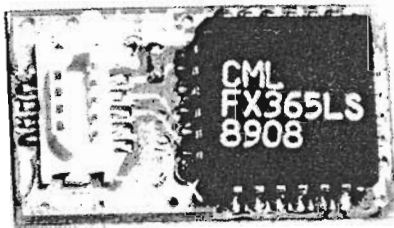


TM-742 A/742 E/942 A

TSU-7(CTSS UNIT)

TSU-7 PC BOARD VIEW



TSU-7 PARTS LIST

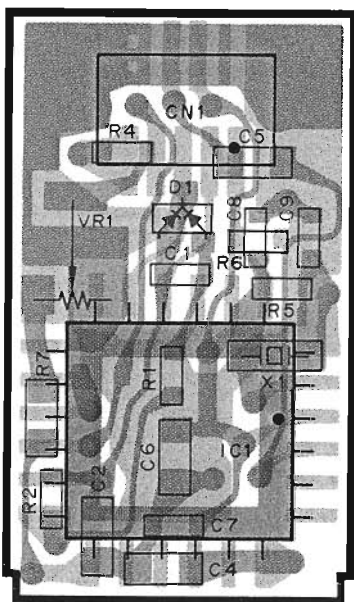
Ref. No	Address	Rart	Rarts No.	Description	Desti- nation	Re- marks
TSU-7 (X52-3170-00)						
X1			G10-0692-04	CUTTON		
IC1			H21-0704-04	CUTTON		
D1			L78-0062-05	STAL (1MHz)		
CN1			FX365LS	IC		
VR1			DAN202U	DIODE		
R1			E40-5341-05			
R2			R12-6526-05	TRIM. POT. (47K)		
R4			RK73BG1J274J	CHIP R J 270K		
R5			RK73BG1J824J	CHIP R J 820K		
R6			RK73BF1J103J	CHIP R J 10K		
C1			RK73BG1J105J	CHIP R J 1M		
C2			RK73BG1J473J	CHIP R J 47K		
C4-6			CK73GB1H471K	CHIP C K 470pF		
C7			C92-0521-05	CHIP TAN 20WV		
C8.9			CK73FB1E104K	CHIP C K 0.1UF		
			CK73GB1H471K	CHIP C K 470pF		
			CC73GCH1H221J	CHIP C J 220pF		

TM-742 A/742 E/942 A

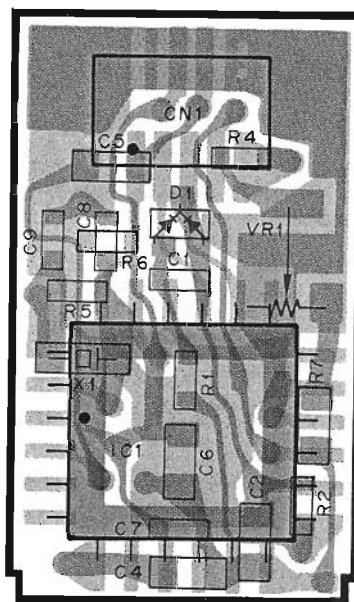
TSU-7(CTCSS UNIT)

PC BOARD VIEWS

(Component side view)

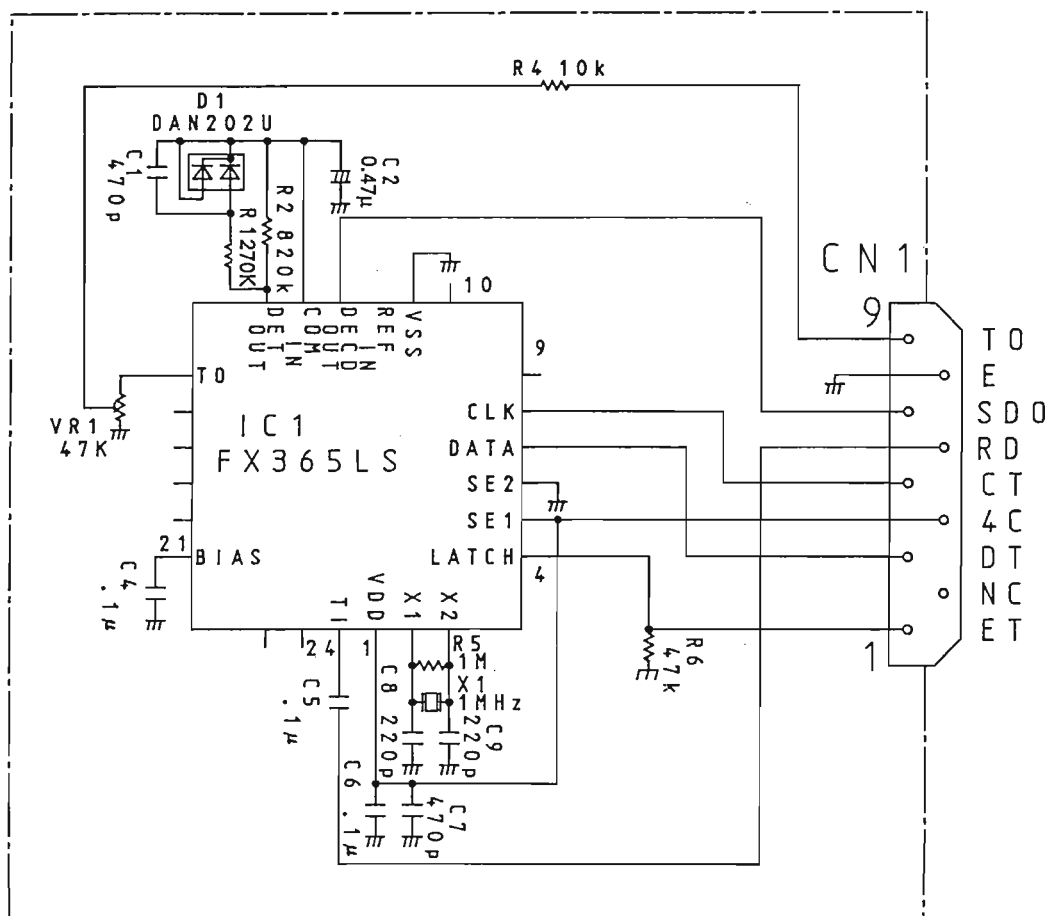


(Foil side view)



■ : Component side pattern ■ : Foil side pattern

CIRCUIT DIAGRAM



TM-742 A/742 E/942 A

MC-45 (MULTI FUNCTION MICROPHONE)

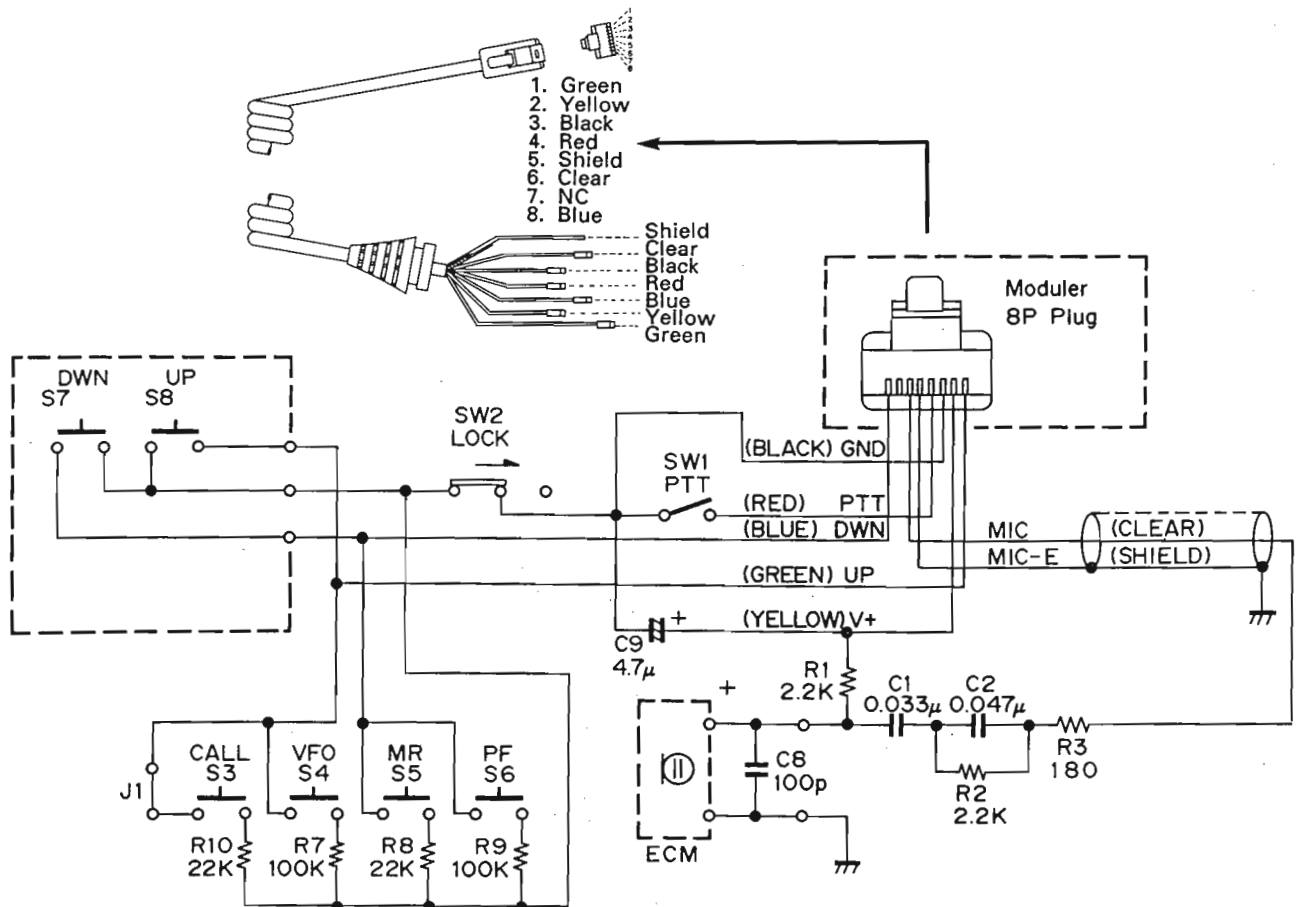
EXTERNAL VIEW



PARTS LIST

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
			A02-0896-08	CASE (FRONT)		
			A02-0900-08	CASE (REAR)		
			E30-3006-08	CURL CORD ASSY		
			G13-0933-08	CUSHION (UP,DWN)		
			K29-3165-08	KNOB PTT		
			K29-3168-08	KNOB UP		
			K29-3169-08	KNOB DWN		
			K29-3170-08	KNOB CALL,VFO, MR,PF		
S3-6			S59-1409-28	SWITCH ASSY UP,DWN		
S7,8			S40-1431-08	TACT SWITCH CALL,VFO, MR,PF		
SW1			S40-1437-08	TACT SWITCH UP,DWN		
SW2			S50-1431-08	MICRO SWITCH LOCK		
			S31-1422-08	SLIDE SWITCH LOCK		
			T91-0383-08	MICROPHONE ELEMENT		

SCHEMATIC DIAGRAM



TM-742 A/742 E/942 A

MC-45DM (MULTI FUNCTION MICROPHONE WITH AUTOPATCH)

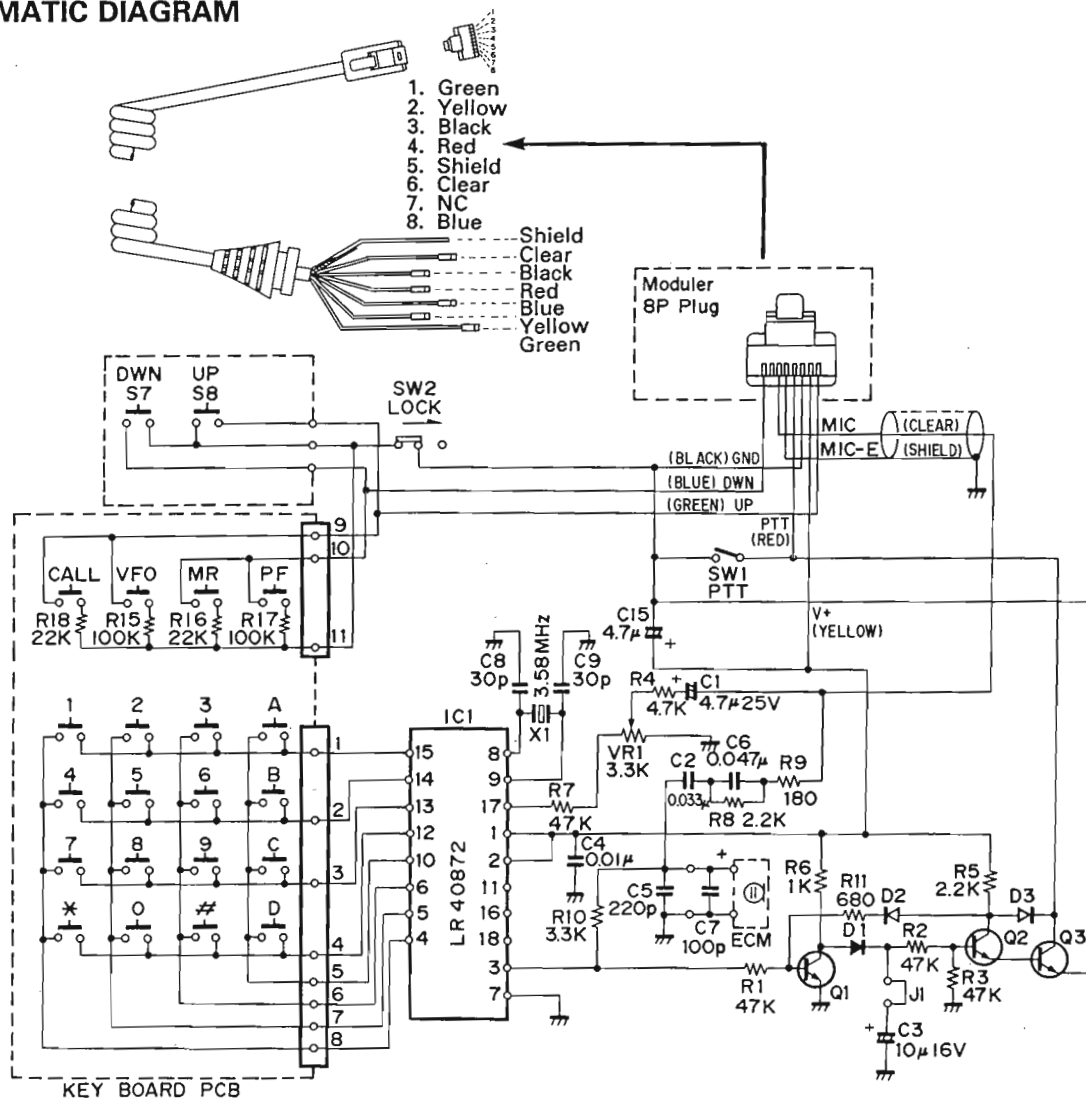
EXTERNAL VIEW



PARTS LIST

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
			A02-0898-08	CASE (FRONT)		
			A02-0901-08	CASE (REAR)		
			E30-3006-08	CURL CORD ASSY		
			G13-0933-08	CUSHION (UP,DWN)		
			K29-3165-08	KNOB PTT		
			K29-3167-08	KEY TOP DTMF		
			K29-3168-18	KNOB UP		
			K29-3169-18	KNOB DOWN		
S7, 8			S59-1409-28	SWITCH ASSY UP,DWN		
SW1			S40-1437-08	TACT SWITCH UP,DWN		
SW2			S50-1431-08	MICRO SWITCH PTT		
			S31-1422-08	SLIDE SWITCH LOCK		
			T91-0393-08	MICROPHONE ELEMENT		

SCHEMATIC DIAGRAM



TM-742 A/742 E/942 A

UT-28S/50S/UT-220S/1200 SPECIFICATION

			UT-28S	UT-50S	UT-220S	UT-1200
GENERAL	Frequency range (MHz)		28 ~ 29.7	50 ~ 54	220 ~ 225	1240 ~ 1300
	Mode		F3(FM)			
	Antenna impedance		50Ω			
	Operating temperature		-20°C ~ +60°C			
	Power requirements		DC13.8V ±15% (11.7 ~ 15.8V)			
	Ground		Negative			
	Frequency stability		Less than ±10ppm			Less than ±3ppm
TRANSMITTER	Current drain	Transmit mode	Less than 11.5A		Less than 7.0A	Less than 6.5A
		Receiver mode	Less than 1.2A			
	Output Power	HI	50W		25W	10W
		MID	10W		-	-
		LOW	Approx 5W		-	1W
	Modulation		Reactance modulation			
	Spurious radiation		Less than -60dB (※)			Less than -50dB
RECEIVER	Maximum frequency deviation		±5kHz			
	Audio distortion (at 60% modulation)		Less than 3%			
	Microphone impedance		600Ω			
	Circuitry		Double conversion superheterodyne			
	Intermediate frequency 1st/2nd		8.83MHz	10.595MHz	30.825MHz/455kHz	59.7MHz
			455kHz			
	Sensitivity (12 dB SINAD)		Less than 0.16μV(-16dBμ)			
	Selectivity -6 dB		More than 10kHz	More than 12kHz		
	Selectivity -60 dB		Less than 24kHz			Less than 36kHz
	Squelch sensitivity		Less than 0.1μV(-20dBμ)			
	Output (5% distortion)		More than 2W(8Ω load)			
	External speaker impedance		8Ω			

Notes: 1. Circuit and ratings are subject to change without notice, due to advancements in technology.
 2. Recommended duty cycle: 1 minute Transmit, 3 minutes Reception.

(※) Hi Power position: Less than -70dB

SPECIFICATIONS

			144 MHz Band	430/440 MHz Band	1200 MHz Band
GENERAL	Frequency range (MHz)		144 ~ 148	430 ~ 440/438 ~ 450	1240 ~ 1300
	Mode		F3E(FM)		
	Antenna impedance		50 Ω		
	Operating temperature		-20 °C ~ +60 °C (-4 °F ~ +140 °F)		
	Power requirements		13.8 VDC ± 15 % (11.7 ~ 15.8 V)		
	Ground		Negative		
	Current drain	Transmit mode	Less than 11.5 A	Less than 10.0 A	Less than 6.5 A
		Receiver mode	Less than 1.2 A	Less than 1.2 A	Less than 1.2 A
	Frequency stability		± 10 ppm		
	Dimensions (W x H x D)		150 x 50 x 175 mm		
Weight		TM-742A/742E: 1.5 kg TM-942A: 1.8 kg			
TRANSMITTER	Output power	HI	50 W	35 W	10 W
		MID	10 W	10 W	—
		LOW	Approx. 5 W	Approx. 5 W	1 W
	Modulation		Reactance modulation		
	Spurious radiation		Less than -60 dB		Less than -50 dB
	Maximum frequency deviation		±5 kHz		
	Audio distortion (at 60% modulation)		Less than 3%		
Microphone impedance		600 Ω			
RECEIVER	Circuitry		Double conversion superheterodyne		
	Intermediate frequency	1st	10.7 MHz	21.6 MHz	59.7 MHz
		2nd	455 kHz		
	Sensitivity (12 dB SINAD)		Less than 0.16 μV (-10 dBμ)		
	Selectivity -6 dB		More than 12 kHz		
	Selectivity -60 dB		Less than 24 kHz		Less than 36 kHz
	Squelch sensitivity		Less than 0.1 μV (-14 dBμ)		
	Output (5% distortion)		More than 2 W (8 Ω load)		
	External speaker impedance		8 Ω		

* 1240 MHz to 1260 MHz Less than 0.22 μ V (-7 dB μ)

Notes:

1. Circuit and ratings are subject to change without notice due to advancements in technology.
2. Recommended duty cycle: 1 minute Transmit, 3 minutes Reception.

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