



TECHNICAL BULLETIN NUMBER 4001

Receiving Mode Selectors

TMC Models MSR-3A

MSR-4

MSR-5

MSR-8

CV-657A/URR

CV-591A/URR



The TMC Model MSR, Single Sideband Converter is a receiving device which will greatly improve the operation of any receiver. The MSR provides selectable Sideband reception of SSB or AM signals, improved CW-MCW reception, exalted carrier AM and bandpass tuning. The MSR may be used for local or remote operation.

The combination of a specially designed band pass filter circuit and a frequency bandspread oscillator provides sharp discrimination between a desired signal and any undesired interference.

The combination of the filter and mixer circuit together with a highly stable carrier reinsertion oscillator make possible the reception of all of the above mentioned receiving modes.

Any standard communications receiver that will provide an IF output from .1 to 10 volts RMS may be adapted to SSB reception in the following IF frequencies:

200 kc	MSR-3A
455 kc	MSR-4
455 kc	MSR-5 (oven controlled sideband crystals)
500 kc	MSR-8

Receiving Mode Selectors

TECHNICAL SPECIFICATIONS

INPUT FREQUENCY:	200 kc MSR-3A 455 kc MSR-4 455 kc MSR-5 (oven controlled sideband crystals.) 500 kc MSR-8
MODES OF RECEPTION:	SSB upper or lower, AM, CW, FSK, FAX.
INPUT VOLTAGE:	0.1 to 10 volts RMS
INPUT IMPEDANCE:	High impedance input, at least 200 K ohms
TUNING (BANDSPREAD):	± 3 kc
FILTER CHARACTERISTICS:	3.2 kc at 3 db points 5.2 kc at 45 db points
AVC CHARACTERISTICS:	With 40 db change in input, output remains constant within ± 4.5 db.
AVC SPEEDS:	Slow/Fast
AUDIO DISTORTION:	Less than 5%.
AUDIO OUTPUT:	High 2 watts - 600 ohms - 8 ohms Low 1 mw - 600 ohms, 150 mw - 600 ohms and 8 ohms.
OUTPUT IMPEDANCES:	Loudspeaker 8 ohms Line 600 ohms Head Set High or low impedance headset may be used.
HUM LEVEL:	At least 50 db down from full audio output.
SPECIAL FEATURES:	MSR-4 may be used with AN/FRA-19(V) or AN/FRA-501 - Remote Control Systems and AN/FRR-49 (V) or AN/FRR-502 - Receiving Systems without any modification.
FRONT PANEL CONTROLS:	Power On/Off Audio gain control Sideband Upper/Lower switch Upper or lower sideband indicators Manual/Xtal switch Bandspread control AVC On/Off switch AVC Fast/Slow switch BFO On/Off switch Phone jack

TMC Models MSR-3A, MSR-4, MSR-5, MSR-8

REAR PANEL FACILITIES:	IF input jack AC power input Audio output terminals Remote control terminals Hi/Lo output level control
PRIMARY POWER REQUIREMENTS:	115/230 volts, 50/60 cycles, single phase, 65 watts.
SIZE:	5¼" high x 19" wide x 11¼" deep
WEIGHT:	24 lbs. net.
TEMPERATURE & HUMIDITY:	0 to 50° C, up to 90% humidity.
SHIPPING DATA:	59 lbs., 4.47 cu. ft.
LOOSE ITEMS:	Coaxial mating plug and 2 instruction books.
JAN NOMENCLATURE:	MSR-3A CV-657A/URR MSR-4 CV-591A/URR
FSN:	MSR-3A without spares – F5820-724-8060 MSR-4 with spares – F5820-543-1593 MSR-4 without spares – F5820-633-0470
INSTRUCTION BOOKS:	MSR-3A IN 213 MSR-4, MSR-5 IN 196 MSR-8 IN 255 NAVSHIPS 93210 – CV-591A/URR
COMPONENTS AND CONSTRUCTION:	All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.

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