HIDI

AUDIO VISUAL SYSTEMS ENGINEERING

Profile of Practice and Capabilities

OUR AUDIOVISUAL DESIGN PHILOSOPHY

With over forty-five years of audiovisual consulting experience, the Principals and Designers of The HIDI Group have been in the forefront of design and specification of innovative audiovisual systems for board, training, conference and video teleconference rooms, television and radio studios, courtrooms, auditoria, theatres and many other special purpose spaces. The following pages introduce HIDI's audiovisual design philosophy, consulting methodology, and key personnel.

We believe that the successful design of any audiovisual facility requires a close collaboration of effort - first with the architect to ensure the optimal facility design from an architectural and base-building perspective, and second with the client/user, to ensure that the audiovisual systems design meets the established needs. We strive to educate, guide and at times caution, thereby enabling the client, who has the ultimate decision-making responsibility, to make the best possible choices.

We believe strongly in the cost benefit of value engineering, reducing systems capabilities when necessary, and providing design experience in basebuilding provisions for future capabilities in an effort to tailor the building for growth in functional and operational requirements. We are strong proponents of making the necessary basebuilding and systems provisions to allow future expansion and the addition of equipment to accommodate developments in technology.

We take responsibility for helping the client evolve a facilities and systems design strategy insulated from premature obsolescence. We believe budget limitations can be overcome by designing a system which has the ability to expand in the future.

METHODOLOGY

The principals of The HIDI Group have had considerable success in tailoring their audiovisual scope of services to meet the unique requirements, budgets and schedules of our clients. We strive to establish the appropriate balance of furnishing detailed analysis and documentation to match the magnitude of audiovisual systems sophistication needed by the client together with the level of input required by the architect. In these times of fast-track projects and demands for value-added engineering, flexibility and responsiveness are the keys to a successful project.

We have developed a basic methodology of operation that has proven efficient and cost effective. As a result, our consulting services are usually provided in four related phases which closely parallel the architectural design process.

PROGRAMMING/NEEDS ANALYSIS

Interviews, Needs Analysis, Budget Estimates & Report

The program design services we offer cover primarily facilities planning, but are often expanded to include organizational planning and the development of support services.

The mainstay of program design is a needs analysis. Information is typically gathered from user interviews, analyzed, and presented in an Audiovisual Needs Assessment Report. The objective of this process is: 1) to identify client space requirements; 2) to establish appropriate levels of audiovisual, television and other communications capabilities requirements; and 3) to alert the architect to any significant base building prerequisites necessitated by audiovisual systems requirements.

The **Audiovisual Needs Assessment Report** includes: the number and kinds of facilities needed; their estimated net square footage and adjacency requirements; recommended audiovisual, voice and data, wireless, television, and other communications systems; planning budgets which broadly estimate the cost of such systems and installation; and the identification of any significant issues requiring client management response. Examples of parts of the Report are detailed below:

SL NO	Floor	Room	User	Size (m^2)	Seating Capacity	System Description					Who Supplies
1	29th	Reception [2901]	Shared between User Group A and Group B			Video System	Display	Projector and Screen	None		AV Contractor
								TV	46" LCD TV will allow Cable TV Viewing and PowerPoint Presentation	Dedicated	
							Source	PC	Reception desk PC will be connected to LCD via VGA port .Note: Dual Display Graphics Card Required, Client to provide	Dedicated	
								DVD Player	None		
								HD Receiver	To be supplied by others	Dedicated	
						Audio System	Ceiling Speaker		None, Audio will be reproduced via TV Speaker	Dedicated	
							Wall Speaker		None		
							Microphone		None		
						Control System	Touch Panel		None, Control will be via TV remote	Dedicated	
2	29th	Video conferencing [2903]	User Group B	32	10	Video System	Display	Projector and Screen	None		AV Contractor
								TV	Two 42" LCD TV for Near end and Far end Video Conference viewing	Dedicated	
							Source	Laptop	A Computer interface will be provided on the table with VGA connection	Dedicated	
								DVD Player	None		
								HD Receiver	To be supplied by others	Dedicated	
						Audio System	Ceiling Speaker		Ceiling Mounted speaker will reproduce Far end conference speech	Dedicated	
							Wall Speaker		None		
							Microphone		Recessed tabletop Boundary Mic	Dedicated	
						Conferencing System	Video Conferencing		Room will be equipped with Video conferencing unit to facilitate the VC	Dedicated	
						Control System	Touch Panel		All AV Equipments will be controlled by the Tabletop Touch Panel	Dedicated	

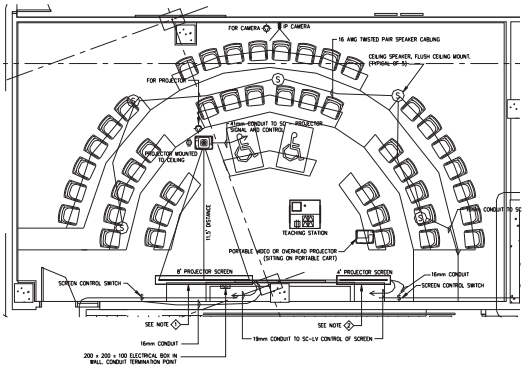
New Office , Calgary
AV Scope of work

Sl No	Floor	Room	Facility	Projector	Screen	LCD TV	Speaker, Amplifier	Audio Masking	Microphone & DSP	Video Sources & Computer	Table Top Conference Phone	Video Conference	Control System	Total
1	29th	Meeting Room [2990]	Front projection system, Ceiling mounted projector, laptop connection at the table and ceiling speaker. Audio conferencing through table top portable mic. DVD Player, Touch Screen Wall control System.	3,500	1,500		1,000		2,500	1,500			3,000	13,000
2	29th	Video Conferencing [2903]	Two 42" Wall Mounted LCD TV, Video Conferencing System , Table top mic, Ceiling Speaker ,DVD Player , HDTV Replay, Touch Screen wall and table top control system.			3,700	1,000		6,000	5,000		**Reuse VC unit from existing facility	6,500	22,200
3	29th	Reception [2901]	52" LCD TV , HDTV Receiver , Backgroud Music from Ceiling Speaker			2,500	2,000							4,500
4	29th	Café [2953]	52" LCD TV , HDTV Receiver , Audio from TV			2,500								2,500
5	30th	Video Conferencing [3090]	Two 42" Wall Mounted LCD TV, Video Conferencing System , Table top mic, Ceiling Speaker ,DVD Player , HDTV Replay, Touch Screen wall and table top control system.			3,700	1,000		7,000	2,000		26,000	6,500	46,200
6	30th	Meeting Room [3086,3088]	Room will be separated by movable partion,front projection system,three Ceiling mounted projector & Screen, Laptop Connection at the table and Ceiling Speaker, Table top conference Phone, Touch Screen wall and table top control system.	12,000	6,000		4,000		6,000	15,000	6,000		10,000	59,000
7	30th	Meeting Room [3062]	52" LCD Screen, Audio from TV and laptop connection at the table. DVD Player, Touch Screen Wall control System.			2,500				1,500			3,000	7,000
8	30th	Meeting Room [3015]	52" LCD Screen, Audio from TV and laptop connection at the table. DVD Player, Touch Screen Wall control System.			2,500				1,500			3,000	7,000
9	30th	Reception [3001]	52" LCD TV , HDTV Receiver , Background Music from Ceiling Speaker and Audio Masking			2,500	2,000	3,000						7,500

Equipment Total		168,900
Misc materials, cable, connectors, documentation, training,warranty,labour, racks, etc	40%	67560
Grand Total		**236,460**

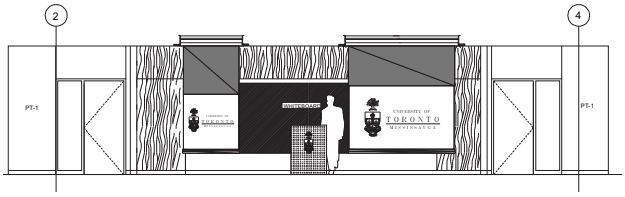
DESIGN DEVELOPMENT/BASE BUILDING DESIGN

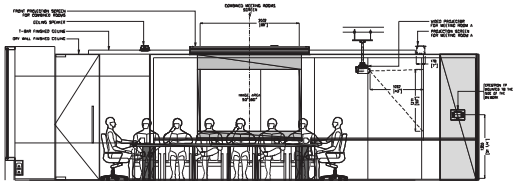
Facilities Planning, Electrical, and Mechanical Design Input



After the programming requirements have been established, we work with the architect and client to translate these requirements into deployment of space drawings. Preliminary estimates for power, HVAC, and structural loads are provided to the architect and to HIDI's internal MEP team members. Locations of proposed audiovisual, audio, video, display and projection equipment are shown on the design development drawings. Close attention is paid to sight lines, good viewing angles, number of viewers served, etc. Space for the location of future equipment is also detailed.

Base building input consists of design drawings detailing, for example, projector and screen mountings, built-in cabinetry, and electrical drawings including all required electrical power outlets and empty conduit and raceways.



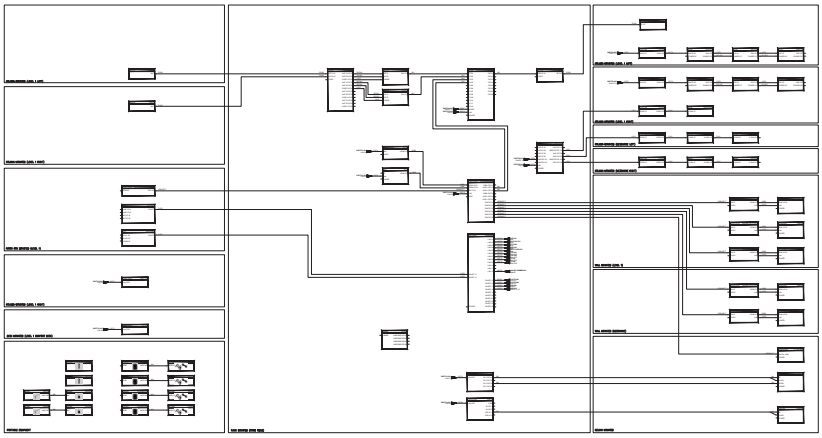


SYSTEMS DESIGN

Equipment Selection, Configuration, Specifications, and Recommendations

This phase consists of the complete design of all audiovisual, audio, and television systems. Working closely with the architect, MEP team members and the client, we select equipment which will meet the performance and budget requirements established in the earlier planning stages.

Functional block drawings for audio, video, control, and distribution systems are developed showing all equipment for each system. Design drawings detailing rack equipment, consoles, projection tables, control panels, connection plates, and exact equipment locations are developed.



Complete bid specifications are provided. These specifications include general specifications, system performance requirements, installation practices, warranties, system check-out, detail specifications by area and system, and equipment lists with each piece of equipment by make and model number. Together with the drawings, these specifications provide the client with complete documentation for competitive or negotiated bidding.

We provide the client with a list of recommended systems contractors who we believe are competent to perform the technical systems implementation.

After the bids are returned, we provide the client with an analysis of the bids and our recommendation for award of the systems contract.

SYSTEMS IMPLEMENTATION

Review Contractor's Drawings, Check Workmanship, and Supervise Final Acceptance Tests

In this last phase, we provide on-going review and approval or disallowance of the drawings which the systems contractor is required to submit. We monitor the system fabrication and wiring at the contractor's plant. During installation of the equipment at the site, we check workmanship to determine compliance with the specifications.

Finally, after the installation is complete, we supervise the acceptance testing of all systems before the facilities are turned over to the client.

HIDI can also provides post-occupancy services to help users optimize their utilization of new audiovisual facilities and systems in the most efficient and productive manner.

THE HIDI GROUP PROJECT TEAM

To complete the many planning, design and engineering tasks that must be completed on today's sophisticated audiovisual projects, a wide array of technical skills must be brought to bear. Our audiovisual team members represent a diverse base of specialties from audio system design to digital multimedia network engineering. Staff Resumes are attached.

ABOUT THE HIDI GROUP

When you entrust a project to HIDI, you will experience partnership from concept to completion. As a full service Mechanical, Electrical, Fire Protection, Lighting, Energy, Communications & Audiovisual (AV), Security & Risk, and Commissioning consulting firm, we have amassed an extensive portfolio of work on some of the finest properties for leading architects and developers in North America, Europe and Asia. Since 1975, we have provided practical, effective solutions for diverse needs and budgets in the residential, commercial, retail, healthcare, hospitality, and institutional sectors. The breadth and depth of our team's expertise place us in the ideal position to partner with you on your entire range of projects, including the most challenging, while maintaining an exceptional level of quality and service.

ICAT - INFORMATION COMMUNICATIONS AND AUTOMATION TECHNOLOGY

HIDI understands the role that technology plays in buildings today and how it affects all disciplines. Low-voltage building systems provide knowledge workers and building operators with the tools they need to excel in their jobs and the marketplace. Voice, data, wireless, security, fire safety, access control, building automation, and multi-media systems are all essential elements of interactive building systems, and each must be tuned to today's workforce.

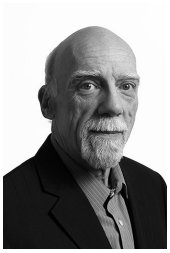
Smart people need smart buildings. HIDI understands how to design and document intelligent building systems that will benefit occupants, tenants and landlords in a manner that resists technological obsolescence. Our communications designers have engineered landmark projects on six continents.

THE HIDI GROUP IS HERE TO HELP

REACH OUT TO ONE OF OUR ICAT PROFESSIONALS

Barry Caverly
Principal,
Comunications

Karl Hergert
Manager,
Audiovisual



Barry Mclaurin
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