LBI-31838A



Mobile Communications

EDACSTM WALL MOUNT STATION



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Maintenance Manual



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SYSTEM SPECIFICATIONS*

FREQUENCY RANGE	Refe
INPUT VOLTAGE	121/2 (Star
INPUT POWER Receive Transmit	60.5 847
POWER OUTPUT RATINGS	Refe
DUTY CYCLE (EIA)	Rece Tran
TEMPERATURE RANGE	-30(0 (-22(perfo
OPERATING ALTITUDE	5,000
SPEAKER	8 Oh
DIMENSIONS (H x W x D)	54 x (21.2
WEIGHT	25 K

* Refer to the RANGR EDACS maintenance manual for detailed transmitter and receiver specifications.

COMBINATION NOMENCLATURE

Digits 1&2	Digit 3	Digit 4
Product Code	Version	Control
N8 PST Station	B	Tone Remote

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Refer to the RANGR EDACS maintenance manual

1/240 Vac %10% (operable up to %20%) @ 50-65 Hz ndby battery 13.8 Vdc, nominal)

Watts @ 0.5 amperes Watts @ 7 amperes (maximum)

er to the RANGR EDACS maintenance manual

eiver 100% nsmitter 20%

(C to +60(C(F to +140(F),formance specified per EIA

00 meters (16,604 feet), maximum

nms

57 x 17 cm 26 x 22.44 x 6.69 inches)

Kg (55 lbs)



DESCRIPTION

The EDACS Wall Mount Station (Figure 1) is a fully solid-state station for remote control operation. The most advanced manufacturing techniques are used to provide the highest quality and reliability.

The station is housed in a slim-lined, compact cabinet. The basic station consists of a Key/Display board, a System board, a power supply and regulator, and a RANGR EDACS mobile radio unit. Available options include:

- Remote control card
- Battery Standby

RADIO PACKAGE

The basic radio consists of five printed wire boards mounted in a cast aluminum frame. The five boards are the System Control board, the Frequency Synthesizer board, the Transmit Exciter board, the Power Amplifier board, and the Receiver board.

The radio is of double-layer construction with tuning adjustments easily accessible from the top of the radio. Test points for the transmitter, receiver, and system functions are provided for simplified alignment and troubleshooting. Refer to the RANGR EDACS maintenance manual for more detailed information.

STATION CIRCUIT BOARDS

In addition to the radio package, there is a Keyboard/Display assembly, a System board, power supply module, and Regulator board in the standard Wall Mount Station.

OPERATION

The Wall Mount Station is designed for remote control operation, however it may be operated locally by connecting a microphone and using the controls on the Key/Display board. A built-in speaker is provided for monitoring.

CONNECTING THE MICROPHONE

If transmit operation is desired at the Wall Mount Station location, a suitable microphone must be connected to J7 of the System board.

POWER SWITCH

The on/off switch is located at the top of the power supply, behind the heat sink.

CONTROLS, INDICATORS, AND DISPLAYS

All controls, indicators, and displays for the Wall Mount Station are located on the Key/Display board.

Displays and Indicators

Group display	Shows the selected Group or Channel number.
System display	Shows the selected System number.
PTT (transmit) indicator	Lights (red) when the station is keyed.
SBY (standby power) indicator	Lights (green) when the station is operating on optional battery power.
RINH (remote inhibit) indicator	Lights while remote control of the station is inhibited. When this function is active, remote control of the station is not possible.
INTC (intercom) indicator	Lights while the intercom is on.
MON (monitor) indicator	Lights when the MON switch is pressed.
SCAN indicator	Lights when Scan is on.
Controls	
GRP \blacktriangle and GRP \blacktriangledown	Used to change your group selec- tion. The selected group number will appear on the Group display.
SYS \blacktriangle and SYS \blacktriangledown	Used to change your System or Channel. The selected system number will appear on the System display. Squelch adjustments are also made with this control.
SCAN button	Used to turn the Scan function on

Used to turn the Scan function on and off.





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VOL button	Controls the receive audio and is also used to adjust the squelch.	on that system, and an alternate will ha Changing the System may also change the Group setting is correct after changing Sy select a Conventional (non-trunked) Syst control to select your operating channel.	
RINH (remote inhibit) button	Inhibits all remotes connected to the station for 30 seconds. Timer is reset by any operator function.		
INTC button	Activates the intercom function with all remotes connected to the station for 30 seconds. Timer is reset by	<u>Channel Selection (Conventional, N</u> <u>System)</u>	
	pressing any operator function but- ton.	Select the Channel by pressing the GR until the desired Channel number appears in t	

BASIC SETUP

- 1. Place the power switch (behind power supply heat sink) in the ON position. The Group and System displays should light (other indicators may also be on) when the power is turned on.
- 2. Press VOL \blacktriangle or \blacktriangledown until the desired listening level is reached. An audio tone (beep) will be heard to indicate the volume level.

ADJUSTING THE SQUELCH (CONVENTIONAL)

Press and hold the SCAN button, while you press and release SYS \blacktriangle until the radio unsquelches. Press and release SYS $\mathbf{\nabla}$ until the radio just squelches, then press SYS $\mathbf{\nabla}$ one more time. The station is now set up for basic receive operation.

SELECTING GROUP/SYSTEM/CHANNEL

Use the GRP and SYS buttons to select a different Group, System or Channel. The GRP and SYS buttons ramp up and down. You may press the opposite direction button to return to a selection you passed, or to view additional selections.

Group Selection

Press the GRP \blacktriangle or \blacktriangledown button until the desired Group number appears in the Group display. If you cannot find your Group number, your radio may not be programmed to operate on that group, and an alternate will have to be selected.

System Selection

Press the SYS \blacktriangle or \checkmark button until the desired System number appears in the System display. If you cannot find your System number, your radio may not be programmed to operate ve to be selected. Group. Be sure the stems. When you em, use the GRP

Ion-Trunked

 $P \blacktriangle or \lor button$ the Group display. If you cannot find your Channel number, your radio may not be programmed to operate on that Channel, and an alternate will have to be selected.

RECEIVING A CALL

Once you have done the BASIC SETUP procedure your radio is set up to receive calls. The next call made on your selected Group/System or channel will be received.

SENDING A MESSAGE

Sending a message on a trunked System is different from sending a message on a conventional (non-trunked) system. The following steps tell you how to transmit a message on both types of Systems.

On A Trunked System

To send a message on a trunked system, proceed as follows:

- 1. Select the System and Group you wish to transmit on.
- 2. Press TRANSMIT bar (or PTT button) and wait for the channel-available tone. The PTT indicator will light. If your get the high call-queued tone, wait for the channel-available tone before making your call. A low tone indicates a channel is not available.
- 3. Speak into the microphone in a normal voice.
- 4. Release TRANSMIT bar (or PTT button) when the transmission is completed, and listen for any reply. The PTT indicator will go out.

On A Conventional (Non-Trunked) System

To send a message on a conventional (non-trunked) svstem, proceed as follows:

- 1. Select the channel you wish to transmit on.
- 2. If you have optional Channel Guard, press the MONITOR bar (or MON button) to make sure the channel is not in use. The MON indicator will come on.
- 3. Press the MONITOR bar again to unlock (or release the MON button).
- When the channel is clear, press TRANSMIT bar or 4. PTT button and wait for the channel-available tone. The PTT indicator will light.
- 5. Speak into the microphone in a normal voice.
- 6 Release TRANSMIT bar (or PTT bar) when the transmission is completed, and listen for any reply. The PTT indicators will go out.

INTERCOM OPERATION

The intercom may be used to talk to Remote Controllers on the same line.

- 1. Press the INTC switch. The corresponding indicator will light.
- 2. Press the TRANSMIT bar (or PTT button), and speak into the microphone in a normal voice.
- Release the TRANSMIT bar (or PTT button) when 3. you are done speaking, and listen for any reply.
- Press the INTC control to turn off the intercom. The 4 indicator light will go off.

INITIAL ADJUSTMENT

After the Wall Mount Station has been installed as described in the Installation Manual, the following adjustments should be made by an authorized electronics technician.

TRANSMITTER ADJUSTMENT

Adjustment of the transmitter includes measuring the forward and reflected power, and adjusting the antenna for an optimum match. The transmitter is then set for rated output power. Transmitter frequency and modulation should be recorded for future reference. Complete transmitter adjustment and alignment procedures can be found in the RANGR EDACS maintenance manual

RECEIVER ADJUSTMENT

No initial adjustments are required for the receiver. Complete receiver alignment instructions can be found in the RANGR EDACS maintenance manual.

POWER SUPPLY

The power supply is a self-contained module which provides a single output of 13.8 Vdc. Refer to the power supply maintenance manual for detailed information.

DISPLAY BOARD

The Key/Display board contains all the indicators and displays, and their interfacing circuitry. Refer to the Key/Display board maintenance manual for detailed information.

SYSTEM BOARD

The System board controls the functioning of the Wall Mount Station. Commands entered by the operator through the Key/Display boards, are processed by the microprocessor on the System board. Responses to these commands are then issued by the System board through the Key/Display board indicators and audio tones. Refer to the System board maintenance manual for detailed information.

STATION OPTIONS

BATTERY STANDBY OPTION

A station battery standby option is available to permit continued station operation in the event of an AC power failure. This option provides internal switching in the station to a customer-supplied 13.8-Volt battery supply.

Circuit Description

The standby battery option consists of a diode assembly mounted on the station chassis, and a black cable and red fused cable connected from the battery to the Battery Standby board. The output of the battery standby board connects to the station power supply plug P1-8 (+13 Volts) and P1-2 (ground).

When the station is powered by an arc source, diode D1 on the Battery Standby board is reverse biased, preventing battery current drain. If the AC power source fails, diode D1 conducts, allowing the battery to power the station. When AC power is again applied, Diode D1 prevents battery current drain.

REMOTE CONTROL OPTION

The Wall Mount Station may be operated from a separate remote-control point. The Remote card option connects to the System board at J9 and J8. Connections are also made to the Remote card for the tone control line. Additional information can be found in the Remote Control Card Maintenance Manual.

MAINTENANCE

This section describes the procedures and checks needed to maintain the Wall Mount station.

DISASSEMBLY

Gain access to the station for servicing as follows:

1. Swing open the front access panel.

Table 1 - Preventive Maintenance Schedule

PREVENTIVE MAINTENANCE	WHEN PERFORMED	
	6 MONTHS	AS REQUIRED
Transmitter Alignment - Compare meter readings with voltages read during initial tune up. Check power output (see RANGR EDACS Maintenance manual).		Х
Transmission Line - Check for positive indication of pressure (if pressurized line is used).	Х	
Antenna - Check antenna and mast for mechanical stability.	Х	
Mechanical Inspection - Visually check cables, plugs, sockets, terminal boards and components for good electrical connections. Check for tightness of nuts, bolts, and screws.	Х	
Cleaning - Use a vacuum cleaner to remove dust which has accumulated inside the cabinet.	Х	
Frequency Check - transmitter frequency and deviation is required.		Х

- 2. Loosen the captive thumb screw at the bottom right of the RANGR EDACS radio unit.
- 3. Swing the RANGR EDACS radio unit away from the station chassis to gain access to circuit card assemblies.

PREVENTIVE MAINTENANCE

Routine checks of all mechanical and electrical parts should be made at regular intervals to ensure high operating efficiency. This preventive maintenance should include the items listed in Table 1.

TEST AND TROUBLESHOOTING

The test procedure is provided as an aid in servicing the Wall Mount Station. The Test and Troubleshooting procedure in Table 2 should be performed when a problem is suspected in the Wall Mount Station, or when a repair has been completed to verify proper operation. This test and troubleshooting procedure, along with the theory of operation and schematic, should enable quick location of a problem.

Table 2 - Test & Troubleshooting

STEP	PROCEDURE		EXPECTED RESPONSE
STAT	'ION TEST		
1.	Connect Key/Display board pins J3-3, -4, -7 and -10 together while turning power on. Remove the jumper.	a. b. c.	All indicators except SBY and decimal point are on. The Group and System displays show 88. Intercom is operational. Volume control is operational.
2.	Press the VOL \blacktriangle , VOL \blacktriangledown , and MON switches together.		Displays are blank. If Tone Remote board is installed, a remote function number may be displayed.
3.	Press the control buttons on the Wall Mount Station.	a. b.	The corresponding key number will appear in the Group display. Key numbers are listed in Table 3. INTC and VOL controls operate.
4.	Press the VOL \blacktriangle , VOL \blacktriangledown , and MON switches together.	a. b. c.	All LEDs and decimal point are off. System display is off and Group display shows volume level. The intercom operates.
5.	Press the VOL \blacktriangle , VOL \blacktriangledown , and MON switches together.	a. b.	System display will show 01. There will be a high level 2175 Hz tone on the telephone line (for remote only).
6.	Press the RINH button.	a. b. c.	System display will show 02. There should be a low-level 2175 Hz tone on the telephone line. Continued pressing of the RINH button will cause the SYSTEM display to alternate between 01 and 02.
7.	Turn power off.	Exits test mode.	

Equipment Required

The following equipment is required to test the Wall Mount Station:

- EDACS Trunked System
- Monitor receiver
- Distortion Analyzer

- •
- •
- •
- •

Λ

RF Generator 50-ohm RF load 600-ohm AF load 13-volt power supply

RNC-1000 EDACS Remote Controller

STEP	PROCEDURE		EXPECTED RESPONSE
RAD	IO TEST		
8.	Connect Key/Display board pins J3-3, -4, -7, and -10 together while turning power on. Remove the jumper.	The sho	e System display will show 1 and the Group display will ow 01.
9.	Apply an on-frequency signal modulated with 1 kHz signal at 3 kHz deviation.		
10.	Set VOL control to maximum.		
11.	Adjust R67.	a. b. c.	Measure 1.5 watts across speaker (or 8-ohm test load). Measure hum & noise 45 dB below rated power (unsquelched). Measure hum & noise 65 dB below rated power (squelched).
12.	Measure distortion.	Les	ss than 3% at 1 kHz signal.
13.	Measure frequency response	Within +2 and -8 dB of standard 6 dB-per-octave de emphasis curve from 300 to 3000 Hz (1000 Hz reference)	
14.	Check receiver for sensitivity, critical and maximum squelch, audio output, operation on all frequencies, and modulation acceptance.		
TRAN	ISMITTER TEST		
15.	Connect 50-ohm RF load to antenna connector.	Me	easure (adjust) to rated power.
16.	Connect a 600-ohm resistor across the mic input.	Measure hum & noise at least 45 dB below reference.	
17.	Remove the 600-ohm resistor from the mic input.		
18.	Inject a 1 kHz signal at 120 mV through a 22 pF capacitor to the MIC HI input.		
19.	Adjust LINE MIC ADJUST (R22 on System board).	Measure 3 kHz deviation.	
20.	Adjust LINE MIC GAIN (R28 on System board).	Measure 300 mV rms output at J9-9.	
21.	Connect mic at J7.		
22.	Key the transmitter and speak at a distance of 6 inches from the mic.	a. b.	Monitor transmitted signal for distortion, modulation break-up, and other problems. Receiver must mute, and remain muted during transmit. No Squelch tail should be heard after unkeying.

Table 2 - Test & Troubleshooting (Continued)

Table 2 - Test & Troubleshooting (Continued)

STEP	PROCEDURE	
BATT	TERY STANDBY	
23.	Connect suitable battery or 13 volt DC supply (with ripple less than or equal to 200 mV rms) to standby connector J4.	
24.	Turn off AC power switch.	
TRUN MOD	NKED & CONVENTIONAL E TEST	
25.	Turn station power off and then on.	
REMO	OTE CONTROL SYSTEM TEST	
	NO	ΓЕ
	The remote control is checked via the 600 ohm line	inp
26.	Apply standard input signal.	
27.	Set reference level on distortion analyzer and remove modulation.	
28.	Reduce deviation of the test signal to 1 kHz and hold constant.	
29.	Squelch the receiver.	
30.	Connect an RCN-1000 EDACS Controller to the line terminals.	
31.	Connect a test load to the station antenna connector.	
32.	Apply a 1000 Hz signal at 120 mV through the Remote Controller mic input.	
33.	Set the line output of the RCN-1000 EDACS to 0 dBm (0.78 Vrms) at 1 kHz (600 ohm).	
34.	With transmit function for tone.	
35.	Adjust R16 on Remote board.	
36.	Use a monitor receiver to monitor transmitter distortion.	
37.	Modulate the transmitter using the RCN 1000 EDACS.	
38.	Check for proper Channel Guard operation (if equipped with this option).	

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	EXPECTED RESPONSE		
_			
Sta	tion should continue to operate.		
ıt a	and output terminations on the remote board.		
Me	easure line output level of +7 dBm at 1 kHz (1.85 Vrms) oss a 600-ohm resistor.		
Me	easure hum & noise at least 45 dB below reference.		
Measure frequency response from 300 to 3000 Hz. Note 6 dB-per-octave de-emphasis (tone units notch -45 dB at 2175 Hz).			
Мe	easure hum & noise better than -45 dBm.		
Гh	e station should key.		
Me	easure 80 mV output on TX AUDIO HI (J9-1).		
Мe	easure distortion less than 3% at 1 kHz.		
Мc	onitor proper transmitter modulation at test receiver.		

Table 2 - Test &	Troubleshooting	(Continued)
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STEP	PROCEDURE		EXPECTED RESPONSE
CHANNEL GUARD (Conventional Channels Only)			
39.	Inject an RF signal with the correct Channel Guard frequency with a deviation of 750 Hz \pm 50 Hz.	a. b. c. d.	Monitor Channel Guard transmission. Measure 750 Hz ±50 Hz deviation. Measure distortion less than 5%. Monitor transmitted signal and verify good modulation and continuation of Channel Guard tones.
40.	Inject a standard RF signal without Channel Guard tones.		
41.	Press the MONITOR bar or press the MON switch.	Monitor receive signal.	
42.	Operate station functions in the trunked and conventional modes.		

Table 3 - Key Numbers For Station Test

KEY NUMBER	KEY NAME				
0	GRP ▲				
1	SYS 🔺				
2	VOL 🔺				
3	VOL ▼				
4	INTC				
5	RINH				
6	MON				
7	SCAN				
If a remote controller is used:					
32	REMOTE CHANNEL GUARD DISABLE				
33	REMOTE PTT				
34	REMOTE FUNCTION 1				
35	REMOTE FUNCTION 2				
36	REMOTE FUNCTION 3				
37	REMOTE FUNCTION 4				
38	REMOTE FUNCTION 5				
39	REMOTE FUNCTION 6				





(19D901934, Sh. 1, Rev. 2)

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WIRING DIAGRAM FAN ASSEMBLY

(19D901934, Sh. 1, Rev. 2)

(19B801126, Rev. 0)

PARTS LIST

		PARTS LIST	SYMBOL GE PART NO.		DESCRIPTION	
LBI-31838					WALL MOUNT STATION CABLE	
	16	PLUS WALL NOUNT STATION			19003141309	
		ISSUE 2	P1		Connector, Includes:	
				19A134261P3	Connector: 9 contacts, sim to CAT 1-480673-0.	
				19A134282P4	Contact.	
YMBOL	GE PART NO.	DESCRIPTION		19A1 34282P5	Contact, electrical: sim to AMP 61627-2.	
			P2		Connector. Includes:	
		16 PLUS WALL MOUNT CHASSIS 19CB51018G4		19A700041P26	Contact: sim to Molex 08-50-0113.	
				19A/00041P36	Shell.	
	6400407010	Comment and an	P 4	184700041536	Connector, Includes:	
	N71081686	Her put: No 10-32 (Quantity 2)		194700041934	Shall	
	N8091600886	Machine screw, nanhead: No. $10 - 32 \times 1/2$	64	194700041834	Connector Includes:	
	19880119921	Nameplate.		194700041926	Contact: sim to Holex 08-50-0113.	
	N403P1986	Lockwasher: No. 10. (Quantity 2).		19A700041P28	Shell.	
	N402P3986	Flatwasher: No. 10. (Quantity 2).	P601		Connector. Includes:	
	19A115161P2	Sleeving. (Quantity 2).		19A701376P1	Contact, electrical rated 0 4 amps; sim to AMP	
	198800979G2	Radio Mounting Frame.			350657-1.	
	198801422P1	Latch.		19A701376P3	Contact, electrical rated @ 35 amps; sim to AMP 350655-1.	
	N210P15C6	Nut, hex: No. 8-32.		19D900037P1	Shell.	
	N402P38C6	Flatwasher: No. 8.				
	N403P16C6	Lockwasher, internal tooth: No. 8.		100305101	Clip (Used with B60))	
	19D900886G4	Chaesis.		19470306123	Chip. (Used with Foll).	
				174/0120701	Lockwasher WA 510. (Used with P601).	
		WALL MOINT STATION SPEAKER		19A702381P508	Screw, thd. form: No. 3.5-0.6 x 8.	
		198801333G2		19370615225	Retainer strap: sim to Panduit Corp. SST-1.	
	19A703265P1	Permanent Hagnet: 4 ohm imp., 4 watt.		19A701192P4	Thumbscrew. (Used with P601).	
	19A700041P28	Shell.		19C851413G10	Cable.	
	19A700041P26	Contact: sim to Molex 08-50-0113.				
					ASSOCIATED PARTS	
				19880071672	Tuning tool.	
		MALL MOUNT STATION CABINET 19D402658G2		198800004P3	Key.	
				198801331G1	Battery, 9 Volt, Back-up.	
15.01	19820934301	Recentacia power: 15 amp 125 V		19860121321	neat Sink.	
					BATTERY STANDBY (OPTIONAL)	
		MISCELLANEOUS			19C851129G1	
	19A122184P1	Grille.			DIODES	
	198205318G1	Support hinge.	D1	19A115791P1	Rectifier, stud mounted: silicon, sim to N1186.	
	5491682P14	Lock, rím.				
	N1 30P1 41086	Screw, thread forming: #8 x 5/8.				
	19040265898	Assembly, cabinet.	P2		Connector. Includes:	
	19A122059P4	Pad.		19A700041P26	Contact: sim to Molex 08-50-0113.	
	NIJUP241886	Sector, introd forming: $#14 \times 1$. Marker plain: $1/4$ (0.250)		194700041928	SHELL.	
	19820540901	Latch. spring.			CABLES	
	403526701	Rivet, drive.	W I	198801210G1	Cable, Includes:	
	N402AP3886	Washer, plain: 48 (0.164).		19A1 34281P2	Shell.	
	198201074P306	Tap screw, Phillips POZIDRIV: No. 6-32 x 3/8.		19A134282P4	Contart.	
	198227009G2	Cabinet.	W 2	198801211G1	Cable. Includes:	
	198209531P2	Plate, identification.		19A134282P4	Contact.	
	77635 4 1P6	Strap, retaining.		1982092682107	Terminal, solderless.	
	19A70186 JP19	Clip, loop.				
				194703493P1	Beat Sink.	
			1	19411527682	insulation, washer. (Quantity 2).	
				19411527592	Insulitor, disk. (Quantity 1).	
				19479033426	Nut, hexignn: MR x 0.5.	
				19320003387	Washer, took.	
		I I I I I I I I I I I I I I I I I I I	1	1		

SYMBOL	ge part no.	DESCRIPTION	SYMBOL	GE PART NO.	DESCRIPTION
	19A702364P510	Screw, machine, pan head, TORX DRIVE: M4.			NICROPHONE KIT
	N403P25B6	Washer, lock: 1/4 (0.250).		N1970140806	Tan acres philling head: No. $\theta = 18 \times 1/2$.
	N210P2086	Nut, hex: 1/4 (0.250).		4031457P1	Support
				4031458P1	Spring.
		FAN, THERMOSTATIC (OPTION FA01, FA02) 198801127G1		19A116773P105	Tap screw, phillips POZIDRIV: No. 7-19 x 5/16.
		PANS			NICROPBONE 19D900141G3
B 1	549347721	Fan assembly, single phase: 115 Vac, 60 Hz, 14 w ccw rotation; sim to Rotron "Gold Seal Venturi Muffin Fan". (Used with Option FAOl).		19880074121	Microphone, transistorized, electret: 5% max distortion at 300-3000 Hz. Includes Kits
	5493477P2	Fan assembly, single phase: 230 Vac, 60 Hz, 14 w ccw rotation; sim to Rotron "Gold Seal Venturi Muffin Fan". (Used with Option FAO2).		19D416767P1	MP1D4-MP106. Connector Cover.
		FUSES		19D416766P1	Connector case.
F 1	19A701881P18	Fuse, slow blow: 0.5 amp, 250 V.		19A129435P1	Pin contact. (Quantity 4).
				198219721G1	Thumb screw: lexan.
		SWITCHES A A A A A A A A A A A A A A A A A A A		19821974921	flex relief.
S 1	5496655P1	Thermostat, snap-action: SPST, close on temp rise, auto reset, close at 110F + or - SF, open at 95F +a5F, 25 amp at 120/240 VAC; sim to Metals and Controls 20400-F17-64-F110-1.5.		N1 36AP905Y6	Tap screw: No. 4-24 x 5/16. (Secures cable clamp). Retaining ring: 3/16 inches; sim to National
					Lockwasher WA 510.
		CABLES		19A116937P1	Cable clamp: sim to Malco 21012-3.
W1	19A134567P1	Power, 3 wire, 13 amps at 125 VAC, approx. 6 ft. long.		MP104	Case Kit: housing, grille, and hardware.
				MP105	Circuit Board Kit.
		PUSE SOCKETS		MP106	Switch Kit.
XPI	198209005P1	Puscholder: 15 amps at 250 v; sim to littelfuse 342012.			CARTRIDGES
				19J706041P1	Microphone cartridge: 200-850 ohms output imp.,
	1000113071	Remark			
	19800112901				
	1982092689106	Terminal, solderless: sim to AMP 41184. (Used			
		with S1).			
	7775500P46	Phenolic: 1 insulated, 1 ground terminal.			
	19A702464P4	Bushing, strain relief. (Used with W1).			
	749182393	Terminal, solderless.			
	5493477P10	Grille.			
	/14122583	nex mut: NO. 0-32.			
		Screw, machine: #6(1138)-34 x .640.			
	#404P1386	Lockwasner, internal touth: NG. 0.			
	*****	wonet, prein, eo (orrio).			
		15/30 ANP CABLE 198801212G1			
F 1	7102673P2	Cartridge, quick blow: 15 amps at 32 v; sim to Littelfuse 311015 or Bussmann AGC-15.			
F 1	19A115857P2	Cartridge, quick blow, 30 amp at 125 v; sim to Bussmann AGC 30.			
Pl	L9A1 34261P1	Shell.			
		810 810 7 0 0 0 0			
		POSENOLDERS			
AF1	19470178004	Puseholder, Includes:			
	19870178092	Putebolder			
	19470378023	Pusebolder contacts			
	19A703780P1	Puscholder knob.			
		MISCELLANEOUS			
	7491823P9	Terminal, solderless.			
	7491823P10 4029484P3	Terminal, solderless. Terminal, guick disconnect: sim to AMP 41450.			
	19A1 34282P2	Contact.			
		l			







BATTERY STANDBY OPTION