



United States of America
FEDERAL COMMUNICATIONS COMMISSION
AM BROADCAST STATION LICENSE

Authorizing Official:

Official Mailing Address:

MIDWEST COMMUNICATIONS, INC.
904 GRAND AVE.
WAUSAU WI 54403

Son Nguyen
Supervisory Engineer
Audio Division
Media Bureau

Grant Date: July 30, 1998

This license expires 3:00 a.m.
local time, April 01, 2005.

Facility Id: 60230

Call Sign: KDAL

License File Number: BL-19980420KB

This license covers Permit No.: BP-19980420AC

Subject to the provisions of the Communications Act of 1934, subsequent acts and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions set forth in this license, the licensee is hereby authorized to use and operate the radio transmitting apparatus herein described.

This license is issued on the licensee's representation that the statements contained in licensee's application are true and that the undertakings therein contained so far as they are consistent herewith, will be carried out in good faith. The licensee shall, during the term of this license, render such broadcasting service as will serve the public interest, convenience, or necessity to the full extent of the privileges herein conferred.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequency designated in the license beyond the term hereof, nor in any other manner than authorized herein. Neither the license nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This license is subject to the right of use or control by the Government of the United States conferred by Section 606 of the Communications Act of 1934.

Hours of Operation: Unlimited

Average hours of sunrise and sunset:
Local Standard Time (Non-Advanced)

Jan.	7:45 AM	4:45 PM	Jul.	4:30 AM	8:00 PM
Feb.	7:15 AM	5:30 PM	Aug.	5:00 AM	7:15 PM
Mar.	6:30 AM	6:15 PM	Sep.	5:45 AM	6:30 PM
Apr.	5:30 AM	7:00 PM	Oct.	6:30 AM	5:30 PM
May	4:30 AM	7:30 PM	Nov.	7:15 AM	4:30 PM
Jun.	4:15 AM	8:00 PM	Dec.	7:45 AM	4:15 PM

Callsign: KDAL

License No.: BL-19980420KB

Name of Licensee: MIDWEST COMMUNICATIONS, INC.

Station Location: DULUTH, MN

Frequency (kHz): 610

Station Class: B

Antenna Coordinates:

Night

Latitude: N 46 Deg 43 Min 14 Sec

Longitude: W 92 Deg 10 Min 36 Sec

Transmitter(s): Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Nominal Power (kW): Night: 5.0

Antenna Input Power (kW): Night: 5.4

Antenna Mode: Night: DA

(DA=Directional Antenna, ND=Non-directional Antenna; CH=Critical Hours)

Current (amperes): Night: 8.15

Resistance (ohms): Night: 81.5

Antenna Registration Number(s):

Night:

Tower No.	ASRN	Overall Height (m)
1	1024125	
2	1024124	

DESCRIPTION OF DIRECTIONAL ANTENNA SYSTEM

Theoretical RMS (mV/m/km): Night: 672.71

Standard RMS (mV/m/km):

Augmented RMS (mV/m/km): Night: 724.73

Q Factor: Night:

Theoretical Parameters:

Night Directional Antenna:

Tower No.	Field Ratio	Phasing (Deg.)	Spacing (Deg.)	Orientation (Deg.)	Tower Ref Switch *	Height (Deg.)
1	1.0000	0.000	0.0000	0.000	0	67.0
2	0.8650	-130.000	60.0000	346.000	0	67.0

* Tower Reference Switch

0 = Spacing and orientation from reference tower

1 = Spacing and orientation from previous tower

Augmentation Parameters:

Aug No.	Central Azimuth (Deg. T)	Span (Deg.)	Radiation at Central Azimuth (mV/m @ 1 km)
1	5.0	31.0	1152.66
2	20.5	31.0	1096.91
3	36.0	31.0	1002.61
4	98.0	34.4	370.15
5	115.2	34.4	206.00
6	132.5	33.6	157.72
7	132.5	10.0	159.33
8	149.3	33.4	178.64
9	166.0	19.0	200.12
10	175.5	19.0	163.43
11	199.5	10.0	106.22
12	231.0	58.0	323.48
13	260.0	54.0	659.83
14	314.0	51.0	1102.00

Night Directional Operation:

Twr. No.	Phase (Deg.)	Antenna Monitor Sample Current Ratio
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1 0

2 -58.5

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Night Operation:

Radial (Deg. T)	Distance From Transmitter (kM)	Maximum Field Strength (mV/m)
98	3.35	
132.5	6.28	
166	6.66	
199.5	13.6	

*** END OF AUTHORIZATION ***