

by **HARMAN**

Service Manual

VPX712M

12" Two-way Utility Stage Monitor





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Professional Series

Key Features:

- ▶ 12" high efficiency woofer
- ▶ 1.5" annular polymer diaphragm compression driver
- Compact and low profile design for minimal obstruction of audience sight lines
- Enclosure constructed of premium plywood and finished in black DuraFlexTM coating
- ▶ 70° × 60° (H × V) coverage pattern for even and smooth response on and off axis
- Heavy-duty 16-gauge protective screen backed steel grille
- Dual-angle socket for pole mounting
- ▶ 13 rigging points for suspension installation

Applications:

- Sound reinforcement for live music and speech or prerecorded applications
- ▶ Can be used as stage monitor or satellite speaker

VPX712M is a 12" two-way utility speaker designed for live music, speech or pre-recorded applications, to work as either a stage monitor or satellite.

VPX712M uses a 1.5" JBL 2408H-2 annular polymer diaphragm neodymium compression driver to collaborate with a 12" high efficiency woofer for acoustic reproduction of high power, low distortion and low power compression. The 12" woofer embeds an optimal demodulating cooling aluminum ring, hence, stable performance is guaranteed even after long working hours. The speaker system creates a 70° × 60° (H × V) coverage pattern to ensure even and smooth response whether installed horizontally or vertically.

VPX712M is designed for multiple purposes, either as a stage monitor or a satellite speaker. Its plywood-made enclosure is in a symmetric wedge shape and compact enough with no intruding to stage performance. One Neutrik* Speakon* NL-4 input connector is accessible on each end of the speaker, which is helpful to keep cabling tidy and organized when it's used for stage monitoring. Thirteen (13) suspension points and a dual-angle (0° straight vertical, 10° backward tilting) 35 mm socket are available for either flying or pole mounting and convenient orientation adjust. The integral handle (input connector cup) makes it easier to transport and install the speaker.

The entire system presents itself in a professional and low profile manner and aims to provide prolonged reliability and durability to its users. The wedge enclosure is constructed of quality plywood and finished in rugged DuraFlexTM coating to sustain frequent transit and set-up. The front grille is made from 16-gauge steel and backed with acoustically transparent fabrics to provide adequate protection to drivers and circuits inside.



12" Two-way Utility Stage Monitor



Specifications:

C	
System:	
Frequency Range (-10 dB) ¹ :	50 Hz - 20 kHz
Frequency Response $(\pm 3 \text{ dB})^1$:	85 Hz - 20 kHz
Coverage Pattern:	$70^{\circ} \times 60^{\circ} (H \times V)$
Crossover Mode:	Passive
Crossover Frequency:	2.2 kHz
Power Rating ¹ :	400 W/800 W/1600 W (Continuous/Program/Peak)
Sensitivity (1w@1m) ² :	97 dB
Nominal Impedance:	8 Ohms
Maximum SPL ³ :	123 dB (129 dB peak)
Physical:	
LF Driver:	1 × 12" (304.8 mm) woofer
HF Driver:	1 × JBL 2408H-2 tweeter
Enclosure:	Symmetrical stage monitor, 15/18 mm, plywood
Suspension / Mounting:	13 points (3@top, 3@bottom, 2@each side, 3@rear), M10 thread hardware; Dual-angle 35 mm pole socket
Transport:	1 × Integrated handle (input cup)
Finish:	Black DuraFlex TM finish
Grille:	Powder coated, black, 16-gauge perforated steel with acousti- cally transparent black screen backing
Input Connectors:	2 × Neutrik® Speakon® NL-4 (1@each end)
Dimensions $(H \times W \times D)$:	636 mm × 381 mm × 344 mm(25.0 in × 15.0 in × 13.5 in)
Net Weight:	18 Kg (39.7 lbs)
	SS2-BK: Tripod speaker stand SS3-BK: Satellite speaker pole

1 IEC standard, pink noise with 6 dB crest factor for 2 hours

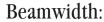
2 Full space (4π) conditions

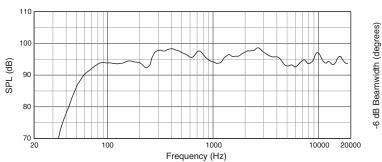
3 Calculated maximum SPL based on rated power handling

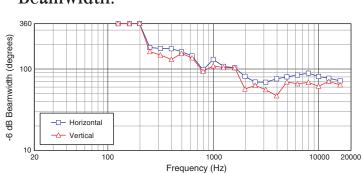
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▶ VPX712M 12" Two-way Utility Stage Monitor

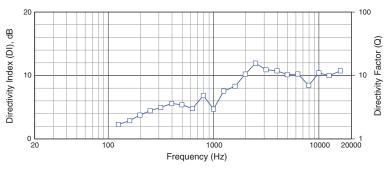
Frequency Response:



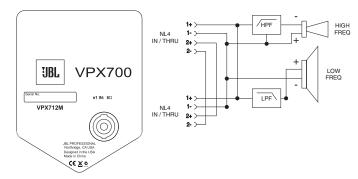




Directivity Index:

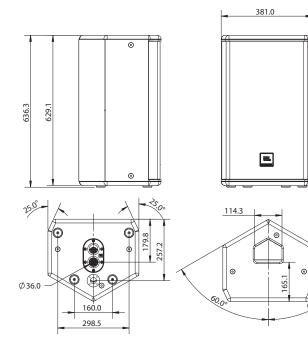


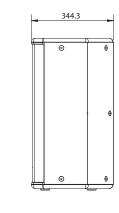
Block Diagram:



Dimensions:

Dimensions in mm





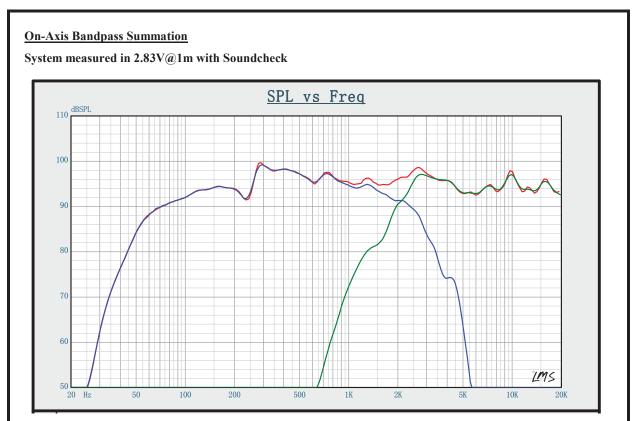




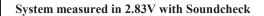
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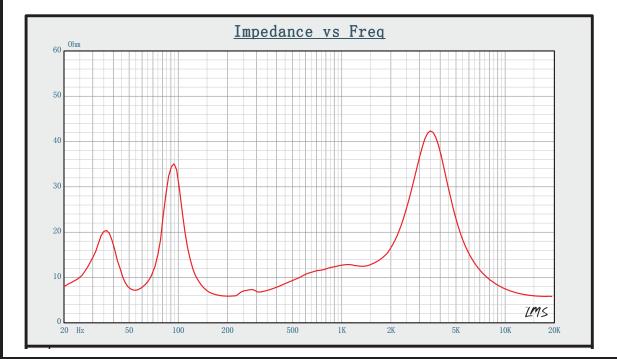
JBL Professional	Engineering Standard	Date Effective: 03/06/2018	Number 1000323745 Rev B
Engineering	Engineering Design Specification	Date Revised:	Page 1
	GENERAL DESCR	RIPTION	
Model:	VPX	/12M	
Description:	12" tv	vo way, full range, monitor speaker	
AC	OUSTICAL AND ELECTRIC	AL SPECIFICATIONS	
Frequency Range (-10d	B)50Hz	to 20KHz	
	,	attached curve, page2)	
System Input Type	Neut		
	pedance8 Ω		
	gSee I	ETS #1000323750	
•			
· ·	97dI		
Maximum External Dir	nensions636	mm(H) x 381mm(W) x 344mm(D)	
Weight (ea.)		Bkgs	
	SYSTEM COMPON	<u>NENTS</u>	
Low Frequency Transdu	cer1x12	2" woofer (EDS #1000302204)	
High Frequency Transdu		408H-2 (EDS #1000080542)	
Crossover Network Asse	mbly5094	4419-00	
	Design Engineer: <u>Ja</u>	<u>lson Wu</u>	

JBL Professional	Engineering Standard	Date Effective: 03/06/2018	Number 1000323745 Rev B
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System Impedance



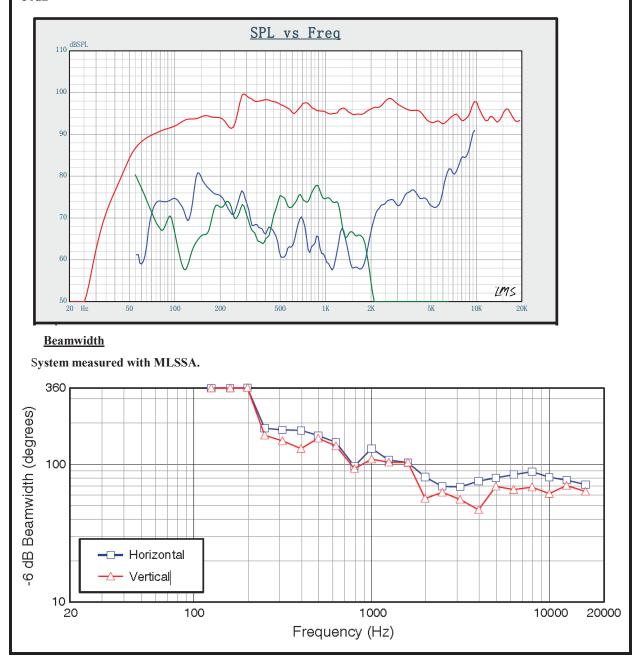


JBL	Engineering	Date Effective:	Number
Professional	Standard	03/06/2018	1000323745
Engineering	Engineering Design Specification	Date Revised:	Rev B Page 3

Harmonic Distortion

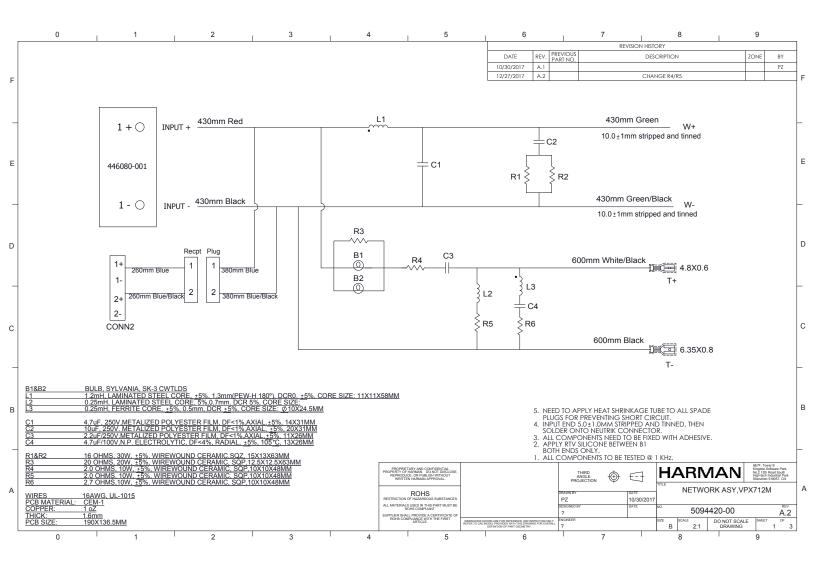
System measured in 2.83V@1m with Soundcheck

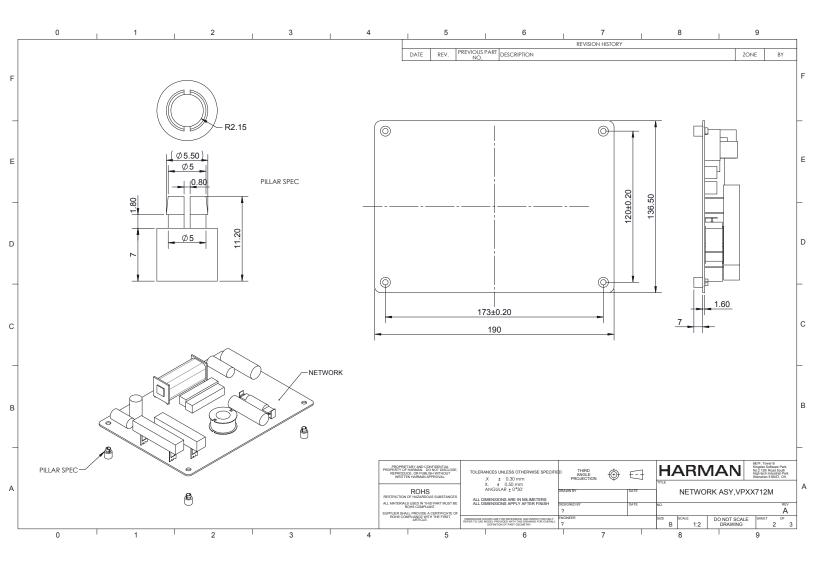
Red trace is the fundamental, blue trace is the 2nd harmonic +30dB, and the green trace is the 3rd harmonic +30dB



Revision History

Revision	Release Action	Date	Rev Initials
А		01/17/2018	Jason Wu
В		03/06/2018	Jason Wu





	Number	Version	Name	Line Number	Find Number	Quantity	State	Reference Designator
0	₩ <u>VPX712M</u>	B.3 (Design)	S/M, VPX712M				Released	
1	🚑 <u>49790P</u>	C.9 (Design)	MICROFOAM 1/32X18X20			4 each	Released	
1	⁽⁾	D.7 (Design)	TAPE,PKG,3"X3000LINFT			2 Meter	Released	
1	²	D.6 (Design)	RIBBON,XFR,THRM,4.5"x1181			4 Inch	Released	
1	²	A.6 (Design)	STAPLE 8014 12.8mmX14mm			24 each	Released	
1	🎘 <u>5019069</u>	B.6 (Design)	BARCODE BLANK LABEL CHINA 4SN			2 each	Released	
1	 	C.10 (Design)	AUD,LS,ASY,KP4012 WOOF			1 each	Released	
2	🛱 <u>5041382</u>	A.8 (Design)	XDCRMECH, DUST CAP, MQ85 WOOF			1 each	Released	
2		A.8 (Design)	XDCRMECH,CONE ASY,KP4012 WOOF			1 each	Released	
2		B.8 (Design)	XDCRMECH, AL FRAM, MQ82 WF			1 each	Released	
2	² <u>5041740</u>	B.9 (Design)	XDCRMECH,CONDUCTIVE RING,KP4010 WOOF			1 each	Released	
2	🛱 <u>5041743</u>	B.6 (Design)	XDCRMECH,POLE PIECE,KP4010 WOOF			1 each	Released	
2	² <u>5041754</u>	A.11 (Design)	XDCRMECH,BACK PLATE,KP4012 WOOF			1 each	Released	
2	🛱 <u>5041755</u>	B.9 (Design)	XDCRMECH,TOP PLATE,KP4012 WOOF			1 each	Released	
2	² <u>5041766</u>	C.3 (Design)	XDCRMECH,SPDR,KP4012 WOOF			1 each	Released	
2	🛱 <u>5041767</u>	C.5 (Design)	XDCRELEC, VOIL, KP4012 WOOF			1 each	Released	
2		B.5 (Design)	GASKET,FRONT,KP4012 WOOF			4 each	Released	
2		B.7 (Design)	GASKET,BACK,KP4012 WOOF			4 each	Released	
2		A.12 (Design)	XDCRELEC,MAGNET,KP4012 WOOF			1 each	Released	
2		A.11 (Design)	LBL,PRNT,KP4012 WOOF			1 each	Released	
3		A.6 (Design)	ART,LABEL,KP4012 WOOF			1 each	Released	

	Number	Version	Name	Line Number	Find Number	Quantity	State	Reference Designator
2	🛱 <u>5041772</u>	A.7 (Design)	XDCRMECH,LEAD,KP4012 WOOF			2 each	Released	
2	²³ <u>5041773</u>	A.6 (Design)	XDCRMECH,TERMINAL POLE, MQ8 WF			1 PR Pair	Released	
1	² <u>5048167</u>	A.8 (Design)	POLY FIBER PAD, DANDONG			15 Square Foot SF	Released	
1	² <u>5081542</u>	B.1 (Design)	ENCL,CABINET,ASY,MRX712M			1 each	Released	
2	 <u>61861</u>	C.10 (Design)	T-NUT,10-32			16 each	Released	
2	² 70206	C.8 (Design)	ADH,JOWAT-110-60,BROWN			0.33 gallon, US	Released	
2	² <u>71261</u>	C.12 (Design)	ADHESIVE, URETHANE			0.08 gallon, US	Released	
2	🛱 <u>5013163</u>	A.6 (Design)	NAIL F30 30mm LONG			22 each	Released	
2	<u>5047248</u>	A.6 (Design)	ENCL,TOP,PNL,MRX612			1 each	Released	
2	<u>5047249</u>	A.6 (Design)	ENCL,BOTTOM,PNL,MRX612			1 each	Released	
2	🛱 <u>5047876</u>	A.6 (Design)	ENCL, GRILLE STANDOFF, MRX612M			2 each	Released	
2	🖾 <u>5058298</u>	A.8 (Design)	BASECOAT, BLACK CHEMTHANE 7030			0.374 gallon, US	Released	
2	🛱 <u>5058299</u>	B.7 (Design)	TOPCOAT, BLACK CHEMTHANE 1400			0.033 gallon, US	Released	
2	<u>352214-001</u>	C.10 (Design)	T-NUT,10-32,SPECIAL,PRO			6 each	Released	
2	<u>362721-001</u>	A.5 (Design)	BONDO 494 DYNALITE FILLER			0.07 gallon, US	Released	
2	<u>364102-001</u>	C.6 (Design)	TAPE,3M,3"x50,GRY,3903			4 Meter	Released	
2	445955-001	A.15 (Design)	HDWR,BRKT,90DEGREE ASY			6 each	Released	
2	445956-001	A.15 (Design)	HDWR,BRKT,SINGLE POINT ASY,KP600			1 each	Released	
2	5089829-00	A.5 (Design)	ENCL,MID STIF,PNL,MRX712M			1 each	Released	
2	5089830-00	A.5 (Design)	ENCL,BAF,PNL,MRX712M			1 each	Released	

	Number	Version	Name	Line Number	Find Number	Quantity	State	Reference Designator
2	5089831-00	A.5 (Design)	ENCL,WRAP,L_SIDE,PNL,MRX712M			2 each	Released	
2	5089832-00	A.5 (Design)	ENCL,WRAP,ANGLE_R,PNL,MRX712M			1 each	Released	
2	5089833-00	A.5 (Design)	ENCL,WRAP,ANGLE_L,PNL,MRX712M			1 each	Released	
2	5089834-00	A.5 (Design)	ENCL,PORT,PNL,MRX712M			2 each	Released	
2	882-41410-15	B.4 (Design)	HDWR,FASTNR,SCR,ST4×15 PH,PAN, BLK ZINC			26 each	Released	
2	CONSUMABLES	7 (Design)	ADHESIVES/PAINTS/CHEMICALS/ LABELS/ETCALL			15.504 Piece	Released	
1	² <u>5081550</u>	A.7 (Design)	SPKSYS, GRILLE ASY,MRX712M			1 each	Released	
2	🛱 <u>5081551</u>	A.4 (Design)	HDW, BDGE, FROFESSIONAL,MRX700			1 each	Released	
2	🛱 <u>5081582</u>	A.4 (Design)	SPKSYS, GRL, MRX712M			1 each	Released	
2	<u>445921-001</u>	A.11 (Design)	HDWR,SPRING,KP600			1 each	Released	
2	445922-001	A.10 (Design)	HDWR,FSTNR,LOCK-WASHER,KP600			1 each	Released	
1	🛱 <u>351256-001</u>	B.8 (Design)	CUP, DUAL POLE, VRX/JRX			1 each	Released	
1	² 352957-001	C.9 (Design)	GASKET, DUAL POLE CUP, VRX/JRX			1 each	Released	
1	² 353445-001	B.12 (Design)	FOOT, SRX			4 each	Released	
1	🛱 <u>354267-001</u>	B.7 (Design)	HORN, MRX512, VARIOUS			1 each	Released	
1	<u>359-00213-00</u>	D.7 (Design)	GASKET, NEUTRIK CONNECTOR			1 each	Released	
1	🛱 <u>362291-001</u>	C.8 (Design)	FILLER, MRX512M			2 each	Released	
1	🛱 <u>5094418-00</u>	A.5 (Design)	SPEC SHEET, VPX712			1 each	Released	
1	⁽⁾	A.6 (Design)	INPUT,TERMINAL CUP,ASY,VPX712M			1 each	Released	
2	🛱 <u>5081546</u>	A.4 (Design)	TERMINAL CUP, MRX712M			1 each	Released	

	Number	Version	Name	Line Number	Find Number	Quantity	State	Reference Designator
2	5094420-00	A.4 (Design)	NETWORK, VPX712M			1 each	Released	
2	5094421-00	A.7 (Design)	LAB, PRODUCT, VPX712M			1 each	Released	
1	🗯 <u>5094422-00</u>	A.5 (Design)	LAB. POP STICKER, VPX712M			1 each	Released	
1		A.5 (Design)	SHPMAT,CARTON,VPX712M			1 each	Released	
1	⁽⁾	A.5 (Design)	SHPMAT,OUTR FILLER,VPX712M			2 each	Released	
1	 <u>804-01110-16</u>	9 (Design)	SCR,10-32 X 1,FIL,PH,BLK			8 each	Released	
1	<u>804-41110-12</u>	D.8 (Design)	SCR,10-32 X 3/4,PAN,PH,BLK ZINC,LCS			8 each	Released	
1		C.6 (Design)	SCR,10-32X1,PAN,PH,BLK			6 each	Released	
1	(2) <u>818-13710-30</u>	A.6 (Design)	HDWR,FASTNR,SCR,M10×30 HED, FLAT, EDB			13 each	Released	
1		A.4 (Design)	SCR,PA4×30,PAN,PH,BLK ZINC			4 each	Released	
1		C.10 (Design)	SCR, 6 X 3/4,OV,PH,PTCL,BLK ZC,LCS			24 each	Released	
1	<u></u>	C.6 (Design)	SCR,10 X 3/4,PAN,PH,PB,BLK ZINC,LCS			4 each	Released	
1		F.1 (Design)	2408-2 UNIT ASSEMBLY (DANDONG)			1 each	Released	
2	🛱 <u>63627</u>	C.9 (Design)	ADH,C.A.,SICO-MET		027	0.057 gram	Released	
2	² <u>69437</u>	C.7 (Design)	ADHES,LOCTITE 242		024	0.4 Milliliter	Released	
2	🧱 <u>74822</u>	A.10 (Design)	LBL, DTC			1 each	Released	
3		D.6 (Design)	RIBBON,XFR,THRM,4.5"x1181			0.2 Meter	Released	
3		A.7 (Design)	LABEL, BLANK			1 each	Released	
2	²³ <u>5006634</u>	A.7 (Design)	GLUE, LOCTITE 326			0.38 gram	Released	
2	🛱 <u>5012084</u>	A.6 (Design)	SERIAL NUMBER LABEL BLANK			1 each	Released	

	Number	Version	Name	Line Number	Find Number	Quantity	State	Reference Designator
2		F.11 (Design)	2408-2 ADAPTER		001	1 each	Released	
2		C.9 (Design)	2408-2 BACK PLATE		006	1 each	Released	
2		C.9 (Design)	2408-2 TOP PLATE		005	1 each	Released	
2	🏟 <u>5019995</u>	D.11 (Design)	2408-2 OD SPACE RING		008	1 each	Released	
2	🏟 <u>5020282</u>	G.9 (Design)	2408-2 PHASING PLUG		002	1 each	Released	
2	🋱 <u>5020294</u>	D.12 (Design)	2408-2 MAGNET		007	1 each	Released	
2	🛱 <u>5020306</u>	C.11 (Design)	2408-2 OD GLUE RING		009	1 each	Released	
2	🛱 <u>5022585</u>	C.10 (Design)	2408-2 ID SPACER RING		022	1 each	Released	
2	²	A.6 (Design)	SC97, 1MM SOLDER WIRE C512 CORE (CHINA)			1.2 gram	Released	
2	🛱 <u>5044859</u>	A.8 (Design)	LABEL, 2408H-2			1 each	Released	
2	² <u>5083690</u>	A.3 (Design)	FERROFLUID, APG CDF 1120		030	0.145 gram	Released	
2	<u>352859-001</u>	C.8 (Design)	ADH, MOYEN 3087		018	0.001 Milliliter	Released	
2	353219-001	D.7 (Design)	ACTIVATOR, LOCTITE 7091, VARIOUS			0.085 Milliliter	Released	
2	353928-001	G.6 (Design)	VOICE COIL, 2408		004	1 each	Released	
2	<u>354266-001</u>	C.5 (Design)	PSA, INNER RING, 2408H		028	3 each	Released	
2	361513-001	C.7 (Design)	KAPTON FILM-TAPE, 5mm WIDE, 0.025 MM THK		015	0.2 Lineal Foot	Released	
2	361514-001	C.6 (Design)	TERMINAL BOARD, .250, 2408H		010	1 each	Released	
2	361514-002	C.6 (Design)	TERMINAL BOARD, .187, 2408H		011	1 each	Released	
2	361573-001	B.11 (Design)	PSA STRIP, 2408H		019	4 each	Released	
2	<u>361574-001</u>	A.4 (Design)	ADHESIVE, LOCKTITE E20-HP EPOXY		021	0.031 Milliliter	Released	

	Number	Version	Name	Line Number	Find Number	Quantity	State	Reference Designator
2	363122-001	C.8 (Design)	SILICONE SEALANT		025	0.28 gram	Released	
2	365108-001	C.9 (Design)	RUBBER RING, 2408H-1		029	1 each	Released	
2	370-0000-00	E.3 (Design)	SCREEN, 7/8 DIA, EXIT		014	1 each	Released	
2	803-93056-08	C.6 (Design)	SCR,8-32 X 1/2,BTN,HEX,NF,SS		013	4 each	Released	
2		A.5 (Design)	DIAPHRAGM, FINISHED 2408H-2(CHINA)			1 each	Released	
3	<u>5020281</u>	D.8 (Design)	2408-2 DIAPHRAGM			1 each	Released	
3	🛱 <u>5041338</u>	A.5 (Design)	3m twist and fill general purpose cleaner			0.6 Milliliter	Released	
3	363073-001	C.8 (Design)	GLASS BEADS, COMCO INC., P/N PD1033-3			0.096 ounce	Released	
2	CONSUMABLES	7 (Design)	ADHESIVES/PAINTS/CHEMICALS/ LABELS/ETCALL			0.595 Piece	Released	
1	CONSUMABLES	7 (Design)	ADHESIVES/PAINTS/CHEMICALS/ LABELS/ETCALL			0.536 Piece	Released	