

RCVR CONV MODULE, 16-32MC

MODEL TTRR-4

REV H

TITLE

USED ON
MODEL SECTION
TTR-10

LIST SECTIONS

1. SUPPORTING NOTES
2. SUPPORTING LISTS
3. ELECTRICAL/MECHANICAL
4. SUPP ASSY/REF DWGS
5. SPECIFICATIONS
6. LOOSE ITEMS
7. PARTS PECULIAR

SHEET NO.

SEE BELOW
NONE REQ
1-8
9
10
NONE REQ
NONE REQ

LAST SYMBOLS

C433	S401	XZ401
L407	T405	Y402
Q406	W402	Z401
R415	XY402	

COMPILED	J. FERRERI
CHECKED	L. GABEL
APPROVED	T. AALTONEN
FNL APPR	<i>L. Gabel</i>
ISS DATE	9-4-64

MISSING SYMBOLS

R416

NOTE 1. THE FOLLOWING SYMBOL, #, IN THE REMARKS COLUMN INDICATES THAT THE PART NUMBER IMMEDIATELY FOLLOWING IT IS THE TMC PROPRIETARY MANUFACTURING DRAWING FOR THE CORRESPONDING NUMBER IN THE PART NUMBER COLUMN.

NOTE 2. ALL ITEMS REFERENCED TO THIS NOTE SHALL BE USED WHEN XTAL OVENS ARE REQUIRED BY CUSTOMER.

NOTE 3. ALL ITEMS REFERENCED TO THIS NOTE SHALL BE USED WHEN NO XTAL OVENS ARE REQUIRED BY CUSTOMER.

NOTE 4. CRYSTAL FREQ. SHALL BE DETERMINED BY THE FOLLOWING FORMULA.
SIGNAL FREQ + 1.75 MC

**MATERIAL LIST /
NUMERICAL PARTS LIST**

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SHEET 1 OF 10

PART NO.	DESCRIPTION ELECTRICAL/MECHANICAL	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
A3230-1	PC BD, MKG	A3230-2		1	1		
BS100	SOLDER, TIN ALY	A3223-1					
		A3223-11					
		A3223-12					
		A3223-13					
		A3230-2					
CG20CH050C	CAP., FXD, CER	A3230-2		1	1	C401	
CG20CK2R2C	CAP., FXD, CER	A3230-2		1		C402	
		A3230-2		1	2	C403	
CC100-15	CAP., FXD, CER	A3230-2		1	1	C415	
CC100-16	CAP., FXD, CER	A3230-2		1		C404	
		A3230-2		1		C405	
		A3230-2		1		C406	
		A3230-2		1		C407	
		A3230-2		1		C408	
		A3230-2		1		C409	
		A3230-2		1		C430	
		A3230-2		1	8	C433	
CC100-25	CAP., FXD, CER	A3230-2		1	1	C424	
CC100-33	CAP., FXD, CER	A3230-2		1		C410	
		A3230-2		1		C411	
		A3230-2		1		C412	
		A3230-2		1		C413	
		A3230-2		1	5	C414	
CC107UL330F	CAP., FXD, CER	A3230-2		1	1	C426	
CI127-1	CORE, TOROID	A3223-1		1	1		

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			PART NO.			DESCRIPTION ELECTRICAL/MECHANICAL			ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS		REMARKS					
						USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT												
CI127-2			CORE, TOROID			A3223-11		1												
						A3223-12		1												
						A3223-12		1												
						A3223-13		1	4											
CL240-22			COIL, RF, FXD			A3230-2		1			L404									
						A3230-2		1			L405									
						A3230-2		1	3			L406								
CL240-100			COIL, RF, FXD			A3230-2		1			L401									
						A3230-2		1			L402									
						A3230-2		1	3			L403								
CL270-0.68			COIL, RF, FXD			A3230-2		1	1			L407								
CM15F101J03			CAP., FXD, MICA			A3230-2		1	1			C425								
CM15F111J03			CAP., FXD, MICA			A3230-2		1	1			C432								
CM15C050J03YY			CAP., FXD, MICA			A3230-2		1	1			C427								
CM15F331J03			CAP., FXD, MICA			A3230-2		1	1			C428								
CM15F241J03			CAP., FXD, MICA			A3230-2		1	1			C431								
CM100-10			CAP., FXD, MICA			A3230-2		1	1			C423								
CM20B561J03S			CAP., FXD, MICA			A3230-2		1	1			C429								
CR110-1-FREQ			CU, QTZ, OVEN			A2747		1			Y401		NOTE 2							
OR						A2747		1	2			Y402								
CR110-3-FREQ			CU, QTZ, AMBIENT			A2747		1			Y401		NOTE 3							
						A2747		1	2			Y402								

MATERIAL LIST/ NUMERICAL PARTS LIST		REV.	A	B	C	D	E	F	G	H	MODEL: TTRR-4										SHEET 4	OF 10
PART NO.	DESCRIPTION ELECTRICAL/MECHANICAL	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS															
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT																		
LWE04MRN	WASH., LK, EXT	A2746		2																		
		A3230-2		17																		
LWI06MRN	WASH., LK, INT	A2747		2	21																	
		A3230-2		2	2																	
LWI08MRN	WASH., LK, INT	A2741		1	1																	
LW137MRN	WASH., LK, INT	A3230-2		1	1																	
MP126-1	KNOB, THD	A2741		1	1																	
MP123-1UB	KNOB	A2746		1	1																	
MS3372	BRKT, MTG, CAP.	A3230-2		1	1																	
MS3377	PL, SD, L/R	A2746		2	2																	
MS3379	CHAS, WRPARD	LD1326			1																	
MS3380	SHIELD, RF	A3230-2		4	4	MACH																
MS3381	PNL, FRONT	LD1332			1																	
MS3414	BRKT, XTAL SOC	LD1342			1	MACH																
MS3446	PL, XTAL RET.	A2747			1	MACH																
MS4401	BRKT, RET.	A2746		1	1	NOTE 3																
NP559	PL, ID, FREQ	A2746		1	1																	
NP562	PL, ID, COMM	A2746		1	1																	
NT129-440-4	NUT, PLN, SPLINE	MS3379		12																		
		MS3414		2		RD																
		MS4401		4	18	RD																
NT137-0440	NUT, PLN, HEX, N	A3230-2		10	10																	
NTH0440BN6	NUT, PLN, HEX	A3230-2		9	9																	
NTH3732BN18	NUT, PLN, HEX	A3230-2		1	1																	

**MATERIAL LIST /
NUMERICAL PARTS LIST**

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PART NO.	DESCRIPTION ELECTRICAL/MECHANICAL	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
OC100-1 OR	OVEN, XTAL, 12VDC	A2747		1	1	Z401	NOTE 2
OC100-2 OR	OVEN, XTAL, 24VDC	A2747		1	1	Z401	NOTE 2
OC100-3 OR	OVEN, XTAL, 115VAC	A2747		1	1	Z401	NOTE 2
OC100-4	OVEN, XTAL, 32VDC	A2747		1	1	Z401	NOTE 2
PC100-1	PC BD, ETCHING	PC100-2		1	1		
PC100-2	PC BD, MACH	PC100-3		1	1		
PX104-2-022	INS SLVG, SZ 24	A3230-2		2	2		YEL
PX104-3-022	INS SLVG, SZ 24	A3230-2		2	2		RED
PX104-4-022	INS SLVG, SZ 24	A3230-2		2	2		GRN
PX104-6-022	INS SLVG, SZ 24	A3230-2		2	2		BLU
PX104-7-022	INS SLVG, SZ 24	A3230-2		2	2		GY
PX829-1	PAD, TSTR MTG	A3230-2		6	6		
RC20GF102J	RES, FXD, COMP	A3230-2		1		R408	
RC20GF103J	RES, FXD, COMP	A3230-2		1	2	R410	
RC20GF103J	RES, FXD, COMP	A3230-2		1	1	R407	
RC20GF103J	RES, FXD, COMP	A3230-2		1	1	R407	
RC20GF103J	RES, FXD, COMP	A3230-2		1	1	R402	
RC20GF122J	RES, FXD, COMP	A3230-2		1	4	R403	
RC20GF122J	RES, FXD, COMP	A3230-2		1		R404	
RC20GF122J	RES, FXD, COMP	A3230-2		1		R405	
RC20GF122J	RES, FXD, COMP	A3230-2		1	3	R406	
RC20GF470K	RES, FXD, COMP	A3230-2		1	1	R413	

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PART NO.	DESCRIPTION ELECTRICAL/MECHANICAL	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
RC20GF222J	RES, FXD, COMP	A3230-2		1	1	R414	
RC20GF822J	RES, FXD, COMP	A3230-2		1		R401	
		A3230-2		1		R402	
RC20GF392J	RES, FXD, COMP	A3230-2		1	3	R403	
		A3230-2		1		R411	
		A3230-2		1	2	R412	
RC20GF471K	RES, FXD, COMP	A3230-2		1	1	R409	
RG188 /U	CBL, RF	CA418-8		8	8		
RV111-U502A	RES, VAR	A3230-2		1	1	R415	
SC131-0440BN3	SCR, MACH-UNDCT	A2746		6			
		A2747		4	10		
SC131-0440BN5	SCR, MACH-UNDCT	A2746		2	2		
SC143-0440B10	SCR, MACH-NYLON	A3230-2		5	5		
SCBP0440BN3	SCR, MACH	A2746		2	2		
SCBP0440BN4	SCR, MACH	A2746		4			
		A3230-2		15	19		
SCBP0440BN 5	SCR, MACH	A3230-2			2		
SCBP0440BN12	SCR, MACH	A2747		2	2		
SCBP0632BN4	SCR, MACH	A3230-2			2		
SCBP0832BN5	SCR, MACH	A2741		1	1		

NOTE 3

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PART NO.	DESCRIPTION ELECTRICAL/MECHANICAL	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
SCFP0440BN4	SCR, MACH	A2746		2	2		
SW192-12NSJ	SW, ROTARY-TAP	A3230-2		1	1	S401	
TA111-2-2-1.00G	TAPE, URETHANE	MS4401		1	1		
TE164-7	NUT, PLN, CLINCH	PC100-3		4	4		
WA131-22	WASH., SPG TENS	MS3381		2	2		
WI123-28	WIRE, ELEC, MAG, HT	A3223-1		24			
		A3223-11		24			
		A3223-12		24			
		A3223-12		24			
		A3223-13		30	126		
WI149-1	CBL, SP, SHLD/JKT	CA808-1		12	12		
WL100-8	WIRE, ELEC, BUSS	A3230-2		14	14		SZ 24

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PART NO.	DESCRIPTION ELECTRICAL/MECHANICAL	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
TX109	TRANSISTOR	A3230-2		1		Q404	MIXER
		A3230-2		1		Q405	BUFFER
		A3230-2		1		Q406	HF OSC
	TRANSISTOR	A3230-2		1		Q401	1ST RF
		A3230-2		1		Q402	2ND RF
		A3230-2		1	6	Q403	3RD RF

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PART NO.	DESCRIPTION SUPP ASSY/REF DWGS	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
A2741	PNL ASSY,FRONT	A2746		1	1		
A2746	TTRR-4 FNL ASSY	TTRR-4		1	1		
A2747	PC BD/CHAS ASSY	A2746		1	1		
A3230-2	PC BD ASSY	A2747		1	1		
CA418-8	CABLE ASSY,RF	A3230-2		1	1	W402	
CA808-1	CABLE ASSY,SP,SHLD	A3230-2		1	1	W401	
CH265	CHART,UNIT BKDN	TTRR-1		1	1		
CK668	DIAG,BLOCK	TTRR-1		1	1		
CK686	DIAG,SCHEM	TTRR-1		1	1		
PC100-3	PC BD,MECH ASSY	A3230-1		1	1		
TZ127	COIL,RF	A3230-2		1	1	T405	#A3223-1
TZ137	XFMR,RF	A3230-2		1	1	T401	#A3223-11
TZ138	XFMR,RF	A3230-2		1	1	T402	#A3223-12
		A3230-2		1	2	T403	#A3223-12
TZ139	XFMR,RF	A3230-2		1	1	T404	#A3223-13

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PART NO.	DESCRIPTION SPECIFICATIONS	ITEM LOCATION			QTY. PER UNIT	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT	QTY. PER USED TO MOUNT			
S114	ZN CHROMATE PRM		MS3381				
S115	ENAM, SMOOTH GY		MS3381				
S404	IRIDITE, YEL		ALL MS-				
S808	TEST PROC		TTRR-4				

