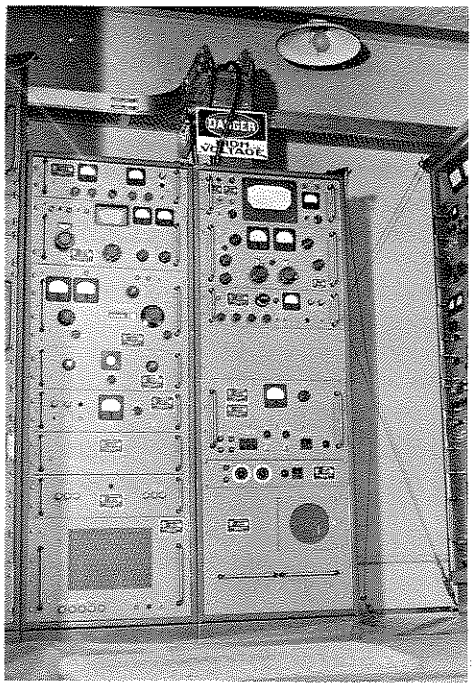
TECHNICAL BULLETIN NUMBER 1001A

Single Sideband Transmitter Series
MODELS SBT-1K



SBT-1KF

SBT-1KS

- 1.75 to 32 megacycles
- Automatic load and drive control
- Over 20 individual models available
- Shock mounts for mobile application

The Technical Materiel Corporation's series of 1 KW transmitters provide 1 KW PEP and 1 KW average service for all sideband and conventional service from 1.75 to 32 mcs over 20 individual models which are available in this series to fulfill almost any fixed or mobile transmitter requirement.

These transmitters feature building block versatility, which provides ease of installation, operation and maintenance. All units are completely bandswitched with front panel tuning. Positive RF tuning is assured since no rolling contacts or plug-in coils are used. The transmitters offered in this series are modernized versions of military accepted units that have received the following nomenclature: AN/URT-19(V), AN/FRT-70, AN/FRT-53, AN/FRT-57, and AN/FRT-56.

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 ships — wherever the requirement exists for hard working, dependable 1000 watt transmitters.

Single Sideband Transmitter Series

TECHNICAL SPECIFICATIONS

FREQUENCY RANGE:	1.75 to 32 megacycles.
MODES OF OPERATION:	See Chart.
OUTPUT POWER:	1000 watts PEP, SSB, CW, FSK.
OUTPUT IMPEDANCE:	50 ohms nominal unbalanced. Pi-L network will match a load with up to 2:1 VSWR.
FREQUENCY STABILITY:	1. 1 part in 10^6 crystal controlled for non-synthesized models. 2. 1 part in 10^8 per day for ambient temperature change of 15°C within the range of 0-50°C after 24 hour warm up. For stability of 1 part in 10^9 see CSS-2 under OPTIONS/ACCESSORIES.
TUNING:	All tuning and bandswitching controls on front panels (no plug-in components).
SIGNAL/DISTORTION RATIO:	1. Distortion at least 40 db below either tone of a standard two tone test 1.75 to 22 megacycles. 2. Distortion at least 35 db below either tone of a standard two tone test 22 to 32 megacycles.
UNWANTED SIDEBAND REJECTION:	1000 cps tone at least 60 db down.
SPURIOUS SIGNAL:	All spurious outputs as a result of internal mixing are at least 60 db below full PEP output.
HUM AND NOISE LEVEL:	Hum is at least 50 db below full PEP. All other noise down at least 60 db.
CARRIER INSERTION:	−55 db to full output.
HARMONIC SUPPRESSION:	1. 2nd harmonic at least 40 db below PEP. 2. 3rd harmonic at least 50 db below PEP.
AUDIO RESPONSE:	1. SBG-2 and SBE- 8 ± 1.5 db 250 to 3500 cps. 2. SBG-1 and SBE- 9 ± 1.5 db 250 to 8500 cps. 3. SBG-1 and SBE-10 ± 1.5 db 275 to 6000 cps.
VOX OPERATION:	Voice control with anti-trip features is provided in those models equipped with SBE. For VOX operation of synthesized models, see OPTIONS/ACCESSORIES.
AUDIO INPUT:	1. Two 600 ohm channels balanced or unbalanced −20 dbm to +10 dbm input will provide full RF output. 2. One 500,000 ohm input for crystal or dynamic mike, −50 dbm for full output. SBE-8, 9, and 10 only.

HEAT DISSIPATION:	2500 watts for standard models. 3200 watts for synthesized models.
ALDC:	A front panel automatic load and drive control minimizes overload and 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.)
METERING:	Front panel meters indicate operation of all critical circuits.
ENVIRONMENTAL CONDITIONS:	Designed to operate in any ambient temperature between 0° and 50°C, and any value of humidity up to 90%.
INSTALLATION DATA:	See Chart.
SIZE OF LARGEST CONTAINER:	Non-synthesized model 78⅝ x 32 x 25. Synthesized model 69⅜ x 31 x 24½.
SAFETY FEATURES:	1. Full interlock protection. 2. Full overload and fuse protection.
INSTRUCTION MANUAL:	IN-209.
PRIMARY POWER:	115/230 v, 50/60 cps, 1 phase. For power consumption, refer to specifications on individual units shown on chart.
COMPONENTS AND CONSTRUCTION:	All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.
OPTIONS/ACCESSORIES:	(Priced Separately.)
TMC KIT 197:	Provides MIL type shock mounts for shipboard or other applications.
TMC KIT 155:	Provides VOX operation to synthesized models only.
TMC MODEL SPU-2:	Provides microphone input Lo and Hi Z plus VOX and anti-VOX as well as squelch compression.
CSS-2:	Provides stability of 1 part in 10^9 for ambient temperature change of 15°C within the range of 0-50°C after 24 hour warm up.

STANDARD MODELS (1 PART 10^6 PER DAY)

TMC MODEL NUMBER	MODIFICATION LETTER: EXCITER B.W. 250–3500 CPS NOTE 1	250–8500 CPS NOTE 2	275–6000 CPS NOTE 3	CAPABILITIES: SSB	ISB	AM	CW	FSK	FAX	OTHER COMPONENTS: SWR-1K	ATS-2A	VOX-5	XFK	TIS-3A	INSTALLATION DATA: HEIGHT (IN.)	WIDTH (IN.)	DEPTH (IN.)	WEIGHT (LBS)	PRIMARY POWER WATTS NOTE 5	SHIPPING DATA: WEIGHT (LBS)	VOLUME (CU.FT.)
SBT-1KA	A	B	C	●	●	●	●			X		X			75 1/4	20 5/8	22 1/2	800	3000	1400	82.8
SBT-1KB	A	B	C	●	●	●	●				X	X			"	"	"	850	"	1550	91.8
SBT-1KC	NOTE 4						●	●	●	X		X	X		"	"	"	755	"	1340	79.0
SBT-1KJ	A	B	C	●	●	●	●					X			67 1/2	20 5/8	22 1/2	750	"	1345	69.5
SBT-1KS	A	B	C	●	●	●	●	●	●		X	X		X	75 1/4	20 5/8	22 1/2	880	"	1570	91.8
SBT-1KX	A	B	C	●	●	●	●	●	●	X		X		X	"	"	"	825	"	1420	82.8
SYNTHESIZED MODELS (1 PART 10^8 PER DAY)																					
SBT-1KE	A	B	C	●	●	●	●	●	●	X				X	62 1/4	41 1/4	22 1/2	1200	3700	2180	133.7
SBT-1KF	A	B	C	●	●	●	●	●	●		X			X	"	"	"	"	"	2335	142.7
FOR ADDITIONAL INFORMATION ON COMPONENTS REFER TO TECHNICAL BULLETIN NUMBER:										2014	2001	2018	2020	2025							

THE FOLLOWING MODELS HAVE BEEN SUPERSEDED AS SHOWN:

OLD MODEL NO.	NEW MODEL NO.
SBT-1KL	SBT-1KAB
SBT-1KM	SBT-1KBB
SBT-1KT	SBT-1KSA
SBT-1KV	SBT-1KBB
SBT-1KW	SBT-1KFB

NOTE:

1. USES SBE-8 IN STANDARD MODEL AND SBG-1 IN SYNTHESIZED MODEL.
2. USES SBE-9 IN STANDARD MODEL AND SBG-1 IN SYNTHESIZED MODEL.
3. USES SBE-10 IN STANDARD MODEL AND SBG-1 IN SYNTHESIZED MODEL.
4. SBT-1KCA ONLY. (THIS MODEL DOES NOT USE THE SBE).
5. POWER INDICATED IS MAXIMUM WITHIN ± 10%.

THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N.Y. 10543
CABLE "TEPEI" TWX 710-566-1100
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