

PANEL MOUNT INTERCOMS

INSTALLATION AND SERVICE INSTRUCTIONS
FOR MODELS

AD-26P, AD-27P, AD-56P, and AD-57P



Address all communications and shipments to:

ATKINSON DYNAMICS

A FEDERAL SIGNAL COMPANY

Electrical Products Division
2645 Federal Signal Drive
University Park, IL 60466-3195
(888) 751-1500

INSTALLATION AND SERVICE INSTRUCTIONS FOR ATKINSON DYNAMICS PANEL MOUNT INTERCOMS

SAFETY MESSAGE TO INSTALLERS, USERS, AND MAINTENANCE PERSONNEL

It is important to follow all instructions shipped with this product. This device is intended to be installed by a trained electrician who is thoroughly familiar with the National Electrical Code and will follow NEC Guidelines as well as local codes.

The selection of the mounting location for the device, its controls, and the routing of the wiring are to be accomplished under the direction of the facilities engineers and the safety engineer. In addition, listed below are some other important safety instructions and precautions you should follow:

- This is not a listed safety device and is not intended to be used as such.
- Read and understand all instructions before installing or operating this equipment.
- Disconnect power before connecting or doing any maintenance on this intercom.
- All effective warning speakers produce loud sounds which may cause, in certain situations, permanent hearing loss. You should take appropriate precautions, such as wearing hearing protection.
- All effective warning speakers produce loud sounds which may cause, in certain situations, permanent hearing loss. You should take appropriate precautions, such as wearing hearing protection.
- After testing is complete, provide a copy of this instruction sheet to all operating personnel.
- Establish a procedure to routinely check the intercom installation for integrity and proper operation. Any maintenance must be performed by a trained electrician in accordance with NEC guidelines and local codes.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

A. General Features.

The Atkinson Dynamics "P" model is a panel mount intercom intended for 2-way communications in industrial and vehicular applications. Each panel mount intercom consists of a printed circuit board that is attached to a cover plate which has various control functions. It is designed to be mounted in a customer-supplied panel. A separate speaker/microphone that connects to the printed circuit board is utilized for both receiving and transmitting audio signals. Nominal operating voltages for the panel mount intercom include 12VDC, 24VDC, 120VAC, and 240VAC. The AC line is fused with a 1/2-amp 250-volt type GMC fuse in the 120/240VAC intercoms. Basic model specifications and additional model information is listed in Tables 1 and 2.

	Model AD-26P	Model AD-56P	Model AD-27P	Model AD-57P
Supply Voltage	12 VDC	24 VDC	120VAC, 50/60Hz	240 VAC, 50/60Hz
Audio Power Output (Max.)	8.0 Watts	11.7 Watts	11.3 Watts	11.3 Watts
Power Consumption (Max.)	20.0 Watts	39.6 Watts	28.8 Watts	30.5 Watts
Operating Current (Nominal)	1.47A	1.65A	0.240A	0.127A
Operating Temperature	-31 F to 150 F			
Shipping Weight	2 lb. 1.5 oz.	2 lb. 1.5 oz.	2 lb. 11.6 oz.	2lb. 11.6 oz.
Dimensions	See Figure 1			
Ratings	UL, cUL (Recognized Component Listing)			

Table 1

Additional Model Information	
Letter Group	Function / Feature
“A”	Call button
“C”	Master mode
“D”	Slave mode
Number Group	
“-1”	Remote power
“-8”	Additional pre-amp for use with remote slave speaker
Miscellaneous	
“-M44”	Remote speaker volume control

Table 2

MASTER UNITS:

“C” Models default to Master, or speaker mode. In Master mode, the unit acts as a speaker and broadcasts audio signals generated elsewhere in the intercom system. Depressing the Talk switch turns the unit into a microphone and enables the user to broadcast to all other intercoms in the system. Releasing the switch returns the unit to Master mode. Figures 2 through 4 illustrate Master/Slave intercom systems.

SLAVE UNITS:

“D” Models default to Slave, or microphone, mode. In Slave mode, the unit is designed to serve as a hands-free microphone with transmission to all Master units in the intercom system. The Slave unit will act as a speaker and broadcast audio transmissions only when the Talk switch of any Master unit in the intercom system is depressed. Figures 2 through 4 illustrate Master/Slave intercom systems.

CALL BUTTON:

“A” Models are equipped with a Call switch. Depressing the call switch transmits an 890 Hz tone to all units in the intercom system. The volume of the call signal is affected by the volume control on the receiving unit, so if volume is turned all the way down at a receiving station, the call signal will not be heard.

CAUTION

The call signal is louder than normal voice messages being carried on the line. Do not depress the call switch while carrying on a conversation with someone on the system. This will subject the listener to very loud sound levels.

PRE-AMPLIFIER:

“-8” Models are equipped with a pre-amplifier and are designed for use with Slave speaker units such as the AD-SV-25 Remote Speaker with Volume Control. The “-M44” option equips the “-8” Master unit with a knob for controlling the volume of remote speakers. Figure 2 illustrates an intercom system with the “-8” and “-M44” options.

EXTERNAL POWER SOURCE:

The use of an external power source allows the user to configure intercom systems made up of “-1” DC powered Master and Slave units. Figure 4 illustrates such a system.

SURGE PROTECTION:

Metal Oxide Varistor (MOV) devices are used to protect the audio lines. The intercom must have Earth or Chassis Ground terminated to it to ensure surge protection.

The output amplifier of the Atkinson Dynamics intercom offers full short circuit protection and overheat protection on the 120/240VAC intercoms only.

B. Unpacking.

After unpacking the Atkinson Dynamics panel mount intercom, examine it for damage that may have occurred in transit. If the equipment has been damaged, do not attempt to install or operate it, and file a claim immediately with the carrier stating the extent of the damage. Carefully check all envelopes, shipping labels and tags before removing or destroying them.

Before attempting to install the intercom, be sure that all parts listed in the KIT CONTENTS LIST have been supplied.

C. Kit Contents List.

<u>Qty.</u>	<u>Description</u>	<u>Part Number</u>
1	Resistor, 1K, 1W	101216
1	Instruction Manual	2561542A

D. Mounting.

CAUTION

The selection of the mounting location for the device, its controls, and the routing of the wiring are to be accomplished under the direction of the facilities and the safety engineer.

The panel mount intercom is designed to be mounted behind a customer-supplied panel.

1. Cut an opening and drill the four (4) mounting holes in the customer-supplied panel. Refer to figures 1 and 6.
2. Carefully insert the panel mount intercom into the customer-supplied panel.
3. Secure the panel mount intercom by installing screws in the four (4) mounting holes. The four mounting holes are .191" in diameter and will accept a #8 mounting screw. Hardware for mounting the intercom to the surface is left up to the installer.

Refer to instruction sheet 2561543A, if necessary, for mounting the speaker.

E. Electrical Connections.

Connect the power wires labeled "**PWR +**" and "**PWR -**" on the panel mount intercom to a nearby power source. On 120/240VAC models, the green/yellow wire labeled "**EGND**" should be connected to earth ground. Connect the audio wires labeled "**SPK**" (white/brown) and "**COM**" (white) from the intercom to the local speaker/microphone. Models with the "-M44" option have an extra pair of audio wires labeled "**REM SPK**" (black) and "**COM**" (white) that should be connected to a remote speaker. Connect the audio wires labeled "**AUD**" (black or green) and "**COM**" (white) on the panel mount intercom to the same color audio wires on another intercom in the system. Audio wires should be sized properly by a licensed installation electrician for your specified application. "**C**" and "**D**" models have a control line labeled "**CTRL**" (black). The control line on a "**C**" model (Master mode) connects to the control line on a "**D**" model (Slave mode). Refer to figures 2 through 5 for typical connections and additional wiring information.

Optional: A 1K, 1W resistor is included in a kit with each intercom. Installing the resistor across the audio lines helps to reduce noise in certain environments. Only one resistor needs to be installed on the lines for any system installation.

F. Service.

1. General.

Federal Signal will service your equipment or provide technical assistance with any problems that cannot be handled locally.

Any units returned to Atkinson Dynamics for service, inspection, or repair must be accompanied by a Return Material Authorization. This R.M.A. can be obtained only from the factory by calling (888) 751-1500. At this time a brief explanation of the service requested or the nature of the malfunction, should be given.

Address all communications and shipments to:

ATKINSON DYNAMICS
Service Department
2645 Federal Signal Drive
University Park, IL 60466-3195

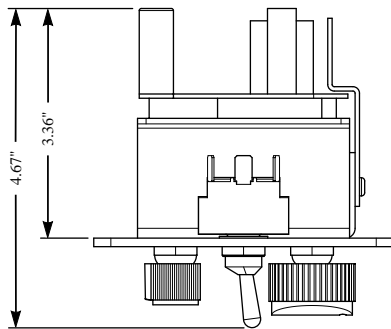
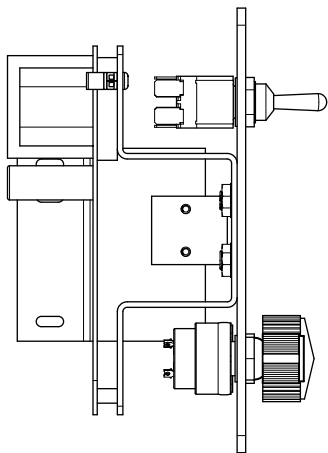
2. Replacement Parts.

WARNING

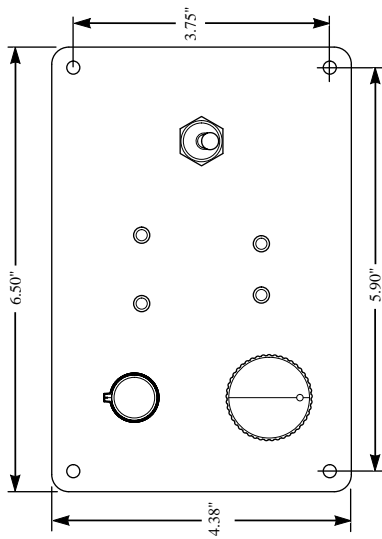
Replace fuse with GMC-1/2 only. DO NOT substitute.

<u>Description</u>	<u>Part Number</u>
Kit, PC Board, 120VAC	K2001875A-P
Kit, PC Board, 240VAC	K2001875A-01P
Kit, PC Board, 12V, AD-26	K2001878B-P
Kit, PC Board, 12V, AD-26C	K2001878B-01P
Kit, PC Board, 12V, AD-26D	K2001878B-02P
Kit, PC Board, 24V, AD-56	K2001878B-07P
Kit, PC Board, 24V, AD-56C	K2001878B-08P
Kit, PC Board, 24V, AD-56D	K2001878B-09P
Kit, PC Board, 12V, AD-26-8-M44	K2001896B-P
Kit, PC Board, 24V, AD-56-8-M44	K2001896B-02P
Kit, potentiometer w/ on/off switch	K8590236A
Kit, toggle switch, DPDT	K8590238A
Kit, toggle switch, 3PDT	K8590239B
Kit, push button switch, DPDT (12/24V Models)	K8590242A
Kit, push button switch, SPST (120/240V Models)	K8590241A
Knob, volume control	K141A129A
Rubber boot, toggle switch	K288696A
Rubber boot, push button switch	K288697A
Rubber boot, volume control	K288A542A
Gasket	K8590110A
Resistor, 1K, 1W	K101216A
Fuse, GMC-1/2	K148A155A

1

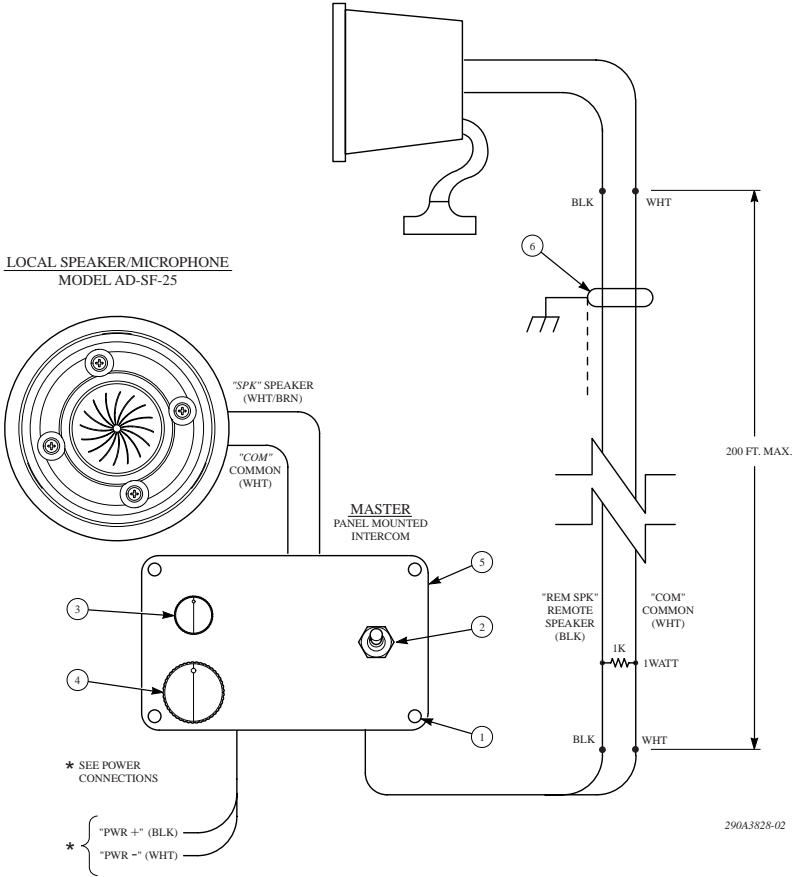


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2

REMOTE SLAVE SPEAKER
AD-SF-25/AD-SS-25



POWER CONNECTIONS:

"PWR+" (Black)	+DC-Power	12/24V Models
"PWR-" (White)	Common	12/24V Models

POWER

12-18VDC
22-30VDC

MASTER

AD-26-8-M44P
AD-56-8-M44P

NOTES:

1. Mounting Holes
2. Talk/Listen Switch
3. Master Off/On/Speaker Volume Control
4. Remote Slave Speaker Volume Control
5. Cover Plate
6. On some installations, use shielded cable if electrical noise is picked up.

Operating Principle:

- Remote Slave station is both a speaker and a microphone.
- Master is normally in "Listen" mode until the talk button is pressed to talk to Remote Slave.
- Outgoing and incoming volumes are controlled by separate controls on Master.

POWER CONNECTIONS:

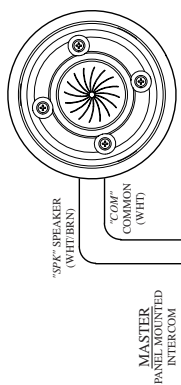
- "PWR+" (Black) +DC-Power
HOT
- "PWR-" (White) Common
Neutral
- "EGND" (Green/Yellow) Earth Ground

12/24V Models
120/240V Models

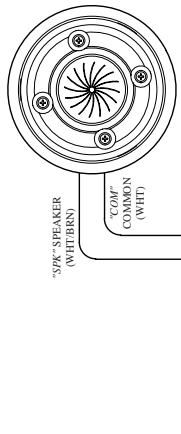
12/24V Models
120/240V Models
120/240V Models only

- POWER**
- 12-18VDC
 - 120V 50/60HZ
 - 22-30VDC
 - 240V 50/60HZ
- MASTER**
- AD-26CP
 - AD-27CP
 - AD-56CP
 - AD-57CP
- SLAVE**
- AD-26DP
 - AD-27DP
 - AD-56DP
 - AD-57DP

LOCAL SPEAKER/MICROPHONE
MODEL AD-SF-25



LOCAL SPEAKER/MICROPHONE
MODEL AD-SF-25



NOTES:

1. Mounting Holes
2. Cover Plate
3. Off/On/Speaker Volume Control
4. Press-to-Talk Switch

Operating Principle:

- Master normally listens to Slave.
- Slave talks to Master hands-free, without having to press a talk switch.
- To talk into Master, press talk switch and speak into speaker/microphone. Release talk switch to listen.



POWER CONNECTIONS:

"PWR+" (Black) +DC-Power
"PWR-" (White) Common

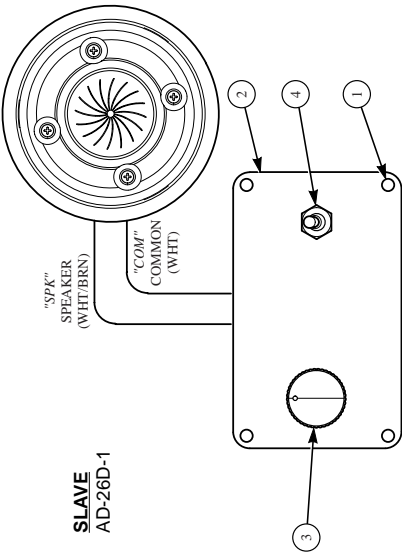
12/24V Models
12/24V Models

LOCAL SPEAKER/MICROPHONE
MODEL AD-SF-25

POWER
12-18VDC

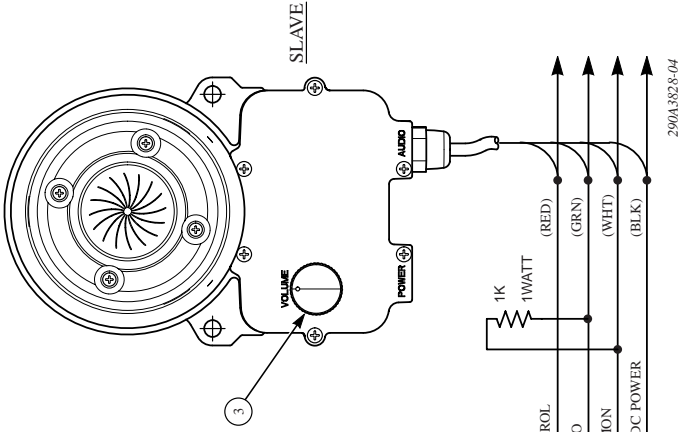
MASTER
AD-26CP-1

SLAVE
AD-26D-1



NOTES:

1. Mounting Holes
2. Cover Plate
3. Off/On/Speaker Volume Control
4. Press-to-Talk Switch
5. Use shielded audio cable in electrically noisy areas. Ground one end of the shield to "earth" ground.



Operating Principle:

- Master normally listens to Slave.
- Slave talks to Master "hands-free", without having to press a talk switch.
- To talk into Master, press talk switch and speak into speaker/microphone. Release talk switch to listen.

POWER CONNECTIONS:

"PWR+" (Black)
+DC-Power
HOT

12/24V Models
120/240V Models

"PWR-" (White)

Common
Neutral

12/24V Models
120/240V Models

"EGND"
(Green/yellow)

Earth Ground

120/240V Models only

POWER

12-18VDC
120V 50/60Hz
22-30VDC
240V 50/60Hz

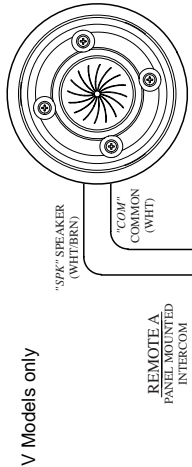
MASTER

AD-26P
AD-27P
AD-56P
AD-57P

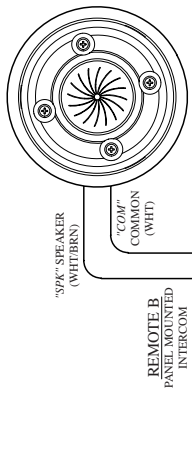
SLAVE

AD-26P
AD-27P
AD-56P
AD-57P

LOCAL SPEAKER/MICROPHONE
MODEL AD-SF-25



LOCAL SPEAKER/MICROPHONE
MODEL AD-SF-25



NOTES:

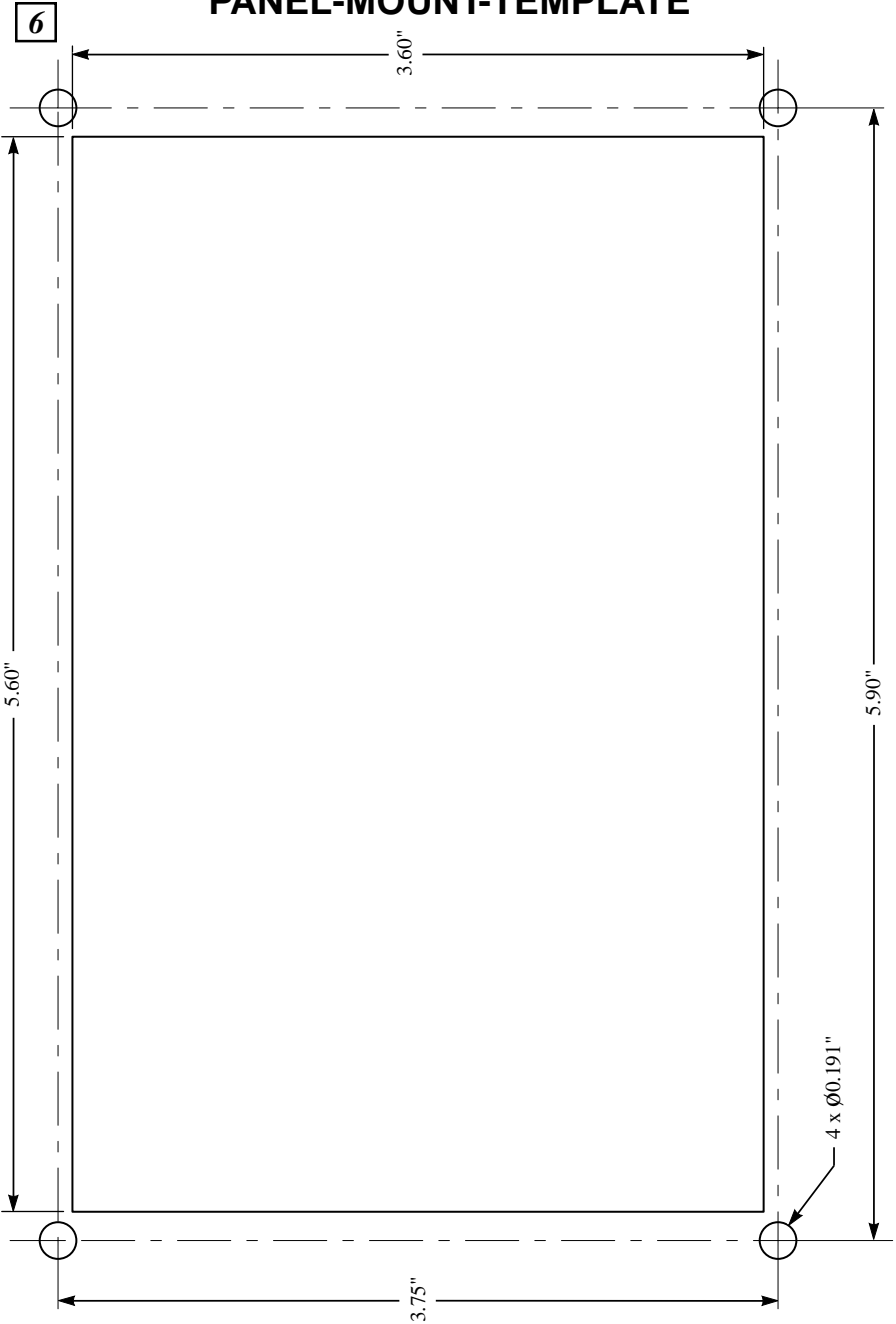
1. Mounting Holes
2. Cover Plate
3. Off/On/Speaker Volume Control
4. Talk/Listen Switch
5. Use shielded audio cable in electrically noisy areas. Ground one end of the shield to "earth" ground.

Operating Principle:

- When one talks, all intercoms will hear.
- To talk to other stations, press the talk/listen switch and speak into the speaker/microphone.
- Release talk/listen switch to listen.

* SEE POWER CONNECTIONS

PANEL-MOUNT-TEMPLATE



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