

2025

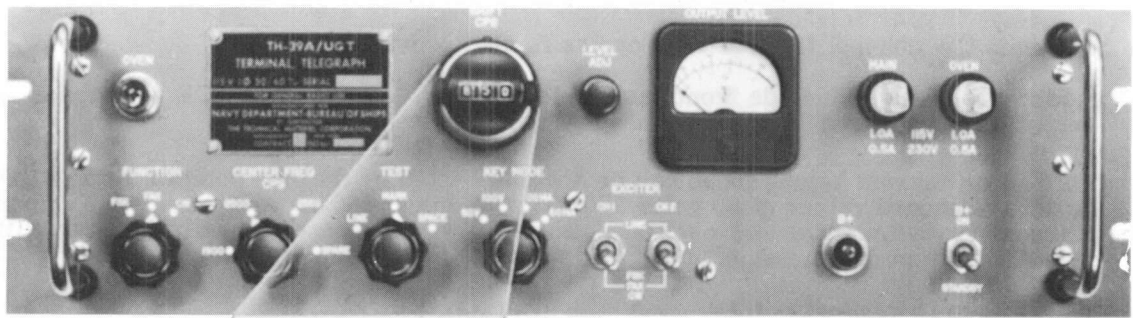
SALES SERVICE BULLETIN NUMBER 245B



Tone Intelligence Unit TMC Model TIS-3 (TH-39A/UGT)

Featuring:

ADJUSTABLE FREQUENCY SHIFT DIRECT READING IN CYCLES



PH-1186R



- HIGH STABILITY, MULTI - PURPOSE AUDIO TONE KEYS
- TRUE FREQUENCY SHIFT BY MEANS OF 200 KC OVEN CONTROLLED OSCILLATOR WITH REACTANCE CONTROL
- VARIABLE FREQUENCY SHIFT, 12 TO 1000 CYCLES
- SELECTABLE CENTER FREQUENCIES FOR FOLLOWING OPERATION:
 - A. 1,900 cps INTERNATIONAL STANDARD FOR FAX TRANSMISSIONS
 - B. 2,000 cps PROVIDES COMPATIBILITY FOR TRANSMITTERS AND RECEIVERS LIMITED TO TUNING IN 1 KC STEPS
 - C. 2,550 cps STANDARD FREQUENCY WIDELY USED FOR 850 CPS SHIFT
 - D. OPTIONAL TO BE CUSTOMER SELECTED
- VOLTAGE OR CURRENT INPUTS
- COMPLETE COMPATIBILITY WITH CURRENT FSK SYSTEMS
- 1,000 cps CW CHANNEL (OTHERS AVAILABLE AT CUSTOMERS REQUEST)

The TMC Model TIS-3 is a multi-purpose Audio Tone Keyer which will provide CW, FSK or FAX modes of operation when used with an SSB transmitter, telephone lines or microwave links.

The TIS-3 was designed to provide maximum flexibility in a single piece of terminal equipment. When used with a SSB transmitter, FS, CW and FAX modes of operation are compatible with conventional systems.

The frequency shift is a true FM system utilizing reactance control of a 200 kc oscillator in order to obtain clean, transient-free keying.

A precisely calibrated, direct reading counter type dial presents fast, simple and accurate adjustment of the desired frequency shift from 12 to 1000 cycles. When used in the FAX mode, frequency shifted tones are a direct function of the input DC control voltage; therefore, linear shift of up to 1200 cps is available for photographic transmission.

Supersedes SSB 167, 236, 238 & 245A

A front panel switch allows the selection of four discreet center frequencies to provide compatibility with the following types of operation.

1. 1,900 cps International standard for FAX transmissions.
2. 2,000 cps For use with transmitters and receivers limited to tuning in 1 kc steps.
3. 2,550 cps Standard center frequency used for 850 cps shift.
4. Optional Any practicable frequency may be selected by the customer by simply installing the appropriate crystal and adjusting a trimmer, in accordance with the instructions provided. This can be performed at the factory if so specified at the time of ordering.

An audio CW channel fixed at 1000 cycles is also provided.

Additional features include front panel selection of MARK and SPACE test tones and output level adjustment and metered monitoring.

Voltage or current keying loops can be accommodated by the four position KEY MODE switch. Standard values of 50 volts, 100 volts, 20 ma and 60 ma are provided. Temperature controlled crystal and oscillator components offer exceptionally high stability with a minimum of warm-up time.

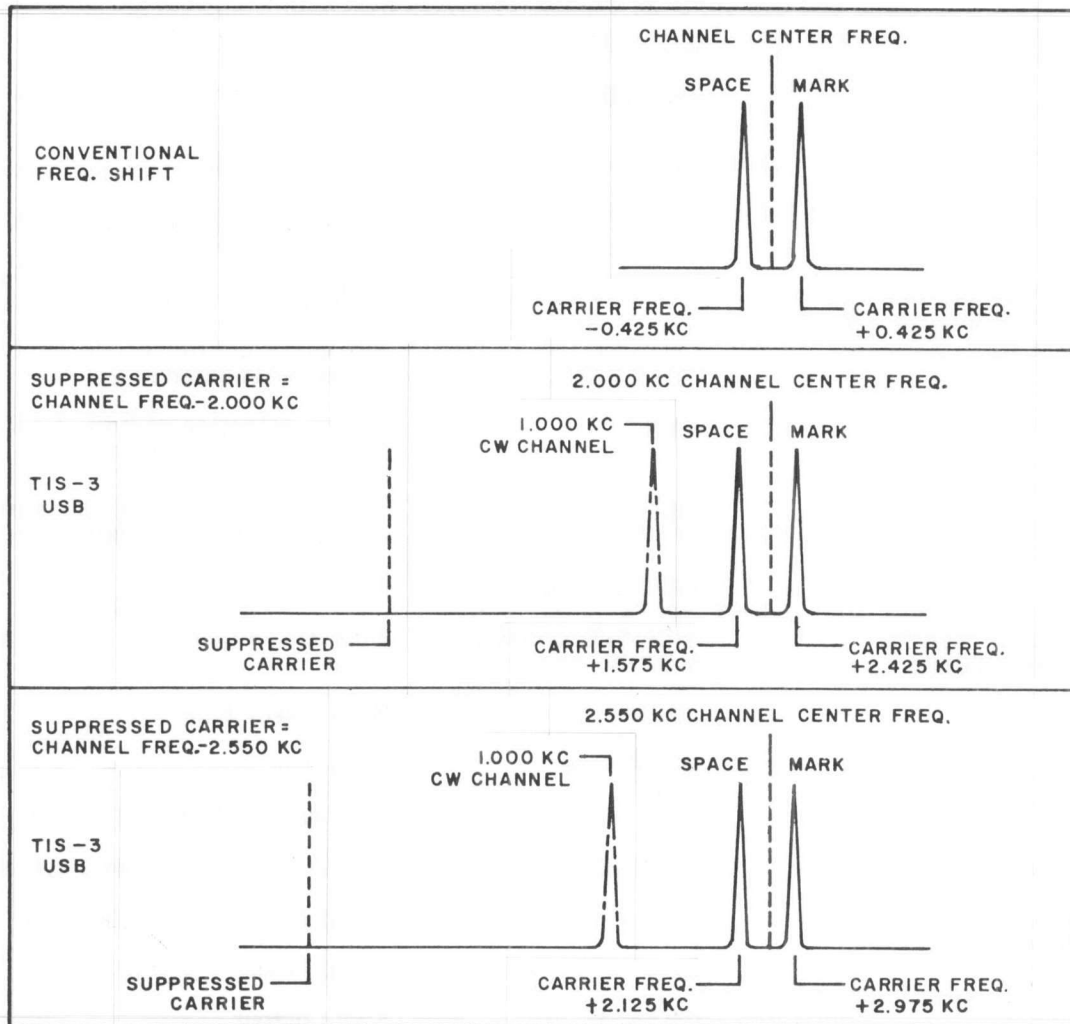
TECHNICAL SPECIFICATIONS:

KEYING SPEEDS:	Up to 75 bauds (100 WPM) FS, up to 140 bauds CW, up to 400 bauds FAX.
KEYING INPUTS:	<ol style="list-style-type: none"> 1. 50 v, 100 v, 20 ma, 60 ma. All neutral, floating, or either side grounded. 2. 0/20 volts positive for a linear shift of 1200 cycles (FAX)
SHIFT:	12 cycles to 1000 cycles continuously adjustable.
AUDIO CENTER FREQUENCIES:	<ol style="list-style-type: none"> 1. 2550 cps 2. 2000 cps 3. 1900 cps 4. Spare (For customer selected center frequency)
CW TONE FREQUENCY:	1000 cps
FREQUENCY STABILITY:	Better than .5% for: <ol style="list-style-type: none"> 1. 0-50° C. ambient temperature change. 2. ± 10% line voltage variation 3. 0 to 95% relative humidity
OUTPUT LEVEL:	Continuously adjustable to 0 dbm (0 to 1 milliwatt)
CRYSTAL TYPE: CR-47/U	for: 1900 cps C.F. use CR-47/U-0.198100-P for: 2000 cps C.F. use CR-47/U-0.198000-P for: 2550 cps C.F. use CR-47/U-0.197450-P 4th position order CR-47/U, $f_x = 0.2$ -C.F. (both in mc/s) f_x = crystal frequency, C.F. = desired center frequency.
OVEN TEMPERATURE:	70° C
POWER INPUT:	105/115/125/210/230 volts; 50-60 cps; Single Phase, 100 watts continuous; 170 watts intermittent (oven cycling).
OUTPUT IMPEDANCE:	600 ohms balanced
INPUT IMPEDANCE TO	60 ma position 1000 ohms 20 ma position 2200 ohms 50 v position 47,000 ohms 100 v position 100,000 ohms FAX position 0-20v 47,000 ohms

TUBE COMPLEMENT:	2 ea.	OA2	1 ea.	6J6
	1 ea.	6AB4	4 ea.	12AU7
	1 ea.	6AG5	1 ea.	5963

FRONT PANEL CONTROLS:	CONTROL	FUNCTION
	B+ ON/STANDBY *	Controls B+ Power.
	EXCITER	Permits selection of inputs.
	KEY MODE	Permits selection of keying in-puts.
	TEST	a. Activates connections to key- ing lines b. Activates continuous MARK tone. c. Activates continuous SPACE tone.
	CENTER FREQUENCY	Allows selection of one of four center frequencies
	FUNCTION	Allows selection of FSK, FAX or CW mode of operation
	SHIFT CPS	Permits extremely accurate sel- ection of shift frequency
	LEVEL ADJ	Adjusts output level
FRONT PANEL INDICATORS:	OUTPUT LEVEL METER	Indicates output level in db's and %
	MAIN fuse	Main power fuse
	OVEN fuse	Oven fuse
	B+	B+ power indicator
	OVEN IND.	Visual indication of oven cycling.
REAR PANEL FACILITIES:	LINE 1	Audio Input
	LINE 2	Audio Input
	CHAN 1	Audio output
	CHAN 2	Audio output
	FAX G	FAX keying input
	+KEY -KEY	FS keying input
	C3	Center Frequency Adjust
SIZE:	5-1/4 x 19 x 14 inches	
WEIGHT:	38 lbs.	
SHIPPING INFORMATION:	Case Packed	50 lbs. 8 x 21 x 21 inches (1.85 cu. ft.)
COMPONENTS AND CONSTRUCTION:	All equipment is manufactured in accordance with JAN/MIL specifications wherever practicable.	

* Filaments and oven heaters are ON when power is applied to the unit.



THE TECHNICAL MATERIEL CORPORATION

CABLE "TEPEI"

TWX 914-835-3782

MAMARONECK, N. Y. 10544

THE WORLD-WIDE SYSTEM OF REMOTE CONTROLLED COMMUNICATIONS

and Subsidiaries ALEXANDRIA, VIRGINIA • GARLAND, TEXAS • SAN LUIS OBISPO, CALIFORNIA
 OXNARD, CALIFORNIA • POMPANO BEACH, FLORIDA • OTTAWA, CANADA • LUZERN, SWITZERLAND