

NAVSHIPS 0967-035-6020

PUBLICATION PACKAGE

for

FIELD CHANGE

(MODIFICATION KIT,
ELECTRONIC EQUIPMENT)
MK-909/UGT



THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N. Y.

OTTAWA, CANADA

COPYRIGHT 1965
THE TECHNICAL MATERIEL CORPORATION

0967-035-6020 (NAVSHIPS) (UNCLASSIFIED)

ELECTRONICS FIELD CHANGE BULLETIN 1- TH-39A/UGT
BUREAU OF SHIPS NAVY DEPARTMENT
WASHINGTON, D. C.

MODIFICATION TO SUPPRESS SPURIOUS EMISSIONS
FROM THE TH-39A/UGT CW OSCILLATOR CIRCUIT

TYPE (1) CLASS (A)	OPERATIONAL CHANGE (X)
ESTIMATED MANHOURS ()	NON-OPERATIONAL CHANGE ()

Prepared by
(The Technical Materiel Corporation)
(Contract N600 (63133) 63800)

AUTHORIZATION NOTICE: Forces afloat or station personnel shall accomplish this field change at the earliest opportunity on ship-or shore-installed equipment affected without reference to the Bureau of Ships.

EQUIPMENT AFFECTED: TH-39A/UGT all serial numbers. (Commercial designation: TIS-3)

PURPOSE: To modify circuits of TH-39A/UGT in order to suppress spurious emissions from the CW oscillator circuit.

PREVIOUS FIELD CHANGES: No previous field changes need be accomplished prior to the installation of this field change.

EFFECT ON NOMENCLATURE: Military nomenclature changes to TH-39B/UGT, TERMINAL, TELEGRAPH upon accomplishment of this field change. (Commercial designation becomes TIS-3A).

IDENTIFICATION OF ACCOMPLISHMENT: Accomplishment of field change can be verified by inspection: Terminal Board Assembly (Item 1, Table 1) will be visible, mounted between T2 and T5 under chassis, and modification identification plate (Item 8, Table 1) will be mounted on front panel above equipment name plate. Schematic (Figure 8-1) will reflect changes.

LIST OF MATERIAL REQUIRED: Table 1 lists material supplied with the field change kit.

Table 1. Material Supplied with the Field Change Kit.

ITEM	REF. DESIG.	PART NUMBER	QTY.	DESCRIPTION
1		A4029-4	1	Terminal Board Assembly
2	R46	RC20GF102K	1	Resistor, Fixed Composition 1,000 ohms
3	C54	CE116-1VN	1	Capacitor, Electrolytic, 8 mfd., 250 vdc
4	RED	PX104-3-034	4"	Insulating Sleeving
5		SCBP0632BN6	2	Screw
6		NTH0632BN8	2	Hexagonal Nut
7		LWE06MRN	2	External Lock Washer
8		NP-771	1	Identification Plate
9		Fig. 8-1, pp 8-3/8-4		Detailed Schematic Diagram
10		SFBS-0256-SN3	2	Self-tapping Screw

TOOLS AND TEST EQUIPMENT: Table 2 lists the tools and test equipment required by the installing activity to perform this modification. Since these tools are non-specialized, they are not provided with the field change kit.

Table 2. Tools and Test Equipment Required.

<u>ITEM</u>	<u>TOOLS and TEST EQUIPMENT</u>
1.	Flat-blade screwdrivers, assorted sizes
2.	Phillips-head screwdrivers, assorted sizes
3.	Diagonal cutting pliers, 6-inch
4.	Longnose pliers, 6-inch
5.	Spin-tite wrenches, assorted sizes
6.	Electric drill with 1/4" or 3/8" chuck
7.	Drill bit, number 26 (11/64")
8.	Solder, rosin-core
9.	Drill bit, Number 48
10.	Soldering Iron, 100-watt

PROCEDURE: The following procedure is for making the field change. Refer to table 1 and table 2 of this bulletin and TIS-3 technical manual for equipment, parts, and components identification.

1. Set B+ switch at OFF.
2. Unplug a-c power cable from J1 of TIS.
3. Disconnect terminal strip from E3 on rear of TIS.
4. Place TIS on workbench.
5. Remove top and bottom covers from TIS.
6. Remove 0.04-uf capacitor (C23) and 22-Ohm resistor (R46).
7. In place of resistor removed in step 2, solder 1,000-ohm resistor, item 2 in table 1.
8. Drill two holes as shown in illustration (Bottom View of Chassis) using electric drill and number 26 drill bit, items 6 and 7 in table 2.

9. Mount terminal board assembly, item 1 in table 1, on bottom of chassis between T2 and T5, using items 5, 6, and 7 in table 1.
10. Solder green lead of terminal board assembly to turret terminal from which C23 was removed.
11. Solder black lead of terminal board assembly to nearest grounded terminal.
12. Solder red lead of terminal board assembly to terminal 7 of audio transformer (T2)
13. Insulate positive lead of 8-uf electrolytic capacitor (54), item 3 in table 1, with insulating sleeving, item 4 in table 1.
14. Solder positive lead of capacitor (C54), item 3 in table 1, to switch S1, to the terminal to which a white and red lead is soldered.
15. Solder negative lead of capacitor (C54), item 3 in table 1, to nearest grounded terminal.
16. Put on top and bottom TIS-3 covers.
17. Using electric drill (item 6 in table 2), number 48 drill bit (item 9 in table 2), and identification plate (item 8 in table 1) as a template, drill two identification plate mounting holes directly above existing equipment nameplate on front panel of TIS-3.
18. Mount identification plate above existing equipment nameplate, using self-tapping screws, item 10 in table 1.

ROUTINE INSTRUCTIONS:

1. Corrections to publications and charts: The applicable technical manual shall be corrected in accordance with the following instructions:

- (a) Maintenance Support Activities shall make the corrections immediately but shall keep the superseded data in the book for support of equipments that have not been modified. Holders of equipment shall not make these corrections or replacements until after the field change has been accomplished.

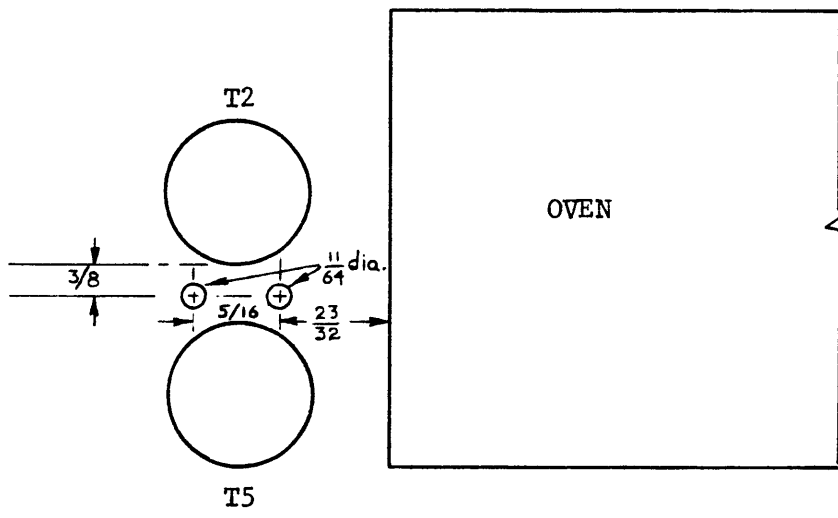
- (b) Correct Technical Manual (IN-2025) for Tone Intelligence Unit Model TIS-3 (TH-39A/UGT) in accordance with temporary correction T-4.
- (c) This field change does not affect any other publications, plans, or charts.

2. Record of accomplishment: Personnel making this field change shall record the completion data of the change on the Electronic Equipment History card, NAVSHIPS 536, and on the Record of Field Changes card, NAVSHIPS 537.

3. Disposition of replaced material: Parts removed (described below) when performing this field change shall be turned in to the nearest supply activity for processing in accordance with current Bureau of Ships instructions.

Reference Designation	Quantity	Name of Part	Stock Number
C23	1	Capacitor, 0.04-uf	N5910-671-7165(SNSN)
R46	1	Resistor, 1,000-ohm	5905-256-0409

4. Disposition of field change bulletin: Maintenance support activities shall maintain a library copy of this field change bulletin. Holders of equipment shall not destroy this field change bulletin until the field change has been accomplished, the equipment tested, and the applicable manuals, drawings, charts, and identification plates have been corrected or replaced.



Bottom View of Chassis

TEMPORARY CORRECTION TO TECHNICAL MANUAL (IN-2025) FOR TONE
INTELLIGENCE UNIT MODEL TIS-3 (Military Designation:
TH-39A/UGT)

This temporary correction revises the manual to reflect the equipment changes made by Field Change 1-TH-39A/UGT. The purpose of this field change is to modify circuits of TH-39A/UGT in order to suppress spurious emissions from the CW oscillator circuit.

When this change is included in the manual, the manual shall cover the equipment as though Field Change 1-TH-39A/UGT had been accomplished on the equipment. This correction does not supersede any other corrections or changes.

Maintenance Support Activities shall make this correction in the technical manual immediately but shall keep the superseded data intact for support of equipments that have not been modified.

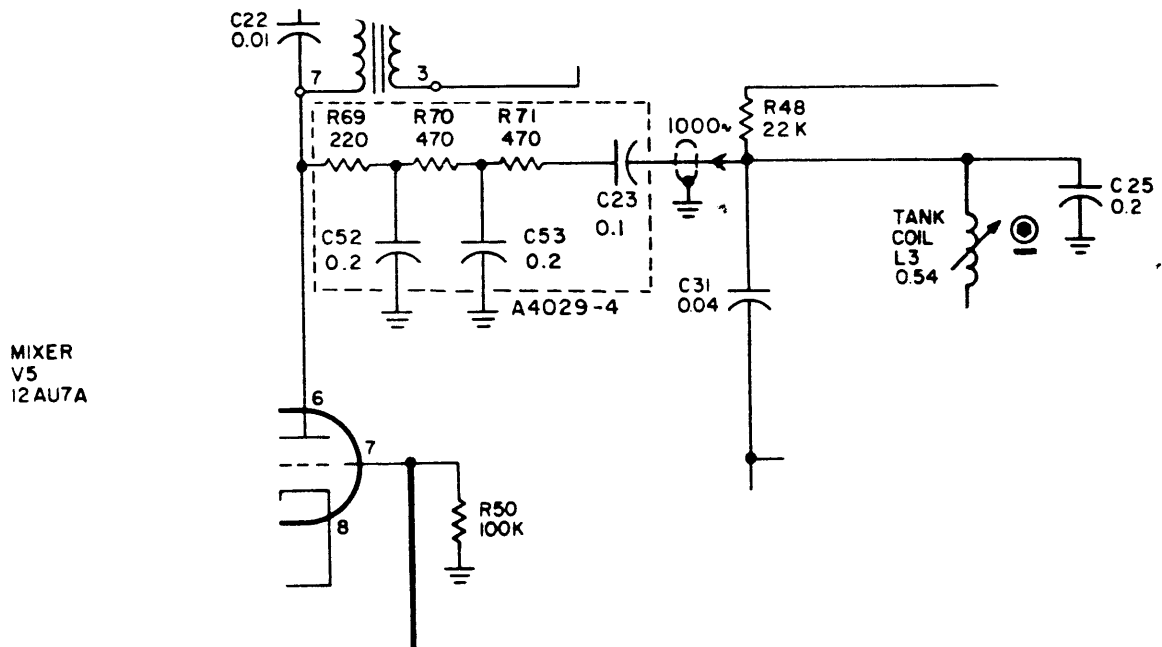
Holders of equipment accompanied by technical manuals shall not make this correction in the manual until accomplishment of the field change.

Make the following pen-and-ink corrections. Insert this temporary correction T-4 in the technical manual immediately after the front cover and preceding T-3.

1. Remove figure 8-1, (pp. 8-3/8-4) from TIS-3 manual and insert new figure 8-1 supplied with this temporary correction. Keep old figure 8-1 intact for support of equipments that have not been modified.
2. On figure 4-6, page 4-9, change value of R46 from 220 to 1k (1,000 ohms).
3. Make a sketch to record the position and connections of C23 as shown on figure 4-6. Retain this sketch in support of equipments that have not been modified.
4. Cut out and paste Simplified Schematic Correction, supplied with this temporary correction, over the appropriate area of figure 4-6.
5. In parts list, page 7-5:
 - (a) Change C23 description to read: CAPACITOR, fixed: mylar; 0.1 mfd. Change TMC PART NO. to read CN114R102J.
 - (b) Change R46 description to read: RESISTOR, fixed: composition; 1,000 ohms, \pm 10%, 1/2 watt. Change TMC PART NO. To: RC20GF102K.

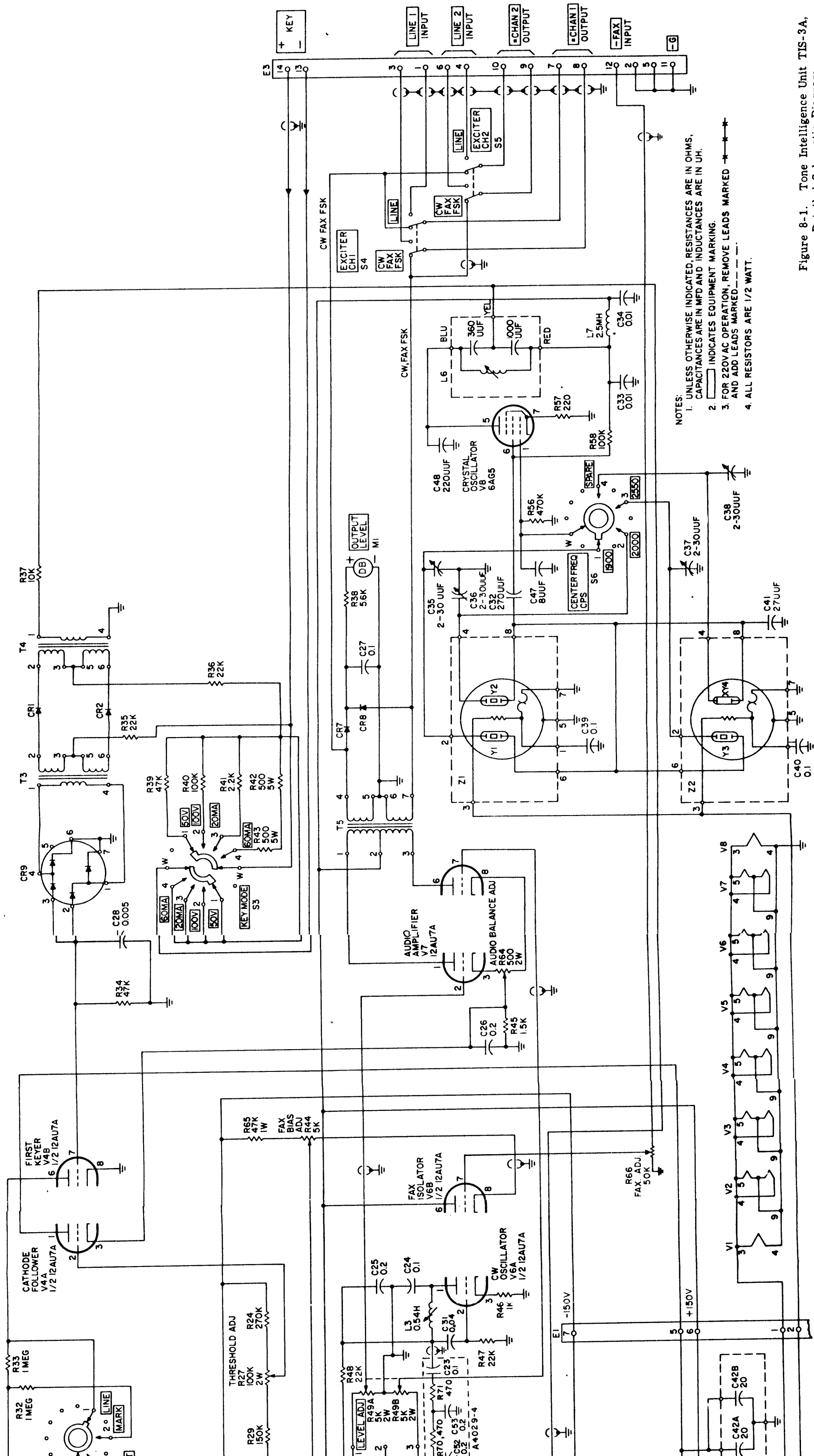
(c) Add the following reference symbols, descriptions, and TMC part numbers to parts list:

REF SYM	DESCRIPTION	TMC PART NO.
C52	CAPACITOR, fixed; mylar; 0.2 uf, $\pm 5\%$.	CN114R202J
C53	Same as C52.	
C54	CAPACITOR, fixed: electrolytic; 8 uf; 250 wvdc; polarized, tubular metal case with plastic sleeve.	CE116-1VN
R69	RESISTOR, fixed, composition: 220 ohms, $\pm 10\%$, 1/2 watt.	RC20GF221K
R70	RESISTOR, fixed: composition; 470 ohms, $\pm 10\%$, 1/2 watt.	RC20GF471K
R71	Same as R70.	



Simplified Schematic Correction

Cut out and paste over appropriate
area of figure 4-6, page 4-9 in
TIS-3 manual.



NOTES:
 1. UNLESS OTHERWISE INDICATED, RESISTANCES ARE IN OHMS, CAPACITANCES ARE IN MFD AND INDUCTANCES ARE IN UH.
 2. [Symbol] INDICATES EQUIPMENT MARKING.
 3. FOR 220V AC OPERATION, REMOVE LEADS MARKED *-*-* AND ADD LEADS MARKED ---
 4. ALL RESISTORS ARE 1/2 WATT.

Figure 8-1. Tone Intelligence Unit TIS-3A, Detailed Schematic Diagram

001652025

