CTS Cheat Sheet

by jrolando via cheatography.com/198641/cs/42057/

Process for AV Project Delivery

Consultant-Led Design-Bid-Build	AV Designer is contracted to consultant and both are responsible for Design
Integrator-Led Design-Build	AV integrator is responsible for Design and Installation of of AV and is contracted to Architect for design and to GC for install
Consultant-Led Design-Build	AV consultant provides program/project management while Integrator provides designs and installation
Consultant/Integrator Team Design-Build	AV Consultant and Integrator are contracted as single entity and work together though they are seperate buisness entities
Owner Furnished Equipment/Integrator Installed	owner supplied equipment, Integrator installed
Owner Furnished Equipment/Owner Installed	owner supplied equipment and owner installed

Program phase steps

1. Review existing documents and facilities	Architectural, Organiztional, Technical documents
2. Benchmark comparable facilities	Visit other facilities
3. Conduct program meetings	reveal what a system currently does, what it needs to, and what people wnat it to do
4. Write program report	report containing user needs and a conceptual/functional system description as well as impact it will have on existing spaces
5.Distribute program report	owner, end users, IT, architects, construction manager, GC, integrators, cost estimators,
6. Approve the program report	formally approved report becomes basis for the design

Program report contents

executive summary	brief overview of entire document
systems descriptions	description of each type of system
infrastructure considerations	impact to lighting, electrical, mechanical, acoustical, data/telecom, structural, architectural, interior, budget impacts
Special Issues	major obstacles, schedule issues, specific options for specific spaces
Preliminary budget and terms	Estimate of cost
breakdown of probable cost	basic breakdown of costs of rooms or equipment
additional costs	labor, equipment, taxes, markup, contingencies
operational staff expertise required	
maintenance budget and life cyle expectations	

Key elements of a Project

Scope: what is being done

Time: Effort and Duration

Cost: Labor and Equipment

Quality: Ensuring performance meets expectations

Risk: Threats, Opportunities, and Response Strats

Needs analysis steps

Types of Drawings

1. Talk to stakeholders
2. Review exisiting documents3
3. Site survey
4. Conduct program meetings
5. Write program report.

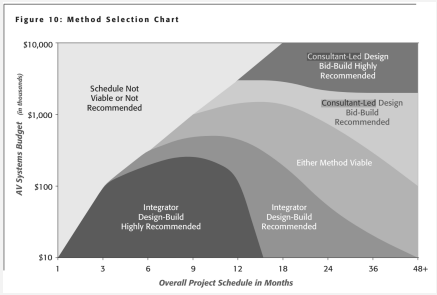
Two Envelope Bid Method

1. Create Request for Qualifactions (RFQ) and Request for Proposal (RFP)
2. Target potential providers
3. send out RFP/RFQ to potential providers
4. Review Qualifications response ***without*** opening proposal and create "short list"
5. interview "short list" and rank them
6. Open proposal for the higest ranked provider and if fee is within range, they win the bid
7. If fee is too high move on to the next highest ranked provider until one falls within budget.

Qualification based selection

1. Create Request fo Qualifications (RFQ)
2. Target potential providers
3. send out RFQ to potential providers
4. Read responses and create "short list" of 3-5 providers
5. Interview "short list" and rank them
6. Negotiate with highest-ranking firm for project fee
7. If acceptable fee and scope cannot be established move to next provider

Method selection chart



Plan Drawing	Top view floor plan
Schematic Layout	Shows relationships between objects. Often not to scale
Section Cut Flag	Shows which section drawing to look at
Architectural drawings	As-built drawings or design for project in progress
Reflected Ceiling	Shows the elements in the veiling
Elevation	View of a space from the front, back, or side
Section	View of an interior in the vertical plane
Detail	Depicts small items that need to be enlaged to show how to install

Reactance

Depends **Capacitance** and **Inductance**

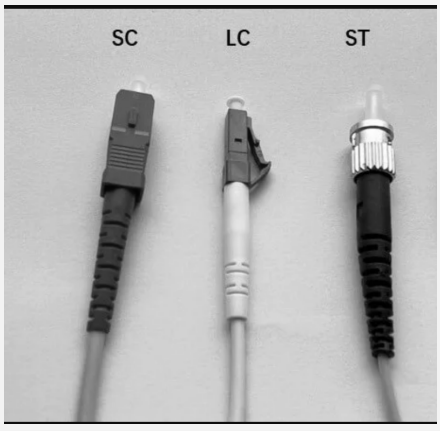
Voltage levels

IEC voltage range	AC RMS voltage (V)	DC voltage (V)	Defining risk
High voltage	> 1 000	> 1 500	Electrical arcing
Low voltage	50 to 1 000	120 to 1 500	Electrical shock
Extra-low voltage	< 50	< 120	Low risk

Cables/Termination

Fiber	ST, LC, SC connectors; single or multimode	30km range, 40 Gbps
Ethernet	8p8c or RJ4, bidirectional	1gb at 300ft, 10gb at 150ft
RS232	DB-9 connector, bi direct-ional, unbalanced	50ft, 20kps, 2 devices
RS422	DB-9/DB-25 Connector, balanced	4000ft up to 10 devices, 10Mbit/s
RS485	5 pin xlr, bi directional	32 devices or 256 using DMX, 4000ft 10Mbit/s

Fiber connectors

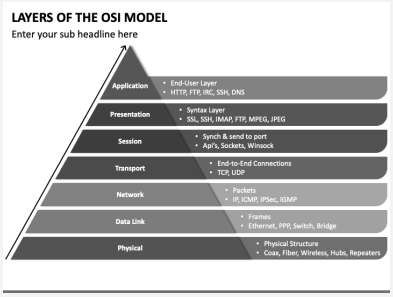


Cheatography

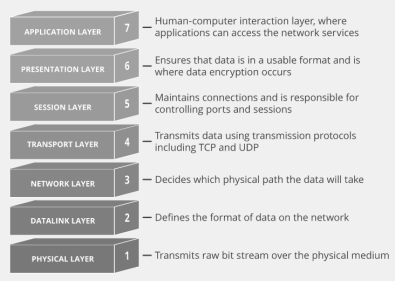
CTS Cheat Sheet

by jrolando via cheatography.com/198641/cs/42057/

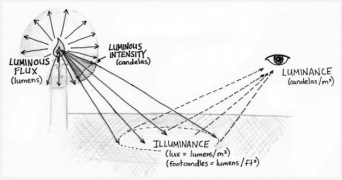
OSI



OSI



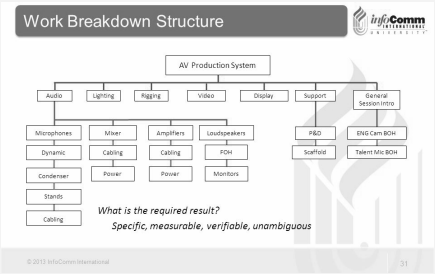
Lighting



Stages of a Construction project

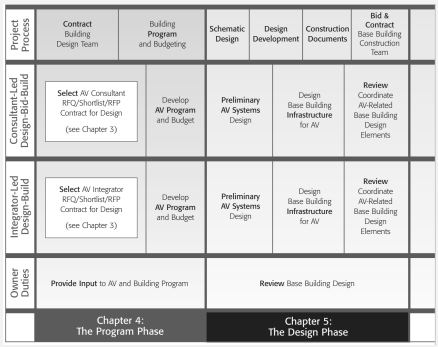
1. Programming
2. Building
3. AV bid
4. Move-in

Work Breakdown Structre

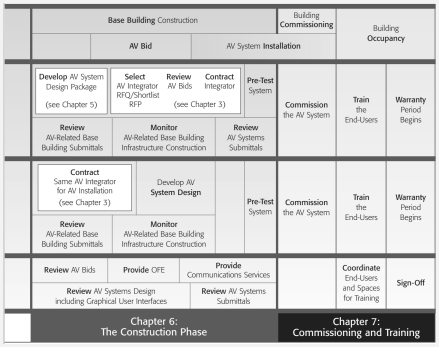


Program phase

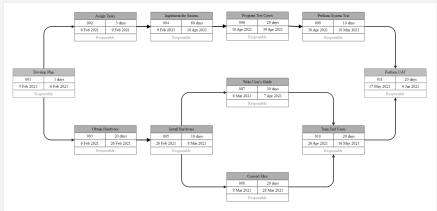
AV process overview



AV process overview pt 2



Logic network



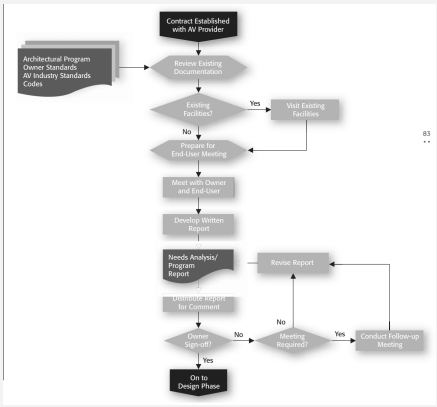
Four Teams of Project Management

Owner	End-User, Facility Manager, AV Technology Manager, Building Committee, Buyer, Contract Rep
Design	Architect, AV Designer, Interior Designer, most Consultants
Installation	General Contractor, AV integrator, Contractors
Management	Developer, Construction Manager, Building Management Agency, Move Consultant

Forms for Scoring RFQ

form SF330

form A350™-1986



By **jrolando**
cheatography.com/jrolando/

Published 14th January, 2024.
Last updated 20th January, 2024.

Safety Switches

Ground Fault Interrupt Circuit
Core Balance Relays
Earth Leakage Circuit Breakers
Residual Current Devices

Drawing Abbr.

AS	Above Slab
CL	Centerline
CM	Construction Manager
Dia	Diameter
VIF	Verfied in Field
AFF	Above Finished Floor
E.	East
E.C.	Empty Conduit
EC	Electrical Contractor
(E) or EXG	Existing
ELEC	Electrical
Fut	Future
GC	General Contractor
MISC	Miscellaneous
NIC	Not in Contract
NTS	Not to Scale
OC	On Center
OD	Outer Diameter
OFCI	Owner Furnished-Contractor Installed
OFE	Owner Furnished Equipment
OFOI	Owner Furnished-Owner Installed
PM	Project Manager
RCP	Reflected Ceiling Plan
SECT	Section

Projector Throw Distance

Zoom Ration x Screen Width

Component color

red	R-Y/ Pr /Cr
green	y
blue	B-Y/Pb/Cb

Common video Resolutions

VGA or SD	640x480	4:3
SVGA	800x600	4:3
XGA	1024x768	4:3
XGA+	1152x864	4:3
SXGA	1280x960	4:3
UXGA	1600x1200	4:3
WXGA	1280x768	5:3
SXGA	1280x1024	5:4
HD	1366x768	16:9
HD+	1600x900	16:9
HD-1080	192x1080	16:9
WXGA	1280x800	16:10
WSXGA	1440x900	16:10
WSXGA+	1680x1050	16:10
WUXGA	1920x1200	16:10
QHD	2560X1440	16:9
2K	2048X1080	1:1.77
4K	3840X2160	1:1.9
8K	7680X4320	16:9

Roles of Video Processors

Adjust timing/signal strenth
Ensure continuous transistions, ie avoid crash switching
Correct deficiences in the orginal signal
Adjust picture color, contrast, brightness
Change format of signal

Composite VS Component video

Composite: combines luminance and chroma info into 1 cable

Component: luminance and chroma are in seperate cables