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HOLOPHONE®

H3-D

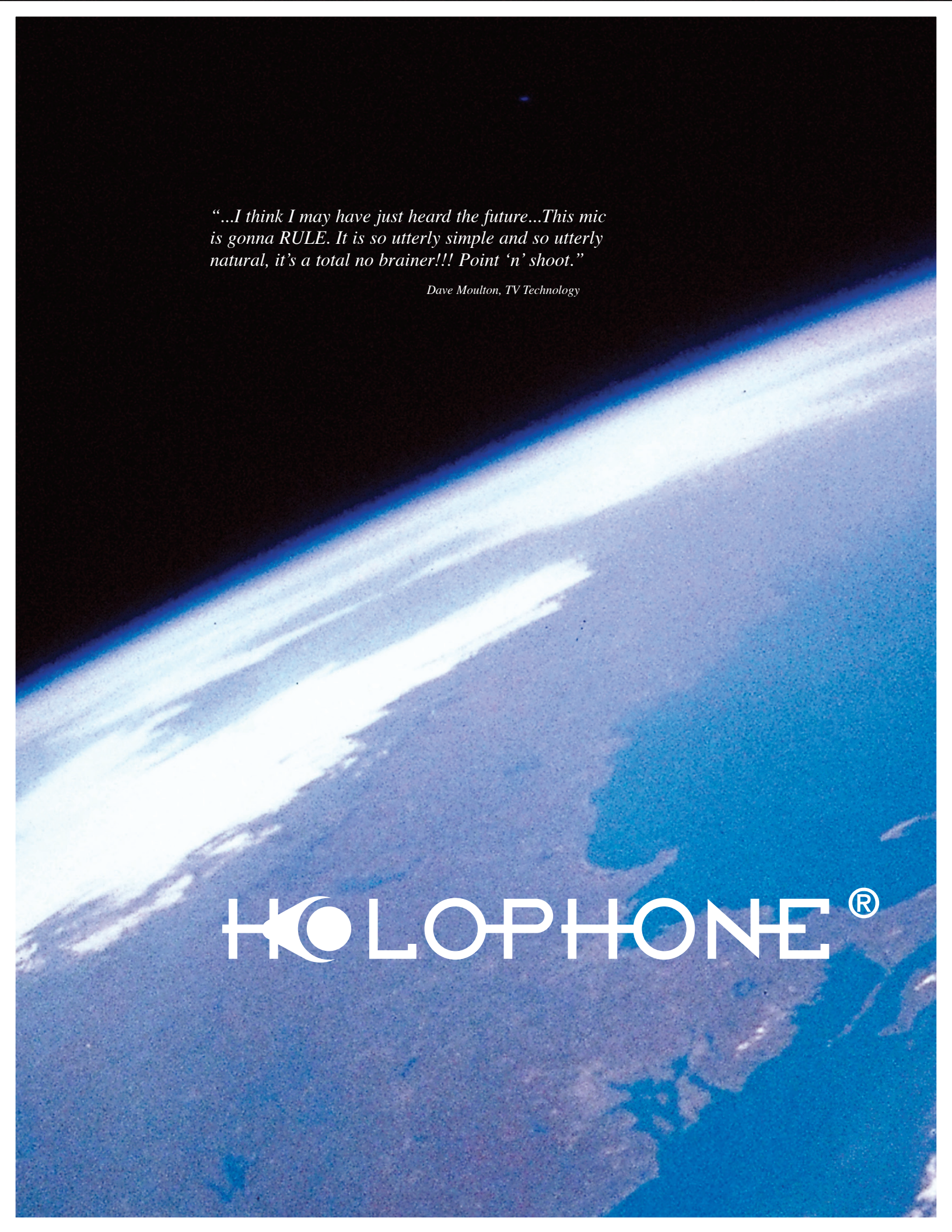


## H3-D Surround Sound Microphone User Guide

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NOW I'M LISTENING



*"...I think I may have just heard the future...This mic is gonna RULE. It is so utterly simple and so utterly natural, it's a total no brainer!!! Point 'n' shoot."*

*Dave Moulton, TV Technology*

**H<sub>OLOPHONE</sub>®**



## USER LIST

- ABC HDTV
  - Any Given Sunday (film)
  - Apple Inc
  - Asbury College, KY
  - ATK Audiotek
  - Bell Expressview-Canada
  - Bose Corporation
  - Branford Marsalis live in Amsterdam
  - BTV Beijing TV - China
  - Bonnaroo Festival
  - CBC HDTV
  - CBS HDTV
  - Celine Dion
  - Central Michigan University
  - City TV-Canada
  - Cowboy Junkies
  - Cristiano Pinheiro, Brazil
  - CTV, Canada
  - Dave Matthews Band
  - Dome Productions
  - Dolby Labs
  - Drew Carey Show
  - EA Sports
  - Eddie Mapp
  - Elton John
  - ESPN
  - Evanescence
  - Extreme Makeover, Home Edition TV
  - Fogo Labs
  - FOX HDTV
  - Frank Serafine
  - Genie Awards
  - George Johnsen - Mortal Kombat III,
  - London Philharmonic
  - Hank Neuberger - Third Wave Productions
  - Hiroshima TV - Japan
  - Hong Kong TV (ATV)
  - Iron Maiden
  - John Cale
  - Joss Stone
  - Kansai TV (Osaka, Japan)
  - Kanye West
  - King Bolden, film
  - Kitanihon TV - Japan
  - Klaus Landsberg
  - LDS Motion Picture Studio
  - Lionel Ritchie
  - Mammoth Sound and Vision
  - MBC TV - Korea
  - Mexico Soccer
  - Mormon Tabernacle Choir
  - Moscow International House of Music
  - MTV Canada
  - MuchMusic Video Awards
  - NBA Basketball
  - NBC HDTV
  - NFL Football
  - NHL Hockey
  - NHK Japan
  - North by NorthEast Music Festival
  - One Love - Bob Marley Tribute
  - Paul McCartney
  - PBS HDTV- USA
  - Pelissippi State University
  - RAI, Italy
  - Real Madrid (Soccer)
  - Resul Pookutty, India
  - Robert Margouleff
  - Sam Roberts
  - Sandia Labs
  - Sapporo (TV) - Japan
  - Shakira
  - Teatro Municipal do Rio de Janeiro
  - TELEVISIONE SVIZZERA DI LINGUA ITALIANA
  - The Kentucky Derby
  - The Church of Scientology
  - Three Superbowls
  - TNT HDTV
  - TSN HD
  - TV Asahi -Japan
  - TV Azteca (Mexico)
  - Universidad Francisco Marroquin
  - University of Central Florida
  - Van Morrison, Grand Ol' Opry
  - Warner Music Group, Flaming Lips
  - Waterman, Andrew
  - Whitesnake
  - 47th and 48th Grammy Awards
- And the list goes on...

## Terms and Conditions

1. Rising Sun Productions Limited “Rising Sun” warrants its products to be free of defects in material and workmanship for a period of one (1) year from the original date of receipt or retail purchase.
2. During the warranty period, Rising Sun shall, at its sole discretion, either repair or replace free of charge any product that proves to be defective.
3. This warranty does not cover claims for damage arising out of abuse, neglect, alteration or attempted repair by any unauthorized personnel, and is limited to failures arising during the course of normal use for the product.
4. Rising Sun does not authorize any person to create for it any other condition or liability in connection with this product. Any implied warranty or condition (including any implied warranty of merchantability or fitness for a particular purpose) is limited to the duration of this warranty. The performance of repairs and needed adjustments is the exclusive remedy under this written warranty or any implied warranty.
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6. **Rising Sun shall in no event be liable for incidentals, economic, consequential or other losses or damages resulting from the breach of any express or implied warranty, law or statute, including, but not limited to, damage to property, damage based on inconvenience or on the loss of use of the product, and to the extent permitted by law, damages arising out of personal injury or death. In no event shall Rising Sun be held responsible for an amount exceeding the dollar value of the product(s) purchased.**
7. Some jurisdictions do not allow for the exclusions or limitation of some or all damages, so the above limitation or exclusion may not apply to you.
8. It is agreed that any dispute or claim arising out of the purchase, sale or use of the product(s) is to be decided within the exclusive jurisdiction of the courts of the Province of Ontario, Canada.

## Warnings

**Failure to heed these warnings could result in an electrical shock hazard, reduced service life or damage to your equipment.**

- The Holophone H3-D is intended for professional use only.
- All safety and operating instructions should be read before the unit is operated and retained for future reference.
- Refer internal servicing to qualified personnel.

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## Introducing the Holophone H3-D



Congratulations. You have just acquired a remarkable product, uniting simplicity and sophistication in an unmatched combination.

The Holophone H3-D Surround Sound microphone has been designed from the ground up to deliver crystal clear 5.1 surround sound capture in an easy-to-use package at a reasonable cost. It is the ideal choice for a wide variety of on-site recording situations, including pro audio, project studios, live music production, educational applications and faith-based facilities, as well as for professional broadcast and recording studios.

Based on industry standard, patented Holophone Surround technology, the H3-D is the ideal choice for situations that have budget, engineering or space restrictions. The H3-D shatters the price-to-performance barrier, making it possible for professional grade surround sound to enter the production stream on all levels, enhancing the listening experience for end users everywhere.

The H3-D features five multi-directional, full bandwidth microphone elements and a discrete LFE microphone in one integrated capsule. It is compatible with all standard XLR mic inputs on recording consoles, external pre-amplifiers and location recorders that provide phantom power. A phantom power LED indicator on the top of the H3-D simplifies remote set-up.

The H3-D is a powerful tool for engineers, content producers and artists at all levels to craft realistic and exciting surround sound tracks.

- Lightweight and inexpensive solution to instantly capture live surround sound for professional recording or broadcast.
- Direct and discrete signal path from the mic to the monitor, with no mixing, signal manipulation or processing required.
- Easy set-up, point and shoot operation with plug and play capability.
- Compatible with all mic preamps, location recorders and recording consoles providing phantom power.

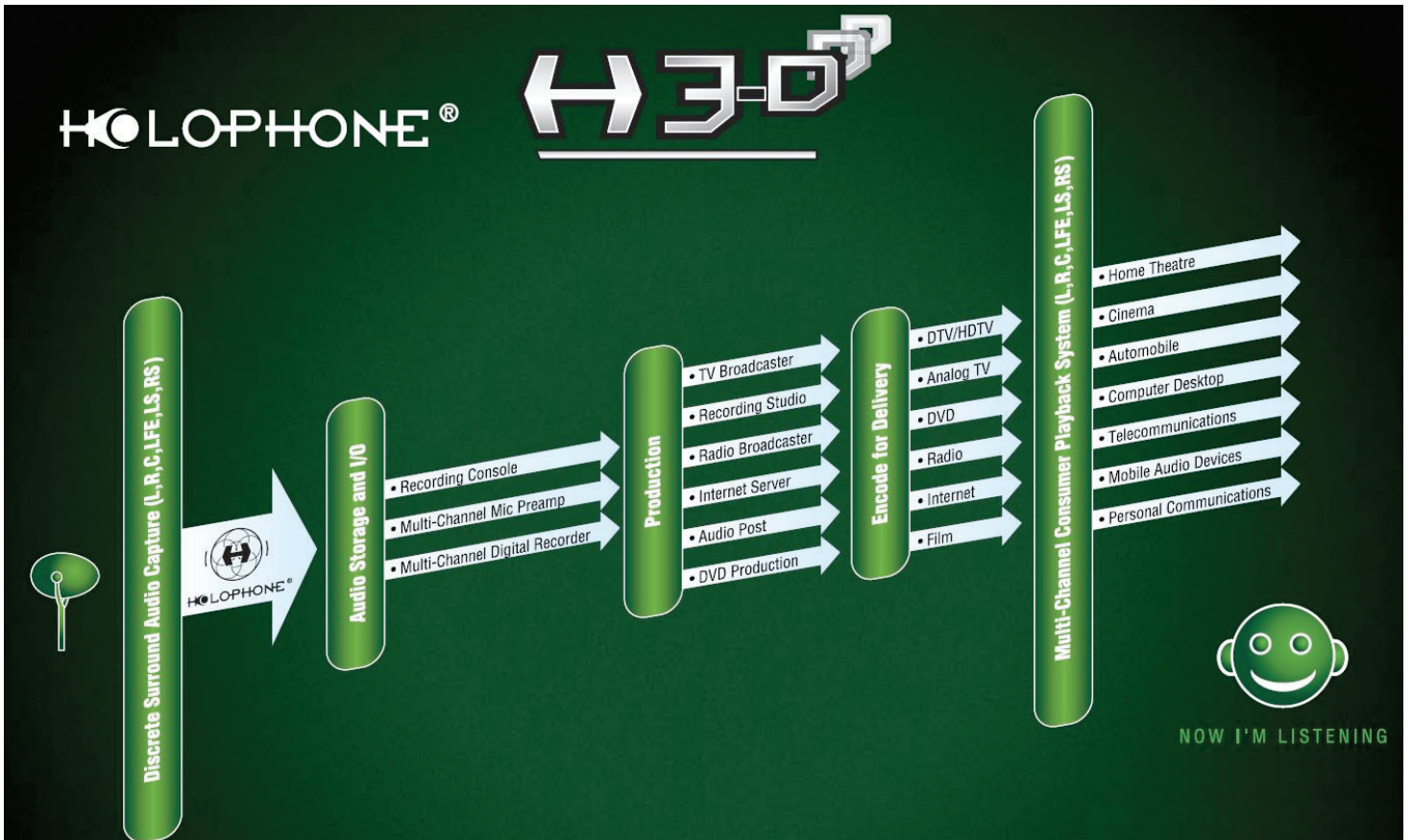
### *Features:*

- Six (5.1) channel (L, R, C, LFE, LS, RS) discrete microphone designed to automatically deliver 5.1 channels with no external mixing or signal manipulation needed.
- 20Hz-20kHz frequency response on five channels. (L, R, C, LS, RS).
- Discrete LFE microphone: 20Hz -100Hz for unprecedented low frequency response.
- Multi-directional pickup pattern.

- Can be mounted on any microphone stand or flipped over to be suspended from ceiling, truss, microphone stand, etc.
- Attached 15ft (5m) Monster® cable terminates in 6 Neutrik® XLR connector (L, R, C, LFE, LS, RS).
- Hand-grip and windscreen are available as options.
- Phantom power LED indicator for easy remote set-up.



Left: LEDs indicate all microphones on  
Right: LEDs indicate 2 microphones off



## What is the Holophone?

The Holophone is a specially designed microphone system for capturing sound in three dimensions, while keeping signals discrete for surround sound playback.

Designed specifically to create sound tracks for surround sound playback systems, the Holophone's superb realism and ease of use make it the preferred choice for a wide range of other applications.

The 1990s witnessed an explosion of surround sound playback technology in the form of motion picture systems, home theater, DVDs and MP3s. The recording of natural and instantaneous surround sound was left behind, until the Holophone.

Three-dimensional sound is based on the brain's amazing ability to decode subtle differences in timing and volume of sounds coming from different directions as the waves bend around our head.

Surround sound has traditionally been created by mixing sounds recorded from multiple sources. The sound engineer controls the mix to simulate what a person sitting in a particular space would hear. The mixing approach is costly and time consuming, and the results are inconsistent.

The Holophone solution is to place multiple discrete microphones on the surface of a specially-designed *head*. These microphones capture the sounds that come from various directions. An internal microphone captures low frequency sounds.

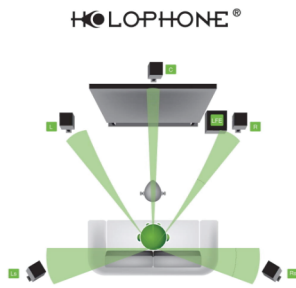
The Holophone's head is actually an ellipsoid. It looks more like a pointy football than a real human head. Acoustically, however, it performs remarkably like the real thing.

Holophone H3-D



Without the head, each microphone would have an omnidirectional response field. The Holophone head provides a spherical boundary layer of varying proportions between each microphone, which effectively divides the incoming sound into sectors so that each microphone picks up sound primarily from one direction. The shape of the head also ensures that one microphone's response does not bleed directly into another, but will bleed enough to ensure a smooth transition from channel to channel. These channels relate directly to the channels in a standard surround-equipped audio playback system. Small differences in the time it takes for a sound to be picked up by the various microphones are interpreted by the brain to determine where the sound is located.

Home theatre setup  
showing binary localization



Our real head performs in a similar way, shielding each ear from sound waves that are picked up by the other. Small differences in timing are interpreted as position. This phenomenon is known as *binary localization*. The output from all the speakers arrives at our ears with the same small differences in timing, and we hear as we would if our own head was in the same position as the Holophone when it recorded the sounds.

This simple principle governs the recording process, and determines where to position the Holophone. Recording is very subjective. Different positions produce different effects for different purposes. The best guide is simply to ask yourself "where does it sound best?" and put the Holophone there.

**The primary advantage of the Holophone system over all other existing approaches is that no signal manipulation is required. The output of the Holophone itself can be used directly, and in most situations this will produce the best results.**

The initial design was completed and a patent application filed for the new system in 1994. When it became apparent in late 1996 that the patent would issue, the first prototype was built. The Canadian government's National Research Council became interested in the technology and joined in a collaborative research agreement to fine-tune the system and build a prototype that was compatible with industry requirements.

Holophone H2-PRO



The Holophone surround system is now available for professionals wishing to optimize their surround sound recording projects.

The top-of-the-line Holophone model is the H2-PRO, with eight microphone elements: center, left, right, left surround, right surround, overhead, center rear, low frequency (inside the head). Compatible with all consumer formats, including 7.1 systems, the H2-PRO can be readily connected with industry-standard preamplifiers and sound recording devices. The H2-PRO is now recognized as setting the standard for professional surround sound recording.

Holophone H3-D



However, there are many recording situations that do not require the full capabilities of the H2-PRO. With that in mind, the H3-D has been designed to provide all the functionality needed for 5.1 recording, emphasizing ease of use, portability and versatility in a wide variety of recording situations. Cost has been considerably reduced, without compromising the quality of the results.

## A Brief Overview of Surround Sound

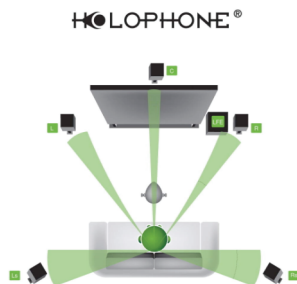
In the beginning there was mono. No matter how many speakers there were, the sound coming from each speaker was the same. In monaural recording, the effect was as if all the sound was recorded from the same single location, and for the most part this was how it was recorded.

In 1940, Disney introduced surround sound to cinemas with the movie *Fantasia*, using three channels behind the movie screen, with additional speakers on either side and at the rear. Implementation was expensive, and the results were demonstrated in only two theaters — one in New York and one in Los Angeles.

In the 1950s, stereo recording was introduced to the mass consumer market. Stereo is based on the premise that we have two ears. If the sound is recorded from two sources, we get a better image of where the sound is coming from. Through the 1960s, stereo sound swept monaural out of the marketplace.

Throughout the seventies there were a number of experiments with quadraphonic sound for the home market. Quad sound failed to catch on for a variety of reasons — lack of material, high cost of systems and lack of consumer demand.

In 1970, George Lucas's *Star Wars* introduced Dolby Stereo to movie theaters, and within a few years it became the most common audio format. Contrary to its name, Dolby Stereo can actually deliver four sound sources, thanks to an ingenious principle called *matrixing*: left, right, center and rear. If the theater is not set up for four channels, the sound is delivered effectively as conventional stereo. Dolby Surround and Dolby ProLogic are home cinema versions of Dolby Stereo. For television home video, the four signals are compressed into two conventional stereo tracks, and then decompressed into four if the home equipment supports surround sound. This compression is referred to as 4-2-4.



Today, surround sound in theaters is delivered most commonly by Dolby Digital systems, including Dolby Digital 5.1, Dolby AC-3 and Dolby SR-D (Spectral Recording Digital). Dolby Digital employs six sound sources, as follows:

- Center
- Left
- Right
- Left surround
- Right surround
- LFE (or Low Frequency Effects)

This configuration is known as 5.1, with the “.1” referring to the LFE source (also known as a *subwoofer*). Dolby Surround Digital is the home video version, available on digital video discs (DVDs).

A competing system called DTS (Digital Theater Systems), introduced with *Jurassic Park*, also uses the 5.1 configuration. Circle Surround analog decoding system also supports 5.1.

IMAX uses a 6.1 system, adding a top channel to the 5.1 standard. This configuration was supported by the original Holophone H-1 (now discontinued).

Dolby, DTS and SRS Labs (among others) introduced extended surround formats that use a 6.1 configuration. These are Dolby Digital EX, DTS ES (Extended Surround) and Circle Surround II (CS II). However, instead of a top channel, these standards add a center rear channel.

Sony has introduced a standard, SDDS (Sony Dynamic Digital Sound), which has a 7.1 configuration. However, it does not use either the rear channel or the top channel. Instead, it adds a *left center* and a *right center* channel.

The Holophone H2-PRO is compatible with all consumer audio formats.

The Holophone H3-D supports the following formats:



- |               |                                                                                                                                                                                                           |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>5.1</b>    | <b>Dolby Digital</b><br><b>Dolby ProLogic II</b><br><b>DTS</b><br><b>Circle Surround</b><br><b>AAC (Advanced Audio Coding – MPEG 4)</b><br><b>WMA (Windows Media Audio)</b>                               |
| <b>4-2-4</b>  | <b>Dolby Stereo</b><br>Direct support for center, left and right channels. Left surround and right surround are combined into one mono output. Mix the top incrementally with the four backbone channels. |
| <b>Stereo</b> | Mix down to stereo.                                                                                                                                                                                       |

*Note:* Dolby, Dolby Stereo, Dolby Surround, Dolby ProLogic, Dolby Digital, IMAX, DTS (Digital Theater Systems), Circle Surround, AAC, WMA, SDDS (Sony Dynamic Digital Sound) are trade-marked terms.

## The Holophone H3-D



**Holophone H3-D Surround Sound Microphone**

The Holophone Microphone System consists of

- ellipsoidal Holophone head housing six condenser microphone elements
- yoke with 180° rotation
- attached 15 ft (5m) Monster® cable terminating in 6 Neutrik® XLR connectors (L, R, C, LFE, SL, RS).

Phantom power for the condenser microphone elements can be supplied from a recording console, or a portable audio recorder with built-in phantom power. You can mount the Holophone H3-D on a boom or microphone stand, or hand-hold it using the optional hand grip.

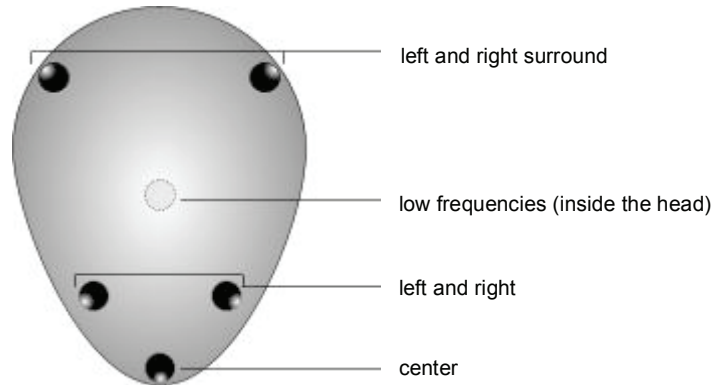


Use the Holophone H3-D on a microphone stand ...



... Or loosen the adjustment knob and turn the yoke upside down to hang the Holophone H3-D.

Inside the Holophone, there are six microphone capsules:



The microphone elements installed in the H3-D are Holophone omni-directional condenser microphones.

**Note:** Microphone elements with higher or lower SPL (sound pressure level) and sensitivity are available as custom orders.

The cable terminates with six balanced Neutrik® XLR output connectors. These are assigned to each of the microphone elements as follows:

| Channel | Microphone                  |
|---------|-----------------------------|
| 1       | left                        |
| 2       | right                       |
| 3       | center                      |
| 4       | low frequency effects (LFE) |
| 5       | left surround               |
| 6       | right surround              |

It is necessary to keep the channel assignments discrete through the recording and mixing process. For example:

- Channel 1 (left):
  - to channel 1 of a mixer
  - to channel 1 of a multitrack recorder
  - to channel 1 of the final deliverable media
  - to left speaker in a surround sound playback system.

## Using the Holophone H3-D

The Holophone H3-D is remarkably simple to use, because it accurately reproduces in three dimensions what one would hear at a particular location in space. In most cases, if you have experience recording sound with traditional microphones, you can rely on your ear and your intuition as to exact placement for a particular event or venue.

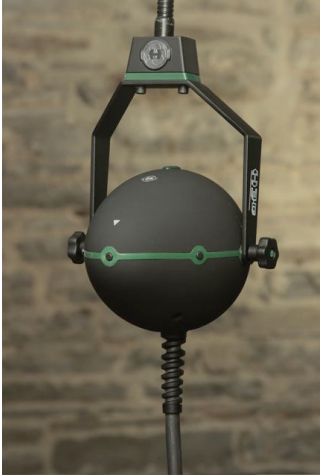
Here are a few additional suggestions (please note that these are *only* suggestions):

1. The simplest method is highly effective. Give the Holophone the best seat in the house and let it do its work. You will be amazed at the accuracy of the ambient sound. For a concert situation with arena-style seating, you might place the Holophone H3-D a little higher than the orchestra, tilting the nose down towards the performers.
2. Use the Holophone H3-D to provide the “base” ambient surround sound for your mix. Make sure to give the Holophone tracks “space” in the mix in which to further construct your mix, bearing in mind that the Holophone will provide a sonically complete Surround Sound picture to begin with. The usual approach is to place the Holophone along the center line of the event to get a sonic capture with proper left/right balance. Aim the pointed front of the Holophone towards the front and the round back towards the rear of the venue. Additional spot microphones can be used to feature specific areas or instruments in the recording, and to complete the desired soundscape.

**Remember:** The Holophone’s microphone configuration directly relates to a listener’s perspective in a home theater, etc. Treat the Holophone like a sonic camera, keeping the center “nose” microphone element forward, the left pointing left and the right pointing to the right of the performance.

3. If you are used to working with other microphones in a particular way, you can use the Holophone H3-D to provide the ambient sound of a venue and build the rest of the mix around it. Place it in a position that will not cause phase or delay problems when used with the signals captured by the other microphones. In large venues (in most cases) try to position the Holophone as close to “Front Row Center” as possible, rather than near the back of the room (as with some traditional ambient microphone techniques).

4. When mixing Holophone tracks with other audio tracks for broadcast, including voice-over or sportscaster talent, try to mix the dialogue not only into the Center channel, but also slightly into the Left and Right channels, and to some degree the Surround channels, for increased spatial realism. When the overall captured sound is three-dimensional, the Center dialogue channel alone can become very thin in comparison to the rest of the sound picture. Spreading the dialogue image over a wider space will rectify the situation. This has proven to be very effective when combined with Holophone-derived Surround Sound ambience.
5. For Sports broadcasting in most field sporting events, and for fixed installations such as arenas, it is desirable to place the Holophone either near the center of the field, or else near a Main Camera position off to the one side that will work in conjunction with the main camera angle of the broadcast. For example, place the Holophone along the sidelines on the 50 yard line of a football game, or facing center ice in an ice hockey arena. Always keep in mind the perspective of the television viewer. Mounting the Holophone on the opposite side of a field or rink to the main camera angle would seem backwards and unnatural.
6. In situations involving multiple and simultaneous use of two or more Holophone systems, combining the signals together may alter the localization characteristics of the main recording, since two soundscapes and perspectives are being combined. This can be manipulated into an intriguing effect and can also be used for multiple perspectives of a venue for DVD, or broadcast, etc.
7. For track sports, including motor sports or running events with multiple camera angles on corners, hills or jumps, you can employ multiple Holophone units with an audio switcher from unit to unit. Use this configuration in conjunction with a camera switcher to match the changing perspectives of the cameras.



8. The Holophone can be mounted “upside down” from the ceiling by turning the adjustment knobs on the sides of the unit, flipping the system over, and then re-tightening the knobs.

9. Audio “zoom” can be achieved by “riding” the faders of a mixer connected to the Holophone. The front (L,C,R) channels can be “pushed” in the mix while the rear (Ls, Rs, CR) channels can be “dimmed” slightly to increase the fore/ aft bias of the recording to the front (or vice versa). Side to side “zoom” can be achieved in a similar fashion.

10. For Holophone Surround Sound recording of acoustic instruments, including drum kits, pianos and voice at close range, try placing the Holophone near or above the instrument that is being recorded. For vocal or choirs, position the singers around the Holophone and monitor in Surround to hear the results!

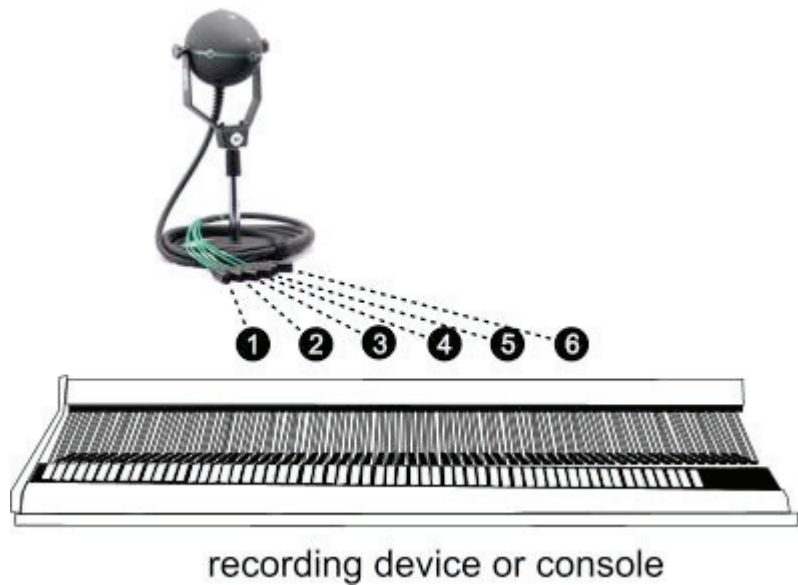
The possibilities are limitless. Please e-mail us and let us know if you find something cool!

For current tips and tricks in using the Holophone, visit our website: <http://www.holophone.com/inaction.html>

## Cabling Scenarios

### Direct to console

Plug the XLR mic-level outputs of the Holophone into the inputs of a console with gain control and phantom power available. Treat the outputs as you would six individual microphones with all channels panned to center. For most recording situations set the gain the same across all channels.



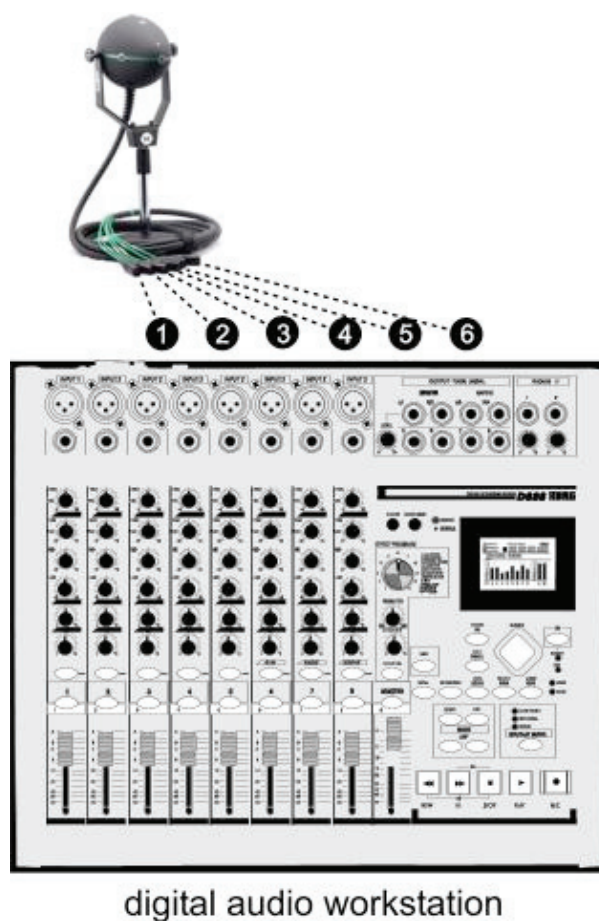
### Direct to multichannel recording device supplying phantom power

Plug the XLR mic-level outputs of the Holophone into the inputs of a recording device (such as a portable audio recorder or audio console) with gain control and phantom power available.



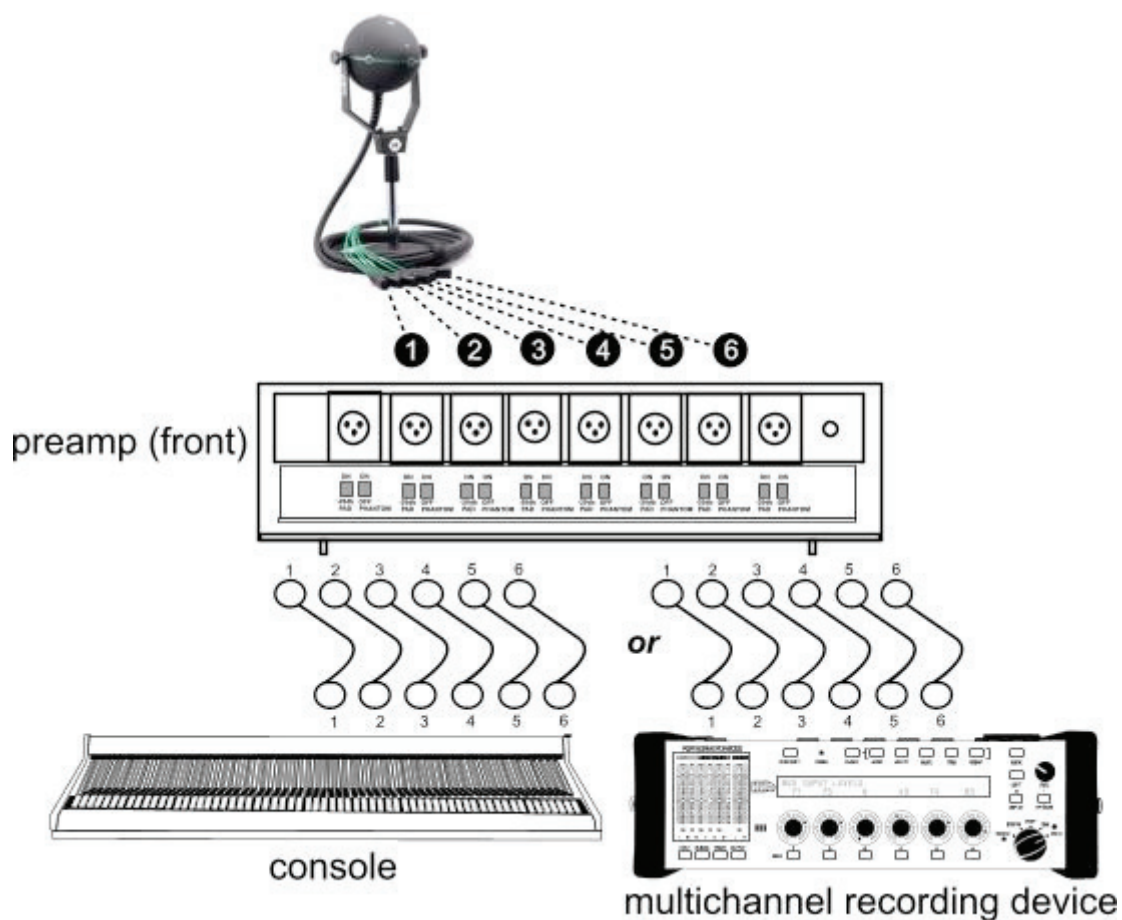
### Using a digital audio workstation

Plug the XLR mic-level outputs of the Holophone into the inputs of the digital audio workstation.



### Using a multichannel microphone preamplifier

Plug the XLR mic-level outputs of the Holophone into the inputs of a preamp. Connect the outputs of the preamp to the inputs of the console or recording device. Turn phantom power on, and set gain the same for all channels (relative to each other).



### Optional Equipment

The lightweight and ergonomically designed hand grip for the H3-D eliminates the need for a cumbersome stand in the field



## Hand Grip

The custom-designed travel case protects the H3-D from shock and water.



## Custom Watertight Travel Case

A windscreen that encapsulates the H3-D head is available for outdoor use. It significantly reduces wind noise while also slightly increasing directivity.



## Windscreen

## The Holophone in Action

### International House of Music in Moscow



One of the largest concert halls in Europe, the International House of Music in Moscow uses the Holophone, under licence, as a permanent installation. Most of the recordings are made with the Holophone placed 1m (3 feet) behind, and 2 meters (6 feet) above the conductor's head.

*The illustration shows Vladimir Spivako conducting the National Philharmonic of Russia.*

### Super Bowl XXXIX



The Holophone H2-PRO was used by FOX Sports and ATK/ Westwood One to capture crowd sound and game ambience. The first H2-PRO was set up at the 50 yard line to capture crowd sounds. A second wireless H2-PRO captured the US national anthem and jet fly-overs before the game, and the half-time performance by Sir Paul McCartney. The Holophone-derived, three dimensional surround sound tracks were used as a foundation upon which to construct the main game ambience mix.

### 2003 Winter X Games, Aspen, Colorado

A Holophone was placed at the bottom of the Superpipe, the big Snowboard halfpipe, to capture the surrounding fans up in the grandstand at the end of the freestyle run.

Placement was in the hands of engineers Ron Scalise and Mark Cochi of ESPN, who have continued to pioneer new ways to use the Holophone for the broadcasting of sporting events, including Pro Bobsledding, Skateboarding, Biking, and more recently the 2003 Global X Games.



## Branford Marsalis Quartet, Amsterdam

A DVD recording project at the Small Jazz Club, Buimhuis, a very intimate 400 seat jazz club (plus a lot standing!), with seats surrounding the stage. The film crew used 6 HD cameras to capture two performances on two separate nights. To achieve the desired 3-D sound effect for the DVD, this had to be an "audio first" project. The Holophone was given top priority in it's placement.

The Holophone was placed directly above the front-center stage position, sonically clearing the stage monitors and about ten feet off the floor angled slightly down, with the rears rising to pick up the crowd behind. Spot mics on the essential bass, drums, saxophone and piano were recorded separately, to be combined on mix-down with the Holophone tracks.



*The DVD, "A Love Supreme Live in Amsterdam" is available at music stores worldwide through Marsalis Music.*

## Kentucky Derby



Holophone H2-PRO's were used for the NBC Sports broadcast of the 131st Kentucky Derby from Churchill Downs in Louisville, KY. The main ambience Holophone mic was hung under the balcony at the finish line, where the main hi-def cameras were placed, high up in the stands with the "nose" of the H2-PRO pointing toward the track. This placement provided a realistic and three-dimensional ambience to the overall surround mix that worked with the perspective of the hi-def picture, the result was broadcast via Dolby Pro-Logic II.

## 47th Annual Grammy Awards



For the CBS HDTV Broadcast, the Holophone H2-PRO was placed approximately 30 rows back from the front of the stage, in an on-center position, about 15 feet high with the head pointing towards the stage. The Holophone-derived multi-channel ambience was used to feed the main surround ambience mix for the entire 5.1 production broadcast, providing HDTV viewers who were monitoring with surround sound an added sense of "being there".

## Cowboy Junkies

The band was captured live to hi-def with 5.1 channel surround sound in the Church of the Holy Trinity, a historic church located in downtown Toronto, Canada. The band was recorded in a style that emulated the original recording of the "Trinity Session" album that the band made in the same location twenty years before. This time, the band used a Holophone H2-PRO placed in the center of a circle with the band surrounding and facing the mic. The acoustics were fantastic in the church and the H2-PRO captured it all in instant 3-dimensional sound, with no processing involved.



## Hockey Night in Canada



For the Canadian Broadcast Corporation's (CBC) broadcast of NHL Hockey Night in Canada, a Holophone H2-PRO was placed at the first camera position at center ice and provided the main surround ambience for the 5.1 and left/right feed. The H2-PRO provides the three dimensional feeling of being at the game.

## Frank Serafine



Frank Serafine continues to break new ground in his ability to find unique locations to utilize the Holophone H2-PRO to capture discreet surround sound for the sound effects for major film releases from Hollywood, CA. Here he is using two new Sony two-track portable digital recorders in Nevada's Grand Canyon.

## Beijing TV, China

The H2-PRO was used by Beijing TV to capture the natural surround sound ambience of the program *Community Music Tonight*. The Holophone was hung from a lighting truss about 33 feet (10 meters) back from the stage in the center position, 20 feet (7 meters) above the audience. The "nose" (center channel) of the Holophone was angled slightly down and towards the stage, to give the audience the 3-D audio perspective of flying over the events while facing the stage. The Holophone tracks were sent out via an audio snake cable backstage to the mixer, panned discreetly to the corresponding surround channel, and then used as the base ambience for the remainder of the mix. The H2-PRO derived audio was then combined with the other incoming stage mics for the main surround 5.1 feed.



*The audio system was designed by [Jolly ProAudio Broadcast Engineering Ltd.](#) (Holophone partner in China)*

## Extreme Makeover

Two Holophone H2 Pro Microphones were involved in the Production of *Extreme Makeover Home Edition*. The show focused on the reconstruction of the home of a family who were both hearing and sight impaired. The Holophone was used to capture and portray the physical feeling and three-dimensional reality of the magnitude of this project, which involved hundreds of people over just a few days.



## Rose Bowl

Andrew Waterman of ATK Audiotek, Burbank California used the H2-PRO for the Rose Bowl game. The Holophone was clearly visible during the U.S. Military Choir's rendition of "America the Beautiful".



Waterman wrapped the choir around the microphone for maximum audio depth and 3-D believability.

## Evanescence



For surround sound production of the *Evanescence Open Door Tour 2006* DVD, the H2-Pro was placed at the front of house mixing position (centre ice at the Air Canada Centre) to provide a true three dimensional audio image. After inputting the Holophone's discrete XLR channels into the mixing board, Evanescence FOH engineers hoisted the H2-Pro 12 feet in the air via boom pole, facing the stage.

## Estival Jazz



In July 2006, Television Svizzera Di Lingua Italiana produced *Estival Jazz* in Lugano, Switzerland. Despite heavy and stormy weather conditions, the H2-PRO was "clear, precise, focused and very spacious!", according to audio engineer Wladi Turkewitsch.

## Dave Matthews Band



The Holophone H2-PRO was used by Third Wave Productions, Hank Neuberger and Terry Fryer to capture material for the PBS HDTV 5.1 Channel Broadcast of the Dave Matthews Band as part of the "Sound Stage" series on PBS. The Holophone was set at the Front of House Mix position and was used to capture the very convincing 3-Dimensional 5.1 surround ambience of the concert from the crowd's perspective.

## Geoff Pryce, 2006, South America

"Capturing footage on the street, at concerts and scripted interviews with some prominent names in Afro-Brazilian music. We've just spent two weeks in Rio doing various interviews with people like Gilberto Gil, Carlos Negreiros, Virginia Rodriguez, samba club performances, general vision etc. for Slave To The Rhythm. The Holophone has performed fantastically, and as you can imagine, has been a talking point and a great capture medium for the Afro-sounds we're recording."



## Project Harvest



Project Harvest began late 2005 with one purpose: to successfully record up to 7.1 channels of EVERYTHING! Joss Gardner and Craig Loftus, with the assistance of Wave Recording Studios, set out to gather sounds from the globe in the pursuit of creating the highest quality surround sound library. To accomplish such a task there was no doubt the Holophone H2-Pro would be needed. With its ability to record up to 7.1 channels and its plug 'n' play capability the H2-Pro has successfully captured everyday sounds of the world and will continue to do so for the next 12 months. (To learn more about Project Harvest and to follow the guys on their incredibly journey go to [www.projectharvest.blogspot.com](http://www.projectharvest.blogspot.com).)

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