

## 5.2 T838 Power Amplifier PCB

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## T838 Parts List (IPN 220-01404-03)

### How To Use This Parts List

The components listed in this parts list are divided into two main types: those with a circuit reference (e.g. C2, D1, R121, etc.) and those without (miscellaneous and mechanical).

Those with a circuit reference are grouped in alphabetical order and then in numerical order within each group. Each component entry comprises three or four columns: the circuit reference, variant (if applicable), IPN and description. A number in the variant column indicates that this is a variant component which is fitted only to the product type listed. Static sensitive devices are indicated by an (S) at the start of the description column.

The miscellaneous and mechanical section lists the variant and common parts in IPN order. Where possible, a number in the legend column indicates their position in the mechanical assembly drawing.

The Parts List Amendments box below lists component changes that took place after the parts list and diagrams in this section were compiled. These changes (e.g. value changes, added/deleted components, etc.) are listed by circuit reference in alphanumeric order and supersede the information given in the parts list or diagrams. Components without circuit references are listed in IPN order.

### Parts List Amendments

C155	Component designator changed to %C155.	
D101, D105	Removed from the main PCB and replaced by two 1N4148 diodes (IPN 001-50012-00) placed on the D-range PCB: one soldered between PL101 pins 5 and 7 (cathode), the other between PL101 pins 6 and 8 (cathode). To allow external power meters to read zero and still provide meter overvoltage protection (710978).	
D113	Changed from MR750 (IPN 001-00011-60) to MR2520L (IPN 001-00012-90) to provide overvoltage transient suppression (750087/88/89/90/91/92).	
IC204	Changed from LMC622CM to LM358 (710382).	
*R120	*R120 is no longer fitted to Series I compatible T838s. T838 will not transmit in Tx tail if cyclic keying is disabled and *R120 is fitted. Designator changed to %R120 (760207)	
R123, R158	Changed from 1k resistors (IPN 036-14100-00) to BA592 diodes (IPN 001-10059-20) to allow external power meters to read zero (710978).	
R207	Changed from 47k (IPN 036-15470-10) to 4k7 (IPN 036-14470-10)	} 100k thermistor assembly replaced with 10k item; values of associated components changed accordingly (710394/411/447).
R209	Changed from 1k5 (IPN 036-14150-10) to 390W (IPN 036-13390-10)	
R210	Changed from 4k7 (IPN 036-14470-10) to 390W (IPN 036-13390-10)	
R213	Changed from 3k9 (IPN 036-14390-00) to 560Ω (IPN 036-13560-00)	
R218	Changed from 390Ω (IPN 036-13390-10) to 100Ω (IPN 036-13100-10)	
R219	Changed from 100k NTC (IPN 045-06100-05) to 10k NTC (IPN 045-05100-02)	
R220	Changed from 47k (IPN 036-15470-10) to 4k7 (IPN 036-14470-10)	
R222	Changed from 47k (IPN 036-15470-10) to 4k7 (IPN 036-14470-10)	
R224	Changed from 1k5 (IPN 036-14150-10) to 390Ω (IPN 036-13390-10)	
R228	Changed from 4k7 (IPN 036-14470-10) to 390Ω (IPN 036-13390-10)	
R229	Changed from 56k (IPN 036-15560-10) to 6k8 (IPN 036-14680-10)	
RV109	Changed from 2k 10 turn (IPN 044-04200-03) to 2k 15 turn (IPN 044-04200-06)	
349-00020-36	The two M3x8 Torx screws which secure the module into the rack frame have been replaced by M3x8 Pozidriv screws (IPN 349-00020-55) (750101/2/3/5/6).	

Ref	Var	IPN	Description	Ref	Var	IPN	Description
<p><b>Note:</b> The T838 and T839 share the same basic design and are built on the same PCB. While most components in this design are common to both products, there are a number of components that are placed in only one product.</p> <p>Because the circuit diagrams for this design cover both products, we have indicated on the diagrams those components which are placed only in the T838 by enclosing them in a labelled box. The circuit reference for each of these components is also prefixed with the "*" character.</p> <p>The "*" character is used in this parts list to indicate components used only in the T838.</p>							
C129		015-23680-08	CAP CER 0805 680P 10% X7R 50V	D103		008-00013-32	(S) LED 3 RED LO CURRENT NO MTG
C131		015-27100-10	CAP CER 0805 1M+80-20% Y5V 16V	D105		001-10000-70	(S) DIODE SMD BAV70 D-SW SOT23
C132		015-24100-08	CAP CER 0805 1N 10% X7R 50V	D107		008-00013-35	(S) LED 3 GRN LO CURRENT NO MTG
C133		015-23680-08	CAP CER 0805 680P 10% X7R 50V	D109		008-00013-32	(S) LED 3 RED LO CURRENT NO MTG
C137		015-23680-08	CAP CER 0805 680P 10% X7R 50V	D111		001-10000-70	(S) DIODE SMD BAV70 D-SW SOT23
C138		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	D113		001-00011-60	(S) DIODE SR2607 -- USE MR750
C139		015-23680-08	CAP CER 0805 680P 10% X7R 50V	D201		001-00013-45	(S) DIODE SCHTTKY 1SS97/2
C141		014-07100-02	CAP TANT CHIP 1U0 3.2 X 1.6MM	D202		001-10000-70	(S) DIODE SMD BAV70 D-SW SOT23
C143		015-23680-08	CAP CER 0805 680P 10% X7R 50V	D203		001-00013-45	(S) DIODE SCHTTKY 1SS97/2
C145		015-23680-08	CAP CER 0805 680P 10% X7R 50V	IC101		002-10003-24	(S) IC SMD 324 4X O-AMP SO14
C147		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	IC103		002-10003-24	(S) IC SMD 324 4X O-AMP SO14
C149		015-23680-08	CAP CER 0805 680P 10% X7R 50V	IC105		002-10003-58	(S) IC SMD LM358 DUAL O-AMP
C151		015-23680-08	CAP CER 0805 680P 10% X7R 50V	IC107		002-10003-17	(S) IC LM317L REG S0-8 100MA
C153		015-23680-08	CAP CER 0805 680P 10% X7R 50V	IC109		002-10003-17	(S) IC LM317L REG S0-8 100MA
C155		015-25100-08	CAP CER 0805 10N 10% X7R 50V	#IC201	10	004-00687-02	MODULE M68702L 135-160MHZ 60W
C159		015-23680-08	CAP CER 0805 680P 10% X7R 50V	#IC201	20	004-00687-03	MODULE M68702H 150-174MHZ 60W
C161		015-23680-08	CAP CER 0805 680P 10% X7R 50V	IC204		002-10006-62	(S)IC SMD LMC662CM 2X O-AMP
C162		015-23680-08	CAP CER 0805 680P 10% X7R 50V	L101		065-10004-20	BEAD FE SMD CBD 4.6/3/3-4S2
C164		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	L103		065-10004-20	BEAD FE SMD CBD 4.6/3/3-4S2
C165		015-23680-08	CAP CER 0805 680P 10% X7R 50V	L105		065-10004-20	BEAD FE SMD CBD 4.6/3/3-4S2
C167		015-24100-08	CAP CER 0805 1N 10% X7R 50V	*L201		056-10330-02	(L) IND SMD 330NH
C169		014-07470-03	L) CAP TANT SMD 4U7 35V 20%	L203		065-10004-20	BEAD FE SMD CBD 4.6/3/3-4S2
C171		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	L206		056-14150-02	(L) IND SMD 1.5UH
C173		015-23680-08	CAP CER 0805 680P 10% X7R 50V	L208		056-14150-02	(L) IND SMD 1.5UH
C174		015-23680-08	CAP CER 0805 680P 10% X7R 50V	L215		052-08340-40	COIL A/W 4T/4.0MM SMD 0.8MM
C176		015-06100-08	CAP CER 1206 100N 10% X7R 50V	L217		052-08340-40	COIL A/W 4T/4.0MM SMD 0.8MM
C178		015-25100-08	CAP CER 0805 10N 10% X7R 50V	L233		056-10330-02	(L) IND SMD 330NH
C179		015-06150-08	CAP CER 1206150N10% X7R25VWV 25V	L239		056-10330-02	(L) IND SMD 330NH
C180		015-23680-08	CAP CER 0805 680P 10% X7R 50V	L241		052-08360-20	COIL A/W 2T/6.0MM SMD 0.8MM
C181		015-23100-01	CAP CER 0805 100P 5% NPO 50V	L243		052-08340-20	COIL A/W 2T/4.0MM SMD 0.8MM
C182		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	L245		052-08345-10	COIL A/W 1T/4.5MM SMD 0.8MM
C184		015-25100-08	CAP CER 0805 10N 10% X7R 50V	L247		052-08340-20	COIL A/W 2T/4.0MM SMD 0.8MM
C185		015-23680-08	CAP CER 0805 680P 10% X7R 50V	L248		052-08345-10	COIL A/W 1T/4.5MM SMD 0.8MM
C186		015-23680-08	CAP CER 0805 680P 10% X7R 50V	L249		052-08360-20	COIL A/W 2T/6.0MM SMD 0.8MM
C187		015-06100-08	CAP CER 1206 100N 10% X7R 50V	L264		056-10330-02	(L) IND SMD 330NH
C188		014-08100-00	CAP TANT CHIP 10M 16VW +-20%	LINK1		240-00020-68	HEADER 2W PCB MTG STD
C189		015-25100-08	CAP CER 0805 10N 10% X7R 50V	LINK2		036-10000-00	RES M/F 0805 ZERO OHM
C190		015-23680-08	CAP CER 0805 680P 10% X7R 50V	LINK201		240-00020-59	HEADER 3 W 1 R PCB MTG
C192		015-06100-08	CAP CER 1206 100N 10% X7R 50V	PL101		240-00010-55	PLUG 15 W D RANGE W/W PNL MT
C193		015-06100-08	CAP CER 1206 100N 10% X7R 50V	Q111		000-10008-57	(S) XSTR SMD BCW70 PNP SOT23 SS
C195		014-08100-00	CAP TANT CHIP 10M 16VW +-20%	Q113		000-10008-48	(S) XSTR SMD BCW60 NPN SOT23 SS
C201		014-07470-03	L) CAP TANT SMD 4U7 35V 20%	Q115		000-10008-57	(S) XSTR SMD BCW70 PNP SOT23 SS
*C203		015-03680-06	CAP CER 1210 680P NPO200VGRM42	Q117		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT23
*C204		015-03680-06	CAP CER 1210 680P NPO200VGRM42	Q119		000-10008-48	(S) XSTR SMD BCW60 NPN SOT23 SS
C205		015-06100-08	CAP CER 1206 100N 10% X7R 50V	Q121		000-10017-00	LS) XSTR SMD BF170LT1 SOT23
*C206		015-03680-06	CAP CER 1210 680P NPO200VGRM42	Q123		000-10008-57	(S) XSTR SMD BCW70 PNP SOT23 SS
C207		015-06100-08	CAP CER 1206 100N 10% X7R 50V	Q125		000-10008-57	(S) XSTR SMD BCW70 PNP SOT23 SS
C215		015-23680-08	CAP CER 0805 680P 10% X7R 50V	Q127		000-10008-57	(S) XSTR SMD BCW70 PNP SOT23 SS
C216		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	Q129		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT23
C218		015-23680-08	CAP CER 0805 680P 10% X7R 50V	Q131		000-10017-00	LS) XSTR SMD BF170LT1 SOT23
C220		015-23680-08	CAP CER 0805 680P 10% X7R 50V	Q133		000-10008-48	(S) XSTR SMD BCW60 NPN SOT23 SS
C221		015-06100-08	CAP CER 1206 100N 10% X7R 50V	Q135		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT23
C222		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	Q136		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT23
C223		015-24100-08	CAP CER 0805 1N 10% X7R 50V	Q137		000-00030-95	(S) XSTR 2N6107 PNP T0220 AF
C224		015-23680-08	CAP CER 0805 680P 10% X7R 50V	Q201		000-10008-48	(S) XSTR SMD BCW60 NPN SOT23 SS
C225		015-03680-06	CAP CER 1210 680P NPO200VGRM42	R101		036-14100-00	RES M/F 0805 1K 5%
C226		015-23680-08	CAP CER 0805 680P 10% X7R 50V	R103		036-15330-00	RES M/F 0805 33K 5%
C227		015-03680-06	CAP CER 1210 680P NPO200VGRM42	R104		036-16470-00	RES M/F 0805 470K 5%
C229		015-03680-03	CAP CER 680P 5% NPO100V GRH111	R117		036-16220-00	RES M/F 0805 220K 5%
C259		015-23680-08	CAP CER 0805 680P 10% X7R 50V	R118		036-15270-00	RES M/F 0805 27K 5%
C261		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	R119		036-16470-00	RES M/F 0805 470K 5%
C268		029-02220-02	CAP MICA 5 CASE 22P 5%	R123		036-14100-00	RES M/F 0805 1K 5%
C270		029-02560-03	CAP MICA 10 CASE 56P 2%	R124		036-16100-00	RES M/F 0805 100K 5%
C271		029-02470-03	CAP MICA 10 CASE 47P 2%	R125		036-15100-00	RES M/F 0805 10K 5%
C272		029-02560-03	CAP MICA 10 CASE 56P 2%	R126		036-14100-00	RES M/F 0805 1K 5%
C273		029-02220-02	CAP MICA 5 CASE 22P 5%	R127		036-15100-00	RES M/F 0805 10K 5%
C294		015-23680-08	CAP CER 0805 680P 10% X7R 50V	R128		036-15220-00	RES M/F 0805 22K 5%
C295		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	R129		036-17100-00	RES M/F 0805 1M 5%
C297		015-23680-08	CAP CER 0805 680P 10% X7R 50V	R130		036-14220-00	RES M/F 0805 2K2 5%
C298		015-24470-08	CAP CER 0805 4N7 10% X7R 50V	R131		036-16180-00	RES M/F 0805 180K 5%
D101		001-10000-70	(S) DIODE SMD BAV70 D-SW SOT23	R132		036-14100-00	RES M/F 0805 1K 5%
				R133		036-15100-00	RES M/F 0805 10K 5%
				R134		036-13470-00	RES M/F 0805 470E 5%
				R135		036-13680-00	RES M/F 0805 680E 5%
				R136		036-15100-00	RES M/F 0805 10K 5%
				R137		036-13470-00	RES M/F 0805 470E 5%
				R138		036-15100-00	RES M/F 0805 10K 5%
				R141		036-15100-00	RES M/F 0805 10K 5%
				R142		036-15100-00	RES M/F 0805 10K 5%
				R143		036-15100-00	RES M/F 0805 10K 5%
				R144		036-15820-00	RES M/F 0805 82K 5%
				R145		036-15470-00	RES M/F 0805 47K 5%
				R146		036-14180-00	RES M/F 0805 1K8 5%
				R148		036-14820-00	RES M/F 0805 8K2 5%
				R149		036-13470-00	RES M/F 0805 470E 5%
				R150		036-12220-00	RES M/F 0805 22E 5%
				R151		036-15100-00	RES M/F 0805 10K 5%
				R152		036-15100-00	RES M/F 0805 10K 5%
				R153		036-14680-00	RES M/F 0805 6K8 5%
				R154		036-14680-00	RES M/F 0805 6K8 5%
				R155		036-13220-00	RES M/F 0805 220E 5%
				R156		036-13100-00	RES M/F 0805 100E 5%

Ref	Var	IPN	Description	Ref	Var	IPN	Description
R157		036-12220-00	RES M/F 0805 22E 5%				
R158		036-14100-00	RES M/F 0805 1K 5%				
R159		036-15100-00	RES M/F 0805 10K 5%				
R160		036-14470-00	RES M/F 0805 4K7 5%				
R161		036-14100-00	RES M/F 0805 1K 5%				
R162		036-17100-00	RES M/F 0805 1M 5%				
R163		036-13680-00	RES M/F 0805 680E 5%				
R164		036-14220-00	RES M/F 0805 2K2 5%				
R165		036-14100-00	RES M/F 0805 1K 5%				
R166		036-13680-00	RES M/F 0805 680E 5%				
R168		036-15100-10	RES M/F 0805 10K 1%				
R169		036-14100-00	RES M/F 0805 1K 5%				
R170		036-14100-00	RES M/F 0805 1K 5%				
R171		036-14100-00	RES M/F 0805 1K 5%				
R172		036-15100-10	RES M/F 0805 10K 1%				
R173		036-13470-00	RES M/F 0805 470E 5%				
R174		036-13220-00	RES M/F 0805 220E 5%				
R175		036-16220-00	RES M/F 0805 220K 5%				
R176		036-15100-00	RES M/F 0805 10K 5%				
R177		036-14470-00	RES M/F 0805 4K7 5%				
R178		036-16100-00	RES M/F 0805 100K 5%				
R179		036-15100-00	RES M/F 0805 10K 5%				
R180		036-16150-00	RES M/F 0805 150K 5%				
R181		036-14560-00	RES M/F 0805 5K6 5%				
R182		036-16100-00	RES M/F 0805 100K 5%				
R183		036-14470-00	RES M/F 0805 4K7 5%				
R184		036-14100-00	RES M/F 0805 1K 5%				
R185		036-03100-02	RES 100E 1206 200V 250MW RC01				
R186		036-13100-00	RES M/F 0805 100E 5%				
R187		036-03150-03	RES 1218 PWR CHIP 150E 20% 1W				
R188		036-13220-00	RES M/F 0805 220E 5%				
R189		036-12100-00	RES M/F 0805 10E 5%				
R190		036-12220-00	RES M/F 0805 22E 5%				
R191		036-14100-10	RES M/F 0805 CHIP 1K 1%				
R192		036-13220-10	RES 0805 220E 1%				
R193		036-12100-00	RES M/F 0805 10E 5%				
R194		036-03220-03	RES 1218 PWR CHIP 220E 20% 1W				
R195		036-14220-00	RES M/F 0805 2K2 5%				
R196		036-13100-00	RES M/F 0805 100E 5%				
R197		036-10000-00	RES M/F 0805 ZERO OHM				
*R201		036-03330-03	L) RES 1218 PWR 330E 20% 1W				
*R202		036-02100-03	L) RES 1218 PWR 10E 20% 1W				
R203		036-02100-02	RES 10E 1206 200V 250MW RC01				
*R204		036-03330-03	L) RES 1218 PWR 330E 20% 1W				
R205		036-02100-02	RES 10E 1206 200V 250MW RC01				
R207		036-15470-10	RES M/F 0805 47K 1%				
R209		036-14150-10	RES MF 0805 CHIP 1K5 1%				
R210		036-14470-10	RES M/F 0805 CHIP 4K7 1%				
R212		036-15100-00	RES M/F 0805 10K 5%				
R213		036-14390-00	RES M/F 0805 3K9 5%				
R214		036-14470-00	RES M/F 0805 4K7 5%				
R218		036-13390-10	RES MF 0805 CHIP 390E 1%				
R219			available as sub-assembly only - refer to (16) (045-06100-05) in the mechanical parts list				
R220		036-15470-10	RES M/F 0805 47K 1%				
R222		036-15470-10	RES M/F 0805 47K 1%				
R224		036-14150-10	RES MF 0805 CHIP 1K5 1%				
R225		030-03120-00	RES FILM 120E 5% 0.25W 7X2.5				
R228		036-14470-10	RES M/F 0805 CHIP 4K7 1%				
R229		036-15560-10	RES MF 0805 CHIP 56K 1%				
R231		030-03120-00	RES FILM 120E 5% 0.25W 7X2.5				
R237		045-04470-00	RES NTC SMD 4K7 5% 20MW				
RV101		042-04500-05	RES PRESET SMD 5K CER 4MM SQ				
RV103		042-05500-05	RES PRESET SMD 50K CER 4MM SQ				
RV105		042-04500-05	RES PRESET SMD 5K CER 4MM SQ				
RV107		042-05500-05	RES PRESET SMD 50K CER 4MM SQ				
RV109		044-04200-03	RES PRE 2K 10 TURN PNL MTG				
RV113		042-06500-05	RES PRESET SMD 500K CER 4MM SQ				
RV115		042-04220-05	RES PRESET SMD 2K CER 4MM SQ				
SK101		240-10000-05	CONN SMD SKT 8W 2R M-MATCH				
SK103		240-10000-05	CONN SMD SKT 8W 2R M-MATCH				
*SK203		240-02100-44	SKT COAX MINI JACK PCB MT ANG.				

## T838 Mechanical &amp; Miscellaneous Parts (220-01404-03)

IPN	Legend	Description	IPN	Legend	Description
000-00030-95	9	Q137	319-30064-00	13	SPACER HSINK RF MODULE
004-00687-02/3	14	#IC201	345-00040-16	23	SCRW M3X20MM P/POZ ST BZ
012-04150-01	22	CAP CER F/THRU 1N5 NO LEAD	349-00010-59	17	SCRW 6-32 X 3/8 P/PH T/T ZP
045-06100-05	16	ASSY 100K NTC FOR MODULE R219	349-00020-07	7	SCRW 4-40 X 5/16 P/POZ T/T BLK
051-00006-02		SOLDER SPRING 1.3MM A4M1877 Support for front panel LED solder joints.	349-00020-09	12	SCRW T/T 4-40X3/8 IN P/POZ BLK
051-00641-01	3	COAX SEMI-RIG N-TYPE EXTN	349-00020-36	37	LIM)SCREW TT M3X8m PANTORX BLK
051-00642-01	28	COAX SEMI-RIG N-TYPE EXTN	352-00010-29	36	NUT M4 NYLOC HEX
065-00010-13	21	BEAD FER 7D 1.9X0.9X3.8	353-00010-10	11	WSHR M3 FLAT 7MMX0.6MM ST BZ
201-00030-02		WIRE T/C 7/0.2 PVC RED Front panel LEDs.	356-00010-03	24	TAG SOLDER 3MM LONG M614/3.2
201-00030-10		WIRE T/C 7/0.2 PVC BLACK Front panel LEDs.	356-00010-05	15	TAG SOLDER 4MM LONG M6144/4.2
201-00050-25		AUTO 154 RED 41/0.3 PVC DC+ from D-range PCB.	360-00010-41	34	BUSH SHORTY BLK
201-00050-26		AUTO 154 BLACK 41/0.3 PVC DC- from D-range PCB.	362-00010-07	8	GASKET SIL INSULATING TO-220
206-00010-11		COAX 50 OHM RG316-U PTFE Coax from BNC connector to *SK203.	362-00010-13	10	BUSH INSULATING 1.1MM TOP HAT
219-02591-00	18	LOOM RIBBON 8 WAY FOR PA	362-00010-33	33	GROMMET LED MTG 3MM
219-02592-00		CABLE ASSY RG223/U N TO BNC Exciter/PA connecting cable.	365-00100-20		LABEL WHITE S/A 28X11MM
220-01402-02	2	PCB T838/9 TEFLON DIRNL COUPLER	365-01391-01		LABEL 30X10.8 T/MARK VOID
220-01404-03	1	PCB T838/9 PA MODULE DESIGN	365-01538-00		LABEL WARNING 60W/PWR CLAMP
240-00010-55	20	PLUG 15 W D RANGE W/W PNL MT PL101	369-00010-14		TIE CABLE NYLON 100X2.6MM
240-00100-43		PLG COAX MINI PIN CRIMP 1.5D Coax from BNC connector to *SK203.	399-00010-56		BAG PLASTIC 200X250MM
240-02010-54		SKT 15W DRANGE PNL MTG 125 C Matching socket for D-range plug PL101.	400-00020-07		SLEEVING 2MM SIL RUBBER
240-02100-06	27	SKT COAX N TYPE PNL MTG OP-TER	410-00010-43		PKG T296 AMPAC REF 73-46
240-02100-17	29	SKT COAX BNC PNL JAC CRP RG316			
240-04020-62		SKT 2 W RECEP SHORTING LINK LINK1			
240-06010-14		CLAMP LATCHING 15 W D RANGE Cover for D-range socket.			
240-06010-15	25	BLOCK LATCHING 15W D RANGE			
240-06010-44	26	HOOD CONN UHF & N-TYPE			
303-23120-00	30	COVER A3M2288 HOLE BLANKING			
303-23146-00	38	COVER SIDE T838/9PA			
308-01007-01	35	HANDLE BASE STATION SERIES II			
308-13122-02	6	HEATSINK T838/9 PA COMPLETE			
316-06617-00	32	PNL PA NO INP DRV SER II SNGL			
319-01152-00	19	SHIELD A3M2250 F/THRU MTG			
319-01190-01	4	SHIELD WALL HARM. FILTER			
319-01201-00	31	SHIELD LID HARM. FILTER			
319-01202-00	5	SHIELD PA CONTROL CIRCUIT			

**replace A4 pages D5.2.7/D5.2.8 with A3 pages D5.2.7/D5.2.8**

**replace A4 pages D5.2.7/D5.2.8 with A3 pages D5.2.7/D5.2.8**

## T838 Grid Reference Index (IPN 220-01404-03)

**How To Use This Grid Reference Index**

The first digit in the PCB layout reference is a "1" or "2", indicating the top or bottom side layout respectively, and the last two characters give the location of the component on that diagram.

The first digit in the circuit diagram reference is the sheet number, and the last two characters give the location of the component on that sheet.

Device	PCB	Circuit	Device	PCB	Circuit	Device	PCB	Circuit	Device	PCB	Circuit
<b>Note:</b>			C187	1:D3	1-K1	D113	1:F7	1-Q2	PL101	1:L3	1-C2
This grid reference index covers both the T838 and T839 and is reproduced in both PCB Information sections for your convenience.			C188	1:C2	1-L1	D201	1:F6	2-Q3	*Q101	1:C3	1-C9
*C101	1:E4	1-B8	C189	1:C3	1-M1	D202	1:D4	2-18	*Q103	1:B3	1-E8
*C103	1:E4	1-B9	C190	1:C3	1-N1	D202	1:D4	2-18	*Q105	1:C4	1-D7
*C105	1:B3	1-D8	C192	1:B2	1-N1	D203	1:E6	2-R2	*Q107	1:B5	1-F8
*C107	1:B3	1-D9	C193	1:B2	1-P1	IC101	1:D4	1-C6	*Q109	1:A5	1-G9
*C109	1:B3	1-D8	C195	1:C2	1-Q1	IC101	1:D4	1-G0	Q111	1:A3	1-J7
*C111	1:C4	1-D8	C201	1:J7	2-L5	IC101	1:D4	1-B8	Q113	1:A3	1-K6
*C113	1:B5	1-F8	*C202	1:H3	2-B8	IC101	1:D4	1-C0	Q115	1:A3	1-L7
*C115	1:B5	1-F8	*C203	1:P7	2-C1	IC101	1:D4	1-N0	Q117	1:B4	1-K8
*C117	1:B5	1-F9	*C204	1:M6	2-E1	IC103	1:C4	1-D4	Q119	1:B4	1-L6
*C119	1:B5	1-G8	C205	1:L7	2-I5	IC103	1:C4	1-J8	Q121	1:B3	1-L8
*C121	1:D4	1-B6	*C206	1:P6	2-C1	IC103	1:C4	1-F0	Q123	1:E3	1-E7
*C123	1:D4	1-B6	C207	1:K7	2-K5	IC103	1:C4	1-J5	Q125	1:E3	1-F7
*C124	1:E3	1-C6	*C208	1:H3	2-C8	IC103	1:C4	1-E3	Q127	1:D3	1-G7
*C125	1:C4	1-D7	*C209	1:C5	2-D8	IC105	1:D3	1-M0	Q129	1:B4	1-L4
*C127	1:C4	1-D6	*C210	1:C5	2-E8	IC105	1:D3	1-P0	Q131	1:B3	1-M5
C129	1:B3	1-H5	*C212	1:D5	2-G9	IC105	1:D3	1-G2	Q133	1:D4	1-D0
C131	1:B3	1-J6	*C213	1:D4	2-H9	IC107	1:D3	1-K1	Q135	1:E2	1-H0
C132	1:A3	1-K7	C215	1:D5	2-J8	IC109	1:B2	1-N1	Q136	1:E3	1-H0
C133	1:B4	1-K8	C216	1:H6	2-B6	#IC201	1:K7	2-I4	Q137	1:D2	1-J0
C137	1:B2	1-K8	*C217	1:P3	2-E3	*#IC202	1:K4	2-I1	Q201	1:D5	2-K8
C138	1:B2	1-L8	C218	1:H5	2-C6	*IC203	1:N5	2-F2	R101	1:E4	1-A8
C139	1:B4	1-M6	*C219	1:P2	2-E3	IC204	1:D5	2-H7	*R102	1:E4	1-A9
C141	1:B3	1-M8	C220	1:E5	2-D6	IC204	1:D5	2-H8	R103	1:E4	1-A8
C143	1:E3	1-E7	C221	1:E5	2-N8	IC204	1:D5	2-N8	R104	1:E4	1-B9
C145	1:E3	1-F7	C222	1:E5	2-E6	*IC205	1:G5	2-P2	*R105	1:D4	1-C8
C147	1:D3	1-F6	C223	1:D5	2-G7	L101	1:K3	1-P3	*R106	1:B3	1-C8
C149	1:D3	1-F7	C224	1:D5	2-M8	L103	1:K2	1-Q3	*R107	1:C4	1-D7
C151	1:C5	1-D5	C225	1:L6	2-I4	L105	1:E2	1-K0	*R108	1:B3	1-E9
C153	1:B5	1-D3	C226	1:D4	2-H7	*L201	1:P7	2-C1	*R109	1:C3	1-E9
C155	1:D3	1-G3	C227	1:K6	2-J4	*L202	1:H3	2-B8	*R111	1:B5	1-E8
C159	1:B3	1-H2	C229	1:H6	2-K4	L203	1:L7	2-I6	*R112	1:B5	1-E9
C161	1:B4	1-K4	*C230	1:L4	2-I2	*L204	1:C5	2-D8	*R113	1:B5	1-F9
C162	1:B3	1-L4	*C231	1:L4	2-I1	L206	1:H5	2-B7	*R114	1:C4	1-A6
C164	1:B3	1-L4	*C232	1:K4	2-J1	L208	1:E5	2-D7	*R115	1:C5	1-A6
C165	1:B3	1-M4	*C233	1:K4	2-K2	*L211	1:P2	2-D3	*R116	1:D4	1-A7
C167	1:K3	1-P3	*C234	1:J4	2-L1	L215	1:L7	2-I5	R117	1:C4	1-A6
C169	1:K3	1-P3	*C240	1:H4	2-K1	L217	1:J7	2-K5	R118	1:D4	1-B6
C171	1:K3	1-Q3	C259	1:F7	2-Q3	*L223	1:J4	2-K2	R119	1:D4	1-C7
C173	1:D4	1-B0	C261	1:F6	2-Q4	*L230	1:L4	2-I3	*R120	1:E3	1-H7
C174	1:E4	1-B0	C268	1:E6	2-S2	*L231	1:L4	2-I2	*R121	1:C4	1-C7
C176	1:D4	1-E0	C270	1:D6	2-T2	L233	1:F6	2-Q3	*R122	1:C4	1-D6
C178	1:C4	1-F0	C271	1:C6	2-T2	*L236	1:H6	2-M2	R123	1:B4	1-H7
C179	1:D3	1-G2	C272	1:B6	2-U2	L239	1:E5	2-R2	R124	1:B4	1-H8
C180	1:E2	1-H0	C273	1:B6	2-V2	L241	1:D6	2-S3	R125	1:B4	1-H8
C181	1:D3	1-G0	C294	1:D6	2-R1	L243	1:C6	2-T3	R126	1:B3	1-H6
C182	1:D3	1-H1	C295	1:D6	2-R1	L245	1:C7	2-T2	R127	1:A3	1-H7
C184	1:D4	1-G0	C297	1:C5	2-L8	L247	1:C6	2-U3	R128	1:A3	1-J7
C185	1:D2	1-J1	C298	1:C6	2-L8	L248	1:D7	2-U2	R129	1:B4	1-J9
C186	1:E2	1-J0	D101	1:B3	1-H5	L249	1:B6	2-V3	R130	1:B4	1-J8
			D101	1:B3	1-G5	L264	1:C6	2-L8	R131	1:A3	1-J7
			D103	1:P7	1-K9	LINK1	1:D3	1-L0	R132	1:B5	1-J8
			D105	1:C2	1-J2	LINK2	1:P6	1-D1	R133	1:A3	1-K7
			D105	1:C2	1-J2	LINK201	1:D5	2-F8	R134	1:B3	1-K6
			D107	1:P7	1-K5	P101	1:A5	1-R9	R135	1:P7	1-K9
			D109	1:P6	1-L5	P103	1:K3	1-R0	R136	1:A3	1-K7
			D111	1:C2	1-M1	P105	1:K2	1-R0	R137	1:B3	1-K6
			D111	1:C2	1-M1	P201	1:B6	2-V3	R138	1:B4	1-L6

<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>
R141	1:E3	1-C6	*R223	1:F2	2-P2						
R142	1:E3	1-E7	R224	1:D4	2-G7						
R143	1:E4	1-F6	R225	1:E6	2-R3						
R144	1:D3	1-F6	R228	1:E4	2-G7						
R145	1:E4	1-F7	R229	1:D4	2-H7						
R146	1:E4	1-G7	*R230	1:L4	2-I2						
R148	1:C5	1-D5	R231	1:F5	2-Q2						
R149	1:C5	1-C4	*R232	1:K4	2-K1						
R150	1:C4	1-F0	R237	1:C5	2-K8						
R151	1:B5	1-D5	RV101	1:C4	1-H8						
R152	1:B5	1-C3	RV103	1:C4	1-H6						
R153	1:C5	1-F4	RV105	1:C3	1-J5						
R154	1:C5	1-F3	RV107	1:C3	1-J3						
R155	1:D3	1-F2	RV109	1:P5	1-C2						
R156	1:D3	1-F3	*RV111	1:P5	1-D1						
R157	1:D4	1-G0	RV113	1:C3	1-D0						
R158	1:C4	1-H3	RV115	1:C3	1-K0						
R159	1:C4	1-H4	SK101	1:K3	1-A2						
R160	1:C3	1-J5	SK103	1:B4	1-B2						
R161	1:B3	1-J3	*SK201	1:N3	2-D3						
R162	1:B3	1-K4	*SK203	1:N7	2-C1						
R163	1:P8	1-K5									
R164	1:B3	1-K4									
R165	1:B4	1-K4									
R166	1:P7	1-L5									
R168	1:E4	1-A1									
R169	1:E4	1-A0									
R170	1:D4	1-B0									
R171	1:E4	1-B0									
R172	1:E4	1-B0									
R173	1:P6	1-C1									
R174	1:P6	1-C1									
R175	1:D4	1-C0									
R176	1:D4	1-D0									
R177	1:D4	1-D0									
R178	1:D3	1-E1									
R179	1:D4	1-E0									
R180	1:D4	1-E0									
R181	1:E3	1-F2									
R182	1:D4	1-E0									
R183	1:D4	1-F1									
R184	1:E3	1-G1									
R185	1:E2	1-J0									
R186	1:D2	1-H1									
R187	1:E2	1-H0									
R188	1:D2	1-L1									
R189	1:D2	1-L1									
R190	1:C3	1-M1									
R191	1:B2	1-P1									
R192	1:B2	1-P1									
R193	1:C2	1-Q1									
R194	1:D2	1-H0									
R195	1:D3	1-J0									
R196	1:D3	1-J0									
R197	1:D3	1-L1									
*R201	1:N6	2-D1									
*R202	1:N6	2-D1									
R203	1:L7	2-I5									
*R204	1:N6	2-D1									
R205	1:K7	2-K4									
*R206	1:C5	2-E8									
R207	1:D4	2-F8									
*R208	1:C5	2-G9									
R209	1:D5	2-G8									
R210	1:D5	2-G8									
*R211	1:D4	2-H9									
R212	1:D4	2-I8									
R213	1:D5	2-E7									
R214	1:E4	2-J8									
*R215	1:H3	2-B8									
*R216	1:P6	2-E2									
*R217	1:P6	2-E2									
R218	1:E5	2-E7									
R219	1:H6	2-B6									
R220	1:E5	2-F7									
R222	1:D5	2-G7									