



**PROFESSIONAL**  
by **HARMAN**

# Service Manual

MTS10

10" Full Range Loudspeaker System



# Table of Contents

Specifications

Exploded View

Network Diagrams

Bill of Materials

### Professional Series

### Key Features:

- ▶ 10" custom LF driver featuring high-power handling and extended low frequency response
- ▶ JBL patent compression HF driver for warm vocal reproduction in great detail
- ▶ Enclosure constructed of 15 mm MDF with durable painting
- ▶ 70° × 100° coverage pattern with smooth response on and off axis
- ▶ 18-gauge steel front grille for protection of internal components
- ▶ 35 mm pole-mount socket



### Applications:

- ▶ Karaoke sound reinforcement
- ▶ For use with a sub-woofer

MTS10 is a professional-grade 10" (254 mm) two-way speaker system designed for karaoke rooms. The two-way speaker combines a custom-made 10" woofer with a patent JBL 2414H-C compression driver, and stands itself out for high power handling, large dynamic, warm vocal ranges and extended low bands. Its 70° × 100° coverage pattern provides smooth and even coverage whether installed in vertical or horizontal orientation.

MTS10 is designed in a low profile and can easily blend into any karaoke rooms. The rugged enclosure is constructed of 15 mm high quality MDF and finished in a durable coating. The front grille is made from 18-gauge steel and backed with acoustic fabrics for protection of drivers and components inside. A Neutrik® Speakon® NL4MP connector is provided for reliable connection with a professional amplifier. To meet different installation requirements, three (3) pairs of M10 threaded suspension points and a 35 mm pole-mount socket are made available.

### Specifications:

#### System:

System Type:	10", 2-way, bass-reflex
Frequency Range (-10 dB) <sup>1</sup> :	50 Hz - 20 kHz
Frequency Response (±3 dB) <sup>1</sup> :	85 Hz - 18 kHz
Sensitivity (1w@1m) <sup>1</sup> :	94 dB
Nominal Impedance:	8 Ohms
Maximum SPL <sup>2</sup> :	119 dB (125 dB peak)
Power Rating <sup>3</sup> : (Continuous/Program/Peak)	300 W/600 W/1200 W
Coverage Pattern:	70° × 100° (H × V)

#### Physical:

Dimensions (H × W × D):	524 mm × 297 mm × 320 mm 20.6 inch × 11.7 inch × 12.6 inch
Net Weight:	14.2 Kg (31.3 lbs)
LF Driver:	1 × 10" (254 mm) woofer
HF Driver:	1 × JBL 2414H-C
Input Connectors:	1 × Neutrik® Speakon® NL4MP
Enclosure Construction:	Trapezoid, 15 mm, MDF

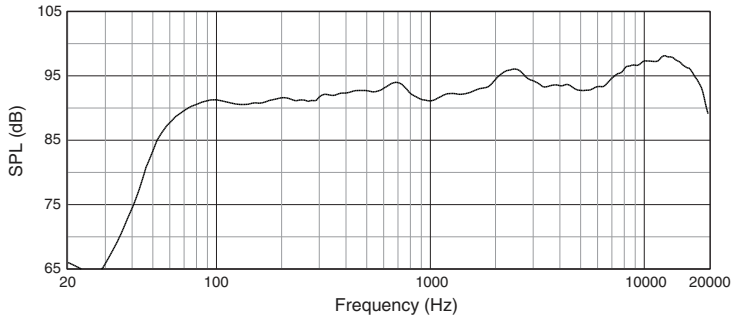
<sup>1</sup> Full space (4π) conditions

<sup>2</sup> Calculated maximum SPL based on rated power handling

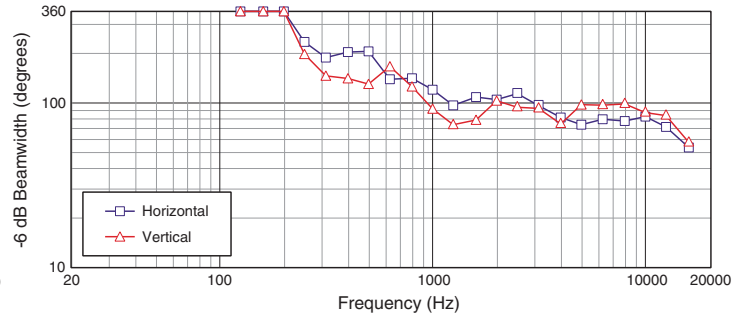
<sup>3</sup> IEC standard, pink noise with 6 dB crest factor for 2 hours

# ▶ MTS10 10-Inch Full Range Loudspeaker System

## Frequency Response:

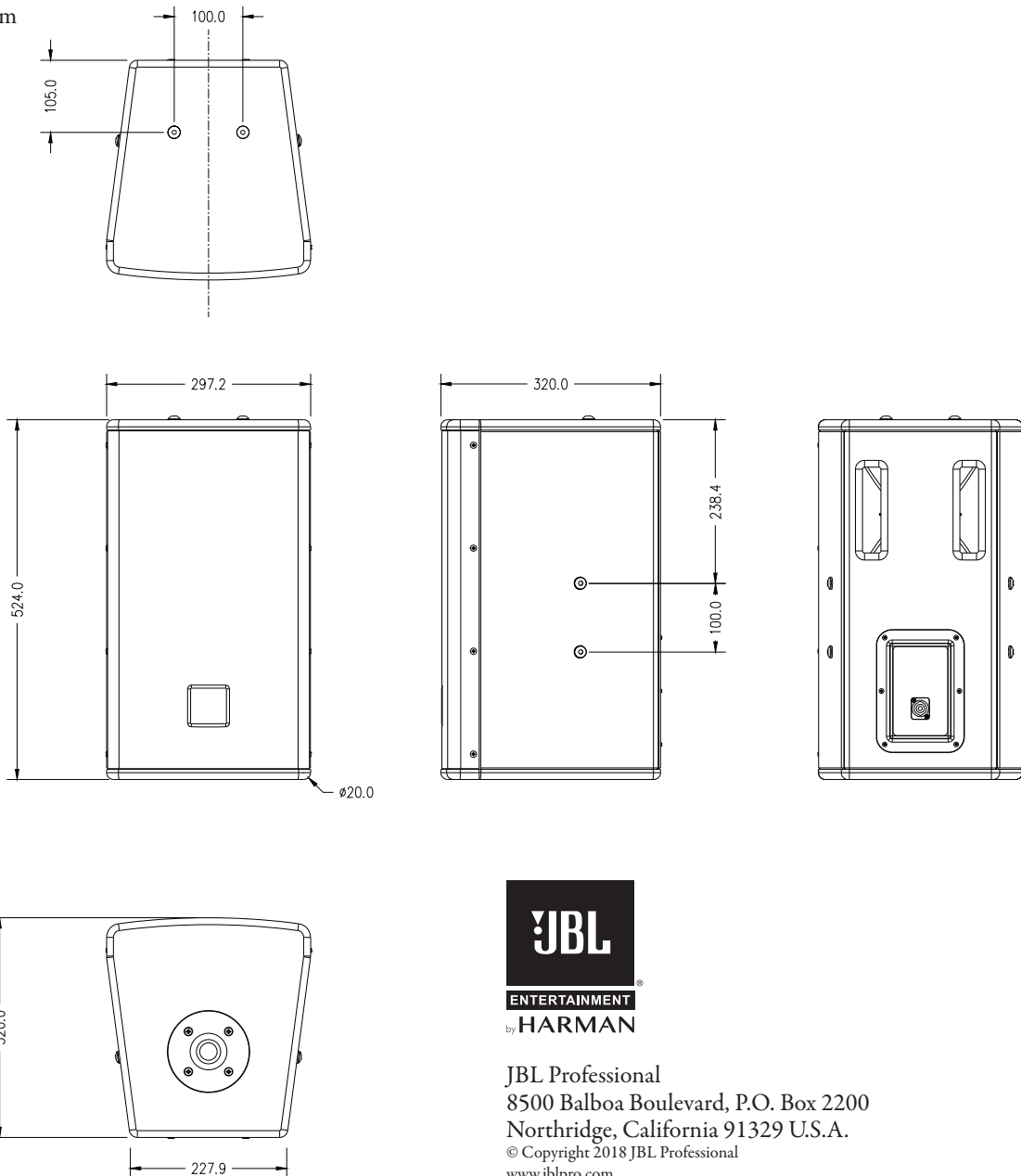


## Beamwidth:



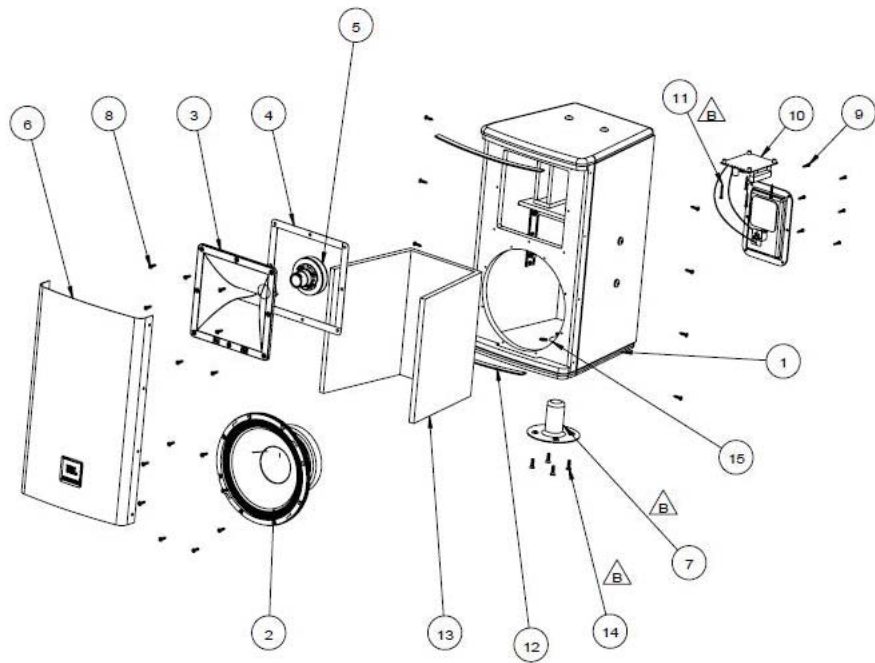
## Dimensions:

Dimensions in mm



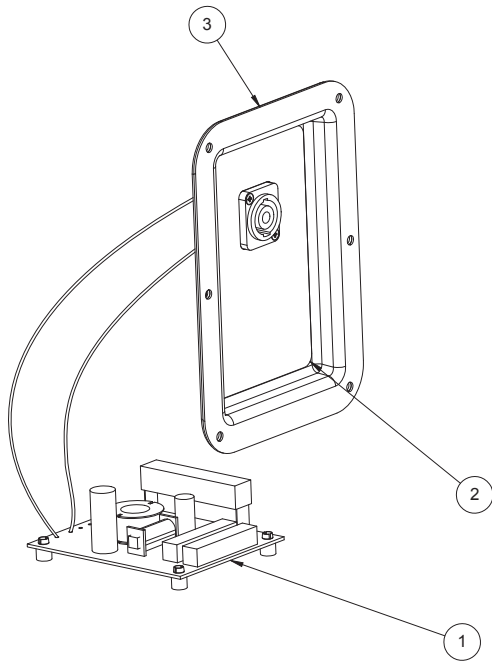
JBL Professional  
 8500 Balboa Boulevard, P.O. Box 2200  
 Northridge, California 91329 U.S.A.  
 © Copyright 2018 JBL Professional  
 www.jblpro.com

SSMTS10  
 SZ  
 07/02/18



0 1 2 3 4 5 6 7 8 9

REVISION HISTORY					
DATE	REV.	PREVIOUS PART NO.	DESCRIPTION	ZONE	BY
12/1/2016	A		INITIAL DESIGN RELEASE		H.S

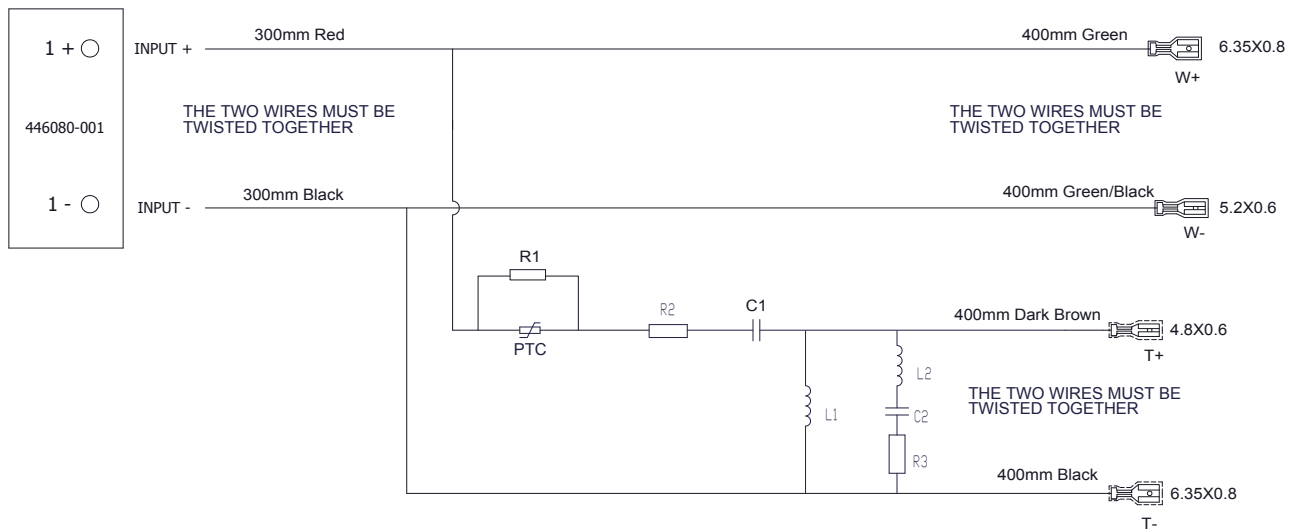


3	TERMINAL CUP,ASY,D0536Z,ONE CONNECTOR	5050694	1
2	LBL,PRNT,PRODUCT,MTS10	5093356-00	1
1	SPKRSYS,NERWORKS ASY,MTS10	5093353-00	1
ITEM NO.	DESCRIPTION	P/N	QTY.

PROPRIETARY AND CONFIDENTIAL PROPERTY OF HARMAN. DO NOT DISCLOSE, REPRODUCE, OR PUBLISH WITHOUT WRITTEN HARMAN APPROVAL.		THIRD ANGLE PROJECTION		<b>HARMAN</b>	
<b>ROHS</b> RESTRICTION OF HAZARDOUS SUBSTANCES ALL MATERIALS USED IN THIS PART MUST BE ROHS COMPLIANT. SUPPLIER SHALL PROVIDE A CERTIFICATE OF ROHS COMPLIANCE WITH THE FIRST ARTICLE.		DRAWN BY H.S	DATE 12/1/2016	TITLE NETWORK,ASY,MTS10	
<small>DIMENSIONS SHOWN ARE FOR REFERENCE AND INSPECTION ONLY.          REFER TO CAD MODEL PROVIDED WITH THIS DRAWING FOR OVERALL          DIMENSION OF PART GEOMETRY.</small>		DESIGNED BY H.S	DATE 10/12/2017	NO. 5093348-00	REV A
		ENGINEER H.S	SIZE A3	SCALE 1.5	DO NOT SCALE DRAWING
				SHEET 1	OF 1

0 1 2 3 4 5 6 7 8 9

REVISION HISTORY					
DATE	REV.	PREVIOUS PART NO.	DESCRIPTION	ZONE	BY
03/17/2017	A		INITIAL DESIGN RELEASE		H.S



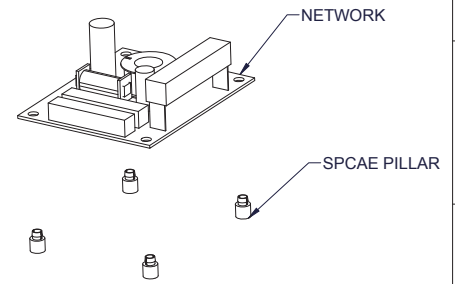
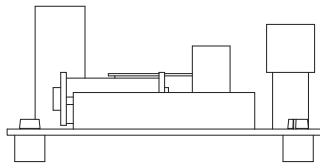
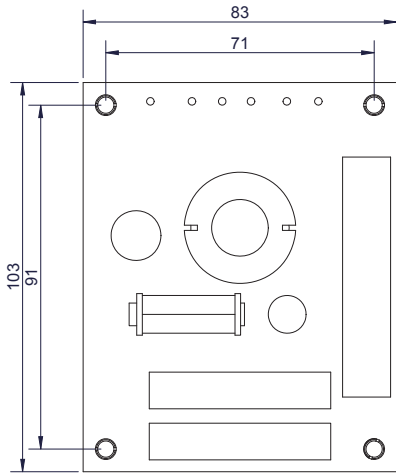
- PTC POLYSWITCH, RXE065/72V  
L1 0.45mH, AIR CORE, ±5%, 0.7mm. DCR: CORE SIZE Ø30X16mm  
L2 0.12mH, FERRITE CORE, ±5%, 0.5mm. DCR: CORE SIZE Ø10X24.5mm  
C1 2.5µF 250V, METALIZED POLYESTER FILM, DF MAX 1%, AXIAL, ±5%, 12.5x31mm  
C2 4.7µF 100V, N.P. ELECTROLYLIC, DF MAX 4%, RADIAL, ±5%, 10x20mm  
R1 30 OHMS, 20W, ±5%, WIREWOUND CERAMIC, SQP, 12.5x12.5x63mm  
R2 1.0 OHMS, 10W, ±5%, WIREWOUND CERAMIC, SQP, 10x10x48mm  
R3 4.7 OHMS, 10W, ±5%, WIREWOUND CERAMIC, SQP, 10x10x48mm  
WIRES 16AWG, PAIRED WIRE, UL-1015  
PCB MATERIAL: CEM-1  
COPPER: 1 oz  
THICK: 1.6mm  
PCB SIZE: 103X83MM

- NEED TO APPLY HEAT SHRINKAGE TUBE TO ALL SPADE PLUGS FOR PREVENTING SHORT CIRCUIT.
- INPUT END 5.0±1.0MM STRIPPED AND TINNED, THEN SOLDER ONTO NEUTRIK CONNECTOR.
- ALL COMPONENTS NEED TO BE FIXED WITH ADHESIVE.
- APPLY RTV SILICONE BETWEEN B1 & B2 BOTH ENDS ONLY.
- ALL COMPONENTS TO BE TESTED @ 1 KHZ.

PROPRIETARY AND CONFIDENTIAL PROPERTY OF HARMAN. DO NOT DISCLOSE, REPRODUCE, OR FUSE/SUB WITHOUT WRITTEN HARMAN APPROVAL.  <b>ROHS</b> RESTRICTION OF HAZARDOUS SUBSTANCES ALL MATERIALS USED IN THIS PART MUST BE ROHS COMPLIANT. SUPPLIER SHALL PROVIDE A CERTIFICATE OF ROHS COMPLIANCE WITH THE FIRST ARTICLE.	THIRD ANGLE PROJECTION 	<b>HARMAN</b> <small>6&amp;7F, Tower B Kinglake Software Park, No.2 12th Road South Shenzhen 518057, CN</small>	
		DRAWN BY H.S DESIGNED BY H.S ENGINEER H.S	DATE 11/21/2016 DATE  NO. 5093353-00 SCALE 2:1 DO NOT SCALE DRAWING

0 1 2 3 4 5 6 7 8 9

REVISION HISTORY					ZONE	BY
DATE	REV.	PREVIOUS PART NO.	DESCRIPTION			
12/28/2017	A		INITIAL DESIGN RELEASE			H.S



PROPRIETARY AND CONFIDENTIAL PROPERTY OF HARMAN. DO NOT DISCLOSE, REPRODUCE, OR FURTHER USE WITHOUT WRITTEN HARMAN APPROVAL.  <b>ROHS</b> RESTRICTION OF HAZARDOUS SUBSTANCES ALL MATERIALS USED IN THIS PART MUST BE ROHS COMPLIANT. SUPPLIER SHALL PROVIDE A CERTIFICATE OF ROHS COMPLIANCE WITH THE FIRST ARTICLE.	TOLERANCES UNLESS OTHERWISE SPECIFIED .X ± 0.30 mm X ± 0.50 mm ANGULAR ± 0°30'	THIRD ANGLE PROJECTION 	<b>HARMAN</b> TITLE SPKRSYS, NETWORKS ASY, MTS10	6A7F, Tower B Kingdee Software Park, No. 2 12th Road South High-tech Industrial Park Shenzhen 518057, CN
	ALL DIMENSIONS ARE IN MILLIMETERS ALL DIMENSIONS APPLY AFTER FINISH  <small>DIMENSIONS SHOWN ARE FOR REFERENCE AND INSPECTION ONLY.          REFER TO CAD MODEL PROVIDED WITH THIS DRAWING FOR OVERALL          DEFINITION OF PART GEOMETRY.</small>	DRAWN BY H.S DESIGNED BY H.S ENGINEER ?	DATE 11/21/2016 DATE 11/21/2016	NO. 5093353-00 SCALE 1:2 DO NOT SCALE DRAWING

0 1 2 3 4 5 6 7 8 9



P/N	Description	Qty.	Unit
MTS10	10" PASSIVE PROFESSIONAL KARAOKE SPEAKER		
445905-001	SHP MTL,CVR-BAG,BAG,KP610	1	each
49790P	MICROFOAM 1/32X18X20	2	each
5000169	M/I, 2414HC	1	each
352859-001	ADH, MOYEN 3087	0.001	Milliliter
361514-001	TERMINAL BOARD, .250, 2408H	1	each
361514-002	TERMINAL BOARD, .187, 2408H	1	each
362426-999	FINISHED, DIAPHRAGM , 2414	1	each
362426-001	DIAPHRAGM , 2414	1	each
361864-001	DUPONT TEIJIN FILM TOENEX	17	Square inch
362428-002	VOICE COIL ASSY, 2414	1	each
362429-001	GLUE RING, 2414	1	each
362430-002	INSULATOR RING, 2414	1	each
362434-001	PHASING PLUG, 2414	1	each
362890-001	SOLDER, MULTICORE 96SC (SAC 357)	1.2	gram
370-00000-00	SCREEN, 7/8 DIA, EXIT	1	each
5000836	BACKPLATE, 2414H-C	1	each
5000838	TOP PLATE, 2414HC	1	each
5000839	LABEL, 2414HC	1	each
5086939	ADHESIVE, LOCTITE E-120HP	0.079	Milliliter
5086940	ADHESIVE, RESIN E-120HP	1	gram
5086941	ADHESIVE, HARDENER E-120HP	0.5	gram
63627	ADH,C.A.,SICO-MET	0.284	gram
66344	MAG,1.280ID,3.375OD,,540T	1	each
69437	ADHES,LOCTITE 242	0.4	Milliliter
71666	ADH, SPEEDBONDER 3270	0.001	gram
71667	PRIMER,ADH,LOCTITE 7090	0.001	gram
73422	FERROFLUID,CS APG 311A	1.04	Cubic cent.
873-43014-04	SCR,8-32 X 1/4,BTN SCKTCAP,BLK ZINC,ALL	4	each
CONSUMABLES	ADHESIVES/PAINTS/CHEMICALS/LABELS/ETCALL	0.175	Piece
5019069	BARCODE BLANK LABEL CHINA 4SN	2	each
5041677	SPKRSYS,HORN,KP4000	1	each
5042142	GASKET,EVA,HORN,KP4000	4	each
5042360	LBL,PRNT,JBL ANTI-FAKE	1	each
5050736	GASKET,STANDOFF,KP2000	2	each
5093334-00	ENCL,ASY,MTS10	1	each
445228-001	445228-100mm Bracket	3	each
5041458	FSTNR,NUT,T-NUT,M6,HOOK PRONG,CLR ZINC	4	each
5061435	SCR,M10x30 TRUSS,HEX,EDB	4	each
5090496-00	FSTNR,MSCR,TRUSS,HEX,M10x45,DACRO	2	each
5090684-00	ENCL,STIF,TOP,MTS10	1	each
5093335-00	ENCL,PNL,BAFFLE,MTS10	1	each
5093336-00	ENCL,PNL,BOTTOM,MTS10	1	each
5093337-00	ENCL,PNL,CENTER,MTS10	1	each
5093339-00	ENCL,PNL,PORT,LONG,MTS10	4	each
5093340-00	ENCL,PNL,PORT,SHORT,MTS10	4	each
5093341-00	ENCL,PNL,REAR,MTS10	1	each
5093342-00	ENCL,PNL,SIDE,LEFT,MTS10	1	each
5093343-00	ENCL,PNL,SIDE,RIGHT,MTS10	1	each
5093344-00	ENCL,PNL,TOP,MTS10	1	each

5093352-00	ENCL,STANDOFF,TOP,MTS10	1	each
5093355-00	ENCL,STANDOFF,BOT,MTS10	1	each
69437	ADHES,LOCTITE 242	1	gram
882-41410-15	HDWR,FASTNR,SCR,ST4×15 PH,PAN, BLK ZINC	9	each
5093346-00	SHPMAT,INNER CARTON,MTS10	1	each
5093348-00	NETWORK,ASY,MTS10	1	each
5013005	TERMINAL CUP ASY,peen-Elcom D0536Z	1	each
445498-001	EVA, PEEN-ELCOM D0536Z	1	each
445919-001	TERMINAL CUP,PEEN-ELCOM D0536Z	1	each
446080-001	PCB,TERMINAL CUP KP600	1	each
446081-001	NBR PAD,PEEN-ELCOM D0536Z	1	each
5013010	FSTNR,NUT,M3	4	each
5013011	NL4MP	2	each
813-11110-12	HDWR,FSTNR,SCR M3X12	4	each
5093353-00	SPKRSYS,NERWORKS ASY,MTS10	1	each
5093356-00	LBL,PRNT,PRODUCT,MTS10	1	each
5093349-00	SHPMAT,OUTER CARTON,MTS10	1	each
5093350-00	MECHASY,GRL ASY,MTS10	1	each
5017886	HDWR, NMPLT-BDGE, PLASTIC, Ki100	1	each
5093330-00	SPKRSYS,GRL,MTS10	1	each
5093741-00	SPKSYS,PDNG,WADDING,MTS10	1	each
5093911-00	AUD,LS,ASY,MTS10 WOOF	1	each
5096441-00	SHPNGMATL,FILR,FILLER MTS10	2	each
5096444-00	LIT,DS,DATASHEET-EN/CN,MTS10	1	each
5096448-00	LBL,PRNT,POP STICKER MTS10	1	each
5096965-00	HDW,POLE,PEEN-ELCOM M1551	1	each
5096966-00	MISC,GASKET,M1551 POLE	1	each
65012-01	TAPE,PKG,3"x165FT	3	Lineal Foot
69437	ADHES,LOCTITE 242	1.5	gram
816-11510-20	HDWR,FSTNR,SCR,M6×20 PH FLAT EDB	4	each
882-41410-21	HDWR,FSTNR,SCR,ST4×20 PH PAN EDB.	6	each
882-41410-30	SCR,PA4×30,PAN,PH,BLK ZINC	4	each
883-31410-20	HDWR,FSTNR,SCR,ST5×20 PH TRUSS EDB	24	each
CONSUMABLES	ADHESIVES/PAINTS/CHEMICALS/LABELS/ETCALL	1	each