

SALES SERVICE BULLETIN NUMBER 195 A

Mode Selector Transmitting, Model SBE-1
(Exciter, SSB, DSB, ISB, with or without Carrier)



The TMC Model SBE-1, Mode Selector, Transmitting, is a universal exciter permitting the transmission of any intelligence on Single or Double Sideband, with or without carrier.

This exciter may be used for simultaneous or independent transmission of intelligence on either upper or lower sideband. For example: A voice channel can be transmitted on the upper sideband while tone multiplex is being transmitted on the lower sideband.

The Model SBE-1 can be employed for double sideband suppressed carrier transmission commonly known as DSB. The carrier may be re-inserted at will to any degree required for the transmission involved.

The SBE-1 provides the following commonly known types of operation:

1. Conventional Double Sideband, AM, with the additional advantage of carrier level control.
2. Conventional Single Sideband with adjustable carrier insertion.
3. Conventional Interrupted Carrier, CW, or Sideband Tone CW.
4. Independent Sideband transmission with adjustable carrier insertion.

From the above paragraphs, it should be apparent that the SBE-1 provides transmission which is compatible with any of the current "controversial" systems.

The SBE-1 is continuously tuneable in the range of 2 to 32 megacycles and is frequency controlled by means of temperature controlled crystals or external VFO. Sideband selection is accomplished by a specially designed filter. The carrier may be suppressed to to 55 db. Harmonic and spurious output are at least 40 db. down. VOX (voice control with anti-trip features) is built-in and adjustable. The SBE-1 provides at least 2.5 watts PEP output and could be followed by any appropriate AB-1 amplifier.

The illustration shows the basic exciter unit, less power supply, and occupies 8-3/4 x 19" of standard WE panel space. The power supply occupies 5-1/4 x 19" of additional space.

TECHNICAL SPECIFICATIONS:

FREQUENCY RANGE:	2 to 32 megacycles continuous, bandswitched.
OPERATING MODES:	Single Sideband * Double Sideband * Independent Sideband * (separate intelligence) Amplitude Modulation, CW or MCW. * May be used with any degree of carrier re-insertion.
FREQUENCY CONTROL:	Temperature controlled crystals or external VFO.
FREQUENCY DETERMINING ELEMENTS:	Contained in two specially designed temperature controlled aluminum ovens providing a large mass and high thermal inertia.
CRYSTAL OVEN TEMPERATURE:	70° C.
CRYSTAL POSITIONS:	Ten, with independent trimmers, selectable from front panel switch.
CRYSTAL SOCKETS:	For HC-6/U Holders. (CR-27/U crystal)
TUNING CONTROLS:	Directly calibrated in frequency.
OUTPUT POWER:	Continuously adjustable from zero to a maximum of 2.5 to 3 watts PEP.
OUTPUT IMPEDANCE:	72 ohms, nominal.
CARRIER SUPPRESSION:	At least 55 db. down from PEP level.
CARRIER RE-INSERTION:	Adjustable.
SPURIOUS OUTPUT AND DISTORTION:	Spurious and third order distortion products down at least 40 db.
AUDIO INPUT:	500 Kc for high impedance crystal or dynamic mike, -50 db. for full RF output. 600 ohms balanced, -20 db. level for full RF output.
AUDIO RESPONSE:	Within 3 db. 350 to 3300 cps.
VOX OPERATION:	Voice control with anti-trip features, adjustable gain and squelch.

METERING:

LF (low frequency) monitors level of either upper or lower sideband.
MF (mid frequency) monitors level of mid frequency channel.
RF Output.
PA grid.

FRONT PANEL CONTROLS:

MF XTAL SW	LSB MIKE/REMOTE
BAND MCS	XMITR ON/OFF
CARRIER INSERT	FINAL ON/STANDBY
OUTPUT TUNING	VOX GAIN/OFF
MF TUNING	SQUELCH GAIN/OFF
OUTPUT/OFF	METER SW
KEY	Indicator lamps for
USB AUDIO GAIN	OVEN, RELAY, XMTR
LSB AUDIO GAIN	and FINAL
USB MIKE/REMOTE	

INPUT POWER:

110/220 volts, 50/60 cycles, 120 watts average.
140 watts at momentary intervals as oven cycles.

TUBE COMPLEMENT:

	EXCITER
2 each 12AY7	- Audio Amplifier
6 each 6U8	- Amplifiers, Oscillators
3 each 12AT7	- Combining Amplifier, Mixer VOX, Squelch Amplifier
2 each 12AU7	- Oscillator, Relay Tube
1 each 6BA6	- Amplifier
1 each 6CL6	- Amplifier
1 each 2E26	- Power Amplifier
1 each 6AH6	- Harmonic Amplifier
2 each CK711	- Modulators
1 each OA2	- Voltage Regulator

POWER SUPPLY

1 each 5U4	- Rectifier
1 each OA2	- Voltage Regulator

MOUNTING DATA:

Cabinet or Standard WE Relay Rack.

SIZE:

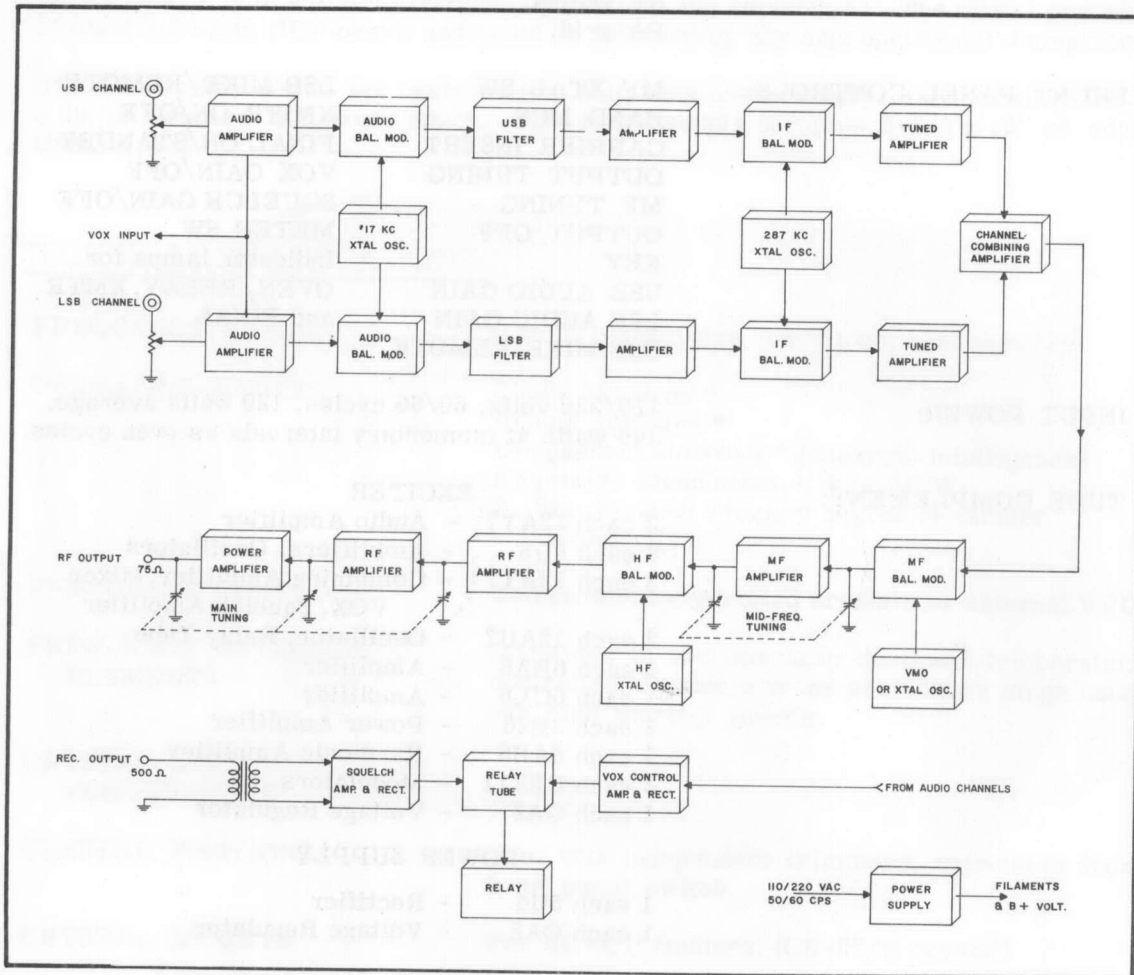
Exciter	19" wide x 15" deep x 8-3/4" high
P/S	19" wide x 7" deep x 5-1/4" high
	approx. 6 cu. ft. domestic pack
	approx. 9 cu. ft. export pack

WEIGHT:

	NET	GROSS
Exciter	30 lbs. }	60 lbs. domestic
P/S	20 lbs. }	
Exciter	30 lbs. }	115 lbs. export
P/S	20 lbs. }	

COMPONENTS & CONSTRUCTION:

Equipment is manufactured in accordance with JAN/MIL Specifications wherever practicable.



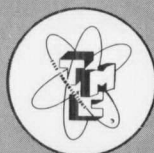
CK-340

THE TECHNICAL MATERIEL CORPORATION

700 FENIMORE ROAD

MAMARONECK, NEW YORK

CABLE
TEPEI
NEW YORK, N.Y.



COMMUNICATION ENGINEERS

IN CANADA:
TMC (CANADA) LTD.
OTTAWA, ONTARIO