- Clarity's use of electrical and mechanical beam downtilt is effective in keeping RSLs low at high elevations.

The only thing left to do is to look at the data from Clarity's worst-case potential interference situation – i.e., the use of a 50 mW/channel ERP (5 mW TPO per channel) transmitting antenna that produces a -72 dBm/channel signal on the principal bearing at 300 meters – in conjunction with the D/U results on a digital ENG link and determine whether there is any potential for harmful interference to ENG links, stations, or equipment. By all rational measures, the answer is "NO."

The central, fixed ENG receive sites that are so critical to broadcast operations in the 2025-2110 MHz band are the easiest case. It will be effectively impossible for a Clarity transmission system ever to cause harmful interference to a central, fixed ENG receive site. With respect to mobile ENG receive units that may be put into use on or very close to a Flying J Travel Plaza equipped with a Clarity transmission system, there is a small, theoretical possibility that if a combination of factors that is highly unlikely ever to occur in the field were in fact to occur, harmful interference could result. Clarity can reliably report that the likelihood of the required conditions ever coalescing into an actual harmful interference scenario is so small as to be effectively zero. Not only is the theoretical possibility of the required conditions ever coalescing into an actual harmful interference scenario exceedingly small for a variety of reasons that will be explained in detail below, any potential cases of harmful interference by broadcast crews would be able readily to be rectified by the crew using link establishment techniques broadcast crews currently employ in the ordinary course of their work. It fact, it will even be possible for mobile ENG receivers to be used on a Flying J Travel Plaza property while the Clarity transmitter is operating.

B. Analysis

As noted above, the minimum D/U ratio for ENG links is 8 dB. Clarity understands that the minimum or threshold level is insufficient for broadcasters, as it affords no margin. Clarity's own tests showed that a 12 dB D/U ratio (with its 18% CSI level) would be appropriate. Where the Clarity signal level is no higher than -104 dBm/channel, the ENG D/U ratio will be at least 12 dB.[11]

Table 1 shows that there will be places outside the fence line of a Flying J Travel Plaza where the RSL from a Clarity transmitting antenna will be above -104 dBm/channel.[12] There is no way to generalize how many such points will exist in any given deployment, as the presence of terrain, foliage, and structural obstruction of Clarity's low-height signal have a substantial

[11] The starting point for the D/U analysis is, as explained in Section 3 above, the -92 dBm/channel minimum receiver threshold sensitivity level that the ENG equipment manufacturers have identified in their equipment specifications. See Section 3, supra, and Attachment 7.

[12] Clarity emphasizes that even these encouraging results are worst-case statistics. They are derived on the basis of flat-Earth prediction and do not take into account blockage from foliage or man-made objects.

downward impact on the probability that Clarity's signal can even be received beyond the fence line. The important thing to bear in mind is that just because there may be a possibility of having an RSL level from Clarity that is greater than -104 dBm/channel at a particular location, the probability that any Clarity transmitting antenna will cause harmful interference to an ENG receiver never rises above the level of miniscule – i.e., substantially lower than .01 ***percent*** or one in ten thousand. For an ENG receiver to experience harmful interference from a Clarity transmitting antenna, all of the following conditions have to occur:

- The ENG receiving antenna must be in an area where the RSL from the Clarity transmission system is higher than -104 dBm/channel. On most azimuths, the worst-case RSL from a Clarity transmitting antenna providing -72 dBm/channel on the principal bearing at 300 meters will be well below -104 dBm/channel within a few thousand meters of the transmitting antenna, which greatly restricts the geographic areas where harmful interference could be experienced.

- The ENG receiving antenna must be in direct, unobstructed line of sight with the Clarity transmitting antenna. Even in remote, relatively flat locations, obstructions and access limitations will reduce the number of potential interference locations by 40 percent or more.

- The ENG receiving antenna must be pointed directly at the Clarity transmitting antenna.[13]

- The ENG receiving antenna must be attempting to receive an ENG transmission that is made from a point between the Clarity transmitting antenna and the ENG receiver, and on the same bearing.

  The ENG and Clarity transmissions must be on the same polarization.

If any one of these five conditions does not exist, the ENG receiving antenna absolutely cannot experience harmful interference from a Clarity transmitting antenna.

1. There is Effectively No Chance That Clarity Can Cause Harmful Interference to Central, Fixed ENG Receivers:

The overwhelming majority of ENG receivers that broadcasters will operate in the 2.1 GHz band are the central, fixed ENG receivers that relay signals sent by ENG transmitting trucks operating across the broadcast licensee's service area back to the station's studio or newsroom. These are the critical facilities that broadcasters want to be assured are protected from harmful interference. The data Clarity generated during its operations under its Experimental License allow this assurance to be provided. The fact that a Clarity transmitter will be incapable of causing harmful interference (or a D/U ratio of less than 12 dB) to a co-frequency ENG link

[13] This assumes that there is a moderate level of antenna gain (15 dBi to 20 dBi) on the ENG directional receiving antenna.

beyond a few thousand meters in nearly all cases means that the prospect that a Clarity transmitter will cause harmful interference to a central ENG receive site is effectively zero.

Broadcasters tend to locate their central ENG sites in high places, in order to have clear lines of sight from as many locations for potential reception of transmissions from ENG transmitter trucks as possible. The situation in North Salt Lake – where central ENG receive sites were located at the top of a mountain and on the roof of one of the tallest buildings in downtown Salt Lake City – is typical of ENG receive-site siting strategies.

The same attributes that are highly desirable for broadcasters in the siting of central ENG receive sites are highly undesirable for highway travel plazas that serve long-haul truck drivers. The situation in Winslow – where there is no known fixed ENG receive site anywhere near the remotely-located Flying J Travel Plaza, and where the nearest local television station affiliate with a broadcast news operation is located 60 miles to the west in Flagstaff – is typical of travel-plaza siting strategies. In particular, Flying J Travel Plazas tend not to be located at high relative elevations because the fuel and engine strain on trucks of negotiating inclines and declines is high and the large spaces needed for parking and ancillary facilities are less likely to be available. Travel plazas also tend not to be located in or near urban cores (where there are tall buildings with rooftops desirable for fixed ENG receiver deployment) in order to minimize delays associated with traffic congestion. The typical travel plaza is instead located adjacent to a rural highway interchange with lots of open space (farmland or ranch land) in all directions.[14]

This is not just generalization and trend information. Clarity has researched the situation to the best of its ability given limited databases. Clarity is aware of only one case across the 250+ travel plaza Flying J system where a fixed ENG receive site is proximately located to a Flying J Travel Plaza.[15]

In short, and because of differences in mission and function alone, central, fixed ENG receivers will almost universally be far enough away from a Clarity transmitting antenna to be assured that the RSL from Clarity will be substantially below the -104 dBm/channel level that is associated with a 12 dB D/U ratio. This was the case for the specialized ENG-site testing at North Salt Lake, where at full power (50 mW/channel ERP) on the principal bearing, the RSL was below

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[14] To be sure, there are some unique situations where an urban area has crept out toward the Flying J Travel Plaza over time, or where the surrounding area is semi-industrial. Even in these cases (North Salt Lake is again an example), there is usually a large amount of relatively flat land between the travel plaza and a site that has the attributes broadcasters want for fixed ENG receive sites. As was seen in the North Salt Lake RSL measurements discussed in Section **3.B** above, the separation between the Flying J Travel Plaza and the ENG receive sites is sufficient to enable a 12 dB D N ratio to be maintained without regard to anything other than the RSL. At the Key Bank Tower site, the RSL from Clarity's operational North Salt Lake transmitter would be -125 dBm/channel, and at the specific mountaintop site that was inaccessible to Clarity, the RSL was predicted to be -122.5 dBm/channel These RSL levels are so low as to be no interference obstacle at all to an ENG site, and the actual potential for interference would be even lower if cross-polar isolation were to be considered.

[15] In that case, Waco, Texas, Clarity withdrew its application to install a transmission system. Clarity will not seek to install a system at that location unless it can make specific accommodations using antenna directionality and other factors to ensure it will meet its obligation not to cause harmful interference to the ENG link(s) in question.

-104 dBm/channel within 8000 meters, and was below -104 dBm on other bearings within as little as 1200 meters from the Clarity transmitting antenna.[16]

Clarity emphasizes that these extremely favorable results regarding the absence of even the potential for harmful interference to central, fixed ENG receive sites are still worst-case results. Given that vast coverage areas of television stations and news operations (some stations have coverage areas of 30,000 square kilometers or more), the likelihood of an ENG transmitting truck being (a) situated on the principal bearing of a Clarity transmitting antenna that is oriented directly toward the central ENG receiver to which the truck is transmitting; (b) situated between the Clarity transmitting antenna and the ENG receiver; (c) operating on the same polarization as the Clarity transmitting antenna are incalculably small; and (d) communicating with an ENG receiver that is located close enough to the Flying J Travel Plaza as to be in one of the limited areas where geographic separation alone does not assure that the RSL from Clarity will be at or below -104 dBm/channel so incalculably tiny as to be zero.[17] **A** Clarity transmitting antenna operating at full power (which most will not) absolutely cannot cause harmful interference to a central, fixed ENG receiver.

2. There is Effectively No Chance That Clarity Can Cause Harmful Interference to Any Mobile ENG Receivers That May Be Operated At Or Near A Flying J Travel Plaza:

On paper, the potential exists for a Clarity transmitting antenna to cause harmful interference to a mobile ENG receiver. Unlike central fixed ENG receivers, which are the primary area of concern identified by broadcasters, mobile ENG receivers could conceivably be operated at a Flying J Travel Plaza or within a few kilometers of a Clarity transmitting antenna from time to time. If that were to happen, there are some points where the operation of the Clarity transmitting antenna and the relative orientation and proximity of the ENG transmitter-to-mobile ENG receiver link could result in the D/U ratio of the ENG equipment dropping below the target 12 dB level.

Although such a scenario is theoretically possible, it is so exceedingly unlikely, and requires such a daisy chain of independently low-probability events, that the overall probability of harmful interference from a Clarity transmitting antenna to a mobile ENG receiver is very close to zero.

First, the mere statistical probability that a news gathering team will be within the area close to a Clarity transmitting antenna where an RSL of greater than -104 dBm/channel is even

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[16] At the nominal power levels and orientations that Clarity would use to cover its North Salt Lake truck parking area (see Figure 2), the RSL is below -104 dBm/channel at ENG sites that are less than 2 kilometers away from the transmitting antenna, and would be nearly -125 dBm/channel at the Key Bank Tower some 8.37 kilometers away from the transmitting antenna.

[17] Any ENG truck-to-receiver link that is on a different bearing than the Clarity transmitting antenna-to-ENG receiver link will get the benefit of up to 20 dB of margin from antenna pointing discrimination. Similarly, an ENG transmission that operates on the opposite polarization from Clarity's transmitting antenna will get an additional 20 dB of margin from cross-polar isolation. Additional margin could come from the relative location of the ENG receiver in reference to the Clarity antenna pattern and principal bearing – i.e., there is an additional 20 dB margin from the "front-to-back" ratio potentially available.

theoretically possible is very low. The area within which such an RSL is possible is small (on the order of 18 square kilometers for a maximum power Clarity transmitting antenna). This represents 0.05% of the coverage area of a broadcast station with a 31,000 square kilometer coverage area.[18] Even if it can be considered for illustration that a news team may need to be in the area around a Flying J Travel Plaza 1% of the time, the probability that a news team with an ENG receiver will be operating at any given time in the area where harmful interference is even theoretically possible is .0005%, or just over five in one hundred thousand. Those are very good percentages for the broadcast industry.

Second, as far as Clarity has been able to determine, the number of newsgathering vehicles that are equipped with mobile ENG receivers is very small and expected to stay that way. Most ENG receivers envisioned for the 2025-2109 MHz frequency band are of the fixed variety discussed above, and most newsgathering trucks are transmit-only in the band of concern. The newsgathering van or truck has an ENG transmit antenna that sends the signal to a distant central ENG receive site for relaying to the station or studio; cameras and microphones are typically hard-wired to the truck by "hose-reel" cables. Even as the conversion to digital transmission is occurring, the use of wireless camera transmitters in the often complex radiofrequency interference environment in which news crews operate is not gaining much traction.[19] If even five percent of ENG receivers are mobile receivers, the probability at any particular time that any given ENG receiver would be located in an area where harmful interference from a Clarity transmitting antenna drops even further – to the almost non-existent level of 0.0000025% (25 x 10^{-7}%).

As low as the probability for harmful interference from a Clarity transmitting antenna to a mobile ENG receiver already is based on the foregoing, the probability is overstated. Even if an ENG receiver is located in the area close to a Clarity transmitting antenna where an RSL above -104 dBm/channel is possible, a number of additional circumstances have to occur before harmful interference could result. Specifically, the mobile ENG receiver would have to be in one of the locations where the Clarity signal is not terrain obstructed, foliage obstructed, or otherwise blocked by structures or other man-made objects. Even in remote, flat locations, many points on the azimuths with the greatest interference potential are points where the Clarity signal is incapable of being received. This situation is likely to be more of a factor at nearly every Flying J Travel Plaza than it was at Winslow (where nearly 40% of the intended RSL measurement points were not accessible or had no line-of-sight link to the Clarity transmitting antenna).[20]

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[18] 31,000 km^2 is the mobile coverage area of a television broadcast station with a signal that extends 100 km from a licensed point.

[19] To the extent that wireless cameras are used for news gathering, some appear to transmit in the 2.4 GHz band, and not in the 2.1 GHz band that Clarity is seeking to use. A newsgathering truck or van that operates with these wireless cameras may have a 2.4 GHz receiver that is completely impervious to Clarity's 2.1 GHz band transmissions, and be transmit-only in the 2.1 GHz band.

[20] One of the surprising results of the June experimental operations was the extent to which even a wide-open, relatively flat site such as Winslow had extensive instances of terrain blockages and natural and man-made obstructions that would prevent the reception of energy from Clarity's transmitter. A high percentage of the intended RSL measurement sites at Winslow and at North Salt Lake were so obstructed or otherwise inaccessible. If a Clarity team could not gain access to a site without trespassing to take a simple RSL measurement, it is likely that a news crew and its ENG truck would also be unable to access the site.

If an ENG truck with a mobile receiver were unfortunate enough to be in a problematic alignment with the Clarity transmitter, the technician on board would be able to avoid interference during his or her ordinary link establishment routine. Technicians have multiple "tools" in their radiofrequency interference "toolbox." The technician would note during the signal check that there was interference in the vertical polarization, for example, and immediately switch to the horizontal polarization. This would happen in a matter of seconds and without any special technique or step being required. The 20 dB of margin that comes from switching to the opposite polarization from Clarity would, in nearly all cases, be sufficient by itself to restore the D/U ratio to a level of 12 dB or greater.[21] An additional 20 dB of margin that is available from antenna off-pointing (i.e., having the device with the wanted signal move a quarter turn or more from the alignment with Clarity's transmitter) would completely mitigate the potential interfering effects all the way to the Clarity fence line on all azimuths, and on many azimuths would allow the ENG link to be closed on the property of the Flying J Travel Plaza itself.[22]

Next, there may be situations where the ENG operator has at least a limited ability to increase the power of the ENG transmitter to compensate for or otherwise overcome Clarity interference. Many available wireless cameras have the ability to transmit at variable power levels up to 200 mW. Even a fraction of this level should be enough to overcome Clarity's tiny signal (especially at distance), and restore the D/U ratio to a level greater than 12 dB. Of course, as a secondary user, Clarity has no right to claim protection from any harmful interference that may result to its operations.

Finally, and either as a prophylactic measure or a reactive measure, the ENG crew that is close enough to receive harmful interference from Clarity's transmitter on a particular azimuth – however unlikely that may be – can use Clarity's unique and effective shut-down protocol at any time to effect an immediate and total shut-down of the Clarity transmitter involved for the duration of the news event.

In summary, for a broadcast news crew with a mobile ENG receiver that had the unlikely misfortune to be in azimuthal alignment with a Clarity transmitter from a location where the RSL from Clarity's transmitter would drop the ENG D/U ratio to a level below 12 dB, there are numerous factors and options that will prevent harmful interference. There may be no line of sight due to terrain or structure obstructions; there are simple and routine "tools" every ENG technician has in his or her spectrum "tool kit" that will enable the ENG link to be established with sufficient margin; and if the crew is close enough to a Flying J Travel Plaza to experience harmful interference, it will obviously know this and be able to invoke the shut-down protocol for the

[21] Table 1 confirms that with 20 dB of margin from cross-polar isolation, there are no azimuths (including the principal direction) at 1200 meters from a 50 mW ERP/channel Clarity transmitter where the D/U would be less than 12 dB (i.e., an RSL from Clarity of greater than -104 dBm/channel). Even at 600 meters, there are potential issues only within +/- 45° of the principal direction.

[22] In particular, if the wireless camera-to-ENG link is not co-directional with the Clarity transmitter, and both cross-polar and antenna pointing discrimination margins of 20 dB each were available, the ENG link should be able to be closed from any point on the Flying J property. This assumes a moderate antenna gain of 15 dBi to 20 dBi on the ENG truck's directional receiving antenna.

duration of the news event. These are not onerous or burdensome remedies – even without regard to the fact that there is almost zero chance that there will ever be a problem that requires remedying.

The bottom line from Clarity's tests: on the basis of RSL measurement results for the worst-case scenario of a Clarity transmitting antenna operating at 10 meters above ground with a 50 mW/channel ERP (i.e., 5 mW TPO/channel) and a -72 dBm/channel signal strength at 300 meters, there will be no harmful interference whatsoever to an ENG receiver that is anywhere outside the fence line of a Clarity-equipped Flying J Travel Plaza. None. Clarity's signal will not prevent any ENG link from operating.[23]

Clarity has developed a service that requires very little power and covers only a short distance. Because Clarity's target audience comes to its facility each and every day, there is no need for Clarity to maximize its signal to expand its reach. The steps Clarity has taken in designing its signal to cover only a truck parking area are now confirmed to minimize even the potential that that signal could cause harmful interference off of Clarity's property.

[23] Despite the impressive results and analysis regarding the infinitesimal likelihood that Clarity's travel-plaza based transmission system would ever cause harmful interference to ENG links, Clarity emphasizes that it is not retreating in any way from its pledge to establish a shut-down protocol that will enable any news crew that experiences or anticipates harmful interference from Clarity to effect the immediate shutdown of that site in question through an automated process that is run through the Flying J National Network Operations Center – one of the most highly sophisticated financial and communications facilities of its kind in the transportation industry. Moreover, Clarity remains prepared to shut a transmitter down whenever there are ENG operations on the property of a Flying J Travel Plaza where the Clarity system is being operated.

ATTACHMENT 1

INVITATION LETTER TO SBE FOR WINSLOW/NORTH SALT LAKE TESTS

On April 30, 2008, the attached letter was sent by overnight delivery to SBE.

On the same day, copies of the letter were also sent by overnight delivery to the following individuals representing parties who attended, at the invitation of the Media Bureau, a conference at the FCC on October 5, 2007, to discuss technical aspects of Clarity's proposal:

1. David Donovan, MSTV, 4100 Wisconsin Ave., NW, 1st Floor, Washington DC 20016.

2. Lawrence Walke, National Association of Broadcasters, 1771 N St., NW, Washington, DC 20036.

3. Tom Davidson, Akin Gump Strauss Hauer & Feld LLP, 1333 New Hampshire Ave, NW, Washington, D.C. 20036 (representing The Walt Disney Company)

4. Marnie Sarver, Wiley Rein LLP, 1776 K St., NW, Washington, DC 20006 (representing parties that had submitted technical statements regarding Clarity's proposal).

CLARITY MEDIA SYSTEMS LLC

A subsidiary of Flying J Inc.

BY FEDERAL EXPRESS:
John Poray
Executive Director
Society of Broadcast Engineers, Inc.
9247 North Meridian Street, Suite 305
Indianapolis, IN 46260

Re: Coordination of Experimental Operations of Clarity Media Systems LLC Pursuant To FCC Exnerimeatal Radio Station License WE2XNE.

Dear Mr. Poray:

On April 24,2008, the Federal Communications Commission ("FCC") granted to Clarity Media Systems LLC ("Clarity") an Experimental Radio License, Call Sign WE2XNE, authorizing Clarity to conduct supplemental experimental operations concerning Clarity's proposed ultra-low power, short-range multichannel television distribution system in the 2025-2109 MHz band. See File No. 0692-EX-PL-2007 (granted April 24,2008). The Experimental License authorizes Clarity to use and operate radio transmitting facilities at two locations, one in Winslow, Arizona, and the other in North Salt Lake, Utah, in accordance with the program of experimentation described by Clarity in its application for license. Each location is the truck parking area of a Flying J Travel Plaza (Flying J, Inc. is Clarity's parent corporation). Copies of the Experimental License and Clarity's application describing the program of experimentation are enclosed for your reference.

Special Condition (4) of the Experimental License provides that operation is subject to prior coordination with the Society of Broadcast Engineers, Inc. ("SBE"), to avoid interference with TV Auxiliary Broadcasting licensees. The purpose of this letter is to initiate such coordination.

Clarity intends to conduct the program of experimentation described in its application for experimental license between May 20 and June 4,2008. Clarity's plan is to conduct the experimental operations at the Flying J travel plaza in Winslow, Arizona, during May 20 to 22, 2008, and to conduct the experimental operations at the Flying J travel plaza in North Salt Lake, Utah, during June 3 to June 5,2008.

Clarity invites SBE to participate with Clarity in the experimental operations. From the inception of its proposal to the present, Clarity has believed that good faith cooperation between Clarity's engineering professionals and the engineering professionals of TV Auxiliary Broadcasting licensees could and would establish the public's ability to receive both full, unfettered ENG service and the desperately-needed service that Clarity proposes to provide to millions of professional long-haul truck drivers on a strictly non-harmful interference/unprotected basis with respect to the co-frequency ENG service. Clarity has

4185 *Harrison* Blvd., *Suite* **301** *Ogden, Utah* **84403**
Phone: 801.624.4507 *Fax:* **801.624.4530**

solicited such cooperation from SBE previously and, notwithstanding the parties' differences advocated to the FCC to date, Clarity continues to solicit such cooperation for the upcoming supplemental experimental operations.

Toward that end, 1 will call you in the next day or two to establish a dialogue and to address questions and suggestions you may have regarding the supplemental experimental test program. Clarity requests from SBE: (I) the names, affiliations, and contact information of the individuals who will represent SBE with respect to the experimental operations; (2) since the FCC has no data base identifying the locations of fixed ENG receive sites, identification by SBE of any ENG central receive sites that operate in the 2025-2109 MHz band in the vicinity of the Winslow, Arizona, or North Salt Lake, Utah, Clarity transmitting sites that SBE would like specifically to be assessed for the potential for harmful interference from co-frequency Clarity transmissions at operational levels; and (3) as the FCC's database is incomplete with respect to ENG central receive sites, identification of all fixed ENG receive sites in the Winslow and North Salt Lake areas that operate with digital facilities and are not included in the response to item (2). You can send the information to my office at 4185 Harrison Blvd., Suite 301, Ogden, Utah, 84403, or call or email me at 801-624-4507 or ian.willimns@,flvinni.com.

I also am sending a copy of this letter to the representatives of other TV Auxiliary Broadcasting Licensees who attended, at the invitation of the FCC's Media Bureau, a conference at the FCC on October 5,2007, to discuss technical aspects of Clarity's proposal and, by those copies, am inviting their clients to participate in the supplemental experimental operations also. Should those parties elect to participate, they may provide Clarity with the same information requested either in coordination with and through SBE's representatives or directly to me at my contact information above.

A schedule of events and activities during the experimental operations, along with directions to the sites and other logistical information, will be provided to all attendees in due course.

Clarity looks forward to coordinating this program with SBE and to obtaining additional information that will enable the FCC to best serve the public interest, convenience, and necessity.

Sincerely,

Ian Williams
VP Communications and GM

4185 Harrison Blvd., Suite 301 Ogden, Utah 84403
Phone: 801.624.4507 **Fax:** 801.624.4530

ATTACHMENT 2

TEMPLATE FOR LETTER TO LTTS LICENSEES

On May 20, 2008, the attached letter was sent by overnight delivery to the following LTTS licensees:

Mr. Michael Sandorse Remote Facilities Consulting Services 9 Foster Street, North Bay Place Wakefield, MA 01880	Mr. Robert H. Peacock Goodyear Tire & Rubber Company 841 Wingfoot Lake Rd. Mogadore, OH 44260	Randy Hermes Productions Inc. 712 S Main St. Burbank, CA 91506
Mr. Scott Fussell RF Technology, LLC 1395 South Marietta Parkway Marietta, GA 30067	Remote Facilities Consulting Services North Bay Place 9 Foster St. Wakefield, MA 01880	Booth Freret Imlay & Tepper Broadcast Sports Corp. 5101 Wisconsin Ave, NW, Ste. 307 Washington, DC 20016
Mr. Dan Wolfe Wolfe Air Aviation 39 East Walnut Street Pasadena, CA 91103	Randy Hermes Production d/b/a Aerial Video Systems 801 S Main St. Burbank, CA 91506	Mr. Leo Rosenberg Regulus Media Services, Inc. 3 Ross Avenue Chestnut Ridge, NY 10977
Mr. William Heiden P.O.V. Video 965 Anna St. San Mateo, CA 94401	Mr. John Casper 2646 Corydon Ave. Norco, CA 92860	Winged Vision Inc. 7609 G Airpark Rd. Gaithersburg, MD 20879
Mr. South Citywide News Network, Inc. 144-04 78th Avenue, Suite 3H Kew Gardens Hills, NY 11367	Ms. Ursula Meinhard Global Microwave Systems Inc. 1916 Palomar Oaks Way, Suite 100 Carlsbad, CA 92008-5523	Wexler Video Inc. 1111 S Victory Blvd. Burbank, CA 91502
Mr. Greg Johnson RF Film, Inc. 3379 Rowena Avenue, Suite # 1 Los Angeles, CA 90027	Mr. D. Michael Simpson MidCom, Inc. 1086 Holly Lane Lewisville, TX 75067	Mark Magin Onboard Images 6603-119th Place Largo, FL 33773
Mr. George Llamas Universal Satellite Communications Incorporated 1530 Nandina Ave. Perris, CA 92571	Mr. Tom R. Borgeson 859 Vale View Dr Vista, CA 92083	Mr. Carlos Hoyos Coptervision 7625 Hayvenhurst Ave. 36 Van Nuys, CA 91406
Mr. Peter Larsson Broadcast Sports Enterprises Inc. 1360 Blair Drive, Suite A Odenton, MD 21113	Ms. Elena Cohen 436 Beach 131 Street Rockaway Park, NY 11694	Mr. Jeff Winemiller RF Central, LLC 1531 Commerce Avenue Carlisle, PA 17013
DCI II Inc 2030 M Street NW Suite 206 Washington, DC 20036	Village Video Production Inc 107 Alder St. West Babylon, NY 11704	

Mr. Timothy Lynch or Mr. Christopher Gibbon Western Technical Services (A Division of Focus Communications, Inc.) 526 W. Blueridge Orange, CA 92865	News/Sports Microwave Rental, Inc. 14990 Via De La Valle Del Mar, CA 92014	
Fred Fellmeth, Esq. Total RF Marketing Inc 777 American Dr. Bensalem, PA 19020	Information Super Station LLC 1025 Connecticut Avenue, NW Suite 1201 Washington, DC 20036-5414	
Production & Satellite Services, Inc. 11860 Mississippi Ave. Los Angeles, CA 90025	Fishman Brothers Enterprises PO Box 90028 Indianapolis, IN 46290	

CLARITY MEDIA SYSTEMS LLC

A subsidiary of Flying J Inc.

May 20,2008

BY FEDERAL EXPRESS:
«Name1»
«Name2»
«Address1»
«Address2»

Re: Coordination of Experimental Operations of Clarity Media Systems LLC Pursuant To FCC Experimental Radio Station License WE2XNE.

Dear «Name1»:

On April 24, 2008, the Federal Communications Commission ("FCC") granted to Clarity Media Systems LLC ("Clarity") an Experimental Radio License, Call Sign WE2XNE, authorizing Clarity to conduct supplemental experimental operations concerning Clarity's proposed ultra-low power, short-range multichannel television distribution system in the 2025-2109 MHz band. ***See*** File No. 0692-EX-PL-2007 (granted April 24,2008). The Experimental License authorizes Clarity to use and operate radio transmitting facilities at two locations, one in Winslow, Arizona, and the other in North Salt Lake, Utah, in accordance with the program of experimentation described by Clarity in its application for license. Each location is the truck parking area of a Flying J Travel Plaza (Flying J, Inc. is Clarity's parent corporation). Copies of the Experimental License and Clarity's application describing the program of experimentation are enclosed for your reference.

Special Condition (3) of the Experimental License provides that operation is subject to prior coordination with affected existing and future Local Television Transmission Service (LTTS) licensees. The purpose of this letter is to initiate such coordination.

Clarity intends to conduct the program of experimentation described in its application for experimental license between June 3 and June 10,2008. Clarity's plan is to conduct the experimental operations at the Flying J travel plaza in Winslow, Arizona, (NL 35-00-55; WL 110-40-27) from June 3 to June 4,2008, and to conduct the experimental operations at the Flying J travel plaza in North Salt Lake, Utah, (NL 40-50-08; WL 111-56-02) from June 9 to June 10,2008. In each location, the experimental operations are expected to last no more than two days, and operation would not be continuous during those days.

4185 Harrison Blvd., Suite 301 Ogden, Utah 84403
Phone: 801.624.4507 Fax: 801.624.4530

If you would like to attend the experimental tests or if you plan on conducting LTTS operations in the vicinities of the experimental operations during June 3-4 and June 9-10, 2008 please contact my office so we can coordinate our operations. I can be reached at 4185 Harrison Blvd., Suite 301, Ogden, Utah, 84403, or call or email me at 801-624-4507 or ian.williams@flyingj.com.

A schedule of events and activities during the experimental operations, along with directions to the sites and other logistical information, will be provided to all attendees in due course.

Clarity looks forward to coordinating this program with LTTS licensees and to obtaining additional information that will enable the FCC to best serve the public interest, convenience, and necessity.

Sincerely,

Ian Williams
VP Communications and GM

ATTACHMENT 3

TRANSMITTER PROOF OF PERFORMANCE REPORT

LOMA SCIENTIFIC
I N T E R N A T I O N A L

To: Flying J Customer File
cc.: FCC File
From: Jeff Loughboro
Test Engineer
Date: 4-17-2008
Subject: Clarity Transmitter Proof of Performance: Power Measurement

The following tests were made today.

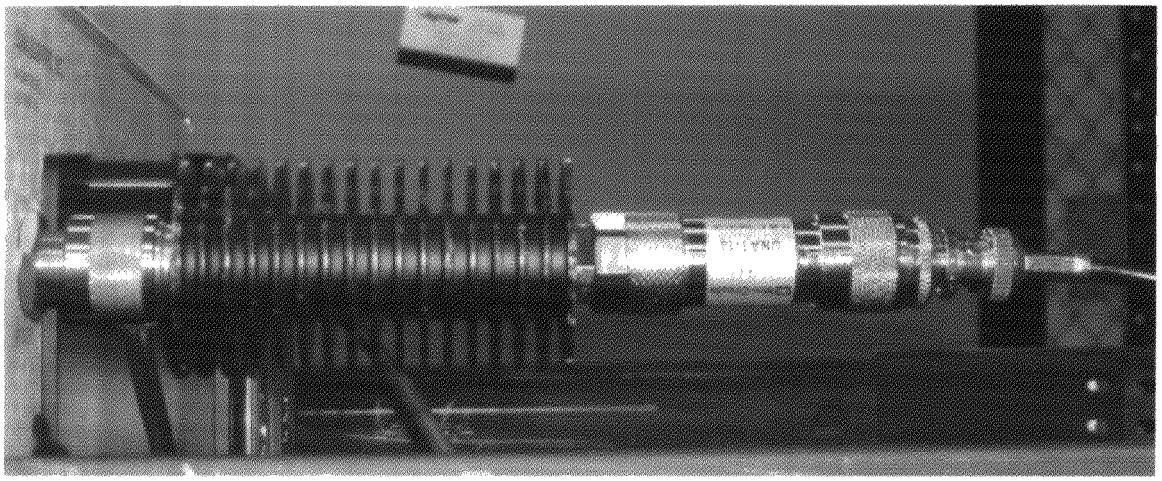
1. 50mW / Channel ERP out of 10dB Test Pad
2. 10mW / Channel ERP Transmitter Calibration with 10dB Test Pad

The following test equipment was used:

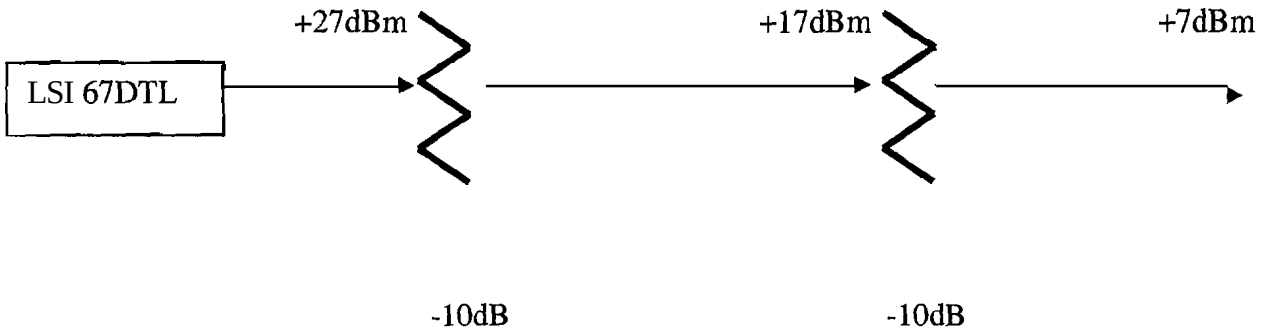
	Make	Model	Ser. No.
• Spectrum Analyzer	HP	8594E	3448U00951
• Power Meter	HP	435B	2342A07501
• Power Sensor	HP	8481A	US37292325
• 20dB Coupler	Narda	3003-20	21487
• 50 Ohm Termination	uW Associates	8122	-NSN-
• 10dB Pad	Weinschel Eng	24-10-43	AM2463
• Miscellaneous pads and cables	MCL	UNAT-10,6	-NSN-

Results

1. 50mW / Channel ERP out of 10dB Test Pad



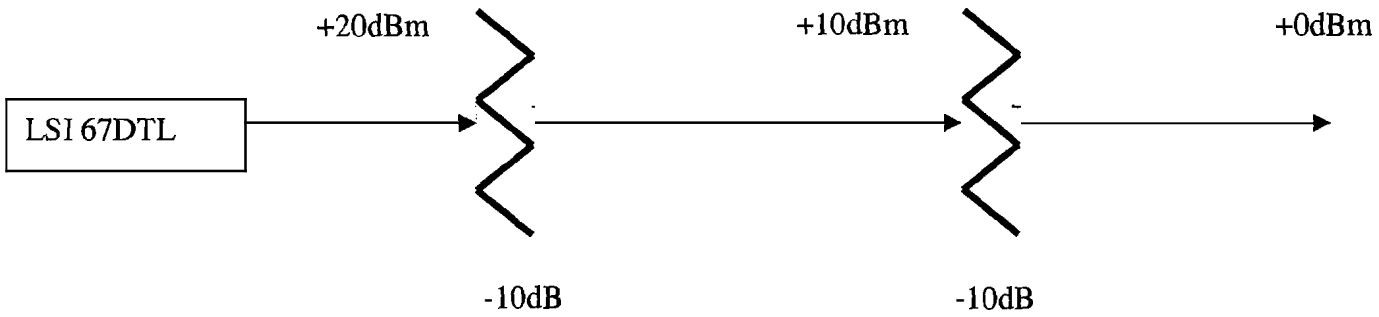
Note the large (50W power) attenuator pad and the smaller pad are both 10dB. The power pad will be used to conduct field tests with the smaller (power) pad removed. In block diagram form, the levels are:



Therefore the ERP output of the first attenuator at 100% transmitter power is 50mW per channel.

2. 10mW / Channel ERP Transmitter Calibration with 10dB Test Pad

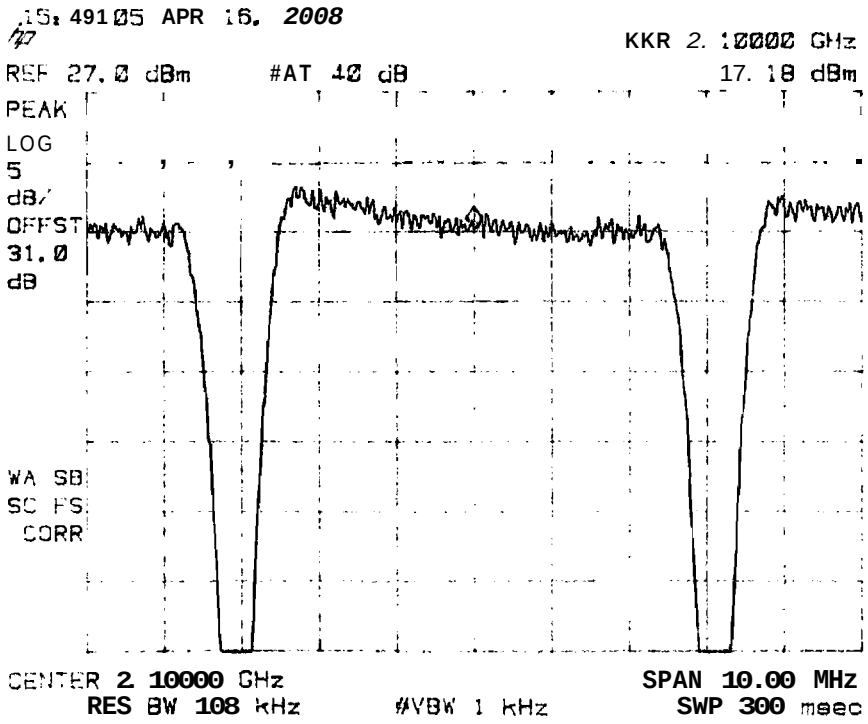
After reducing the transmitter output power by 7dB (20%), the following diagram applies:



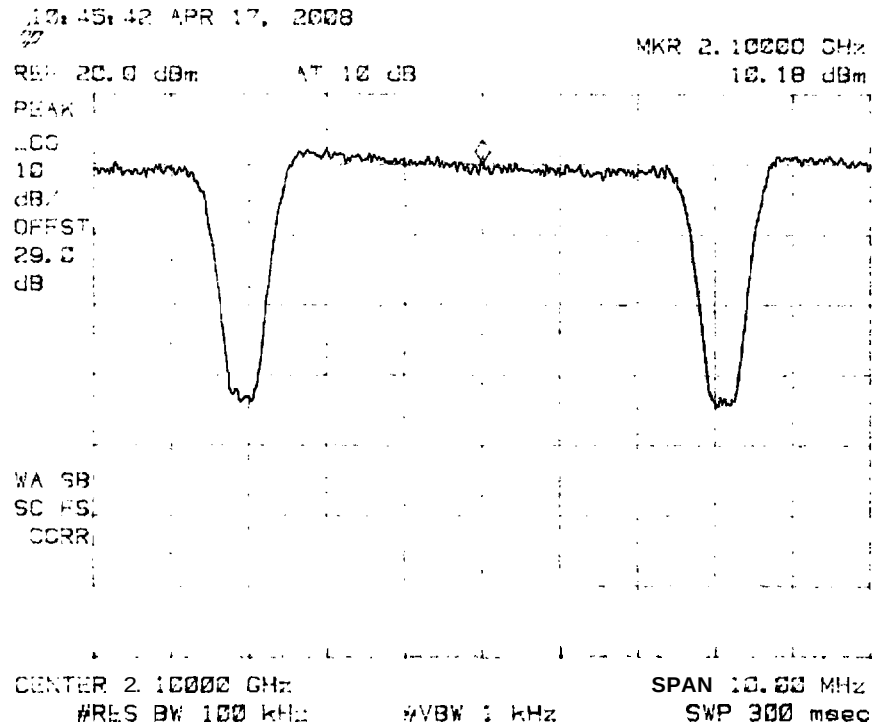
At this setting, the front panel meter of the LSI 67DTL reads 12% (*calibrated) and at this point the output of the first attenuator is at 10mW/channel ERP. This signal will be used to drive the transmission line and antenna in field trials. The following photographs show the total average composite power reading in both the above cases at the output of the second pad, respectively:

	Test #1	Test #2
	1st 10dB Pad @ 50mW / Ch	1st 10dB Pad @ 10mW / Ch
2nd Pad:	7dBm + 11.5 = 18.5dBm	2nd Pad: 0dBm + 11.5 = 11.5dBm
	(5mW x 14 = 70 mW)	(1mW x 14 = 14mW)
	* 67DTL meter reads 100%	* 67DTL meter reads 12%

The above measurements are confirmed on the following spectrum analyzer plots with reference level offset(s) added to indicate the power per channel at the output of the first 10dB (power.)pad:



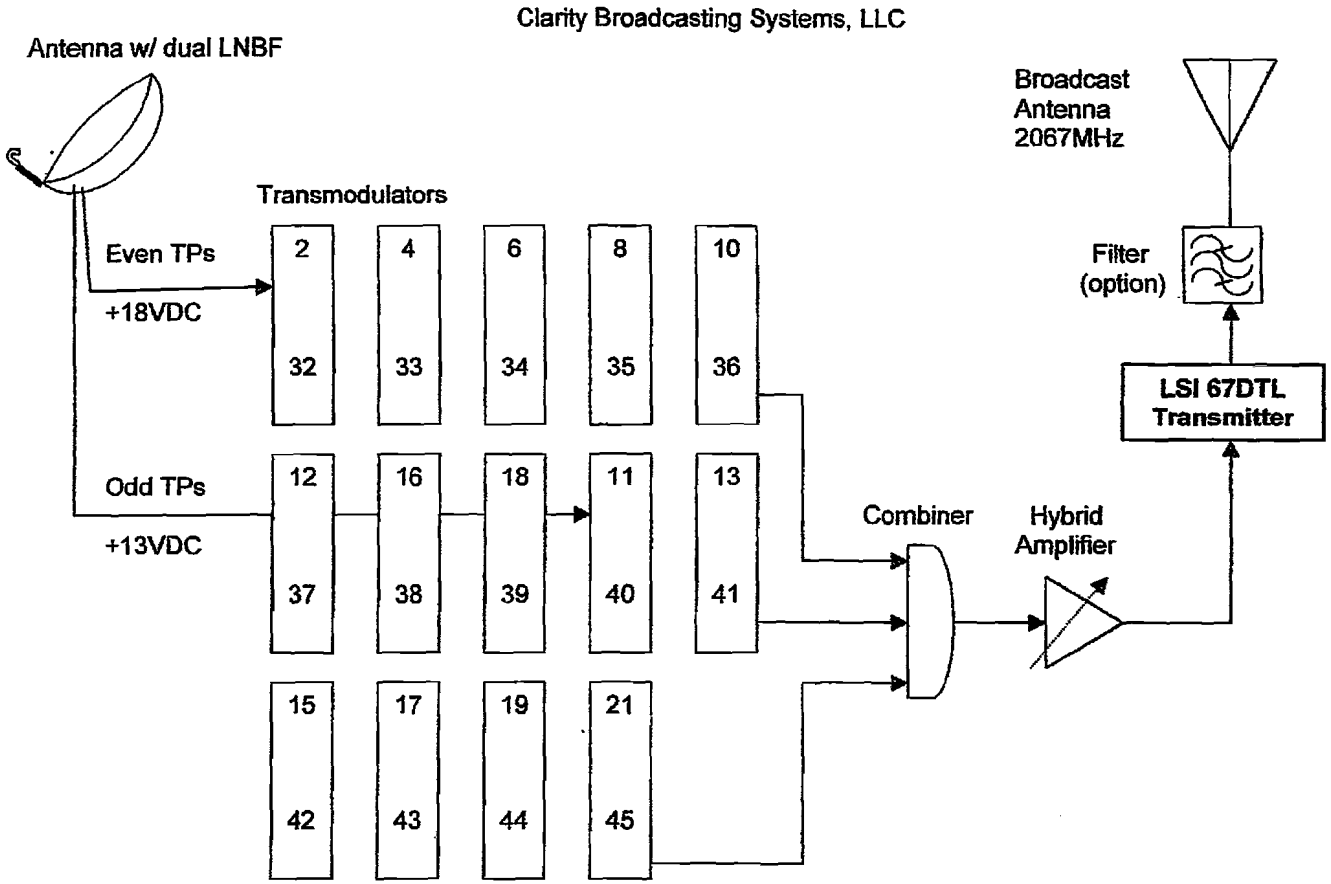
Test #1 --- 50mW available ERP per channel – after 10dB power pad (Tx meter reads 100%)



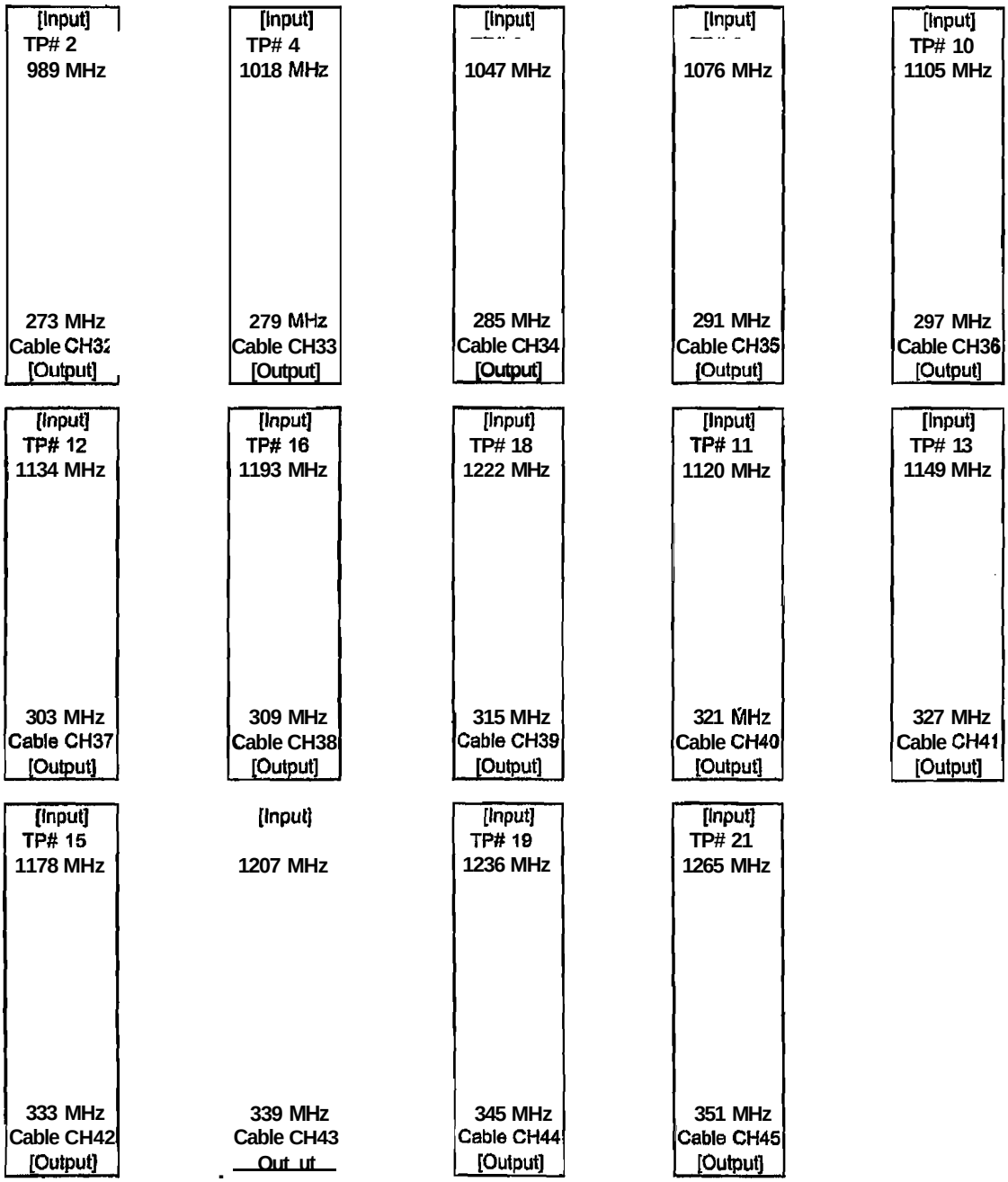
Test #2 --- 10mW available ERP per channel – after 10dB power pad (Tx meter reads 12%)

ATTACHMENT 4

TRANSMITTER BLOCK DIAGRAM AND TRANSMITTER PHOTOGRAPHS

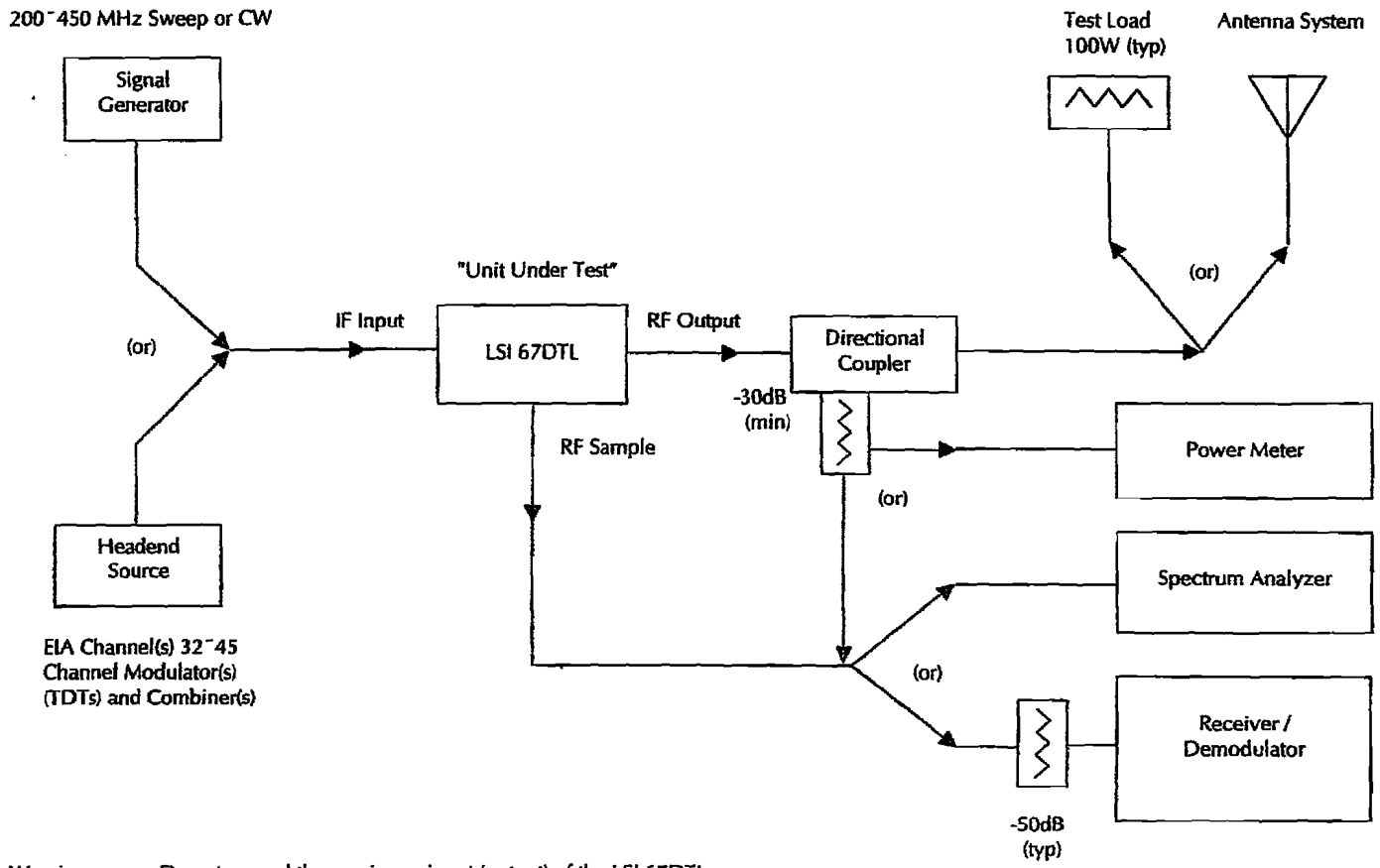

Clarity Broadcasting Systems, LLC
Antenna w/ dual LNBF
Broadcast
Antenna
2067MHz
Transmodulators
Even TPs
+18VDC
2
4
6
8
10
32
33
34
35
36
Filter
(option)
LSI 67DTL
Transmitter
Odd TPs
+13VDC
12
16
18
11
13
37
38
39
40
41
Combiner
Hybrid
Amplifier
15
17
19
21
42
43
44
45

Clarity Broadcasting Systems, LLC
Transmodulator Frequency Settings

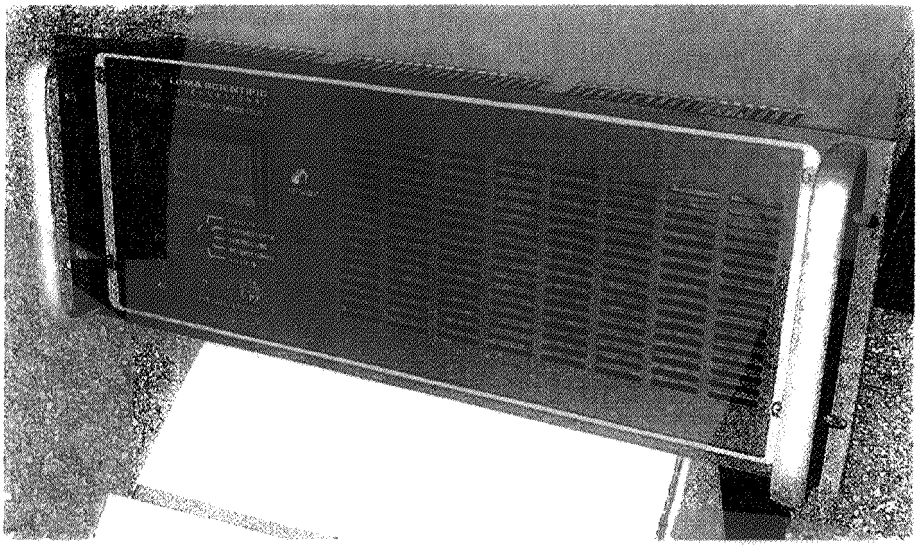


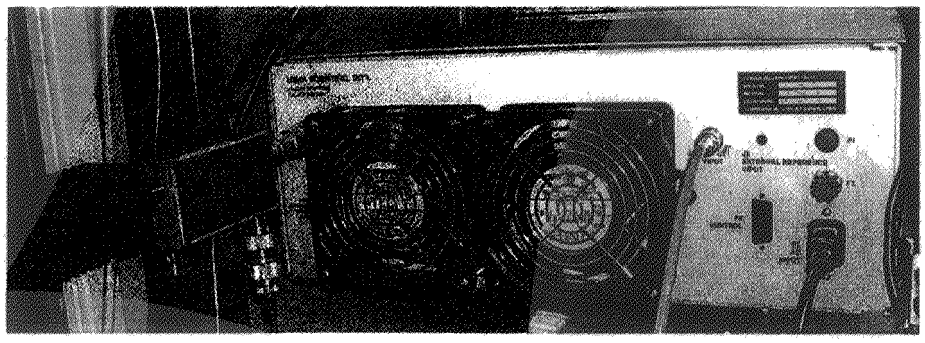
LOMA SCIENTIFIC
INTERNATIONAL

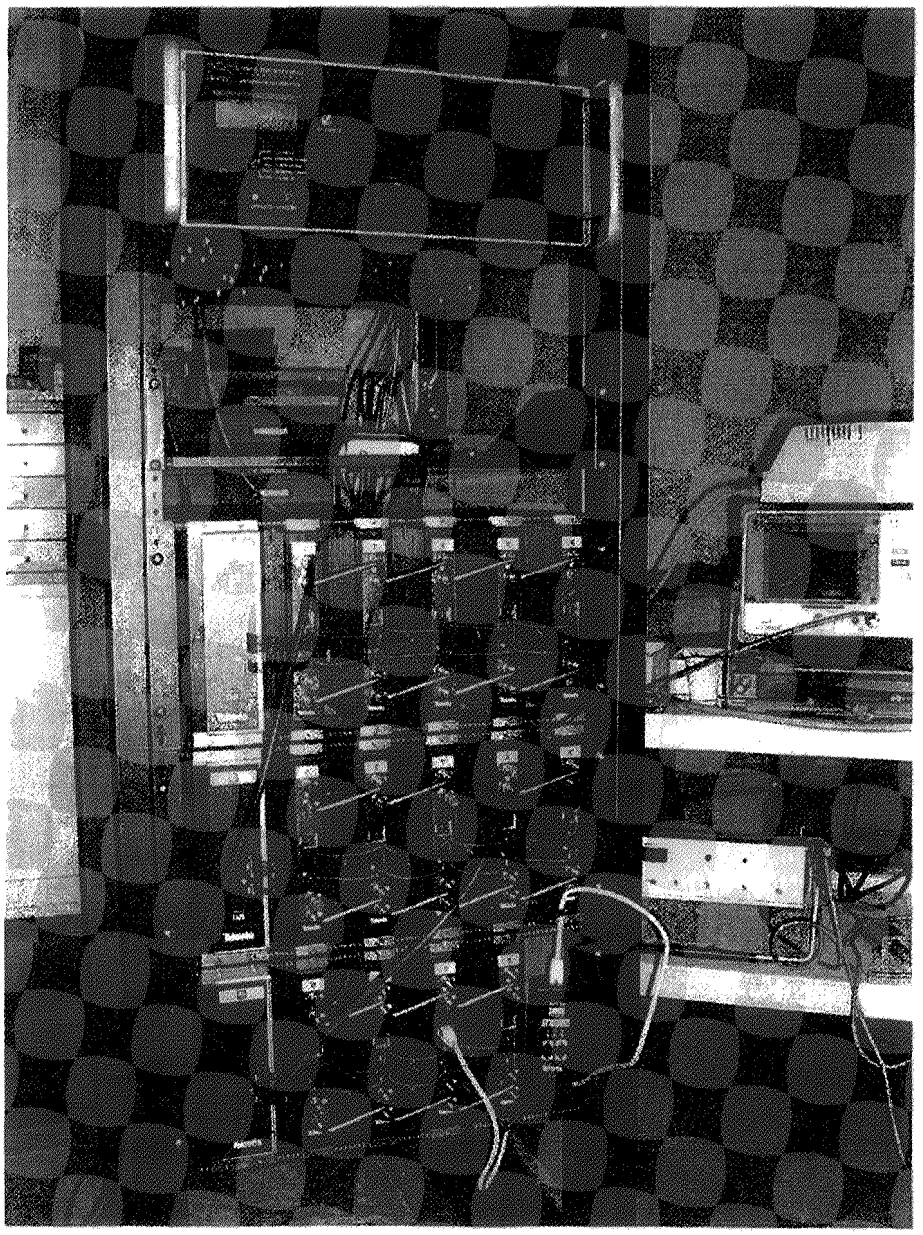
FT-2818-001
LSI 67DTL, Transmitter Final Test, Block Diagram

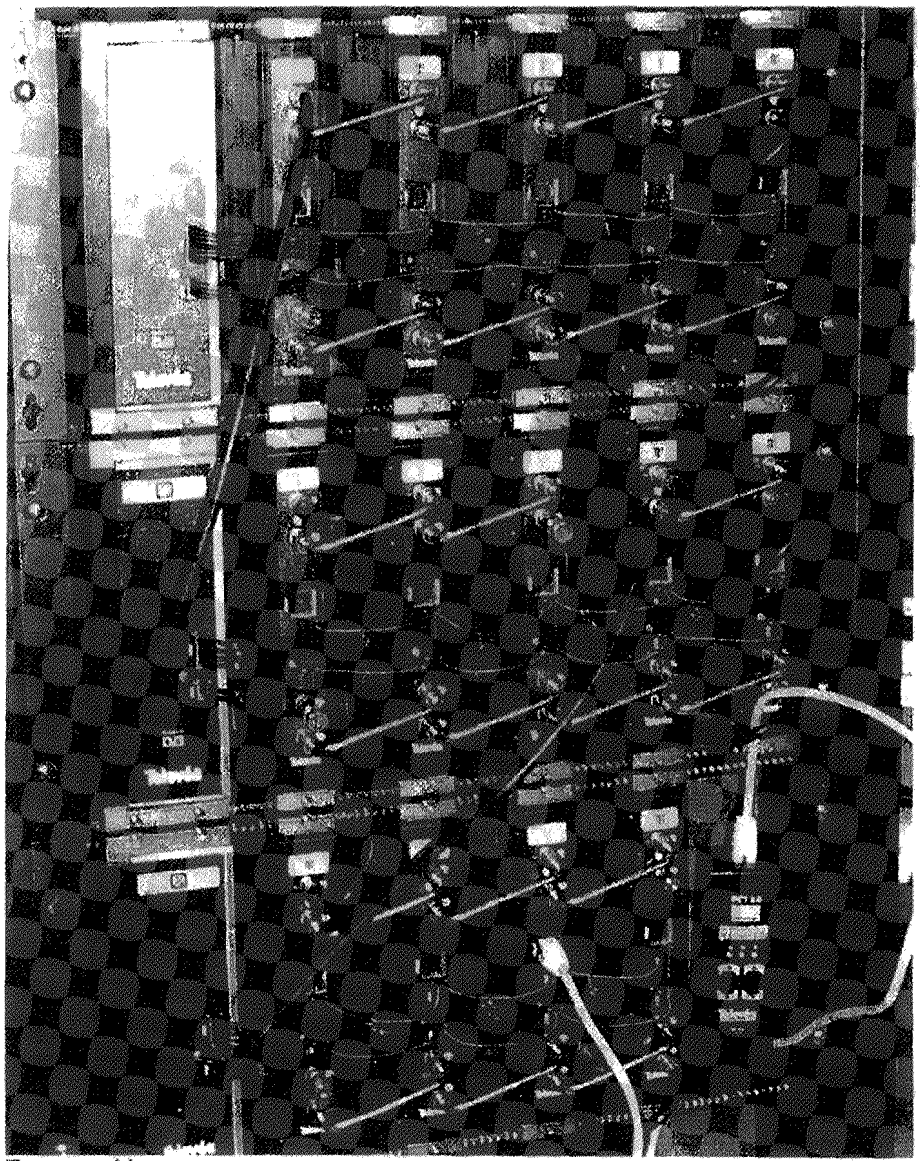


Warning: Do not exceed the maximum input (output) of the LSI 67DTL.
Do not exceed the maximum inputs of the RF test equipment.



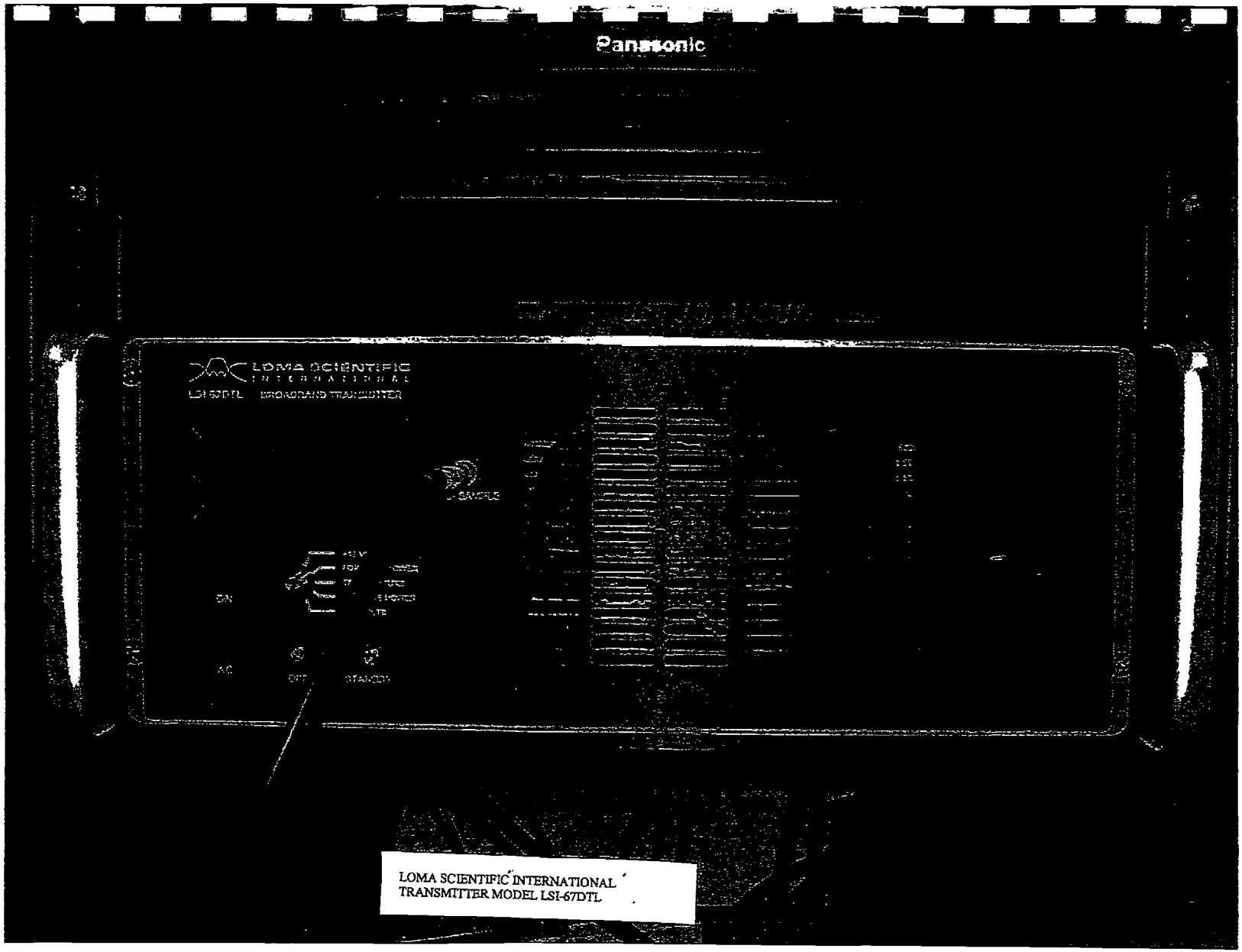






Transmod.jpg

HEADEND TRANSMITTERS WITH 14 TRANSMODULATORS. TEST EQUIPMENT AND LABORATORY ANTENNA MOUNTED ON NON-METALLIC TRIPOD



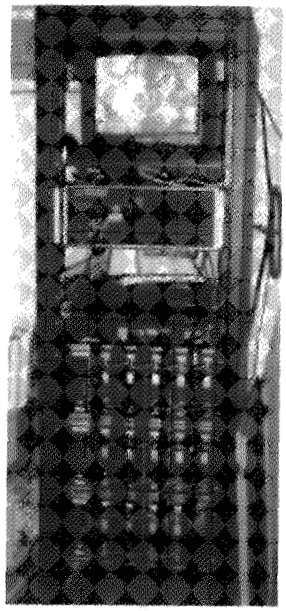
LOMA SCIENTIFIC INTERNATIONAL
TRANSMITTER MODEL LSI-67DTL

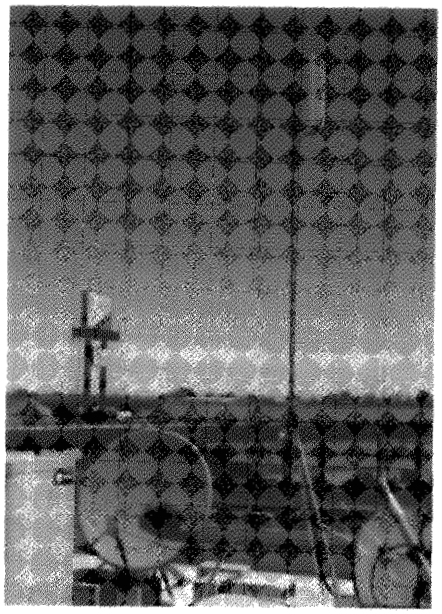
ATTACHMENT 5

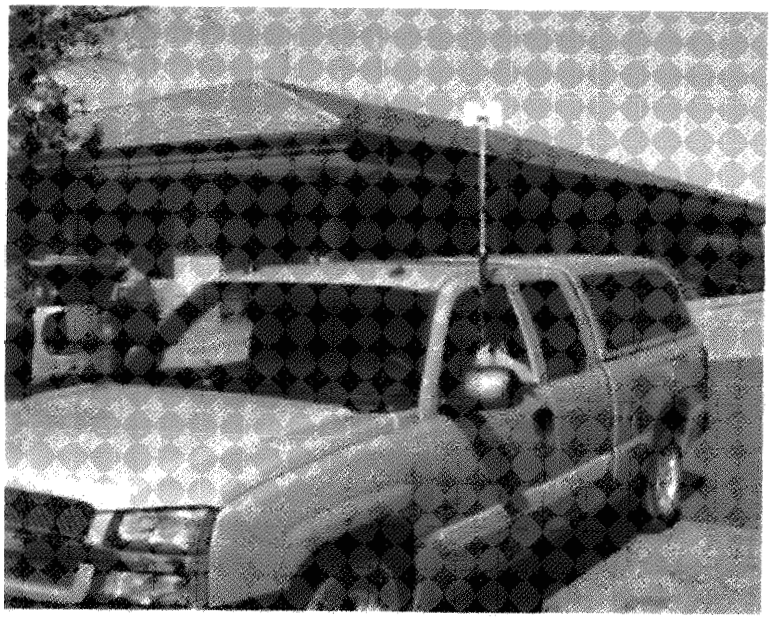
PHOTOGRAPHS FROM WINSLOW, AZ TESTS – JUNE 3-4, 2008

(1) "Winslow NAVAJO) AZ - NL 35-00-55; WL 110-40-27"

Here are pictures of the transmitter, transmit antenna and test receivers

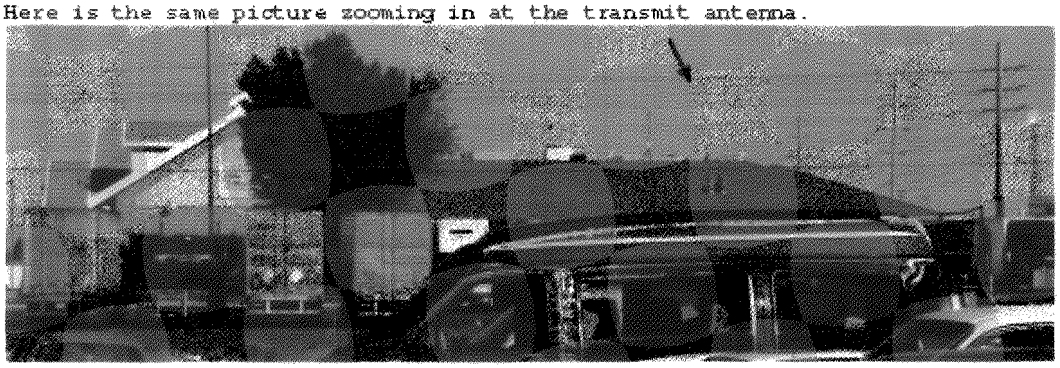






The following picture is looking back st the transmitter, 300m away at the peak of the antenma pattern.

Here is the same picture zooming in at the transmit antenma.

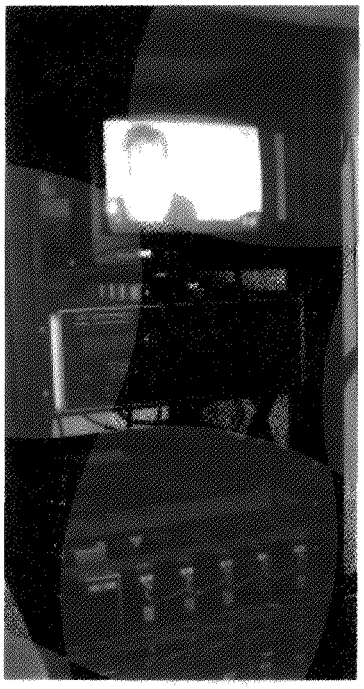


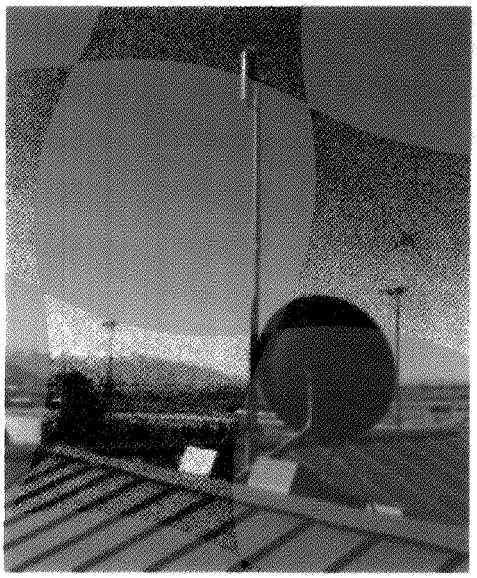
ATTACHMENT 6

PHOTOGRAPHS FROM NORTH SALT LAKE, UT TESTS – JUNE 9-10, 2008

(2) "North Salt Lake (DAVIS), UT - NL 40-50-08; WL 111-56-02"

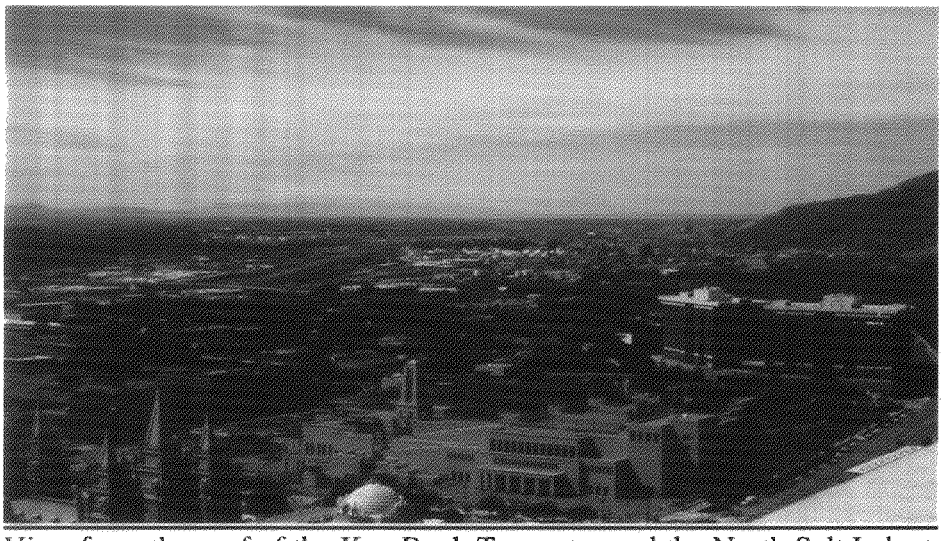
Here are pictures of the transmitter, transmit antenna and test receiver





Clarity North Salt Lake transmitting antenna installation

Truck Parking Area at Flying J – North Salt Lake



View from the roof of the Key Bank Tower toward the North Salt Lake transmitter site

ATTACHMENT 7

ENG EOUIPMENT MANUFACTURER'S SPECIFICATION SHEET SHOWING MINIMIMUM RECEIVE THRESHOLD SENSITIVITY AS -92 dBm/CHANNEL

PMR (Rx) SPECIFICATIONS

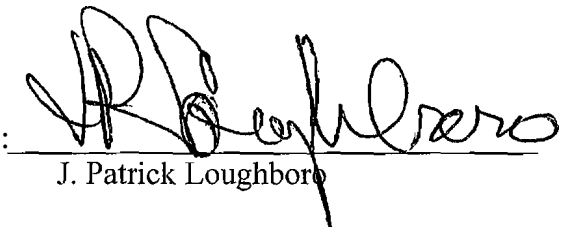
Frequency Band	1.990 – 2.500 GHz band
Tuning Range	As per US BAS allocation (current and future plans)
Receiver Noise Factor	4dB (nom.)
IF Frequencies	1st IF In the range 600-1500MHz (630 MHz Standard) 2nd IF 70MHz
	Digital Receiver Specifications
Receiver Threshold	-92dBm to BER 10^{-5} (nom., QPSK)
Receive Antenna	Compatible with all RF Central antennas
Demodulation	COFDM DVB-T 2k
Demodulation Modes	QPSK, 16QAM, 64QAM (Auto) FEC: $^1/_2$ $^2/_3$ $^3/_4$ $^5/_6$ $^7/_8$ (Auto) Guard interval: $^1/_{32}$ $^1/_{16}$ $^1/_8$ $^1/_4$ (Auto)
Data Rate	4.98 to 31.7 Mbit/s (automatic selection)
Bandwidth	8MHz (7 & 6MHz automatic selection)
Decoding Options	MPEG 2 4:2:0/4:2:2 high quality video (DVB standard)
Latency	Selectable to less than 2 frames minimum, Tx to Rx
Video Output	Digital: SDI 270Mbit/s Analog: Y/C component (qty 1) or composite (PAL/NTSC) (qty 2)
Genlock	Optional (PAL/NTSC)
ASI Output	ASI transport stream (selectable 188, 204, byte)
Audio Output	Digital: 2 x AES3 outputs Analog: 2 x stereo / 4 x mono outputs

DECLARATION OF J. PATRICK LOUGHBORO

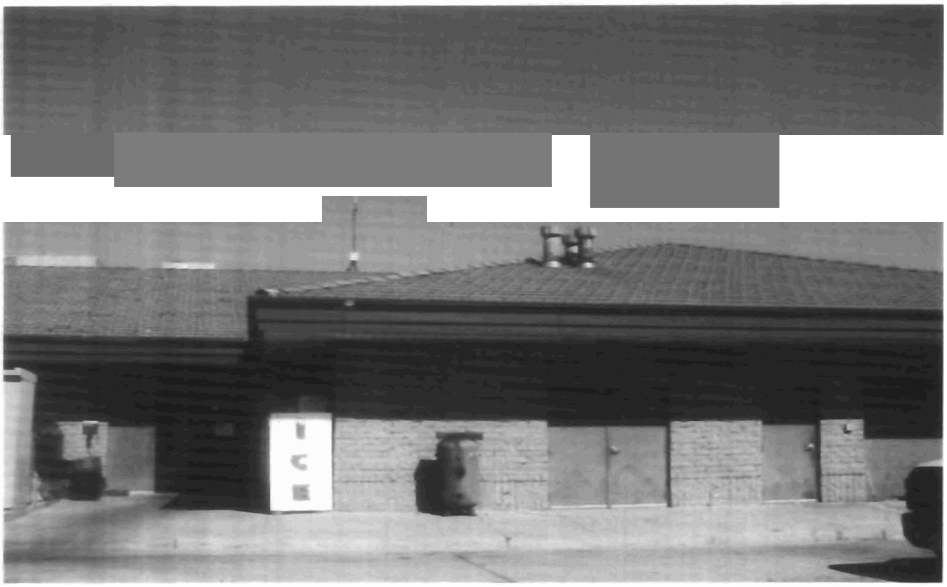
I, J. Patrick Loughboro, President of Loma Scientific International, hereby declare under penalty of perjury that:

1. I am responsible for the set-up and conduct of the tests described in the foregoing Progress Report to the Federal Communications Commission from Clarity Media Systems, LLC; and

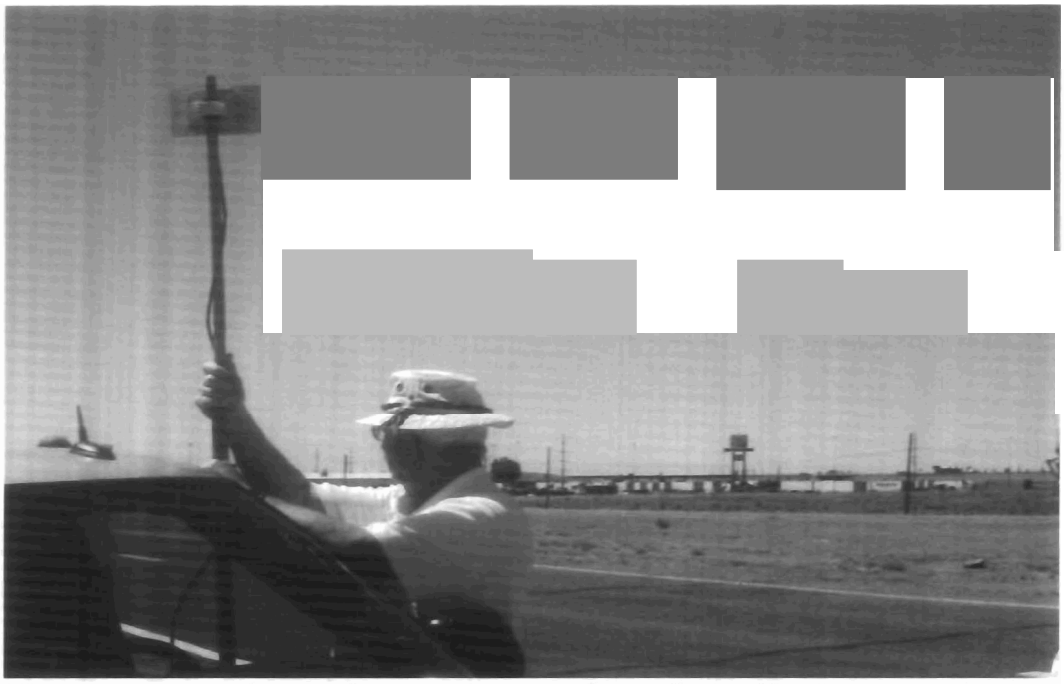
2. That the statements of facts and results set forth in the foregoing Report are true and correct to the best of my information and belief.

By: 
J. Patrick Loughboro

Dated: July 31,2008



Clarity Winslow **transmitting antenna installation**



RSL measurement being taken at 600 meters from Clarity Winslow transmitter

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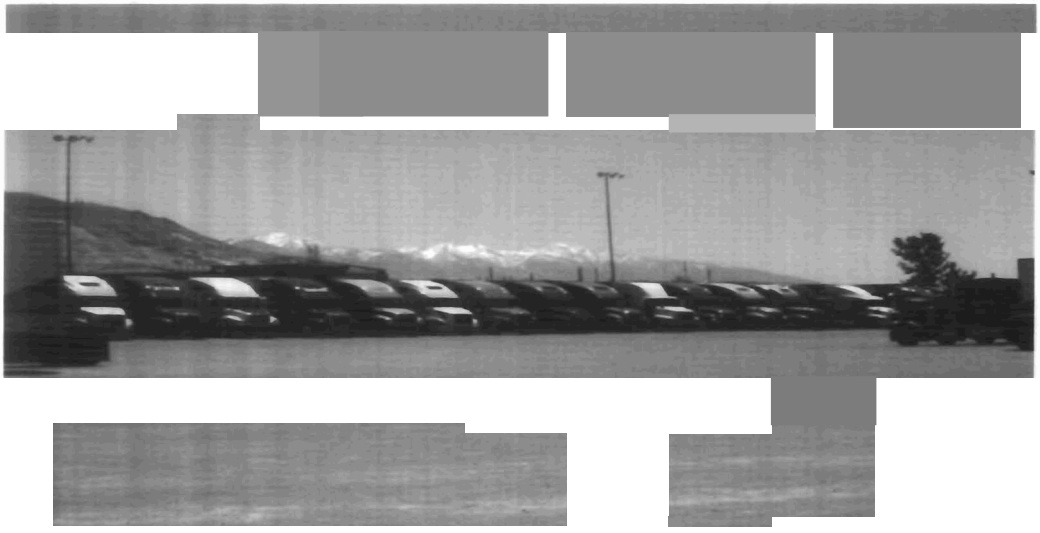
Clarity North Salt Lake transmitting antenna installation



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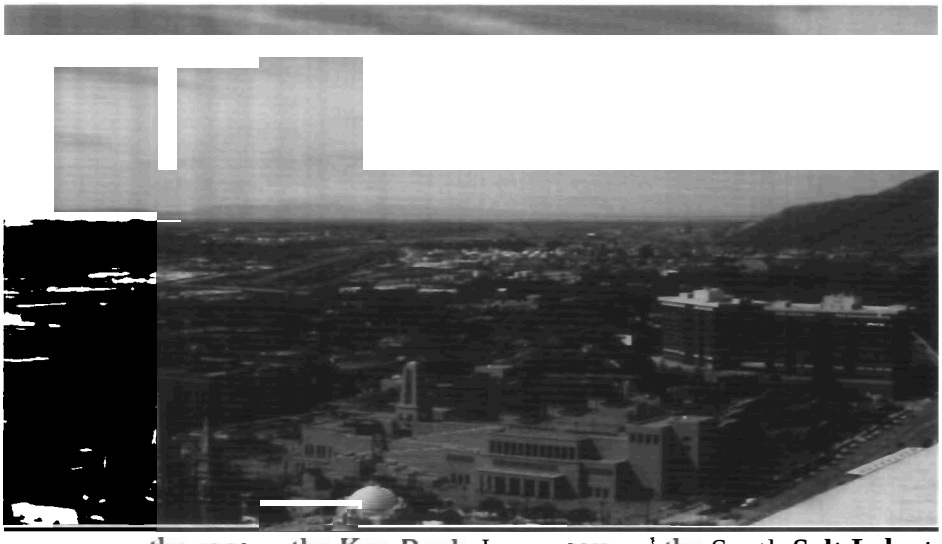

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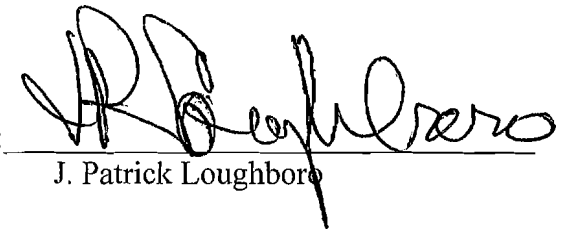
By: 
J. Patrick Loughboro

Dated: July 31,2008