
GAMMA[®]

MegaSign **R****G****B**



THE LEADER IN VISUAL COMMUNICATION PRODUCTS

Gamma MegaSign RGB

Utilizing the latest in "Gamma Megasign RGB" technology, Gamma Technologies, Inc. has recently unveiled its latest RGB LED Video Sign which is capable of displaying both graphics and high resolution full motion video animation.

The Megasign can be sized to fit your specific needs and can display text, graphics and animation in both high and low resolution. The sign is capable of producing 16,777,216 different colors and of displaying live video feeds. It can be placed both indoors and outdoors with direct sunlight having no bearing on picture quality and is truly the ultimate communications device available on the market today.



Brightness Control: The sign can automatically adjust its brightness to accommodate applications in both sunlight and darkness. The result not only makes the sign more practical, but also lengthens the life expectancy of the LEDs.

Perfect Color Balance and Automatic Adjusting: The sign provides viewers with the possibility of 16,777,216 different colors. The system contains many controls that automatically adjusts gray scales, colors, make gamma corrections, control the brightness, etc... The result is a picture quality unmatched by any other product on the market today.

Remote Programming

The Gamma RGB Megasign can be programmed either on location in person or via a telephone modem.



APPLICATIONS

This latest technological marvel can add excitement and provide information to visitors at airports, train stations, bus stations, schools, libraries, museums, factories, warehouses, department stores, hospitals, banks, restaurants, hotels and motels, military bases and government installations, casinos, movie theaters, stadiums and arenas, amusement parks and other tourist attractions. Cities and municipalities can benefit as well by utilizing this technology to assist in traffic control.

ABOUT THE GAMMA RGB MEGASIGN

Resolution: The sign can be manufactured to accommodate both high and low resolution graphics and video depending upon the signs application.



Ease of Installation and Use

The Gamma RGB Megasign modules easily piece together with the LED and driver boards to avoid the mess of extra wires and confusion during set-up. The system also allows for easy transportation and re-assembly if the sign need to be transported.

GAMMA MEGASIGN RGB 7500 OUTDOOR ULTRABRIGHT LED 16,777,216 COLORS

RED GREEN BLUE
TEXT, GRAPHICS, ANIMATION & VIDEO



MODEL	MG10.5-12	MG 14-16	MG 20-22	MG 23-25	MG 30-32	MG 35-37.5
Cluster Size in mm	10.5mm	14mm	20mm	23mm	30mm	35mm
Pixel Pitch in mm	12mm	16mm	22mm	25mm	32mm	37.5mm

GT 7500 CONTROLLER

Display Screen:

Viewing Angle: 70 or 120
 Colors: Red: 256 x Pure Green 256 x Blue 256 = 16,777,216 COLORS
 Screen Refresh Rate: 140Hz
 Pixel Pitch: 12.5, 16, 22, 25, 32, 37.5

Max. Brightness: 5,000 ~ 9,000
 Power Required: 110 / 220V
 Operating Humidity %: 0-90%
 Operating temp.: -20 ~ 60c

Input Process

Input Signal: TV. / VCR. / LD Player / Video / Digital
 Camera / Personal Computer: RS - 232 or RS - 485 / MODEM / MPEG SYSTEM
 Video Standard: NTSC, PAL & SECAM

LED MODULE 14-16



Output Controls

Adjustable Color Contrast:	Yes
Color Coordinate Shift:	Yes
Auto adjustable Brightness:	Yes
No. of Frame per Second:	100 Frame per sec.
VGA Digital:	Yes
Operating System:	Windows 95
Scheduling Control:	yes
Graphic Editor:	Photo editor
Animator Editor:	Animator Pro, Animator studio, 3DS, Media studio..



II-1. Display System

1-1. Display System Features

- **Improved Picture Quality & Clarity.**

Incorporating high-quality luminescent of RED, PURE-GREEN and BLUE LED elements and a large number of pixels enables a brilliant display even in direct sunlight, and a wider viewing angle.

- **Tremendous Natural Color Representations.**

Gamma display system's panel-driving circuits can control the LEDs to represent 256 gray - steps per each primary color - red, green and blue.

- **High Resolutions.**

Gamma provide from pixel & panel to system controller.

So, Gamma display system's has many pixel & panels selection depending on screen size and position - it has various pixels pitch.

Gamma system can display higher resolutions within the same screen area.

- **Store data by video recording card**

- **Broadcast News, Entertainments, Sports, Public service announcement or Special events with Multiple Video inputs.**

- **Display 3D Computer Graphic Animation. (accept Avi, Mpeg, Motion - Jpeg, Mov, Fli, Flc file format)**

II-2. Control System

2-1. Control System Features

- GAMMA is Full Digital Image main Control Unit

Input video signals are processed by 8-bit digits and 256-tone smooth, high quality picture can be displayed on the screen. Gamma has developed new compact image control unit that makes full digital processing possible.

This unit is equipped with high picture quality and automatic NTSC/PAL selection of digital processing as well as a variety of handy functions including self-diagnostics function which can have unit power drop, cell cut off, and other errors informed to the control room.

- GAMMA Main Controller processes video signal to display two video screens.

- 270 Mhz Serial digital Data

Video image output from ATVMPV is 270 Mhz serial digital data, coming out through BNC connectors.

This data must be converted to fiber optic signals. So, standard converter and FR-9 will be removed.

- GAMMA has MVPFOT module

MVPFOT is 6-channel fiber optic transmitter.

- Most controls can be done by front panel switchers and control values are displayed on the LCD display.

● ATVMVP Channel Unit and FOR-TM

In the each screen, Channel Unit and FOR-TM will replace present controller and PC.

ATVMVP Channel unit receives image data from ATVMVP main controller and generates control signals for module control unit (ATVMOD).

FOR-TM communicates with control PC at the control room through fiber optics. FOR-TM includes digital clock controller.

● None flickering Video Screen

GAMMA main controller and video screen will be programmed to accept PAL video.

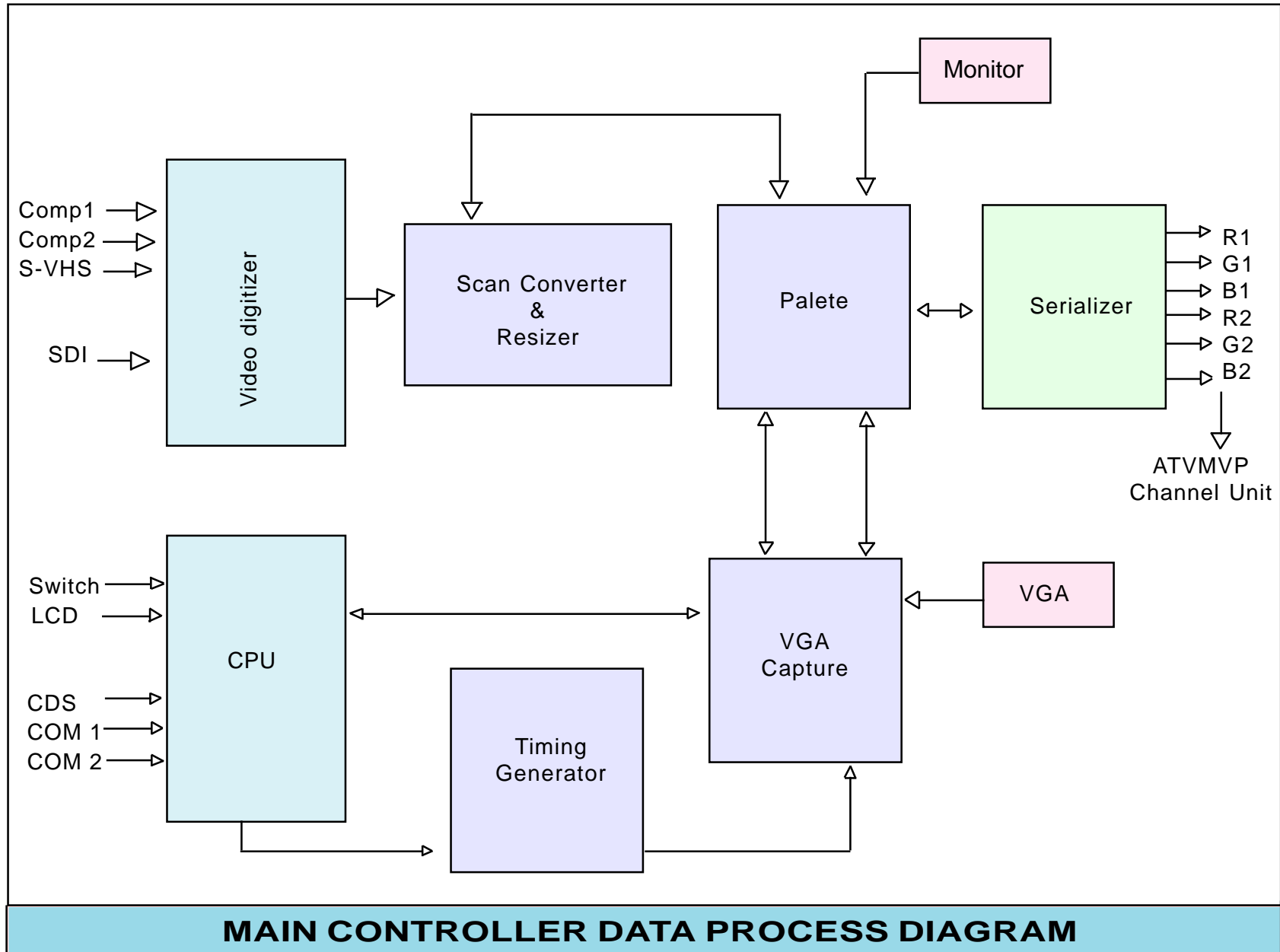
Refresh cycle of the board will be 100 Hz.

Those two changing will make none flickering video screen when captured by video camera.

GAMMA Main Controller is 19" 2U Rack Mountable System.

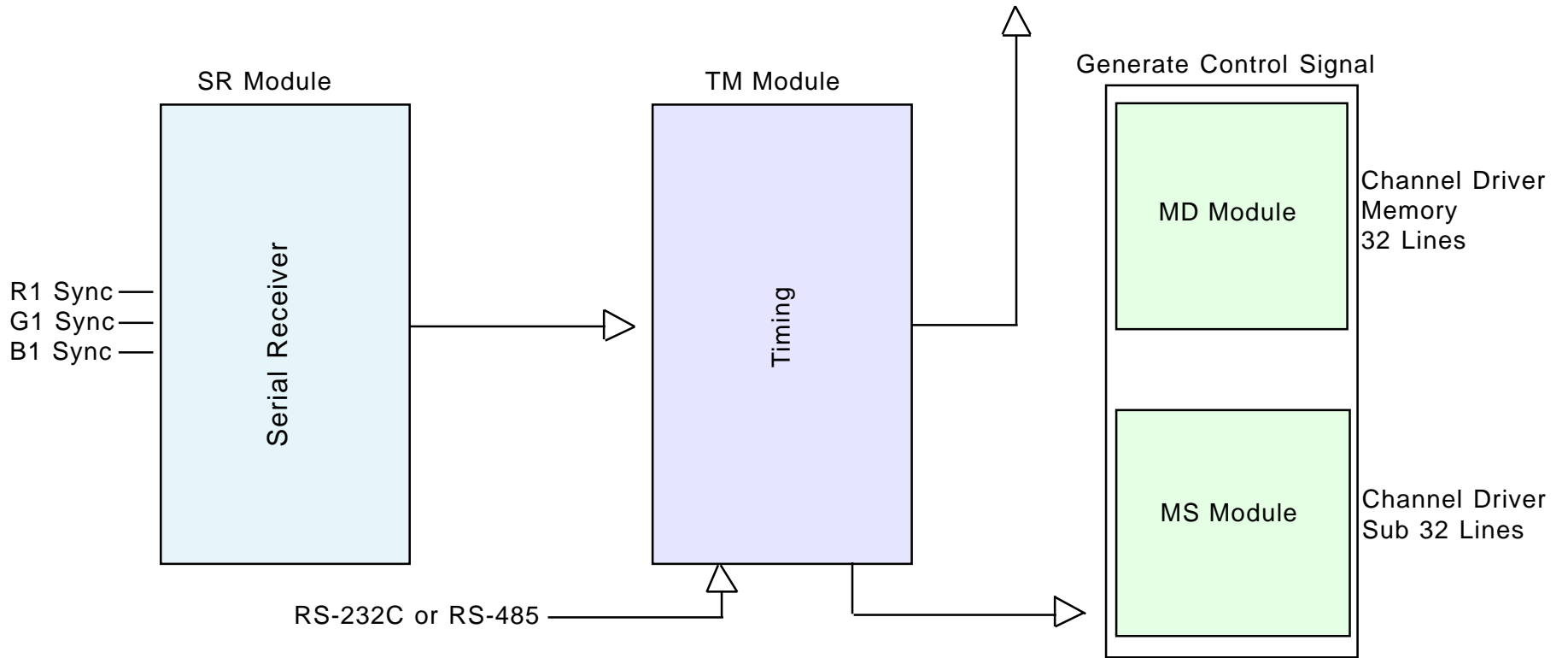


2-2. ATVMVP Main Controller Data Process Diagram



2-3. ATVMVP Channel Unit Data Process Diagram

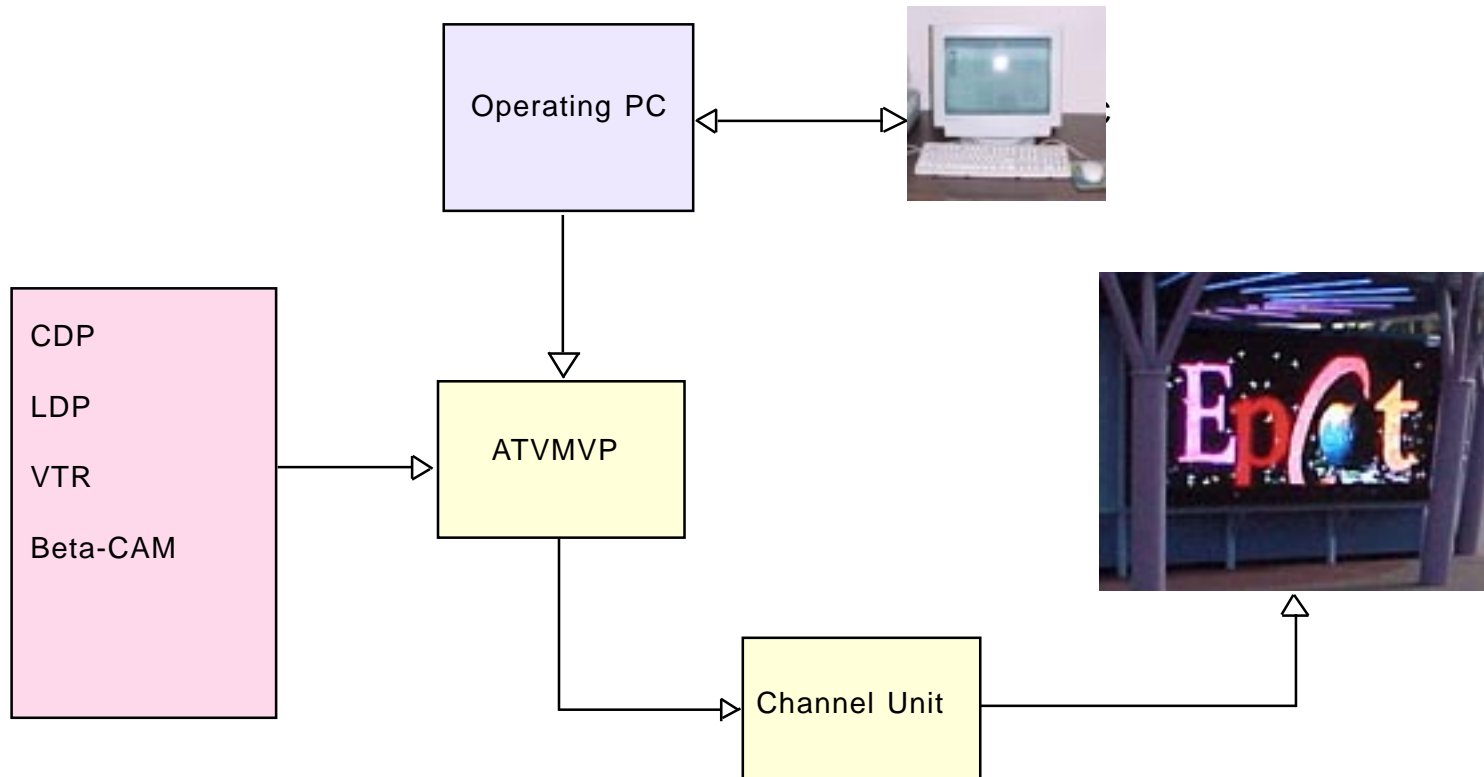
1	TxD	6	Power Status
2	Line Active	7	NTSC & PAL
3	Audio	8	Comm. with ATVMVP
4	RxD	9	Signal Indicator
5	Diagnostic Error	10	Power On
Indicator 10X LED			



2-4. Control System Configurations

1. Single Operating Mode

This mode is for the site where the operator can run the system controller and video server manually. For instance, the mobile type system or a single stand-alone system is proper for this mode.



2. Basic Remote Control Mode

This mode is for a site where automatic running operation is sufficient.

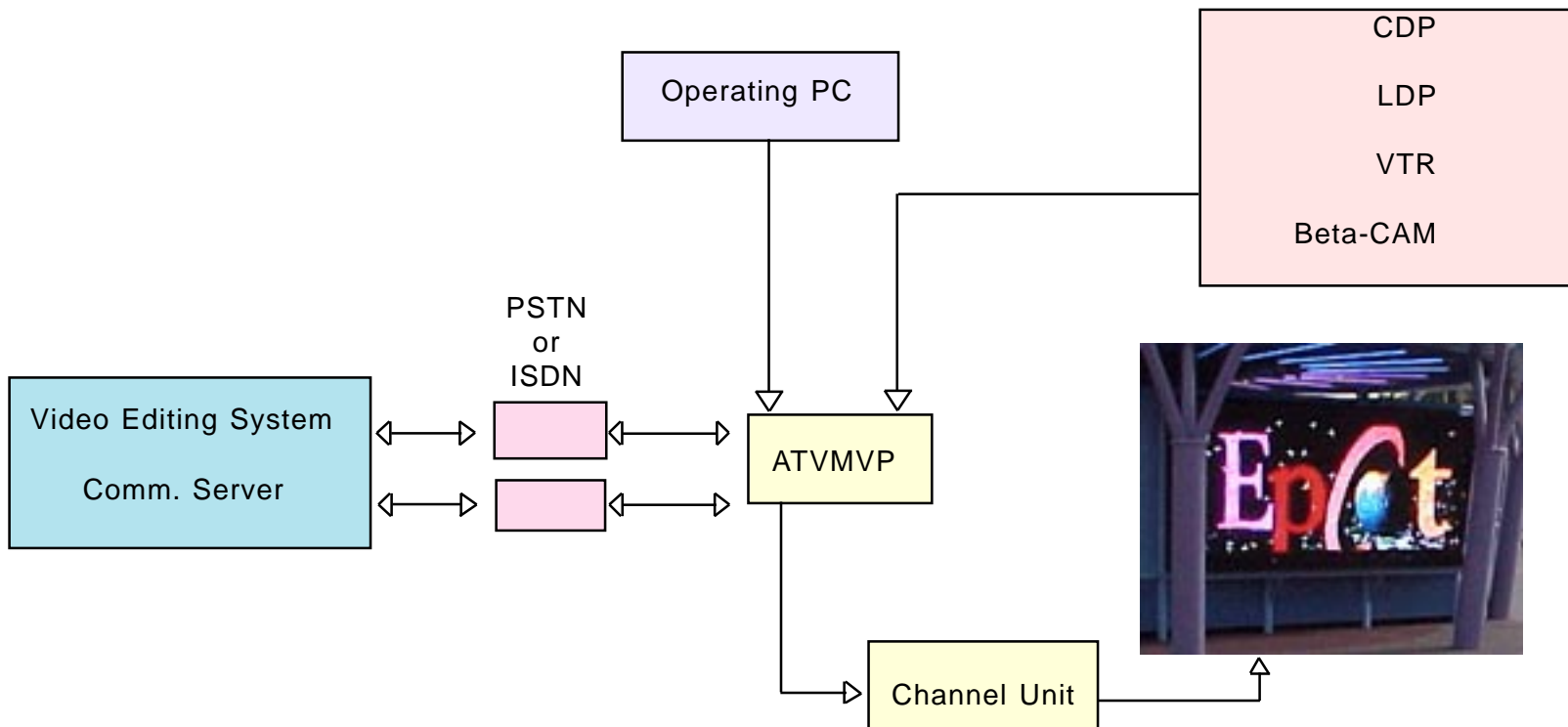
Usually the actual displaying screen is located at the remote site (local site) rather than at the main control site (Center Site).

The basic screen display and the running sequences can be controlled from the center site, and the running status and fault reports can be monitored at the center site.

The display server at the local site has its own database and running sequences table for the display.

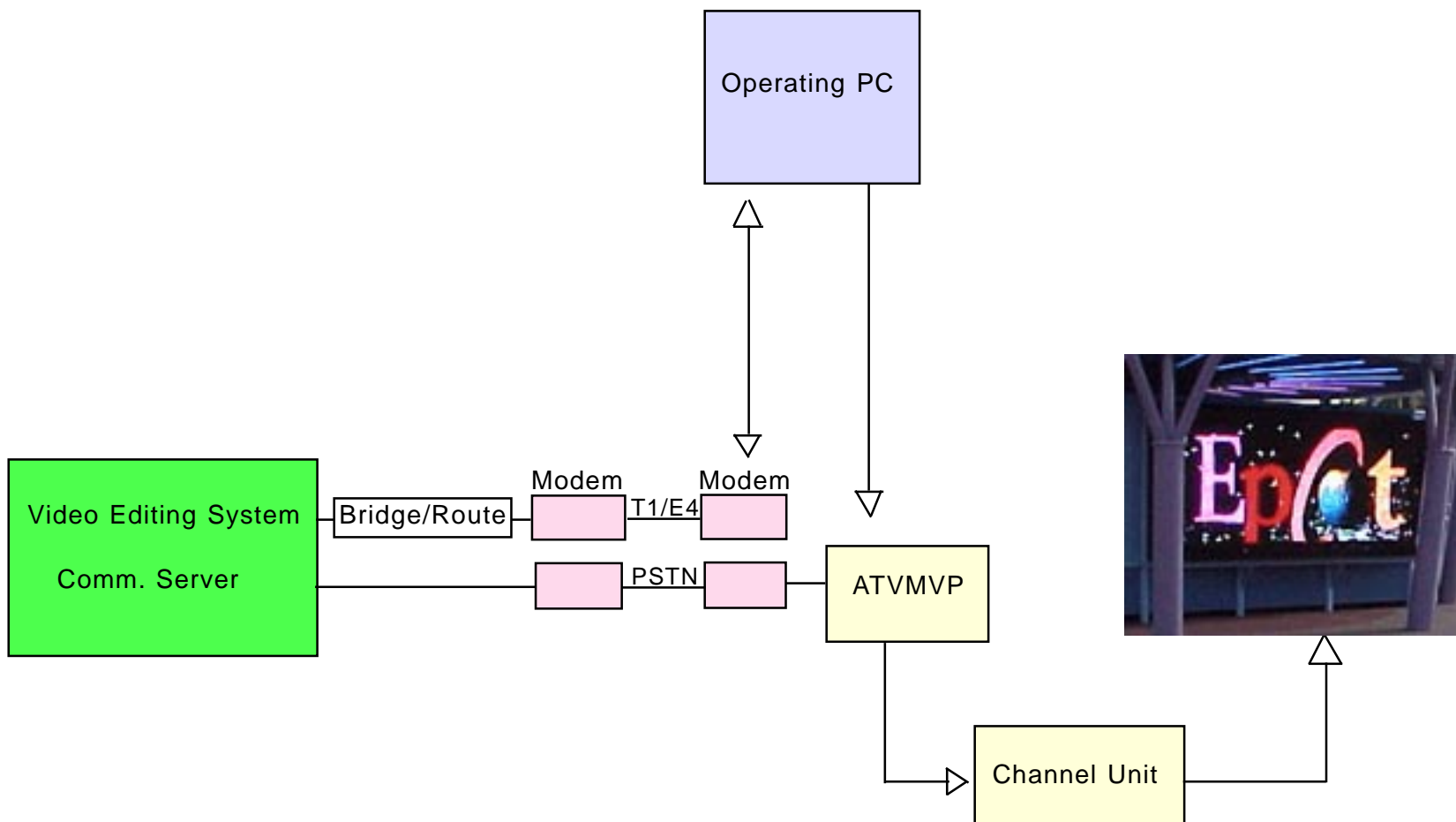
This database can be updated by direct and manual replacement or via communication line on-the-fly or at off-display time.

This mode uses low-cost communication lines and hardware protocol (PTSTN, Leased Line or ISDN), so The database transmission time is usually not very fast enough.



3. High Speed Remote Control Mode

If the database is very large and the updating period is frequent and/or the real-time video transmission is required, a high speed communication line and hardware should be adopted. Lan, Wan using a bridge/route with T1 to E4 lines or satellite video/data can be used.

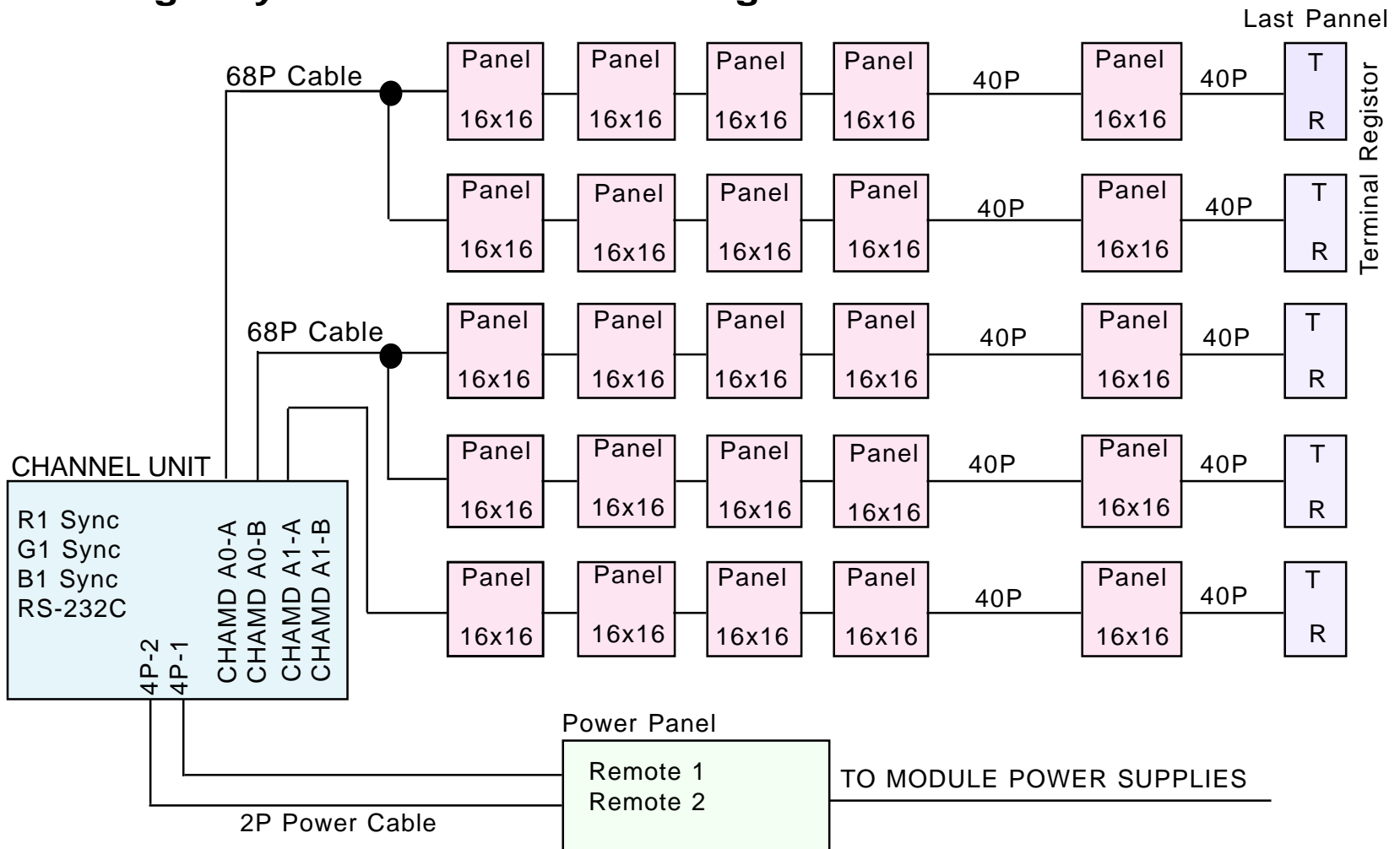


II-3. Logic System

3-1. Others Features

- Stable Operation under Microsoft Windows NT. (or Microsoft Windows 2000 Professional)
- Easy Maintenance
- Sequent Power On/ Off and Auto Power On/Off.

3-2. Logic System Data Process Diagram

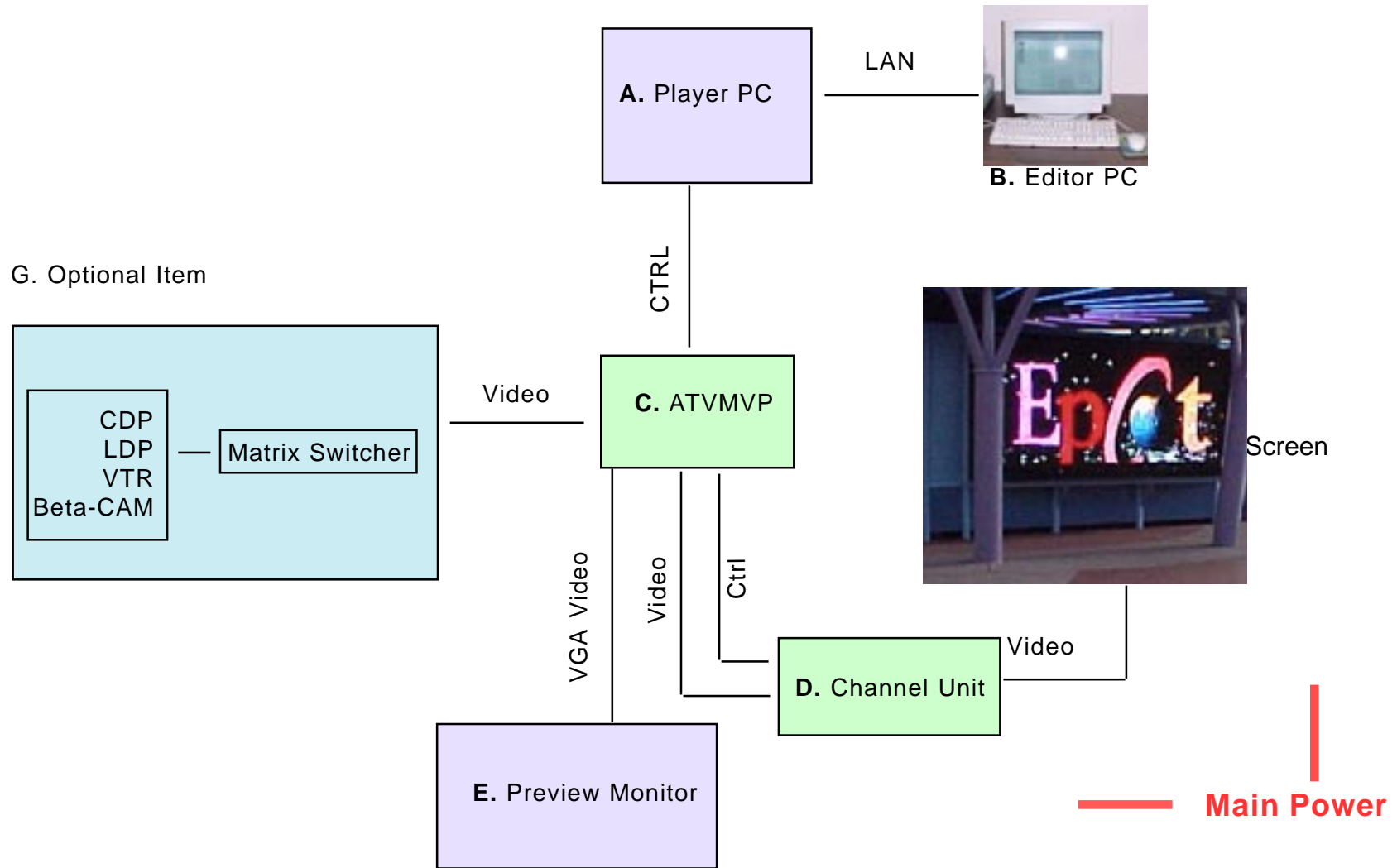


II-4. O.P Software Introduction

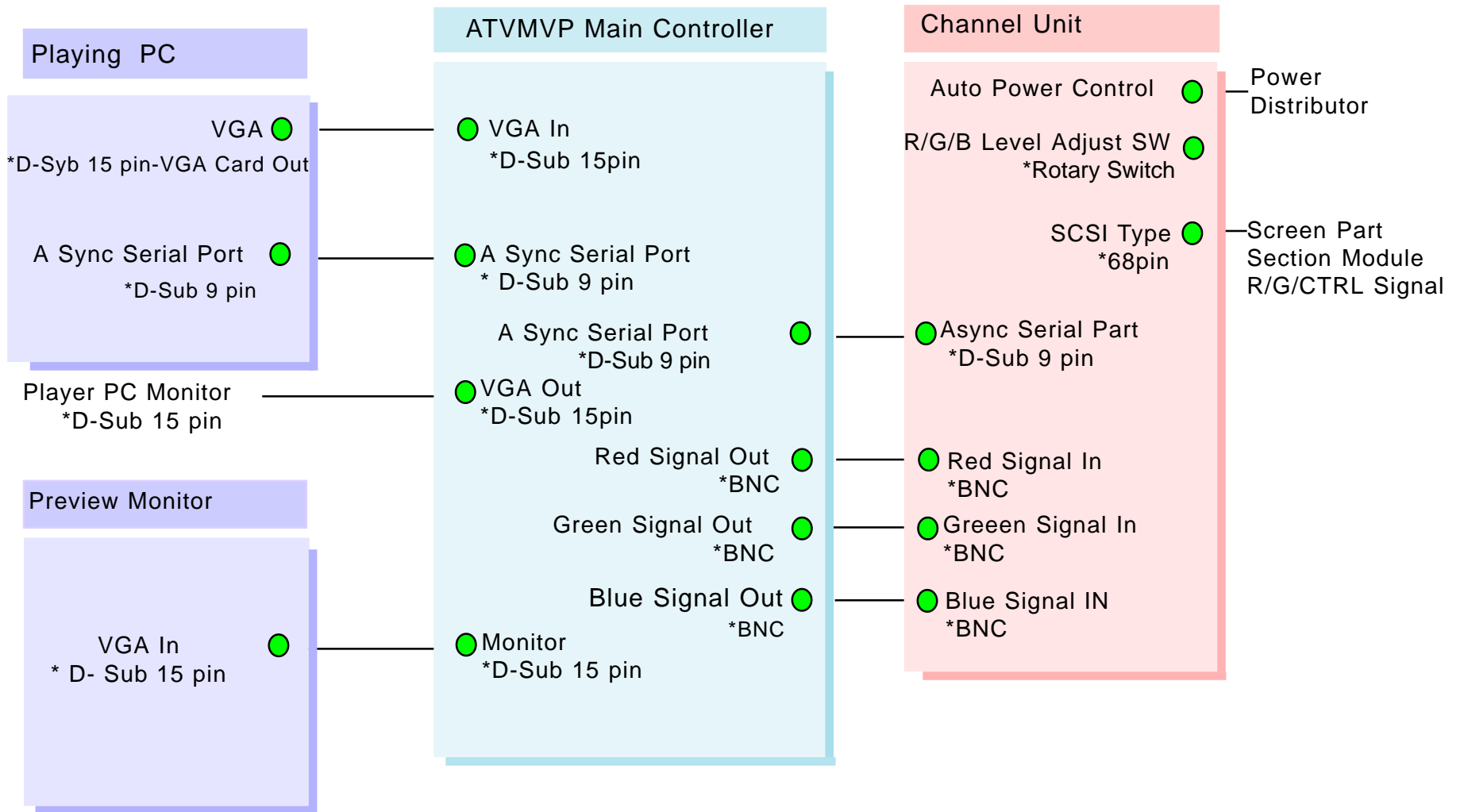
Item	Description	Remarks
Screen Operating Software	<p>Display Screen Operating & Scheduling Software : InnoBrain</p> <ul style="list-style-type: none"> - Operating Site Status Monitoring - Schedule Editing - Schedule Playing - Adjust Gamma Correction - Adjust Auto Brightness, Contrast, Saturation, Hue - Adjust Graphics and Screen Aspect Ratio - Source Selector - Support Various Video Clip - Avi, Mpeg, Mov etc. - Screen Power Status Monitor - Present Play Mode Monitor - System based Windows 2000 or, Windows NT 4.0, Windows 98/ME/95 	
Editing Software	<p>Graphic Editing Software : Adobe Photoshop 6.0 = Option</p> <p>Motion Picture Editing Software : Adobe Premiere 5.5 = Option</p>	
Operating Software	<p>Microsoft Windows 2000 Professional</p>	

III-1. Proposal System Specification

Display Board General Connection Diagram



Proposal System Detail Block Diagram



Display Board System Specifications

Description	Item	Q'ty	Specification
A.Player PC	CPU	1EA	Pentium <i>iii</i> 800Mhz
	Main Board	1EA	Pentium <i>iii</i> 800Mhz compatible,ATX CPU Board
	RAM	1EA	128MB DIMM RAM
	HDD	1EA	20 GIGA E- IDE
	FDD	1EA	3.5 inch, 1.44MB
	CDROM Drive	1EA	48X CDROM DRIVE
	VGA Card	1EA	AGP VGA Card (SGRAM 32M)
	Monitor	1EA	17 Inch Monitor
	Key Board	1EA	PS/2, 106 Keyboard
	Mouse	1EA	PS/2, Wheel Mouse
	Case	1EA	ATX Case
	S/W	1EA	InnoBrain * Main Festures & Spec. refer to 25 P
	SCSI HDD	1EA	Ultra Wide SCSI HDD Seagate - 10,000rpm (9 GIGA)
	SCSI HDD Rack	1EA	2 Bay Slot
	Capture B/D	1EA	V2D-5010 (NTSC/PAL Support), DPS Velocity NLE Editor B/D)
N/C	1EA	3 Com 10/100 Network Card - RJ45 Connector	

Display Board System Specifications

Description	Item	Q'ty	Specification	Remarks
B. Editor PC	CPU	1EA	Pentium <i>iii</i> 800Mhz	
	Main Board	1EA	Pentium <i>iii</i> 800Mhz compatible,ATX CPU Board	
	RAM	1EA	128MB DIMM RAM	
	HDD	1EA	20 GIGA E- IDE	
	FDD	1EA	3.5 inch, 1.44MB	
	CDROM Drive	1EA	48X CDROM DRIVE	
	VGA Card	1EA	AGP VGA Card (SGRAM 32M)	
	Monitor	1EA	17 Inch Monitor	
	Key Board	1EA	PS/2, 106 Keyboard	
	Mouse	1EA	PS/2, Wheel Mouse	
	Case	1EA	ATX Case	
	S/W	1EA	InnoBrain * Main Festures & Spec. refer to 25 P	
	SCSI HDD	1EA	Ultra Wide SCSI HDD Seagate - 10,000rpm (9 GIGA)	
	SCSI HDD Rack	1EA	2 Bay Slot	
	Capture B/D	1EA	V2D-5010 (NTSC/PAL Support), DPS Velocity NLE Editor B/D)	
NIC	1EA	3 Com 10/100 Network Card - RJ45 Connector		

Display Board System Specifications

Description	Item	Specification	Remarks
C. ATVMVP	<p>Input</p> <p>Analog Source Digital Source Graphic Source</p> <p>Output</p> <p>Processing</p> <p>MISC</p>	<p>3 Composite inputs 1V p-p 75 ohm BNC 1 SMPTE259M D1, 75 ohm BNC,CCIR601, 240MB/sec VGA Graphic, 15 pin D-Sub</p> <p>Comb Filter Internal motion adaptive scan conversion 33-TAP independent vertical and horizontal FIR Filters Programmable GAMMA removal YUV gain control Programmable aspect ratio, compression control</p>	
D. Channel Unit		<p>R/G/B Input 75 ohm BNC, A sync Serial Port D-Sub 9 Pin SCSI 68 pin R/G/B Output</p>	

Display Board System Specifications

Description	Q'ty	Specification	Remarks
E. Preview Mon		1EA 17" Multi Sync Monitor	
F. Display Screen	1EA	Full Color LED Display Board	
G. Optimal Item	1EA 1EA 1EA 1EA 1EA 1EA	8X8 AV Matrix CDP LDP VTR Beta-CAM Professional TV Monitor	
H. Etc	1 SET 1 EA 1 EA 1 EA 1 SET 1 SET	System 19" Rack Monitor Cable (15Pin D-SUB Jack Cable - Both Side) PC to Controller RS-232 Cable Peer to Peer Network Cable Composite Cable/ S-VHS Cable Etc. RCA to BNC,BNC to RCA Convert Conntector	

III - 2. Maintenance

1. After Sales Service Plan

Maintenance Purpose

The purpose of the maintenance for the screens is to keep the screens working as good as possible, preventing all conceivable problems in the future. So, daily or periodical check-up is being required to maintain the best quality of the pictures.

Schedule

Regular circuit check by supplier: once per every six(6) months. (problem-prevention purpose)

Frequent check by user : Most of the problems will be solved by th instructions from the supplier over the phone. But some problems going beyond the capabilities of the user, repair service will be done within 96 hours upon the request.

Check Points	Regular	Frequently	Remarks
1. Power Supply			Change Input Voltage
2. Communication Line			Line Problem
3. Communication Equipment	●	●	Check Equipment
4. Main Controller	●	●	Clean HDD,FDD
5. Program	●	●	Back Up Program
6. Switching Mode Power Supply		●	Stable Voltage
7. Controller	●	●	Function Check
8. Temperature Control	●		Function Check
9. Pixels		●	Pixel Function
10. Circuit of Display Board	●		Circuit Check
11. Report		●	System Operation Check
12. Cleaning Screens	●		Cleaning

* Preparation : Supplier should have some stocks of parts.