TECHNICAL EXHIBIT

APPLICATION FOR CONSTRUCTION PERMIT
FOR NON-RESERVED BAND
FM TRANSLATOR STATION
K297AT

PARK CITY, UTAH
CH 244D 99 WATTS -140 M

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INTRODUCTION

This technical exhibit has been prepared on behalf of Phasor Physics, Inc., in support of an application requesting a modification of the license for FM translator station K297AT, Park City, Utah ("Station".)

This proposal will not be subject to environmental processing in accordance with Section 1.1306. It is believed that this proposal conforms to all applicable rules and regulations of the FCC.

PURPOSE

This application proposes that a waiver of FCC Rules be granted so that K297AT may relocate to FM Channel 244, an IF spaced channel.

Proposed Station Data

Output Frequency: 96.7 MHz.
Input Frequency: 90.9 MHz.
Channel: 244
ERP: 99 watts
Class: D

Proposed Antenna Location

The geographic coordinates (NAD 27) of the proposed site are as follows:

North Latitude: 40-40-58 N
West Longitude: 111-31-24 W

Transmitting Antenna

ANTENNA: Scala FMV-1, single bay, vertically polarized.

Interference

The proposed translator Station is co-located in a remote area; see Figure 1. Overlap with the pertinent contours of the proposed Station and any first, second, third adjacent and IF channel stations, is shown in Table 1 and the interfering contours are displayed in Figures 2-4.

The co-channel interfering contours of the proposed Station, are shown in Figure 2.

The 1st adjacent interfering contours of the proposed Station and are shown in Figure 3.

The 2nd and 3rd adjacent interfering contours of the proposed Station, are shown in Figure 4.

Although the interference contours are given in 47 CFR § 74.1204 (a)(3), the Commission, in Living Way Ministries, Inc., 17 FCC Rcd 17054, 17056 (2002), concluded that *"when demonstrating that 'no actual interference will occur due*

*to…other factors,' pursuant to Section 74.1204 (d), an applicant may use the undesired-to-desired signal ratio method (*emphasis added.")

The undesired-to-desired ratio for second and third adjacent Station, as required by 47 CFR § 74.1204 (a)(3), is 40 dB. Calculated interference contours between the proposed Station and pertinent stations are shown in Table 2 and Figure 5. The interfering contour of the proposed translator was calculated for 12 radials and plotted on a USGS quadrangle map in Figure 1.

Although contour overlap will occur, the area of overlap is entirely over a rural and unpopulated wildlife preserve that is not expected to be populated in the future. As demonstrated on the USGS quadrangle map in Figure 1, there are no populated structures or highways within the contours. The contours encompass a road, but it is a dirt road with a locked gate, used solely for access to the transmitter site. Hence, in accordance with 47 CFR § 74.1204 (d) and the Living Way Ministries, Inc., a lack of population has been demonstrated within the area of interference.

Regarding IF channel spacing, 47 CFR § 74.1204 (g) states that *"…translator stations will be treated the same as Class A stations..."* Table 1 shows that the pertinent FM translator stations have the required spacing with the proposed Station.

Unattended Operation

The proposed Station will comply with all rules and requirements regarding unattended operation.

Multiple Translators

The applicant certifies that it does not have any interest in an FM translator that serves substantially the same area and that rebroadcasts the same signal as the proposed translator.

Environmental Considerations

The Station will operate with an effective radiated power of 99 watts from a single-bay non-directional antenna, mounted on an existing tower.

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As the ERP of the proposed Station is less than 100 watts, it is in compliance with 47 CFR § 1.1307 (b) (4) (i).

Access to the transmitting site is restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radio-frequency radiation will not exceed the FCC guidelines.

Callsign	State	City	Freq	Channel	ERP_w	Class	Status	Distance_km	Sep	Clr
KXRK-FM1	UT	PARK CITY	96.3	242	200	D	CP	1.36	0	-56.88 dB
KQMB-FM1	UT	PROVO	96.7	244	15.2	D	LIC	74.28	0	-18.30 dB
KXRK-FM1	UT	PARK CITY	96.3	242	1300	D	LIC	19.26	0	-18.23 dB
KZHT-FM1	UT	PARK CITY	97.1	246	1000	D	LIC	19.33	0	-16.76 dB
KZHT	UT	SALT LAKE CITY	97.1	246	25000	C	LIC	58.8	0	-14.61 dB
KXRK	UT	PROVO	96.3	242	25000	C	LIC	58.8	0	-14.61 dB
K244DH	UT	FORT DOUGLAS, ETC.	96.7	244	36	D	LIC	58.86	0	-9.91 dB
KZHT	UT	SALT LAKE CITY	97.1	246	7200	C	LIC	58.8	0	-9.02 dB
KKEX-FM1	UT	TREMONTON	96.7	244	11500	D	LIC	132.86	0	-5.34 dB
K297AT	UT	PARK CITY	107.3	297	11	D	LIC	1.36	0	1.4
KKEX	ID	PRESTON	96.7	244	100000	C1	CP	134.44	0	9.37 dB
KKEX	ID	PRESTON	96.7	244	100000	C1	LIC	134.44	0	9.29 dB
KQMB	UT	LEVAN	96.7	244	67000	C	LIC	149.54	0	11.70 dB
K244AO	UT	RANDOLPH-WOODRUFF	96.7	244	12	D	LIC	109.51	0	19.18 dB
K244AE	UT	HELPER	96.7	244	57	D	LIC	124.44	0	28.00 dB
K244BB	UT	WEST EMERY COUNTY	96.7	244	100	D	LIC	166.47	0	27.99 dB
KKAT-FM	UT	OREM	107.5	298	43000	C	LIC	57.6	29	28.6
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KKAT-FM	UT	KAYSVILLE	107.5	298	22000	C	CP	58.8	29	29.8

TABLE 1: Pertinent first, second, third adjacent, and IF channel stations spaced with proposed Station.

Callsign	State	City	Channel	F(50,50) at proposed site	D (dBu)	Predicted F(50,10)
KXRK	UT	PROVO	242	75	40	115
KZHT	UT	SALT LAKE CITY	246	75	40	115
KXRK-FM1	UT	PARK CITY	242	77	40	117
KZHT-FM1	UT	PARK CITY	246	76	40	116

TABLE 2: Minimum F(50, 10) contour of proposed Station based on pertinent second-adjacent channels and in accordance with 47 CFR § 74.1204 (d) and in Living Way Ministries, Inc.,.

Site: PROPOSED
Coordinates: 40-40-58.0 N, 111-31-24.0 W
Freq: 96.70000 MHz
ERP: 99.00 W

Bearing	ERP W	HAAT	DH	Distance	Lat	Lon
0	99	-15	670	5.63	40.733434	-111.523333
30	99	129	530	11.6	40.773138	-111.454429
60	99	123	770	11.34	40.733727	-111.406742
90	99	5	1190	5.63	40.682759	-111.456533
120	99	119	930	11.17	40.632496	-111.408705
150	99	-25	680	5.63	40.638903	-111.489955
180	99	-332	850	5.63	40.632121	-111.523333
210	99	-705	1620	5.63	40.638903	-111.556711
240	99	-499	1640	5.63	40.657435	-111.581162
270	99	-408	1210	5.63	40.682759	-111.590133
300	99	-75	960	5.63	40.708092	-111.581206
330	99	142	440	12.18	40.777622	-111.595663

TABLE 3: HAAT and ERP for proposed station, 12 radials.