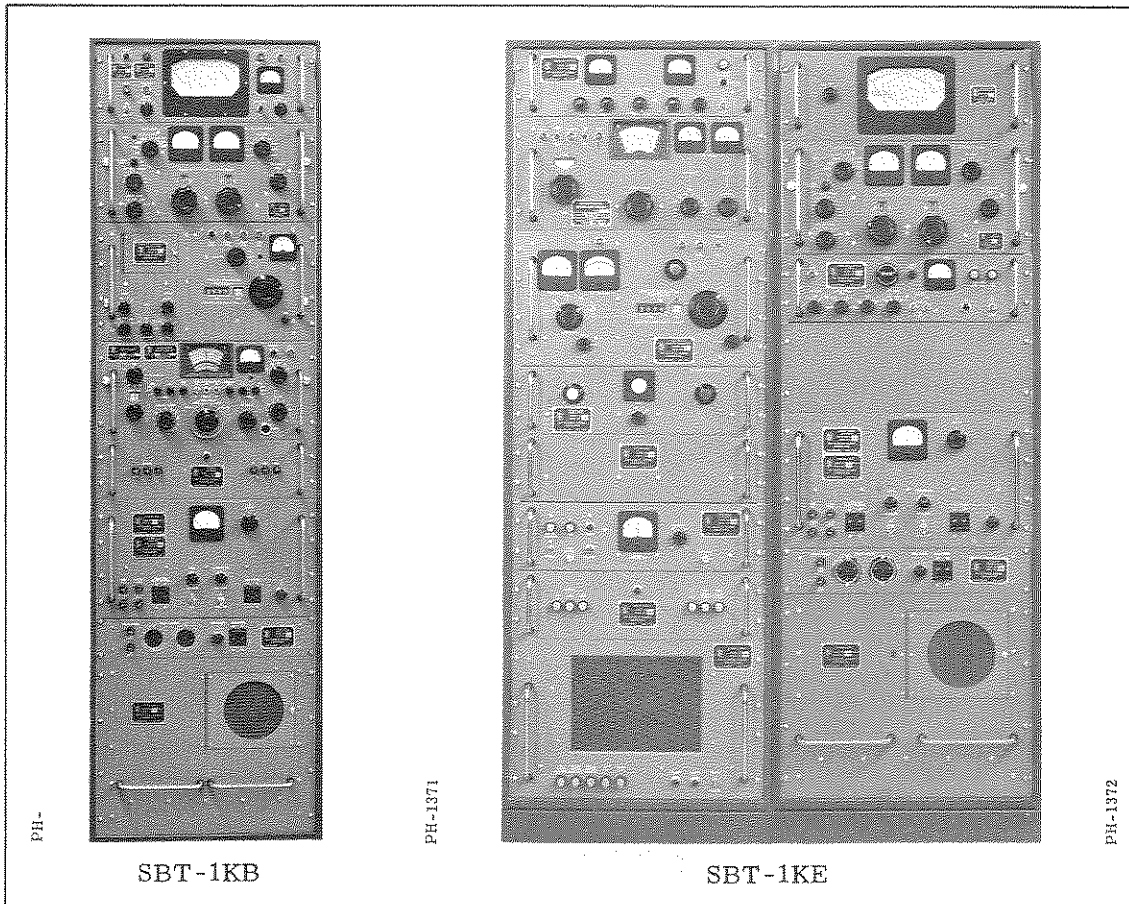


Single Sideband Transmitter Series

- Models SBT-1 K AN/URT-19(V)  
 AN/URT-19()  
 AN/FRT-53  
 AN/FRT-56  
 AN/FRT-57

SPECIFICATION FILES



The TMC Models SBT-1K are general purpose transmitters capable of 1000 watts output over the frequency range of 2 to 32 mc. Stabilities from 1 part in  $10^6$  to synthesized accuracy of 1 part in  $10^8$  are available in the series.

Many configurations of the TMC SBT-1K series are available for various modes of operation and customer options regarding frequency control devices, wide or narrow band exciters, antenna couplers, and base or shock mount.

These transmitters feature building block versatility, which provides ease of installation, operation, and maintenance. All units are completely bandswitched with front panel tuning.

The SBT-1K series has been thoroughly field proven in military and civilian installations throughout the world; in fixed plant ground stations, mobile communication centers, aboard planes, aboard ships ---- wherever the requirement exists for hard working, dependable, 1000 watt transmitters.

GENERAL TECHNICAL SPECIFICATIONS Models SBT-1 K:

OUTPUT POWER:	1000 watts PEP SSB, CW, FSK
FREQUENCY RANGE:	2 to 32 megacycles
MODES OF OPERATION:	Refer to specifications on individual units.
OUTPUT IMPEDANCE:	50 or 70 ohms unbalanced (dependent upon SWR-1K/ATS-2 ordered)
HARMONIC SUPPRESSION:	1. 2nd harmonic at least 40 db below PEP. 2. 3rd harmonic at least 50 db below PEP.
SIGNAL/DISTORTION RATIO:	1. Distortion at least 40 db below either tone of a standard two tone test 2 to 22 megacycles. 2. Distortion at least 35 db below either tone of a standard two tone test 22 to 32 megacycles.
FREQUENCY STABILITY:	1. Crystal . . . . . 1 part in $10^6$ /day 2. Synthesizer . . . . 1 part in $10^8$ /day
UNWANTED SIDEBAND REJECTION:	1000 cps tone at least 60 db down.
CARRIER INSERTION:	-55 db to full output.
AUDIO RESPONSE:	1. SBG-2 and SBE-2 Flat within 3 db 350 to 3300 cps. 2. SBG-1 and SBE-3 Flat within 3 db 350 to 7500 cps.
AUDIO INPUT:	1. Two 600 ohm channels, balanced or unbalanced -20 dbm to +20 dbm. 2. One 500,000 ohm input for crystal or dynamic mike, -50dbm for full output, SBE-2 & 3 only.
TUNING:	All tuning and bandswitching controls on front panels (no plug-in components).
METERING:	Front panel meters indicate operation of all critical circuits.
ALDC:	An automatic load and drive control is furnished to limit distortion during high drive peaks or load changes.
T/R FUNCTION:	A co-axial antenna relay and receiver muting circuit is provided to facilitate half-duplex operation (SBT-1KJ excluded).
COOLING:	Pressurized cabinet, filtered forced air for maximum heat dissipation.
SAFETY FEATURES:	1. Full interlock protection. 2. Full overload and fuse protection.
ENVIRONMENTAL CONDITIONS:	Designed to operate in any ambient temperature between $0^{\circ}$ and $50^{\circ}$ C., and any value of humidity up to 90%.

TMC MODEL NUMBER	MILITARY NOMENCLATURE	STABILITY PART IN	CAPABILITIES						COMPONENTS								
			SSB	ISB	AM	CW	FSK	FAX	SWR-1K STANDING WAVE RATIO INDICATOR	ATS-2 ANTENNA TUNING SYSTEM	SBE-2 TRANSMITTING MODE SELECTOR (350-3300 cps)	SBE-3 TRANSMITTING MODE SELECTOR (350-7500 cps)	VOX-5 VARIABLE FREQUENCY OSCILLATOR	XFK FREQUENCY SHIFT EXCITER	TIS-3 TONE INTELLIGENCE SYSTEM	SBC-1 SIDEBAND GENERATOR (330-7500 cps)	
SBT-1K A	AN/URT-19(V)	10 <sup>6</sup>	•	•	•	•			X		X		X				
SBT-1K B	AN/URT-19( )	10 <sup>6</sup>	•	•	•	•				X	X		X				
SBT-1K C	AN/URT-19( )	10 <sup>6</sup>				•	•	•	X				X	X			
SBT-1K D	AN/URT-19( )	10 <sup>6</sup>				•	•	•		X			X	X			
SBT-1K E		10 <sup>8</sup>	•	•	•	•	•	•	X						X	X	
SBT-1K F		10 <sup>8</sup>	•	•	•	•	•	•		X					X	X	
SBT-1K G		10 <sup>8</sup>	•	•	•	•	•	•	X						X		
SBT-1K H		10 <sup>8</sup>	•	•	•	•	•	•		X					X		
SBT-1K J	AN/FRT-53 (SSB 255)	10 <sup>6</sup>	•	•	•	•						X	X				
SBT-1K L	AN/FRT-57 (SSB 257)	10 <sup>6</sup>	•	•	•	•			X			X	X				
SBT-1K M		10 <sup>6</sup>	•	•	•	•				X		X	X				
SBT-1K N		10 <sup>6</sup>	•	•	•	•					X						
SBT-1K O		10 <sup>6</sup>	•	•	•	•						X					
SBT-1K P		10 <sup>8</sup>	•	•	•	•				X							X
SBT-1K Q	AN/FRT-56 (SSB 256)	10 <sup>6</sup>	*•	*•	*•	*•	*•	*•	X								
SBT-1K S		10 <sup>6</sup>	•	•	•	•	•	•		X		X	X		X		
FOR ADDITIONAL INFORMATION ON COMPONENTS REFER TO SALES SERVICE BULLETIN NUMBER :									234	235	195	239	134	118	245	228	

				INSTALLATION DATA					SHIPPING DATA (APPROX.)				LOGISTICS DATA	
IAS-3 TONE INTELLIGENCE SYSTEM	SBG-1 SIDE BAND GENERATOR (330-7500 cps)	SBG-2 SIDE BAND GENERATOR (330-3300 cps)	PAL-1K LINEAR R.F. AMPLIFIER	HEIGHT (in.)	WIDTH (in.)	DEPTH (in.)	WEIGHT (lbs.)	PRIMARY POWER WATTS	WEIGHT (lbs.)	VOLUME (cu. ft.)	SIZE OF LARGEST CONTAINER	A. FSN w/spares B. FSN w/o spares C. TMC Inst. Book D. MIL. Inst. Book	T M C MODEL NUMBER	
			X	72 1/4	20 5/8	22 1/2	675	2120	1250	73	80" x 30" x 23"	A B F5820-799-8437 C IN-209 A D	SBT-1K A	
			X	"	"	"	675	"	"	"	"	A B IN-209 B C D	SBT-1K B	
			X	"	"	"	643	2150	1168	70	"	A B IN-209 C C D	SBT-1K C	
			X	"	"	"	643	"	1300	78.2	"	A B IN-209 D C D	SBT-1K D	
X	X		X	59 1/4	41 1/4	22 1/2	1082	2050	2183	113.8	67" x 29" x 23"	A B IN-209 E C D	SBT-1K E	
X	X		X	"	"	"	1082	"	2312	122	"	A B IN-209 F C D	SBT-1K F	
X		X	X	"	"	"	1082	"	2183	113.8	"	A B IN-209 G C D	SBT-1K G	
X		X	X	"	"	"	1042	"	2312	122	"	A B IN-209 H C D	SBT-1K H	
			X	64 1/2	20 5/8	22 1/2	675	2120	1239	72.7	"	A B IN-209 J C D	SBT-1K J	
			X	72 1/4	20 5/8	22 1/2	675	"	1250	73	80" x 30" x 23"	A B IN-209 L C D	SBT-1K L	
			X	"	"	"	675	"	"	"	"	A B IN-209 M C D	SBT-1K M	
			X	"	"	"	650	"	1129	65.8	"	A B IN-209 N C D	SBT-1K N	
			X	"	"	"	650	"	"	"	"	A B IN-209 O C D	SBT-1K O	
	X		X	59 1/4	41 1/4	22 1/2	1047	2550	2258	118.5	67" x 29" x 23"	A B IN-209 P C D	SBT-1K P	
			X	72 1/4	20 5/8	22 1/2	610	1900	991	58.7	80" x 30" x 23"	A B IN-209 Q C D	SBT-1K Q	
X			X	"	"	"	715	2220	1438	85.6	"	A B IN-209 S C D	SBT-1K S	
245	228	228	221	* with appropriate external exciter										

**POWER REQUIREMENT:**

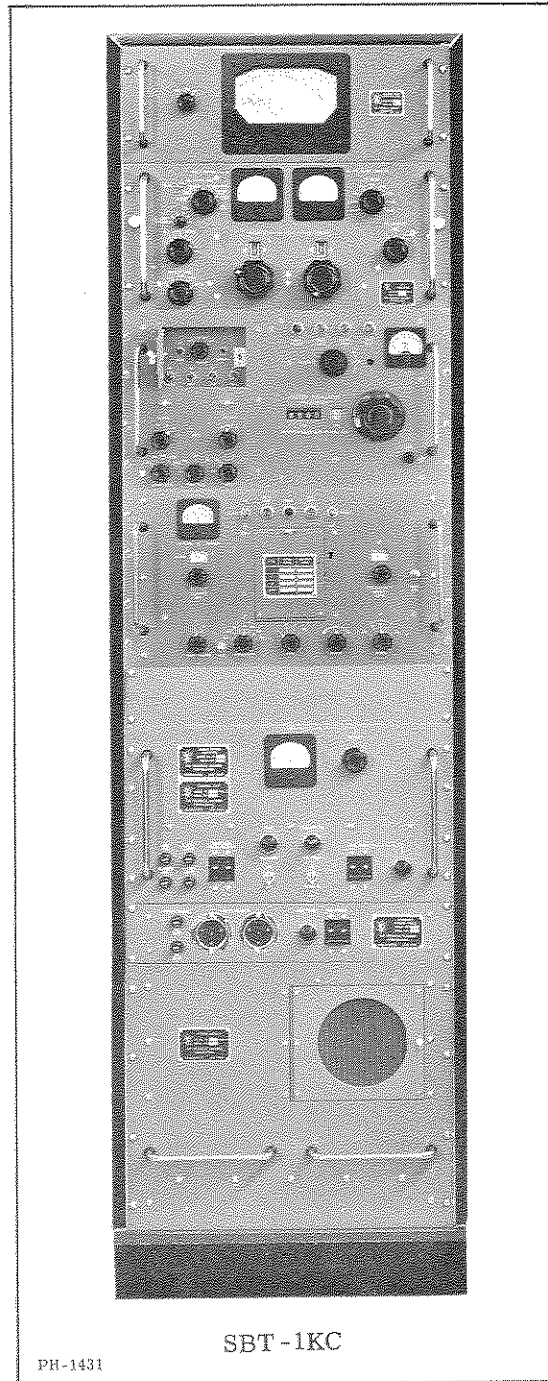
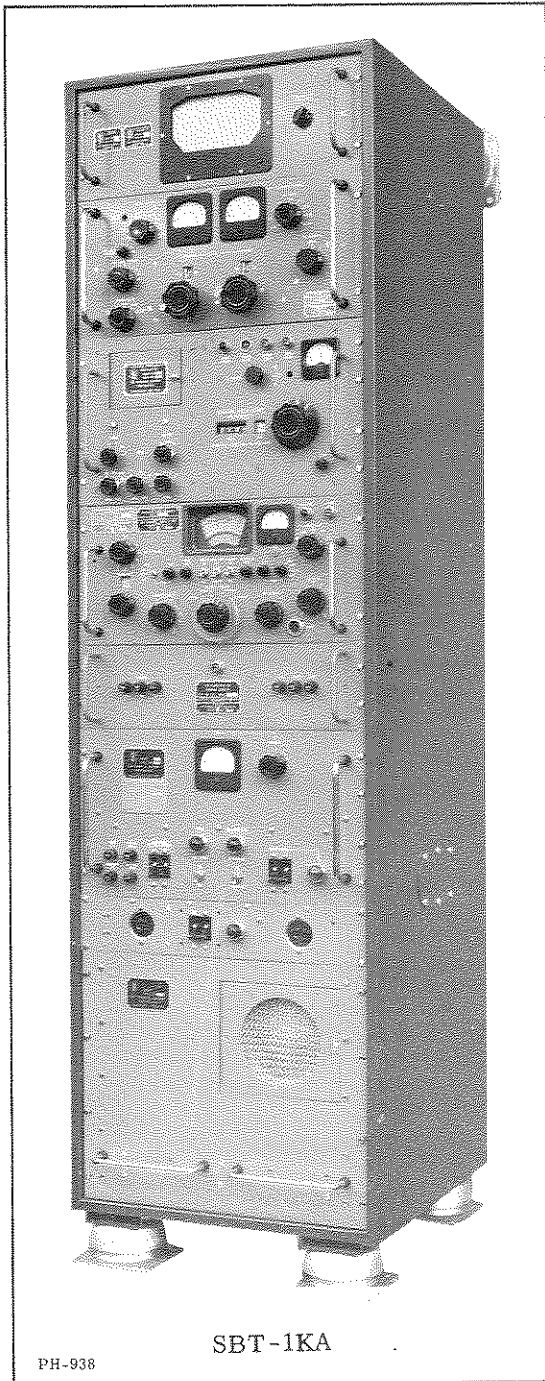
115/230 v, 50-60 cps, 1  $\phi$   
For power consumption, refer to specifications on individual units.

**SIZE AND WEIGHT:**

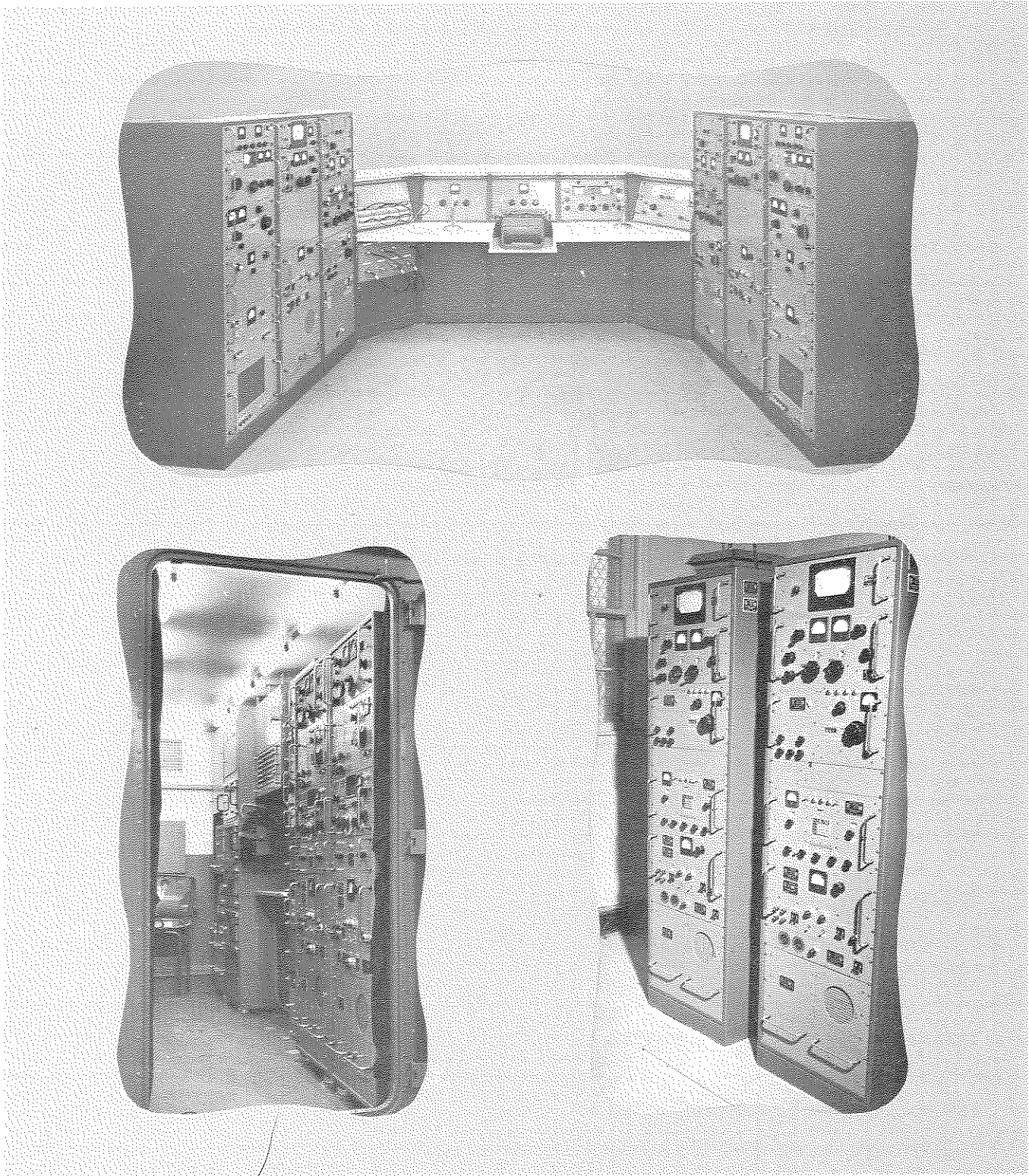
Refer to specifications on individual units.

**COMPONENTS AND CONSTRUCTION:**

All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.



Models SBT-1 K



TYPICAL INSTALLATIONS

# The TECHNICAL MATERIEL CORPORATION

700 FENIMORE ROAD MAMARONECK, NEW YORK

CABLE  
TEPEI  
MAMARONECK, N.Y.

*and Subsidiaries* TMC (Canada) Ltd. Ottawa, Canada  
TMC Industrial Corp. Mamaroneck, N. Y.  
TMC Systems, Inc., Alexandria, Va.  
TMC Systems, (Texas), Inc., Garland, Texas

