

5.3 T859 Power Amplifier PCB

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T859 Parts List (IPN 220-01159-01)

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

C2, C3	Changed from 27pF (IPN 015-02270-02) to 22pF (IPN 015-02220-06) to improve input matching and thus input sensitivity (710942).
C6	(Hi Band) 100n mylar capacitor and 10e resistor added in series across C6 to improve low power stability and eliminate 3MHz instabilities (710294).
C11 & C12	(Hi Band) 10p added across base & emitters of Q3. To ensure adequate drive power on hi band versions (90/08-390). (Hi Band) deleted to improve low power stability and eliminate 3MHz instabilities (710294).
C22	(Low Band) changed from 100p (015-03100-02) to 33p. To eliminate instability & improve power out (90/01-023). (Mid & Hi Bands) changed from 100p (015-03100-02) to 22p. To eliminate instability & improve power out (90/01-023).
C23	(Low Band) changed from 47p (029-02470-02) to 27p. To eliminate instability & improve power out (90/01-023). (Hi Band) changed from 47p (029-02470-02) to 39p. To accommodate power variations across the band (89/10-547) (Mid & Hi Bands) changed from 39p (029-02390-02) to 18p. To eliminate instability & improve power out (90/01-023).
C24	(Low Band) changed from 39p (029-02390-02) to 22p. To eliminate instability & improve power out (90/01-023). (Mid Band) changed from 39p (029-02390-02) to 18p. To eliminate instability & improve power out (90/01-023). (Hi Band) changed from 33p (029-02330-02) to 18p. To eliminate instability & improve power out (90/01-023).
C27,C43 & C47	(Hi Band) changed from 33p (029-02330-02) to 27p. To accommodate power variations across the band (89/10-547)
C28 & C49	(Mid & Hi Bands) changed from 33p (029-02330-02) to 27p. To eliminate instability & improve power out (90/01-023).
C27, C28, C42 C43, C47 & C49	Changed from mica case type to ceramic chip type. All values remain the same. To eliminate 3MHz & 90MHz instabilities (95/08-7040 & 96/07-7106)).
C42, C43, C47 & C49	(All Bands) changed from ceramic chip to cased mica. All values remain the same. To improve power output and reduce excessive heating around the collectors of the final transistors (710656, 711052).
C69	10u added. To eliminate instability & improve power out (90/01-023).
C70A	100n added. To eliminate instability & improve power out (90/01-023).
C80 & C86	150p deleted. To prevent 800kHz instability (93/03-155).
C102	150p deleted. To prevent 800kHz instability of Q15 & Q16 (95/08-7040 & 96/08-7113).
C130 & C131	150p added. To eliminate instability & improve power out (90/01-023).

Parts List Amendments

D3	Changed from MR750/SR2607 (IPN 001-00011-60) to MR2520L (IPN 001-00012-90) to provide overvoltage transient suppression (750087/88/89/90/91/92).
IC4	LM317L added. To eliminate instability & improve power out (90/01-023).
L18, L35 & L38	Changed from coil 1.5T/8.0mm (052-08180-15) to Inductor Hairpin 10mm Tall (89/10-566).
L21	Changed from coil 1.5T/6.0mm (052-08160-15) to 2.5T/6.0mm (90/01-023).
L27 & L31	Changed from coil 1.5T/6.0mm (052-08160-15) to 2.5T/6.0mm (89/10-566).
R7	(Hi Band) changed from 33e (030-02330-20) to 68e. To ensure adequate drive power on hi band versions (90/08-390).
R11	(Hi Band) changed from 10e (032-32100-00) to 22e. To improve power output from driver stages (90/06-240).
R34 & R35	(Low & Mid Bands) 180e added across base & emitter of Q6. To eliminate instability & improve power out (90/01-023).
R37	1k added. To eliminate instability & improve power out (90/01-023).
R69	10e added. To eliminate instability & improve power out (90/01-023).
R70	220e added. To eliminate instability & improve power out (90/01-023).
R81	1k deleted. To ensure forward power alarm operates under all expected conditions (97/01-0012).
R82 & R84	Changed from 4k7 (036-14470-00) to 2k2. To ensure proper operation of alarm circuits (92/07-501).
R96	Changed from 10k (036-15100-00) to 4k7. To raise limits of reverse power alarm switching point (3/10/89).
R98	Changed from 1k (036-14100-00) to 3k9. To provide adequate setting margin for forward power alarm (89/11-581).
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).
356-00010-03	Solder tag fitted under R92 mounting screw and soldered to the PCB earth plane near R1/R2 junction to improve power alarm operation (710384).

Ref	Var	IPN	Description	Ref	Var	IPN	Description
<div style="border: 1px solid black; padding: 5px;"> <p>Note</p> <p>LOW = 400-440MHZ MID = 440-480MHZ HI = 480-520MHZ</p> </div>				C67		015-21220-01	CAP CER 0805 CHIP 2P2 +/-0.25P NPO 50V
				C68		015-21220-01	CAP CER 0805 CHIP 2P2 +/-0.25P NPO 50V
				C69		025-08100-02	CAP TANT BEAD 10M 10% 16V
				*C70	LOW	015-21470-01	CAP CER 0805 CHIP 4P7 +/-0.25P NPO 50V
				*C70	MID	015-21390-01	CAP CER 0805 CHIP 3P9 +/-0.25P NPO 50V
				*C70	HI	015-21390-01	CAP CER 0805 CHIP 3P9 +/-0.25P NPO 50V
				C70A		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
				C72		015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
				C73		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C76		015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
				C77		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C78		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C81		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C84		015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
				C85		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C87		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C90		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
				C91		025-08100-02	CAP TANT BEAD 10M 10% 16V
				C92		015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
				C93		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C96		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C97		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C98		015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
				C99		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C100		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C101		015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
				C102		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C103		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C104		015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
				C105		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C106		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C108		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C109		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C110		015-01680-02	CAP CER HIQ 1210 CHIP 6P8 5% NPO 200V
				C111		015-01560-02	CAP CER HIQ 1210 CHIP 5P6 5% NPO 200V
				C112		015-01820-06	CAP CER 1210 CHIP 8P2 NPO 500V GRM42-2
				C113		015-01820-06	CAP CER 1210 CHIP 8P2 NPO 500V GRM42-2
				C114		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C115		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C116		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C117		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C118		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C119		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C120		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C121		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C122		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C123		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C124		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C125		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C126		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C127		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C128		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C129		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C130		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				C131		015-23150-01	CAP CER 0805 CHIP 150P 5% NPO 50V
				D1		001-00013-45	(S) DIODE SCHOTTKY 1SS97/2
				D2		001-00013-45	(S) DIODE SCHOTTKY 1SS97/2
				D3		001-00011-60	(S) DIODE SR2607 6A/30V
				D5		008-00013-32	(S) LED 3MM RED LO CURRENT NO MTG
				D6		001-10000-70	(S) DIODE SMD BAV70 DUAL SW SOT-23 COM CA
				D10		008-00013-35	(S) LED 3MM GREEN LO CURRENT NO MTG
				D11		008-00013-32	(S) LED 3MM RED LO CURRENT NO MTG
				D13		001-10000-70	(S) DIODE SMD BAV70 DUAL SWSOT-23 COM CA
				D17		001-10000-70	(S) DIODE SMD BAV70 DUAL SW SOT-23 COM CA
				IC1		002-10003-24	(S) IC SMD 324 QUAD OP AMP SO14
				IC2		002-00014-62	(S) IC 317L 100MA REG 3 TERMINAL TO-92
				IC3		002-10003-24	(S) IC SMD 324 QUAD OP AMP SO14
				IC4		002-00014-62	(S) IC 317L 100MA REG 3 TERMINAL TO-92
				L1		052-08330-10	COIL A/W 1T/3.0MM SMD 0.8MM WIRE
				L2		052-08160-25	COIL A/W 2.5T/6.0MM HOR 0.8MM WIRE
				L3		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L5		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L6		052-08160-25	COIL A/W 2.5T/6.0MM HOR 0.8MM WIRE
				L7		052-08160-25	COIL A/W 2.5T/6.0MM HOR 0.8MM WIRE
				L8		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L11		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L12		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L13		052-08160-15	COIL A/W 1.5T/6.0MM HOR 0.8MM WIRE
				L14		051-00005-45	COIL IND 18MM FORMED COPPER STRIP
				L15		051-00005-45	COIL IND 18MM FORMED COPPER STRIP
				L16		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L17		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L18		051-00005-60	IND HAIRPIN 10MM TALL T859
				L19		051-00005-39	COUPLER WIRELINE TAIT COIL DWG NO 539
				L20		052-08340-20	COIL A/W 2T/4.0MM SMD 0.8MM WIRE
				L21		052-08160-25	COIL A/W 2.5T/6.0MM HOR 0.8MM WIRE
				L22		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L23		051-00005-45	COIL IND 18MM FORMED COPPER STRIP
				L24		052-08340-20	COIL A/W 2T/4.0MM SMD 0.8MM WIRE
				L25		052-08130-15	COIL A/W 1.5T/3.0MM HOR 0.8MM WIRE
				L26		052-08130-15	COIL A/W 1.5T/3.0MM HOR 0.8MM WIRE
				L27		052-08160-25	COIL A/W 2.5T/6.0MM HOR 0.8MM WIRE
				L28		065-00010-04	BEAD FERRITE F8 4X2X5MM
				L31		052-08160-25	COIL A/W 2.5T/6.0MM HOR 0.8MM WIRE
				L32		065-00010-04	BEAD FERRITE F8 4X2X5MM

Ref	Var	IPN	Description	Ref	Var	IPN	Description
L35		051-00005-60	IND HAIRPIN 10MM TALL T859	R87		036-15100-00	RES M/F 0805 CHIP 10K 5%
L36		065-00010-04	BEAD FERRITE F8 4X2X5MM	R88		036-15100-00	RES M/F 0805 CHIP 10K 5%
L37		065-00010-04	BEAD FERRITE F8 4X2X5MM	R89		039-02500-01	DUMMY LOAD 50E 1% 10W TO-220 NIKKOHM
L38		051-00005-60	IND HAIRPIN 10MM TALL T859	R90		039-02500-01	DUMMY LOAD 50E 1% 10W TO-220 NIKKOHM
L39		051-00005-54	COUPLER WIRELINE TAIT COIL DWG NO 554	R91		039-02500-01	DUMMY LOAD 50E 1% 10W TO-220 NIKKOHM
L41		056-00021-04	IND FXD 330NH AXIAL	R92		039-02500-01	DUMMY LOAD 50E 1% 10W TO-220 NIKKOHM
*L42	LOW	052-08340-10	COIL A/W 1T/4.0MM SMD 0.8MM WIRE	R93		039-02500-01	DUMMY LOAD 50E 1% 10W TO-220 NIKKOHM
*L42	MID	052-08330-10	COIL A/W 1T/3.0MM SMD 0.8MM WIRE	R94		039-02500-01	DUMMY LOAD 50E 1% 10W TO-220 NIKKOHM
*L42	HI	052-08330-10	COIL A/W 1T/3.0MM SMD 0.8MM WIRE	R95		036-14100-00	RES M/F 0805 CHIP 1K 5%
L43		052-08335-10	COIL A/W 1T/3.5MM SMD 0.8MM WIRE	R96		036-14470-00	RES M/F 0805 CHIP 4K7 5%
*L45	LOW	052-08345-20	COIL A/W 2T/4.5MM SMD 0.8MM WIRE	R97		036-14100-00	RES M/F 0805 CHIP 1K 5%
*L45	MID	052-08335-20	COIL A/W 2T/3.5MM SMD 0.8MM WIRE	R98		036-14390-00	RES M/F 0805 CHIP 3K9 5%
*L45	HI	052-08335-20	COIL A/W 2T/3.5MM SMD 0.8MM WIRE	R99		036-14100-00	RES M/F 0805 CHIP 1K 5%
*L46	LOW	052-08345-20	COIL A/W 2T/4.5MM SMD 0.8MM WIRE	R100		036-14100-00	RES M/F 0805 CHIP 1K 5%
*L46	MID	052-08340-20	COIL A/W 2T/4.0MM SMD 0.8MM WIRE	R101		036-12100-00	RES M/F 0805 CHIP 10E 5%
*L46	HI	052-08340-20	COIL A/W 2T/4.0MM SMD 0.8MM WIRE	R102		036-16220-00	RES M/F 0805 CHIP 220K 5%
*L47	LOW	052-08340-20	COIL A/W 2T/4.0MM SMD 0.8MM WIRE	R103		036-15330-00	RES M/F 0805 CHIP 33K 5%
*L47	MID	052-08335-20	COIL A/W 2T/3.5MM SMD 0.8MM WIRE	R104		036-15150-00	RES M/F 0805 CHIP 15K 5%
*L47	HI	052-08335-20	COIL A/W 2T/3.5MM SMD 0.8MM WIRE	R105		036-16470-00	RES M/F 0805 CHIP 470K 5%
L49		056-00021-04	IND FXD 330NH AXIAL	R106		036-15150-00	RES M/F 0805 CHIP 15K 5%
L51		056-00021-04	IND FXD 330NH AXIAL	R107		036-14390-00	RES M/F 0805 CHIP 3K9 5%
L52		051-00005-53	COIL TAIT NO 553 A/W 10MM LINK T858/9	R108		036-15100-00	RES M/F 0805 CHIP 10K 5%
Q1		000-00022-71	(S) XSTR SD1135 NPN STUD MTG UHF PWR 5W	R109		036-14330-00	RES M/F 0805 CHIP 3K3 5%
Q3		000-00032-79	(S) XSTR MRF654 UHF PWR 15W STUD	R110		036-16100-00	RES M/F 0805 CHIP 100K 5%
Q4		000-00032-67	(S) XSTR MRF648 UHF PWR 60W 6LFL	R111		036-16220-00	RES M/F 0805 CHIP 220K 5%
Q6		000-00032-67	(S) XSTR MRF648 UHF PWR 60W 6LFL	R112		036-16220-00	RES M/F 0805 CHIP 220K 5%
Q7		000-00032-67	(S) XSTR MRF648 UHF PWR 60W 6LFL	R113		036-15270-00	RES M/F 0805 CHIP 27K 5%
Q10		000-00020-70	(S) XSTR BS170 JFET TO-92 SMALL SIG	R115		036-16470-00	RES M/F 0805 CHIP 470K 5%
Q11		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT-23 AF LO PWR	R116		045-04470-01	RES NTC 4K7 20% 5MM DISC
Q12		000-00020-70	(S) XSTR BS170 JFET TO-92 SMALL SIG	R117		036-15150-00	RES M/F 0805 CHIP 15K 5%
Q13		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT-23 AF LO PWR	R118		036-14390-00	RES M/F 0805 CHIP 3K9 5%
Q15		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT-23 AF LO PWR	R119		036-14820-00	RES M/F 0805 CHIP 8K2 5%
Q16		000-00030-95	(S) XSTR 2N6107 PNP TO-220 AF PWR	R120		036-14680-00	RES M/F 0805 CHIP 6K8 5%
Q17		000-10008-57	(S) XSTR SMD BCW70/BC857-215 PNP SOT23 AF	R121		036-14100-00	RES M/F 0805 CHIP 1K 5%
Q18		000-00011-70	(S) XSTR BD136 PNP AF PWR TO126	R122		036-14100-00	RES M/F 0805 CHIP 1K 5%
Q19		000-10008-57	(S) XSTR SMD BCW70/BC857-215 PNP SOT23 AF	R123		036-13470-00	RES M/F 0805 CHIP 470E 5%
Q20		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT-23 AF LO PWR	R124		036-13220-00	RES M/F 0805 CHIP 220E 5%
Q21		000-10008-17	(S) XSTR SMD BC817-25 NPN SOT-23 AF LO PWR	SK1		240-02100-44	SKT COAX MINI JACK PCB MTG ANGLED
R1		030-53470-20	RES FILM AI 470E 5% 0.4W 4X1.6MM				
R2		030-02120-20	RES FILM 12E 5% 0.4W 4X1.6MM				
R3		030-53470-20	RES FILM AI 470E 5% 0.4W 4X1.6MM				
*R7	LOW	030-52330-20	RES FILM AI 33E 5% 0.4W 4X1.6MM				
*R7	MID	030-52330-20	RES FILM AI 33E 5% 0.4W 4X1.6MM				
*R7	HI	030-52680-20	RES FILM AI 68E 5% 0.4W 4X1.6MM				
R8		032-33100-00	RES M/F PWR 100E 5% 1W 10X4MM				
*R11	LOW	032-32100-00	RES M/F PWR 10E 5% 1W 10X4MM				
*R11	MID	032-32100-00	RES M/F PWR 10E 5% 1W 10X4MM				
*R11	HI	032-32220-00	RES M/F PWR 22E 5% 1W 12X4.5MM				
R30		030-53100-20	RES FILM AI 100E 5% 0.4W 4X1.6MM				
R31		030-53100-20	RES FILM AI 100E 5% 0.4W 4X1.6MM				
R32		030-02820-20	RES FILM 82E 5% 0.4W 4X1.6MM				
R33		030-02820-20	RES FILM 82E 5% 0.4W 4X1.6MM				
*R34	LOW	032-33180-01	RES M/F PWR 180E 5% 2.5W 17X5MM				
*R34	MID	032-33180-01	RES M/F PWR 180E 5% 2.5W 17X5MM				
*R34	HI		NOT FITTED				
*R35	LOW	032-33180-01	RES M/F PWR 180E 5% 2.5W 17X5MM				
*R35	MID	032-33180-01	RES M/F PWR 180E 5% 2.5W 17X5MM				
*R35	HI		NOT FITTED				
R36		036-13680-00	RES M/F 0805 CHIP 680E 5%				
R37		036-14100-00	RES M/F 0805 CHIP 1K 5%				
R38		036-17100-00	RES M/F 0805 CHIP 1M 5%				
R42		036-15100-00	RES M/F 0805 CHIP 10K 5%				
RV43		042-05470-09	RES PRESET 50K CERMET 9.5MM SQ FLAT				
R44		036-14470-00	RES M/F 0805 CHIP 4K7 5%				
R47		036-16100-00	RES M/F 0805 CHIP 100K 5%				
RV48		042-04500-08	RES PRESET 5K CERMET 9.5MM SQ FLAT				
R49		036-13680-00	RES M/F 0805 CHIP 680E 5%				
R50		036-13680-00	RES M/F 0805 CHIP 680E 5%				
RV52		042-04500-08	RES PRESET 5K CERMET 9.5MM SQ FLAT				
R55		036-17100-00	RES M/F 0805 CHIP 1M 5%				
R56		036-15100-00	RES M/F 0805 CHIP 10K 5%				
RV57		042-05470-09	RES PRESET 50K CERMET 9.5MM SQ FLAT				
R58		036-14470-00	RES M/F 0805 CHIP 4K7 5%				
R61		036-13220-00	RES M/F 0805 CHIP 220E 5%				
R62		036-14100-00	RES M/F 0805 CHIP 1K 5%				
*RV63	LOW	044-04200-03	RES PRESET MULTITURN 2K 10T PNL MTG				
*RV63	MID	044-04200-03	RES PRESET MULTITURN 2K 10T PNL MTG				
*RV63	HI	044-04200-03	RES PRESET MULTITURN 2K 10T PNL MTG				
R64		036-14470-00	RES M/F 0805 CHIP 4K7 5%				
R67		036-15100-00	RES M/F 0805 CHIP 10K 5%				
R68		036-14470-00	RES M/F 0805 CHIP 4K7 5%				
R69		036-12100-00	RES M/F 0805 CHIP 10E 5%				
RV69		042-04220-02	RES PRESET 2K CERMET 9.5MM SQ FLAT				
R70		036-13220-00	RES M/F 0805 CHIP 220E 5%				
R72		045-04470-01	RES NTC 4K7 20% 5MM DISC				
R73		036-16220-00	RES M/F 0805 CHIP 220K 5%				
RV74		042-05100-10	RES PRESET 10K CERMET 9.5MM SQ FLAT				
R77		036-14220-00	RES M/F 0805 CHIP 2K2 5%				
R78		036-14100-00	RES M/F 0805 CHIP 1K 5%				
R80		036-13100-00	RES M/F 0805 CHIP 100E 5%				
R81		036-14100-00	RES M/F 0805 CHIP 1K 5%				
R82		036-14220-00	RES M/F 0805 CHIP 2K2 5%				
R83		036-14100-00	RES M/F 0805 CHIP 1K 5%				
R84		036-14220-00	RES M/F 0805 CHIP 2K2 5%				
R85		036-14100-00	RES M/F 0805 CHIP 1K 5%				
R86		036-14100-00	RES M/F 0805 CHIP 1K 5%				

T859 Mechanical & Miscellaneous Parts (220-01159-01)

IPN	Legend	Description	IPN	Legend	Description
012-04100-05	30	CAP F/THRU 1N SUPPR FLTR S-MTG	319-30033-00	13	SPACER A4M1339 UHF PA
065-00010-20		BEAD FERRITE BALUN 4B1 PHILIPS Placed on DC+ power cables.	345-00040-16	24	SCRW M3X20MM P/POZ ST BZ
070-01001-00	23	D-RANGE 15 WAY COMPL T800	349-00020-07	6	SCRW 4-40 X 5/16 P/POZ T/T BLK
070-02003-00		LED RED COMPL T800 PA "High Rev/Low Fwd Power" LEDs - D11/D5	349-00020-09	11	SCRW T/T 4-40X3/8 IN P/POZ BLK
070-02004-00		LED GREEN COMPL T800 PA "Supply" LED - D10	349-00020-36	43	LIM)SCREW TT M3X8m PANTORX BLK
201-00030-01		WIRE T/C 7/0.2 PVC BROWN Forward power alarm.	349-00020-43	34	SCRW T/T M4X12MM P/POZ BZ
201-00030-03		WIRE T/C 7/0.2 PVC ORANGE Reverse power meter.	349-00020-49	32	SCRW T/T M4X35MM P/POZ BZ
201-00030-04		WIRE T/C 7/0.2 PVC YEL Reverse power.	349-00020-50	21	SCRW T/T 4-40 * 5/8 P/POZ BLK
201-00030-05		WIRE T/C 7/0.2 PVC GRN Forward power meter.	352-00010-29	40	NUT M4 NYLOC HEX
201-00030-06		WIRE T/C 7/0.2 PVC BLUE Tx-Key.	352-00010-35	15	NUT 8-32 UNC HEX XSTR MTG
201-00030-07		WIRE T/C 7/0.2 PVC VIOLET Reverse power alarm.	353-00010-10	10	WSHR M3 FLAT 7MM*0.6MM ST BZ
201-00030-09		WIRE T/C 7/0.2 PVC WHITE Temperature sense.	353-00010-24	39	WSHR M4x8mm Flat
201-00030-10		WIRE T/C 7/0.2 PVC BLACK Forward power.	356-00010-01	18	TAG SOLDER 3MM SHORT M6132/3.2
201-00050-12		AUTO 152 RED 28/0.3 PVC DC+ from D-range PCB.	356-00010-03	5	TAG SOLDER 3MM LONG M614/3.2
201-00050-20		AUTO 152 BLACK 28/0.3 PVC DC- from D-range PCB.	357-00010-45	33	CLAMP CABLE 4.8MM P CLIP
219-02592-00		CABLE ASSY RG223/U N TO BNC Exciter/PA connecting cable.	360-00010-41	42	BUSH SHORTY BLK
219-02599-00		CABLE ASSY PA INPUT REAR DRIVE RF input cable/connector assembly.	362-00010-07	7	GASKET SIL INSULATING TO-220
220-01152-00	2	PCB T858/859 DIRNL COUPLER	362-00010-13	9	BUSH INSULATING 1.1MM TOP HAT
220-01159-01	1	PCB T859 100W PA A1C674	362-00010-33	41	GROMMET LED MTG 3MM
240-02100-06	26	SKT COAX N TYPE PNL MTG OP-TER	365-00100-20		LABEL WHITE S/A 28X11MM
240-02100-17	27	SKT COAX BNC PNL JAC CRP RG316 Part of 219-02599-00 sub-assembly.	365-01540-00		LABEL PA TYPE APPL/SERIAL NO
240-06010-15	25	BLOCK LATCHING 15W D RANGE	369-00010-14		TIE CABLE NYLON 100*2.6MM
258-00010-03	31	FAN 12V 119X119X25MM TUBE AX	399-00010-51		BAG PLASTIC 75*100MM
302-05204-00	29	BRKT A3M2314 F/THRU MTG T859	400-00020-07		SLEEING 2MM SIL RUBBER
303-23117-00	44	COVER SIDE COMPL A2M2223	400-00020-09		SLEEING 3MM SIL RUBBER
303-50005-00	36	CONTACT A4M2311 SPRING EARTH	400-00020-30		HEATSHRINK 3MM
308-01007-01	38	HANDLE BASE STATION SERIES II	410-00010-43		PKG T296 AMPAC REF 73-46
308-13085-01	4	HSINK DIECAST T858 50W PA			
308-13086-00	19	HSINK A3M2271 2MM W/LINE PA			
316-06651-00	37	PNL PA NO INP DRV SER II DBL			
316-85018-00	27	PIN A4M1397 COAX CONDUCTOR			
319-01147-00	3	SHIELD A3M2224 WALL T859 PA			
319-01148-00	35	SHIELD A3M2225 LID T859 PA			

Note

The following electrical components are also included in the mechanical assembly drawing to help identify certain mechanical components.

000-00022-71	14	(S) XSTR SD1135 NPN STUD MTG UHF PWR 5W - Q1
000-00030-95	8	(S) XSTR 2N6107 PNP TO-220 AF PWR - Q16
000-00032-79	16	(S) XSTR MRF654 UHF PWR 15W STUD - Q3
000-00032-67	17	(S) XSTR MRF648 UHF PWR 60W 6LFL Q4, Q6, Q7
039-02500-01	12	DUMMY LOAD 50E 1% 10W TO-220 NIKKOHM - R89/90/91/92/93/94
051-00005-39	20	COUPLER WIRELINE TAIT COIL DWG NO 539 - L19
051-00005-54	22	COUPLER WIRELINE TAIT COIL DWG NO 554 - L39

replace A4 pages D5.3.9/D5.3.10 with A3 pages D5.3.9/D5.3.10

replace A4 pages D5.3.9/D5.3.10 with A3 pages D5.3.9/D5.3.10

T859 Grid Reference Index (IPN 220-01159-01)

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
CV1	1:Q9	1-E7	C85	1:V9	2-B4			2-G4			2-A3
C2	1:Q8	1-E7	C86	1:W6	2-G3			2-N6			2-A8
C3	1:R8	1-E7	C87	1:T2	2-E2			2-N5	Q1	1:Q8	1-C7
C6	1:S8	1-B8	C90	1:V7	2-C0			2-F1	Q3	1:Q6	1-A2
C7	1:Q7	1-C8	C91	1:W8	2-M2	IC4	1:V5	2-H1	Q4	1:Q4	1-D2
CV8	1:R7	1-B7	C92	1:U6	2-P2	L1	1:R9	1-E7	Q6	1:K8	1-H5
C15	1:S5	1-B2	C93	1:U6	2-N2	L2	1:P9	1-D7	Q7	1:K4	1-H2
C16	1:S5	1-B3	C96	1:U5	2-K0	L3	1:P9	1-D7	Q10	1:V10	2-B8
C17	1:S6	1-C3	C97	1:J10	1-Q8	L5	1:T8	1-D9	Q11	1:U10	2-C8
C18	1:T3	1-C3	C98	1:K10	1-R8	L6	1:R7	1-C8	Q12	1:V9	2-B5
C19	1:S2	1-D3	C99	1:U6	2-L0	L7	1:P7	1-B7	Q13	1:U9	2-C4
C20	1:S3	1-E3	C100	1:U6	2-N1	L8	1:P8	1-B7	Q15	1:U8	2-Q2
*C22	1:Q5	1-B2	C101	1:V3	2-N0	L11	1:S7	1-A4	Q16	1:T10	2-R2
*C23	1:Q5	1-C2	C102	1:U8	2-Q2	L12	1:S5	1-A3	Q17	1:T5	2-R7
*C24	1:R5	1-C1	C103	1:U8	2-Q1	L13	1:R5	1-A2	Q18	1:T5	2-R8
*C27	1:Q3	1-D2	C104	1:T6	2-R3	L14	1:Q3	1-E2	Q19	1:V4	2-P8
*C28	1:R3	1-E2	C105	1:T9	2-R2	L15	1:K8	1-K5	Q20	1:U5	2-Q7
C29	1:P3	1-E2	C106	1:T8	2-R1	L16	1:S4	1-C3	Q21	1:V4	2-Q5
CV32	1:P2	1-E1	C108	1:T4	2-J8	L17	1:S3	1-D3	R1	1:R10	1-F7
*C33	1:P3	1-F1	C109	1:T4	2-H3	L18	1:R3	1-D2	R2	1:R9	1-F7
CV34	1:M4	1-G2	C110	1:E3	1-N3	L19	1:N6	1-F3	R3	1:R9	1-F7
CV35	1:M8	1-G5	C111	1:N8	1-F5	L20	1:F3	1-M2	R7	1:R9	1-D7
*C36	1:L8	1-G5	C112	1:F3	1-M1	L21	1:P5	1-B2	R8	1:S7	1-C8
C37	1:L8	1-H5	C113	1:D3	1-P1	L22	1:P6	1-B1	R11	1:R6	1-A7
*C40	1:L4	1-G1	C114	1:V10	2-A8	L23	1:K4	1-K2	R30	1:G9	1-M5
C41	1:L3	1-H1	C115	1:V9	2-A4	L24	1:D3	1-P2	R31	1:E7	1-N6
*C42	1:K4	1-J1	C116	1:V3	2-N1	L25	1:M3	1-F1	R32	1:D6	1-Q4
*C43	1:K3	1-J1	C117	1:W5	2-P8	L26	1:M8	1-F5	R33	1:D6	1-R4
C45	1:K4	1-J3	C118	1:V4	2-P8	L27	1:L9	1-G5	*R34	See Note	1-G5
C46	1:K7	1-J6	C119	1:U4	2-P7	L28	1:M9	1-G5	*R35	See Note	1-H5
*C47	1:K8	1-J5	C120	1:U4	2-P6	L31	1:M3	1-G2	R36	1:W9	2-C7
*C49	1:K8	1-J5	C121	1:V4	2-P5	L32	1:M2	1-G1	R37	1:W4	2-K0
C50	1:H8	1-K5	C122	1:V4	2-P5	L35	1:J7	1-J6	R38	1:W5	2-E8
CV51	1:H8	1-L5	C123	1:T5	2-Q7	L36	1:J6	1-J6	R42	1:V5	2-F8
*C52	1:J8	1-K5	C124	1:U5	2-Q7	L37	1:J5	1-J3	RV43	1:V1	2-G6
C54	1:K6	1-K3	C125	1:T5	2-R8	L38	1:J4	1-J2	R44	1:U6	2-G6
C55	1:K6	1-K3	C126	1:U3	2-N6	L39	1:H6	1-L4	R47	1:W5	2-F8
C56	1:H4	1-L2	C127	1:U3	2-M7	L41	1:F9	1-N5	RV48	1:W1	2-F8
CV57	1:H3	1-L1	C128	1:V3	2-M4	*L42	1:D7	1-P4	R49	1:W10	2-B6
*C58	1:J3	1-K1	C129	1:U3	2-N5	L43	1:C7	1-Q4	R50	1:W8	2-C5
C60	1:E9	1-N5	C130	1:V10	2-C8	*L45	1:C8	1-P5	RV52	1:T1	2-F5
C61	1:F9	1-N5	C131	1:V9	2-C4	*L46	1:C9	1-Q5	R55	1:V6	2-D4
*C62	See Note	1-P5	D1	1:F6	1-M6	*L47	1:B8	1-Q5	R56	1:V6	2-E4
*C63	1:C9	1-P5	D2	1:E9	1-N5	L49	1:F6	1-M6	RV57	1:S1	2-E3
*C65	1:C9	1-Q5	D3	1:S3	2-B1	L51	1:K10	1-Q9	R58	1:U6	2-G5
*C66	1:B8	1-R5	D5	1:W9	2-C8	L52	1:C7	1-P4	R61	1:V8	2-E0
C67	See Note	1-P4	D6	1:U2	2-G6	PL1	1:J5	2-A2	R62	1:V8	2-D0
C68	1:D7	1-Q4	D10	1:W10	2-B5			2-A1	*RV63	1:V6	2-M2
C69	1:W6	2-G1	D11	1:W9	2-C5			2-A2	R64	1:U6	2-N2
*C70	1:D6	1-Q4	D13	1:T2	2-E2			2-A2	R67	1:W5	2-K2
C70A	See Note	2-J1	D17	1:V3	2-N1			2-A1	R68	1:U5	2-L2
C72	1:E6	1-L6			2-N1			2-A9	R69	1:V6	2-G1
C73	1:F6	1-L6	IC1	1:V6	2-E8			2-A6	RV69	1:V2	2-H1
C76	1:V10	2-B8			2-D5			2-A0	R70	1:V5	2-G1
C77	1:V10	2-B8			2-P2			2-A0	R72	1:J10	1-Q8
C78	1:U10	2-C7			2-L1			2-A1	R73	1:U5	2-L0
C80	1:U6	2-H8			2-G1			2-A1	RV74	1:W2	2-M0
C81	1:U2	2-F6	IC2	1:V8	2-D0			2-A0	R77	1:V6	2-P3
C84	1:V9	2-B4	IC3	1:U4	2-H8			2-A5	R78	1:U8	2-Q2