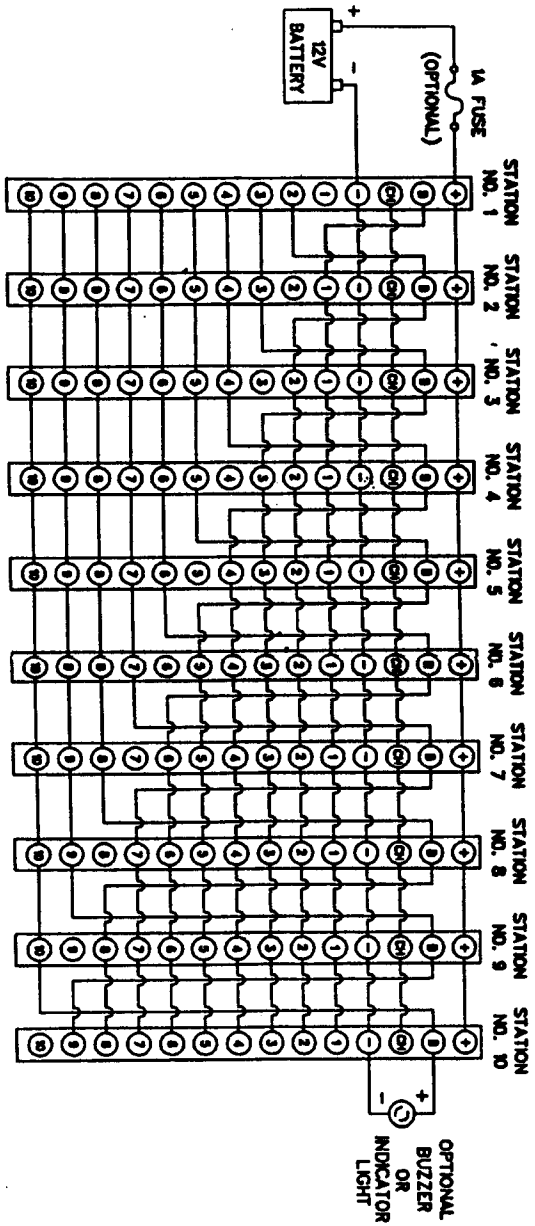
The cable should not be routed alongside unshielded cables or other electronic or electrical devices which may radiate electrical noise into the Phone-Com wiring. Such noise sources may include tachometer wiring, VHF power leads, battery charger leads, alternator charging leads, etc. Non-metallic fasteners such as cable ties are recommended for securing the cable. If metal fasteners such as staples are used, ensure that the cable is not accidently pierced or shorting of the conductors may occur.

6) Strip the ends of the individual conductors of the multi-conductor cable and your "+" and "-" power leads. Be sure that your DC power source is switched off before working with the power leads. Use of an in-line fuse assembly with a 1 amp fuse in the positive "+" lead is recommended.

Terminating the leads with ring lug connectors will ensure a secure installation. If you choose to terminate the lead, use ring terminals appropriate for a #6 screw. Note that some terminals will need to accommodate more than one conductor. Where this is the case all conductor leads must be crimped into the same lug.

7) Attach the conductors to the terminal strip of each Phone-Com according to the diagram on the following page, carefully noting the color of each conductor to ensure correct connections.

Wiring Diagram (Typical All-Master System):



8) Use the provided peel-and-stick label to identify the various stations and attach to the side of the Phone-Com or other convenient location.

Operation:

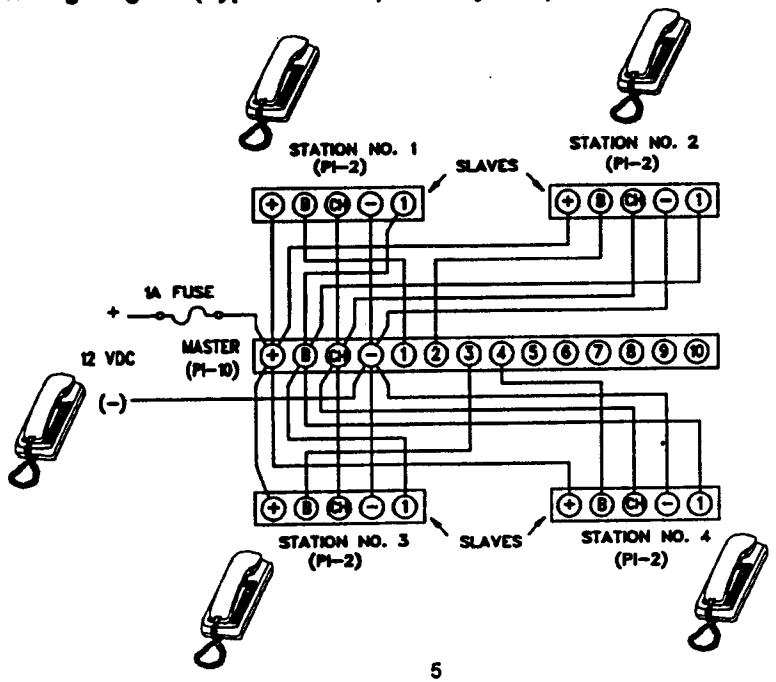
Energize your 12 volt power source. Operation is then simply a matter of picking up the handset and pressing the button on the Phone-Com base which corresponds to the station you wish to call. The buzzer on the other station will sound for as long as you are pressing the button.

If you wish to operate the Phone-Com in a high noise area where the internal buzzer may not be heard, a separate buzzer or indicator lamp which may be mounted externally in a more conspicuous or convenient location is available from NEWMAR. Check with your electronics dealer or contact the factory. (Buzzer part number: 117-0100-0, Indicator Lamp part number: 578-0028-0.)

Slave Option:

If it is preferred the PI-10 (ten button) can be wired with 2 or more model PI-2 (single button) Phone-Coms (also available from NEWMAR) to make a combination master/slave system. With this system, each of the slave phones is able to page the master phone but not any other of the slave phones. The master is able to page all other phones. This allows for central control of telephone traffic. The combination master/slave wiring is illustrated on the following page.

Wiring Diagram (Typical Master/Slave System):



Troubleshooting:

PROBLEM	POSSIBLE CAUSE	SOLUTION
A. Intercoms will not communicate or page each other.	1. Circuit breaker is tripped or fuse is blown in power lead to intercoms	1. Reset circuit breaker or replace after cause of overload is determined.
	2. Bad 12 volt connection to intercom.	2. Using a voltmeter, verify that intercoms are receiving 12 volts across terminals "+" and "-". If not locate bad bad connection in wiring.
	3. Mis-wire of terminals "B", "CH" and "Station #."	3. Verify proper wiring - refer to **Wiring Diagram**.
B. Intercoms communicate, however one or both cannot be paged.	1. Terminals "B" and "Station #" are incorrectly wired.	1. Verify proper wiring - refer to **Wiring Diagram.**
	2. Bad connection on terminals "B" or "Station #" or defective intercom.	2. To verify bad connection, attach voltmeter between terminals "-" and "B" of silent intercom. Voltmeter should indicate at least 12 volts when intercom is being paged. If so, then intercom is defective. If not, move the volt meter to the paging intercom terminals "-" and "Station #". If 12 volts is indicated, then locate bad connection between intercom terminals "B" and "Station #". If 12 volts is not measured, the paging phone may be defective.

PROBLEM	POSSIBLE CAUSE	SOLUTION
C. Intercoms function properly, however communication is weak, hard to hear.	12 volt source too low.	If battery powered recharge battery. If powered by AC to DC power converter, measure output voltage. If low (less than 12 VDC) repair or replace converter.
D. Noise on intercom when engine is running or battery charger is operating.	Engine alternator, ignition system or battery charger putting AC ripple into 12 volt battery system powering intercoms.	Install noise filters on alternator/ignition system, battery charger and/or input power leads to intercom. Contact factory for additional help.
E. Noise on intercom when engine and battery charger are turned off.	Defective handset.	Isolate defective handset by unplugging one handset at a time until noise disappears. Replace handset - contact factory.

Specifications:

Input Range: 12-15 VDC, Negative Ground
Maximum Distance Between Stations: 1600 feet
Operating Current (Talking): 20 milliamps
Operating Current (Buzzing): 45 milliamps
Wire Gauge: 22 AWG minimum
Size 8½"H x 3 ¾"W x 3"D
Weight: 1.1 lbs.