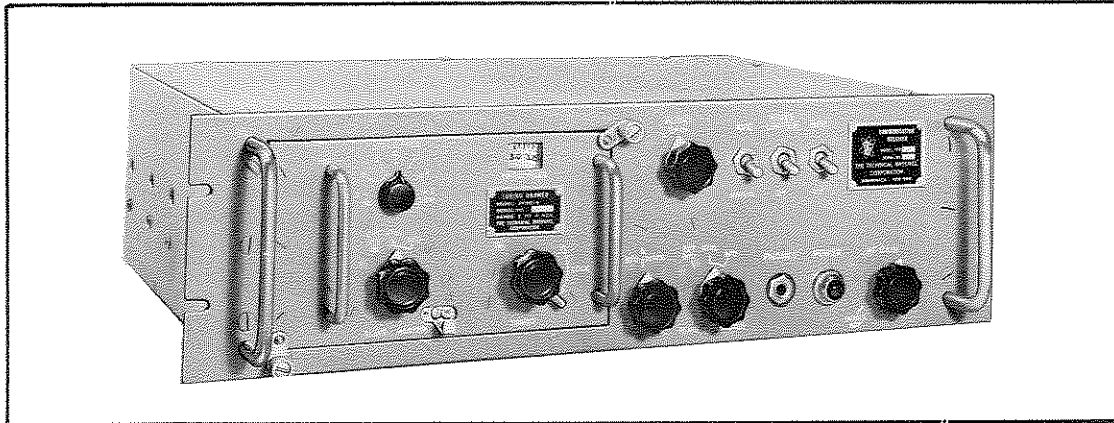


## SALES SERVICE BULLETIN NUMBER 200

Communications Receiver, Model FFR



FRONT VIEW

The TMC Model FFR Communications Receiver is a highly versatile superheterodyne receiver, covering the frequency range of 50 Kcs to 32 Mcs, used for dependable, unattended continuous reception of AM, CW, MCW, FS and SSB signals. Provisions are made for crystal, internal and external operation of the HFO and BFO. Rapid frequency change is made possible by means of accurately calibrated pretuned plug-in "front ends."

Remote control and diversity features are incorporated as standard features. The receiver is also available with squelch (codan) and for Beacon Monitoring purposes.

The flexibility of the Model FFR has made it the choice of military and commercial users for many applications. A few of which are as follows:

1. Remote Controlled Air/Ground CW, AM, SSB, Communications.



FRONT VIEW, MODEL FFR-DPH with FFRD-\*

2. Single Channel Point-to-Point CW, AM SSB and RTTY operation.
3. Dual Diversity Point-to-Point operation.
4. General Monitoring purposes where quick frequency change is required.
5. Remote Controlled reception of Facsimile and Photo.

Remote Control of the Model FFR is provided by the TMC Model RCR, Remote Control System. This system, nomenclatured the AN/FRA-501 and AN/FRA-19 (V), fully controls up to 5 receivers over a single 300 to 3000 cycle voice channel by means of frequency shifted tones.

## TECHNICAL SPECIFICATIONS

**FREQUENCY RANGE:** 50 Kcs to 32 Mcs in eight bands.

**BAND CHANGE:** By means of eight plug-in tuning drawers, each covering the following frequencies:

FFRD-1	50-100 Kcs.
FFRD-2	100-200 Kcs.
FFRD-3	200-400 Kcs.
FFRD-3M	500 Kcs. $\pm$ 10 Kcs.
FFRD-5	2-4 Mcs.
FFRD-6	4-8 Mcs.
FFRD-7	8-16 Mcs.
FFRD-8	16-32 Mcs.

**TYPE OF RECEPTION:** AM, CW, and MCW. FS and SSB when used with appropriate converters. See bulletins 120 and 196.

**TUNING SYSTEM:** Calibrated single dial control.

**REMOTE CONTROL FACILITIES:** HFO, BFO tuning and RF Gain controlled by means of DC voltages or TMC Model RCR, Remote Control System.

**ANTENNA INPUT:** 75 ohms unbalanced, 300 ohms balanced with built-in ferrite transformer providing accurate matching.

**BFO & HFO:** Variable- Manual or Remote.  
Fixed System Operation.  
Excitation from outside source.

**SENSITIVITY:** Better than 1 microvolt for 10 db Signal to Noise Power Ratio.

**IMAGE RATIO** Better than 60 db, 50 Kcs to 16 Mcs; not less than 40 db, 16 to 32 Mcs.

**AVC CHARACTERISTICS:** Output will remain constant within 12 db with an 80 db change in input signal.

**OUTPUT IMPEDANCE:** 8 and 600 ohms unbalanced.

**OUTPUT POWER:** 2 watts maximum.

OVER-ALL SELECTIVITY

TUNING DRAWER	FREQUENCY	6 db POINTS	60 db POINTS
FFRD-1	50 Kcs. 100	2 Kcs. 4	14 Kcs. 17
FFRD-2	100 200	2.5 4.3	14 19
FFRD-3	200 400	4.1 4.8	17 20
FFRD-3M	500	3.8	12
FFRD-5,6,7,8	2 to 32 Mcs	5.	25

NOTE: On the low frequency Tuning Drawers (FFRD-1, 2 and 3) the BAND-WIDTH control provides four positions of selectivity - one NORMAL as indicated above and three narrow positions providing bandwidths of 1.3 Kcs., .5 Kcs. and .3 Kcs.

HUM LEVEL: Better than 60 db down.  
 INPUT POWER: 115/230 volts, 50/60 cycles, approximately 85 watts.

NOISE LIMITER: A noise limiter circuit is provided for maximum effectiveness in combating impulse noise.

FRONT PANEL CONTROLS:	<u>MAIN CHASSIS</u>	<u>TUNING DRAWERS</u>
	Noise Limiter Switch Pilot Light Audio Gain Control Phone Jack BFO Master-Slave Switch AVC/MANUAL Switch BFC ON/OFF Switch RF Gain and Power ON/OFF Switch BFO Pitch	Tuning Dial HFO Master-Slave Switch Crystal Trimmer Tuning Dial Lock Selectivity Switch on Bands 1, 2 and 3.

REAR PANEL FACILITIES:	HFO Control HFO IN HFO OUT BFO Control BFO IN BFO OUT AVC ON/OFF AVC BUS	RFG Control IF OUT DIODE LOAD LOUDSPEAKER OR LINE ANTENNA
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MOUNTING: Standard WE rack mounting.

SIZE AND WEIGHT: 19" wd. x 5-1/4" hg. x 15-1/2" dp.  
 NET - 35 lbs.  
 GROSS - 105 lbs. packed for export.

LOGISTIC DATA: RECEIVER SET RADIO AN/FRR-49(V)\* AN/-502\*\*

NOMENCLATURE	DESCRIPTION	TMC MODEL NO.	FSN	SNSN	USAF
R-5007/FRR-502	Receiver Subassembly (main chassis less tuning drawers)	FFR		F16-R033591-1478	1760-218653099
R-5007/FRR-502(m)	Receiver Subassembly complete with squelch	FFR-S			
TN-274/FRR-502	Tuner, R.F. (50-100 Kcs.)	FFRD-1	F5820-669-6985	F16-T098018-1863	
TN-275/FRR-502	Tuner, R.F. (100-200 Kcs.)	FFRD-2	F5820-669-6985	F16-T098018-1847	
TN-276/FRR-502	Tuner, R.F. (200-400 Kcs.)	FFRD-3	F5820-669-6983	F16-T098018-8413	
TN-277/FRR-502	Tuner, R.F. (500 Kcs.)	FFRD-3M	F5820-669-6984	F16-T098025-5953	
TN-5010/FRR-502	Tuner, R.F. (2-4 Mcs.)	FFRD-5		F16-T098044-5820	1760-049685500
TN-5011/FRR-502	Tuner, R.F. (4-8 Mcs.)	FFRD-6		F16-T089049-4758	1760-049685510
TN-5012/FRR-502	Tuner, R.F. (8-16 Mcs.)	FFRD-7	F5821-669-6977	F16-T089063-3110	1760-049685520
TN-5014/FRR-502	Tuner, R.F. (16-32 Mcs.)	FFRD-8		F16-T098066-8909	1760-049685530
CY-5045/FRR-502	Cabinet, Electrical Equipment	FFRD-P			
CY-5045A/FRR-502	Cabinet, Electrical Equipment	FFRD-PH		F16-C010628-5974	

\* NOTE: Equipment, Receiver Set, Radio Consisting of: Receiver Subassembly R5007 and one or more of the TN's and if required CY5045A in any combination.

\*\*NOTE: Receiver Set, Radio AN/FRR-502 is a specific system consisting of the following:

- 1 each R5007/FRR-502
- 1 each TN5010/FRR-502
- 1 each TN5011/FRR-502
- 1 each TN5012/FRR-502
- 1 each CY5045/FRR-502

Applicable Handbooks and Technical Manuals

- NAVSHIPS 92600 (part of)
- NAVSHIPS 92786
- USAF TO-16-45-329,330,331 and 332
- RCAF EO 35BG-5FRR502-2

Definition of Stock Number Column Heads

- FSN - Federal Stock Number
- SNSN - Standard Navy Stock Number
- USAF - US Air Force Stock Number

# THE TECHNICAL MATERIEL CORPORATION

700 FENIMORE ROAD

MAMARONECK, NEW YORK



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