TYPE OF EXHIBIT: LIST OF ATTACHED EXHIBITS

FCC PART: 2.1033(c)(14)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

The following exhibits are contained in this file:

TYPE OF EXHIBIT: LIST OF TEST EQUIPMENT USED

FCC PART: 2.947(d)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

The measurements taken for this application were obtained using one or more of the following pieces of equipment:

ITEM	MANUFACTURER	MODEL NO.	SERIAL NO.
DC Power Supply	Astron	VS 12M	90071655
Multimeter	Fluke	45	6967029
Multimeter	BK Precision	2704A	234-008455
Wattmeter	Telewave	612	15081
RF Test Set	Hewlett-Packard	8920A	01498
Spectrum Analyzer	Hewlett-Packard	8559A	2010A06979
Spectrum Analyzer	Hewlett-Packard	8560E	3720A02980
Digital Storage Scope	Fluke/Philips	PM3335	DM630034
Temperature Chamber	Delta Design	3900 CL	0-52-R
Frequency Counter	Hewlett-Packard	5383A	1716A01417
Function Generator	BK Precision	4010	275-00280
Thermocouple	Triplett	320-G/P	

TYPE OF EXHIBIT: DESCRIPTION OF MEASUREMENT FACILITY

FCC PART: 2.948

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

The Field Strength measurements filed with this application were made on a site certified by RITRON, Inc. Data pertaining to this side are on file with the FCC and are current.

This site is used on a continuing basis exclusively by RITRON, Inc. and is utilized only for RF Field Strength measurements of equipment designed and manufactured by RITRON, Inc. It is not used for measurements by, or for, any other party on a contract basis or otherwise.

All other measurements were taken at RITRON's Engineering Laboratory in Carmel, IN.

Sam L. Dulaney
Chief Engineer
RITRON, Inc.

TYPE OF EXHIBIT: RADIO FREQUENCY OUTPUT POWER

FCC PART: 2.1046(a)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

PROCEDURE:

1. The RLR-460 was aligned for transmitter operation on 457.1125 MHz at full rated power per the tune-up procedure outlined in the Maintenance manual.

2. Power was supplied to the RLR-460 by an Astron VS 12M Power Supply. The RLR-460 was connected to a Bird 6154 Thermaline Wattmeter used to measure the RF carrier power. The wattmeter provides a resistive 50-ohm termination at the frequencies and power levels used for this test.

3. A B&K Digital Multimeter was connected in series with the drain lead of the final RF output transistor and set to measure current. A Fluke 45 Digital Multimeter was used to measure the final RF output stage gate and drain voltages.

4. Measurements were taken at various power levels between 0.5 watts and 5.0 watts.

TYPE OF EXHIBIT: RADIO FREQUENCY OUTPUT POWER

FCC PART: 2.1046(a)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS:

Po (watts)	Vg (V)	Vd (V)	Id (A)
0.5	0.67	11.1	0.28
1.0	1.36	10.9	0.39
1.5	1.83	10.9	0.52
2.0	2.56	10.9	0.65
3.0	3.12	10.8	0.99
4.0	3.68	10.5	1.33
5.0	4.26	10.2	1.77

TYPE OF EXHIBIT: MODULATOR RESPONSE

FCC PART: 2.1047(a)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

PROCEDURE:

1. The Modulator Response was measured at two points in the transmitter audio path. One is at a point closest to the actual modulation section while the other is from the microphone audio input. The first shows the response of the modulator itself while the second shows the response of the complete transmit audio chain.

2. The RLR-460 was aligned for transmitter operation at 457.1125 MHz at full rated power per the tune-up procedure outlined in the Maintenance manual.

3. The last op-amp section of the clipper filter, U305-D, was re-configured as a buffer amplifier with a flat audio frequency response by removing C326, C327, and C328. The input resistor, R340 was removed and a BK Precision Model 4010 function generator connected to the input of the op-amp. The function generator was setup to deliver a sinewave output with a 2.5 volt DC offset as required by the op-amp for biasing.

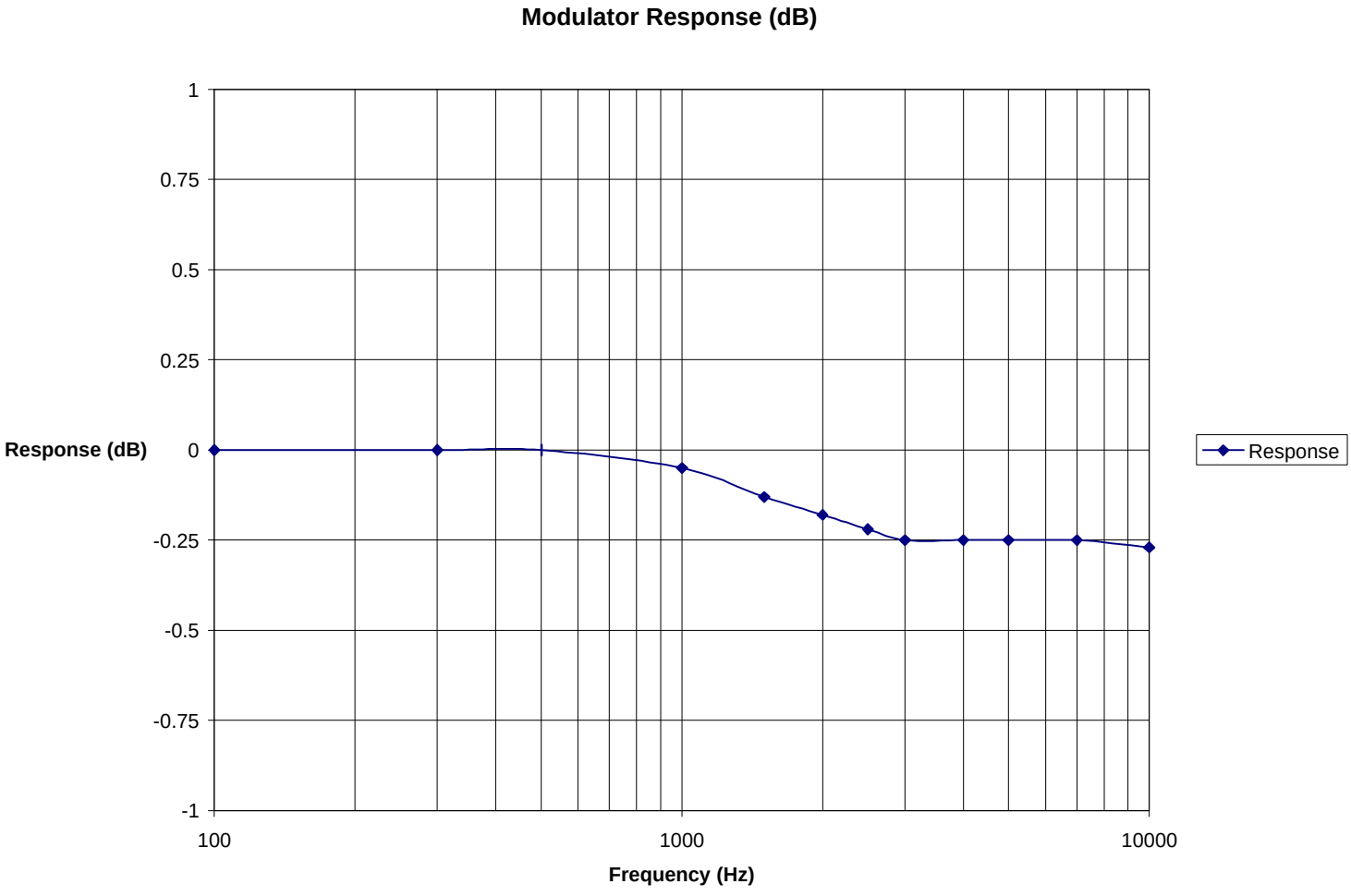
4. The audio signal generator was set to a frequency of 1 kHz and the output was adjusted to provide +/- 1.5 kHz deviation (approximately 60% rated system deviation for 12.5 kHz channel bandwidth) as indicated on an HP 8920 RF test set. This value of deviation was set as a 0 dB reference. Audio filters within the HP 8920 were turned off so as not to affect the measurements.

5. The function generator was swept in frequency from 100 Hz to 10 kHz and the results noted. The function generator level was increased by a factor of two to represent 25 kHz channel bandwidth operation with identical results. Therefore, only one such plot is presented.

6. The clipper filter was restored to its normal operation. An audio signal from the HP 8920 was routed to the microphone input of the RLR-460. The audio frequency was swept to find the frequency of maximum response while keeping the output level such that clipping in the clipper did not occur. The audio generator was then set to 1 kHz and the deviation noted and set as a 0 dB reference.

7. The audio generator was swept from 100 Hz to 10 kHz and the results noted. The RLR-460 maximum deviation was increased by a factor of two and the measurements repeated. The frequency response did not change and thus, one response is plotted. EIA/TIA-603 limits were added to the microphone input audio response.

TYPE OF EXHIBIT:	MODULATOR RESPONSE
FCC PART:	2.1047(a)
MANUFACTURER:	RITRON, Inc. 505 West Carmel Drive Carmel, IN 46032
MODEL:	RLR-460
TYPE OF UNIT:	UHF FM Repeater
FCC ID:	AIERIT15-460
DATE:	October 25, 2002
RESULTS:	Modulator



TYPE OF EXHIBIT: MODULATOR RESPONSE

FCC PART: 2.1047(a)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

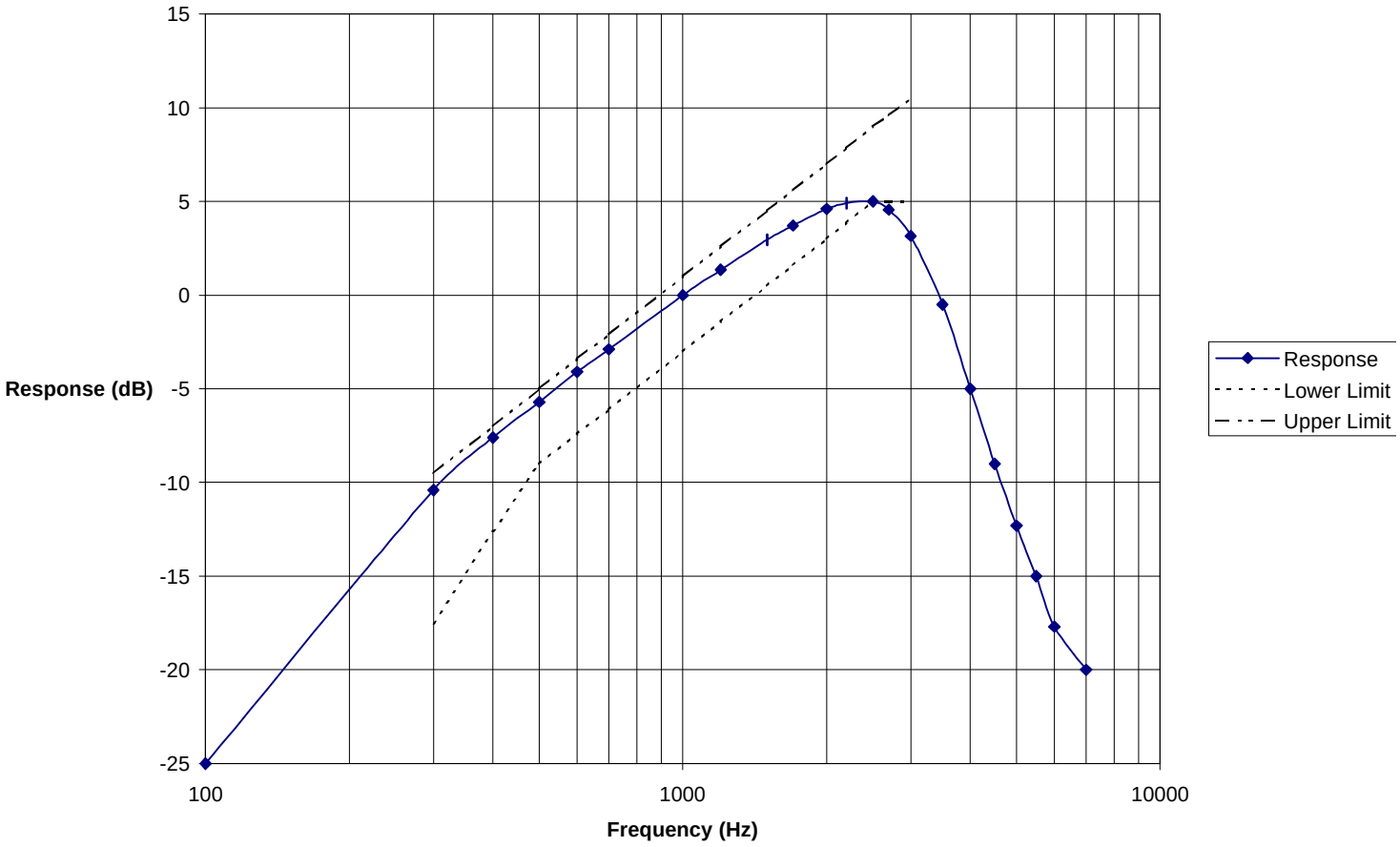
TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS: Microphone Input

Composite Transmiter Audio Response



TYPE OF EXHIBIT: CLIPPER FILTER RESPONSE

FCC PART: 2.1047(a)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

PROCEDURE:

1. The transmitter pre-emphasis capacitor, C339, was removed and replaced with a 100 uF electrolytic capacitor with the positive end connected to the input of the clipper and the negative end connected to the audio generator output of an HP 8920 RF Test Set. This allows a direct input to the clipper. The generator level was set to a value below that which would cause clipping in the clipper.

2. The output of the last modulation clipper filter, U305-D, pin 14 was connected to the audio input of the HP 8920. Audio filters inside the HP 8920 were set to be off to prevent filtering inside the instrument to affect the test results. The audio generator was set for a frequency of 100 Hz. The level of the signal out of the clipper filter was noted and set as a 0 dB reference. The audio generator frequency was swept from 100 Hz to 100 kHz and the response noted and plotted.

TYPE OF EXHIBIT: CLIPPER FILTER RESPONSE

FCC PART: 2.1047(a)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

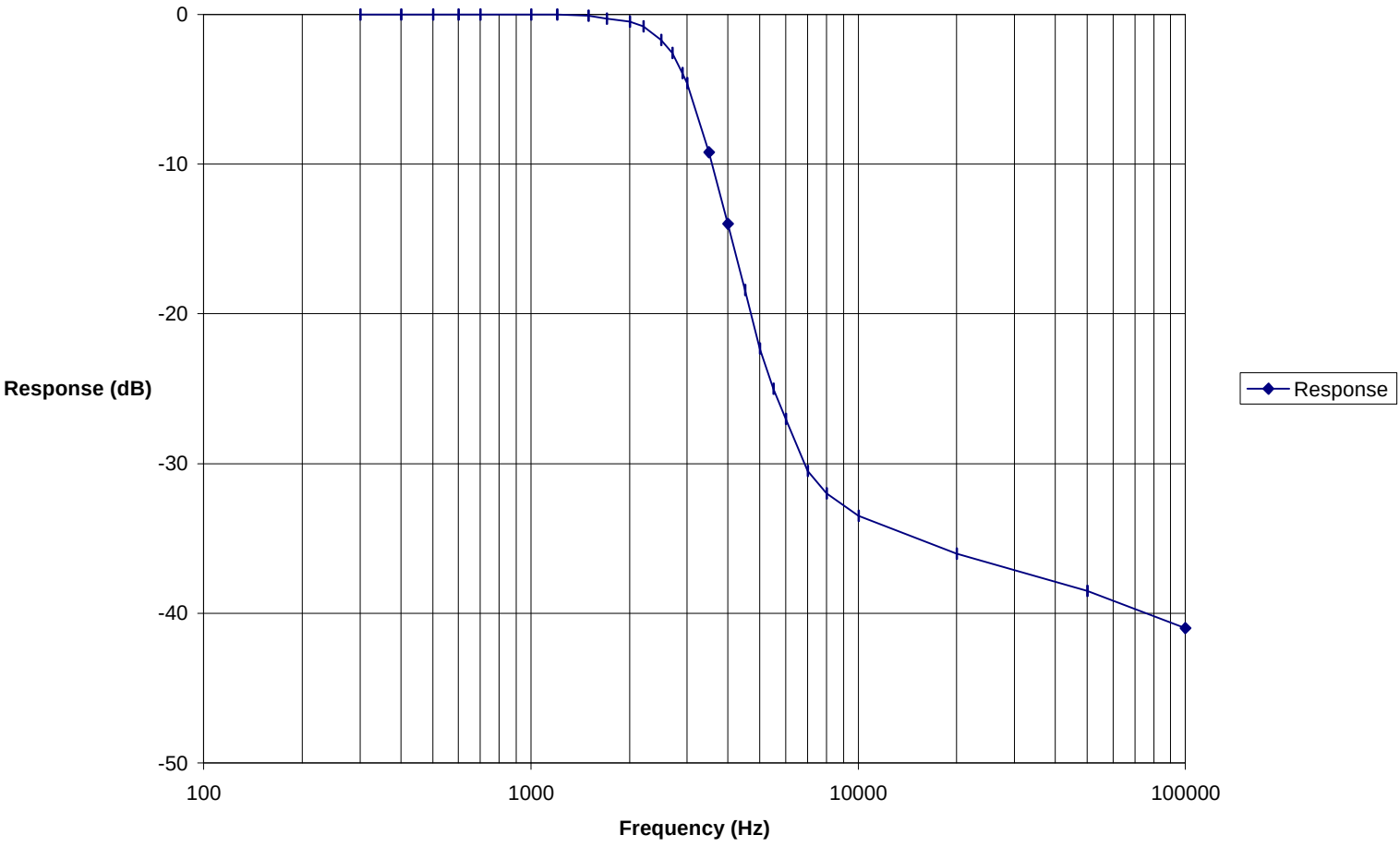
TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS:

Clipper Filter Response



TYPE OF EXHIBIT: MODULATION LIMITING CURVES

FCC PART: 2.1047(b)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

PROCEDURE:

1. The RLR-460 was aligned for transmitter operation on 457.1125 MHz per the tune-up procedure outlined in the Maintenance manual.

2. The RF output was connected to the RF input of an HP 8920 Test Set configured to measure FM deviation. The audio output of the HP 8920 as routed to the microphone input of the RLR-460 Repeater. The audio output level was set at a level high enough to drive the RLR-460 transmit modulation limiter stage into limiting at any modulation frequency.

3. The frequency of the audio generator was adjusted to find the frequency of maximum response. The RLR-460 transmit deviation was adjusted for 2.35 kHz maximum deviation as outlined in the Maintenance manual. The audio generator level was reduced to produce 50% of maximum deviation and the level noted.

4. The audio frequency was set to 300 Hz and the output level was varied from zero to a level at least 16 dB above that required to produce 50% maximum deviation noted in step 3 above.

5. Step 4 was repeated for audio frequencies of 1000 and 3000 Hz.

6. The above steps were repeated with the maximum deviation of the RLR-460 set for 4.7 kHz for 25 kHz operation. The results were identical in terms of percent of maximum modulation. The 100% level in the following curves represents 2.35 kHz for 12.5 kHz channel operation and 4.7 kHz for 25 kHz channel operation.

TYPE OF EXHIBIT: MODULATION LIMITING CURVES

FCC PART: 2.1047(b)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

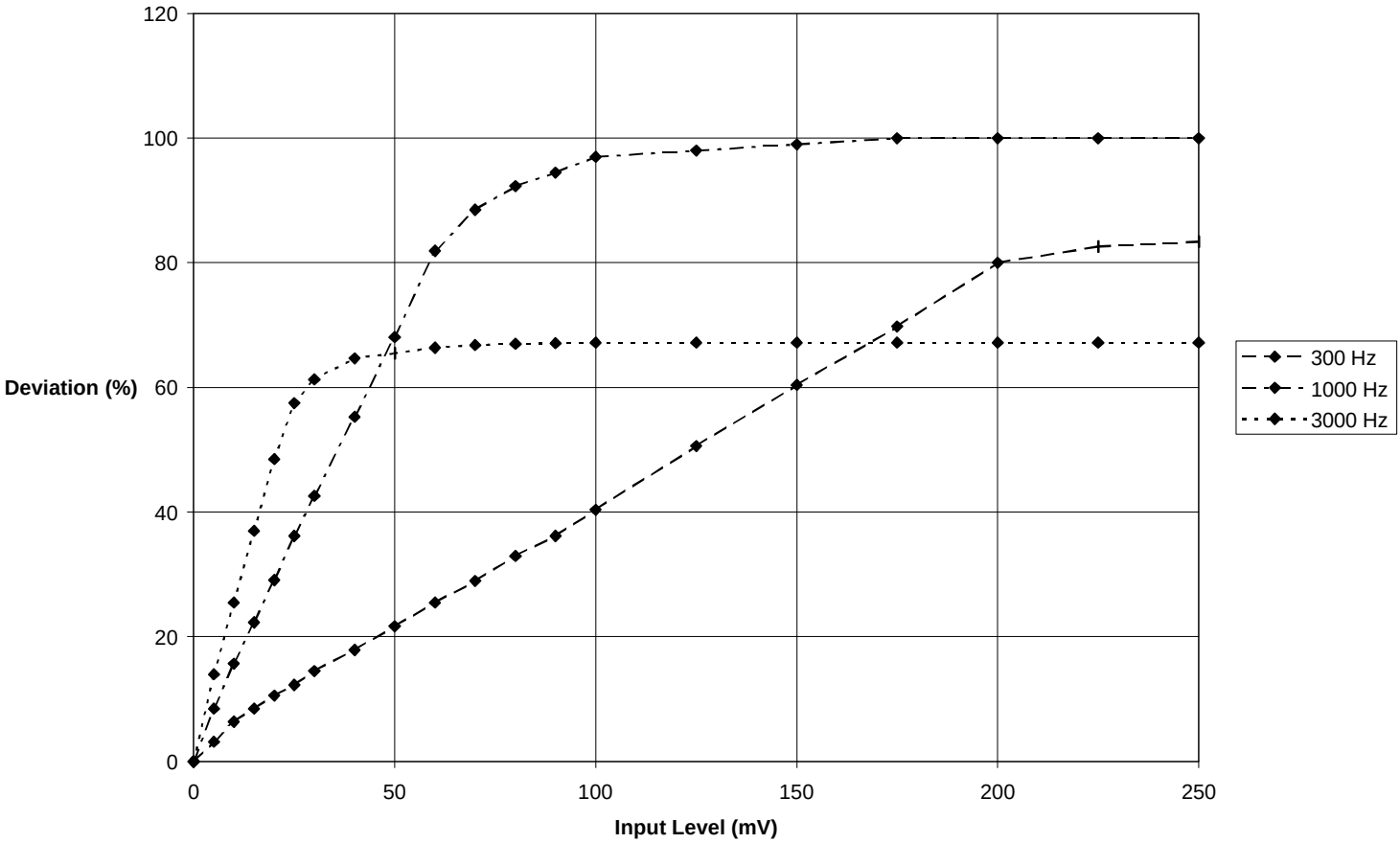
TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS:

Modulation Limiting



TYPE OF EXHIBIT: OCCUPIED BANDWIDTH

FCC PART: 2.1049(c)(1), 90.210(b), (d)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

PROCEDURE:

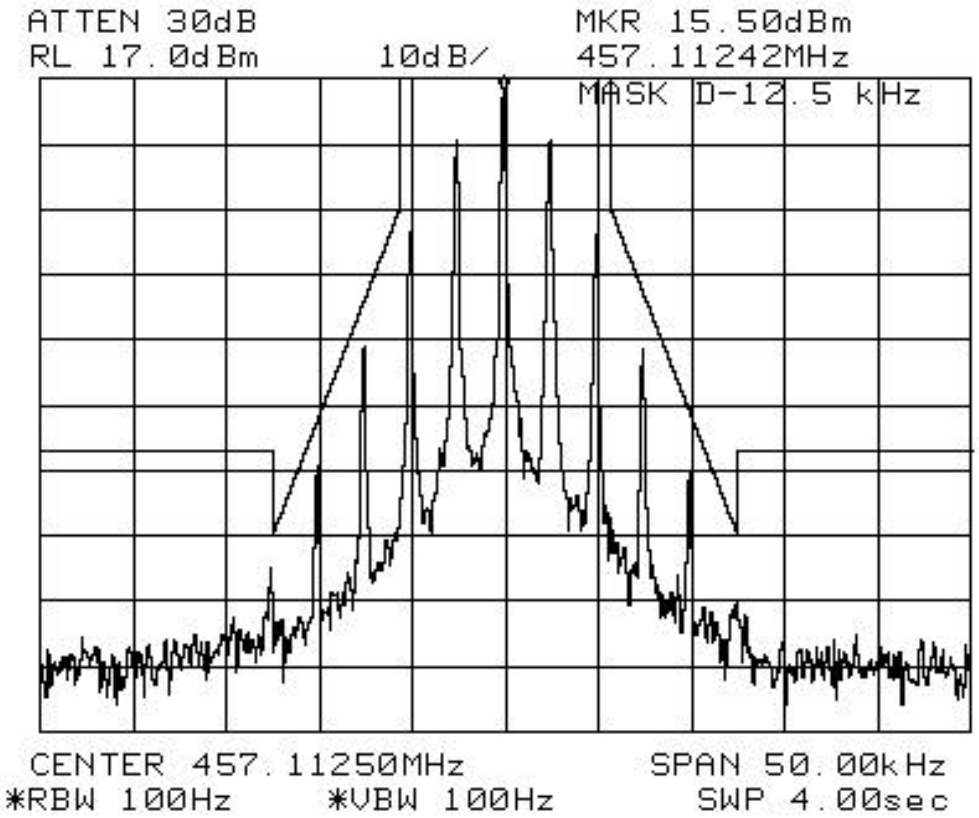
1. The RLR-460 was aligned for transmitter operation on 457.1125 MHz at 5 watts per the tune-up procedure outlined in the Maintenance manual. The transmitter was modulated with a 2500 Hz tone at a level 16 dB greater than that required to produce 50% maximum deviation at the modulation frequency of maximum deviation. The maximum deviation was set for +/- 2.35 kHz.

2. The RF output was connected to an HP 8560E spectrum analyzer through a 30 dB, 25 watt, 50 ohm RF attenuator. The center frequency of the spectrum analyzer was set to the transmitter frequency. The sweep span was set for 100 kHz and the resolution and video bandwidth set for 100 kHz. The detector was set for peak hold mode.

3. The RLR-460 transmitter was keyed and the reference level for the spectrum analyzer set to the maximum level of the RF input signal. The resolution bandwidth and video bandwidth were set to 100 Hz and the results plotted along with emission mask D. The frequency span was increased to 100 kHz and the spectrum was examined beyond that visible at the 50 kHz span.

4. The maximum deviation of the RLR-460 was increased to +/- 4.7 kHz. The unit was modulated as above with the spectrum analyzer set to a 100 kHz span with 300 Hz resolution and video bandwidth. The results were plotted along with emission mask B.

TYPE OF EXHIBIT:	OCCUPIED BANDWIDTH
FCC PART:	2.1049(c)(1), 90.210(b), (d)
MANUFACTURER:	RITRON, Inc. 505 West Carmel Drive Carmel, IN 46032
MODEL:	RLR-460
TYPE OF UNIT:	UHF FM Repeater
FCC ID:	AIERIT15-460
DATE:	October 25, 2002
RESULTS:	12.5 kHz Channel Bandwidth



Note: There were no spurs visible between +/- 25 kHz and +/- 50 kHz of the center frequency.

TYPE OF EXHIBIT: OCCUPIED BANDWIDTH

FCC PART: 2.1049(c)(1), 90.210(b), (d)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

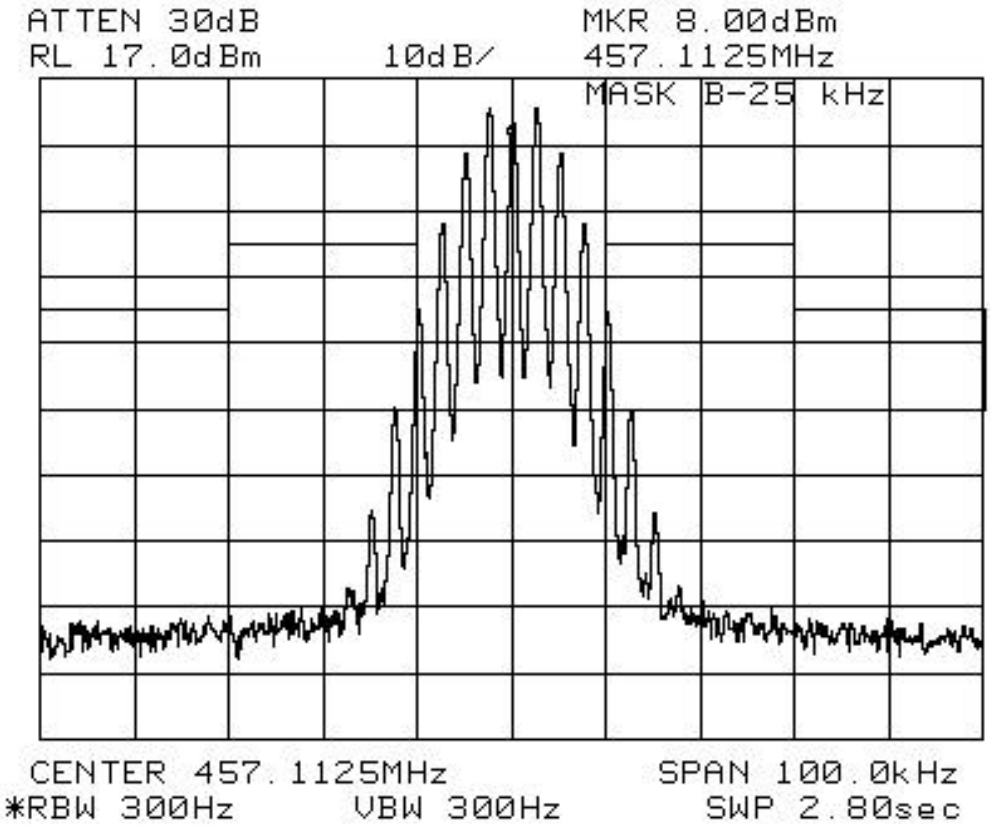
MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS: 25 kHz Channel Bandwidth



TYPE OF EXHIBIT: OCCUPIED BANDWIDTH-BANDWIDTH CALCULATION

FCC PART: 2.1049(c)(1), 90.210(b), (d)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS:

By Carson's rule, occupied bandwidth for an FM signal may be calculated by:

$BW = 2(f_\Delta + f_m)$ where f_Δ is the frequency deviation and f_m is the modulating frequency.

For 12.5 kHz operation, f_Δ is 2.35 kHz and f_m is 2.7 kHz (3 dB from clipper filter response), therefore

BW = 10.1 kHz

Since this product will be transmitting voice, the emission designator for 12.5 kHz channel operation is: 10K1F3E.

For 25 kHz operation, f_Δ is 4.7 kHz and f_m is 2.7 kHz (3 dB from clipper filter response), therefore

BW = 14.8 kHz

Since this product will be transmitting voice, the emission designator for 25 kHz channel operation is: 14K8F3E.

TYPE OF EXHIBIT: SPURIOUS EMISSIONS AT ANTENNA TERMINAL

FCC PART: 2.1051, 90.210(d)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

PROCEDURE:

1. The RLR-460 was aligned for transmitter operation on 457.1125 MHz at 5 watts per the tune-up procedure outlined in the Maintenance manual. The transmitter was modulated with a 2500 Hz tone at a level 16 dB greater than that required to produce 50% maximum deviation at the modulation frequency of maximum deviation. The maximum deviation was set for +/- 2.35 kHz.

2. The RF output was connected to an HP 8560E spectrum analyzer through a 20 dB, 25 watt, 50 ohm RF attenuator. The center frequency of the spectrum analyzer was set to the transmitter frequency. The frequency span and resolution and video bandwidths were set to 100 kHz. The transmitter was keyed and the reference level on the analyzer noted.

3. An RF highpass filter was inserted into the path from the attenuator to the spectrum analyzer. The transmitter was keyed and the output spectrum was examined from 9 kHz to 10 times the operating frequency, except within 100 kHz of the operating frequency. The attenuation of the highpass filter at the transmitter spurious frequencies was measured and factored into the calculations.

TYPE OF EXHIBIT: SPURIOUS EMISSIONS AT ANTENNA TERMINAL

FCC PART: 2.1051, 90.210(d)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS:

Corrected Spur level(dBm) = Spur level @ analyzer(dBm) + Attenuator loss(dB) + Filter loss(dB)

Frequency (MHz)	Spur level @ analyzer (dBm)	Attenuator loss (dB)	Filter loss (dB)	Corrected spur level (dBm)	FCC limit (dBm)
914.225	-48.3	20	0.7	-27.6	-20
1371.3395	-68.1	20	0.5	-47.6	-20

All other spurious emissions were more than 20 dB below the FCC limit.

TYPE OF EXHIBIT: FIELD STRENGTH OF SPURIOUS EMISSIONS

FCC PART: 2.1053(a), (b)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: November 25, 2002

PROCEDURE:

1. The measurements for field strength of spurious emissions were taken at the RITRON, Inc. 3 meter test site, details of which are on file with the FCC.

2. The RLR-460 was aligned for transmitter operation on 457.1125 MHz at the 5.0 watt maximum output power rating for the unit per the tune-up procedure outlined in the Maintenance Manual. The unit was then terminated at the antenna port with the only antenna offered for sale with this product. (The user may connect other antennas, however.)

3. All field strength measurements were made with the Hewlett-Packard Model 8560E and 8559A Spectrum Analyzers and either a log periodic antenna or dipoles, depending upon frequency.

4. The transmitter was keyed and the spectrum searched from 9 kHz to the 10^{th} harmonic of the transmit carrier. When a spurious emission was found, the height and polarization of the field strength measurement antenna and orientation of the RLR-460 were varied to provide maximum field strength.

5. A substitution antenna, a calibrated dipole, was substituted for the RLR-460 at the RLR-460's location. An RF signal generator was set for the frequency of the RLR-460 with the level at the substitution antenna noted.

6. The polarization of the substitution antenna was adjusted for maximum signal strength at the field strength measuring antenna. The level at the field strength antenna was noted.

TYPE OF EXHIBIT: FIELD STRENGTH OF SPURIOUS EMISSIONS

FCC PART: 2.1053(a), (b)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: November 25, 2002

EQUATIONS:

The substitution antenna is specified from the manufacturer in terms of antenna factor rather than antenna gain. The conversion is:

Ga(dbd) = 20 log f (MHz) – AF(dB) – 31.9

The spurious emission level is then:

Spur(dBm) = Pr(dBm) + Pgen(dBm) – Ps(dBm) – Ga(dBd)

Where:

Pr is the power level of the radio's emission at the receiving antenna output.

Pgen is the RF signal generator level at the substitution antenna input.

Ps is the power level of the substitution antenna emission at the receiving antenna output.

Ga is the gain of the substitution antenna.

TYPE OF EXHIBIT: FIELD STRENGTH OF SPURIOUS EMISSIONS

FCC PART: 2.1053(a), (b)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: November 25, 2002

RESULTS:

Frequency MHz	Pr dBm	Pgen dBm	Ps dBm	Ga dB	Spur Level dBm	FCC Limit dBm
914.225	-67	0	-44	0	-23	-20

Note: Unreported emissions are more than 20 dB below the FCC limit.

TYPE OF EXHIBIT: FREQUENCY STABILITY VS TEMPERATURE

FCC PART: 2.1055(a)(1), 90.213

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

PROCEDURE:

1. The RLR-460 was aligned for transmitter operation at 457.1125 MHz at full rated power per the tune-up procedure outlined in the Maintenance manual.

2. The RLR-460 was placed in a Delta Design Model 3900 CL Temperature Chamber. The RF output of the RLR-460 was connected through a 30 dB power attenuator to an HP 8353A Frequency Counter to monitor the transmitter frequency. An Astron VS 12M Power Supply was adjusted for a nominal voltage of 12.0 VDC and connected to the DC power supply input of the RLR-460. A Triplett Model 320-G/P Thermocouple was used to monitor the temperature inside the chamber.

3. The chamber and the RLR-460 were heated to +50 degrees C and allowed to stabilize for 30 minutes for the first measurement and 30 minutes for each 10 degree decrement in temperature until the unit reached a temperature of –30 degrees C.

4. The RF frequency at each temperature was recorded and compared with the frequency at 25 degrees C, the tune-up temperature in the Maintenance manual.

TYPE OF EXHIBIT: FREQUENCY STABILITY VS TEMPERATURE

FCC PART: 2.1055(a)(1), 90.213

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

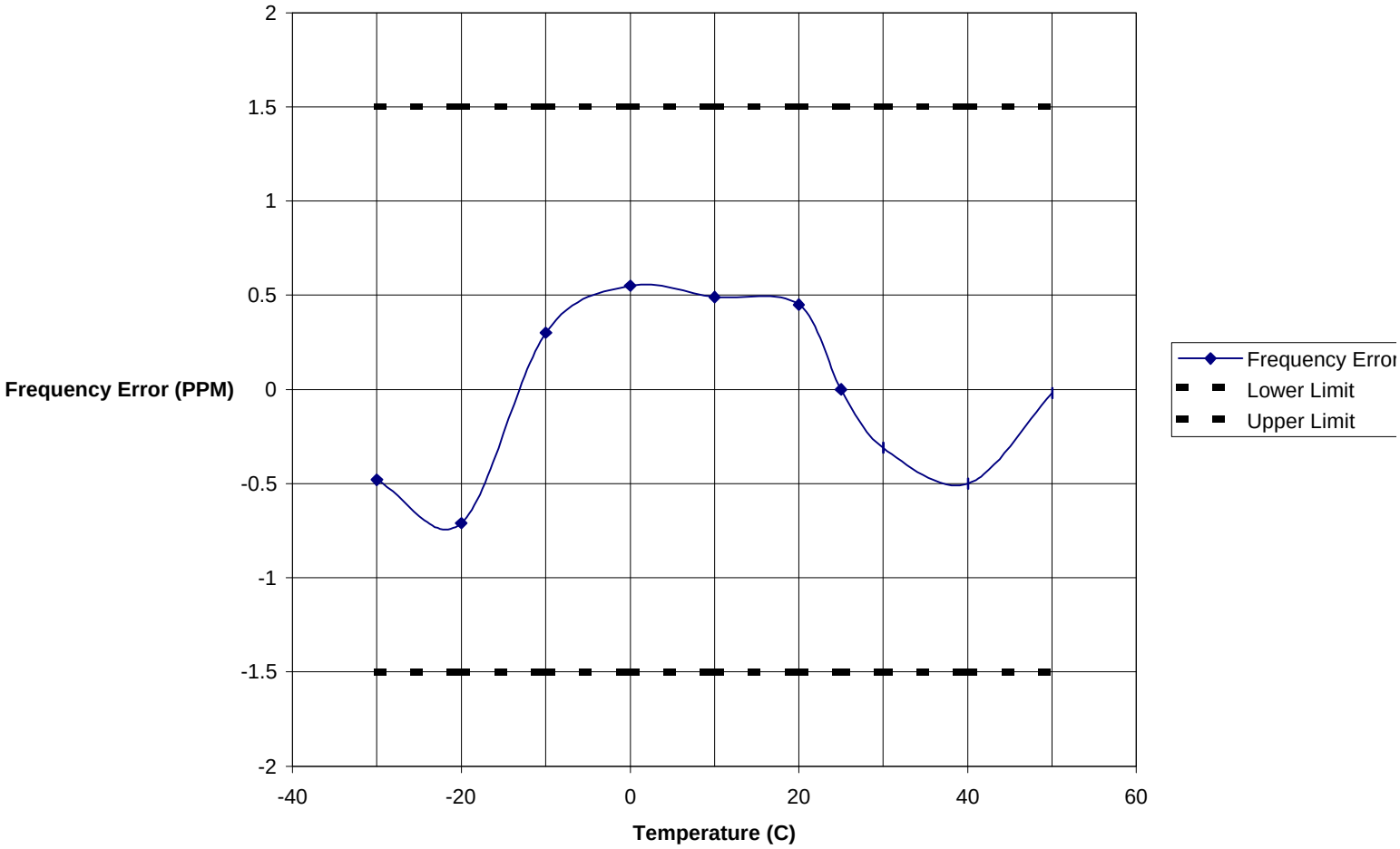
TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS:

Frequency Error VS Temperature



TYPE OF EXHIBIT: FREQUENCY STABILITY VS SUPPLY VOLTAGE

FCC PART: 2.1055(d)(1)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

PROCEDURE:

1. The RLR-460 was aligned for transmitter operation at 457.1125 MHz at full rated power per the tune-up procedure outlined in the Maintenance manual.

2. The RF output of the RLR-460 was connected through a 30 dB power attenuator to an HP 8353A Frequency Counter to monitor the transmitter frequency. An Astron VS 12M Power Supply was adjusted for a nominal voltage of 12.0 VDC and connected to the DC power supply input of the RLR-460. The output frequency of the RLR-460 was noted and used as the reference for the results in paragraph 3 below.

3. The voltage out of the DC power supply was adjusted to 85% and 115% of nominal (12 VDC) and the output frequency noted.

TYPE OF EXHIBIT: FREQUENCY STABILITY VS SUPPLY VOLTAGE

FCC PART: 2.1055(d)(1)

MANUFACTURER: RITRON, Inc.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF FM Repeater

FCC ID: AIERIT15-460

DATE: October 25, 2002

RESULTS:

% Nominal	Voltage	Freq. (MHz)	Δ Freq. (Hz)	Δ Freq. (PPM)
85	10.2	457.112568	-6	-0.013
100	12.0	457.112574	0	0
115	13.8	457.112593	19	0.042

TYPE OF TEST: TRANSIENT FREQUENCY BEHAVIOR

FCC PART: 90.214

MANUFACTURER: RITRON, INC.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF-FM Repeater

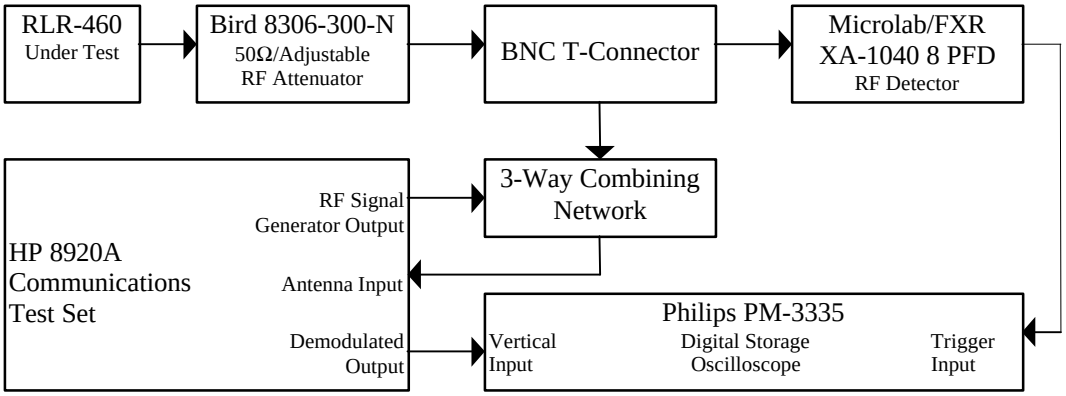
FCC ID: AIERIT15-460

DATE: November 25, 2002

PROCEDURE:

1. The RLR-460 was aligned for transmitter operation on 457.1125 MHz at full rated power per the tune-up procedure outlined in the Maintenance Manual. The following steps are per TIA./EIA-603.

2. The test equipment was connected per the following diagram:



3. The HP 8920A Receiver was set to measure FM deviation with the audio bandwidth set at DC to greater than 15 kHz with the RF frequency set to 457.1125 MHz. The RF attenuator was set to provide 40 dB attenuation.

4. The RLR-460 transmitter under test was activated and the HP 8920A Spectrum Analyzer was used to measure the RF power level through the test network.

5. The RLR-460 transmitter was turned off. The HP 8920A RF Signal Generator was set to 457.1125 MHz at an RF level at the HP 8920A which was 20 dB below that measured in step 3 and modulated with a 1 KHz tone at +/-12.5 kHz deviation.

TYPE OF TEST: TRANSIENT FREQUENCY BEHAVIOR

FCC PART: 90.214

MANUFACTURER: RITRON, INC.
505 West Carmel Drive
Carmel, IN 46032

MODEL: RLR-460

TYPE OF UNIT: UHF-FM Repeater

FCC ID: AIERIT15-460

DATE: November 25, 2002

PROCEDURE (continued):

6. The Philips PM-3335 Digital Oscilloscope Horizontal Sweep Rate was set to 10 msec/div. The Vertical Amplitude Control was adjusted to display the 1000 Hz demodulated audio from the Signal Generator at +/-4 divisions, vertically centered on the screen.

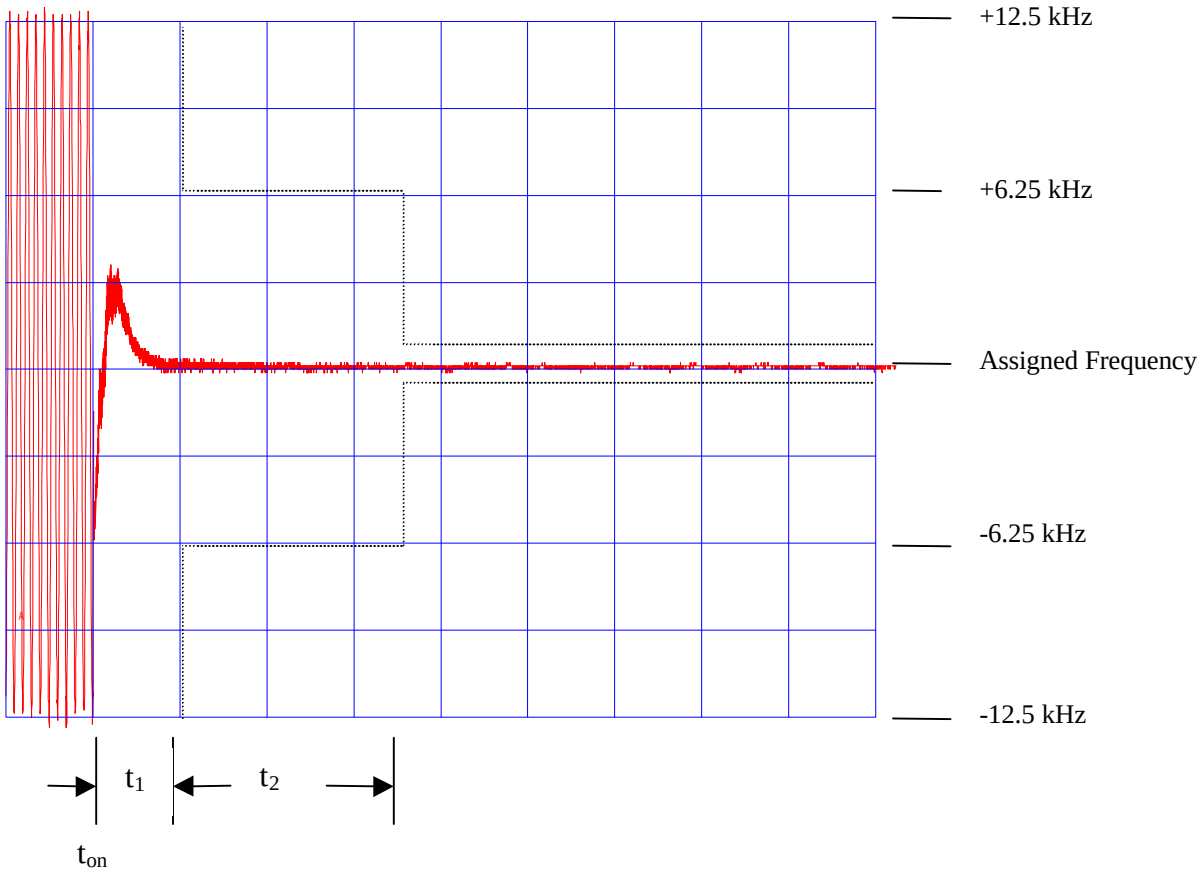
7. The Philips PM-3335 Digital Oscilloscope was set to trigger at 1 division from the left side of the display when the RF Detector sensed RF power from the RLR-460 transmitter.

8. 30 dB of attenuation was removed from the RF attenuator. The RLR-460 transmitter was activated and the resulting waveform on the oscilloscope display was stored and plotted. The FCC limits per Part 90.214 were added to the plot in the same manner illustrated in EIA-603 Part 3.2.19.2. The resulting plot is labeled “Switch On Condition” and shows compliance with FCC Part 90.214.

9. The Philips PM-3335 Digital Oscilloscope was set to trigger at 1 division from the right side of the display when the RF Detector senses loss of RF power from the RLR-460 transmitter.

10. The RLR-460 transmitter was turned off and the resulting waveform on the oscilloscope display was stored and plotted. The FCC limits per Part 90.214 were added to the plot in the same manner illustrated in EIA-603 Part 3.2.19.2. The resulting plot is labeled “Switch Off Condition” and shows compliance with FCC Part 90.214.

TYPE OF TEST:	TRANSIENT FREQUENCY BEHAVIOR
FCC PART:	90.214
MANUFACTURER:	RITRON, INC. 505 West Carmel Drive Carmel, IN 46032
MODEL:	DTX-454
TYPE OF UNIT:	UHF-FM Transceiver
FCC ID:	AIERIT11-450
DATE:	January 29, 1999
RESULTS:	Switch-On Condition



TYPE OF TEST: TRANSIENT FREQUENCY BEHAVIOR

FCC PART: 90.214

MANUFACTURER: RITRON, INC.
505 West Carmel Drive
Carmel, IN 46032

MODEL: DTX-454

TYPE OF UNIT: UHF-FM Transceiver

FCC ID: AIERIT11-450

DATE: January 29, 1999

RESULTS: Switch-Off Condition