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C E R T I F I C A T I O N

of

RECEIVER MODEL: YAESU FT-100  
FCC ID: K66FT-100

to

FEDERAL COMMUNICATIONS COMMISSION

Part 15(B)  
(New)

DATE OF REPORT: June 9, 1998

ON THE BEHALF OF THE APPLICANT:

Yaesu Musen Co., Ltd.  
20-2, Shimomaruko 1-chome, Ota-ku  
Tokyo Japan 146

AT THE REQUEST OF:

P.O.: FAX 6/1/98

Yaesu U.S.A.  
17210 Edwards Rd.  
Cerritos, CA 90703

ATTENTION OF:

Mikio Maruya, Executive Vice President  
(562) 404-2700, x280; FAX: -1210

SUPERVISED BY:

  
MORTON FLOM, P. Eng.

MF:glk

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GENERAL INFORMATION

Part 2.948:

(a)(b) DESCRIPTION OF MEASUREMENT FACILITIES:  
FILE: 31040/SIT

A description of the measurement facilities was filed with the Commission and was found to be in compliance with the requirements of Section 2.948, by letter dated March 3, 1997. All pertinent changes will be reported to the Commission by up-date prior to March 2000.

(b)(4) SUPPORTING STRUCTURES:

SKETCH - ATTACHED EXHIBITS

(b)(5)(6) TEST INSTRUMENTATION:

LIST - SEE EXHIBITS

2.925: IDENTIFICATION OF AN AUTHORIZED DEVICE:

DRAWING -- SEE EXHIBITS

LOCATION OF LABEL - SEE PHOTOS

NAME AND ADDRESS OF APPLICANT:

Yaesu Musen Co., Ltd.  
20-2, Shimomaruko 1-chome, Ota-ku  
Tokyo Japan 146

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2.911:  
2.1033(b)(6)

TECHNICAL REPORT

NAME OF VENDOR:

Yaesu U.S.A.  
17210 Edwards Rd.  
Cerritos, CA 90703

TRADE NAME:

YAESU

FCC ID:

K66FT-100

MODEL NO:

YAESU FT-100

PHOTOGRAPHS:

SEE LIST OF EXHIBITS

15.31: MEASUREMENT STANDARD & PROCEDURE:

IEEE STANDARD 187 WAS USED AS A GUIDE.  
FCC MEASUREMENT PROCEDURE MP-1  
FCC RULE PART 15(B) (NEW)  
FCC RULE 15.63 TRANSITION

\_\_\_\_\_  
\_\_\_\_\_  
  X    
\_\_\_\_\_

EXPOSITORY STATEMENT

- 1. NUMBER OF BANDS = 1
- 2. NUMBER OF CHANNELS = Over 50
- 3. TUNING RANGE, MHz = .1 - 970
- 4. OSCILLATOR RANGE, MHz = 74 to 895
- 5. I.F., MHz = 74.61956
- 6. BLOCK DIAGRAM = ATTACHED
- 7. For cellular receivers only, the radio transceiver meets the requirements of FCC Bulletin OET 53 ("Cellular System Mobile Stations-Land-System Compatibility Specification."). See attached affidavit.

15.203: ANTENNA REQUIREMENT

The antenna is permanently attached to the E.U.T. \_\_\_\_\_

The antenna uses a unique coupling \_\_\_\_\_

The E.U.T. must be professionally installed \_\_\_\_\_

The antenna requirement does not apply   X  

SUPERVISED BY:

*M. J. Flom P. Eng.*  
MORTON FLOM, P. Eng.

NAME OF TEST: RECEIVER RADIATED EMISSIONS

PARAGRAPHS:

- 15.109: RADIATION INTERFERENCE LIMITS
- 15.209: RADIATED EMISSION LIMITS; GENERAL REQUIREMENTS
- 15.33: FREQUENCY RANGE OF RADIATED MEASUREMENTS
- 80.217: SUPPRESSION OF INTERFERENCE ABOARD SHIPS

GUIDE: SEE MEASUREMENT PROCEDURE BELOW

TEST CONDITIONS: STANDARD TEMPERATURE & HUMIDITY

TEST EQUIPMENT: AS PER ATTACHED PAGE

SEARCH ANTENNAS:

- 100 Hz - 50 MHz: Emco 3301B Active Rod
- 10 kHz - 32 MHz: Singer 94593-1 Loop
- 25 MHz - 300 MHz: Emco 3109 Biconical
- 200 MHz - 1 GHz: Aprel 2001 Log Periodic
- 1 GHz - 18 GHz: Emco 3115 Horn
- 10 GHz - 40 GHz: Emco 3116 Horn with HP11970A Mixer

MEASUREMENT PROCEDURE

1. At first, bench tests were performed to locate the spurious emissions at the antenna terminals.
2. In the field, tests were conducted over the range shown. The test sample was set up on a wooden turntable above ground, and at a distance of three meters from the antenna connected to the Spectrum Analyzer.
3. In order to obtain the maximum response at each frequency, the turntable was rotated, and the search antennas were raised and lowered. The E.U.F. was also adjusted for maximum response. Tests conducted in Horizontal & Vertical polarization modes.
4. The field strength was calculated from:

$$E \text{ } \mu\text{V/m @ 3 m} = \text{LOG}_{10}^{-1} \left( \frac{\text{dBm} + 107 + \text{A.F.} + \text{C.L.}}{20} \right)$$

5. MEASUREMENT RESULTS: ATTACHED FOR "WORST CASE" CONDITIONS.



MEASUREMENT RESULTS: RECEIVER RADIATED EMISSIONS

SPECTRUM SEARCHED	= 0 to 10 x F <sub>C</sub>
WORST CASE	= V
LIMITS	= 15.109(a) (Attached)
RESTRICTED BAND MEASUREMENTS	= 15.205 (Attached)
ALL OTHER EMISSIONS	= ≥ 20 dB BELOW LIMIT

TESTS WERE CONDUCTED WITH:

- a. All controls and switches operated.
- b. Half-wave dipole antenna or manufacturer/applicant supplied antenna.

SAMPLE CALCULATION:

EMISSION FREQUENCY, MHz = 106.62  
 LEVEL = LOG<sub>10</sub><sup>-1</sup> (  $\frac{3.2 + 13.3}{20}$  )  
 LEVEL, μV/m @ 3 m = 6.7

RESULTS = ATTACHED

SUPERVISED BY:

*Morton Flom P. Eng.*  
MORTON FLOM, P. Eng.



## RADIATED RECEIVER SPURIOUS EMISSIONS

All other emissions in the range specified by rule 15.33(b) were more than 20 dB below the limits of 15.109(a).

## WORST CASE FOR ANALOG/DIGITAL &amp; SCANNING MODES

TUNED, MHz	EMISSION, MHz	METER, dBuV	C.F., dB	$\mu\text{V/m}$ @ 3m
32.000	106.62	3.2	13.3	6.7
41.000	115.61	0.7	14.4	5.6
54.000	128.62	2.7	15.0	7.7
100.000	174.62	4.3	15.7	10.0
32.000	213.24	-2.9	18.9	6.3
41.000	231.22	3.4	20.3	15.3
54.000	257.24	2.3	21.3	15.0
100.000	349.24	4.5	21.2	19.2
530.000	455.38	1.5	23.9	18.5
960.000	885.38	1.3	31.6	43.9
530.000	910.76	0.5	32.0	42.3
960.000	1770.76	6.7	40.3	224.6

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EMISSIONS (DG1)

YAESU, FT-100

1998-JUN-08, 14:40, MON

TUNED MHz	EMISSION MHz	LEVEL dBuV/m	@m	C.F. dB	CALC. dBuV/m	@m	CALC. uV/m	FLAG
0.000	32.200000	10.7	3	16.0	26.7	3		22 P-
0.000	37.800000	9.2	3	15.1	24.3	3		16 P-
0.000	41.580000	8.4	3	14.5	22.9	3		14 P-
0.000	48.030000	11.6	3	13.1	24.7	3		17 P-
0.000	51.350000	14.3	3	12.6	26.9	3		22 P-
0.000	57.250000	17.8	3	11.6	29.4	3		29 P-
0.000	62.850000	17.3	3	10.9	28.2	3		26 P-
0.000	68.000000	13.2	3	10.4	23.6	3		15 P-
0.000	72.380000	9.7	3	10.0	19.7	3		10 P-
0.000	75.980000	8.5	3	9.8	18.3	3		8 P-
0.000	83.750000	5.2	3	10.1	15.3	3		6 P-
0.000	87.550000	6.0	3	10.5	16.5	3		7 P-
0.000	102.980000	11.9	3	12.7	24.7	3		17 P-
0.000	109.380000	6.4	3	13.8	20.2	3		10 P-
0.000	111.000000	14.1	3	14.0	28.1	3		25 P-
0.000	112.053000	13.0	3	14.1	27.1	3		23 P-
0.000	119.000000	12.8	3	14.7	27.5	3		24 P-
0.000	122.930000	11.2	3	14.9	26.1	3		20 P-
0.000	127.000000	12.2	3	15.0	27.2	3		23 P-
0.000	134.430000	10.5	3	15.4	26.0	3		20 P-
0.000	137.980000	12.8	3	15.7	28.5	3		27 P-
0.000	142.650000	10.4	3	15.9	26.3	3		21 P-
0.000	146.730000	13.0	3	15.9	28.9	3		28 P-
0.000	154.330000	13.0	3	15.9	28.9	3		28 P-
0.000	159.030000	15.4	3	15.8	31.2	3		36 P-
0.000	163.850000	8.2	3	15.7	23.9	3		16 P-
0.000	167.100000	14.0	3	15.7	29.7	3		30 P-
0.000	173.980000	8.0	3	15.6	23.7	3		15 P-
0.000	176.080000	8.8	3	15.7	24.5	3		17 P-
0.000	183.130000	4.7	3	16.0	20.7	3		11 P-
0.000	186.530000	4.4	3	16.4	20.8	3		11 P-
0.000	191.550000	12.4	3	16.9	29.3	3		29 P-
0.000	199.300000	7.3	3	17.6	24.9	3		18 P-
0.000	202.850000	6.6	3	18.0	24.6	3		17 P-
0.000	211.250000	11.1	3	18.7	29.9	3		31 P-
0.000	216.530000	9.6	3	19.2	28.8	3		28 P-
0.000	225.430000	10.0	3	19.9	29.9	3		31 P-
0.000	229.030000	7.5	3	20.2	27.6	3		24 P-
0.000	234.600000	2.0	3	20.4	22.4	3		13 P-
0.000	237.550000	7.9	3	20.5	28.3	3		26 P-
0.000	241.630000	5.5	3	20.6	26.1	3		20 P-
0.000	249.800000	9.3	3	21.2	30.5	3		33 P-
0.000	253.900000	8.2	3	21.3	29.5	3		30 P-
0.000	258.000000	7.6	3	21.3	28.9	3		28 P-
0.000	262.150000	7.2	3	21.4	28.7	3		27 P-
0.000	265.300000	9.3	3	21.6	30.9	3		35 P-

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 EMISSIONS (DG1)  
 YAESU, FT-100  
 1998-JUN-08, 14:40, MON

K66FT-100

TUNED MHz	EMISSION MHz	LEVEL dBuV/m	@m	C.F. dB	CALC. dBuV/m	@m	CALC. uV/m	FLAG
0.000	272.050000	8.3	3	21.9	30.2	3	32	P-
0.000	275.600000	12.1	3	22.0	34.1	3	51	P-
0.000	282.750000	9.3	3	22.1	31.4	3	37	P-
0.000	286.250000	6.2	3	22.1	28.3	3	26	P-
0.000	293.680000	5.6	3	25.5	31.1	3	36	P-
0.000	298.350000	6.8	3	29.8	36.6	3	67	P-
0.000	304.438000	11.2	3	20.3	31.5	3	38	P-
0.000	305.650000	7.4	3	20.4	27.7	3	24	P-
0.000	323.213000	8.7	3	20.7	29.4	3	29	P-
0.000	326.325000	11.3	3	20.8	32.1	3	40	P-
0.000	343.213000	-1.7	3	21.1	19.4	3	9	P-
0.000	346.063000	-1.8	3	21.1	19.3	3	9	P-
0.000	363.900000	-2.0	3	21.5	19.5	3	9	P-
0.000	366.063000	.2	3	21.5	21.7	3	12	P-
0.000	384.050000	3.0	3	21.8	24.8	3	17	P-
0.000	386.388000	4.7	3	21.9	26.5	3	21	P-
0.000	404.050000	-.5	3	22.2	21.8	3	12	P-
0.000	406.125000	4.7	3	22.3	27.0	3	22	P-
0.000	424.125000	.1	3	22.9	23.0	3	14	P-
0.000	426.125000	.7	3	23.0	23.7	3	15	P-
0.000	444.125000	-.5	3	23.6	23.1	3	14	P-
0.000	446.338000	-.2	3	23.6	23.4	3	15	P-
0.000	463.525000	-.7	3	24.2	23.5	3	15	P-
0.000	466.338000	-1.4	3	24.3	22.8	3	14	P-
0.000	484.413000	4.4	3	24.8	29.2	3	29	P-
0.000	486.113000	-1.6	3	24.8	23.2	3	15	P-
0.000	503.750000	1.8	3	25.3	27.1	3	23	P-
0.000	505.300000	4.3	3	25.3	29.6	3	30	P-
0.000	523.750000	-.9	3	25.5	24.6	3	17	P-
0.000	526.013000	1.2	3	25.6	26.8	3	22	P-
0.000	544.488000	2.5	3	25.8	28.2	3	26	P-
0.000	546.425000	-1.3	3	25.8	24.5	3	17	P-
0.000	565.238000	2.1	3	26.0	28.2	3	26	P-
0.000	566.625000	-1.1	3	26.1	24.9	3	18	P-
0.000	585.750000	4.0	3	26.3	30.2	3	33	P-
0.000	603.400000	-.7	3	26.5	25.8	3	20	P-
0.000	605.750000	-.6	3	26.6	26.0	3	20	P-
0.000	619.510000	-1.2	3	27.0	25.8	3	19	P-
0.000	628.740000	-.9	3	27.2	26.3	3	21	P-
0.000	645.330000	6.7	3	27.6	34.3	3	52	P-
0.000	649.800000	3.6	3	27.7	31.4	3	37	P-
0.000	668.600000	4.2	3	28.2	32.4	3	42	P-
0.000	680.530000	-1.1	3	28.5	27.4	3	23	P-
0.000	688.600000	-.5	3	28.7	28.2	3	26	P-
0.000	700.530000	-.4	3	28.9	28.6	3	27	P-
0.000	709.520000	-2.1	3	29.0	26.9	3	22	P-

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EMISSIONS (DG1)

YAESU, FT-100

1998-JUN-08, 14:40, MON

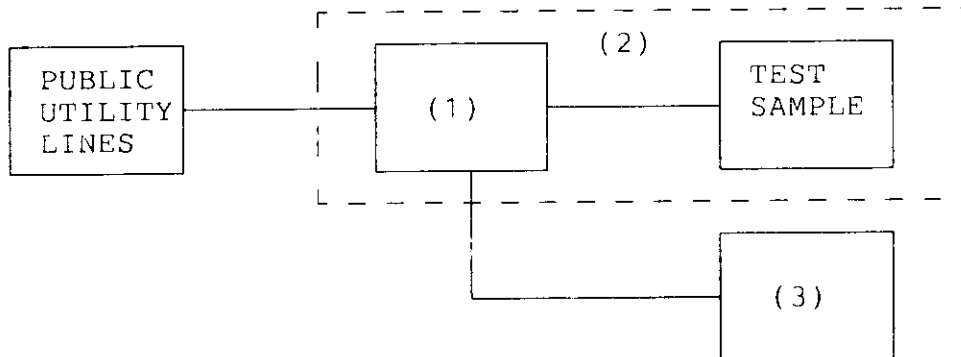
TUNED MHz	EMISSION MHz	LEVEL dBuV/m	@m	C.F. dB	CALC. dBuV/m	@m	CALC. uV/m	FLAG
0.000	721.590000	-.4	3	29.2	28.8	3	28	P-
0.000	729.520000	-.9	3	29.3	28.5	3	26	P-
0.000	741.590000	-1.9	3	29.5	27.5	3	24	P-
0.000	749.710000	-1.1	3	29.6	28.5	3	27	P-
0.000	761.540000	-.9	3	29.7	28.8	3	28	P-
0.000	769.710000	-1.8	3	29.8	28.0	3	25	P-
0.000	781.540000	-1.3	3	30.0	28.7	3	27	P-
0.000	790.770000	-.8	3	30.1	29.3	3	29	P-
0.000	801.770000	-.1	3	30.2	30.1	3	32	P-
0.000	810.770000	-3.1	3	30.4	27.3	3	23	P-
0.000	821.770000	-.4	3	30.6	30.1	3	32	P-
0.000	828.780000	-1.9	3	30.7	28.8	3	27	P-
0.000	841.040000	-1.2	3	30.9	29.7	3	30	P-
0.000	848.780000	-1.3	3	31.0	29.7	3	30	P-
0.000	868.180000	.1	3	31.3	31.4	3	37	P-
0.000	890.630000	2.9	3	31.6	34.5	3	53	P-
0.000	900.850000	-1.2	3	31.8	30.6	3	34	P-
0.000	910.630000	-1.9	3	32.0	30.1	3	32	P-
0.000	920.850000	-1.5	3	32.2	30.7	3	34	P-
0.000	928.140000	-2.0	3	32.3	30.3	3	33	P-
0.000	941.220000	.3	3	32.6	32.9	3	44	P-
0.000	948.140000	-.7	3	32.7	32.0	3	40	P-
0.000	961.220000	-1.2	3	33.0	31.8	3	39	P-
0.000	968.830000	-.3	3	33.1	32.8	3	44	P-
0.000	978.730000	-1.2	3	33.3	32.1	3	40	P-
0.000	988.830000	-.2	3	33.5	33.3	3	46	P-
0.000	998.730000	-1.7	3	33.7	32.0	3	40	P-

NAME OF TEST: POWER-LINE CONDUCTED INTERFERENCE  
PARAGRAPH: 47 CFR 15.107  
GUIDE: IEEE STANDARD 213  
TEST CONDITIONS: S. T. & H.  
TEST EQUIPMENT: AS PER ATTACHED PAGE

MEASUREMENT PROCEDURE

1. The test sample was connected to the Public Utility lines through a LISN Ailtech Model 94641-1 (50  $\mu$ h).
2. A reference level of 250  $\mu$ V was set on the Spectrum Analyzer. The spectrum searched was over the range of 450 kHz to 30 MHz.
3. All other emissions were 20 dB or more below limit.
4. The test sample was attached to a charger: Yes       
N/A   x
5. MEASUREMENT RESULTS: ATTACHED

POWER-LINE CONDUCTED MEASUREMENTS



(1) LINE IMPEDANCE STABILIZATION NETWORK

AILTECH 94641-1 (50 $\mu$ H)	<u>  x  </u>
EATON 94641-1 (50 $\mu$ H)	_____
SINGER 91221-1 (5 $\mu$ H)	_____
_____	-----

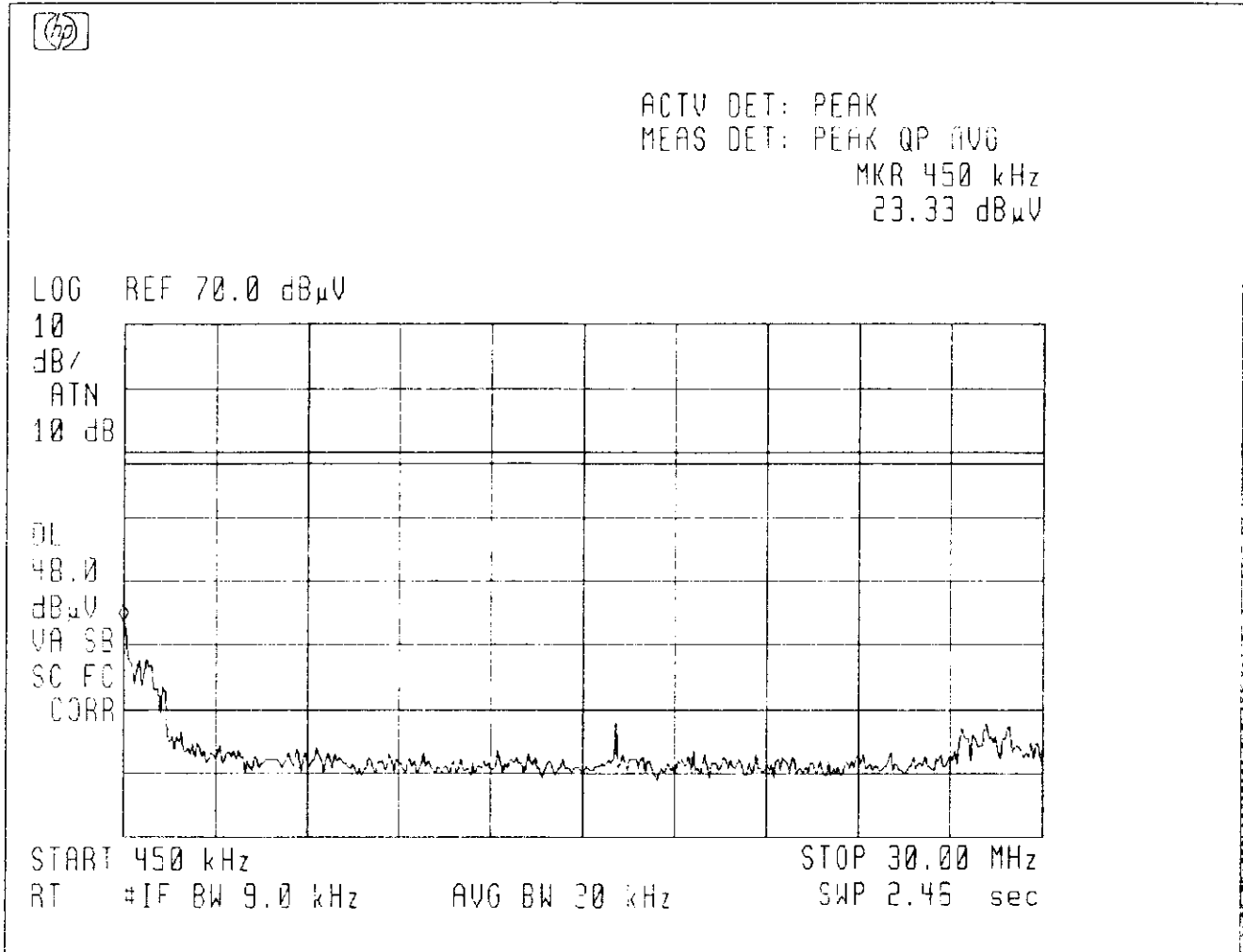
(2) SCREEN ROOM

LINDGREN 22-2/2-0	<u>  x  </u>
_____	_____

(3) SPECTRUM ANALYZER

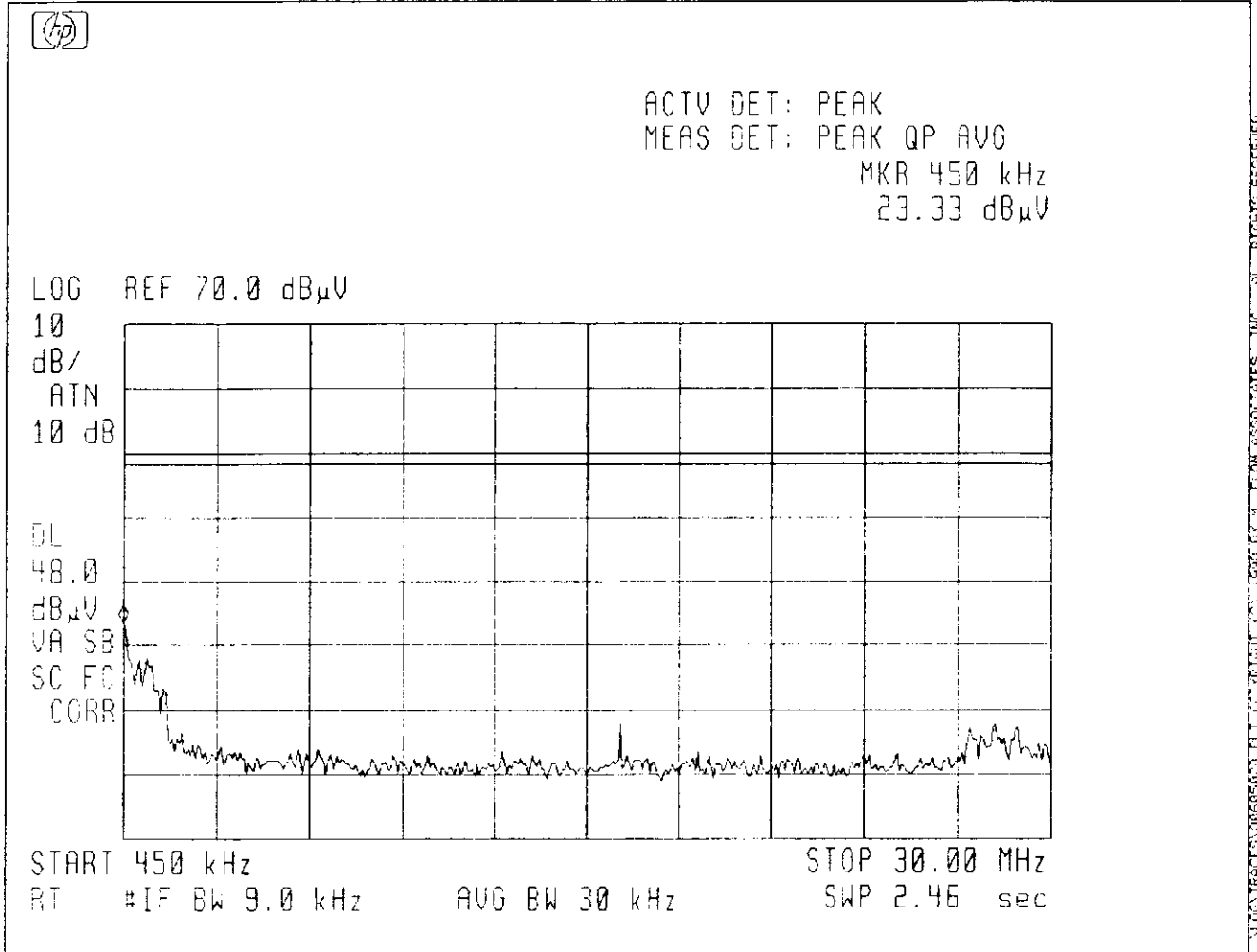
HP 8566B	<u>  x  </u>
HP 8558B	_____
HP 8557A	_____
_____	_____

REMARK: POWERLINE CONDUCTED, NEUTRAL SIDE, UNGROUNDED



NOTE: WITH OPTIONAL POWER SUPPLY

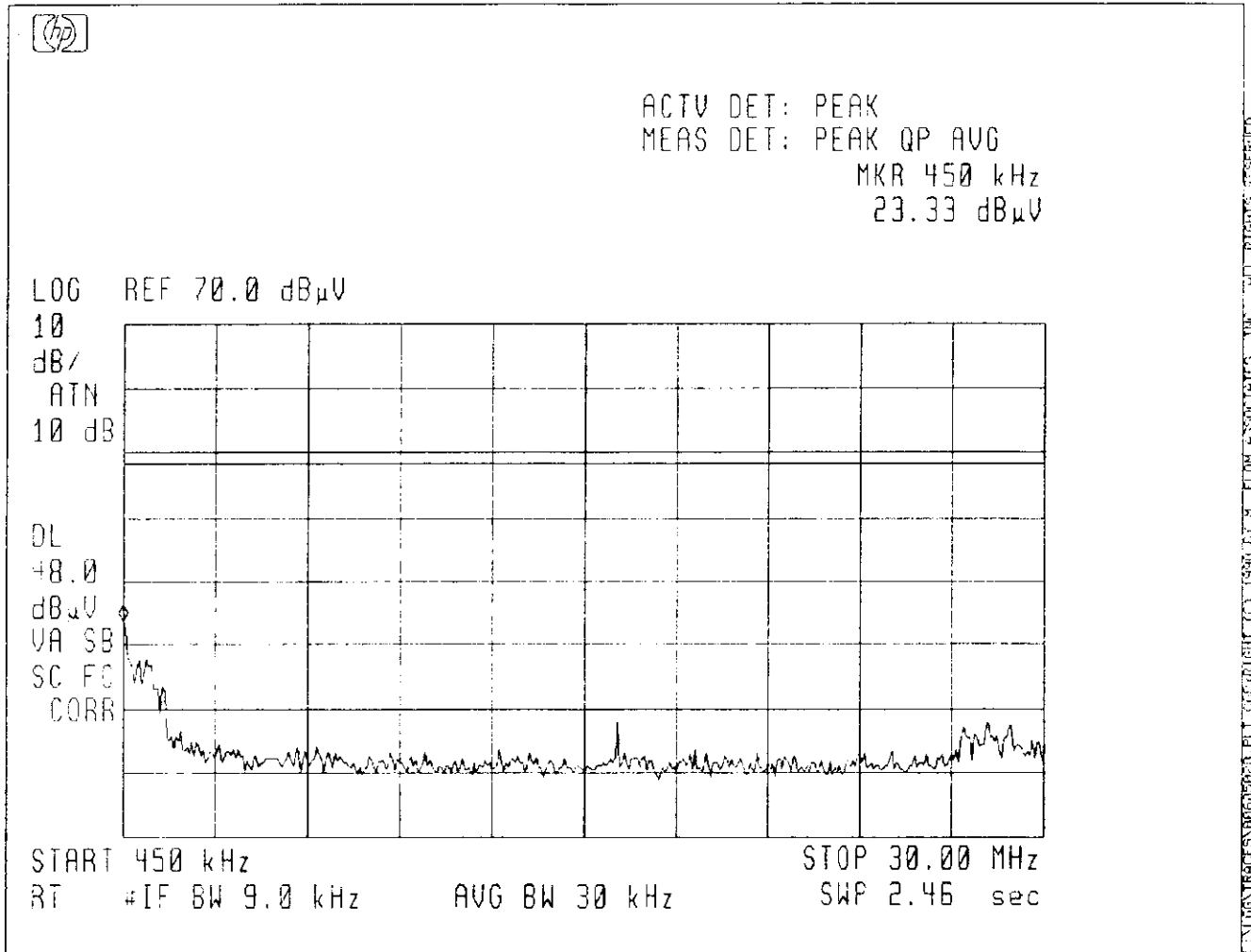
REMARK: POWERLINE CONDUCTED, LINE SIDE, UNGROUNDED



NOTE: WITH OPTIONAL POWER SUPPLY

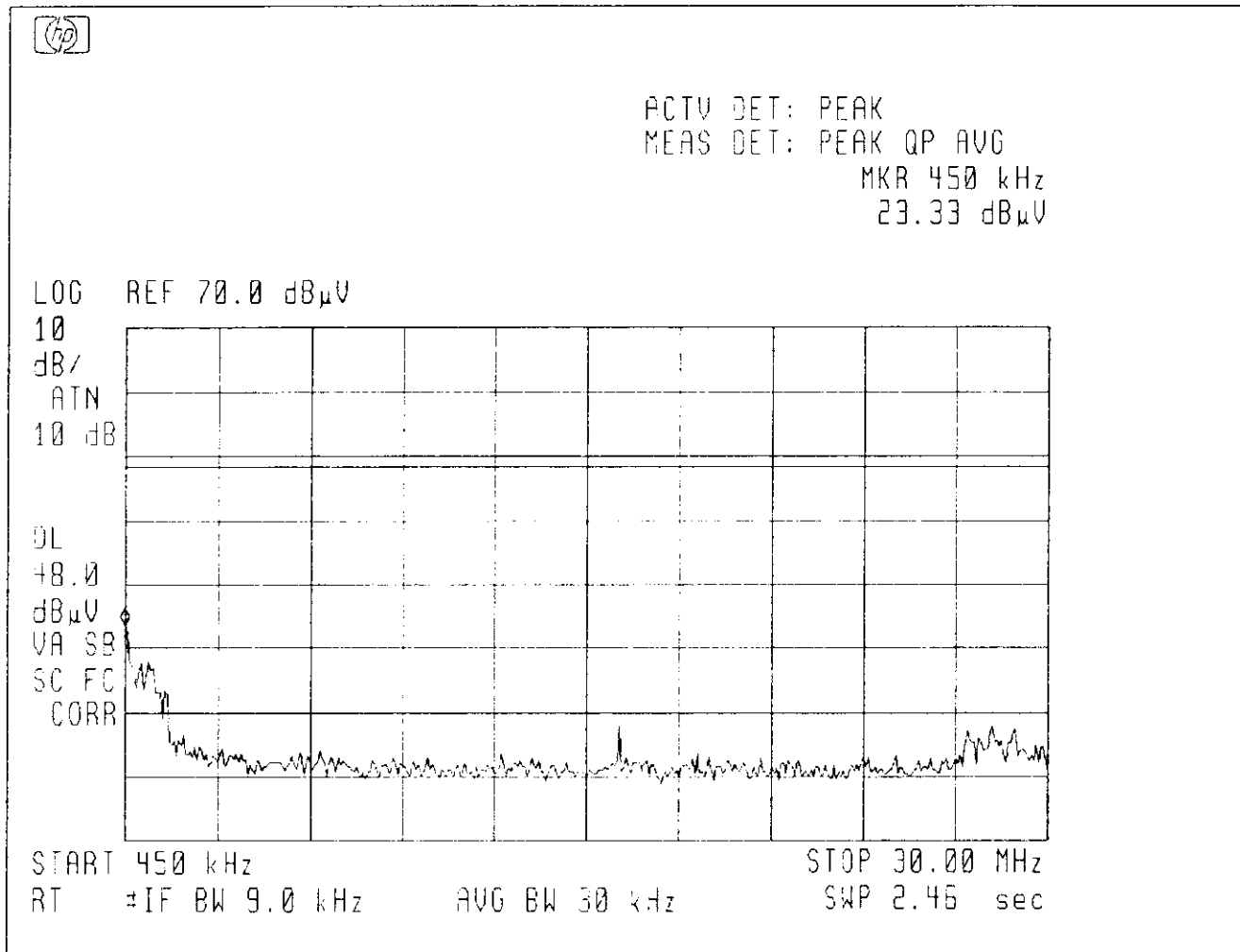


REMARK: POWERLINE CONDUCTED, NEUTRAL SIDE, GROUNDED



NOTE: WITH OPTIONAL POWER SUPPLY

REMARK: POWERLINE CONDUCTED, LINE SIDE, GROUNDED



NOTE: WITH OPTIONAL POWER SUPPLY

THE APPLICANT HAS BEEN CAUTIONED AS TO THE FOLLOWING:

15.21 INFORMATION TO USER.

The user manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) SPECIAL ACCESSORIES.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

LIMITS: Rule 15.209(a): TRANSMITTER

FREQUENCY, MHz	FIELD STRENGTH, $\mu\text{V}/\text{m}$	DISTANCE, m
0.009 - 0.490	$2400/F(\text{kHz})$	300
0.490 - 1.705	$24000/F(\text{kHz})$	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

LIMITS: RULE 15.109(a): RECEIVER RADIATED EMISSION LIMITS

FREQUENCY, MHz	FIELD STRENGTH, $\mu\text{V}/\text{m}$	DISTANCE, m
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

LIMITS: RULE 15.111: RECEIVER CONDUCTED EMISSION LIMITS

The power at the antenna terminal at any frequency within the range of measurements shall not exceed 2.0 nanowatts.

LABELLING REQUIREMENTS

47 CFR 15.19 Labelling requirements.

(a) In addition to the requirements in Part 2 of this chapter, a device subject to certification, notification, or verification shall be labelled as follows:

(1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under part 73 of this chapter, land mobile operation under part 90, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch shall bear the following statement in a conspicuous location on the device:

This device is verified to comply with part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(b) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified in this section is required to be affixed to the main control unit.

(c) When the device is so small or for such use that it is not practicable to place the statement specified in this section on it, the information required by these paragraphs shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.

STATEMENT OF COMPLIANCE

K66FT-100

THIS IS TO CERTIFY:

THAT, ON THE BASIS OF THE MEASUREMENTS MADE, THE  
EQUIPMENT TESTED IS CAPABLE OF COMPLYING WITH THE  
REQUIREMENTS OF

FCC RULE PART 15, SUBPART B   x  

FCC RULE PART 15, SUBPART C       

USING ANSI C63.4 (1994) IN EFFECT AS OF THIS DATE,  
UNDER NORMAL OPERATION, WITH THE USUAL MAINTENANCE.

THAT THE DATA CONTAINED HEREIN IS A SUMMARY (WORST  
CASE) OF THAT OBTAINED ON SEVERAL RANDOMLY-SELECTED  
PRODUCTION SAMPLES.

THAT THE EQUIPMENT MEETS OR EXCEEDS THE REQUIREMENTS OF  
PART 15.

SUPERVISED BY:

  
MORTON FLOM, P. Eng.

## STATEMENT OF QUALIFICATIONS

### EDUCATION:

1. B. ENG. in ENGINEERING PHYSICS, 1949, McGill University, Montreal, Canada.
2. Post Graduate Studies, McGill University & Sir George Williams University, Montreal.

### PROFESSIONAL AFFILIATIONS:

1. ARIZONA SOCIETY OF PROFESSIONAL ENGINEERS (NSPE), #026 031 821.
2. ORDER OF ENGINEERS (QUEBEC) 1949. #4534.
3. ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOPHYSICISTS & GEOLOGISTS OF ALBERTA #5916.
4. REGISTERED ENGINEERING CONSULTANT - GOVERNMENT OF CANADA, DEPARTMENT OF COMMUNICATIONS. Radio Equipment Approvals.
5. IEEE, Lifetime Member No. 0417204 (member since 1947).

### EXPERIENCE:

1. Research/Development/Senior Project Engineer, R.C.A. LIMITED (4 years).
2. Owner/Chief Engineer of Electronics. Design/Manufacturing & Cable TV Companies (10 years).
3. CONSULTING ENGINEER (over 25 years).

  
MORTON FLOM, P. Eng.

## TEST INSTRUMENTATION LIST

All equipment calibrated within last 90 days

### ADAPTER

HP X28T (Coaxial waveguide); HP S281; HP 85659 (Quasi peak)

### AMPLIFIER

Pre-amp. HP 10685A (2-1300 MHz); HP 8447D, HP 8447E, HP 8449A

### ANTENNA See end

### ATTENUATOR

Kay 432D; Power, Sierra 661A-3D; Narda 76610; Narda 4779-3, -6, -10 dB

### AUDIO OSCILLATOR

HP 204D; AIEC DTC-1; Motorola S-1333B; HP 3312A; HP 8903A

### BATTERY

Sears Roebuck, Stock #4341

### CAMERA

Oscilloscope, Tektronix C5A; Polaroid Impulse AF; Kodak DC-50

### CAPACITOR

Feed-Thru, 10  $\mu$ F, Solar 6512-106R; Solar 7525-1

### CLOSE FIELD PROBE

HP 11940A, 11941A, HP 11945A

### COMPUTER

HP 332; HP Vectra 486/25VL; Various PC Compatibles

### CONVERTOR, Down

HP 117 10B

### COUPLER

Narda 1080, Waveguide; HP S750E (Cross guide); Waveline 274/40; Solar 7415-3; Solar 7835-891 & -896

### CURRENT PROBE

Solar 6741-1

### DETECTOR

HP 8470B

### DIGITAL MULTIMETER

HP 3476A w/H.F. Probe; Fluke 8030A-01; HP 3478A

### DISTORTION ANALYZER

HP 334A; HP 8903A

### ELECTRONIC COUNTER

HP 5383A; HP 5334B

### FILTER

Cirquel FHT/7-50-57/50-1A/1B (HP); Jerrold TLB-1; TMB-1, Piezo 5064; Eagle TNF-I Series, Krohn-Hite 3202; Phelps-Dodge #PD-495-8; Newton #PD6000 Line Protector; 870-890 MHz (Lab Design); 900 MHz (Lab Design); Solar High-Pass s/n 882029

### FREQ. DEV. METER

HP 89C1A

### FREQ. DOUBLER

HP 11721A

### FREQUENCY METER

HP 537A; HP 536A

### GENERATOR

Solar 6550-1 (power sweep); HP 8640B, CAW 1012, HP 8656A (signal); Solar 3282-1 (spike)

### HUMIDITY CHAMBER

Ember Co FW30; Bowser 0

### LIMITER, R.F.

HP 11867A; HP 11693A; HP 10509A

### LISN

Singer 91221-1; Ailtech 94641-1 (50 $\mu$ H)

### LOAD, POWER

Telewave TLW-25; Bird 8329

### MILLIAMETER

HP 428B

### MIXER

HP 10514A; Mini-Circuits TAK-1H

### OPEN FIELD SITE

As filed with FCC & IC and kept up-dated.

### TURNTABLES:

Up to 2000# capacity

### GROUND SCREEN:

Complies with docket 80-284

### ANTENNA MAST:

Complies as above

### OSCILLOSCOPE

HP 1741A; HP 181T; Tektronix T935; HP 54502A

### PHANTOM

M.F.A. Labs Left and Right human head

### PLOTTER

HP 7470; HP7475A

### POWER METER

AF GR 1340A; HP 435A with 8481A & 8482H Power Sensors; HP 436A; HP 8901A

### POWER SUPPLY

HP 6286A; meathkit 1P 2711; 1P 5220; Honda EM400 (portable gas gen.); HP 6012

### PRINTER

Brother HL-8; Brother HL-10V; HP DeskJet 640C

### R. F. PRESELECTOR

HP 85685A

### RADIATION METER

Narda 8717 w/8010 Amp, 8021B and 8760 probes

### RESISTOR, PRECISION

Solar 7144-1.0, 7144-10.0; Solar 8525-1

### SCALE

Weigh-Tronix 3632T-50

### SCANNER

HP 9190A Scanjet

### SCREEN ROOM

Lindgren 22-2/2-0

### SIGNAL LEVEL METER

Jerrold 704B

### SIGNAL SAMPLER

R. F. Bird 4273-030, 4275-030

### SINAD/VOLTMETER

Helper Sinadder

### SPECTRUM ANALYZER

HP 8558B, 8557; HP 8563E; HP 853A; HP 8566B/8568B

### TEMPERATURE CHAMBER

Tenney, Jr

### TEMPERATURE PROBE

Fluke 80T-150C

### TERMINATION

Narda 320B Waveguide, Waveline #281

### TEST SET

Semi-Automatic: HP 8953A; HP 8954A Interface; Computer / Controller; P.S. Programmer; HP 59501A; RF Communications: HP 8920A

### TRANSFORMERS

Audio Isolation: Solar 6220-1A; Impedance: HP 11694A; Isolation: Solar 7032-1; Matching: Solar 7033-1

### TRANSMISSION & NOISE MEASURING SET

HP 3555B

### VIBRATION CHAMBER

Unholtz-Dickie T 500; Unholtz-Dickie T 4000

### VOLTMETER

HP 410C; HP 3478A

### WATTMETER

Bird 43, Sierra 174A-2

### ANTENNAS

#### 30 - 50 Hz

Emco 7603 M-Field; Emco 7604 M-Field

#### 20 - 200 MHz

Apriel Biconical Model AA820200

#### 20 - 300 MHz

Emco Biconical H-Field

#### 25 - 1000 MHz

Singer DM-105A; EMCO 3121C

#### 200 - 1000 MHz

Apriel Log Periodic, Model AALP 2001

#### 10 kHz - 30 MHz

Emco 3107B, E-Field; Emco 3101B/1, Rod E-Field

#### 10 kHz - 32 MHz

Singer 94593-1 (Loop)

#### 150 kHz - 32 MHz

Singer 92197-1 (41")

#### 150 kHz - 32 MHz

Singer 93049-1 (9')

#### 1 - 10 GHz

Singer 90794-A Discone

#### 1 - 18 GHz

Horn; Apriel Model AAH-118

#### 18 - 40 GHz

Emco 3116, Horn

#### 40 - 60 GHz

Horn; HP 11970U, HP 11971U,

HP 11975A (Lo Drive

Amplifier)

#### 50 - 75 GHz

Mixer, HP 11970V, HP 11971V

#### 75 - 110 GHz

Mixer, HP 11970W