COMCAST

October 8, 2014

Mr. Jimmy Sanders
Director of TV & Radio
WUGA-TV
1197 South Lumpkin Street
Athens, Georgia 30602

via e-mail and Overnight Mail
jsanders@wugatv.org

Re: WUGA-TV, Toccoa, Georgia – Request for Mandatory Carriage on Comcast's Atlanta DMA Cable Systems

Dear Mr. Sanders:

We are in receipt of your August 29, 2014 request for mandatory carriage of WUGA-TV Toccoa, Georgia on Comcast cable systems serving communities in the Atlanta Designated Market Area ("DMA").

As you know, federal law requires a television station that has requested mandatory carriage with respect to a cable system to deliver a "good quality signal" to the principal headend of such cable system. In regard to Comcast's Atlanta DMA cable systems, as indicated on the attached signal measurement forms, WUGA does not deliver a good quality over-the-air signal to any of Comcast's seven (7) six principal headend facilities in the market. Accordingly, Comcast does not believe that WUGA is entitled to mandatory carriage on any of these cable systems at this time.

Notwithstanding WUGA's signal strength deficiencies, in reviewing WUGA's signal contour/market coverage, combined with WUGA's significant geographic distance from the relevant cable communities, the circumstances appear to meet the criteria established by federal law to redraw and reduce WUGA's must-carry boundaries to make them congruous with market realities.

Perhaps it would be prudent to have a discussion regarding WUGA's desire/ability to deliver a good quality signal via alternative means to any of the applicable principal headend facilities in question, as well as to discuss WUGA's programming, including any local programming of specific interest to Comcast's cable television subscribers in the Atlanta market. Please reach out to me at 215.286.7361 or via e-mail at "*michael_nissenblatt@cable.comcast.com*" at your earliest convenience to discuss.

Comcast reserves any and all of its rights with respect to carriage of WUGA's signal.

I look forward to hearing from you.

Sincerely,

Michael Nissenblatt

Must-Carry Signal Strength and Quality Tests

According to the FCC, signal strength surveys should, at a minimum, include the following: 1) specific make and model numbers of the equipment used, as well as its age and most recent date(s) of calibration; 2) description(s) of the characteristics of the equipment used, such as antenna ranges and radiation patterns; 3) height of the antenna above ground level and whether the antenna was properly oriented; and 4) weather conditions and time of day when the tests were made."

Generally, the signal being tested should be treated similarly to other currently-received signals in the same band (same antenna height, etc.). The initial point of measurement should be at the input to the first piece of active processing equipment (*before preamp*) relevant to the signal at issue. To convert dBmV to dBm, subtract 48.75 dB from the dBmV value.

For a digital station: a good quality digital television signal at a cable system's principal headend is -61 dBm (-12.25 dBmV). Consistent with analog signal testing procedures, if the initial test results are less than -67 dBm (-18.25 dBmV), at least four readings must be taken over a two-hour period. Where the initial readings are between -67 dBm (-18.25 dBmV) and -61 dBm (-12.25 dBmV), inclusive, at least six readings should be taken over a 24-hour period with measurements not more than four hours apart.

Headend Name and State/Test Location__Stone Mountain, Stone Mountain, Georgia_____

Station Tested: Call Sign _WUGA_____ Channel 24_____ Video Carrier Frequency 533 Mhz

City and State of License _Toccoa, Georgia_____

		--Signal level--			
Date	Time	dBmV	dBM	Signal/Picture Quality Problems	Weather Conditions
9-30-14	02:00	_____	-87___	no signal _____	Cloudy, Rain
9-30-14	02:30	_____	-87___	no signal _____	Cloudy, Rain
9-30-14	03:05	_____	-87___	no signal _____	Cloudy
9-30-14	03:55	_____	-87___	no signal _____	Cloudy
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Equipment Used for Testing: List the antenna, preamp, downconverter, downlead, etc. used to perform the tests. Indicated if the antenna is cut to a particular channel or frequency. Indicate the height of the antenna during the test, and the length and type of downlead. Indicate the output frequency or channel of the downconverter.

Antenna Make: Kathrein Scala Division Model: CL1469B

Analyzer Make/Model: HP 8591C Age: +10yrs_____ Most Recent Calibration Date: 9-19-14_____

Antenna Height:100ft___ Frequency: _533Mhz_____ Channel:_UHF 24_____ Gain or Loss (in dB): N/A

Antenna Range/Pattern Attached: YES Antenna Properly Oriented: YES (Circle one)

Block Diagram of Test Setup:

Ant High UHF --- 200ft ½ inch hardline --- 50ft RG6 --- HP 8591C

Name of Person Performing Test _David Miracle_____ Phone No. 678-898-3699_____

KATHREIN
SCALA DIVISION

CL-1469B

UHF-TV LOG-PERIODIC ANTENNA

8 dBd gain

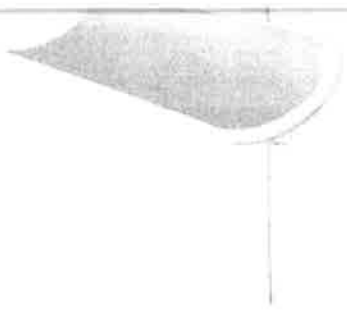
470–862 MHz (Channels 14–69*)

The Kathrein Scala Division CL-1469B is a ruggedly built, linearly polarized log-periodic antenna designed for professional UHF-TV transmit and receive applications.

Like all Kathrein Scala Division antennas, the CL-1469B is made of the finest materials using state of the art electrical and mechanical designs resulting in superior performance and long service life. The rugged fiberglass radome protects the antenna from icing and assures stable pattern and gain performance under adverse environmental conditions.

The CL-1469B may be used stand alone or in arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.

*The CL-1469B covers all 6, 7, and 8 MHz UHF-TV channels worldwide (bands IV/V).

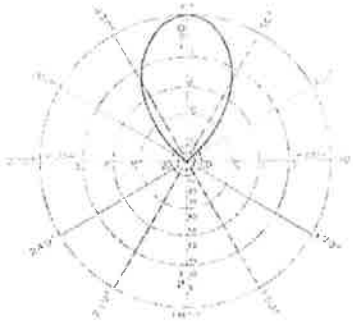


(Shown horizontally polarized)

Specifications:

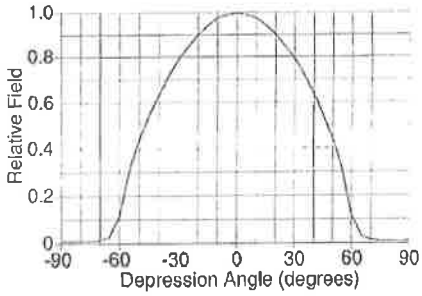
Frequency range	470–862 MHz (broadband)*
Gain	8 dBd
Power gain	6.31
Impedance	50 or 75 ohms
VSWR	< 1.5:1
Polarization	Horizontal or vertical
Front-to-back ratio	>35 dB
Maximum input power	100 watts, type "N" 75 ohm connector 250 watts, type "N" 50 ohm connector
Azimuth pattern	52 degrees (half-power)
Elevation pattern	72 degrees (half-power)
Connector	N female (50 or 75 ohms)
Weight	22 lb (10 kg)
Dimensions	29 x 17 x 12 inches (737 x 432 x 305 mm)
Equivalent flat plate area	2.78 ft² (.258 m²)
Wind survival rating*	120 mph (200 kph)
Shipping dimensions	31 x 20 x 14.5 inches (787 x 508 x 368 mm)
Shipping weight	28.0 lb (12.7 kg)
Mounting	Mounting kits available for masts of 2.375 to 4.5 inch (60 to 114 mm) OD.

See reverse for order information.



Azimuth pattern (E-plane)

*Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.



Elevation pattern (H-plane)

TÜV

Lead-Free

10276-D

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

Must-Carry Signal Strength and Quality Tests

According to the FCC, signal strength surveys should, at a minimum, include the following: 1) specific make and model numbers of the equipment used, as well as its age and most recent date(s) of calibration; 2) description(s) of the characteristics of the equipment used, such as antenna ranges and radiation patterns; 3) height of the antenna above ground level and whether the antenna was properly oriented; and 4) weather conditions and time of day when the tests were made."

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Headend Name and State/Test Location___(H1) Grantville, Georgia_____

Station Tested: Call Sign __WUGA____ Channel ___24__ Video Carrier Frequency _533 CF__ Mhz

City and State of License _____Taccoa, Georgia_____

		--Signal level--			
Date	Time	dBmV	dBM	Signal/Picture Quality Problems	Weather Conditions
9/27/14	10:15	No Signal	<-67dBM	_No Signal_____	Overcast_____
9/27/14	10:45	No Signal	<-67dBM	_No Signal_____	Overcast_____
9/27/14	11:35	No Signal	<-67dBM	_No Signal_____	Overcast_____
9/27/14	12:15	No Signal	<-67dBM	_No Signal_____	Overcast_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Equipment Used for Testing: List the antenna, preamp, downconverter, downlead, etc. used to perform the tests. Indicated if the antenna is cut to a particular channel or frequency. Indicate the height of the antenna during the test, and the length and type of downlead. Indicate the output frequency or channel of the downconverter.

Antenna Make: Kathrein Scala Division Model: PR TV Paraflector

Analyzer Make/Model: _HP/8591 C_____ Age: +10yrs____ Most Recent Calibration Date: 9/19/2014

Antenna Height: _125 ft. Frequency: _533Mhz_ Channel:___UHF 24___ Gain or Loss (in dB): N/A_____

Antenna Range/Pattern Attached: (Yes) - or - No Antenna Properly Oriented: (Yes) - or - No (Circle one)
Downlead - .500 cable. Amp SVA 15PF-S 15 db gain 15 – 1000 Mhz

Block Diagram of Test Setup:

Antenna --→ Downlead --→ AMP ------- →8-way splitter ----→ 7 ports feed existing Tandberg receivers.
\----→- 1 port feeds analyzer.

Name of Person Performing Test ___David Sharp_____ Phone No. _ (404) 597-1311____

KATHREIN
SCALA DIVISION

PR-TV series
PARAFLECTOR® ANTENNA
15.5 to 17 dBd gain
470 to 862 MHz

The Kathrein Scala Division PR-TV series Paraflector antennas are designed for professional receive and low-power transmit applications in the 470 to 862 MHz spectrum. These antennas are available for any specified single 6, 7, or 8 MHz UHF-TV channel. Features include:

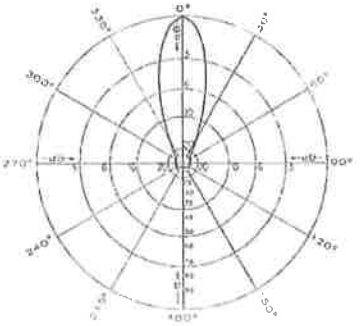
- High-gain, half-parabolic design.
- Lower weight and surface area than a parabolic dish or grid.
- Very rugged construction using anodized aluminum pipe, tubing, and castings; plus stainless steel hardware and fastenings.
- Compact packaging for economical UPS or Federal Express shipment.
- Can be horizontally or vertically polarized.

(Shown horizontally polarized)

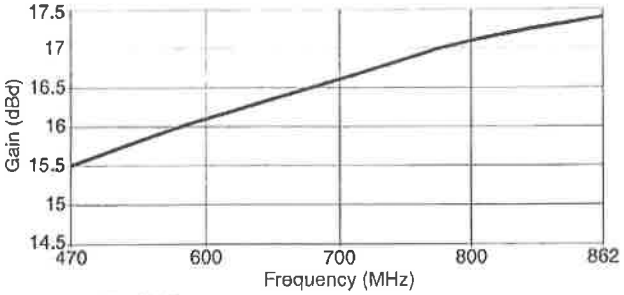
Specifications:

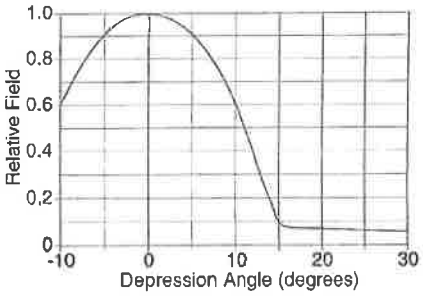
Frequency range	470 to 862 MHz
Bandwidth	Any 6, 7, or 8 MHz UHF-TV channel (Special multichannel models available)
Gain	15.5 to 17 dBd (depending on channel)
Impedance	50 ohms
VSWR	< 1.2:1
Polarization	Horizontal or vertical
Front-to-back ratio	25 dB
Maximum input power	100 watts (at 50°C)
E-plane beamwidth	24 degrees (half-power)
H-plane beamwidth	16 degrees (half-power)
Connector	N female
Weight	38 lb (17.2 kg)
Dimensions	68 x 36 x 18 inches (1727 x 914 x 457 mm)
Equivalent flat plate area	6.35 ft² (0.595 m²)
Wind survival rating*	100 mph (161 kph)
Shipping dimensions	40 x 36 x 7 inches (1016 x 914 x 178 mm)
Shipping weight	47 lb (20.4 kg)
Mounting	Mounting kits available for masts of 2.375 to 4.5 inches (60 to 114 mm) OD.

See reverse for order information.



Typical azimuth pattern (E-plane)





Typical elevation pattern (H-plane)

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10265-C

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
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Headend Name and State/Test Location Z1 headend Tallapoosa, Ga

Station Tested: Call Sign WUGA Channel 24 Video Carrier Frequency 533 Mhz

City and State of License Taccoa, Ga

		--Signal level--			
Date	Time	dBmV	dBM	Signal/Picture Quality Problems	Weather Conditions
9/28/14	2:35	no signal	<-67dBM	No Signal	Overcast
9/28/14	3:21	no signal	<-67dBM	No Signal	Overcast
9/28/14	3:55	no signal	<-67dBM	No Signal	Overcast
9/28/14	4:35	no signal	<-67dBM	No Signal	Overcast

Equipment Used for Testing: List the antenna, preamp, downconverter, downlead, etc. used to perform the tests. Indicated if the antenna is cut to a particular channel or frequency. Indicate the height of the antenna during the test, and the length and type of downlead. Indicate the output frequency or channel of the downconverter.

Antenna Make: Kathrein Scala Div Model: PR TV Paraflector

Analyzer Make/Model: Hewlett Packard 8591C Age: _____ Most Recent Calibration Date: 9/19/14

Antenna Height: 150' Frequency: 533Mhz Channel: UHF 24 Gain or Loss (in dB): N/A

Antenna Range/Pattern Attached: (Yes) or - No Antenna Properly Oriented: (Yes) or - No (Circle one)

Downlead .500 cable (190' long) CommScope SV-A15-8PRS amp/8-way 53-1000 MHz

Block Diagram of Test Setup:

Antenna------downlead-----8-way amp (7 ports to 7 Tandberg existing receivers, 1 port to analyzer)

Adjacent carriers received: 539 MHz, 509 MHz, 503 MHz.....but no 533 MHz

Name of Person Performing Test Eddie Lee Phone No. 678.725.0801

KATHREIN
SCALA DIVISION

PR-TV series

PARAFLECTOR® ANTENNA

15.5 to 17 dBd gain

470 to 862 MHz

The Kathrein Scala Division PR-TV series Paraflector antennas are designed for professional receive and low-power transmit applications in the 470 to 862 MHz spectrum. These antennas are available for any specified single 6, 7, or 8 MHz UHF-TV channel. Features include:

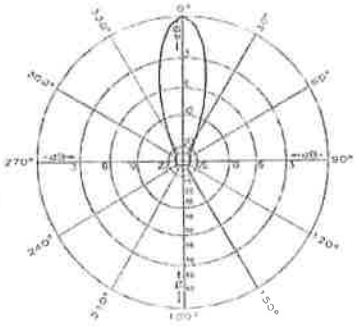
- High-gain, half-parabolic design.
- Lower weight and surface area than a parabolic dish or grid.
- Very rugged construction using anodized aluminum pipe, tubing, and castings; plus stainless steel hardware and fastenings.
- Compact packaging for economical UPS or Federal Express shipment.
- Can be horizontally or vertically polarized.

(Shown horizontally polarized)

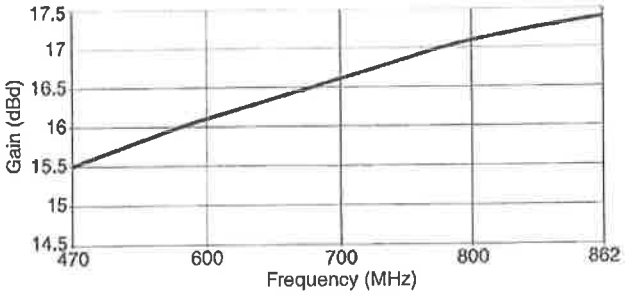
Specifications:

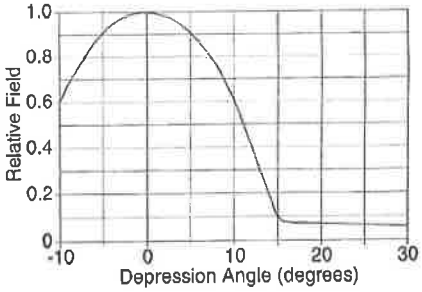
Frequency range	470 to 862 MHz
Bandwidth	Any 6, 7, or 8 MHz UHF-TV channel (Special multichannel models available)
Gain	15.5 to 17 dBd (depending on channel)
Impedance	50 ohms
VSWR	< 1.2:1
Polarization	Horizontal or vertical
Front-to-back ratio	25 dB
Maximum input power	100 watts (at 50°C)
E-plane beamwidth	24 degrees (half-power)
H-plane beamwidth	16 degrees (half-power)
Connector	N female
Weight	38 lb (17.2 kg)
Dimensions	68 x 36 x 18 inches (1727 x 914 x 457 mm)
Equivalent flat plate area	6.35 ft² (0.595 m²)
Wind survival rating*	100 mph (161 kph)
Shipping dimensions	40 x 36 x 7 inches (1016 x 914 x 178 mm)
Shipping weight	47 lb (20.4 kg)
Mounting	Mounting kits available for masts of 2.375 to 4.5 inches (60 to 114 mm) OD.

See reverse for order information.



Typical azimuth pattern (E-plane)





Typical elevation pattern (H-plane)

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Headend Name and State/Test Location __Newborn, GA_____

Station Tested: Call Sign _WUGA_____ Channel _UHF 24_ Video Carrier Frequency 533 Mhz

City and State of License __Atlanta, GA

		--Signal level--			
Date	Time	dBmV	dBM	Signal/Picture Quality Problems	Weather Conditions
9/23/14	3:00am	_____	< -75DBM	No Signal	Clear Sky
9/23/14	3:40am	_____	< -75DBM	No Signal	Clear Sky
9/23/14	4:20am	_____	< -75DBM	No Signal	Clear Sky
9/23/14	4:55am	_____	< -75DBM	No Signal	Clear Sky

Equipment Used for Testing: List the antenna, preamp, downconverter, downlead, etc. used to perform the tests. Indicated if the antenna is cut to a particular channel or frequency. Indicate the height of the antenna during the test, and the length and type of downlead. Indicate the output frequency or channel of the downconverter.

Antenna Make: Kathrein Scala Division Model: PRTV Paraflector

Analyzer Make/Model: HP8591C Age: +10yrs___ Most Recent Calibration Date: 9/19/2014

Antenna Height: approx. 100ft Frequency: ___533Mhz Channel:UHF 24 Gain or Loss (in dB): __N/A

Antenna Range/Pattern Attached (Yes) - or - No Antenna Properly Oriented: (Yes) - or - No (Circle one)

Block Diagram of Test Setup:

Antenna --→ Downlead --→ AMP ------- →3-way splitter ----→ 2 ports (-7 db) feed existing Tandberg receivers.
\----→- 1 port (-3.5 db) feeds analyzer.

Name of Person Performing Test __Jacques Taylor_____ Phone_404-449-0546

KATHREIN
SCALA DIVISION

PR-TV series

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15.5 to 17 dBd gain

470 to 862 MHz

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- Compact packaging for economical UPS or Federal Express shipment.
- Can be horizontally or vertically polarized.

(Shown horizontally polarized)

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Bandwidth	Any 6, 7, or 8 MHz UHF-TV channel (Special multichannel models available)
Gain	15.5 to 17 dBd (depending on channel)
Impedance	50 ohms
VSWR	< 1.2:1
Polarization	Horizontal or vertical
Front-to-back ratio	25 dB
Maximum input power	100 watts (at 50°C)
E-plane beamwidth	24 degrees (half-power)
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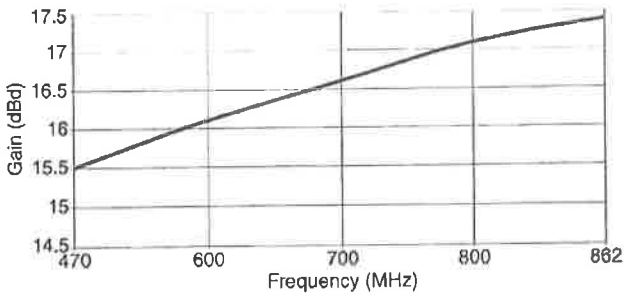
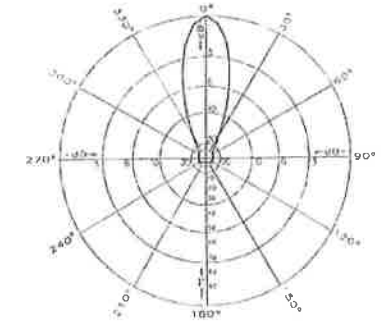
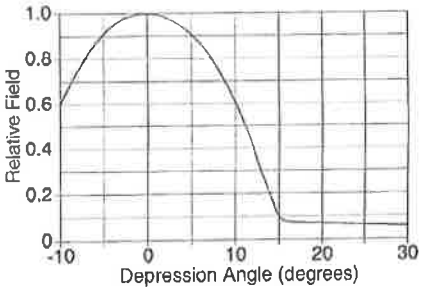




Typical azimuth pattern (E-plane)



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For a digital station: a good quality digital television signal at a cable system's principal headend is -61 dBm (-12.25 dBmV). Consistent with analog signal testing procedures, if the initial test results are less than -67 dBm (-18.25 dBmV), at least four readings must be taken over a two-hour period. Where the initial readings are between -67 dBm (-18.25 dBmV) and -61 dBm (-12.25 dBmV), inclusive, at least six readings should be taken over a 24-hour period with measurements not more than four hours apart.

Headend Name and State/Test Location Monticello, GA

Station Tested: Call Sign WUGA Channel UHF 24 Video Carrier Frequency 533 Mhz

City and State of License Atlanta, GA

		--Signal level--			
Date	Time	dBmV	dBM	Signal/Picture Quality Problems	Weather Conditions
9/23/14	12:00am		< -75DBM	No Signal	Clear Sky
9/23/14	12:40am		< -75DBM	No Signal	Clear Sky
9/23/14	1:10am		< -75DBM	No Signal	Clear Sky
9/23/14	1:55am		< -75DBM	No Signal	Clear Sky

Equipment Used for Testing: List the antenna, preamp, downconverter, downlead, etc. used to perform the tests. Indicated if the antenna is cut to a particular channel or frequency. Indicate the height of the antenna during the test, and the length and type of downlead. Indicate the output frequency or channel of the downconverter.

Antenna Make: Kathrein Scala Div Model: PRTV Paraflector

Analyzer Make/Model: HP8591C Age: +10yrs Most Recent Calibration Date: 9/19/2014

Antenna Height: 100ft Frequency: 533Mhz Channel:UHF 24 Gain or Loss (in dB): ????

Antenna Range/Pattern Attached: (Yes) - or - No Antenna Properly Oriented: (Yes) or - No (Circle one)

Block Diagram of Test Setup:

Antenna --→ Download --→ AMP ------- →3-way splitter ----→ 2 ports (-7 db) feed existing Tandberg receivers.
\----→- 1 port (-3.5 db) feeds analyzer.

Name of Person Performing Test Jacques Taylor Phone 404-449-0546

KATHREIN
SCALA DIVISION

PR-TV series

PARAFLECTOR® ANTENNA

15.5 to 17 dBd gain

470 to 862 MHz

The Kathrein Scala Division PR-TV series Paraflector antennas are designed for professional receive and low-power transmit applications in the 470 to 862 MHz spectrum. These antennas are available for any specified single 6, 7, or 8 MHz UHF-TV channel. Features include:

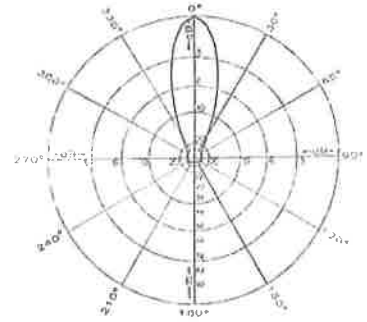
- High-gain, half-parabolic design.
- Lower weight and surface area than a parabolic dish or grid.
- Very rugged construction using anodized aluminum pipe, tubing, and castings; plus stainless steel hardware and fastenings.
- Compact packaging for economical UPS or Federal Express shipment.
- Can be horizontally or vertically polarized.

(Shown horizontally polarized)

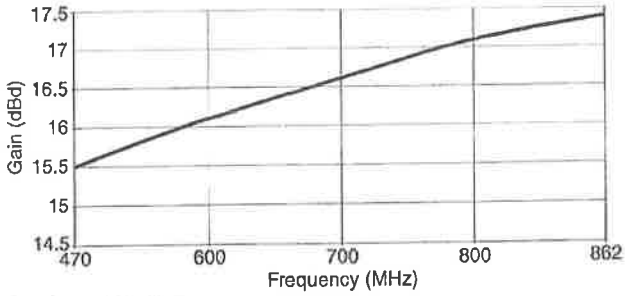
Specifications:

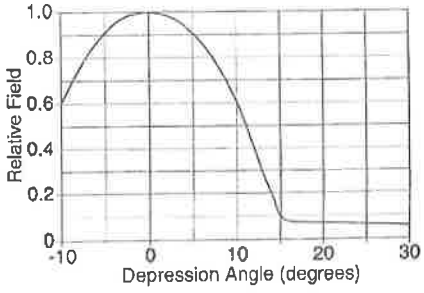
Frequency range	470 to 862 MHz
Bandwidth	Any 6, 7, or 8 MHz UHF-TV channel (Special multichannel models available)
Gain	15.5 to 17 dBd (depending on channel)
Impedance	50 ohms
VSWR	< 1.2:1
Polarization	Horizontal or vertical
Front-to-back ratio	25 dB
Maximum input power	100 watts (at 50°C)
E-plane beamwidth	24 degrees (half-power)
H-plane beamwidth	16 degrees (half-power)
Connector	N female
Weight	38 lb (17.2 kg)
Dimensions	68 x 36 x 18 inches (1727 x 914 x 457 mm)
Equivalent flat plate area	6.35 ft² (0.595 m²)
Wind survival rating*	100 mph (161 kph)
Shipping dimensions	40 x 36 x 7 inches (1016 x 914 x 178 mm)
Shipping weight	47 lb (20.4 kg)
Mounting	Mounting kits available for masts of 2.375 to 4.5 inches (60 to 114 mm) OD.

See reverse for order information.



Typical azimuth pattern (E-plane)





Typical elevation pattern (H-plane)

*Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

10265-C

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

Must-Carry Signal Strength and Quality Tests

According to the FCC, signal strength surveys should, at a minimum, include the following: 1) specific make and model numbers of the equipment used, as well as its age and most recent date(s) of calibration; 2) description(s) of the characteristics of the equipment used, such as antenna ranges and radiation patterns; 3) height of the antenna above ground level and whether the antenna was properly oriented; and 4) weather conditions and time of day when the tests were made."

Generally, the signal being tested should be treated similarly to other currently-received signals in the same band (same antenna height, etc.). The initial point of measurement should be at the input to the first piece of active processing equipment (*before preamp*) relevant to the signal at issue. To convert dBmV to dBm, subtract 48.75 dB from the dBmV value.

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Headend Name and State/Test Location P3 headend Mt Zion, Ga

Station Tested: Call Sign WUGA Channel 24 Video Carrier Frequency 533 Mhz

City and State of License Taccoa, Ga

		--Signal level--			
Date	Time	dBmV	dBM	Signal/Picture Quality Problems	Weather Conditions
9/28/14	5:21	no signal	<-67dBM	No Signal	Overcast
9/28/14	6:05	no signal	<-67dBM	No Signal	Overcast
9/28/14	6:50	no signal	<-67dBM	No Signal	Overcast
9/28/14	7:25	no signal	<-67dBM	No Signal	Overcast

Equipment Used for Testing: List the antenna, preamp, downconverter, downlead, etc. used to perform the tests. Indicated if the antenna is cut to a particular channel or frequency. Indicate the height of the antenna during the test, and the length and type of downlead. Indicate the output frequency or channel of the downconverter.

Antenna Make: Kathrein Scala Division Model: PR TV1 Parafector

Analyzer Make/Model: Hewlett Packard 8591C Age: +10yrs Most Recent Calibration Date: 9/19/14

Antenna Height: 100' Frequency: Channel: Gain or Loss (in dB):

Antenna Range/Pattern Attached? Yes - or - No Antenna Properly Oriented: Yes - or - No (Circle one)

Downlead .500 cable (140' long) PCT-MAZ-4P amp/4-way 5-42 / 53-1000 MHz

Block Diagram of Test Setup:

Antenna------downlead-----4-way amp (3 ports to 3 Tandberg existing receivers, 1 port to analyzer)

Adjacent carriers received: 539 MHz, 551 MHz, 527 MHz, 509 MHz, 503 MHz.....but no 533 MHz

Name of Person Performing Test Eddie Lee Phone No. 678.725.0801

KATHREIN
SCALA DIVISION

PR-TV series
PARAFLECTOR® ANTENNA
15.5 to 17 dBd gain
470 to 862 MHz

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- High-gain, half-parabolic design.
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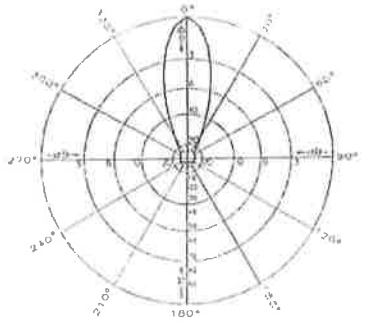
- Very rugged construction using anodized aluminum pipe, tubing, and castings; plus stainless steel hardware and fastenings.
- Compact packaging for economical UPS or Federal Express shipment.
- Can be horizontally or vertically polarized.

(Shown horizontally polarized)

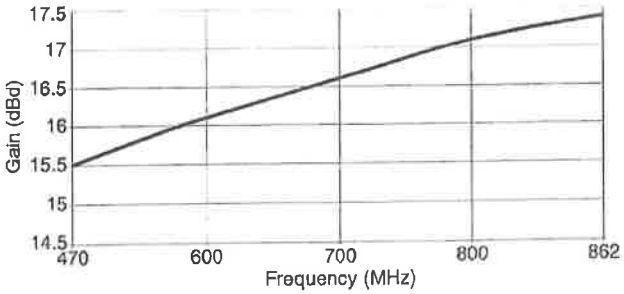
Specifications:

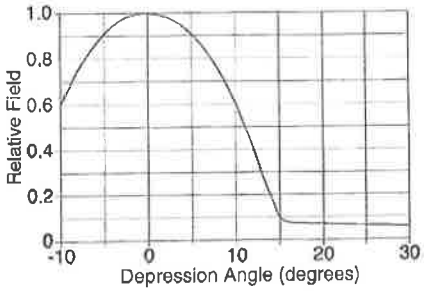
Frequency range	470 to 862 MHz
Bandwidth	Any 6, 7, or 8 MHz UHF-TV channel (Special multichannel models available)
Gain	15.5 to 17 dBd (depending on channel)
Impedance	50 ohms
VSWR	< 1.2:1
Polarization	Horizontal or vertical
Front-to-back ratio	25 dB
Maximum input power	100 watts (at 50°C)
E-plane beamwidth	24 degrees (half-power)
H-plane beamwidth	16 degrees (half-power)
Connector	N female
Weight	38 lb (17.2 kg)
Dimensions	68 x 36 x 18 inches (1727 x 914 x 457 mm)
Equivalent flat plate area	6.35 ft² (0.595 m²)
Wind survival rating*	100 mph (161 kph)
Shipping dimensions	40 x 36 x 7 inches (1016 x 914 x 178 mm)
Shipping weight	47 lb (20.4 kg)
Mounting	Mounting kits available for masts of 2.375 to 4.5 inches (60 to 114 mm) OD.

See reverse for order information.



Typical azimuth pattern (E-plane)





Typical elevation pattern (H-plane)

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Headend Name and State/Test Location____(P4) Whitesburg, Georgia_____

Station Tested: Call Sign __WUGA____ Channel ___24__ Video Carrier Frequency _533 CF__ Mhz

City and State of License _____Taccoa, Georgia_____

		--Signal level--			
Date	Time	dBmV	dBM	Signal/Picture Quality Problems	Weather Conditions
9/27/14	13:25	No Signal	<-67dBM	_No Signal_____	Overcast_____
9/27/14	13:55	No Signal	<-67dBM	_No Signal_____	Overcast_____
9/27/14	14:45	No Signal	<-67dBM	_No Signal_____	Clearing_____
9/27/14	15:30	No Signal	<-67dBM	_No Signal_____	Clear_____

Equipment Used for Testing: List the antenna, preamp, downconverter, downlead, etc. used to perform the tests. Indicated if the antenna is cut to a particular channel or frequency. Indicate the height of the antenna during the test, and the length and type of downlead. Indicate the output frequency or channel of the downconverter.

Antenna Make: Kathrein Scala Division Model: PETV Paraflector

Analyzer Make/Model: _HP/8591 C_____ Age: _____ Most Recent Calibration Date: 9/19/2014

Antenna Height: _115 ft. Frequency: 533Mhz___ Channel: UHF 24_____ Gain or Loss (in dB): __N/A_____

Antenna Range/Pattern Attached: (Yes) - or - No Antenna Properly Oriented: (Yes) - or - No (Circle one)
Downlead - .500 cable. Amp SVA 15PF-S 15 db gain 15 – 1000 Mhz

Block Diagram of Test Setup:

Antenna --→ Downlead --→ AMP ------- →3-way splitter ----→ 2 ports (-7 db) feed existing Tandberg receivers.
\----→- 1 port (-3.5 db) feeds analyzer.

Name of Person Performing Test ___David Sharp_____ Phone No. _ (404) 597-1311____

KATHREIN
SCALA DIVISION

PR-TV series
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15.5 to 17 dBd gain
470 to 862 MHz

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(Shown horizontally polarized)

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VSWR	< 1.2:1
Polarization	Horizontal or vertical
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E-plane beamwidth	24 degrees (half-power)
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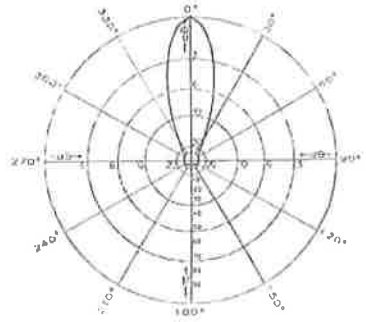
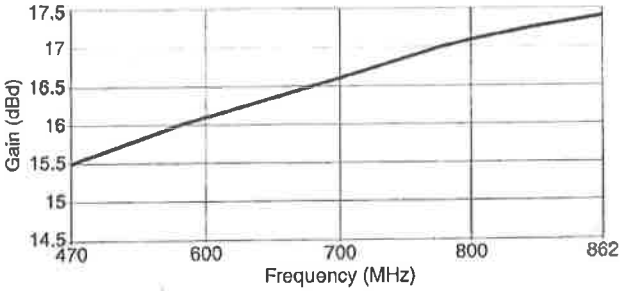
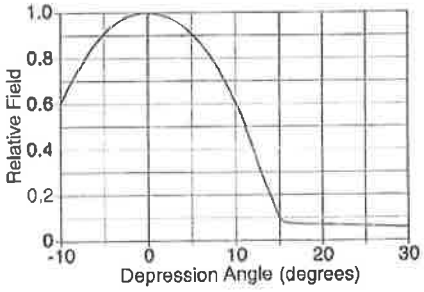


Typical azimuth pattern (E-plane)





Typical elevation pattern (H-plane)

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