

Before the
Federal Communications Commission
Washington, D.C. 20554

In re Application of)
)
PMCM TV, LLC)
)
For Minor Modification of the License for)
KVNV(TV), Facility ID Number 86537,)
Middletown Township, New Jersey)
)

File No. BPCDT-20130528AJP

ACCEPTED/FILED

AUG 13 2014

Federal Communications Commission
Office of the Secretary

Directed to: Office of the Secretary
Attention: Chief, Video Division, Media Bureau

**EXPLANATORY SUPPLEMENT TO
ALTERNATIVE PSIP PROPOSAL**

On August 8, 2014, PMCM TV, LLC ("PMCM") submitted an Alternative PSIP Proposal in connection with the above-captioned application. As indicated in Footnote 6 to PMCM's proposal, the narrative explanation with respect to Exhibit D-2 was not available for inclusion with the proposal as originally filed. That narrative explanation is now available and is submitted as Attachment A hereto, which includes two additional maps (as well as a copy of the map submitted as Exhibit D-2, with additional legend information).

As set forth in that explanation, and as briefly alluded to at page 6 of the PMCM Proposal, WFSB and WCBS both transmit on RF Channel 33. Those co-channel allotments are substantially short-spaced to one another, as a result of which each station causes interference to the other over significant areas of their respective digital service contours. That area of interference occurs in the southwestern portion of WFSB's predicted digital contour,

i.e., over most of Fairfield County, Connecticut. As a result, over-the-air viewers in that overlap area cannot expect to receive a regularly viewable WFSB signal.¹

But if WFSB does not deliver a viewable signal to that area, then there can logically be no concern about potential overlap of a station (*i.e.*, KVVN) using the same major channel number as WFSB in its PSIP. That's because any possible confusion that might occur from such common major channel numbers – and PMCM emphasizes that, with its 3.10 proposal, it is doubtful that *any* confusion would be possible – could occur only if both RF signals were to be received by a viewer's receiver and both major *and* minor channel number combinations were the same. But, thanks to the co-channel overlap with WCBS, the WFSB signal is not received over most if not all of the WCBS/WFSB overlap area, so no possibility of any PSIP confusion could exist at all, since KVVN would be the only signal being received that would include a major channel 3 PSIP. The fact that KVVN will operate with its own unique TSID and, as proposed by PMCM, would also utilize minor channel PSIP numbers (*i.e.*, 3.10, 3.11, *et seq.*) separate and distinct from the minor channel numbers used by WFSB would provide further assurance that no possibility of confusion exists.

PMCM acknowledges the theoretical possibility that some small handful of over-the-air viewers in the WCBS/WFSB overlap area might, for some reason, still prefer to receive WFSB. But, particularly because of their location both in relation to WFSB's signal and within the WCBS/WFSB overlap area, any effort by such hypothetical viewers to receive WFSB would effectively eliminate concern about any possible PSIP confusion with KVVN.

¹ The unavailability of a viewable signal in that area is confirmed by the Commission's own website, which provides a map-based tool for determining the strength of digital TV stations at particular locations. *See* <http://transition.fcc.gov/mb/engineering/dtvmaps/>. According to that tool, communities that would ordinarily be well within WFSB's digital coverage area (*e.g.*, Bridgeport, Fairfield, Weston) are reported as receiving no signal at all – or, at best, a “weak” signal – from WFSB, but a moderate or strong signal from WCBS. In other words, a receiver in that area would not receive WFSB because of the stronger co-channel 33 signal of WCBS.

The WCBS/WFSB overlap area is already at the extremity of WFSB's predicted service contour. Hypothetical would-be WFSB over-the-air viewers in that area would have to utilize a directional antenna pointed at WFSB's transmitter in order to overcome (a) the distance to the WFSB transmitter and (b) the interfering signal from WCBS. But, as indicated in the attached Engineering Statement, the use of such an antenna would effectively block reception of KVVN's signal. By pointing the antenna toward WFSB, to the northeast, the hypothetical over-the-air viewer in the WCBS/WFSB overlap area would necessarily be pointing that antenna *away from* KVVN to the southwest. As a result, any incoming KVVN signal would be attenuated at the receive antenna, thus effectively blocking the KVVN signal and preventing that signal from notifying the receiver of KVVN's major channel PSIP number.² This blocking effect is illustrated in Attachment D-2 of PMCM's proposal: the need to utilize a directional receive antenna pointed toward WFSB carves a "notch" in the KVVN signal, resulting in a de facto reduction of KVVN's contour in the direction of WFSB; similarly, a directional antenna pointed toward KVVN carves a corresponding "notch" in WFSB's signal. The result: reduction of both station's digital contours toward each other and the elimination of any overlap of those two contours.

In other words, by taking the step that would be necessary to receive WFSB at all in the WCBS/WFSB overlap area, over-the-air viewers would be, literally, turning their backs on stations to the southwest – including, in particular, WCBS and KVVN – thereby precluding reception of those two stations. And, as we have noted above, if a signal is not received, it makes no difference at all what major channel number (much less a different

² The converse, of course, would also be true: viewers in that area who would prefer to watch KVVN with antennas oriented toward KVVN's transmitter site to the southwest would, because of that orientation, be effectively preventing reception of the WFSB signal to the northeast, if such reception were not already precluded by interference from WCBS.

major-minor channel number combination) may be contained in that unreceived signal's PSIP.

The exhibit included with the attached Engineering Statement provides a graphic illustration of these circumstances. The football-shaped overlap area between the predicted contours of WFSB and KVVN is riddled with points at which the WFSB signal is subject to interference from WCBS. (This is hardly surprising, since the WFSB/KVVN overlap area is essentially coterminous with the WFSB/WCBS overlap area.) The extensive interference to WFSB throughout the area establishes that unassisted over-the-air reception of WFSB in that area is unlikely. As a result, any would-be over-the-air viewers in that area would ordinarily have to rely on antennas.

The notching effect in the predicted contours of WFSB and KVVN – the former in the southwest portion of the WFSB contour, the latter in the northeast portion of the KVVN contour – depicts the effect of the directional receive antennas that would be necessary to obtain a viewable signal from Station WFSB. As the image reveals, the notching effect pulls the WFSB and KVVN predicted contours apart so as to eliminate any overlap of those contours.

In view of these considerations, PMCM submits that its preferred PSIP solution – *i.e.*, amending KVVN's existing two-part PSIP number of 3.1 (.2,.3 etc.) to 3.10 (.11, .12 etc.) – would result in no possible confusion at all. The fact that KVVN's major channel number would be the same as WFSB's would be of no consequence because, as shown above, no receiver in the overlap area would be able to receive both stations simultaneously. Moreover, as plainly contemplated by ATSC A/65, the assignment of separate and distinct minor channel

numbers (in conjunction with the assignment of unique TSID numbers) would eliminate any remote possibility of receiver confusion.

Respectfully submitted,

PMCM TV, LLC



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Arlington, VA 22209

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Its Attorney

August 13, 2014

MULLANEY ENGINEERING, INC.

4937 G - GREEN VALLEY ROAD
MONROVIA, MARYLAND 21770-9707

ENGINEERING STATEMENT

This narrative engineering statement is provided in support of the attached television signal propagation maps that conclusively demonstrate that the likelihood of common PSIP reception from WFSB-DT and KVVN-DT within the predicted digital service contour overlap area of those two stations is nonexistent because of (a) predicted signal interference to WFSB-DT from co-channel WCBS-TV and (b) the fact that the use of a typical consumer grade outdoor receiving antenna necessary to receive WFSB-DT in the WCBS/WFSB overlap area would effectively prevent simultaneous reception of WFSB-DT and KVVN-DT.

Three maps have been prepared and are presented herein in support of this engineering statement.

The first map shows the signal interference from WCBS-TV, Channel 33 to WFSB-DT, Channel 33. The two facilities are co-channel to each other and interference to WFSB-DT from the WCBS-TV facility occurs in an area roughly between the two facilities as shown on this map. The Commission's OET Bulletin Number 69 method was employed in determination of the co-channel interference to WFSB-DT from WCBS-TV. Cell size and terrain profile spacing was set at 1-kilometer. The method employed is identical to the Commission's "TVStudy" program used to determine interference to TV services from other facilities.

The second map is simply a digital service map, based upon the Commission's propagation curves. The digital service contour shows a notch in the service contours from KVVN-DT and WFSB-DT. Those notches represent the effect on the signals of those stations when the viewer's receiver is using a typical consumer grade outdoor antenna with a front-to-back ratio of 15 dB. Use of such an antenna, oriented toward the WFSB-DT transmitter site, would be necessary to receive a viewable WFSB-DT signal in the WCBS/WFSB overlap area, where WCBS's co-channel signal would render the WFSB-DT signal unreceivable absent such an antenna.

The directional characteristics of a standard outdoor antenna that would be employed by a viewer for over-the-air reception at the fringe (or near fringe) of the respective digital service contours would attenuate the received signal in the opposite direction in which it is pointed. The notches in the

contour(s) represent a 15 dB reduction (attenuation) in signal strength, corresponding to the front-to-back ratio of the typical viewer receive antenna. The result is similar to a desired/undesired signal reception study - a rejection of the signal (undesired) in the opposite direction of the antenna main lobe (*i.e.*, toward the desired signal).

Antenna gain or down lead/coax loss, or other possible gains and losses are not considered, only the front to back ratio of 15 db of the antenna is considered. Other receiver system gains or losses remain fixed regardless of the orientation of the antenna.

The third map is a combination of the first and second maps. Its purpose is to show that simultaneous reception, by a consumer receiver, of an over-the-air PSIP channel 3.x data stream from both WFSB-DT and KVVN-DT is essentially impossible. That is due to the combined effects of the loss of WFSB-DT service attributable to co-channel interference from WCBS-TV and the directionality of the receive antenna that would be necessary to receive WFSB-DT over-the-air in the WCBS/WFSB overlap area.

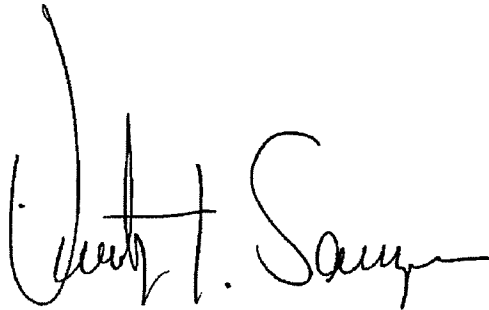
When the co-channel interference from WCBS-TV is considered, reception of the WFSB-DT signal within the common area between the two stations where interference is predicted to occur is in serious doubt without the assistance of an outdoor directional receive antenna. That antenna would have to be directed at WFSB-DT, in order to reject the WCBS-TV interfering signal. Since the KVVN-DT is located in the same geographic direction as WCBS-TV relative to the overlap area in question, orientation of the viewer's antenna to improve the reception of WFSB-DT would provide attenuation or rejection of the KVVN-DT signal.

As a final exhibit in this statement, we have provided a manufacturer's specification sheet for a typical consumer grade outdoor TV antenna, a Winegard HD-7082P VHF/UHF TV Antenna.

August 11, 2014

Timothy Z. Sawyer

Mullaney Engineering, Inc.
202-642-2130 Direct Line
301-921-0115 General Office
tzsawyer@mullengr.com

A handwritten signature in black ink, appearing to read "Timothy Z. Sawyer". The signature is written in a cursive style with a large initial "T" and "S".

TV Outgoing Interference Study

Signal Resolution: 1.0 km
 Consider NTSC Taboo: Yes
 KWX error points are considered to be interference free coverage.
 Default # of radials computed for contours: 360
 Contours calculated using 8 radial HAAT.
 LR Profile Spacing Increment: 1.0 km
 Masked interference points are being counted as interference.
 Pop Centroid DB: 2010 US Census (PL)

Study Date: 8/6/2014
 TV Database Date: 8/6/2014

RF CO-CHANNEL STUDY CHANNEL 33

OVER-THE-AIR INTERFERENCE TO WFSB-DT (HARTFORD) FROM CO-CHANNEL WCBS-TV (NEW YORK)

WFSB-DT (LIC)

BLCDT20041029AIL
 FCC Facility ID: 53115
 ERP: 1000.00 kW
 RF Channel: 33 Frequency: 587.0 MHz
 PSIP Channel: 3

DIGITAL SERVICE CONTOURS

FCC 41 DBU F(50,90)

WFSB-DT - FCC 41 dBu Protected Service Contour

Red areas are study cell locations predicted to receive interference from co-channel WCBS-TV (New York) - OET Bulletin 69 Method

WCBS-TV-DT (LIC)

BLCDT20090612AFN
 FCC Facility ID: 9610
 ERP: 284.00 kW
 RF Channel: 33 Frequency: 587.0 MHz
 PSIP Channel: 2

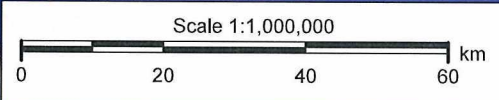
WFSB-DT RF Channel 33 Service to Fairfield CT (County) Only

	Population (2010)	Households	Population
WFSB-DT (Service)		247,954	640,015
WCBS-TV (Interference to WFSB)		(147,534)	(381,414)

SERVICE TO FAIRFIELD COUNTY
 WFSB-DT Interference Free Service: 100,420 258,601

This depicts the overlap area of co-channel WCBS-TV-DT and WFSB-DT. Red markings indicate interference to WFSB-DT's RF signal.

Because over-the-air reception of WFSB-DT throughout the overlap area is severely compromised as a result of that interference, over-the-air viewers there require an outdoor antenna oriented toward WFSB-DT in order to receive its signal.



PSIP CHANNEL 3

(Digital Service Area)

COMMON PSIP CHANNELS AND MUTUAL OVERLAP BETWEEN FACILITIES

PSIP CHANNEL 3-1

DIGITAL SERVICE CONTOURS WITH A TYPICAL CONSUMER DIRECTIONAL RX ANTENNA (WINEGARD HD-7082 OR SIMILAR)

FAIRFIELD COUNTY CT

WFSB-DT

BLCDT20041029AIL
RF Channel: 33
PSIP Channel 3-1

DIGITAL SERVICE CONTOURS

KVVV-DT (CP)

BPCDT20130528AJP
RF Channel: 3
PSIP Channel: 3-1

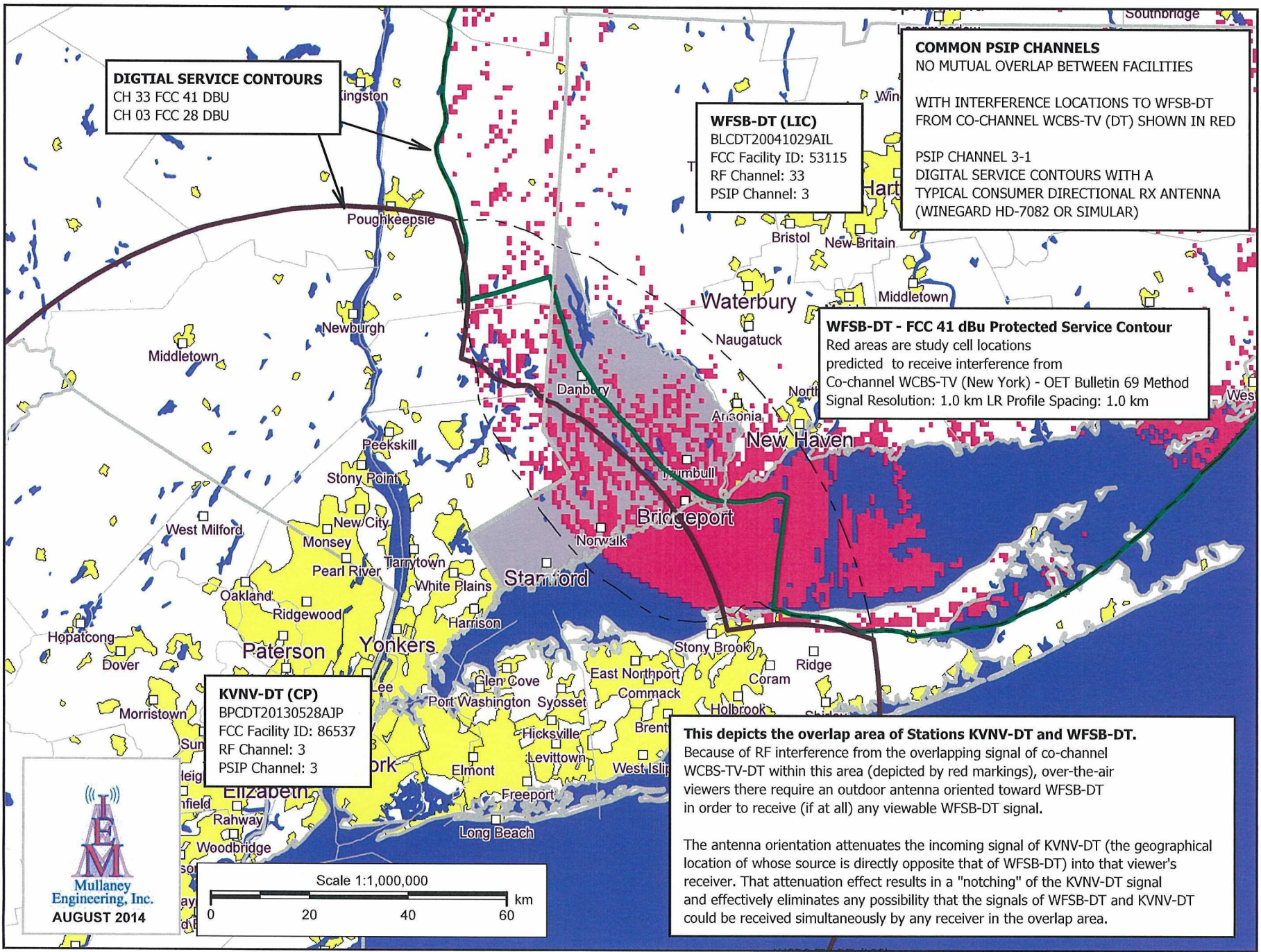
THERE IS NO OVERLAP OF PSIP SERVICE WHEN A CONSUMER GRADE OUTDOOR ANTENNA IS CONSIDERED
A CONSERVATIVE FRONT TO BACK RATIO OF 15 DB OF THE RX ANTENNA HAS BEEN APPLIED IN THIS EXHIBIT

THE EXHIBIT ASSUMES THE USE OF A WIDEBAND VHF/UHF CONSUMER GRADE DIRECTIONAL RX ANTENNA AND THAT IT IS ROTATED TO THE DESIRED STATION.

THE NOTCH (REDUCTION IN SIGNAL) IN THE SERVICE CONTOUR IS CREATED BY THE CONSUMER RX ANTENNA WHEN ROTATED TO THE DESIRED STATION.

Scale 1:2,000,000





DIGITAL SERVICE CONTOURS
 CH 33 FCC 41 DBU
 CH 03 FCC 28 DBU

WFSB-DT (LIC)
 BLCDT20041029AIL
 FCC Facility ID: 53115
 RF Channel: 33
 PSIP Channel: 3

COMMON PSIP CHANNELS
 NO MUTUAL OVERLAP BETWEEN FACILITIES

WITH INTERFERENCE LOCATIONS TO WFSB-DT FROM CO-CHANNEL WCBS-TV (DT) SHOWN IN RED

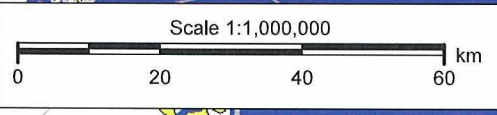
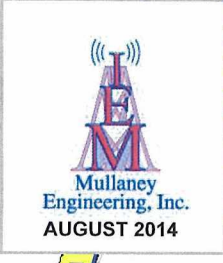
PSIP CHANNEL 3-1
 DIGITAL SERVICE CONTOURS WITH A TYPICAL CONSUMER DIRECTIONAL RX ANTENNA (WINEGARD HD-7082 OR SIMILAR)

WFSB-DT - FCC 41 dBu Protected Service Contour
 Red areas are study cell locations predicted to receive interference from Co-channel WCBS-TV (New York) - OET Bulletin 69 Method
 Signal Resolution: 1.0 km LR Profile Spacing: 1.0 km

KVVV-DT (CP)
 BPCDT20130528AJP
 FCC Facility ID: 86537
 RF Channel: 3
 PSIP Channel: 3

This depicts the overlap area of Stations KVVV-DT and WFSB-DT.
 Because of RF interference from the overlapping signal of co-channel WCBS-TV-DT within this area (depicted by red markings), over-the-air viewers there require an outdoor antenna oriented toward WFSB-DT in order to receive (if at all) any viewable WFSB-DT signal.

The antenna orientation attenuates the incoming signal of KVVV-DT (the geographical location of whose source is directly opposite that of WFSB-DT) into that viewer's receiver. That attenuation effect results in a "notching" of the KVVV-DT signal and effectively eliminates any possibility that the signals of WFSB-DT and KVVV-DT could be received simultaneously by any receiver in the overlap area.





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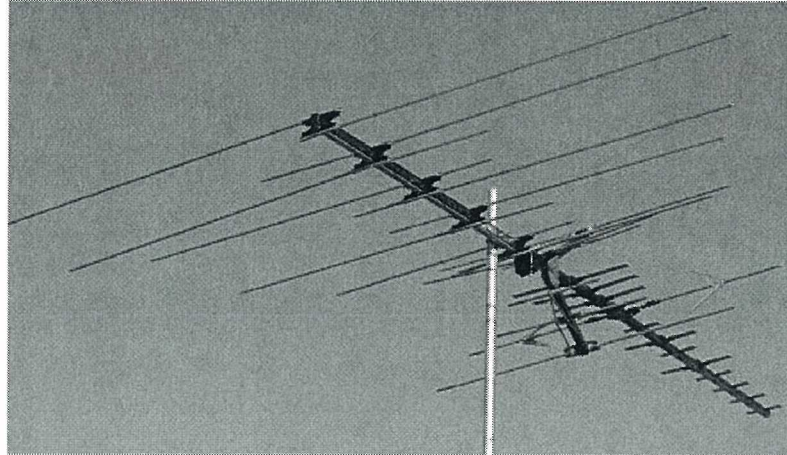
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WINEGARD® HD-7082P VHF/UHF TV Antenna

The Winegard HD-7082P is a great antenna for reception areas that are up to 25 miles away from the desired TV stations.



The Winegard High Definition-Platinum model HD-7082P VHF/UHF TV antenna is an excellent choice for metropolitan to suburban reception areas. The HD-7082P has red hot performance on all channels (2-69) and has 2-3dB more gain than even the best antennas that electronic and department stores sell. And unlike most other antennas, Winegard High Definition-Platinum Series TV antennas have a built-on weatherproof balun transformer cartridge for connection to a 75 ohm coax cable download. A separate matching transformer is not required.

Like all Winegard High Definition-Platinum Series TV antennas, the HD-7082P can survive even the harshest weather conditions. Typical low-end antennas simply fall apart over time due to high winds and even the lightest icing, but the HD-7082P has been engineered for extra strength with a 1" square boom and high impact ABS girder design element support insulators to help combat these harsh weather conditions. This is why Winegard High Definition-Platinum Series TV antennas can last more than 15 years, unlike other antennas that typically last half as long.

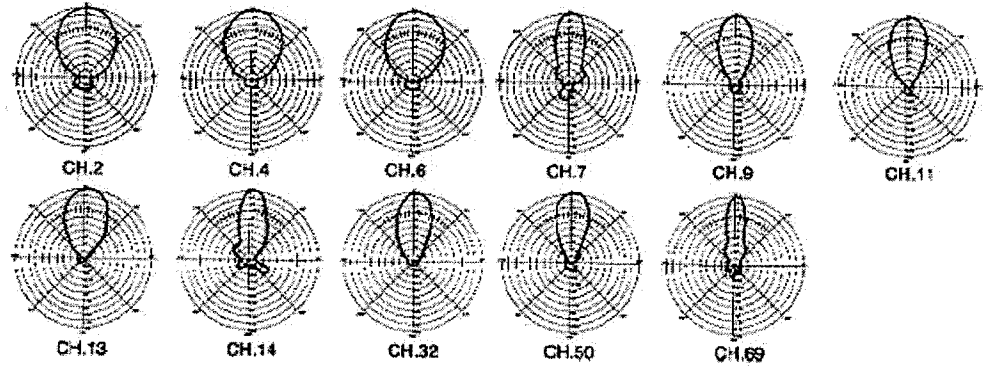
Mechanical Specifications:

- | | |
|-------------------------------|--|
| ■ Active Elements 50 | ■ Vertical Height 19.3" |
| ■ VHF Elements 18 | ■ Element Diameter 3/8" |
| ■ UHF Elements 32 | ■ Net Weight 7.8 lbs. |
| ■ Boom Length 110.5" | ■ Shipping Weight 10.8 lbs. |
| ■ Turning Radius 70.6" | ■ Carton Dimensions 98" x 7" x 7" |
| ■ Maximum Width 110" | |

Electrical Specifications:

TV CHANNEL	CH.2	CH.4	CH.6	CH.7	CH.9	CH.11	CH.13	CH.14	CH.32	CH.50	CH.69
dB Gain Over Reference Dipole	6.4	6.4	6.2	10.0	10.9	10.2	10.0	13.0	12.2	10.8	12.2
Beamwidth at Half Power Points	76°	71°	73°	35°	40°	44°	51°	31°	40°	39°	21°
Front-To-Back Ratio	15dB	20dB	19dB	13dB	20dB	20dB	20+dB	10.5dB	20+dB	20dB	16dB

Polar Patterns:



Model: HD-7082P
Price: \$87.75

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Certificate of Service

I, Michelle Brown Johnson, hereby certify that on this 13th day of August, 2014, I caused copies of the foregoing "Alternative PSIP Proposal" to be placed in the U.S. Postal Service, first class postage prepaid, or hand-delivered (as indicated below) addressed to the following persons:

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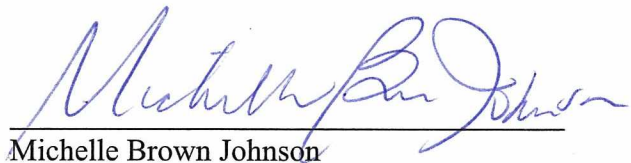
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