





## NOTICE

THE CONTENTS AND INFORMATION CONTAINED IN THIS INSTRUCTION MANUAL IS PROPRIETARY TO THE TECHNICAL MATERIEL CORPORATION TO BE USED AS A GUIDE TO THE OPERATION AND MAINTENANCE OF THE EQUIPMENT FOR WHICH THE MANUAL IS ISSUED AND MAY NOT BE DUPLICATED EITHER IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER WITHOUT THE WRITTEN CONSENT OF THE TECHNICAL MATERIEL CORPORATION.



THE TECHNICAL MATERIEL CORPORATION

COMMUNICATIONS ENGINEERS

700 FENIMORE ROAD

MAMARONECK, N. Y.

## Warranty

The Technical Materiel Corporation, hereinafter referred to as TMC, warrants the equipment (except electron tubes,\*fuses, lamps, batteries and articles made of glass or other fragile or other expendable materials) purchased hereunder to be free from defect in materials and workmanship under normal use and service, when used for the purposes for which the same is designed, for a period of one year from the date of delivery F.O.B. factory. TMC further warrants that the equipment will perform in a manner equal to or better than published technical specifications as amended by any additions or corrections thereto accompanying the formal equipment offer.

TMC will replace or repair any such defective items, F.O.B. factory, which may fail within the stated warranty period, PROVIDED:

1. That any claim of defect under this warranty is made within sixty (60) days after discovery thereof and that inspection by TMC, if required, indicates the validity of such claim to TMC's satisfaction.
2. That the defect is not the result of damage incurred in shipment from or to the factory.
3. That the equipment has not been altered in any way either as to design or use whether by replacement parts not supplied or approved by TMC, or otherwise.
4. That any equipment or accessories furnished but not manufactured by TMC, or not of TMC design shall be subject only to such adjustments as TMC may obtain from the supplier thereof.

Electron tubes\*furnished by TMC, but manufactured by others, bear only the warranty given by such other manufacturers. Electron tube warranty claims should be made directly to the manufacturer of such tubes.

TMC's obligation under this warranty is limited to the repair or replacement of defective parts with the exceptions noted above.

At TMC's option any defective part or equipment which fails within the warranty period shall be returned to TMC's factory for inspection, properly packed with shipping charges prepaid. No parts or equipment shall be returned to TMC, unless a return authorization is issued by TMC.

No warranties, express or implied, other than those specifically set forth herein shall be applicable to any equipment manufactured or furnished by TMC and the foregoing warranty shall constitute the Buyers sole right and remedy. In no event does TMC assume any liability for consequential damages, or for loss, damage or expense directly or indirectly arising from the use of TMC Products, or any inability to use them either separately or in combination with other equipment or materials or from any other cause.

\*Electron tubes also include semi-conductor devices.

### *PROCEDURE FOR RETURN OF MATERIAL OR EQUIPMENT*

Should it be necessary to return equipment or material for repair or replacement, whether within warranty or otherwise, a return authorization must be obtained from TMC prior to shipment. The request for return authorization should include the following information:

1. Model Number of Equipment.
2. Serial Number of Equipment.
3. TMC Part Number.
4. Nature of defect or cause of failure.
5. The contract or purchase order under which equipment was delivered.

### *PROCEDURE FOR ORDERING REPLACEMENT PARTS*

When ordering replacement parts, the following information must be included in the order as applicable:

1. Quantity Required.
2. TMC Part Number.
3. Equipment in which used by TMC or Military Model Number.
4. Brief Description of the Item.
5. The *Crystal Frequency* if the order includes crystals.

### *PROCEDURE IN THE EVENT OF DAMAGE INCURRED IN SHIPMENT*

TMC's Warranty specifically excludes damage incurred in shipment to or from the factory. In the event equipment is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved and not with TMC.

All correspondence pertaining to Warranty Claims, return, repair, or replacement and all material or equipment returned for repair or replacement, within Warranty or otherwise, should be addressed as follows:

THE TECHNICAL MATERIEL CORPORATION  
Engineering Services Department  
700 Fenimore Road  
Mamaroneck, New York



### 1. PURPOSE

Transmitting Antenna Dissipator and Dummy Load, Model TER-18K-C-50U, is a flat resistive termination used at transmitting sites as a dummy load for routine off-the-air tuning of transmitters or for termination of Rhombic, Sloping Vee or other types of antennas requiring resistive termination.

### 2. DESCRIPTION

The TER-18K-C-50U is capable of dissipating RF energy in the order of 18 kilowatts average and 36 kilowatts peak, envelope power (PEP) throughout the frequency range of 0 to 30 megacycles.

The TER-18K-C-50U consists of 6 low-reactance glass resistors housed in a heavy gauge steel case. Interlocks are provided for connection to the transmitter as a safety precaution. Forward and reflected power metering is also provided to facilitate VSWR computing throughout the frequency range of 2 mc to 30 mc.

### 3. TECHNICAL SPECIFICATIONS

FREQUENCY RANGE:	0 to 30 megacycles (TER-18KC wattmeter range 2 to 30 mc).
AVERAGE POWER DISSIPATION:	18000 watts.
PEAK POWER DISSIPATION:	36000 watts peak envelope power (PEP).
INPUT IMPEDANCE:	50 ohms unbalanced.
VSWR RATIO:	1.15 to 1
COOLING:	Conviction cooling by means of screened vent ports.
MOUNTING PLATE CONNECTOR ASSEMBLIES:	AX-278 (50 ohm) 3-1/8" to 1-5/8" Reducer. 3-1/8" ELA (50 ohm) Flange.
OPERATING TEMPERATURE:	-40° C. to 75° C. Ambient.



RESISTORS: Special glass cylinders with resistive element electrofused into surface. Baked silicone protective coating. Fired on silver bands to assure positive connection. Resistors spiral cut to insure even heat dissipation.

PROTECTION: Interlock switches provided for personnel and equipment safety.

CASE MATERIAL: Heavy gauge steel.

DIMENSIONS: 70 inches high x 44 inches wide x 22 inches deep.

WEIGHT: 415 lbs. (approximate)

VOLUME: 85 cu. ft. (approximate)

COMPONENTS AND CONSTRUCTION: All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.

#### 4. UNPACKING

When the TER unit is uncrated, it should be inspected for any damage that may have incurred in transit. Inspect all packing material for parts which may have been shipped as loose items.

With respect to damage to the equipment for which the carrier is liable, The Technical Materiel Corporation will assist in describing methods of repair and the furnishing of replacement parts.

#### 5. INSTALLATION

The TER-18K-C-50U is shipped in one crate and is completely assembled at the time of delivery. Each unit has been factory tested and arrives ready to be placed directly into service. No preliminary adjustments are necessary.



6. MAINTENANCE

The TER-18K-C-50U normally requires no maintenance other than a periodic cleaning of electrical contacts and a check that all external and internal connections are securely connected.

See figure 1 for a schematic diagram of the TER-18K-C-50U.

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
A101	CONNECTOR, COIL ASSEMBLY: consists of one CL183 RF probe coil, symbol no. L101 and one JJ164 connector, symbol no. J104.	RF MONITOR	AJ100
C114	CAPACITOR, FIXED, MICA DIELECTRIC: 1000 micro-microfarads, ±10%, 500 wvdc.	RF Bypass	CM20B102K
C119	CAPACITOR, FIXED, MICA DIELECTRIC: 10,000 micro-microfarads, ±10%, 300 wvdc.	RF Bypass	CM35B103K
CR101	DETECTING ELEMENT, DIRECTIONAL COUPLER: frequency range 2 to 30 mc, calibrated for 60 kw average power meter reading; gold plated case; o/a length 1-7/16 in. long x 1-1/4 in. dia.	RF Detector	DD103
CR102	Same as CR101.	RF Detector	
DC101	COUPLER, DIRECTIONAL: bi-directional, 2 to 30 mc, forward and reflected power; 60 kw, 50 ohm impedance.	Power Monitor	DC101
DS106	LAMP, GLOW: 105/125 v, 1/25 watt, bayonet base, T-3 1/4 bulb.	Transmitter On Indicator	BI100-51
J103	CONNECTOR, RECEPTACLE, ELECTRICAL: 4 round #16 male contacts; straight type; used on symbol no. W103.	Interlock Input	MS3102A14S2P

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
J104	NON-REPLACEABLE ITEM Part of A101.	RF Connect	
L101	NON-REPLACEABLE ITEM Part of A101.	RF Probe	
L102	COIL, RF: fixed, 2.5 micro- henries $\pm 10\%$ , 26 ohms dc resistance, 100 ma current rating, molded case.	RF Choke	CL140-1
L103	Same as L102.	RF Choke	
M101	WATTMETER: 0-60 kilowatts; 0-100 ma movement; approx. resistance 2000 ohms, non- linear scale; standard 4-1/2 in. rect. case.	Power Indicator	MR147
P103	CONNECTOR, PLUG, ELECTRICAL 4 round female contacts, 4 #16 contacts, straight type.	Interlock Input	MS3106B14S2S
P104	CONNECTOR, PLUG, ELECTRICAL RF type, 1 round male coaxial contact, straight type, QDS to QDS series.	RF Power Input	PL149
P106	CONNECTOR, PLUG, ELECTRICAL 1 round female contact, angle type.	RF Monitor	PL192
P107	Same as P106.	RF Monitor	
R105	RESISTOR, FIXED, FILM: 300 ohms, $\pm 5\%$ , 3000 watts.	Power Dissipation	RR120-300
R106	Same as R105.		
R107	Same as R105.		
R108	Same as R105.		
R109	Same as R105.		
R110	Same as R105.		
R112	RESISTOR, FIXED, COMPOSITION: 220,000 ohms, $\pm 10\%$ , 2 watts.	Voltage dropping	RC42GF224K

SYM	DESCRIPTION	FUNCTION	TMC PART NO.
S102	SWITCH, PUSH-PULL, SPDT: 15 amps at 120/250 vac, .2 amp at 250 vdc.	Interlock	SW230
S103	Same as S102.	Interlock	
S104	SWITCH, TOGGLE, DPDT: 3 amps at 250 vac, 6 amps at 125 vac, bat lever.	Function Switch	ST105
TB109	TERMINAL BOARD: barrier type; 3 single screw terminals and feed thru solder lugs, 6-32 thd; phenolic body.	Cable Interconnect	TM100-3
TB110	Same as TB109.	Cable Interconnect	
W103	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL: consists of various lengths and colors of insulated stranded cable, MIL type MCW wire, one connector, symbol no. J103, 4 terminal lugs.	Component Interconnect	
W104	CABLE ASSEMBLY, RF: consists of 27 in. of RG58U type cable and one connector, symbol no. P106, two terminal lugs.	RF Monitor	CA646-1
W105	CABLE ASSEMBLY, RF: consists of 22 in. RG58U type cable and one connector, symbol no. P102, two terminal lugs.	RF Monitor	CA646-2
XDS106	LIGHT, INDICATOR: miniature bayonet base w/red frosted lens.	Transmitter On	TS106-1

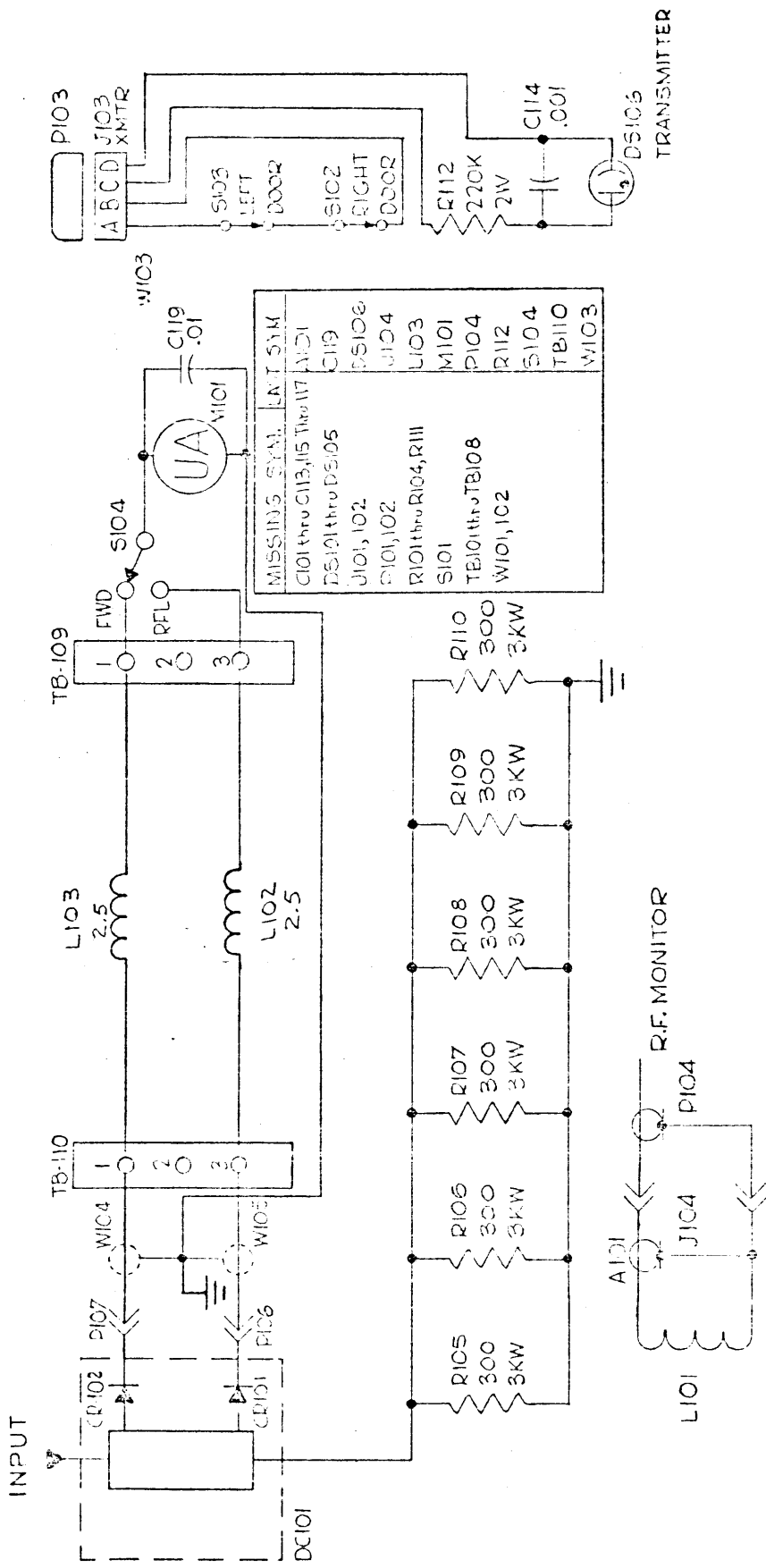


Figure 1. Schematic Diagram, Model TER-18K-C-50U