

# MLS II MOBILES

## PRODUCT CODE ML



## PRODUCT PROGRAMMING

ORDERING NUMBER	DESCRIPTION
<b>TQ3370</b>	PC Programming Adapter Kit. Includes Serial Interface Unit, PC to Serial Interface Unit Cable, and Auxiliary Power Supply. (Replaces TQ3310)
<b>TQ3343</b>	PC Programming Cable (Interface Module to Radio)
<b>TQ3342</b>	PC Programming Software (5 1/4" & 3 1/2" Disks)

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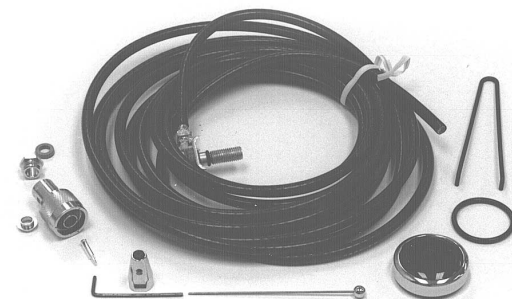
## PRODUCT NOMENCLATURE

BAND	RADIO CONFIGURATION	FREQUENCY RANGE (MHz)	RF POWER	PACKAGE NUMBER	PART NUMBER
LB	16 Channel Capacity with Channel Guard (5 PPM Stability)	29.7-42 42-50	60W 60W	MLSL161 MLSL261	<b>19A705800P1</b> <b>19A705800P2</b>
HB	16 Channel Capacity with Channel Guard (5 PPM Stability)	150.8-174	40W	MLSH041	<b>19A705800P3</b>
UHF	16 Channel Capacity with Channel Guard (5 PPM Stability)	403-420 450-470	40W 40W	MLSU141 MLSU241	<b>19A705800P4</b> <b>19A705800P5</b>
	16 Channel Capacity with Channel Guard (2.5 PPM Stability)	450-470	40W	MLSU341	<b>19A705800P6</b>
800 MHz	16 Channel Capacity with Channel Guard (2.5 PPM Stability)	806-871	30W	MLS8031	<b>19A705800P7</b>

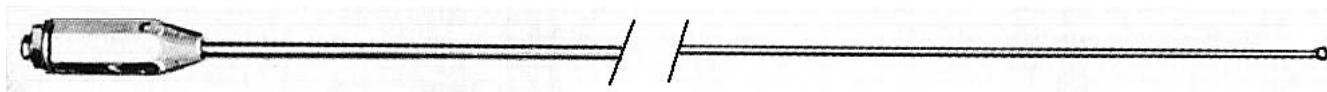
## ANTENNA OPTIONS



**19B209568P1**  
Antenna with Cable and UHF Connector  
(High Band/UHF Band)



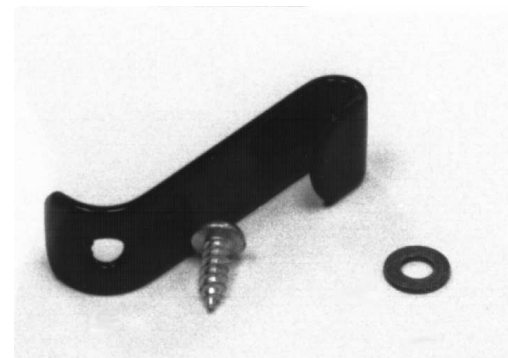
**19B209568P4**  
Antenna with "Pro-Flex" Cable and  
Type N Connector  
(800 MHz Band)



**7491074P1**  
Antenna Whip with Adapter  
(Low Band)



**19C307172P1**  
Antenna Base with Spring,  
Cable and UHF connector  
(Low Band)



**19A121577G1**  
Antenna Hook Kit  
(Low Band)

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## ACCESSORY OPTIONS



OPTION NUMBER	DESCRIPTION	PART NUMBER
MLMK1J	2 Channel Control Module	<b>19A705800P100</b>
MLMK1L	8 Channel Control Module	<b>19A705800P101</b>
MLMK1N	8 Channel with Scan Control Module	<b>19A705800P102</b>
MLMK1P	16 Channel Control Module	<b>19A705800P103</b>
MLMK1R	16 Channel with Scan Control Module	<b>19A705800P104</b>

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## ACCESSORY OPTIONS



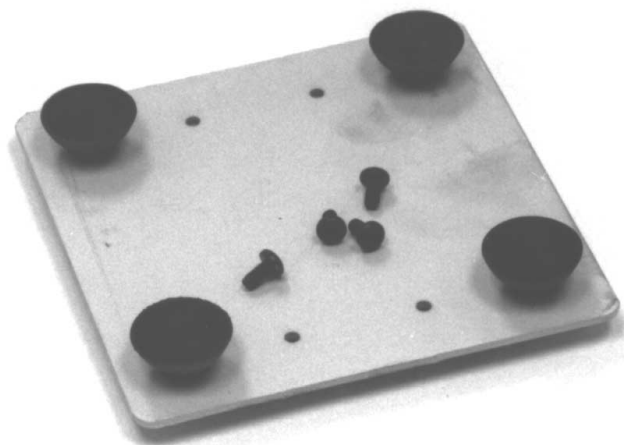
Option **MLMC1L**  
19C851086P11

Desk Station Microphone (With split key for monitoring in Channel Guard equipped systems)



Option **MLMC1R**  
19B209694P1

Heavy Duty Desk Station Microphone (With split key for monitoring in Channel Guard equipped systems)



Option **MLMA1K**  
19A138051G8

Desk Mount Adapter

(For use when using radio as a desk mounted station)

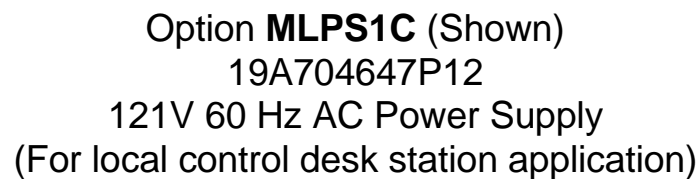
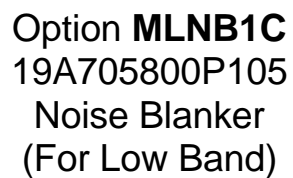
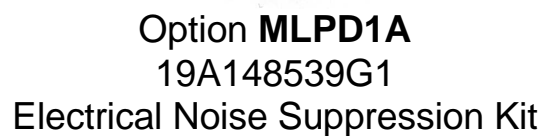


Option **MLLS1D**  
19C850550G6

Delta Style Mobile Speaker

(For mounting external to radio - bracket provided)

## ACCESSORY OPTIONS



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## COMPLETE BOARD ASSEMBLIES

### LOW BAND

PART NUMBER	BOARD DESCRIPTION	FREQUENCY RANGE (MHz)	RF POWER
<b>B19/CMC-551A</b>	System Control Board	29.7-42 MHz	
<b>B19/CMC-551B</b>	System Control Board	42.0-50 MHz	
<b>B19/CMN-232A</b>	Transmitter/Receiver Board	29.7-42 MHz	60W
<b>B19/CMN-232B</b>	Transmitter/Receiver Board	420-50 MHz	60W

### VHF BAND

PART NUMBER	BOARD DESCRIPTION	FREQUENCY RANGE (MHz)	RF POWER
<b>B19/CMC-552</b>	System Control Board	150.8-174 MHz	
<b>B19/CMN-233</b>	Transmitter/Receiver Board	150.8-174 MHz	40W

### UHF BAND

PART NUMBER	BOARD DESCRIPTION	FREQUENCY RANGE (MHz)	RF POWER
<b>B19/CMC-553A5</b>	System Control Board	403-420 MHz	
<b>B19/CMC-553B5</b>	System Control Board 5PPM	450-470 MHz	
<b>B14/CMC-553B2</b>	System Control Board 2PPM	450-470 MHz	
<b>B19/CMN-234A</b>	Transmitter/Receiver Board	403-420 MHz	40W
<b>B19/CMN-234B</b>	Transmitter/Receiver Board	450-470 MHz	40W

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## 800 BAND

PART NUMBER	BOARD DESCRIPTION	FREQUENCY RANGE (MHz)	RF POWER
<b>B19/CMC-554</b> <b>B19/CMN-235</b>	System Control Board Transmitter/Receiver Board	806-871 MHz 806-871 MHz	30W

## RF POWER MODULES

BAND	PART NUMBER	CIRCUIT SYMBOL	CIRCUIT FUNCTION	SIMILAR TO
HB	<b>B19/5DHAA00052</b>	HC1	150.8-174 MHz Driver	Mitsubishi M57719
UHF	<b>B19/5DDAB00249</b> <b>B19/5DDAB00496</b>	HC1 HC1	403-420 MHz Driver 450-470 MHz Driver	Mitsubishi M57704M Mitsubishi M57704H
800 MHz	<b>B19/5DDAB00273</b> <b>B19/5DHAA00020</b>	HC1 HC101	806-871 MHz Driver 806-871 MHz Exciter	Mitsubishi M57792-21 Mitsubishi M57775

## POWER TRANSISTORS

BAND	PART NUMBER	CIRCUIT SYMBOL	CIRCUIT FUNCTION	SIMILAR TO
LB	<b>B19/5TZAR00019</b> <b>19A701891P2</b> <b>B19/5TCAD00073</b>	TR1 TR2 TR3, TR4	Pre Driver Driver Final Amplifier	Motorola MRF559 Motorola MRF262 Mitsubishi 2SC2540
HB	<b>B19/5TZAR00024</b>	TR1	Final Amplifier	Motorola MRF247
UHF	<b>B19/5TCAD00088</b>	TR1	Final Amplifier	Mitsubishi 2SC3102
800 MHz	<b>K19/2QAB006274</b>	TR1	Final Amplifier	Thomson SD1414-5



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## FREQUENCY MODULES

BAND	PART NUMBER	CIRCUIT SYMBOL	DESCRIPTION	BOARD WHERE USED
LB	<b>B19/5XHAA00786</b>	X501	20.345 MHz Crystal	Receiver
	<b>B19/5XHAA00817</b>	X701	8.192 MHz Crystal	System Control
	<b>B19/5XHAA00912</b>	X701	8.195 MHz Crystal (Alternate for tweet frequency)	System Control
	<b>B19/6XNFD00017</b>	XU201	5 PPM Reference Oscillator	Synthesizer
HB	<b>B19/5XHAA00835</b>	X501	81.745 MHz Crystal	Receiver
	<b>B19/5XHAA00817</b>	X701	8.192 MHz Crystal	System Control
	<b>B19/5XHAA00912</b>	X701	8.195 MHz Crystal (Alternate for tweet frequency)	System Control
	<b>B19/6XNFD00017</b>	XU201	5 PPM Reference Oscillator	Synthesizer
UHF	<b>B19/5XHAA00782</b>	X501	82.655 MHz Crystal	Receiver
	<b>B19/5XHAA00817</b>	X701	8.192 MHz Crystal	System Control
	<b>B19/6XNFD00017</b>	XU201	5 PPM Reference Oscillator	Synthesizer
	<b>B19/6XNFD00016</b>	XU201	2.5 PPM Reference Oscillator	Synthesizer
800	<b>B19/5XHAA00782</b>	X501	82.655 MHz Crystal	Receiver
	<b>B19/5XHAA00817</b>	X701	8.192 MHz Crystal	System Control
	<b>B19/6XNFD00016</b>	XU201	2.5 PPM Reference Oscillator	Synthesizer

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## PROGRAMMED INTEGRATED CIRCUITS

These Integrated Circuits contain product software. These part numbers should be used to order programmed replacements. (The part numbers shown in the maintenance manuals are for unprogrammed integrated circuits that do not contain product software.)

BAND	PART NUMBER	CIRCUIT SYMBOL	DESCRIPTION	BOARD WHERE USED
ALL	<b>B19/5DDFX00004</b>	IC701	Microprocessor (No Software)	System Control/Synthesizer
ALL	<b>19A705890G1</b>	IC703	EPROM (Microprocessor Program)	System Control/Synthesizer
ALL	<b>19A704724P1</b>	IC704	EEPROM (Personality Data)	System Control/Synthesizer

## MISCELLANEOUS PARTS

BAND	PART NUMBER	CIRCUIT SYMBOL	DESCRIPTION	BOARD WHERE USED
ALL	<b>B19/CMD-417</b>	A803	Front Panel	Front Panel
ALL	<b>B19/5KLAD00657</b>	K1	9 VDC Antenna Relay	Transmitter
ALL	<b>B19/5KLAC00112</b>	K501	9 VDC Power On Relay	Receiver
LB,HB,UHF	<b>B19/6JAFD00002</b>	J1	Antenna Connector (UHF Connector)	Transmitter
800 MHz	<b>B19/6JAFD00003</b>	J1	Antenna Connector (Type N Connector)	Transmitter
ALL	<b>B19/5USAF00061</b>	SP801	4 Ohm 4 Watt Speaker	Front Panel
ALL	<b>B19/6ZCLD00046</b>	ZC803	Speaker Cable	Front Panel

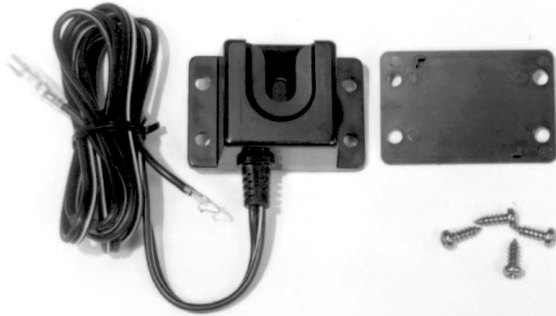
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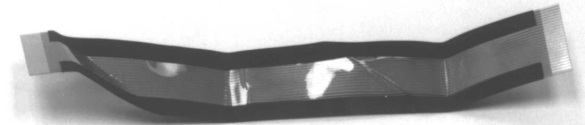
## MISCELLANEOUS PARTS



19B801398P12  
Microphone



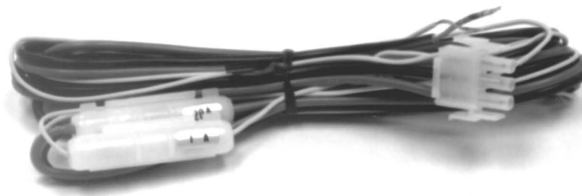
B19/MPBP02565  
Microphone Hanger Bracket



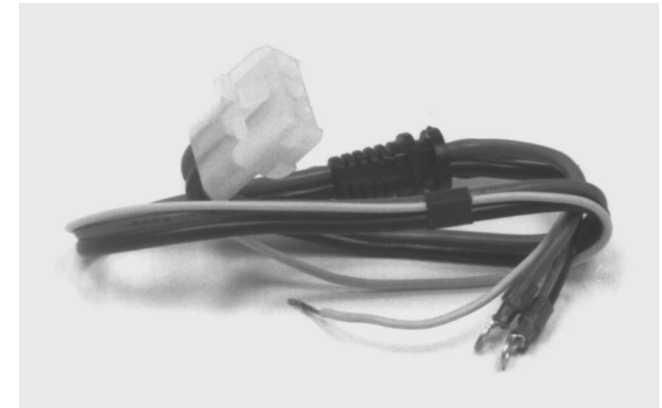
B19/5ZZWF00017  
24 Conductor Ribbon Cable  
(ZC801 Connects Front Panel to  
System Control/Synthesizer Board)



B19/5ZZWF00016  
16 Conductor Ribbon Cable  
(ZC802 Connects Transmitter/  
Receiver Board to  
System Control/Synthesizer Board)



B19/6ZCFD00166  
Power Cable  
(ZC805 Connects B19/6ZCFD00165  
Power Cable to vehicle battery)

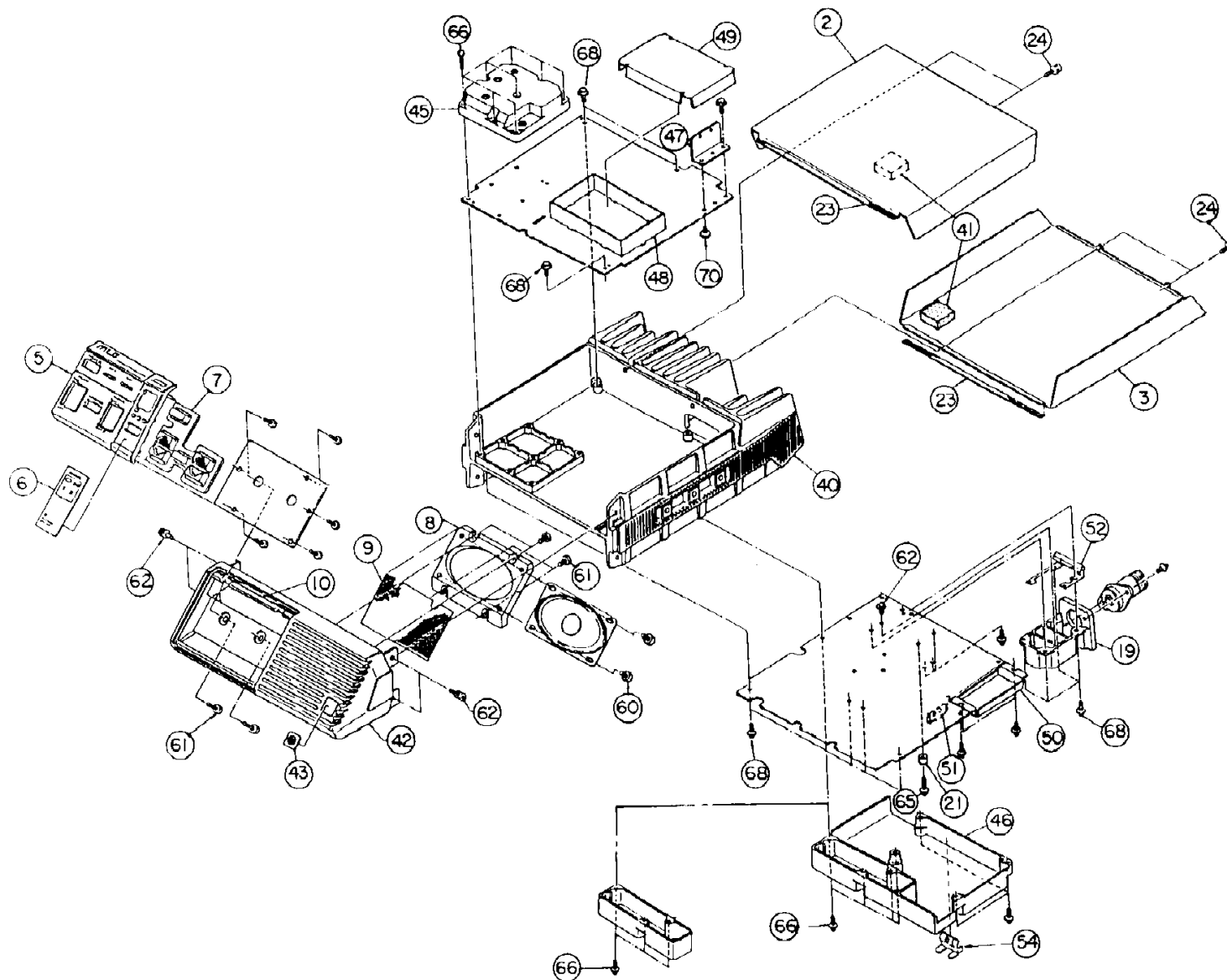


B19/6ZCFD00165  
Power Cable  
(Attached to Transmitter Board)

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## MECHANICAL PARTS BREAKDOWN



THIS IS A COMPOSITE VIEW FOR ALL FREQUENCY BANDS. CONSULT PARTS CHART FOR APPLICATION TO YOUR BAND. (SYMBOL NUMBERS MAY DIFFER FROM MAINTENANCE MANUAL.)

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## MECHANICAL PARTS BREAKDOWN

SYMBOL	PART NUMBER	DESCRIPTION
2	<b>B19/MTB147733</b>	Cabinet, top cover
3	<b>B19/MTB147734</b>	Cabinet, bottom cover
5	<b>B19/MTV002878A</b>	Control insert (2 inch type)
6	<b>B19/MTV002880A</b>	Display insert
7	<b>B19/MTV002876</b>	Control knob 1
8	<b>B19/MTV002875</b>	Mounting base for speaker
9	<b>B19/MTZ002808</b>	Baffle cloth
10	<b>B19/MTZ002816</b>	Cloth
19	<b>B19/MTC002457</b>	Shield case
21	<b>B19/MTL035255</b>	Spacer
23	<b>B19/MTZ002818A</b>	Damper cloth
24	<b>B19/BRTG03652</b>	Screw
40	<b>B19/MTC002966</b>	Cabinet center section
41	<b>B19/MTT021158</b>	Cushion

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## MECHANICAL PARTS

SYMBOL	PART NUMBER	DESCRIPTION
42	<b>B19/MPBC09868</b>	Cabinet, front
43	<b>B19/MPNL19811</b>	Company signature medallion
45	<b>B19/MTC003022</b>	Shield case
46	<b>B19/MTC002967</b>	Shield case (HB, UHF, 800 MHz)
47	<b>B19/MTB182094A</b>	Bracket
48	<b>B19/MTB182093</b>	Shield case
49	<b>B19/MTB182092</b>	Shield cover
50	<b>B19/MTB155695</b>	Shield cover (HB, UHF, 800 MHz)
51	<b>B19/MTB182107</b>	Install plate (HB, UHF, 800 MHz)
52	<b>B19/MTB182132</b>	Earth plate (UHF & 800 MHz)
54	<b>B19/MPSR02481</b>	Earth plate (800 MHz)
60	<b>B19/BRTG03429</b>	Screw
61	<b>B19/BRTG03095</b>	Screw
62	<b>B19/BRTG01452</b>	Screw
65	<b>B19/BRTG01620</b>	Screw
66	<b>B19/BSNA03016S</b>	Screw
68	<b>B19/BRTG03334</b>	Screw
70	<b>B19/BSSK03005S</b>	Screw

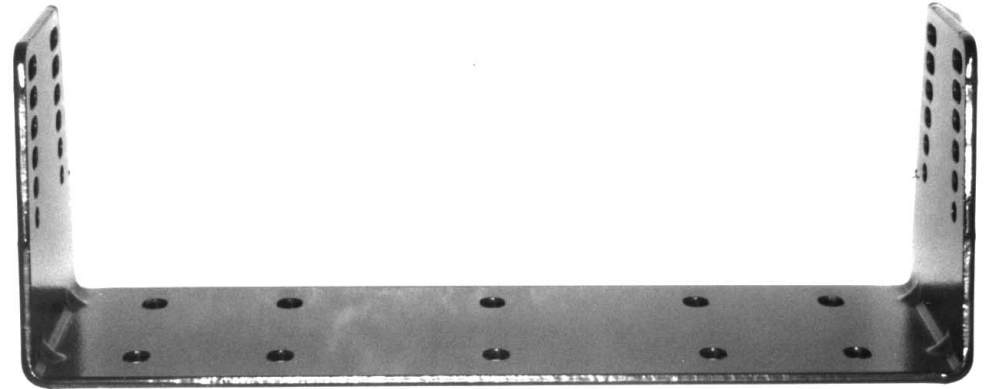
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## MECHANICAL PARTS BREAKDOWN



**B19/MPXP01777**  
Hardware Kit



**B19/MPBX15589**  
Radio Mounting Bracket

## MAINTENANCE MANUALS

BAND	DESCRIPTION	MANUAL #
LB	Combination Service Manual	<b>LBI-38435</b>
HB	Combination Service Manual	<b>LBI-38421</b>
UHF	Combination Service Manual	<b>LBI-38426</b>
800 MHz	Combination Service Manual	<b>LBI-38440</b>
ALL	Operators Manual Installation Manual	<b>LBI-31693</b> <b>LBI-31694</b>