THE PEOPLE'S REPUBLIC OF BANGLADESH

DETAILS DESIGN REPORT

ON

THE TELEVISION STUDIO CONSTRUCTION PROJECT

VOLUME II

MARCH 1978

JAPAN INTERNATIONAL COOPERATION AGENCY

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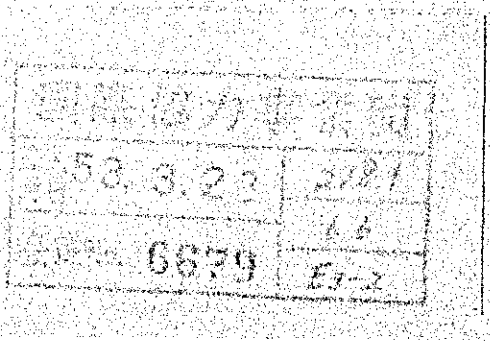


CONTENTS

1. GENERAL

1.1 Scope of application

The specification of TV Broadcasting facilities covers the program production facilities, stage and lighting facilities, manufacture of the public addressing system, factory adjustment for the equipments involved, work of the installation at the site, wiring work and other related works incidental to the construction of the Auditorium scheduled for BTV.

1.2 Scope of work

1) Design and manufacture of the TV broadcasting equipment and related devices.

2) Overall adjustment and factory test.

3) Delivery, installation, wiring and so forth at the site.

4) Reassembly work and overall adjustment at the site affter installation.

5) Miscellaneous works incidental to the Auditorium construction.

1.3 Construction site

BTV, Rampura, Dacca, Bangladesh.

2. CONSTITUTION

2.1 Facilities

2.1.1 Program production facilities

Facilities	Q'ty	Item
1. Monochrome camera chain	4 sets	1 inch 1P
2. Color camera chain	1 set	1 inch 3P
3. Color telecine chain	1 set	with 3V camera
4. Opaque camera chain	1 set	with 1V camera
5. Video mixing & processing system	1 set	
6. Video monitoring system	1 set	
7. Audio mixing chain	1 set	

2.1.2 Stage and lighting facilities

Facilities	Q'ty	Item
1. Curtains	1 set	
2. Batten system for flying sets		
3. Batten system for lighting equipments	1 set	
4. Lighting equipments	1 set	
5. Light control system	1 set	
6. Special effect machines	1 set	

2.1.3 Public addressing facilities and others

Facilities	Q'ty	Item
1. Audio mixing facilities for public address	1 set	
2. Speakers	1 set	
3. Intercom system	1 set	
4. Interphone system	1 set	
5. Monitor TV camera system	2 sets	
6. Information facilities for audience	1 set	
7. 35mm projector system	1 set	with 2 projectors

2.2 Equipments and accessories list per each facility

2.2.1 Monochrome camera chain

1) Specification of main points

(1)	Scanning standard	CCIR 625 lines, 50 fields per sec.
(2)	Power source	AC 220V
(3)	Pick up tube	1 inch 1 plumbicon tube
(4)	Input impedance	75Ω or high impedance
(5)	Input signals	
	HD	4V (P-P) negative polarity
	VD	4V (P-P) negative polarity
	BL	4V (P-P) negative polarity
	SYNC	4V (P-P) negative polarity
(6)	Video output	3 outputs
(7)	Output level	Composite: 1.0V (P-P) Video: 0.7V (P-P)
(8)	Resolution	
	Horizontal	More than 600TV lines (center) More than 400TV lines (corner)
	Vertical	More than 350TV lines
(9)	Deflection distortion	Less than 2%
(10)	Frequency response	Within ±0.5 dB (to 4MHz)
		Within $^{+0.5}_{-2.0}$ dB (at 6MHz)
		Roll-off characteristics above 8MHz without aperture correction.
(11)	Wave form distortion	Sag: less than 2% at 6Hz, 250KHz
		Rise time: less than 0.1μs at 15KHz,250KHz
		Overshoot: less than 15% at 15KHz, 250KHz
(12)	SN ratio	Below -50dB (Hum noise)
		Below -49dB (random noise)
(13)	Other characteristics	i) with Gamma correction
		ii) with aperture correction
		iii) with scanning protection

2) Equipments list of monochrome camera chains

Equipment	Q'ty	Remarks
(1) Camera head	4	To include view finder, ND filter
(2) CCU	4	With remote control panel
(3) Camera mount & tripod	2	
(4) Camera mount & dolly	2	
(5) Zoom lens	4	16mm ∿ 160mm F1.6
(6) Camera cable	6	25m x 2, 50m x 2, 100m x 2 } The same connector and cable as color system

3) Accessories and spare parts

Parts	Q'ty	Remarks
(1) Dust cover	4	
(2) Head set	6	
(3) Interconnection cable	4	
(4) VF hood	4	
(5) Front plate for camera head	4	
(6) Script holder & light	4	
(7) Unit extender	4	
(8) Lamps & fuse & tubes	4 sets	300% /set
(9) Spare camera connector	2 pairs	
(10) Lens case	2	
(11) Resolution test chart	4	
(12) Linearity test chart	4	
(13) Log gray scale test chart	4	
(14) Spare unit	1 set	1/type
(15) Spare semi conductor	1 set	2/type (except one on the units or cards.)

2.2.2 Color camera chain

1) Specification of main points

(1)	Color standard	PAL
(2)	Scanning standard	CCIR 625 lines 50 fields/sec
(3)	Power source	AC 220V
(4)	Pick up tube	1 inch 3 plumbicon tubes
(5)	Input impedance	75Ω or high impedance
(6)	Input signals	
	SYNC	4V (P-P) negative polarity
	SC	2V (P-P) positive polarity
	PAL signal	4V (P-P) positive polarity
(7)	Output signals	Encoded video signals VS 1.0Vp-p x 3 (75Ω)
		Chroma key R.G.B video out 0.7Vp-p (75Ω)
(8)	Sensitivity	More than 49dB at Y channel at 5.5MHz
(9)	Scanning geometry accuracy	Zone 1: ±0.5% of picture height
		Zone 2: ±1.0% of picture height
		Zone 3: ±1.0% of picture height
(10)	Registration accuracy	Zone 1: 0.05% of picture height
		Zone 2: 0.20% of picture height
		Zone 3: 0.40% of picture height
		Zone 1: within a circle of 0.8 picture height
		Zone 2: within a circle of picture width
		Zone 3: remainder
(11)	Gain control	±6dB
(12)	Image sharpner	Frequency boost, more than 12dB at 5MHz S/N better than 56dB
(13)	Other characteristics	i) To include Gamma correction
		ii) To include bias light

2) Equipments list of color camera chain

Equipment	Q'ty	Remarks
(1) Camera head	1	With view finder & bias light
(2) Camera control rack	1	Including 10" picture monitor and waveform monitor, image sharpner unit, color encoder unit, control panel and power supply.
(3) Zoom lens	1	16 ∿ 160mm F1.6 including pattern projector with test chart
(4) Camera cable	2	50m x 2

3) Accessoires and spare parts

Parts	Q'ty	Remarks
(1) Dust cover	1	
(2) Unit extenders	1 set	
(3) Special tools	1 set	
(4) Control cable	1 set	
(5) Head set	1	
(6) External signal control box	1	
(7) Script light & holder	1 set	
(8) Fuses & lamps & tubes	1 set	300%
(9) Lens case	1	
(10) Spare unit	1 set	1/type
(11) Spare semiconductor	1 set	2/type (except one on the units or cards)

2.2.3 Color telecine chain

1) Specification of main points

(1) Standard	625 lines 50 fields/sec. PAL system
(2) Power source	AC 220V
(3) Pick up tube	1 inch 3 vidicon
(4) Input signals	
Composite SYNC	2∿4V (P-P) negative polarity for camera

Composite SYNC	2∿4V (P-P) negative polarity for monitor
Subcarrier	1V (P-P) negative polarity
Video outputs (R.G.B)	0.7V (P-P) for CCU
Burst gate signal	2-4V (P-P) negative polarity
Blanking signal	2-4V (P-P) negative polarity
PAL line switching pulse	1V (P-P)
(5) Input impedance	
Sub carrier	75Ω
Other signals	75Ω or high impedance
(6) Output signals	R.G.B signals 0.7V (P-P) from camera VBS 1V (P-P): 6 outputs from encoder
(7) Output impedance	75Ω
(8) Frequency response	1KHz∿6MHz ±0.5dB 100KHz: standard
(9) Waveform distortion	
(Y channel)	
Rise time	Shorter than 0.1 μsec
Overshoot	Less than 15%
Sag	Less than 2%
(10) Resolution	More than 650 TV lines at center More than 550 TV lines at corner
(11) SN ratio	
(Y channel)	
Hum noise	More than 50dB (P-P/P-P)
Synchronous noise	More than 30dB (P-P/P-P)
Random noise	More than 48dB (P-P/P-P) (The Random noise is measured with the pick up tube signal output, video output level, and band width set to 0.3μA (P-P), 0.7V (P-P), and 4.5 to 5.5MHz respectively)
(12) Other characteristics of the camera	i) To include aperture correction ii) To include Gamma correction iii) To include shading correction iv) To include automatic level control such as AWL, ABL, ALC

(13) Projector film speed	25 frame per sec in both foward and reverse operation
(14) Film loading capacity	4000 feet maximum
(15) Picture deviation	
Vertical	Less than 0.1% for width of picture
Horizontal	Less than 0.1% for width of picture
(16) Noise	Less than 75 phons at 1m from the projector
(17) Magnetic sound frequency characteristic	40Hz∿10,000Hz ±2dB 1000Hz standard
(18) Optical sound frequency characteristic	50 ∿ 7000Hz $^{+1}_{-2}$dB 1000Hz standard
(19) Sound output level	+4dB
(20) Wow and flutter	Less than 0.3%
(21) Slide size	28mm x 21mm
(22) Slide capacity	32
(23) Slide change	Alternate, skip change
(24) Multiplexer	
input/output	3/1

2) Equipments list of color telecine chain

Equipment	Q'ty	Remarks
(1) 3V color TV camera	1	
(2) Color encoder	1	To include remote control boad
(3) Picture monitor	1	12 inch
(4) Waveform monitor	1	
(5) Pick-up tube	3	1 inch vidicon
(6) 16mm projector	2	
(7) Slide projector	1	
(8) Optical multiplexer	1	Including pedestal
(9) Vector scope	1	

3) Accessories and spare parts

Parts	Q'ty	Remarks
(1) Standard accessories	1 set	
(2) Pick-up tube, fuse & lamp	1 set	300%
(3) 16mm TV color reference	1	SMPTE TV 16CR
(4) 16mm alignment and resolution	1	SMPTE TV 16AR
(5) 16mm deflection linearity	1	SMPTE TV 16DL
(6) 16mm gray scales	1	
(7) 16mm registration	1	
(8) 16mm magnetic sound multifrequency	1	SMPTE M 16MF
(9) 16mm photographic sound multifrequency	1	SMPTE P 16MF
(10) 2" x 2" TV color slide	1	
(11) 2" x 2" slide alignment and resolution	1	
(12) 2" x 2" gray scale	1	
(13) 2" x 2" registration	1	
(14) Spare unit	1 set	1/type
(15) Spare semiconductor	1 set	(except one on the units or cards)

2.2.4 Opaque camera chain

1) Specification of main points

(1) Scanning standard	625 TV lines: 50 fields/sec
(2) Power source	AC 220V
(3) Operation	Local and remote
(4) Input signals	
HD	4V (P-P) negative polarity
VD	4V (P-P) negative polarity
BL	4V (P-P) negative polarity
SYNC	4V (P-P) negative polarity
(5) Input impedance	75Ω or high impedance
(6) Output signals	1.0V (P-P) composite x 3
(7) Output impedance	75Ω

(8) Resolution	
Horizontal	More than 600 TV lines at center
	More than 400 TV lines at corner
Vertical	More than 350 TV lines
(9) Deflection distortion	i) Within the circle having a diameter equivalent to the height of the picture less than 1%
	ii) Remainder less than 2%
(10) Frequency response	Within ±0.5dB (at 5MHz)
	Within $\pm^{0.5}_{2.0}$dB (at 6MHz)
(11) SN ratio	
Hum noise	Below -55dB (P-P)
Random noise	Below -46dB (rms)
(12) Opaque card size	125mm x 100mm

2) Equipments list of opaque camera chain

Equipment	Q'ty	Remarks
(1) 1V TV camera	1	
(2) Opaque projector	1	
(3) Picture monitor	1	9 inch monochrome
(4) Remote control panel	1	

3) Accessories and spare parts

Parts	Q'ty	Remarks
(1) Standard accessory	1 set	
(2) Pick-up tube, fuses, lamps	1 set	300%
(3) Opaque auto changer	1	
(4) Opaque scroll unit	1	
(5) Opaque roll unit	1	
(6) Opaque card holder	100	
(7) Spare unit	1 set	1/type
(8) Spare semiconductor	1 set	2/type (except one on the units or cards)

2.2.5 Video mixing & processing system

1) Equipments list of video mixing & processing system

Equipment	Reference	Q'ty	Remarks
(1) Video mixing console	DRG NO 2-1 DRG NO 2-2	1	
(2) Video engineering console	DRG NO 2-3		
(3) Video distribution amplifier	DRG NO 2-4	1 set	To include rack, mounting shelf, rectifier, regulator, jack panel, fuse panel
(4) Video switcher	DRG NO 2-4		
(5) Line & monitor switcher	DRG NO 2-4		
(6) Mixer amplifier	DRG NO 2-4	1 set	
(7) Mixer keyer amplifier	DRG NO 2-4	1 set	
(8) Special effect wave-form generator	DRG NO 2-4	1 set	Total 31 patterns
(9) Video delay line			
(10) Pulse distribution amplifier	DRG NO 2-5	1 set	To include rack, mounting shelf, rectifier, regulator, jack panel, fuse panel
(11) Process amplifier	DRG NO 2-5	1 set	
(12) TV SYNC generator	DRG NO 2-5	2 sets	
(13) SYNC selector	DRG NO 2-5	1 set	
(14) Pulse delay line	DRG NO 2-5	1 set	
(15) Burst killer unit	DRG NO 2-5	1 set	
(16) Chroma-key unut	DRG NO 2-5	1 set	
(17) Camera cable patching board	DRG NO 2-6 DRG NO 2-74	1	To include camera cable and connector
(18) Floor keeper		1 set	

2) Accessories and spare parts

Parts	Reference	Q'ty	Remarks
(1) Unit extender		1 set	1/type
(2) Video patching cord		20	
(3) Dual oscilloscope		1	DC∿40MHz
(4) Circuit tester		1	Max. range 12kv
(5) Mounting frame with power supply		1	to be included below (6) - (12)
(6) Greating generator		1	
(7) Square wave generator		1	
(8) Sweep generator		1	
(9) Stair step generator		1	
(10) Multi burst generator		1	
(11) Sin^2 pulse and bar generator		1	
(12) Color bar generator		1	
(13) Hand tool set with case		3	
(14) Spare unit		1	1/type
(15) Fuses & lamps		1 set	300%
(16) Semiconductor		1 set	2/type (except one on the units and cards)
(17) Chair		5	For VE x 2 TD, PD x 2 Spare x 1

2.2.6 Video monitoring system

1) Equipments list of video monitor system

Equipment	Reference	Q'ty	Remarks
(1) 20 inch color picture monitor	DRG NO 2-6	2	For LM & LD
(2) 20 inch B/W picture monitor	DRG NO 2-6	13	
(3) 12 inch B/W picture monitor	DRG NO 2-6	13	
(4) Stand with casters for picture monitor		14	For 20 inch monitor
(5) Monitor cart		2	
(6) Monitor shelf	DRG NO 2-6	1 set	Supplied by BTV
(7) Monitor cart for LD		1	

2) Accessories and spare parts

Parts		Q'ty	Remarks
(1) Fuses & lamps		1 set	300%
(2) Spare Braun tube		1 set	1/type
(3) Other standard accessories		1 set	

2.2.7 Audio mixing chain

1) Equipments list of audio mixing chanin

Equipment	Reference	Q'ty	Remarks
(1) Audio mixing console	DRG NO 2-7 DRG NO 2-51	1	
(2) Variable directional ribbon microphone		5	
(3) Condensor microphone		5	With AC power supply x 3
(4) Dynamic microphone		10	
(5) Gun microphone		1	
(6) Wireless microphone	DRG NO 2-8	6	3 frequency 2 type
(7) Antenna & stand for wireless system	DRG NO 2-8	1 set	
(8) Wireless receiver	DRG NO 2-9	2 sets	
(9) Microphone stand (H)		5	
(10) Microphone stand (M)		5	

(11) Microphone stand (DESK TYPE)		5	
(12) Microphone boom stand		2	
(13) Head phone		6	
(14) Suspension microphone system	DRG NO 2-10	2 sets	
	DRG NO 2-11		
	DRG NO 2-12		
	DRG NO 2-13		
(15) Elevater microphone system	DRG NO 2-14		
	DRG NO 2-15		
	DRG NO 2-39		
(16) Microphone cable		1 set	20m x 10 with 10m x 10 cable drum
(17) Microphone patching board	DRG NO 2-16	1 set	With rack, pad transformer etc.
(18) Tape recorder/reproducer		2	Full track 19/38cm/sec remote control. D.D motor
(19) Disk reproducer		2	33, 45, 78 rpm D.D motor
(20) Echo machine		1	
(21) Monitor speaker	DRG NO 2-17	13	To include 10W amplifier
(22) Audio line amplifier		1 set	To include rack

2) Accessories and spare parts

Parts	Reference	Q'ty	Remarks
(1) Working tools		1 set	
(2) Unit extender		1 set	1/type
(3) Spare unit		1 set	1/type
(4) Fuses & lamps		1 set	300%
(5) Semiconductor		1 set	2/type without unit's semiconductor
(6) Chair		2	Mixer x 1 tape, etc x 1
(7) Audio patching cord		40	50cm
(8) Audio terminate plug		10	

(9) Multifrequency tape		6	BTS5313 T-19 x 3 T-38 x 3
(10) Multifrequency DISK		5	JVC 2001

2.2.8 Curtains

1) Equipments list about curtains

Equipment	Reference	Q'ty	Remarks
(1) Trimming curtain	DRG NO 2-18 DRG NO 2-19 DRG NO 2-20 DRG NO 2-21 DRG NO 2-22	1 set	Including curtain material & curtain rail (Manual operation)
(2) Draw curtain	DRG NO 2-23	1 set	Including curtain material, motor winch, wire, pulley etc (Motorize operation)
(3) Drop curtain	DRG NO 2-24	1 set	The same as the above
(4) Contour curtain	DRG NO 2-24	1 set	The same as the above
(5) Border curtain	DRG NO 2-18 DRG NO 2-19 DRG NO 2-20 DRG NO 2-21 DRG NO 2-22	2 sets	Including curtain material & curtain rail (Manual operation)
(6) Back curtain	DRG NO 2-18 DRG NO 2-19 DRG NO 2-20 DRG NO 2-21 DRG NO 2-22	1 set	Including curtain material & curtain rail (Manual operation)
(7) Side curtain	DRG NO 2-18 DRG NO 2-19 DRG NO 2-20 DRG NO 2-21 DRG NO 2-22	4 sets	The same as the above
(8) Cyclorama		1 set	Manual operation with curtain material
(9) Standard accessories		1 set	To include counter weight MAG. SW, etc.

2.2.9 Batten system for flying sets

Equipment	Reference	Q'ty	Remarks
(1) Pipe batten	DRG NO 2-18 DRG NO 2-19 DRG NO 2-20 DRG NO 2-21 DRG NO 2-22	7 sets	Manual operation
(2) Standard accessories and spare parts		1 set	
(3) Photocell illuminator		2	

2.2.10 Lighting batten system

Equipment	Reference	Q'ty	Remarks
(1) Batten for spot lights	DRG NO 2-25	8 sets	
	DRG NO 2-26		
	DRG NO 2-27		
	DRG NO 2-28		
(2) Batten for flood lights	DRG NO 2-25	6 sets	
	DRG NO 2-26		
	DRG NO 2-27		
	DRG NO 2-29		
(3) Batten for upper horizontal lights	DRG NO 2-25	3 sets	
	DRG NO 2-26		
	DRG NO 2-27		
	DRG NO 2-30		
(4) Operating panel of motorized batten		1	
(5) Standard accessories and spare parts		1 set	MAG, SW etc.

2.2.11 Lighting equipments

1) List

Equipment	Reference	Q'ty	Remarks
(1) Foot light	DRG NO 2-31	7 sets	12 lamps/set 60W
(2) Border light	DRG NO 2-29	6 sets	33 lamps/set 200W
(3) Suspension spot light		8 sets	12 lamps/set 1KW Half with convex lens others with fresnel lens
(4) Tower spot light		3 sets	6 lamps/set Including 3 carts 1KW Half with convex lens Others with fresnel lens
(5) Ceiling spot light		1 set	18 lamps/set 1KW Half with convex lens Others with fresnel lens
(6) Front side spot light		2 sets	6 lamps/set 1KW Half with convex lens Others with fresnel lens
(7) Upper horizontal light		1 set	62 lamps/set 800W
(8) Low horizontal light		1 set	62 lamps/set 800W
(9) Pin-spot light		2 sets	With X'non lamp
(10) Spot light (for 1KW)		20	Half with convex lens Others with fresnel lens
(11) Spot light (for 500W)		12	
(12) Strip light (long)		4	6 Feet
(13) Strip light (short)		4	3 Feet

2) Accessories and spare parts

Parts	Q'ty	Remarks
(1) Filter holder for foot light	168	200%
(2) Lamp for foot light	168	200%
(3) Filter holder for border light	396	200%
(4) Lamp for border light	396	200%
(5) Filter holder for suspension spot light	182	200%
(6) Safety chain for suspension spot light	96	
(7) Clamp hanger for suspension spot light	96	
(8) Lamp for suspension spot light	182	200%
(9) Filter holder for tower spot light	36	200%
(10) Safety chain for tower spot light	18	
(11) Lamp for tower spot light	36	200%
(12) Filter holder for ceiling spot light	36	200%
(13) Safety chain for ceiling spot light	18	
(14) Clamp hanger for ceiling spot light	18	
(15) Magno-color for ceiling spot light	18	
(16) Lamp for ceiling spot light	36	
(17) Filter holder for front side spot light	24	
(18) Safety chain for front side spot light	12	
(19) Magno-color for front side spot light	12	
(20) Lamp for front side spot light	24	200%
(21) Filter holder for upper horizontal light	124	200%
(22) Safety chain for upper horizontal light	62	
(23) Clamp hanger for upper horizontal light	62	
(24) Lamp for upper horizontal light	124	200%
(25) Filter holder for low horizontal light	124	200%
(26) Safety chain for low horizontal light	64	
(27) Lamp for low horizontal light	124	200%
(28) Rectifier for X'non follow spot light	2	

(29) Mirror for X'non follow spot light	2	
(30) X'non lamp	4	200%
(31) Filter holder for spot light (1KW)	40	200%
(32) Safety chain for spot light (1KW)	20	
(33) Lamp for spot light (1KW)	40	200%
(34) Filter holder for spot light (500W)	24	200%
(35) Safety chain for spot light (500W)	12	
(36) Lamp for spot light (500W)	24	200%
(37) Filter holder for strip light (long)	64	200% 6 feet
(38) Lamp for strip light (long)	64	200%
(39) Filter holder for strip light (short)	32	200% 3 feet
(40) Lamp for strip light (short)	32	200%
(41) Stand (high)	20	To include casters
(42) Stand (low)	5	
(43) Step ladder	3	3m
(44) Plastic filter	2500	600mm x 600mm
(45) Plastic diffusion filter	150	600mm x 600mm
(46) Operation bar for lighting	3	4m
(47) Telescopic hanger (for 1kg)	20	
(48) Telescopic hanger (for 3kg)	5	
(49) Long hanger	10	
(50) Extension cable	30	5m x 20 10m x 10
(51) 10m cable with plug & connector	4	4 hall
(52) Light for audience in TV use	20	
(53) Lamp for audience in TV use	40	200% 500W

2.2.12 Light control system

1) Equipments list of the light control system

Equipment	Reference	Q'ty	Remarks
(1) Main switch board	DRG NO 2-38	1 set	
(2) Dimmer unit rack	DRG NO 2-32	1 set	
(3) Patching board	DRG NO 2-33	1 set	
(4) D/L switch board	DRG NO 2-34	1 set	
(5) Preset fader board	DRG NO 2-35	1 set	
(6) Lighting control console	DRG NO 2-36	1 set	
(7) Dimmer unit	DRG NO 2-37		6KW: 48 10KW: 2

2) Accessories and spare parts

Parts	Reference	Q'ty	Remarks
(1) Patching coad		112	(Including in patching boad)
(2) Dimmer unit		2	6KW x 1 10KW x 1
(3) D/L switch		119	(114+5)
(4) Preset fader		10	
(5) Group fader		1	
(6) Master fader		1	
(7) Cross fader		1	
(8) Chair for LD		1	
(9) Lamps & fuses		1 set	300%
(10) Unit		1 set	1/type
(11) Semiconductor		1 set	2/type
(12) Other standard accessories and spare parts		1 set	

2.2.13 Special effect machine

1) Equipments list of special effect machine

Equipment	Reference	Q'ty	Remarks
(1) Special effect spot machine		2 sets	
(2) Mirror ball		1 set	30cm
(3) Fogmat machine		1 set	
(4) Wind machine		1 set	
(5) Cowel spinner kit		1 set	
(6) Wind howler kit		1 set	
(7) Strobo power supply with flash lamp and extension cable		1 set	

2) Accessories and spare parts

Parts	Reference	Q'ty	Remarks
(1) Film machine for special effect spot machine		2	Endless film x 10 Clear film x 20
(2) Objective lens		4	Telescope x 2 Wide x 2
(3) Lamp for special effect spot machine		4	1000W
(4) Spiral machine for special effect spot machine		2	Printed glass x20 Clear glass x30 Spiral matt x20
(5) Disk machine for special effect spot machine		2	465ø disk x10 178ø disk x 3
(6) Slide carrier for special effect spot machine		2	Metal matt x20 Print glass x30 Clear glass x30 Hand writing kit x10 Hand writing matt x10 Q-color 1 set (11 colors) Developing set 1 set Retouching liquid 1 set

2.2.14 Public addressing system and others

1) Equipments list of PA system and others

Equipment	Reference	Q'ty	Remarks
(1) Public addressing mixing console	DRG NO 2-40 DRG NO 2-53	1	
(2) Public addressing mixing console in audience seat		1	4 inputs 5 outputs
(3) Monitor amplifier for public addressing use	DRG NO 2-16 DRG NO 2-17	1 set	Including rack, jack panel, mounting shelf, fuse panel etc.
(4) Speaker (100W)	DRG NO 2-41	6	S-7000 type
(5) Speaker (50W)	DRG NO 2-17	2	For upper stage
(6) Speaker (15W)	DRG NO 2-17	3	For under stage 10cm type
(7) Intercom system	DRG NO 2-42 DRG NO 2-43	1 set	
(8) Interphone system	DRG NO 2-42	1 set	
(9) CCTV camera system	DRG NO 2-44	2 sets	Including 10~100mm zoom lens 12 inch picture monitor, remote control box, mount head
(10) LT board	DRG NO 2-45 DRG NO 2-50 DRG NO 2-55	1 set	
(11) CVCF board	DRG NO 2-46 DRG NO 2-50	1 set	For 5KVA
(12) AVR board	DRG NO 2-47 DRG NO 2-50	1 set	
(13) Rectifier board for emergency light	DRG NO 2-48 DRG NO 2-50	1 set	
(14) Battery for emergency light	DRG NO 2-49 DRG NO 2-50	1 set	180 cell.
(15) NAB endless tape recorder & reproducer for audience	DRG NO 2-51	1 set	5 ch NAB A type
(16) Clock & controller of audience display		1 set	Including rack, mounting shelf etc.
(17) Buzzer switch for starting		1 set	

2) Accessories & spare parts

Parts	Reference	Q'ty	Remarks
(1) Spare unit		1 set	1/type
(2) Spare semiconductors		1 set	2/type
(3) Lamps & fuses		1 set	300%
(4) Desk for interphone		1	Supplied by BTV
(5) Chair for public addressing console		1	
(6) Shelf for emergency battery		1	Supplied by BTV
(7) Sub clock		13	Second clock x 2 + 1 30 sec clock x 9 + 1
(8) NAB A type endless tape		40	5 minutes x 20 10 minutes x 20

3. CONDITIONS

3.1 Ambient Conditions

Temperature	0° to 40°C
Relative humidity	Below 90%

3.2 Conditions for operating

Temperature	24°C	At subcontrol room and rack roon
Relative humidity	50%	
Temperature	26°C	Other places
Relative humidity	55%	

4. OPERATING RANGES

4.1 Power Source

400V 3φ 4W 50Hz
or 220V 1φ 2W 50Hz
Voltage drift: ±15%
Frequency drift: 48 ∿ 52Hz

4.2 Standard

Color: PAL B
Monochrome: CCIR 625TV lines 50 fields

5. CORCIOT

5.1 Block Diagram

Item	Reference
(1) Block diagram of video system	DRG NO 2-4
(2) Block diagram of audio system	DRG NO 2-16
(3) Block diagram of power source	DRG NO 2-50
(4) Block diagram for emergency lighting	DRG NO 2-51
(5) Block diagram of audio mixing console	DRG NO 2-52
(6) Block diagram of public addressing mixing console	DRG NO 2-53
(7) Block diagram of lighting control system	DRG NO 2-54
(8) Circuit of L/T board	DRG NO 2-55
(9) Circuit of power distributor in subcontrol room	DRG NO 2-56
(10) Light control unit & number of circuit	DRG NO 2-73

6. INSTALLATION

6.1 General

Generally, box and power distributor inside wall or stage are not included in this work.

Scope of works is as follows:

1) All wiring installation after the power distributor box in subcontrol room.
2) All wiring installation after the power distributor box in projector room.
3) All wiring installation after the power distributor box in the stage wall for operator.
4) All wiring installation after the main switch for stage lighting (exclude normal house light)

6.2 Layout of the Facilities

Item	Reference
(1) Layout of the consoles and Racking in subcontrol room	DRG NO 2-57
(2) Layout of the concent boxes in the ground floor	DRG NO 2-58
(3) Layout of the concent boxes in the first floor	DRG NO 2-59
(4) Layout of the concent boxes in the second floor & third floor	DRG NO 2-60
(5) Layout of the microphone concent boxes on the stage	DRG NO 2-61
(6) Layout of the lighting concent boxes on the stage	DRG NO 2-62
(7) Arrangement of suspension battens (I) (II)	DRG NO 2-63 DRG NO 2-67
(8) Layout of the lights for TV use in audience	DRG NO 2-64

6.3 Arrangement

Item	Reference
(1) Wire route for flying sets	DRG NO 2-65
(2) Clamp of ceiling spot light	DRG NO 2-66
(3) Arrangement of the suspension microphone system	DRG NO 2-10 DRG NO 2-11 DRG NO 2-12
(4) Arrangement of the main loudspeaker	DRG NO 2-68

6.4 Installation Material

Item	Reference	Q'ty	Remarks
(1) Wiring material	Refer to 6.2 clause	1 set	
(2) Plate with connector	Refer to 6.2 clause	1 set	
(3) Blank plate		1 set	80
(4) Other installation materials		1 set	

6.5 Performance

Item	Reference
(1) Performance table of total video system	DRG NO 2-69
(2) Performance table of total audio system	DRG NO 2-70
(3) Performance table of light control system	DRG NO 2-71
(4) Performance table of suspension system	DRG NO 2-72

7. INSPECTION

7.1 Presentation of Inspection

Inspection and review to be carried out by personal of BTV. Inspection data should be held after licensor offer its inspection results.

7.2 Appraisal

After the results of the inspection are compared with the Specification Standard, then we consider whether or not it is.

7.3 Expenses of the Inspection

The inspection will be held within the licensor will be responsible for any expenses incurred.

7.4 Location of the Inspection

The inspection will be held within the licensor's plant and an alternative site which will serve that particular purpose.

7.5 Instruments of Measurement

The licensor will provide the necessary instruments of measurement, in order to effectively carry out the inspection.

APPENDIX 1

Lighting Control System by Electronic Connection Method

1. Main Specification

(1) Power source	220V/380V 3Phase 4 Wire
(2) Power capacity	250 KVA
(3) Numbers of load	112 circuits
(4) Numbers of fader	50 circuits
(5) Lighting control unit	Plug-in Method 3KW ... 84 units 6KW ... 26 units 10KW ... 2 units
(6) Capacity of preset scene	6 scenes
(7) Memory capacity of electronic connection	3 scenes
(8) Back-up method	Pin-board method
(9) Fader setting	Auto-setting
(10) Others	In case of interruption of power survice, there should be some device not to disappear electronic cross connection memory.

2. Constitution (including spare parts)

Equipment or parts	Reference	Q'ty	
(1) Main switch board	DRG NO 2-76	1	
(2) Dimmer unit rack	DRG NO 2-76	3	
(3) Preset-fader board	DRG NO 2-77	1	
(4) Operate & control desk	DRG NO 2-78	1	
(5) Dimmer unit	DRG NO 2-37	112	(112+3) 3KW ... 84+1(spare) 6KW ... 26+1(spare) 10KW ... 2+1(spare)
(6) Standarts spare parts and accessaries		1 set	NFB etc.

Equipments or parts	Reference	Q'ty	
(7) Lamp & fuse		1 set	300%
(8) Chair for LD		1	
(9) Preset-fader (spare)		10	
(10) Group-fader (spare)		1	
(11) Cross-fader (spare)		1	
(12) Master-fader (spare)		1	
(13) Unit extender		1 set	1/1 type
(14) Spare unit		1 set	1/1 type
(15) Spare semiconductor		1 set	2/1 type

3. Circuit

Circuit	Reference	
(1) Block diagram of lighting control system by electronic connection method	DRG NO 2-79	
(2) Circuit block diagram of cross connection method	DRG NO 2-80	

4. Layout

Layout	Reference	
(1) Rack & console's layout in sub control room	DRG NO 2-75	

APPENDIX 2

Acoustical Measurement of Public Address System

1. Effective stable gain

1.1 Method of measurement [See Figure 1]

(1) A vari-directional microphone [such as a type RV-1A, KM-56, etc.] is set up at a height of one meter at a typical position on the stage [such as the position of the elevator microphone].

(2) A primary sound source loudspeaker [type RS-16 or equivalent] is positioned at a point 50cm from the microphone on the axis of the microphone.

(3) Without using a 1/3 octave filter in the P.A system, an attenuator is set at the point 6dB below the critical gain of acoustic feedback.

(4) The primary sound source loudspeaker is driven by the pink noise.

(5) The sound pressure level [A] that the primary sound source feeds into the microphone is read off at the position of the microphone, and the sound pressure level [B] that is amplified into the auditorium is read off at typical positions in the audience section using a noise meter [set at range C], and the difference in levels [B-A] is taken as the effective stable gain.

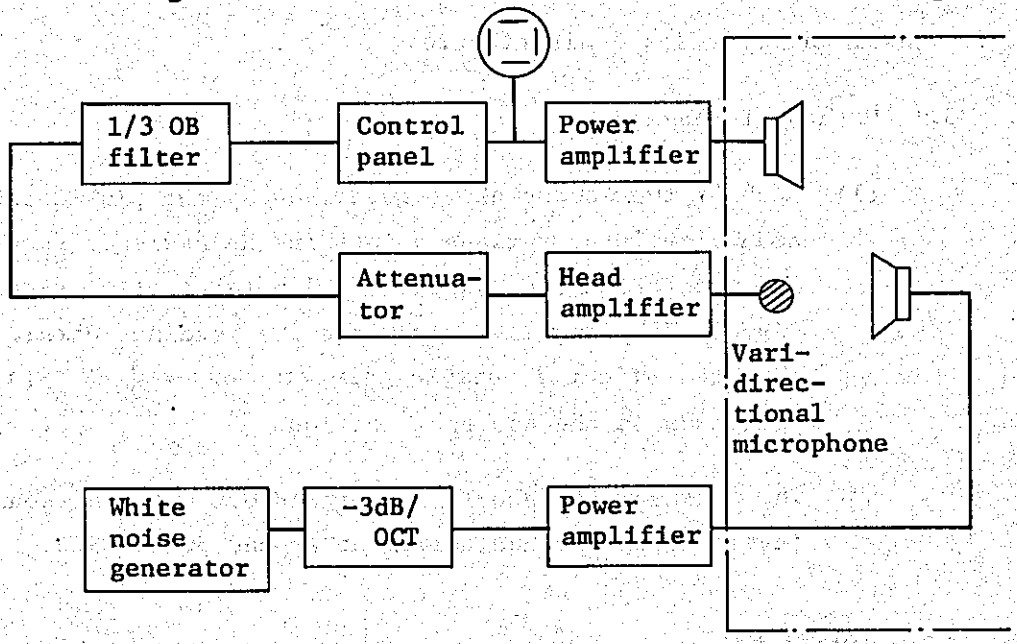
(6) This measurement is carried out repetitively with the microphone being set to provide different directional properties each time.

(7) [A] should be anywhere between approximately 80 to 85dB.

1.2 Evaluation

(1) The effective stable gain [A-B] should be -10dB or more. In normal auditoriums, with a non-directional microphone the figures would be -8 to -13dB; with a bi-directional or uni-directional microphone, the figures would be -4 to -8dB.

Figure 1 Block diagram used in the measurement of effective stable gain



2. Critical level distribution

[Figure 2]

2.1 Method of measurement

(1) The critical level distribution are measured at each of the selected positions on the stage either using the

full bandwidth or 1/3 octave bands, and are expressed by the deviation from the typical point of the microphone with which the effective stable gain was measured.

2.2 Evaluation

Ascertain whether or not there are any specific points on the stage where acoustic feedback is particularly liable to occur, or whether acoustic feedback susceptibility varies between the righthand side of the stage and the lefthand side of the stage.

3. Sound pressure level distribution

3.1 Method of measurements

(1) Each of the loudspeakers is driven by the pink noise, the sound levels at various points in the audience section are read off using a sound level meter [set at range C], and expressed by the deviation from the readings obtained when the effective stable gain was measured at typical positions in the audience section.

(2) The measurements should be carried out with the sound level within the auditorium at around 80 to 85dB.

3.2 Evaluation

(1) Deviations in the sound level should be within 3dB. However, at points along the front edge of the stage or directly below the balcony, deviations of around 5dB shall be permissible.

(2) If there are areas where there are extremely large deviations, the levels of the respective loudspeakers

should be readjusted.

4. Transmission frequency response of the loudspeaker

4.1 Method of measurements - 1 [See Figure 2]

(1) A non-directional microphone is positioned in the audience section at a height of one meter directly in front of the loudspeaker whose characteristics are to be measured.

(2) The loudspeaker is driven by pink noise so that the sound level in the subject audience section is around 80 to 85dB.

(3) The output of the microphone is analyzed to obtain the transmission frequency characteristics.

(4) A frequency analyzer employing a 1/3 octave filter should be used.

4.2 Method of measurements - 2 [See Figure 3]

(1) The loudspeaker is driven using the pink noise contained in a sound source tape [see attachment 1] or a disk generating pink noise [CBS STR-140], and adjusted so that the sound level at the audience section is around 80 to 85dB.

(2) The loudspeaker is driven by the band noise sections of the sound source tape or the test disk, and the fluctuations in the sound level at the audience section directly in front of the loudspeaker is read off from range C of a sound level meter.

4.2 Evaluation

(1) Check to see whether the transmission frequency response

are flat and have no peaks or dips.

(2) If multi-way loudspeakers are used, care should be taken to ascertain whether or not there are any particularly prominent peaks or dips in the vicinity of the crossover frequencies.

Figure 2 Block diagram used in the response measurement of loudspeaker system

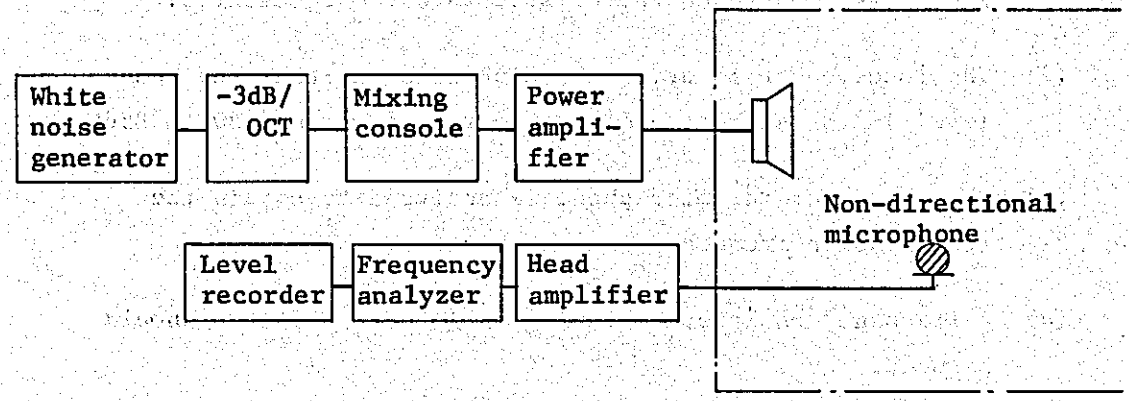
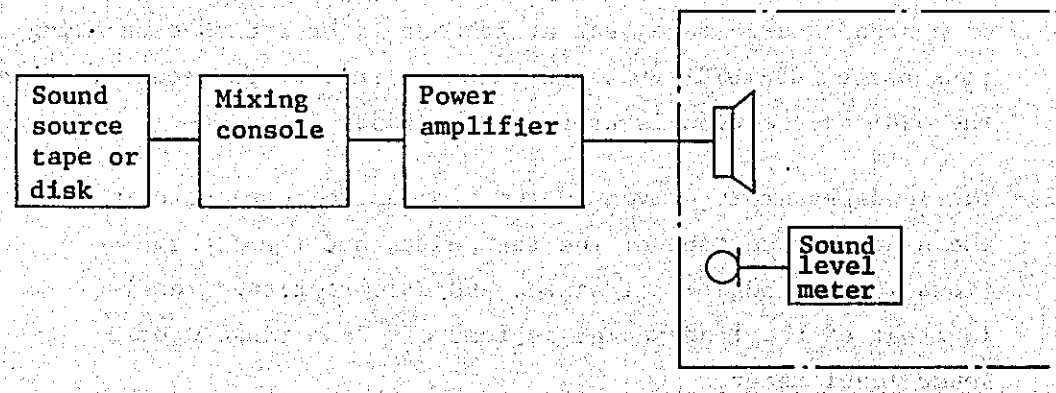


Figure 3 Block diagram used in loudspeaker's response measurement by use of the disk or tape



5. Critical gain frequency characteristic just below acoustic feedback

5.1 Method of measurements [See Figure 4]

(1) A non-directional microphone is positioned on the stage at a typical position [normally at the position of the center elevator microphone] at a height of approximately one meter.

(2) The P.A system is adjusted in accordance with the prescribed level diagram.

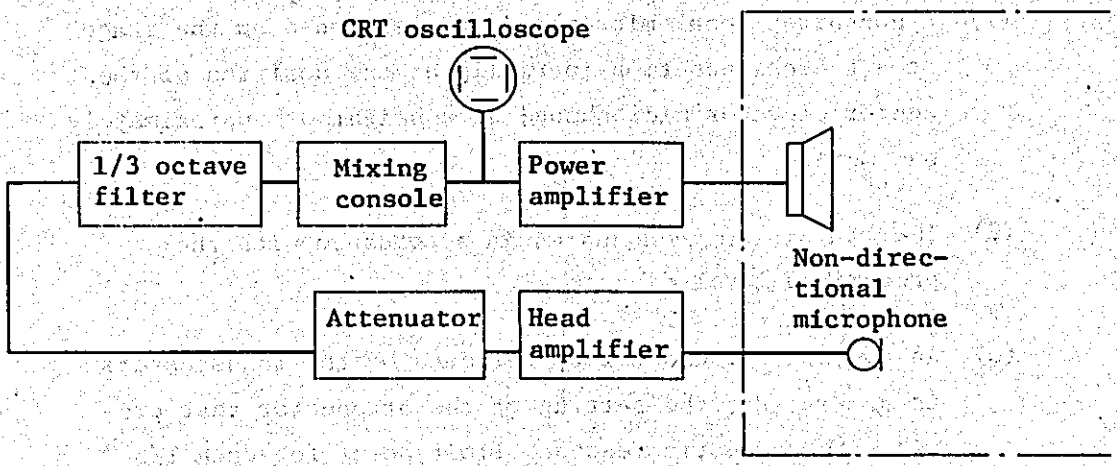
(3) An acoustic feedback loop for each of the loudspeakers is generated, the setting of the attenuator that provides the acoustic feedback limit point for each 1/3 octave band is read off, and the figures are plotted to thereby comprise the acoustic feedback frequency characteristics.

5.2 Evaluation

(1) The critical gain frequency characteristic just below acoustic feedback should be as smooth as possible over the entire bandwidth, without any prominent peaks or dips.

(2) Check to see whether there are any particular loudspeakers that have exceptionally high acoustic feedback levels.

Figure 4 Block diagram used in the measurement of critical gain frequency characteristics just below acoustic feedback



6. Clarity

6.1 Method of measurements

(1) The narrator stands before the microphone and reads out syllables in accordance with the list of some syllables.

(2) The test positions are set up by dividing the audience section of the auditorium into two halves; and using either the right half or the left half, around 10 to 30 points are picked out in such a manner that they are distributed evenly throughout the audience section being used at intervals of 8 to 10m, for use as the test positions.

(3) The listeners at the test positions listen to the sounds of the lists, each one of which consists of 100 syllables per list, shifting their positions for each reading.

(4) The average playback level for the auditorium during the tests shall be around 70 to 75dB.

(5) If it turns out that there are extreme differences between certain listeners, the results of tests conducted by these listeners shall be eliminated from the overall results.

7. Listening tests

7.1 Method of tests

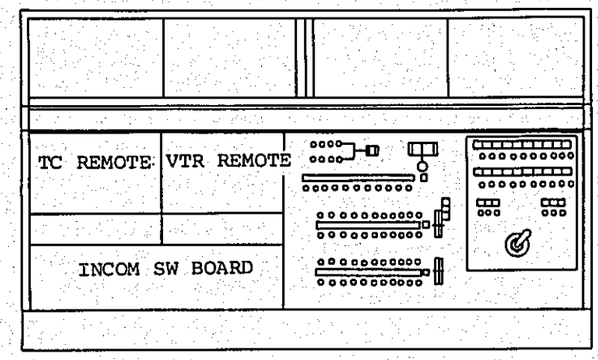
(1) The sounds of actual conversations by male and female speakers picked up by microphones shall be listened to from the audience section, and the functioning of the electrical and acoustic equipment and usage of microphones shall be evaluated.

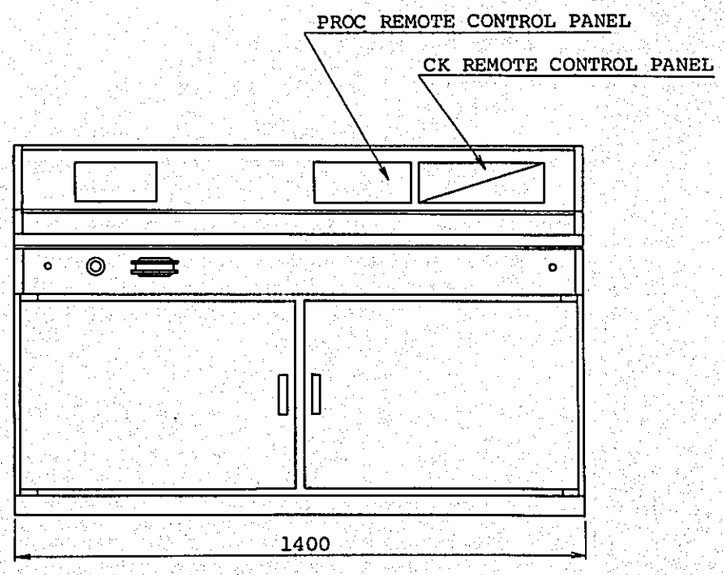
(2) Using sound sources prepared beforehand, voicing by males and females, classical music, jazz, light music, and rock music will be played back, and the quality of the acoustics shall be evaluated.

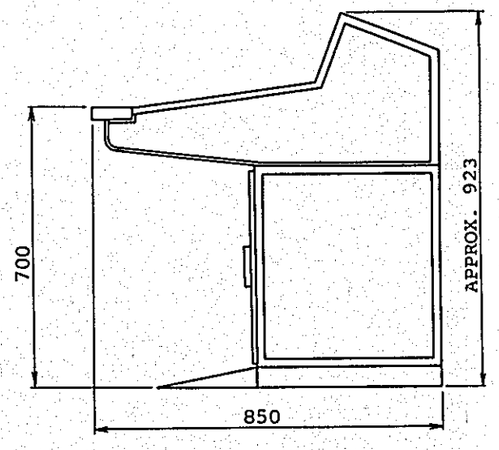
Attachment 1

Contents of sound source tape for measuring of electrical and acoustic equipment

Section 1	BTS standard tape; 1,000Hz signal at same level as level adjusting signal	30 sec.
Section 2	Full bandwidth pink noise at same level as Section 1	30 sec.
Section 3	Band noise consisting of pink noise divided into 1/3 octave bands 80Hz, 100Hz, 125Hz, 160Hz, 200Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1,000Hz, 1,250Hz, 1,600Hz, 2,000Hz, 3,150Hz, 4,000Hz, 5,000Hz, 6,300Hz, 8,000Hz, 10,000Hz	10 sec. each with intervals of 5 sec.
Section 4	Full bandwidth pink noise equivalent of Section 2	3 min.







UNIT: mm

CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12, '77
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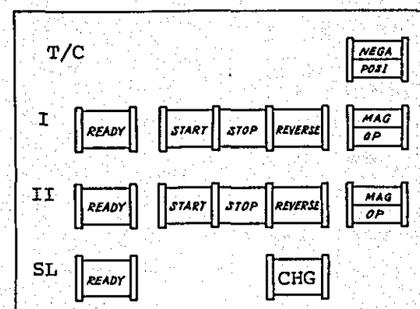
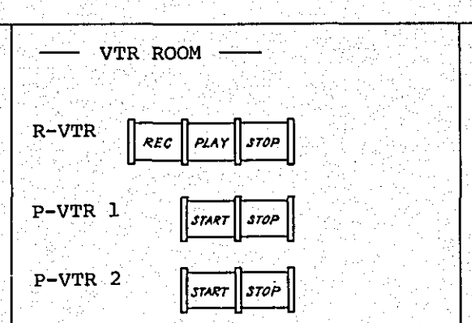
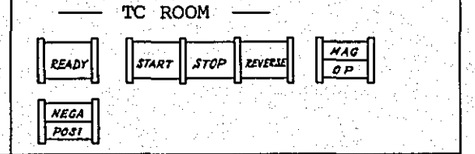
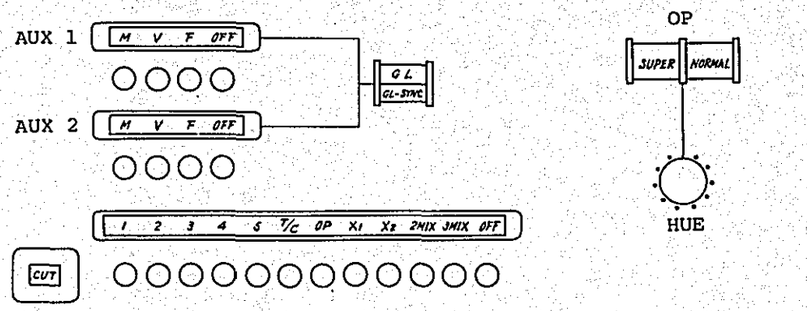
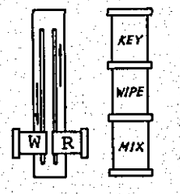


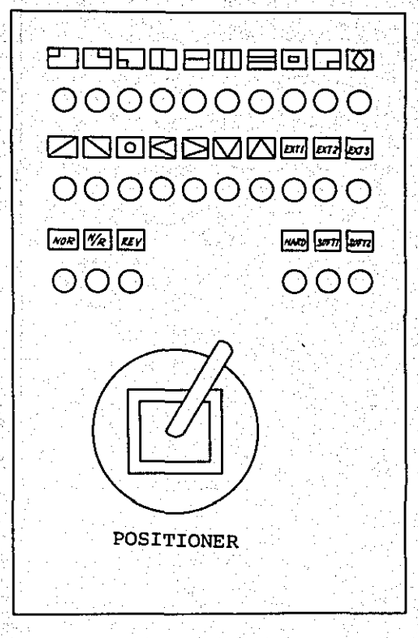




INTERCOM SW BOARD







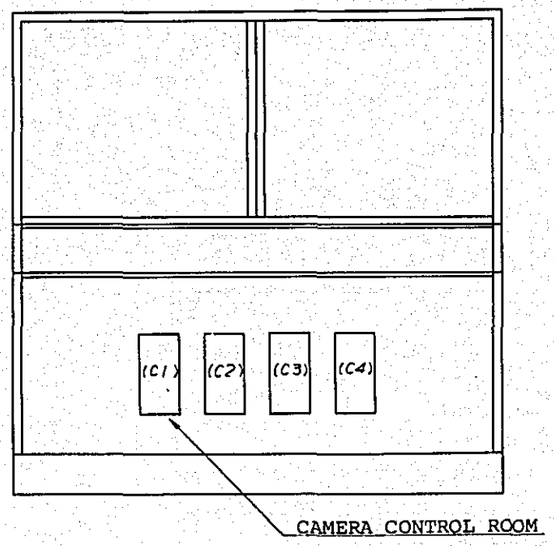
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA

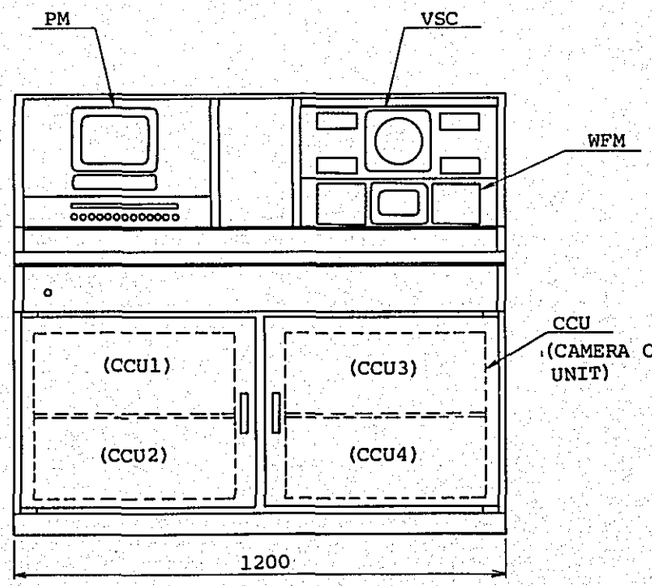
DATE 12/'77

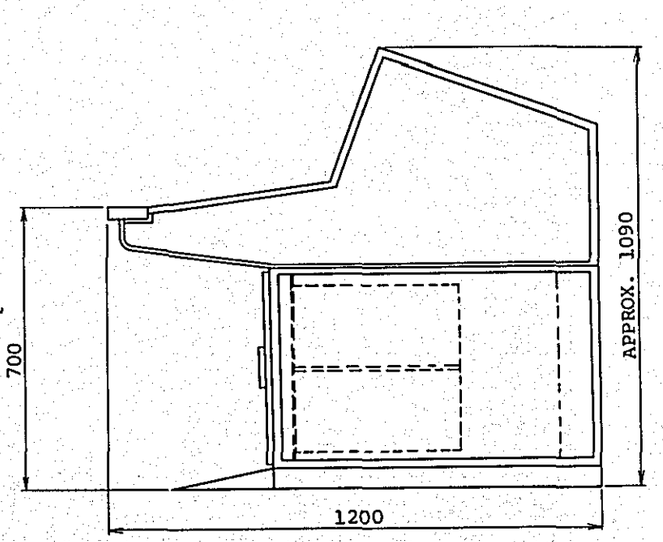
SCALE

TITLE OF DRAWING
LAYOUT OF VIDEO MIXING CONSOLE PANEL

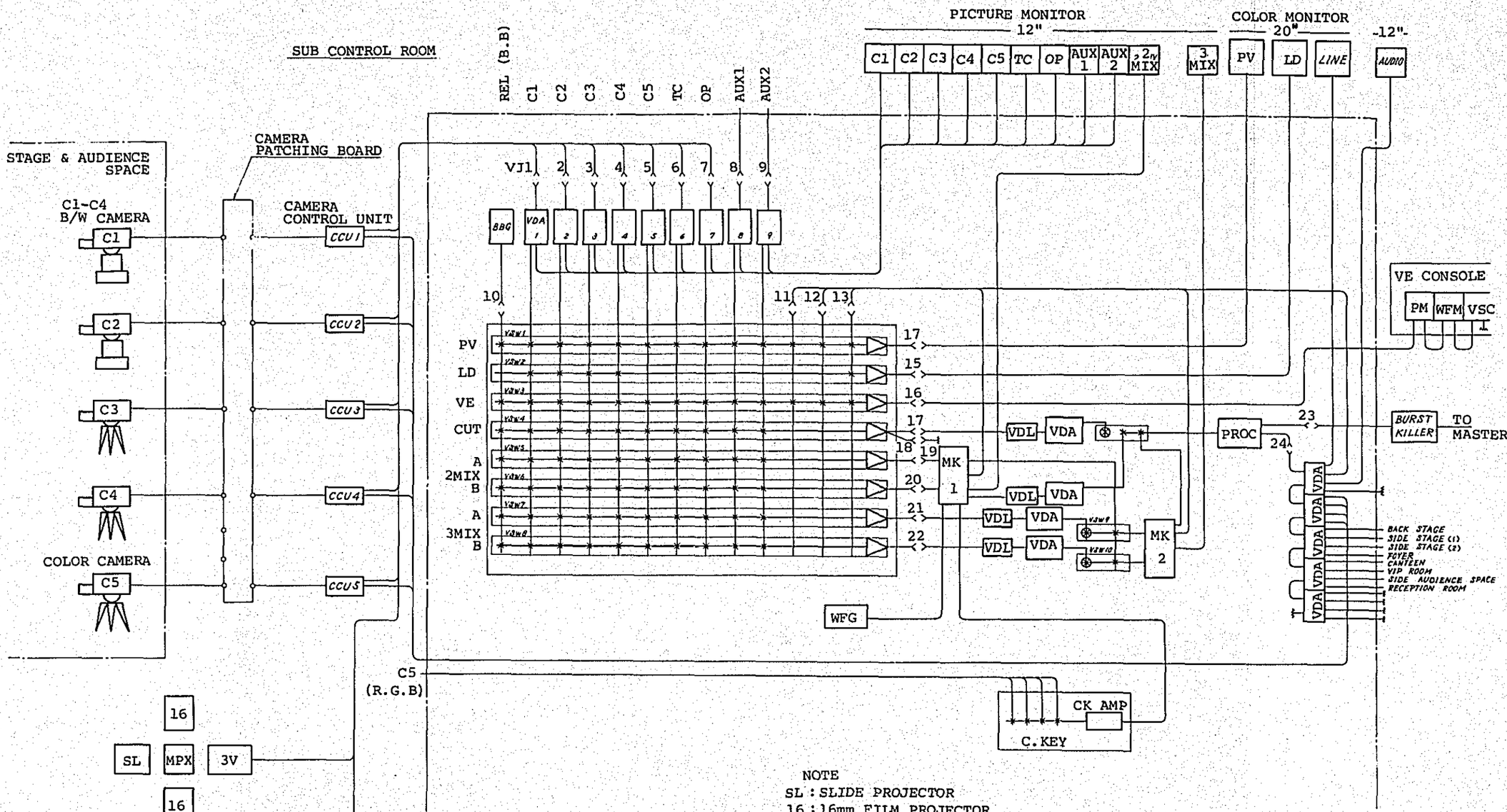
DRG. NO. 2–2







CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTSIDE VIEW OF VIDEO ENGINEERING CONSOLE	DRG. NO. 2–3



NOTE

SL : SLIDE PROJECTOR
16 : 16mm FILM PROJECTOR
MPX : MULTIPLEXER
3V, 1V : FILM CAMERA
OP : OPAQUE PROJECTOR
BBG : BLACK BURST GENERATOR
VDA : VIDEO DISTRIBUTION AMPLIFIER
VDL : VIDEO DELAY LINE
MK : MIXER-KEYER AMPLIFIER
WFG : SPECIAL EFFECT WAVEFORM GENERATOR
C KEY : CHROMA KEY AMPLIFIER

CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
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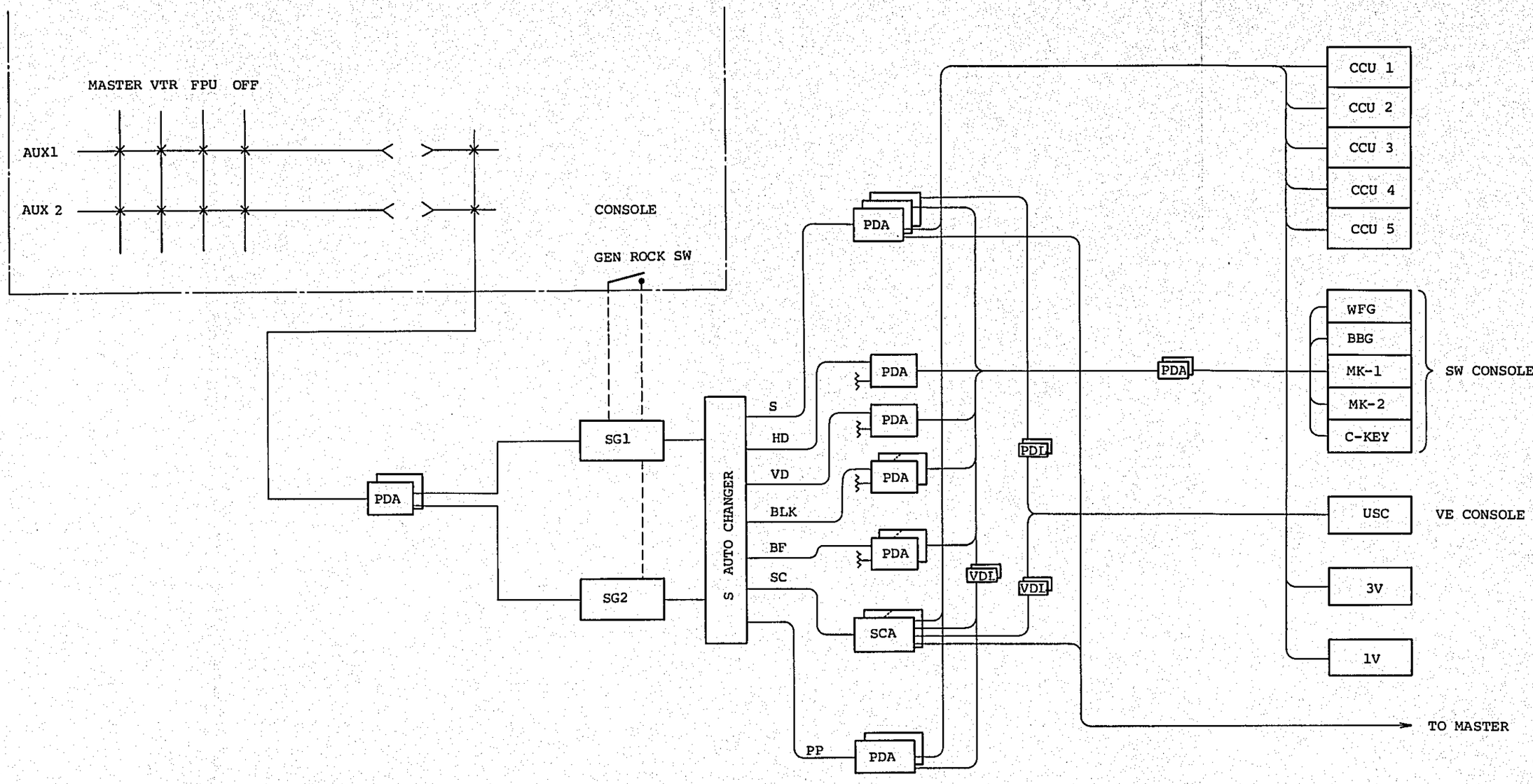
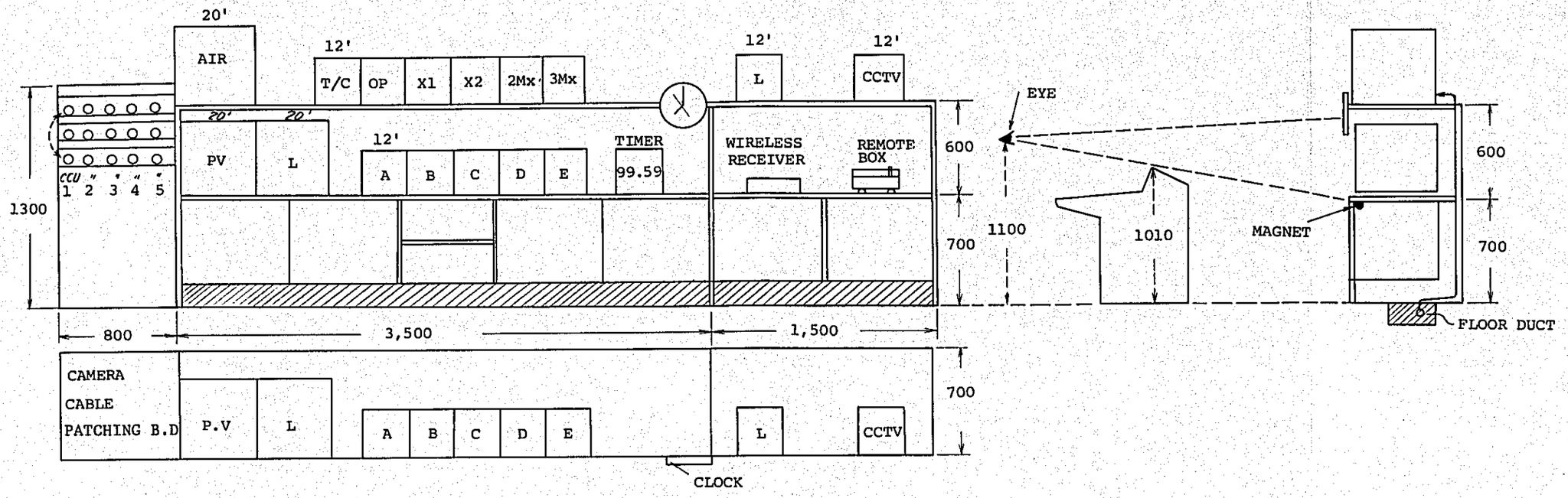
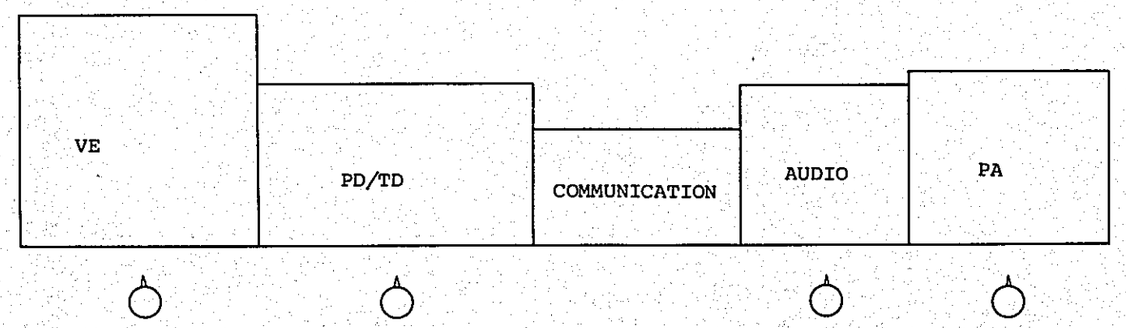
TITLE OF DRAWING: BLOCK DIAGRAM OF VIDEO SYSTEM	DRG. NO. 2-4



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING BLOCK DIAGRAM OF SYNC SYSTEM	DRG. NO. 2–5





CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
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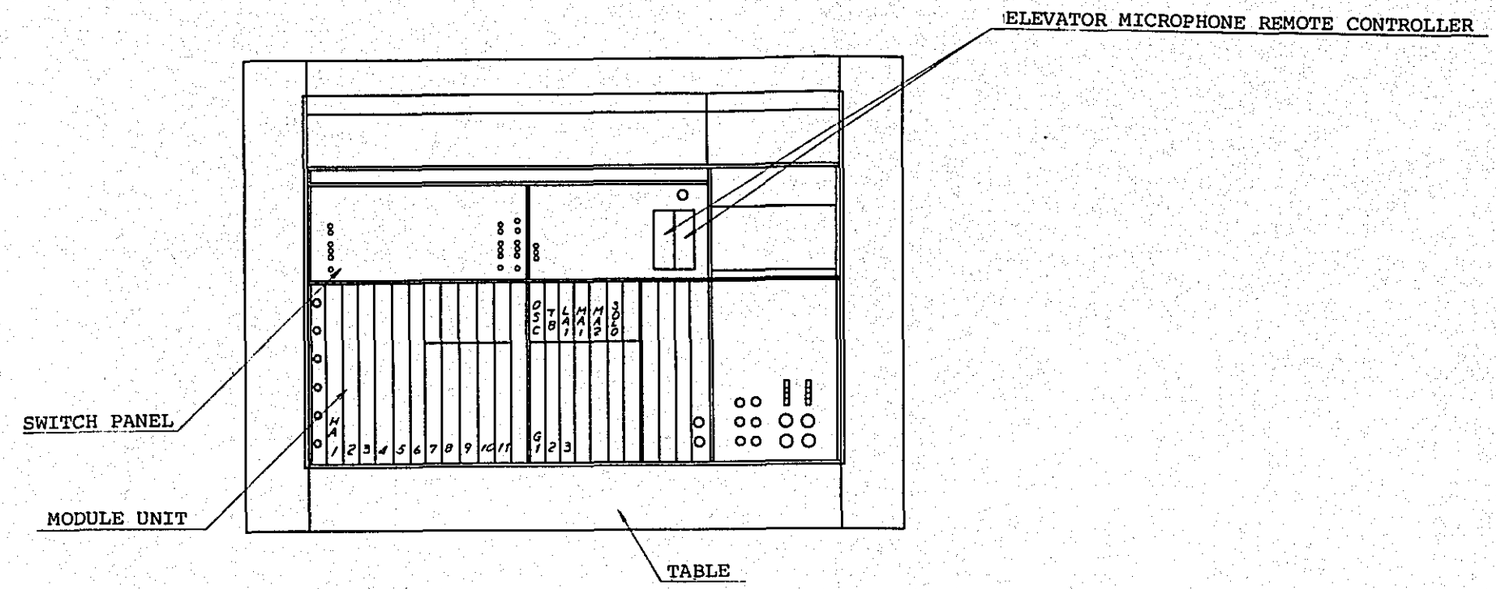
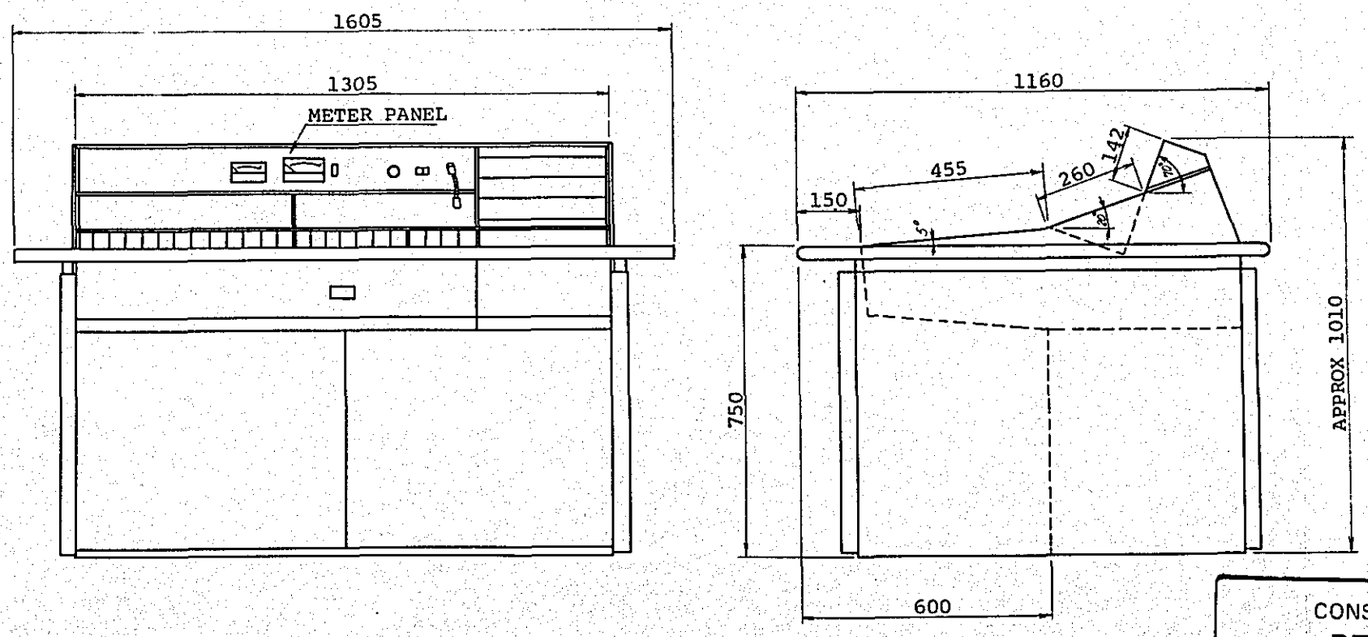
TITLE OF DRAWING LAYOUT OF CONSOLES & PICTURE MONITORS	DRG. NO. 2–6





CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
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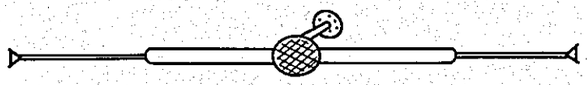
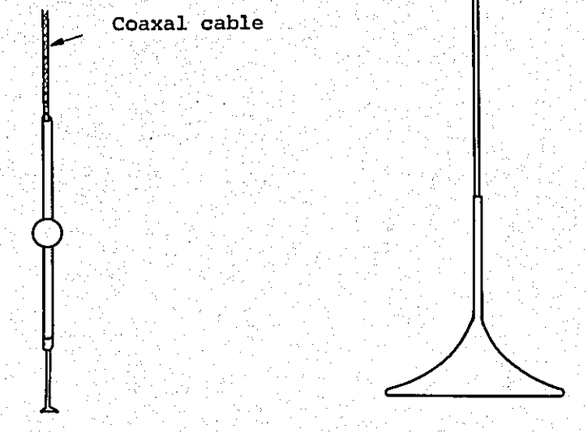
TITLE OF DRAWING OUTSIDE VIEW OF AUDIO MIXING CONSOLE	DRG. NO. 2–7

ANTENNA



FIXED TYPE (For ceiling or wall)



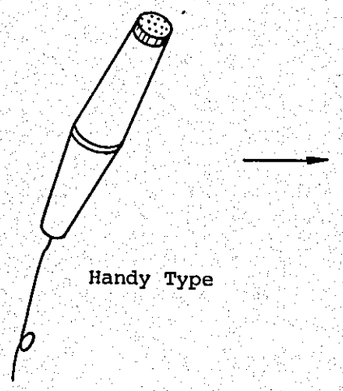
HANGING TYPE

STAND TYPE

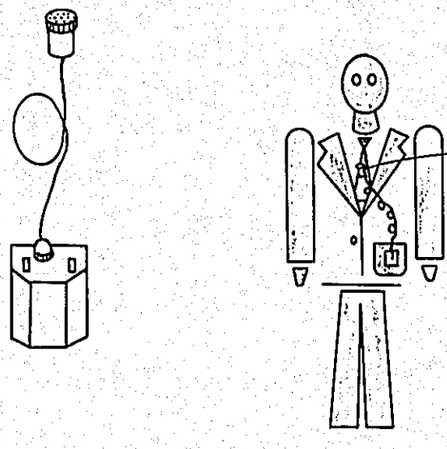
NUMBERS OF ANTENNA

Hanging Type	4	
Fixed Type	1	
Stand Type	1	Total 6

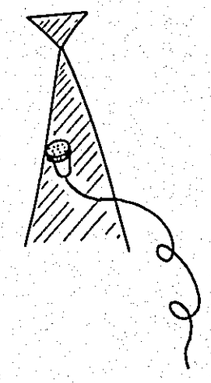
MICROPHONE



Handy Type



Separate Type



NUMBERS OF MICROPHONE

f	f1	f2	f3
Handy Type	1	1	1
Separate Type	1	1	1

Total 6

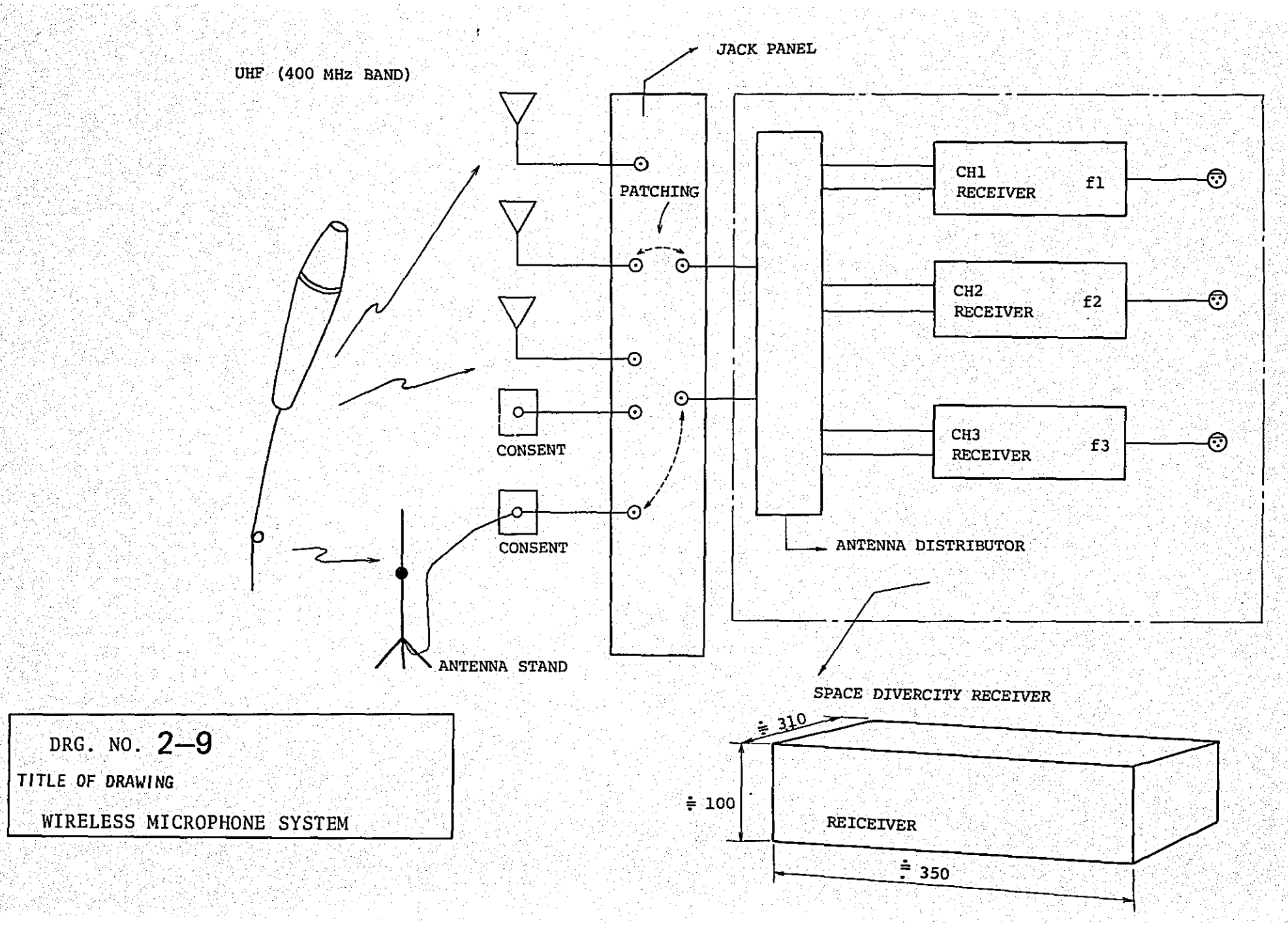
CONSTRUCTION PROJECT
OF **BTV HALL** IN DACCA

DATE 12/'77

SCALE

TITLE OF DRAWING
WIRELESS MICROPHONE & ANTENNA

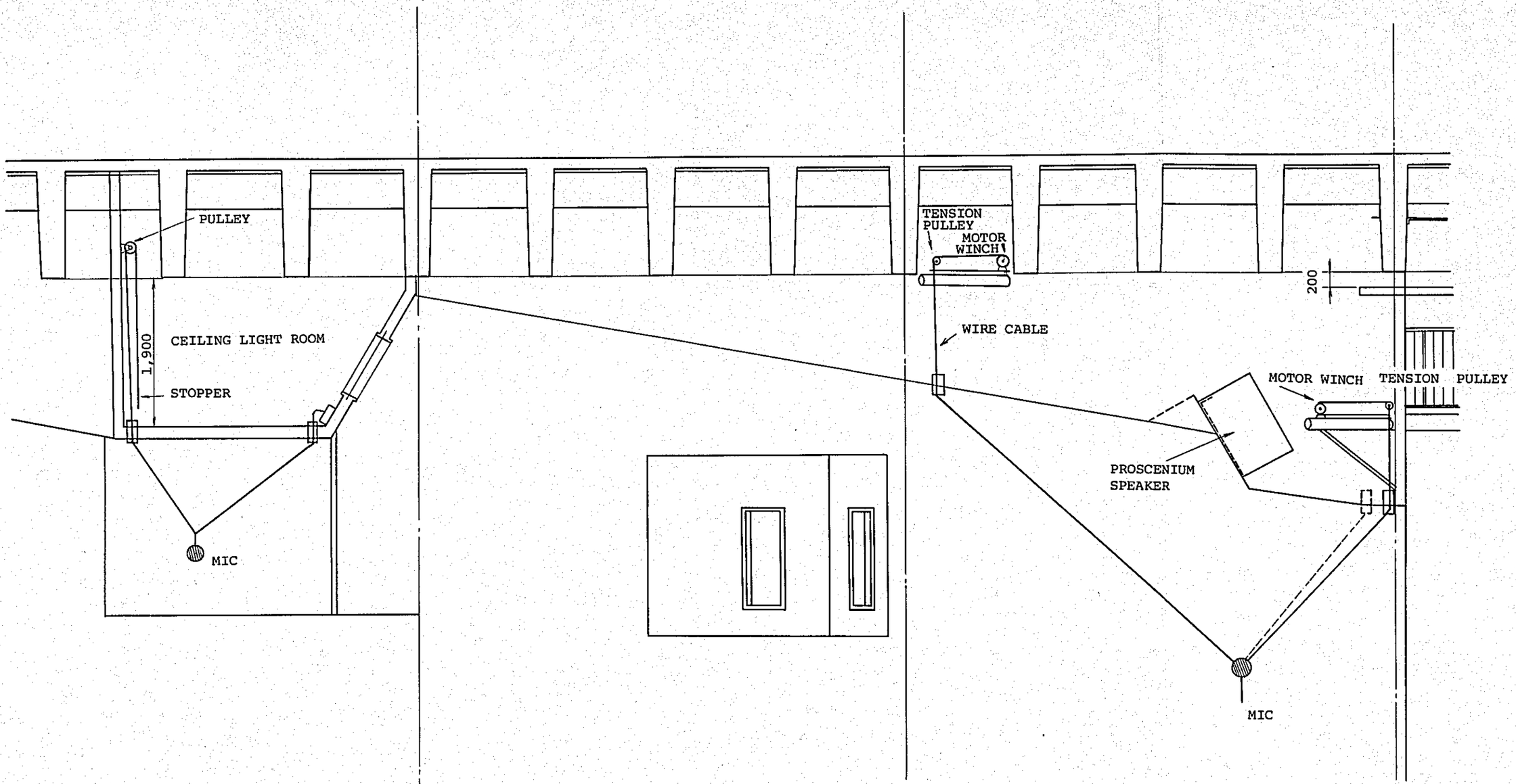
DRG. NO.
2–8

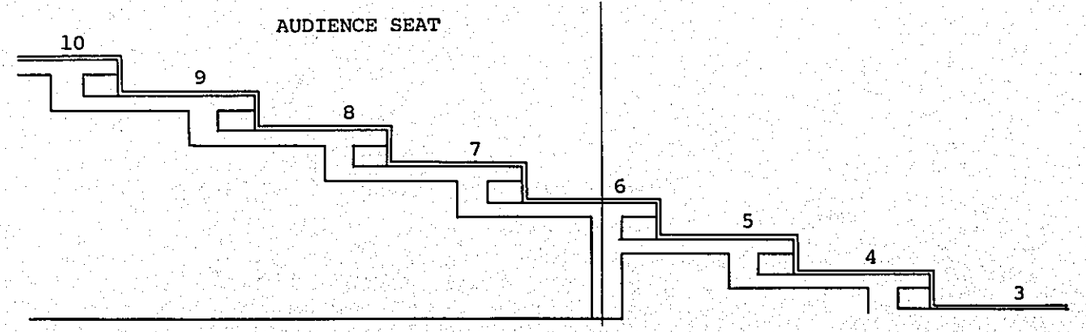


DRG. NO. 2-9

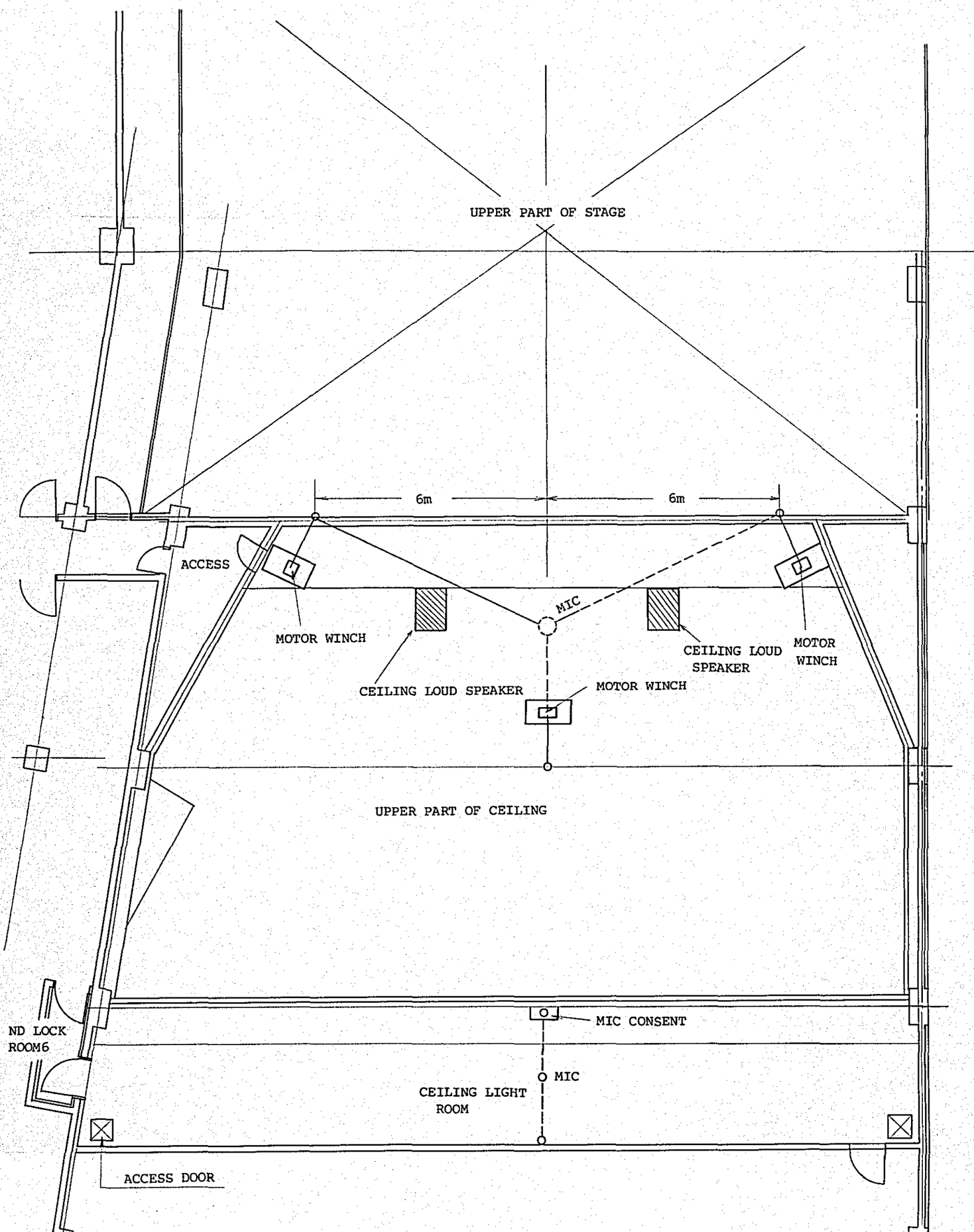
TITLE OF DRAWING

WIRELESS MICROPHONE SYSTEM





CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING SUSPENSION MICROPHONE SYSTEM	DRG. NO. 2–10



CONSTRUCTION PROJECT
OF **BTV HALL** IN DACCA

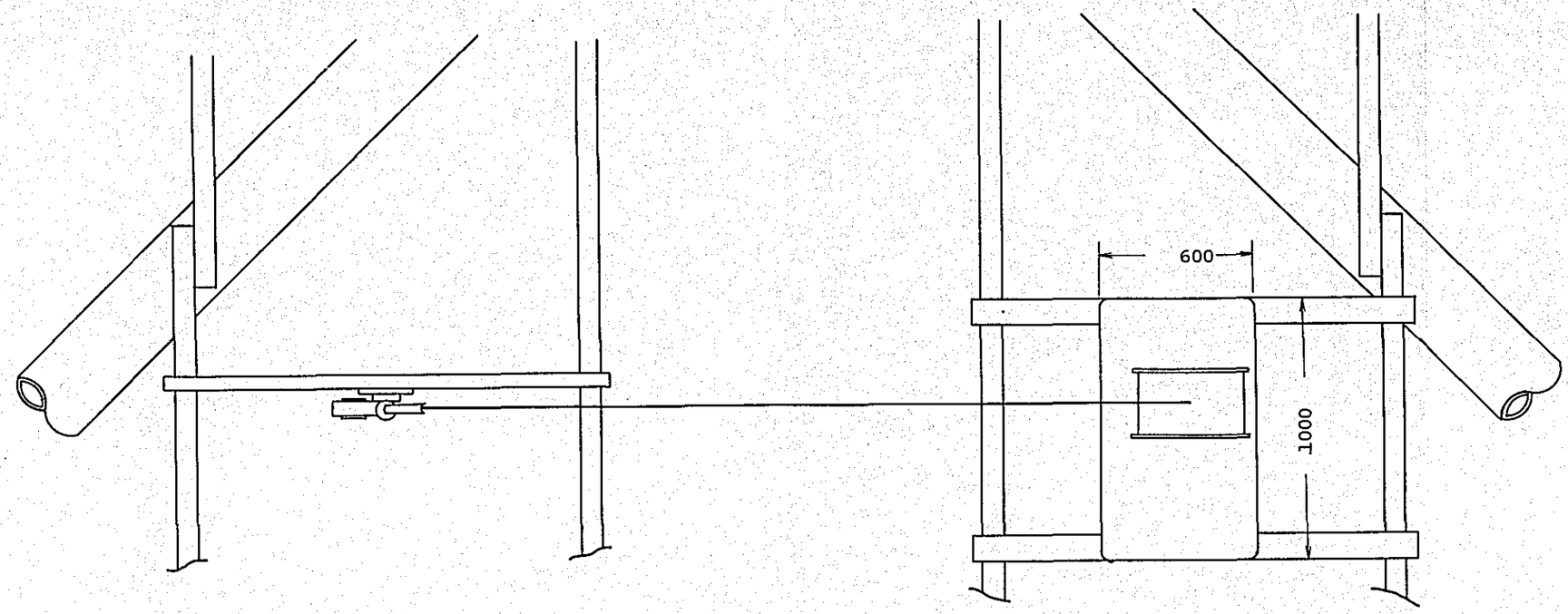
DATE 12/'77

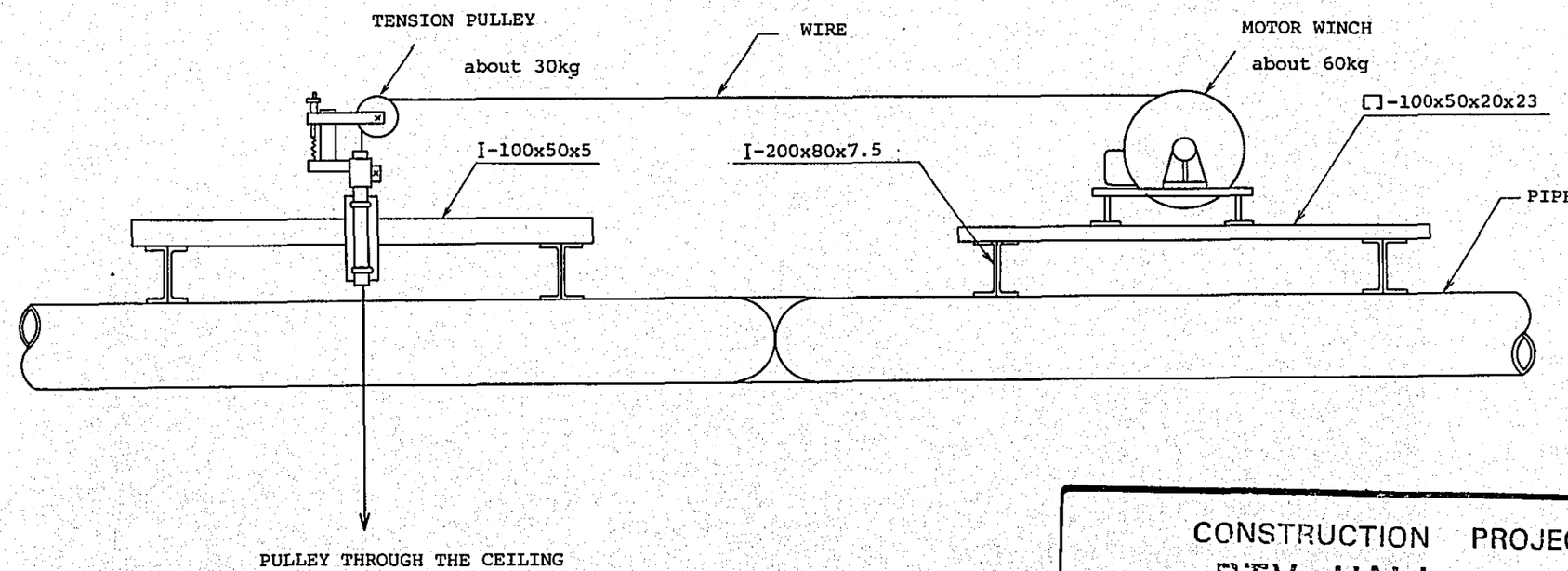
SCALE

TITLE OF DRAWING

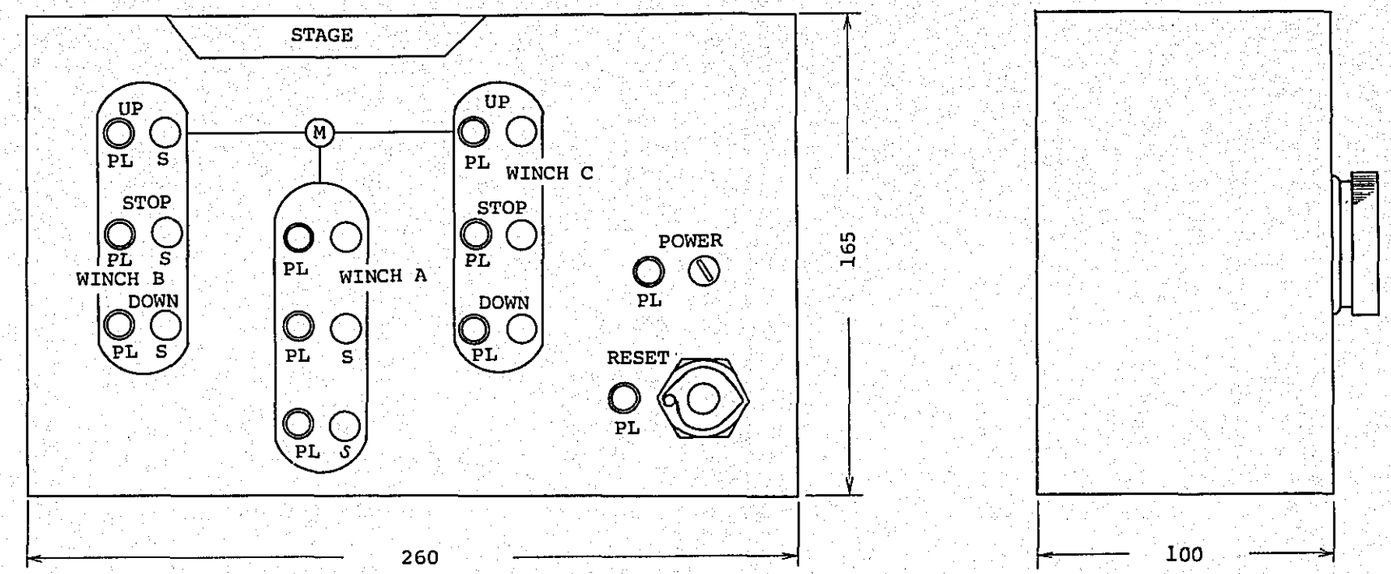
LAYOUT OF MOTORIZED SUSPENSION MICROPHONE SYSTEM

DRG. NO. 2–11





CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING DETAIL DRAWING OF MOTORIZED SUSPENSION MICROPHONE SYSTEM	DRG. NO. 2–12

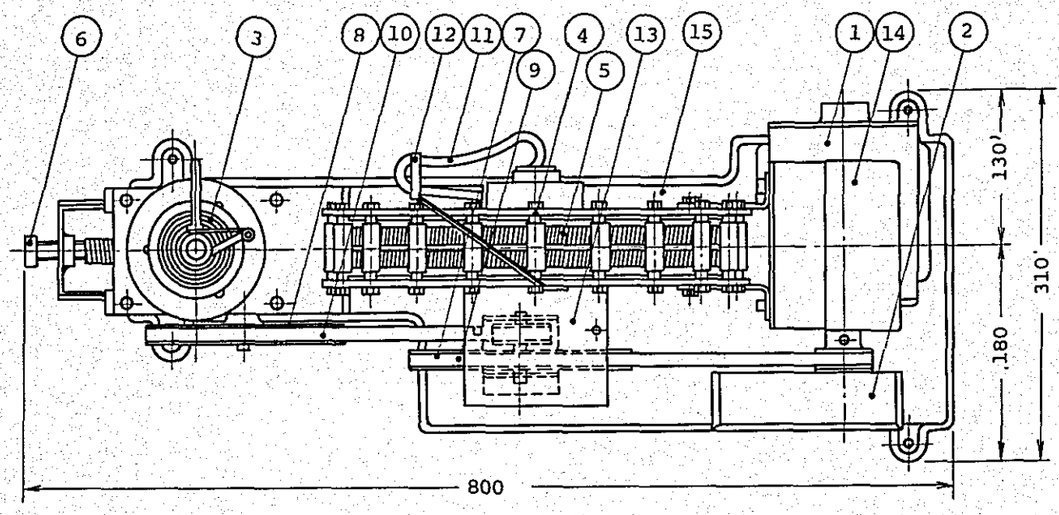


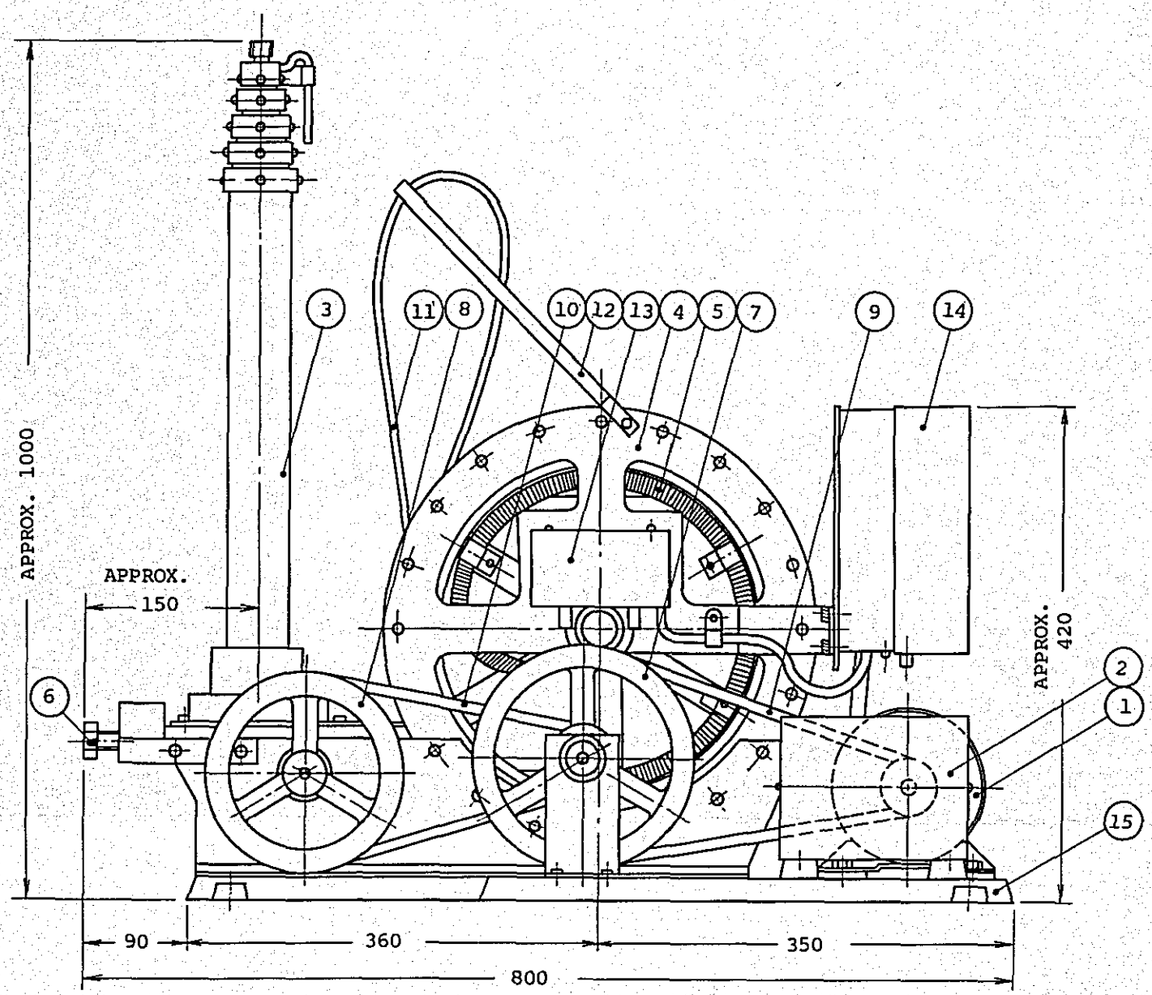
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING REMOTE CONTROL BOX OF MOTORIZED SUSPENSION MICROPHONE SYSTEM	DRG. NO. 2–13

NO.	ITEM
8	V. PULLEY
7	V. PULLEY
6	DRIVE ROLLER ADJUST BOLT
5	SPRING
4	WIND UP SPRING DRUM
3	PIPE
2	MAGNET BREAK BOX
1	MOTOR

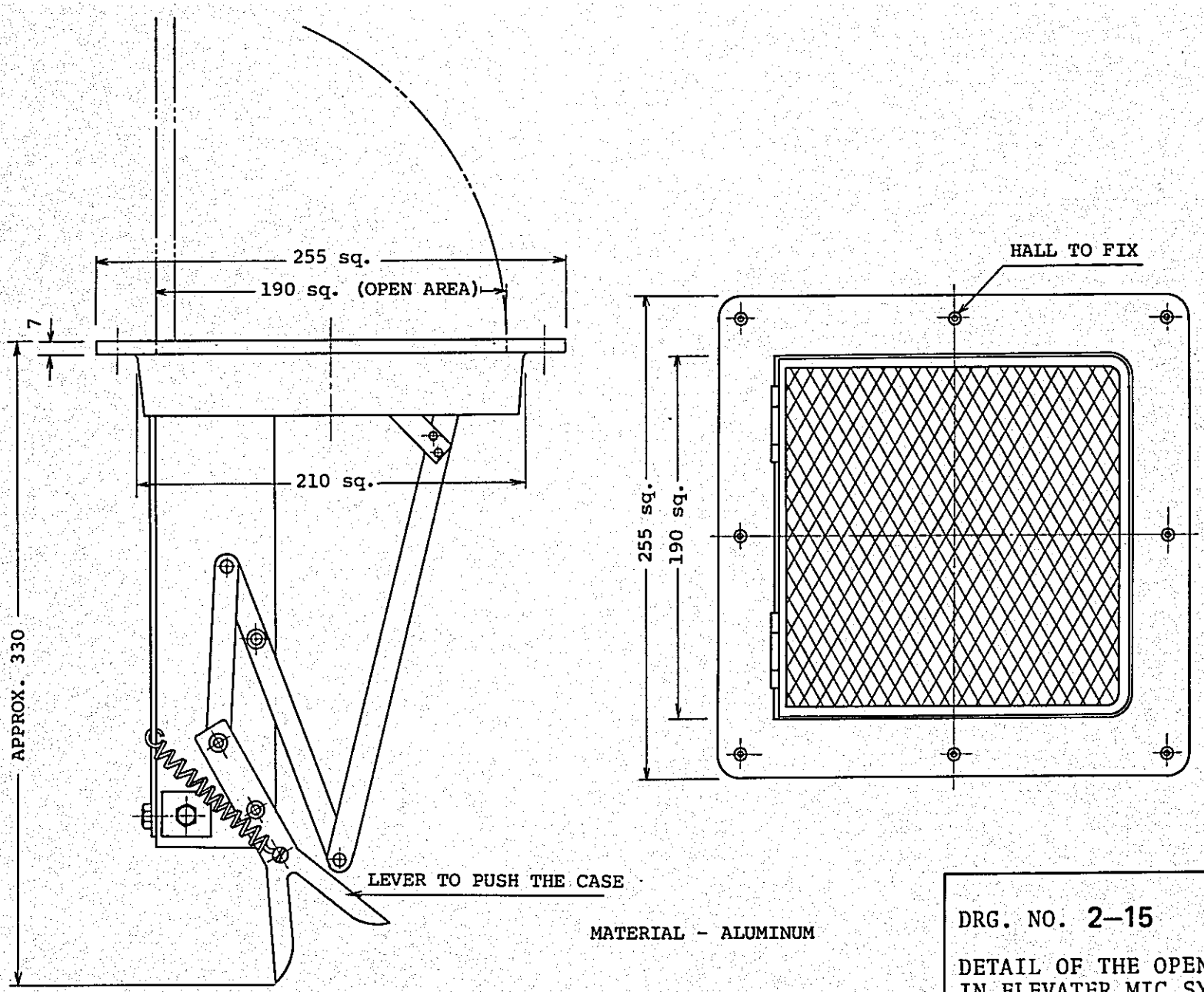
NO.	ITEM
15	BASE
14	MAGNET SWITCH BOX
13	LIMIT SWITCH BOX
12	INSTRUMENT FOR CODE
11	VINYL CODE
10	V. PULLEY
9	V. PULLEY

VELOCITY - 0.346 m/sec
WEIGHT - 35kg





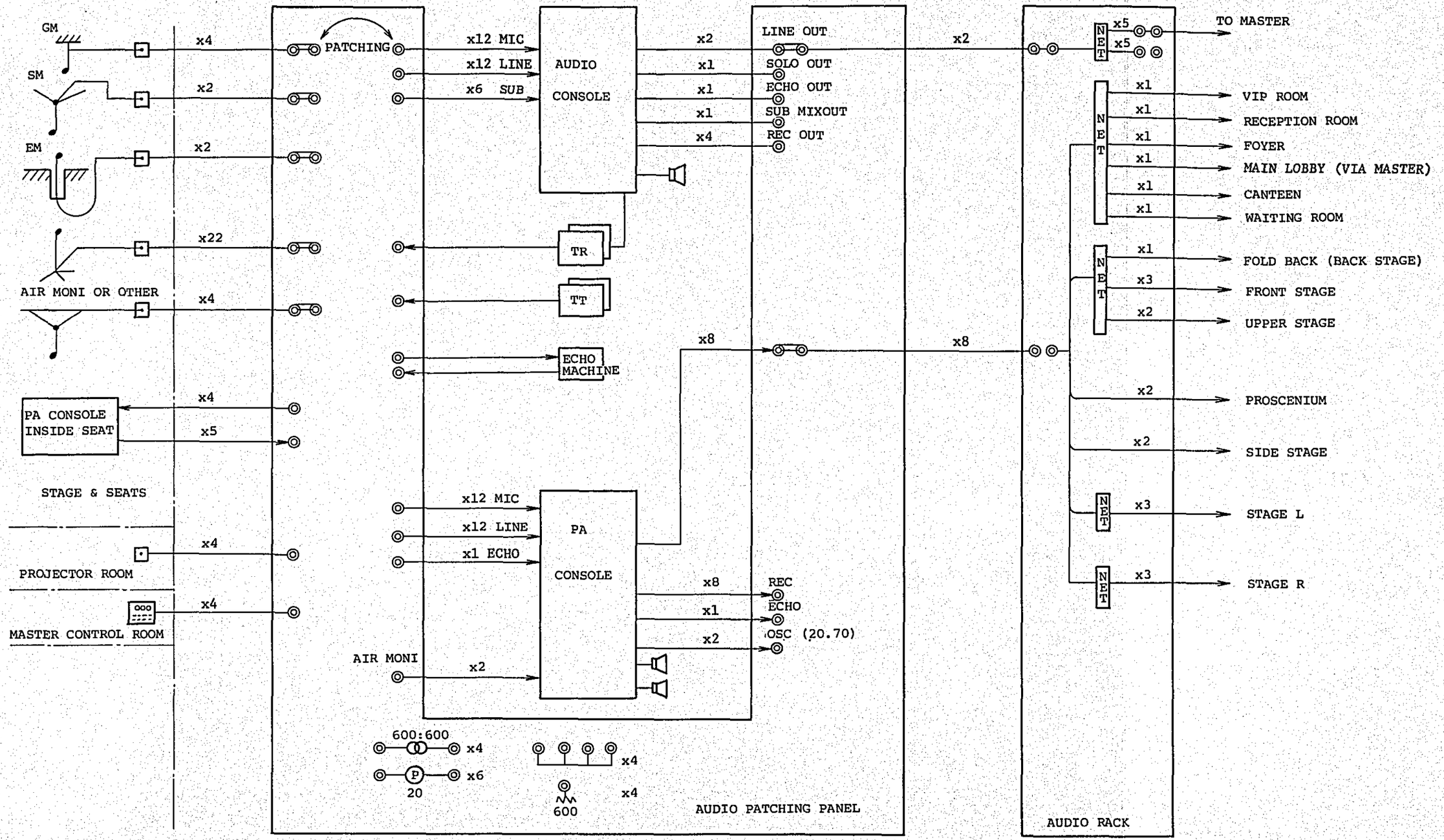
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTSIDE VIEW OF MOTORIZED ELEVATER MICROPHONE SYSTEM	DRG. NO. 2–14



MATERIAL - ALUMINUM

DRG. NO. 2–15

DETAIL OF THE OPEN SPACE
IN ELEVATER MIC SYSTEM



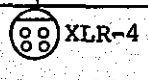
DRG. NO. 2–16

BLOCK DIAGRAM OF AUDIO SYSTEM

SPEAKER LAYOUT TABLE

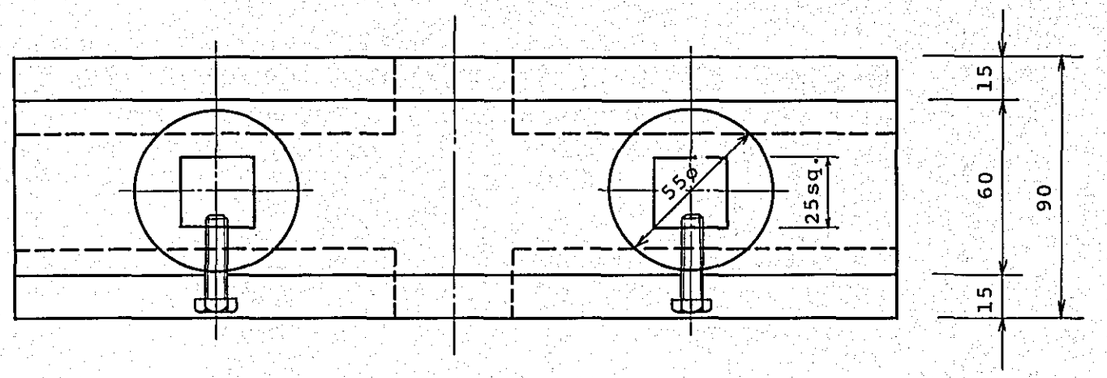
SIGN	PLACE	CN	MAXIMUM OUTPUT	NUMBER	REMARKS
A	VIP ROOM		10W	1	Movable type
B	RECEPTION ROOM		10W	1	Movable type
C	FOYER		10W	1	Movable type
D	MAIN LOBBY		10W	1	Movable type, via master CTL room
E	CANTEEN		10W	1	Movable type
F	WAITING ROOM		10W	1	Movable type
G	BACK STAGE		10W	1	Movable type, under the stage
H	FRONT STAGE		15W	3	Fixed type under the stage
I	PROSCENIUM		100W	2	Fixed type inside the ceiling
J	SIDE STAGE		100W	2	Fixed type
K	UPPER STAGE		50W	2	Fixed type For example; SHURE VA301-S type
L	STAGE SIDE		100W	2	Movable type
M	STAGE SIDE		10W	2	Movable type
N	ON THE STAGE		10W	2	Movable type

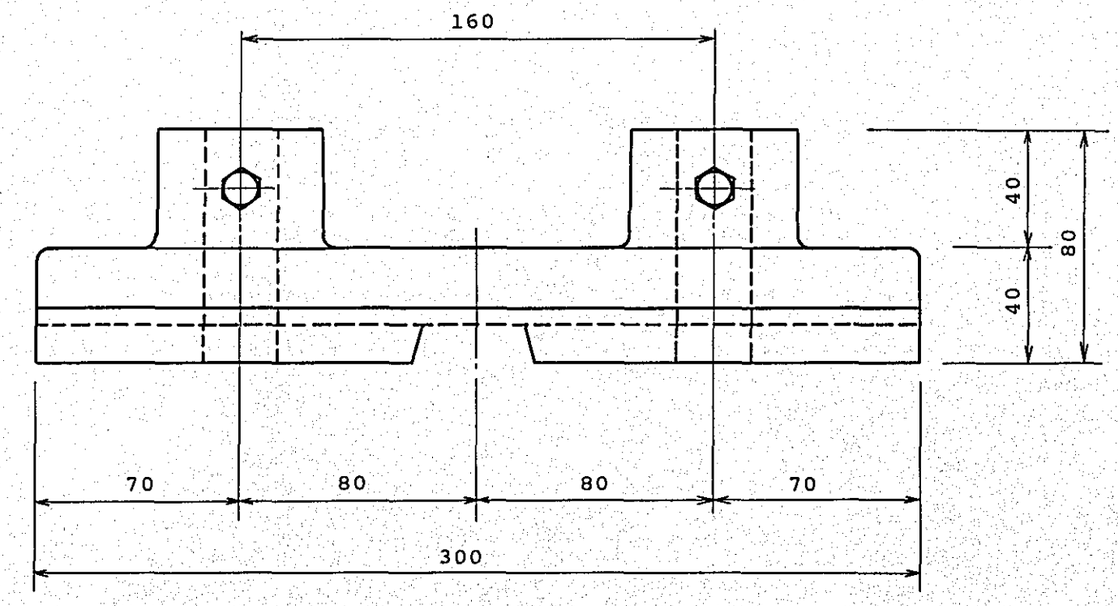
 XLR-3

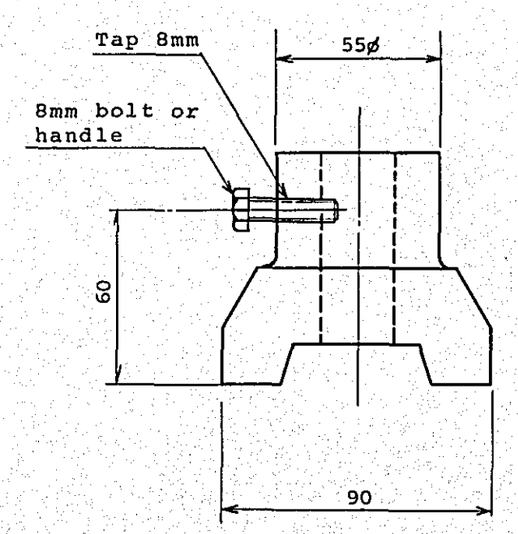
 XLR-4

DRG NO. 2-17
SPEAKER LAYOUT TABLE

Weight Head			
Production No.			
No.	Description	Q'ty	Material Specification
1	Weight stopper	1	FC 7kg
2	Stopper bolt	2	8mm x 30

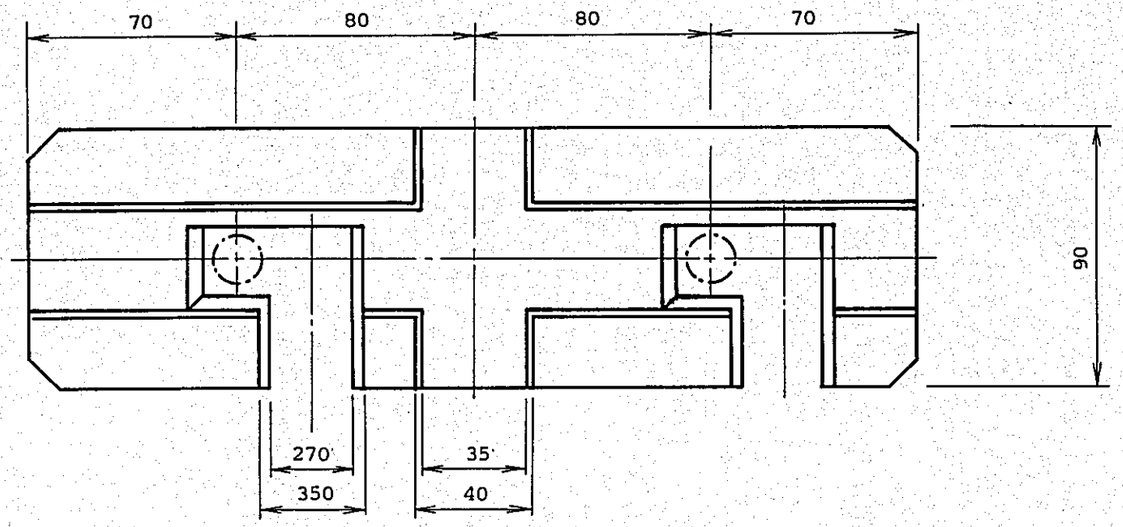


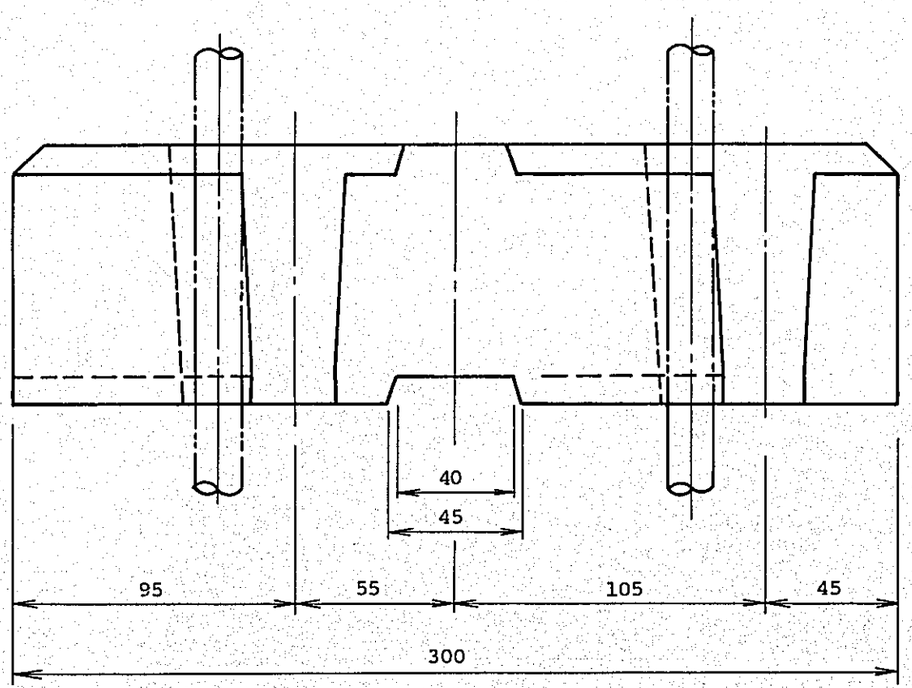




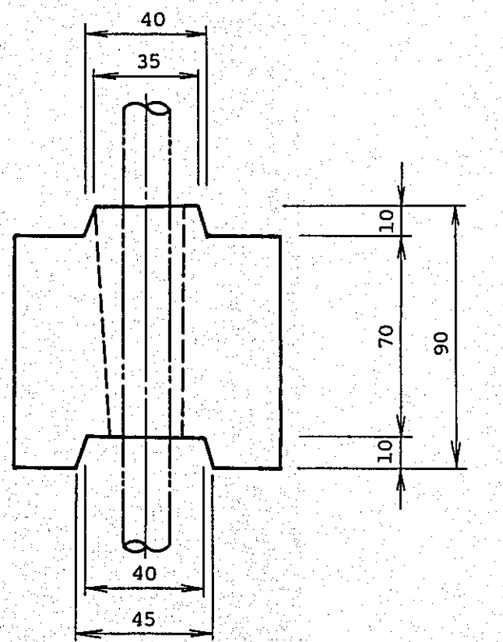
DRG NO. **2–18**

WEIGHT HEAD



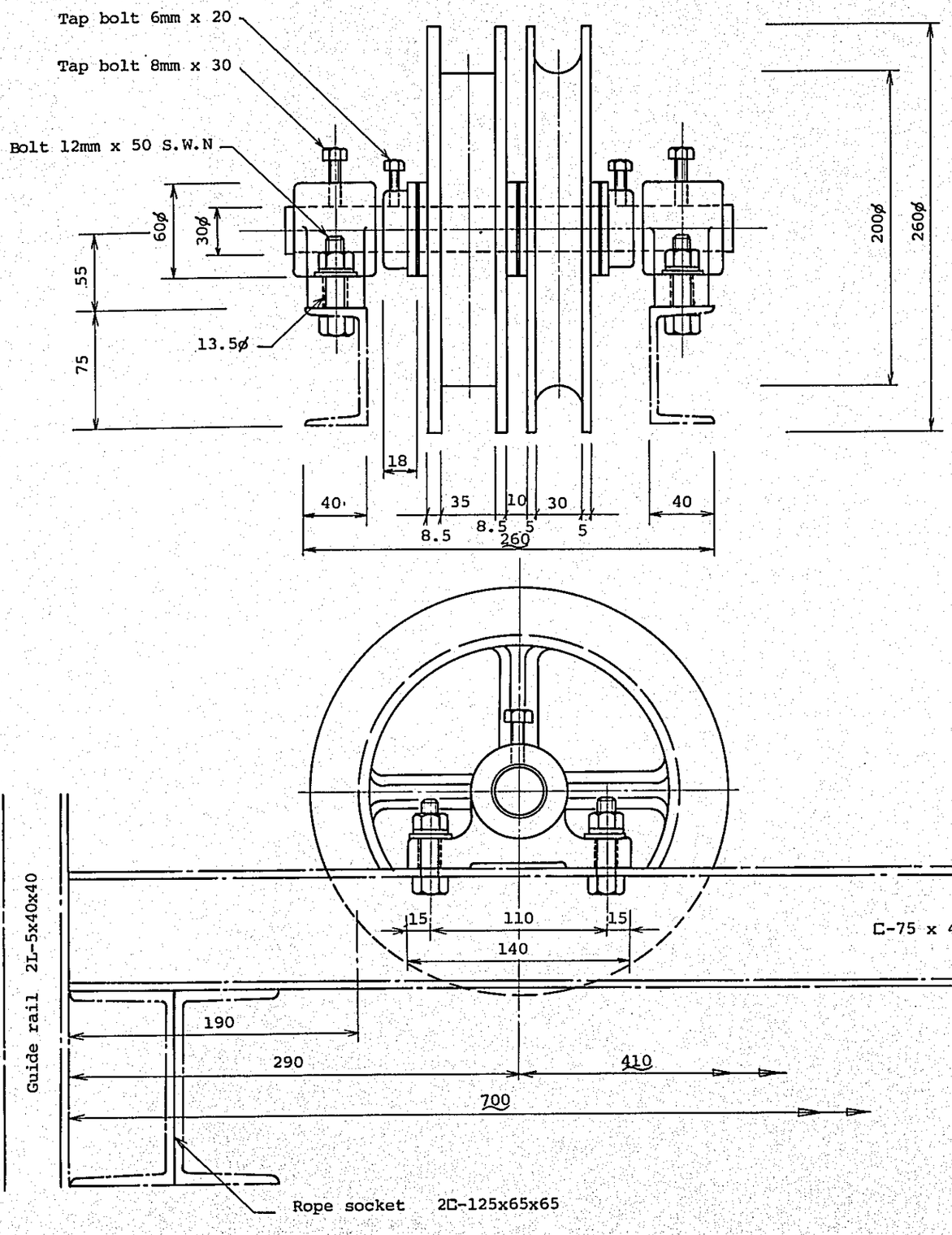


Large Size Weight 13kg			
Production No.			
No.	Description	Q'ty	Material Specification
1	Weight	1	FC 13 kg



DRG. NO. 2–19

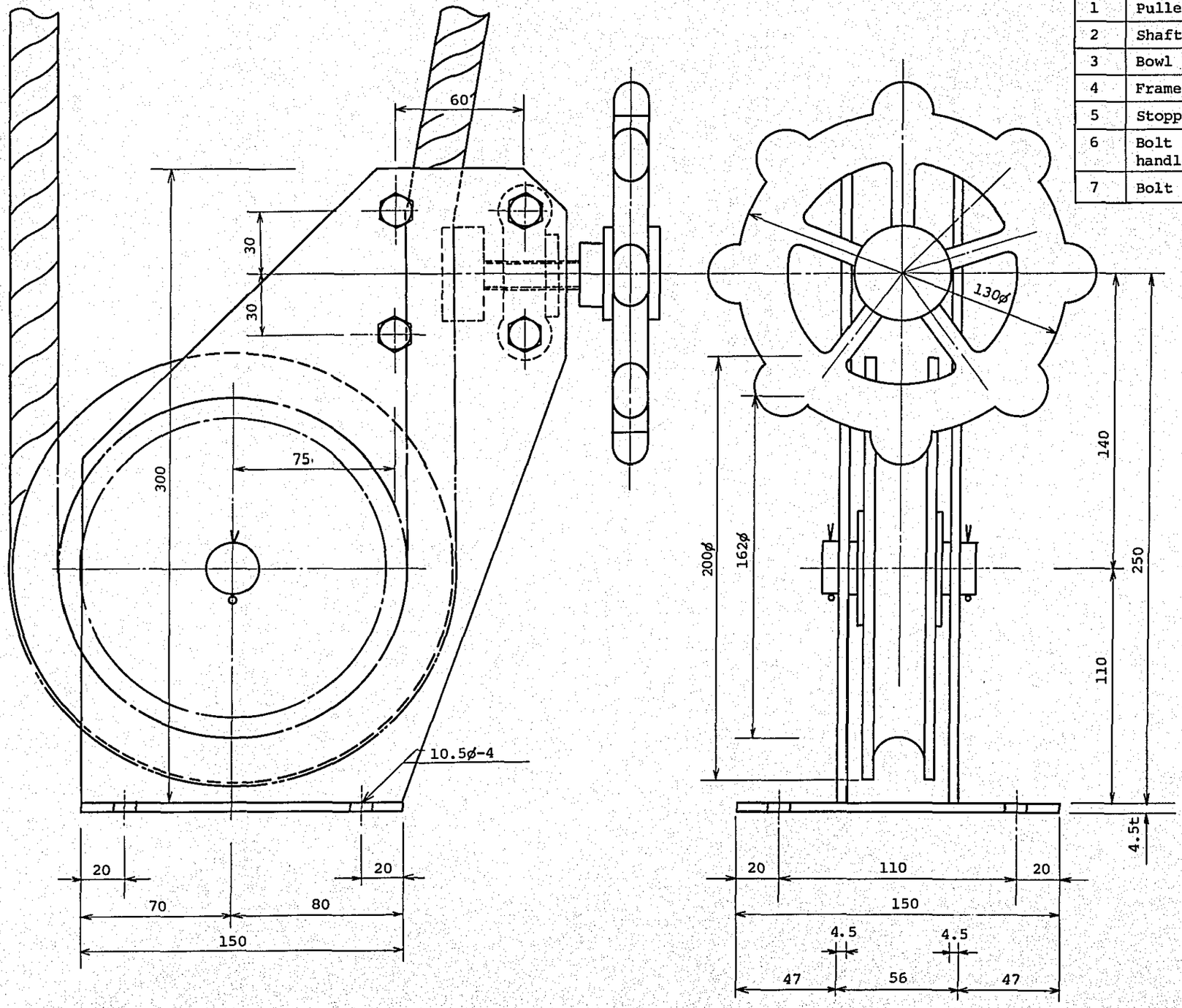
LARGE SIZE WEIGHT



260 Round Agnel Rope-Lock two steps Speed Pulley			
Production No.			
No.	Description	Q'ty	Material Specification
1	Pulley	1	FC 260ø angle gutter type
2	Pulley	1	FC 260ø round gutter type

DRG. NO. **2–20**

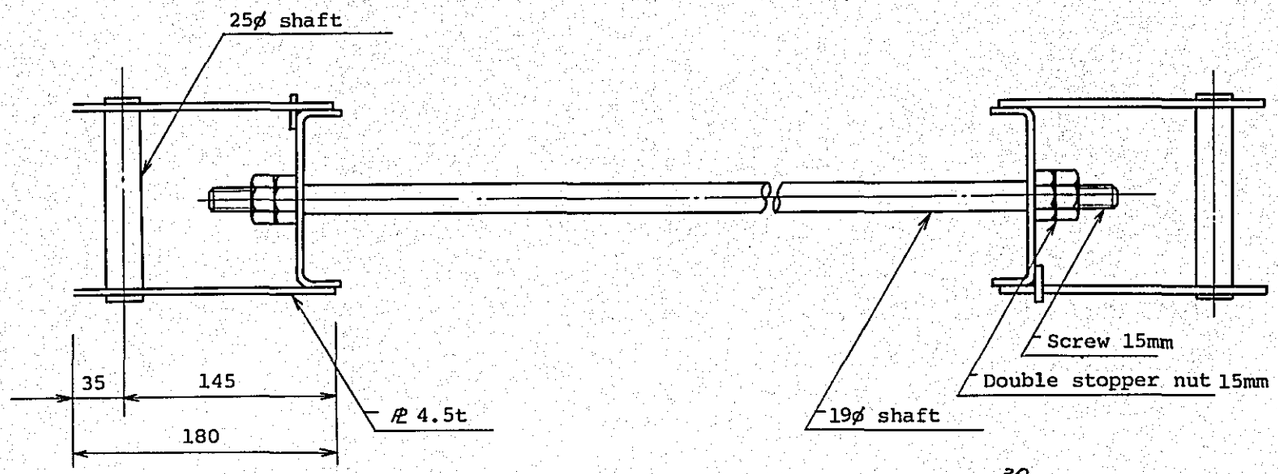
260 ROUND ANGLE ROPE-LOCK
TWO STEPS SPEED PULLEY



Rope-Lock Base Pulley with Stopper			
Production No.			
No.	Description	Q'ty	Material Specification
1	Pulley	1	FC 200ø round gutter type
2	Shaft	1	SSB 25ø with stopper pin
3	Bowl bearing	2	6205 (25ø)
4	Frame	1	R4.5 Press finished
5	Stopper handle	1	FC 130ø
6	Bolt for stopper handle	4	8mm 65 coller switch
7	Bolt	4	10mm

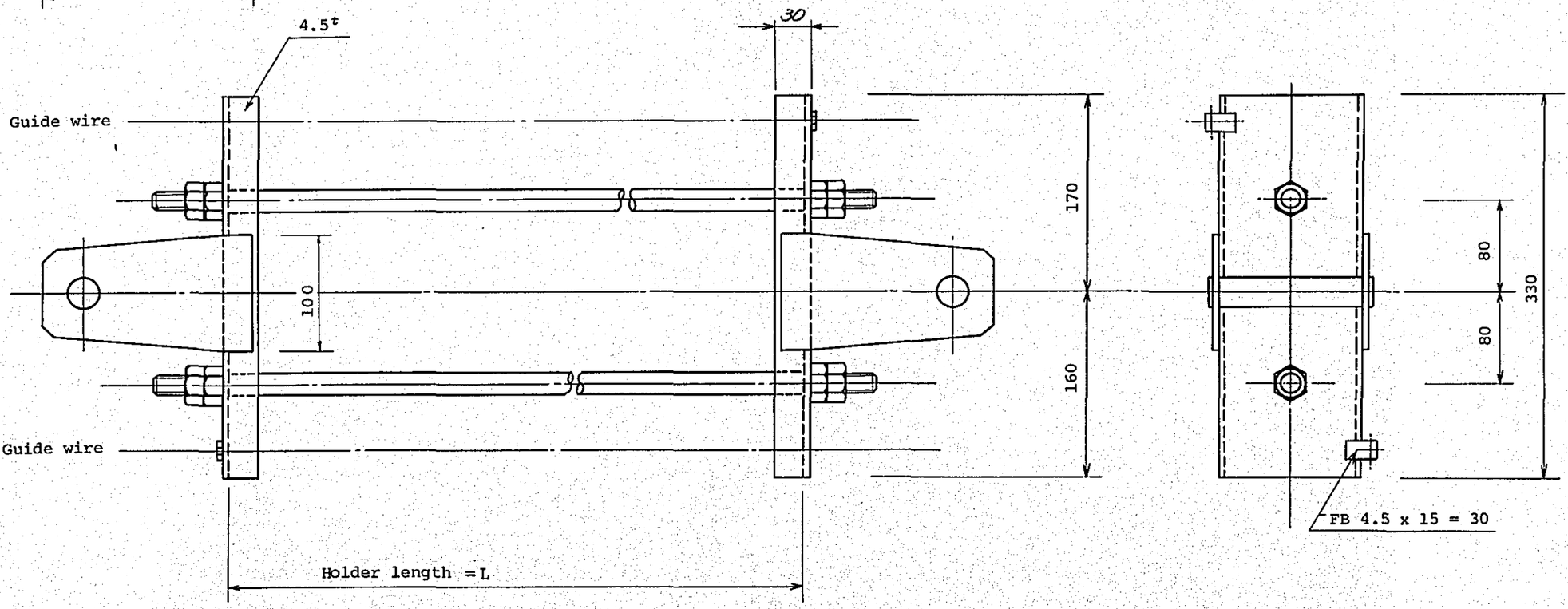
DRG.NO. **2–21**

ROPE-LOCK BASE PULLEY WITH STOPPER



Manual Type Weight Holder One Line			
Manufacturing Q'ty			
No.	Description	Q'ty	Specification
1	Cover of counter weight	1	4.5t shaft 25ø
2	Base of counter weight	1	4.5t shaft 25ø
3	Shaft	2	19ø 15mm
4	Guide	2 sets	FB 4.5t x 15t x L30
5	Nut	8	15mm

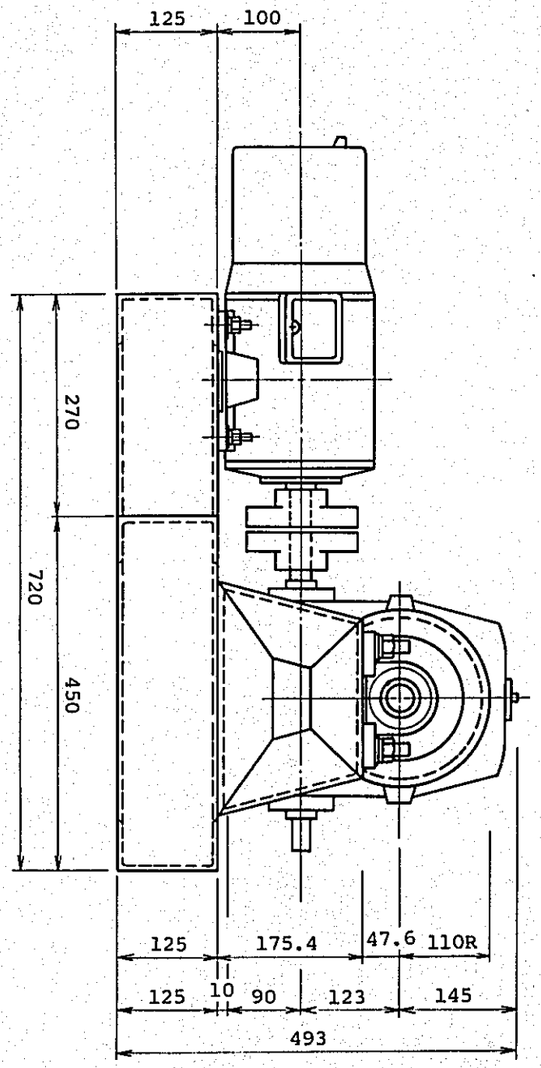
L	Weight	Holder No.	L	Weight	Holder
0.9	100	-1	1.5	180	-3
1.2	140	-2	1.8	230	-4

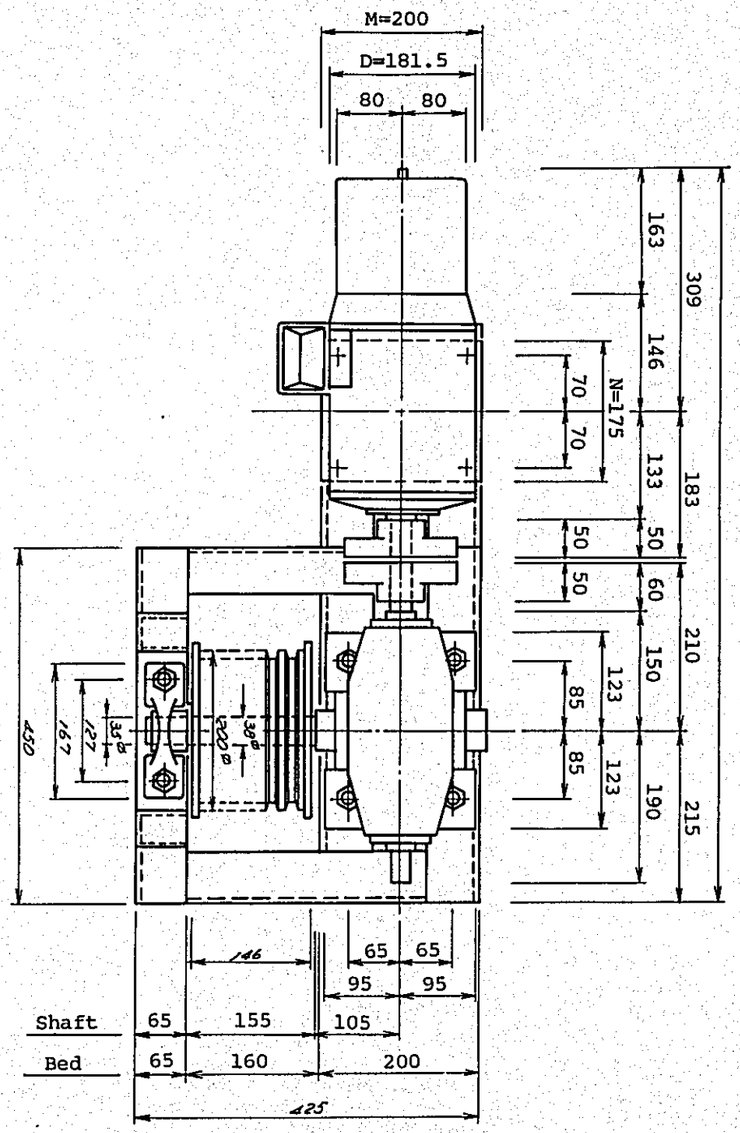


GUIDE: WIRE SYSTEM

DRG.NO. 2–22

MANUAL TYPE WEIGHT ONE LINE



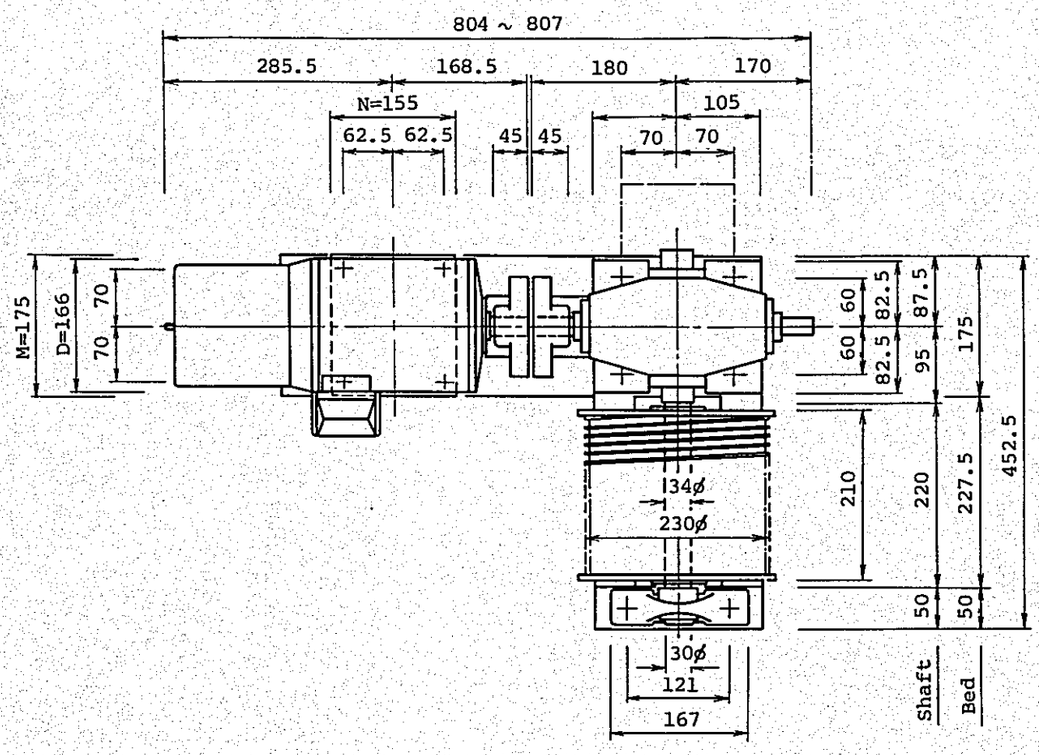


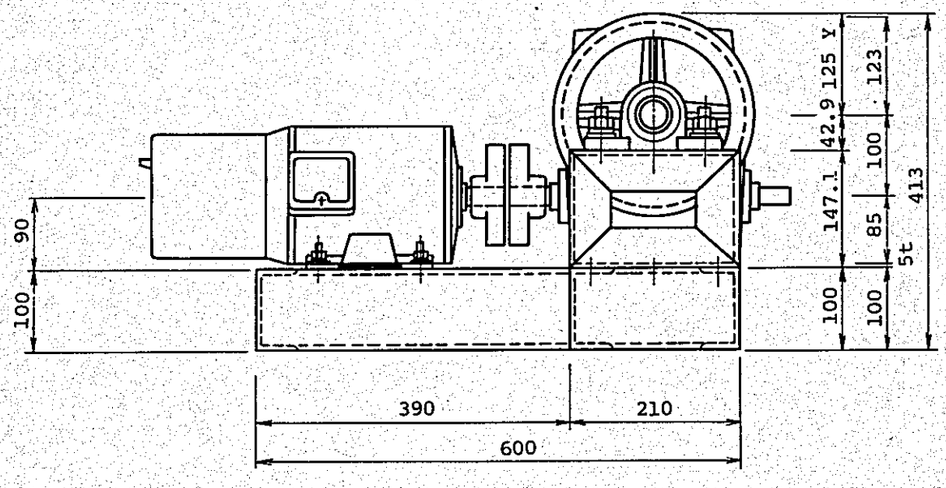
1800 rpm 26.8 m/min

MOTORIZED WINCH FOR STAGE CURTAIN			
2.2kW LA-5 200ø			
No.	DESCRIPTION	Q'TY	SPECIFICATION
1	ELECTRIC MOTOR	1	220V 2.2KW
2	SPEED REDUCER	1	LA-5 [ ] S1=27ø S2=38ø
3	CUP-RING	1	CL-140 B=63 L=50
4	WINDING DRUM	1	Tention 200ø
5	PILLOW	1	UCP 207 (35ø)
6	BRACKET FOR PILLOW	1	L-6x65x65
7	WINCH BASE	1	I-125x65x6
8	LINER FOR SPEED REDUCER	1	10 m/mT
9	BOLT FOR ELECTRIC MOTOR	4	10 m/mø
10	BOLT FOR SPEED REDUCER	4	15mm
11	BOLT FOR PILLOW	2	15mm FOR BRACKET 12MMx3

DRG.NO. 2-23

MOTORIZED WINCH FOR DRAW CURTAIN



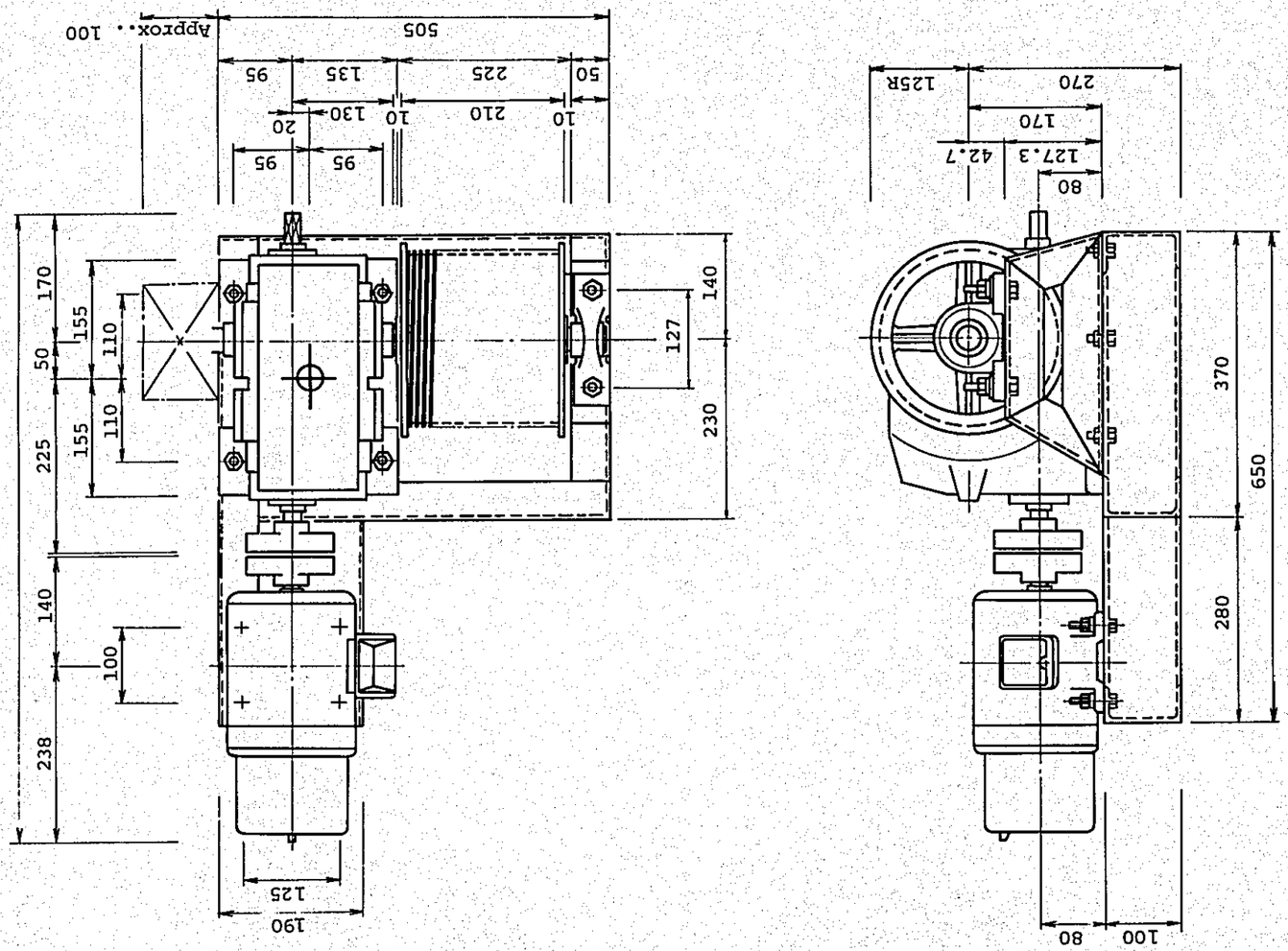


1800 rpm 26m/min

MOTORIZED WINCH FOR CONTOUR & DROP CURTAIN			
1.5kW LA-4, 230ø			
NO.	DESCRIPTION	Q'TY	SPECIFICATION
1	ELECTRIC MOTOR	1	220V 1.5kW SA2 DROP PREVENTING TYPE S=24ø
2	SPEED REDUCER	1	LA-4 [ ] S1=25ø, S2 = 34ø
3	CUP-RING	1	CL-125 B=50ø, L=45
4	WINDING DRUM	1	230ø
5	PILLOW	1	UCP 206 (30ø)
6	BRACKET FOR PILLOW	1	L-4x50x50
7	LIMIT SWITCH	1	WORM GEAR REDUCER
8	WINCH BASE	1	L-100 x 50 x 50
9	LINER FOR SPEED REDUCER	1	5mm
10	BOLT FOR ELECTRIC MOTOR	4	8mmø
11	BOLT FOR SPEED REDUCER	4	12mm (6) 12mm x 3
12	BOLT FOR PILLOW	2	15mm

DRG. NO. 2-24

MOTORIZED WINCH FOR DROP & COUNTOUR CURTAIN

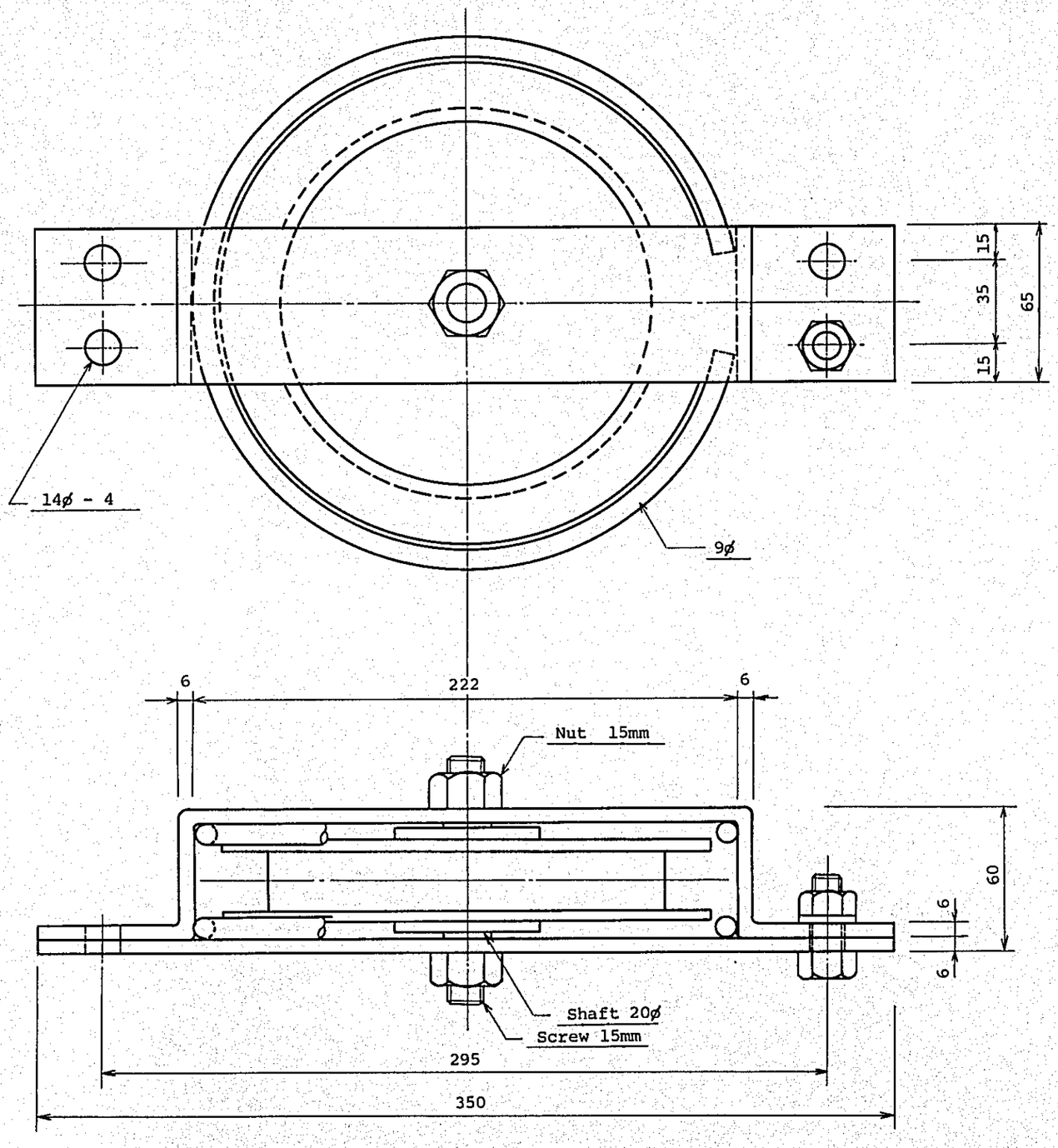


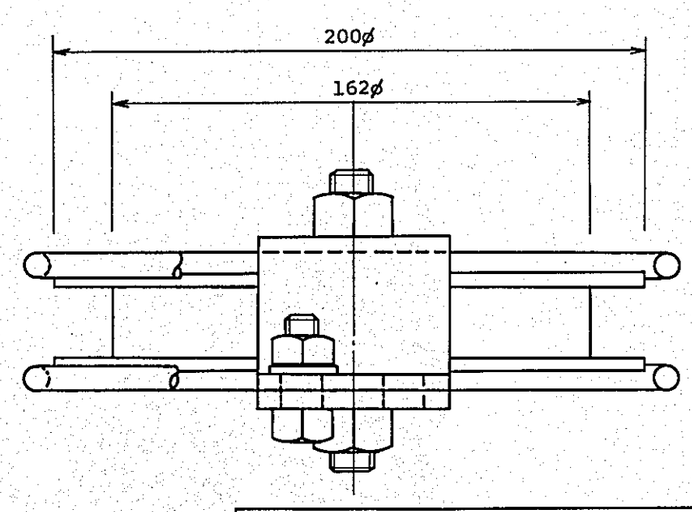
1800 rpm 6.5 m/min

MOTORIZED WINCH 0.75KW			
0.75KW 230ø			
NO.	DESCRIPTION	Q'TY	SPECIFICATION
1	ELECTRIC MOTOR	1	3ø220V 0.75KW SA2 GROP PREVENTION TYPE WITH BREAKER
2	SPEED REDUCER	1	LD-3 S1=23ø S2=36ø
3	DRUM	1	230ø x 210
4	PILLOW	1	UCP 207 (35ø)
5	CUP-RING	1	CL-112
6	BASE	1	I-100x50x5
7	BRACKET	1	L-4x50x50
8	LIMIT SWITCH	1	WORM SPEED REDUCER SWITCHING OPERATION

DRG. NO. **2–25**

MOTORIZED WINCH FOR LIGHTING BATTEN





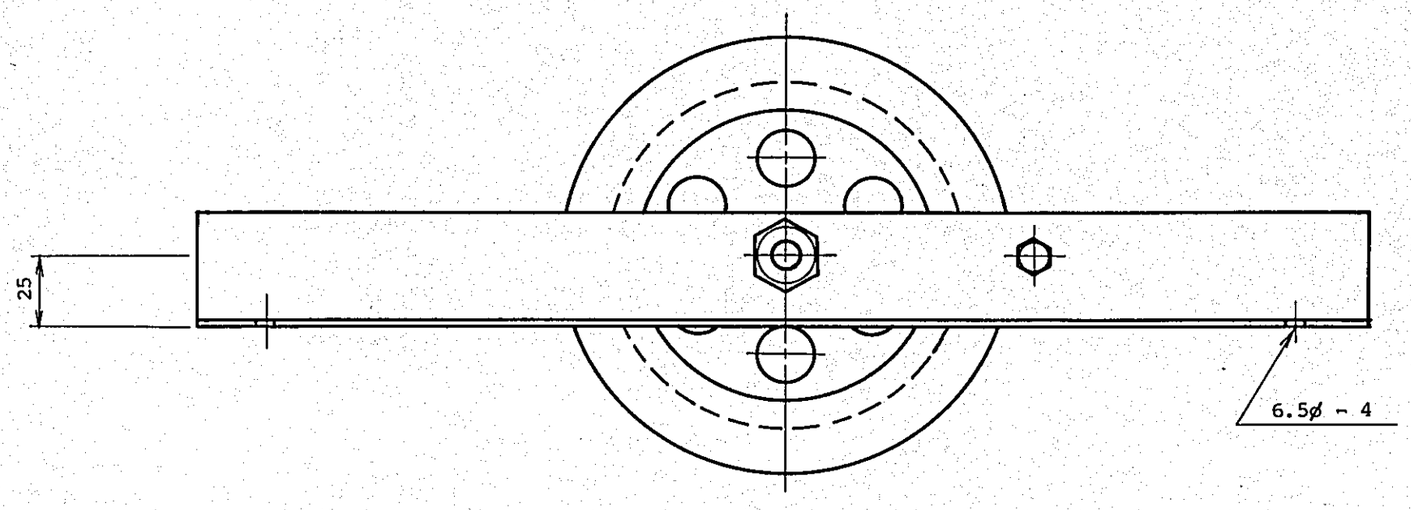
200 ANGLE VERTICAL TYPE PULLEY

COMPOSITION TABLE

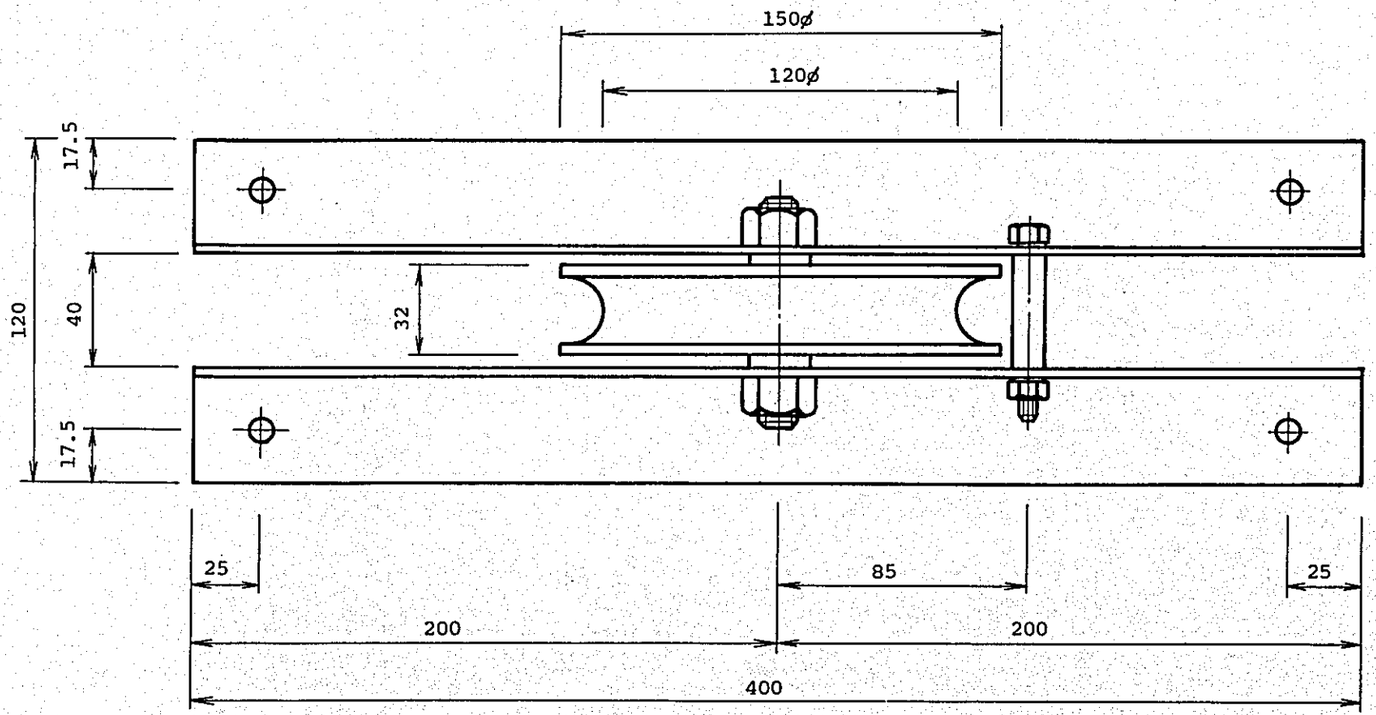
NO.	DESCRIPTION	Q'TY	MATERIAL SPECIFICATION
1	PUELLY	1	FC, 200ø ROUND GUTTER TYPE
2	SHAFT	1	SSB, 20ø 15mm
3	BOWL BEARING	2	6004 (20ø)
4	STOPPER NUT	2	15mm
5	STOPPER COLLER		9ø
6	BOLT FOR ABOVE	4	12mm WITH S.W.N.

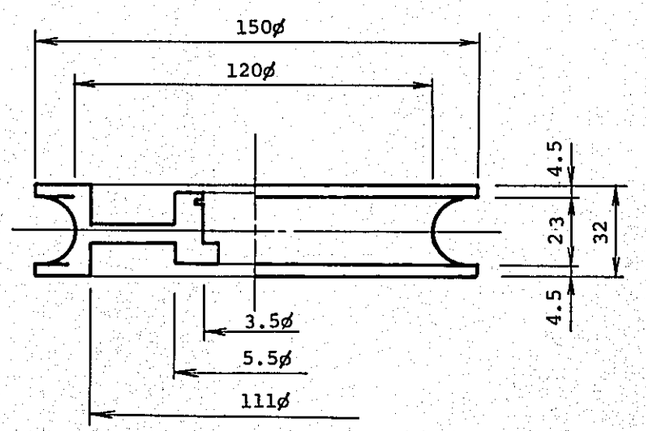
DRG. NO. 2–26

VERTICAL TYPE PULLEY FOR BATTEN SYSTEM



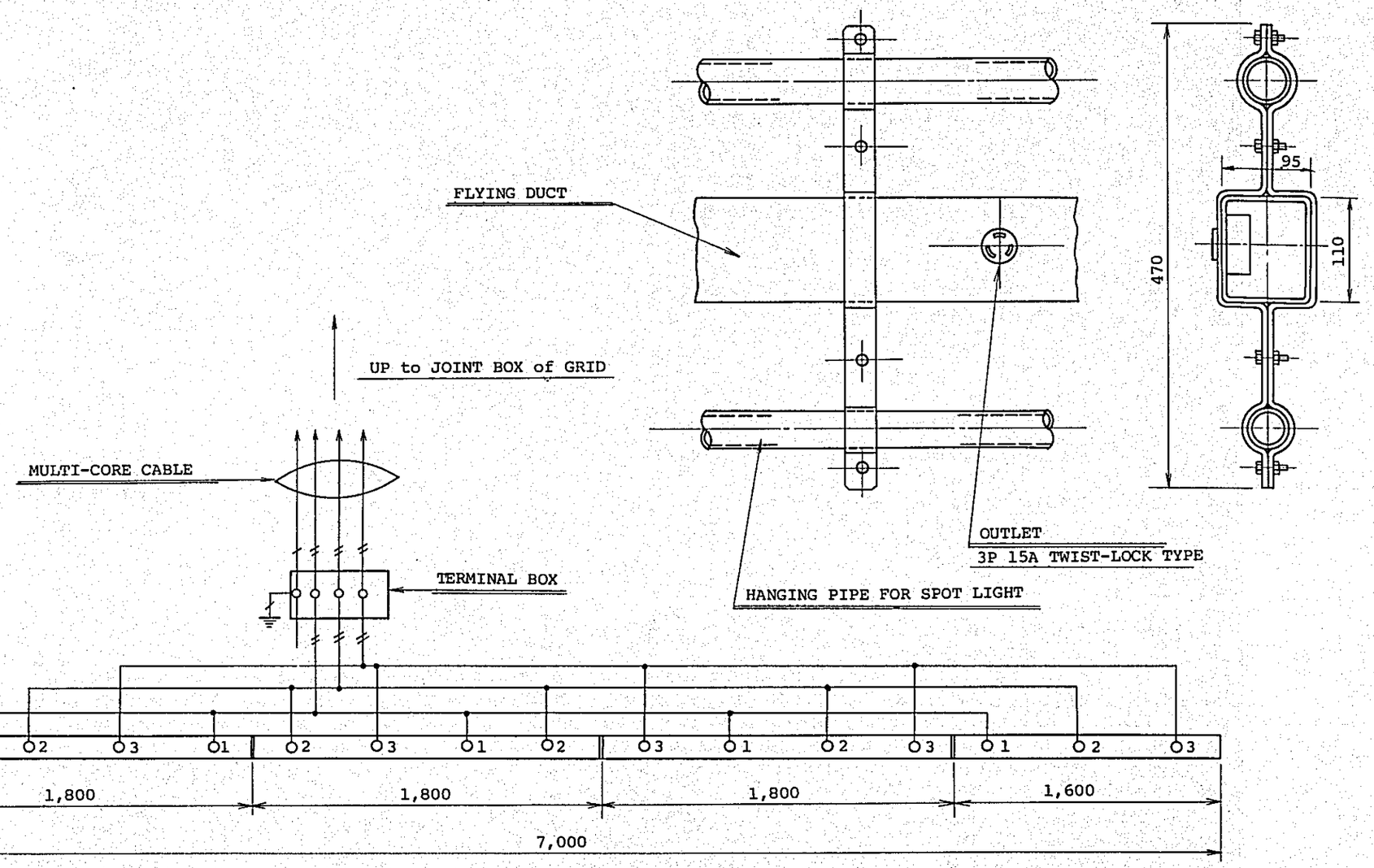
150 AUXILIARY PULLEY L TYPE			
	PRODUCTION NO.		
NO.	DESCRIPTION	Q'TY	MATERIAL SPECIFICATION
1	PULLEY	1	FC 150ø ROUND GUTTER TYPE
2	SHAFT	1	SSB, 15ø
3	BOWL BEARING	1	6202 (15ø)
4	PULLEY FRAME	2	L-3x40x40
5	STOPPER NUT	2	
6	STOPPER COLLER	1	
7	VOLT, NUT FOR ABOVE PARTS	1	6mm x 65





DRG. NO. 2–27

L TYPE PULLEY FOR BATTEN SYSTEM



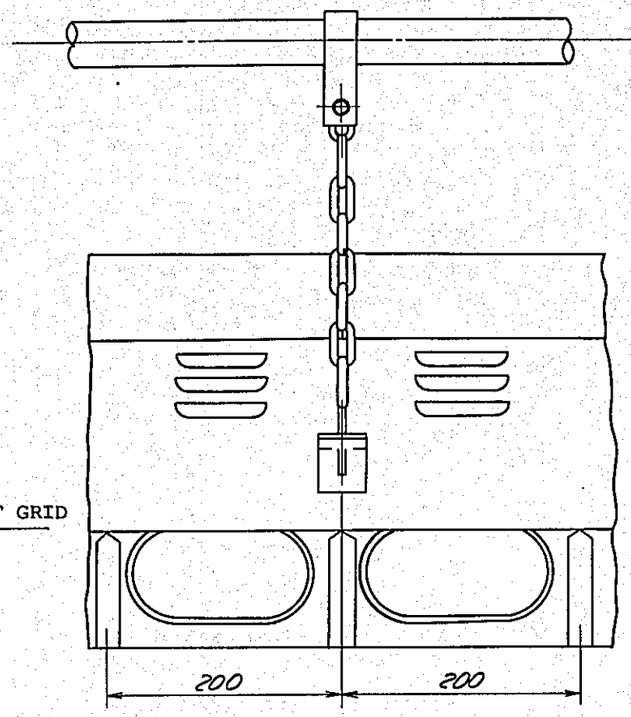
EACH FLYING DUCT: 3P 15A TWIST-LOCK TYPE OUTLET 15 PCS
(3 CIRCUITS - 5 BRANCHES)
LENGTH: 7.0M

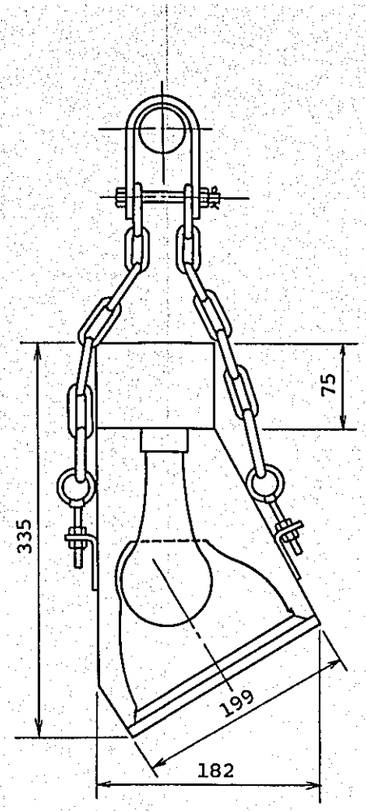
CONSTRUCTION PROJECT
OF **BTV HALL** IN DACCA

DATE 12/'77
SCALE

TITLE OF DRAWING
SPOT LIGHT CONCENT & CIRCUIT/BATTEN

DRG. NO.
2–28





UP TO JOINT BOX OF GRID

MULTI-CORE CABLE

TERMINAL BOX

PCS
200W LAMP x 33

1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1

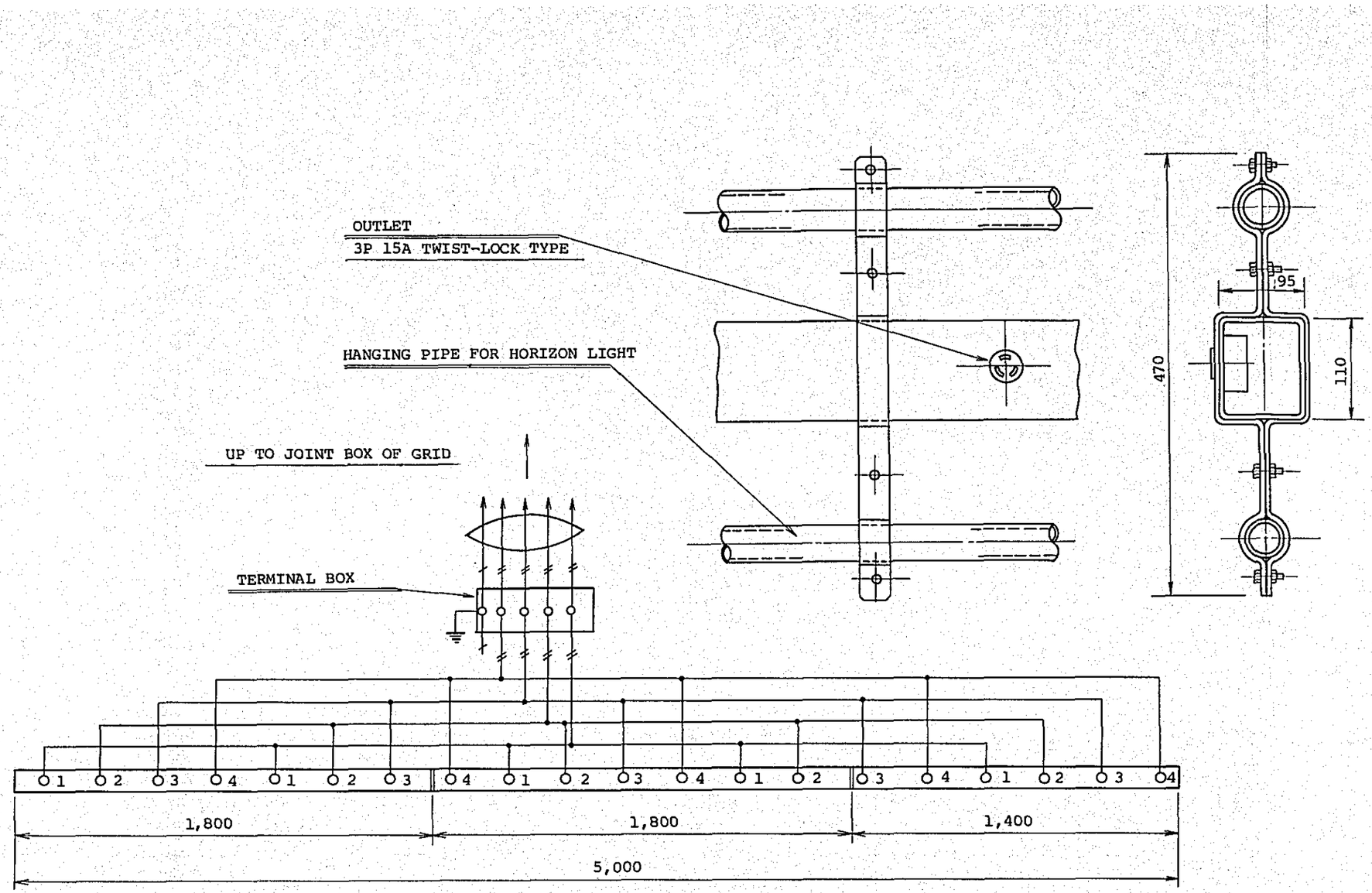
200x9=1,800 | 1,800 | 1,800 | 200x6=1,200

6,600

EACH BORDER LIGHT: 200W LAMP x 33 PCS 4 CIRCUITS

LENGTH: 6.6M

CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING FLOOD LIGHT BATTEN SYSTEM	DRG. NO. 2–29



EACH FLYING DUCT: 3P 15A TWIST-LOCK TYPE OUTLET 20 PCS
(4 CIRCUITS - 5 BRANCHES)
LENGTH: 5.0M

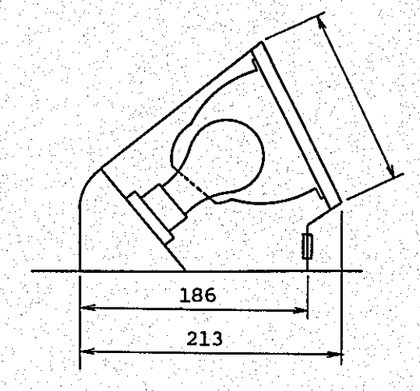
CONSTRUCTION PROJECT
OF **BTV HALL** IN DACCA

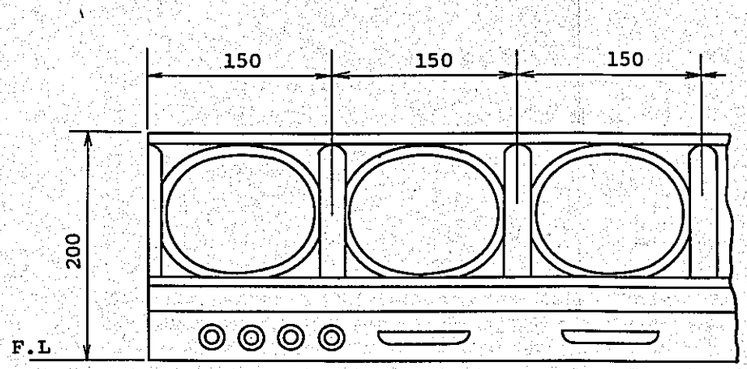
DATE 12/'77

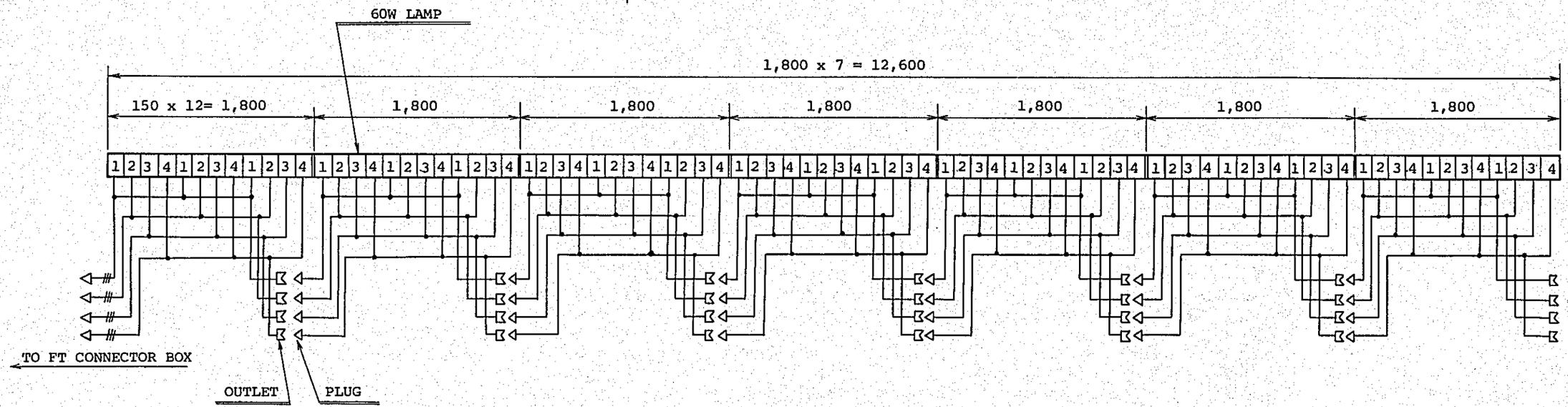
SCALE

TITLE OF DRAWING
UPPER HORIZONTAL LIGHT SYSTEM

DRG. NO.
2–30



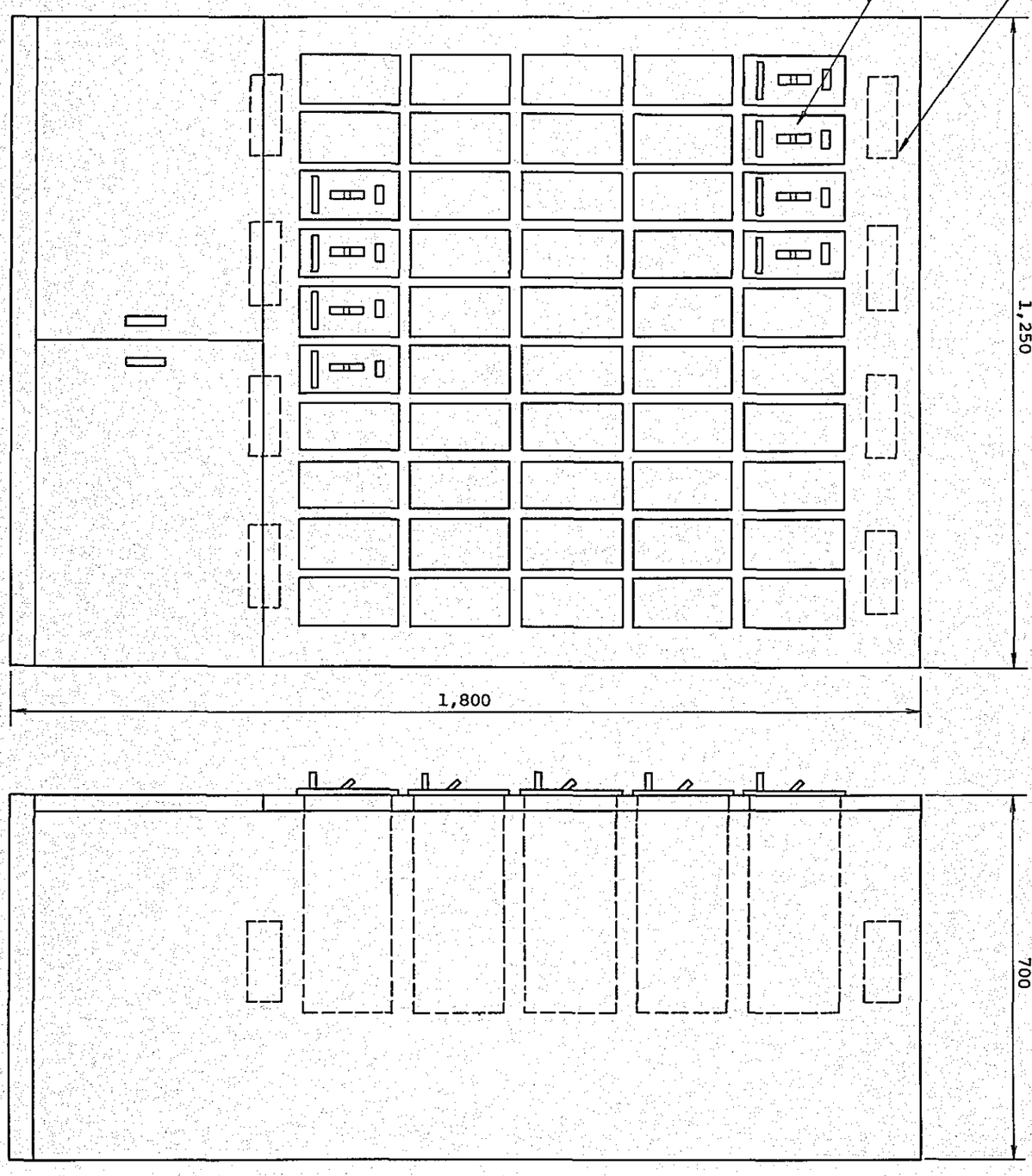




60W LAMP x 12 PCS x 7 SETS = 84 LAMPS 4 CIRCUITS

TOTAL LENGTH 12.6M

CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING FOOT LIGHT	DRG. NO. **2–31**



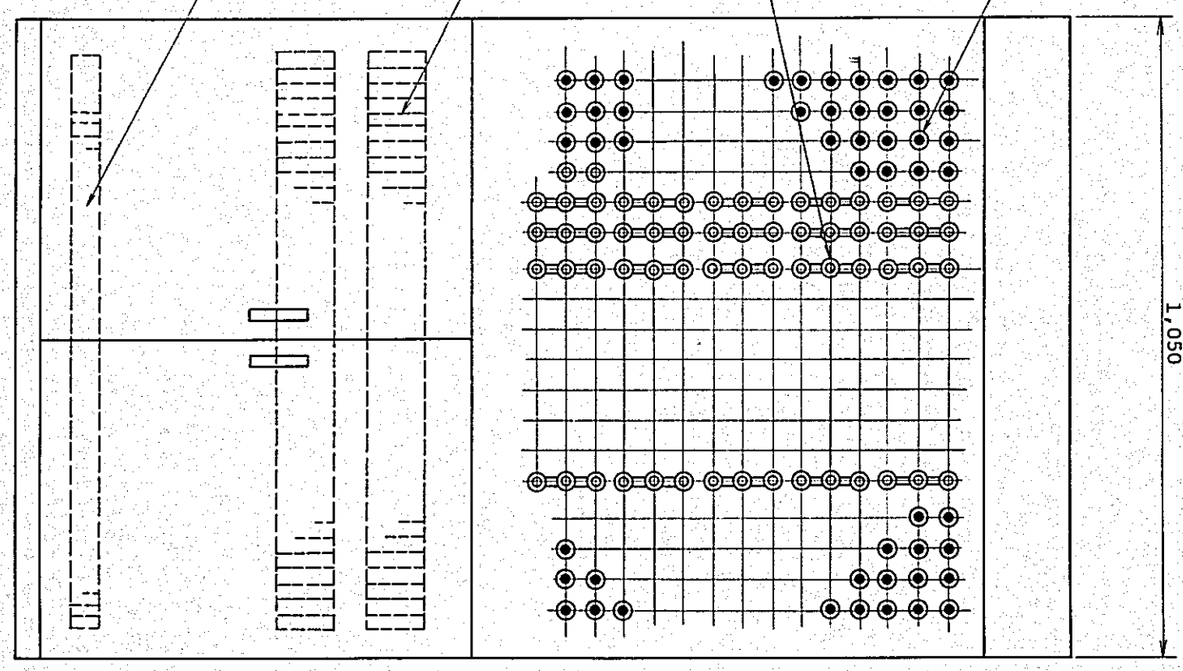
CONSTRUCTION PROJECT
OF BTV HALL IN DACCA

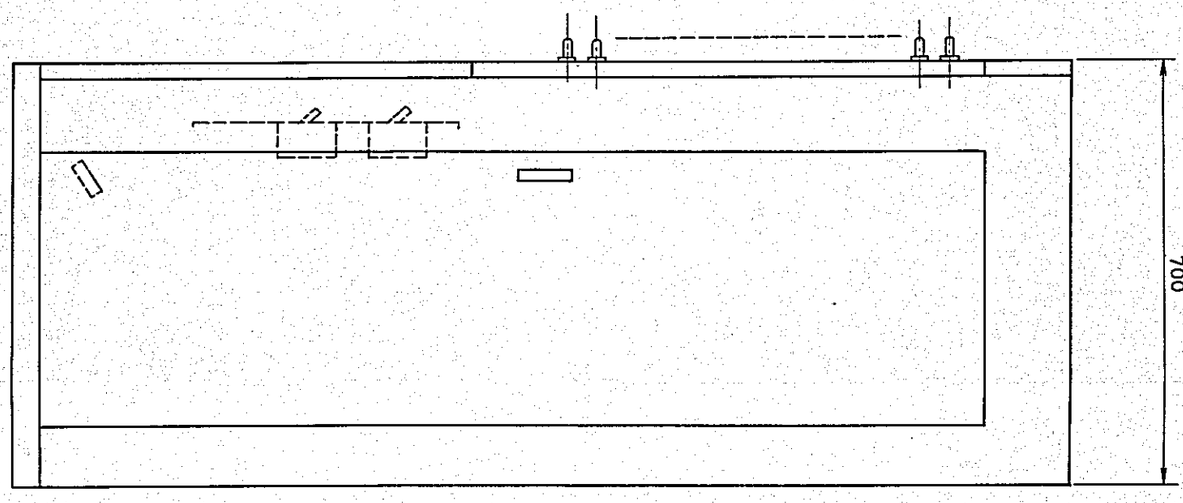
DATE 12/'77

SCALE

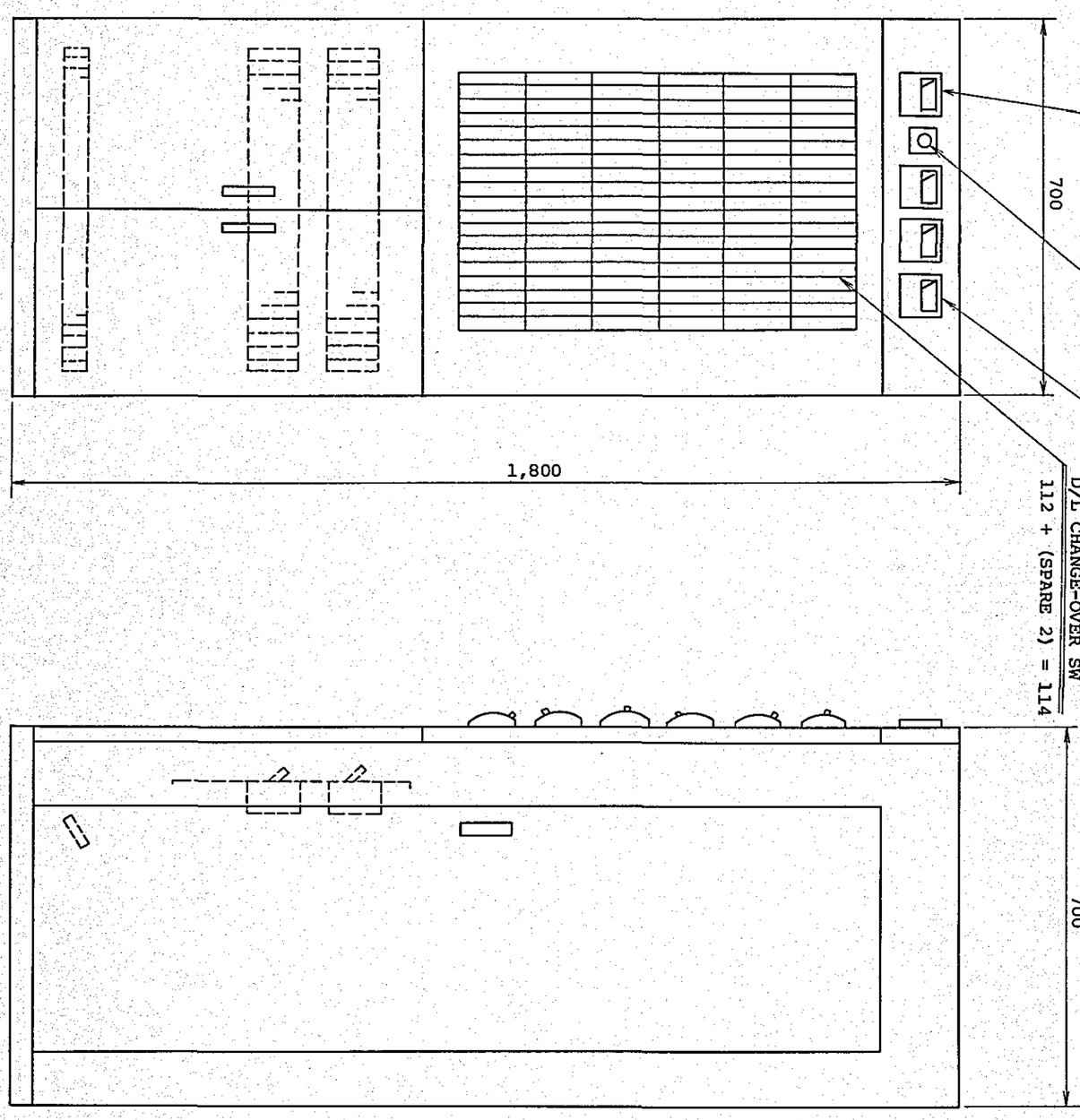
TITLE OF DRAWING
OUTSIDE VIEW OF DIMMER UNIT RACK

DRG. NO.
2–32

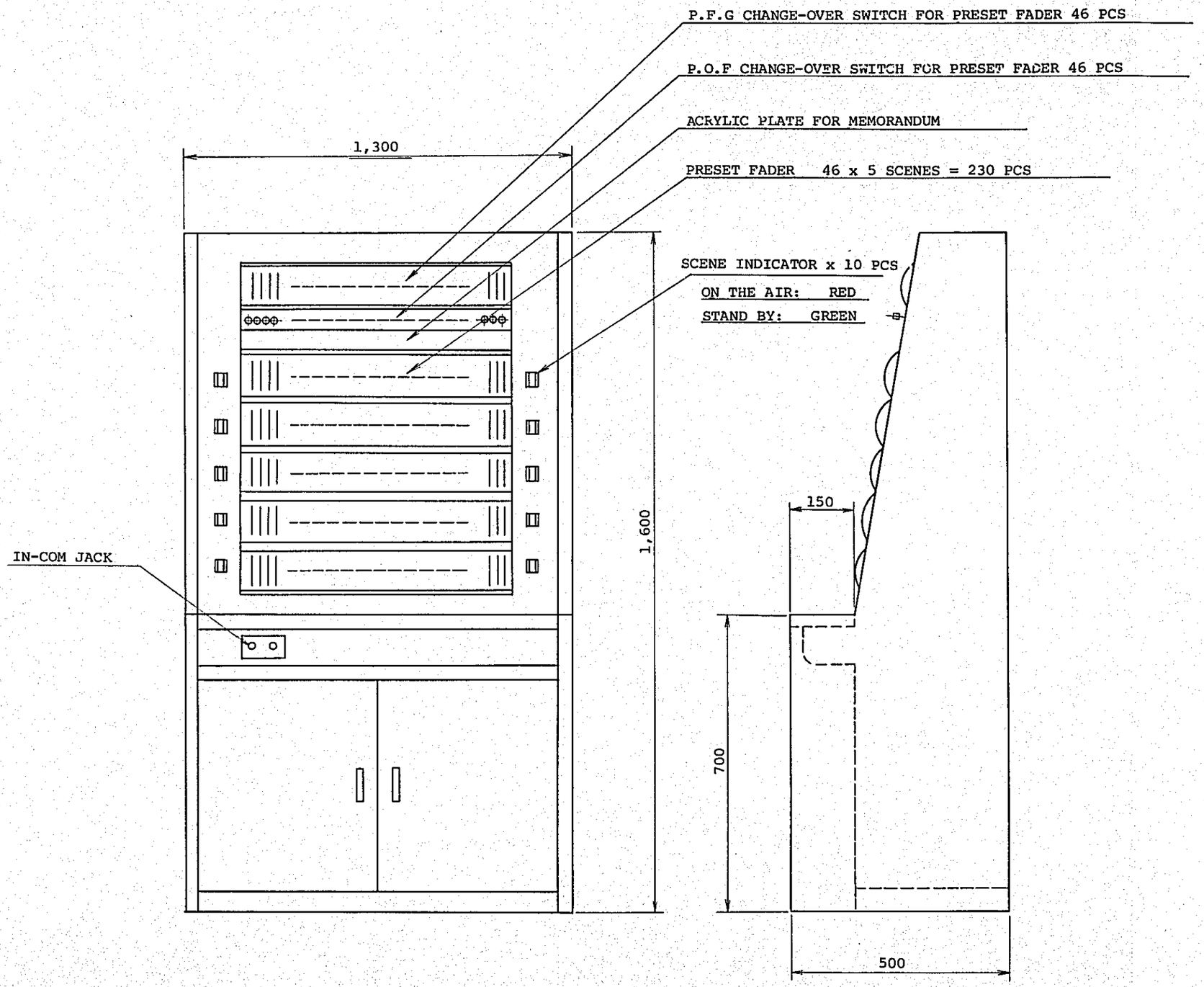




CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING PATCHING BOARD	DRG. NO. 2–33



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING D/L SWITCH BOARD	DRG. NO. 2–34



CONSTRUCTION PROJECT
OF BTV HALL IN DACCA

DATE	SCALE	DRG. NO.
12/'77		2–35

TITLE OF DRAWING

PRESET FADER BOARD

PILOT INDICATOR PANEL
FOR LOAD CIRCUIT

MANUAL FADER

PUSH BUTTON FOR MAIN POWER

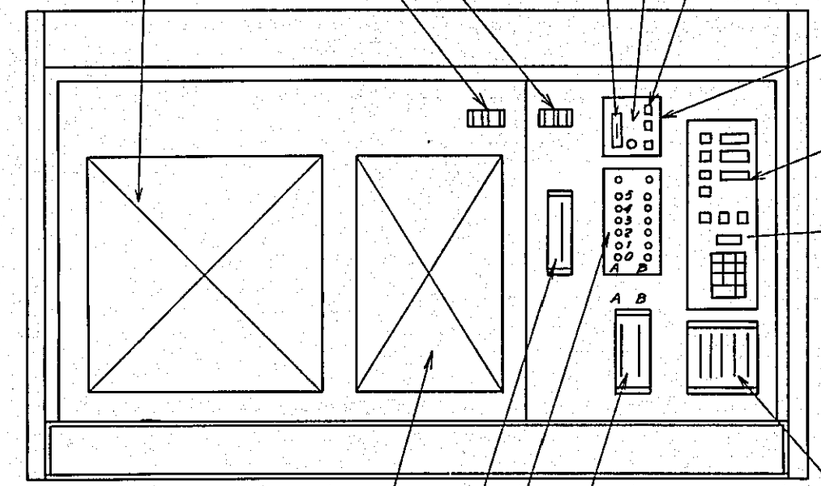
PUSH BUTTON
FOR CONTROL POWER

CHANGE-OVER
SWITCH FOR AUTO-MANUAL

PUSH BUTTON FOR FADE-IN STOP FADE-OUT

AUTO-DIMMING SYSTEM FOR
HOUSE LIGHT

AUTO-DIMMING SYSTEM FOR
MASTER & CROSS FADER



CONTROL CONSOLE

CROSS FADER

GROUP FADER

PUSH BUTTON FOR SCENE SELECTION

PRESET SWITCH PANEL
FOR COLOR CHANGER

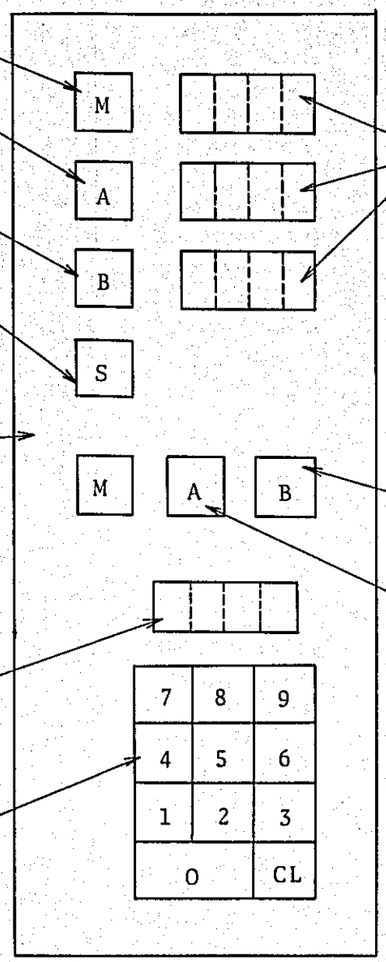
MATER FADER

STARTING BUTTON FOR MASTER

STARTING BUTTON FOR
CROSS FADER A

STARTING BUTTON FOR
CROSS FADER B

PUSH BUTTON FOR STOP



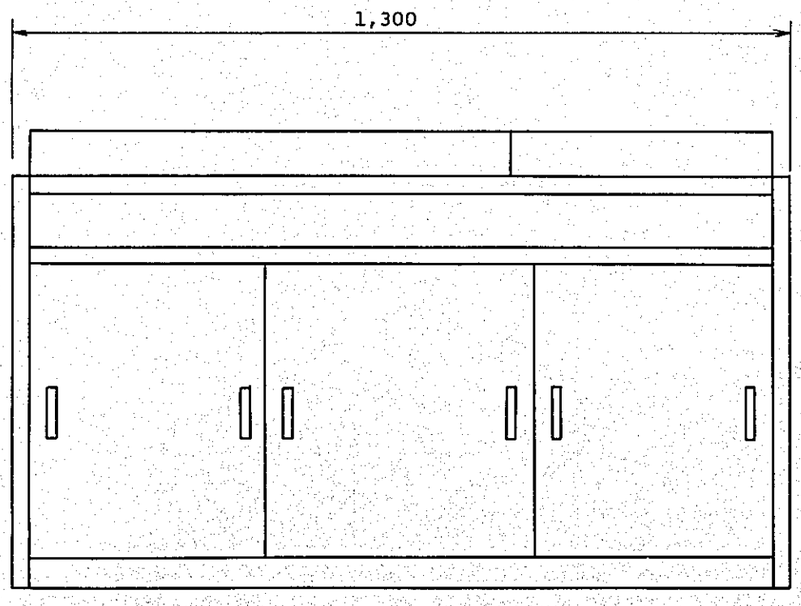
DIGITAL TIME
INDICATOR

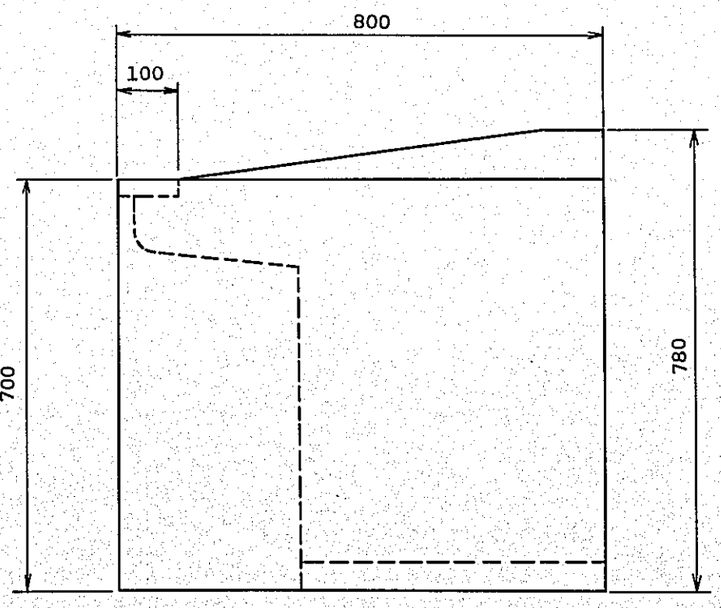
PUSH BUTTON
FOR READ-OUT
TO CROSS FADER B

PUSH BUTTON
FOR READ-OUT
TO CROSS FADER A

DIGITAL TIME
INDICATOR

TEN (10) KEY PUSHBUTTON
FOR TIME SELECTION

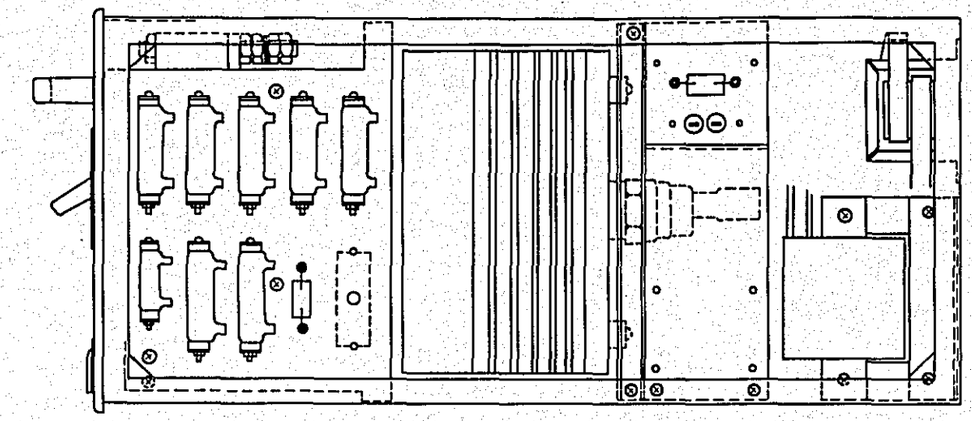


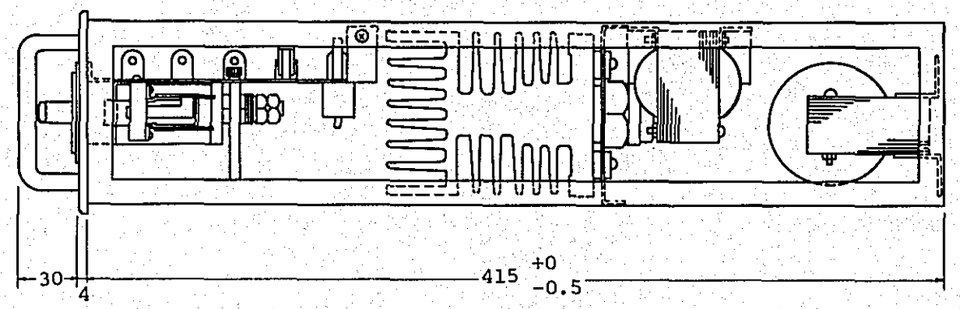


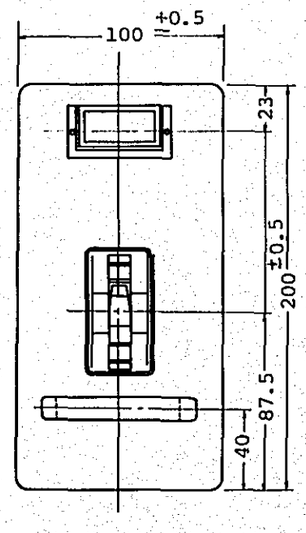
DRG. NO. 2–36

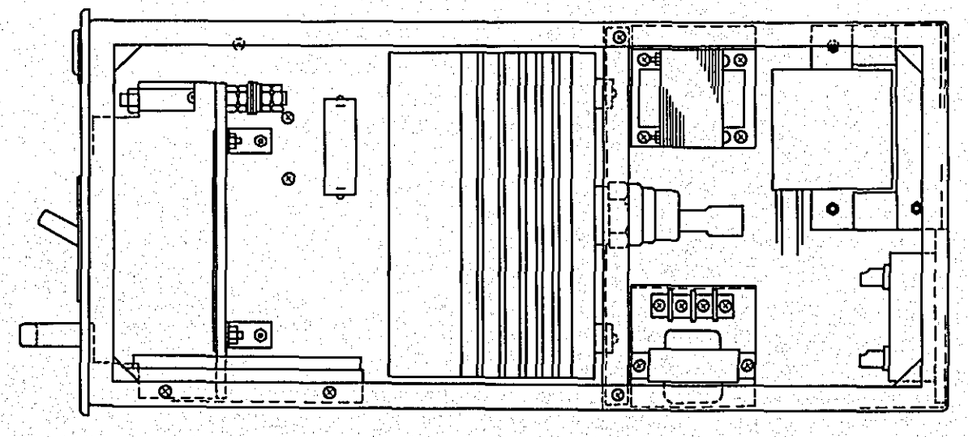
TITLE OF DRAWING

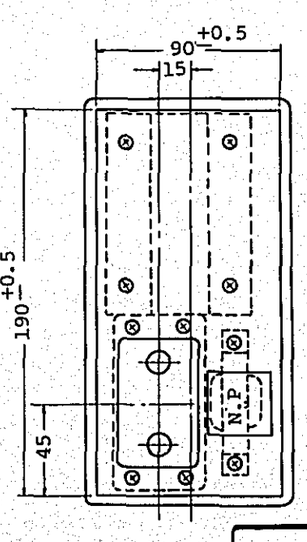
LIGHTING CONTROL CONSOLE



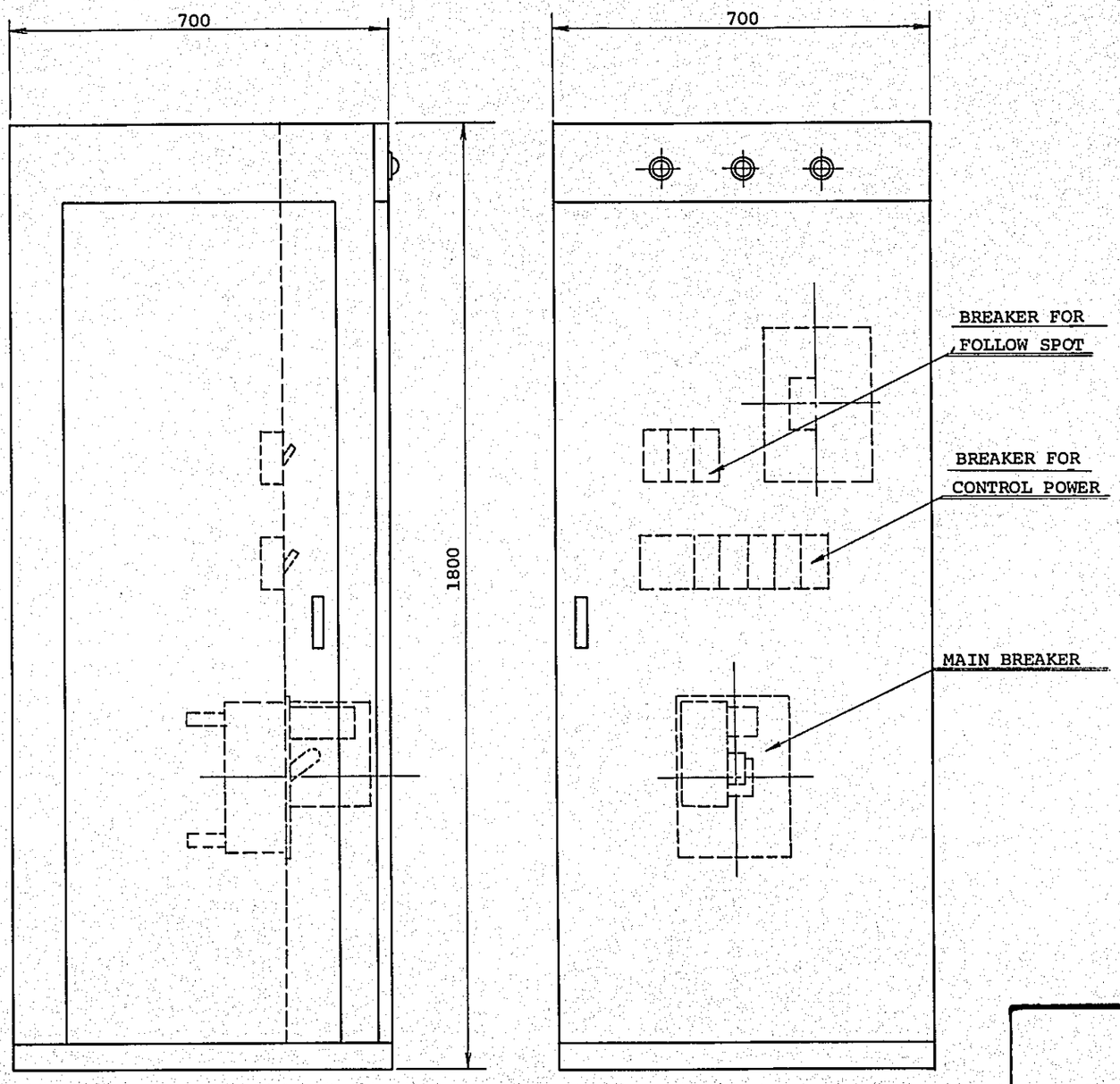




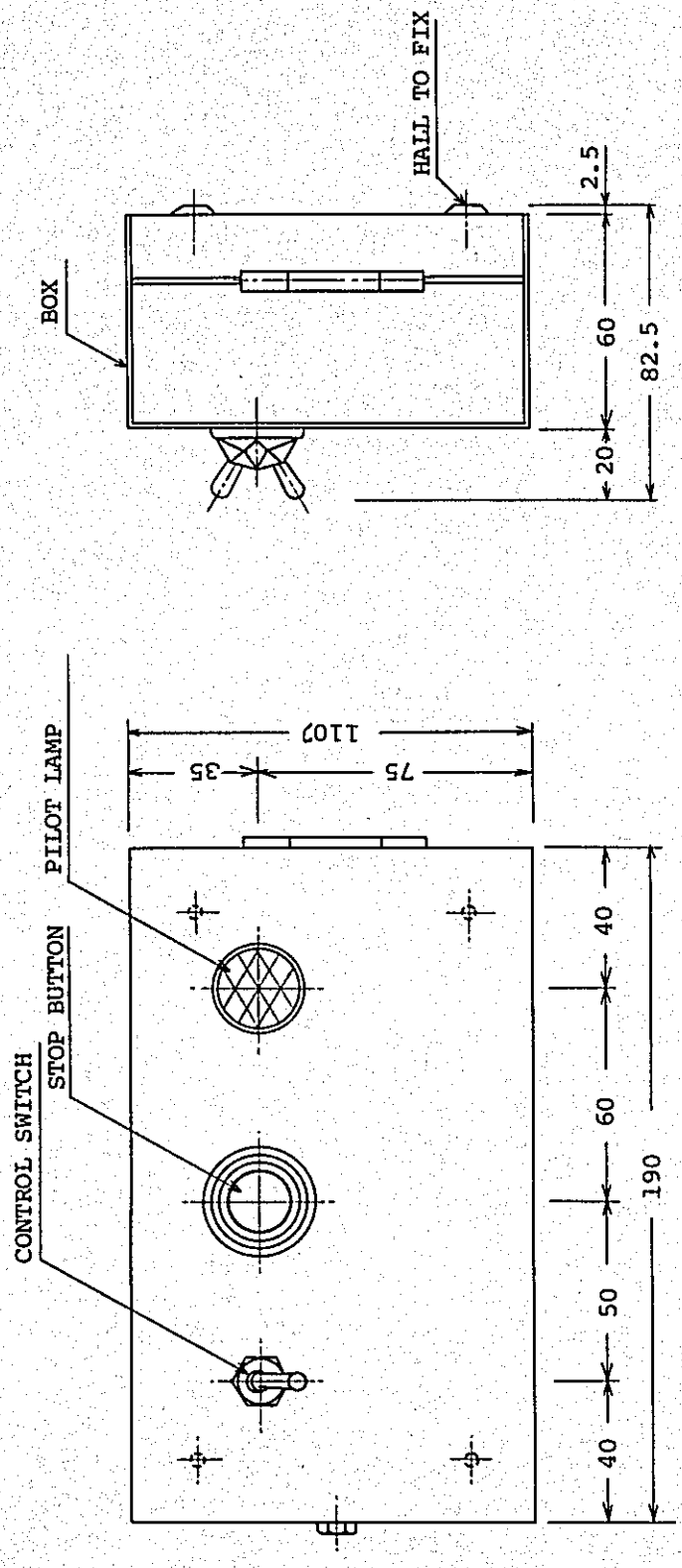




CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING DIMMER UNIT	DRG. NO. 2–37



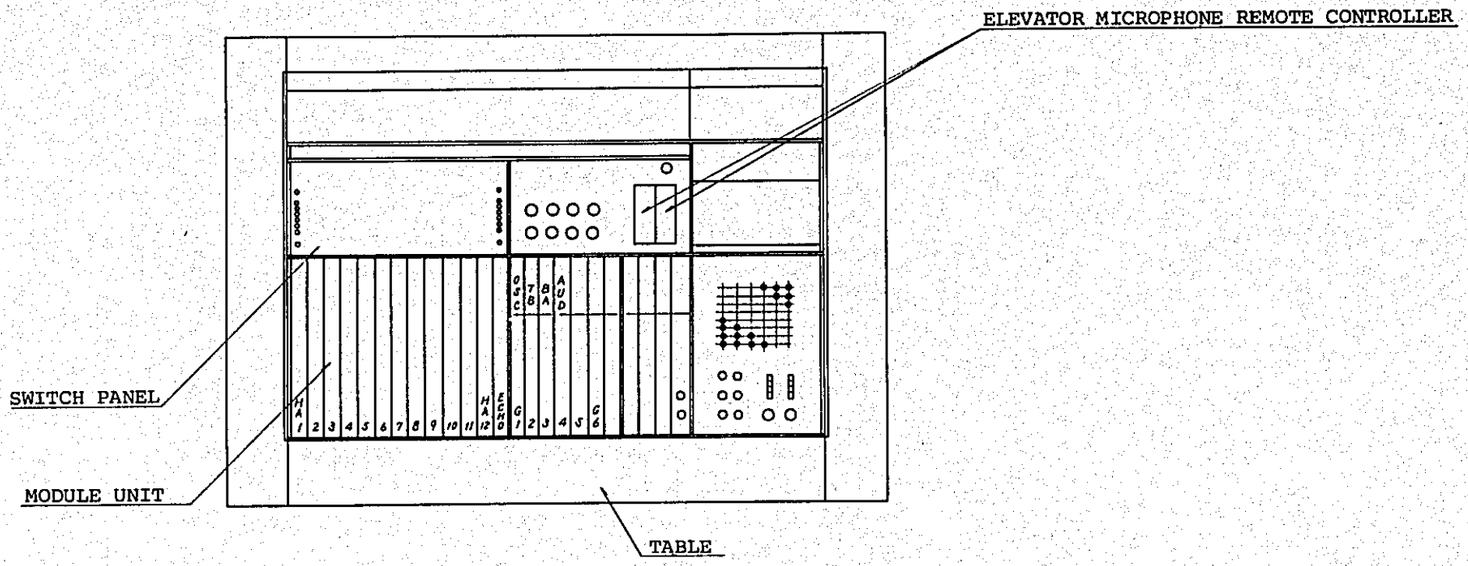
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTSIDE VIEW OF MAIN SWITCH BOARD	DRG. NO. 2–38

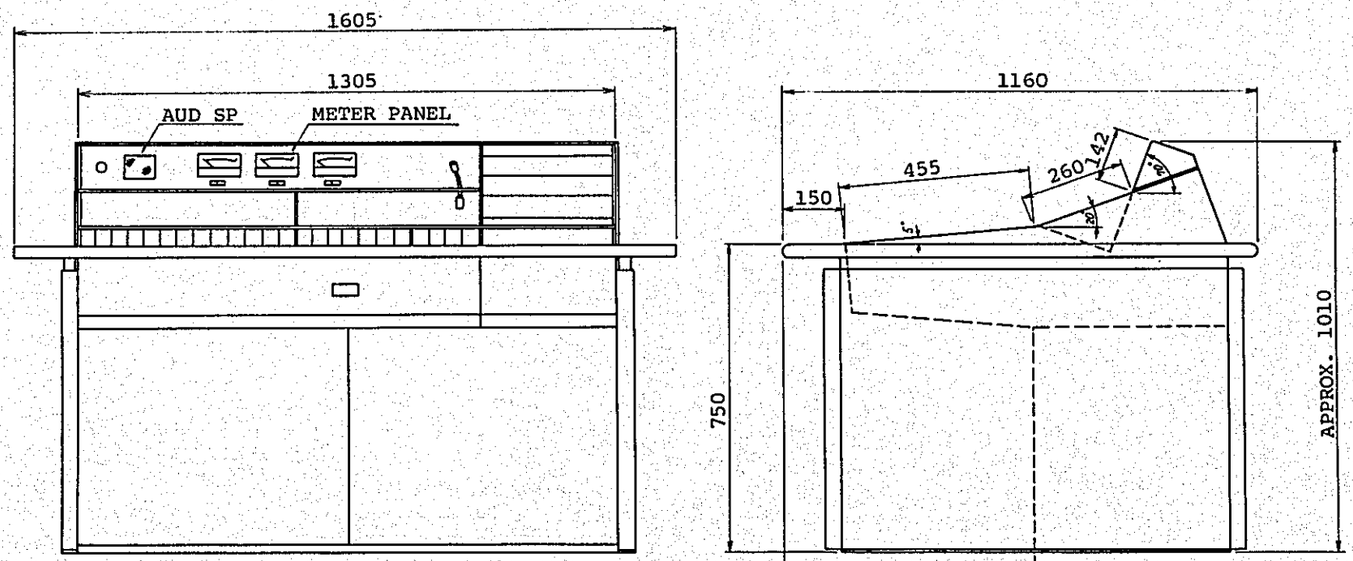


DRG. No. 2–39

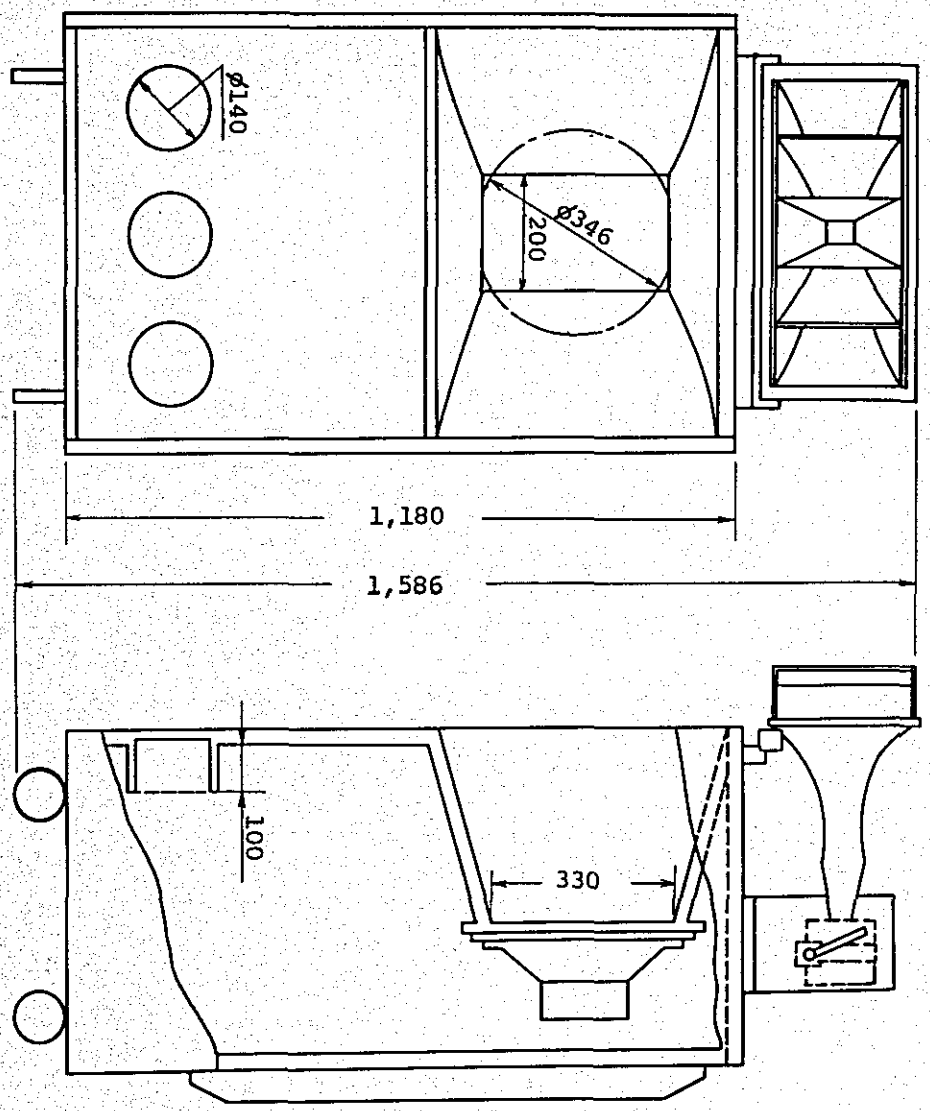
TITLE OF DRAWING

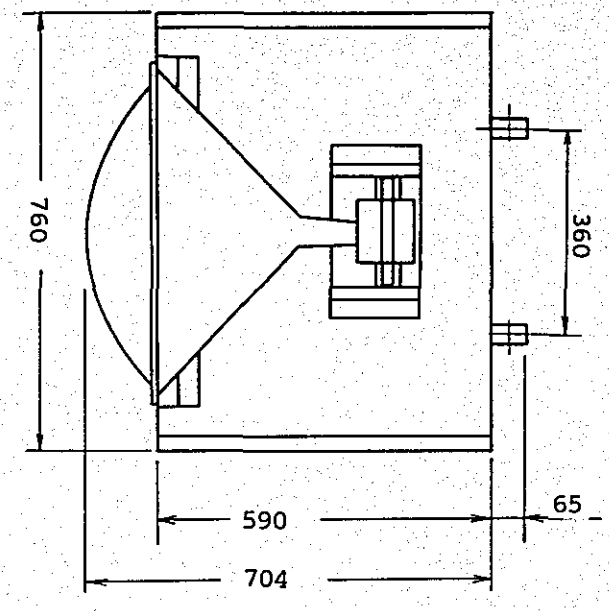
REMOTE CONTROL BOX OF
ELEVATER MICROPHONE SYSTEM





CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTSIDE VIEW OF PUBLIC ADDRESSING MIXING CONSOLE	DRG. NO. 2–40





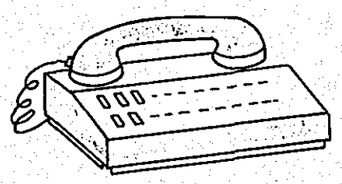
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE DRAWING OUTSIDE VIEW OF 100W CLASS SPEAKER	DRG. NO. 2–41

PD
TD
LD
VE
MIXER
PA MIXER

INTER-COM SYSTEM

STAGE
CEILING
CAMERA
LIGHTING ROOM
ETC.

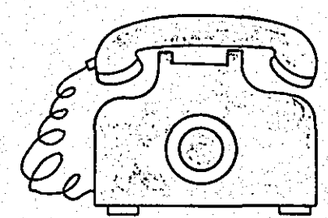
FOR PROGRAM PRODUCTION



INTER PHONE SYSTEM

RACK - ROOM
AIRCON - ROOM 1, 2
OFFICE 1, 2, 3, 4
VIP ROOM
CANTEEN
STORE 1, 2, 3, 4
WAITING ROOM
MAKE UP ROOM
SH ROOM
DRESSING
RECEPTION ROOM
PROJECTOR ROOM
MASTER CONTROL ROOM
VTR ROOM
TC ROOM
ETC.

FOR PREPERATION & EMERGENCY



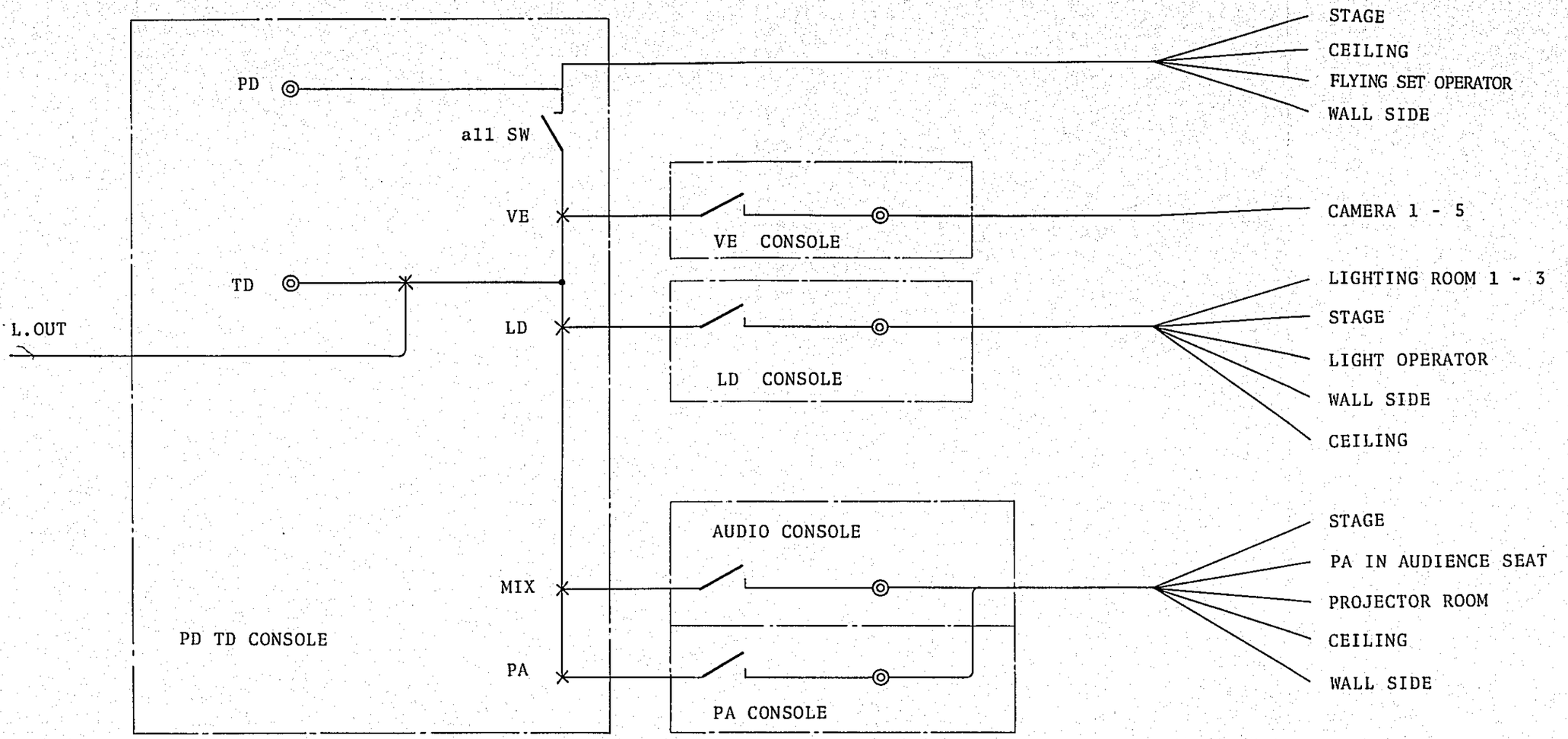
PBX

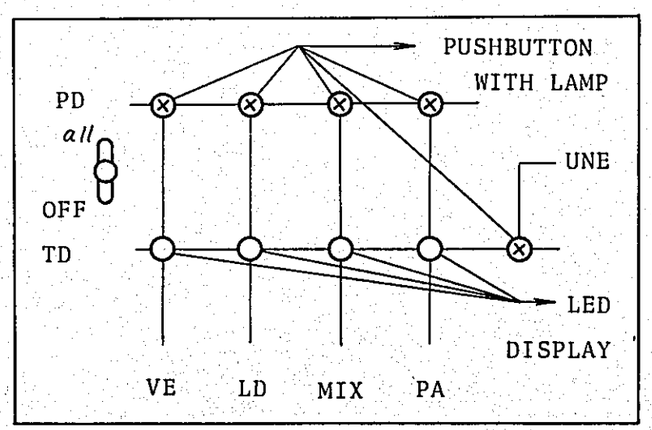
BTV OFFICES
BANGLADESH
ABROAD (FOR EXAMPLE TO NHK)

TELEPHONE

SUB CONTROL ROOM

CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING: INFORMATION SYSTEM	DRG. NO. 2–42





INTERCOM CONTROL

CONSTRUCTION PROJECT
OF **BTV HALL** IN DACCA

DATE 12/'77

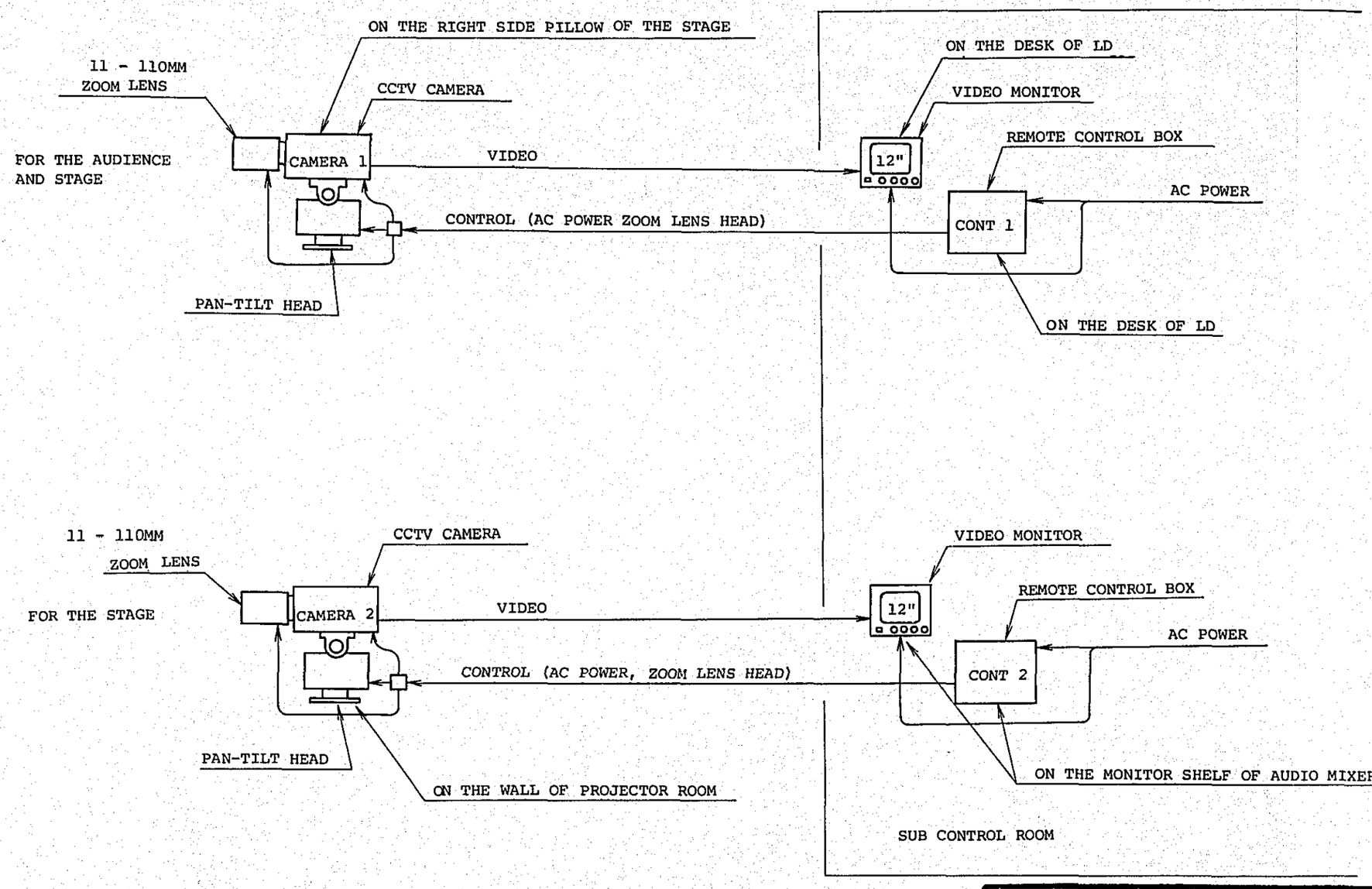
SCALE

TITLE OF DRAWING

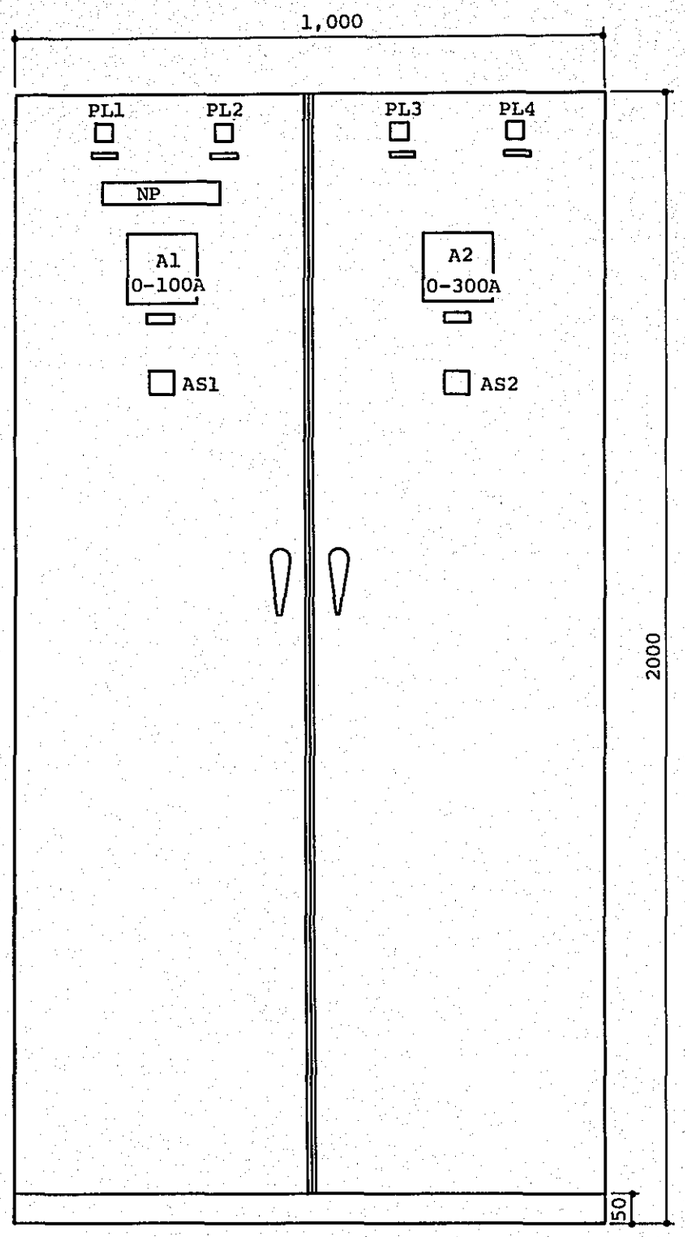
INTER COM SYSTEM

DRG. NO.

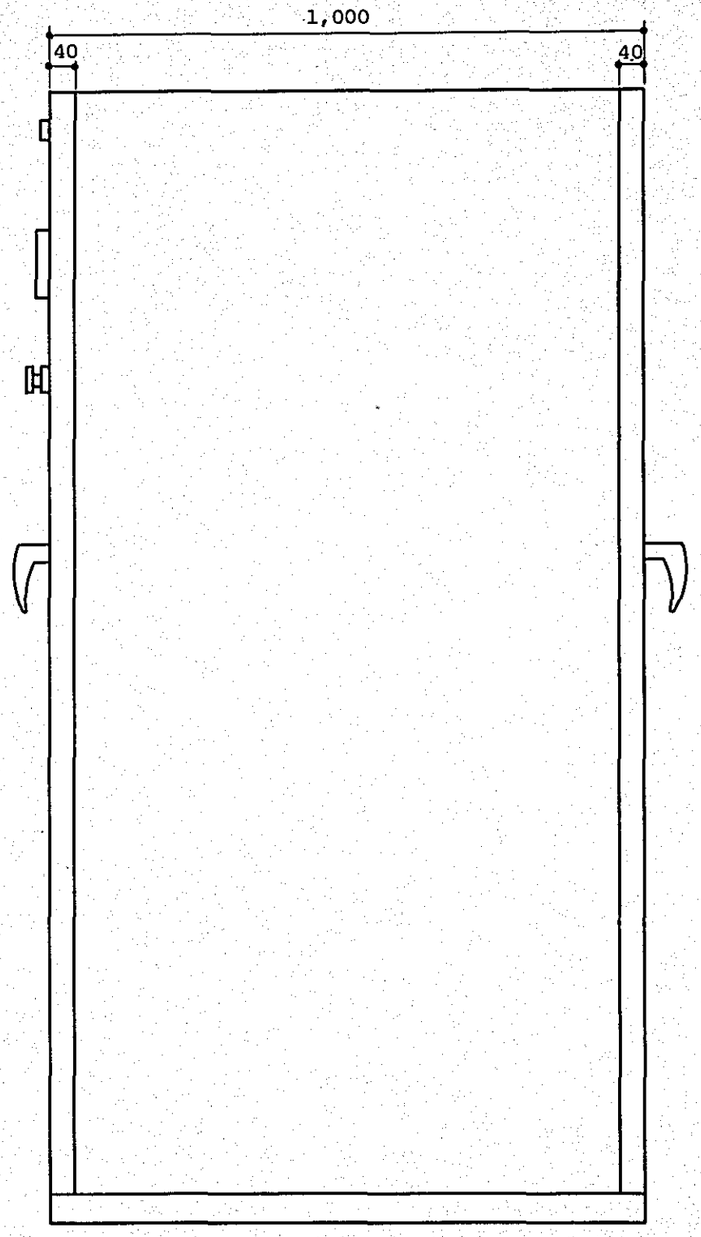
2–43



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING MONITOR CAMERA SYSTEM	DRG. NO. 2–44



FRONT VIEW



SIDE VIEW

CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA

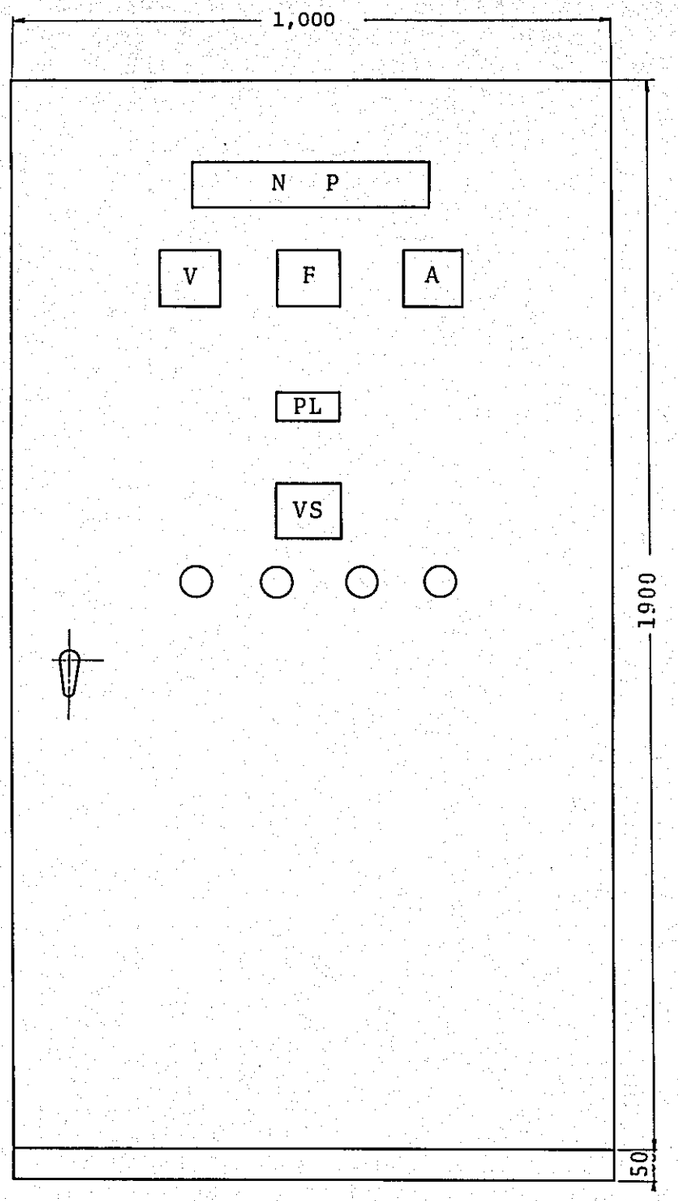
DATE 12/'77

SCALE

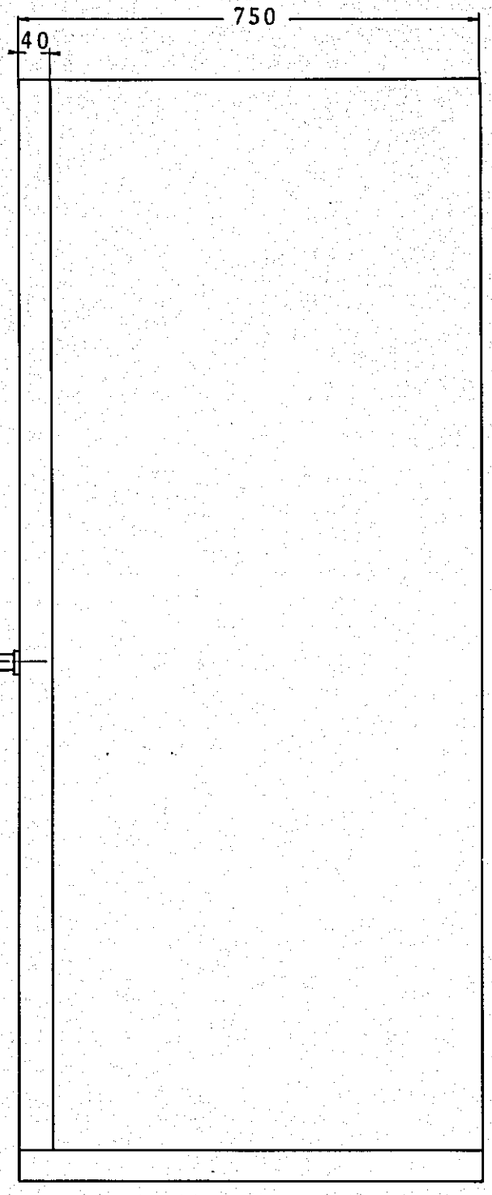
TITLE OF DRAWING

OUTSIDE VIEW OF POWER DISTRIBUTION BOARD

DRG. NO. 2–45

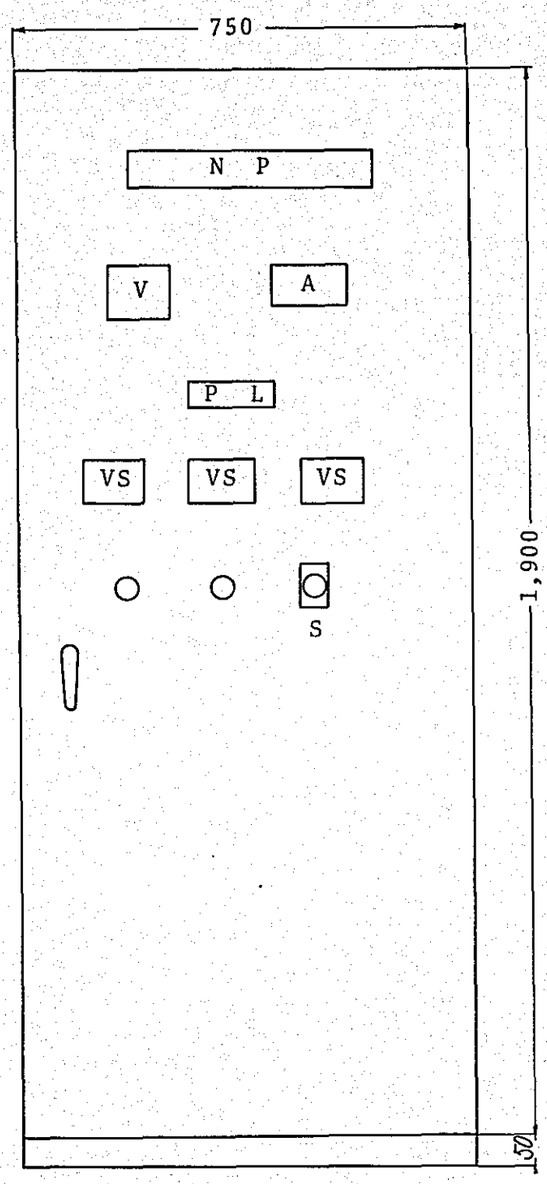


FRONT VIEW

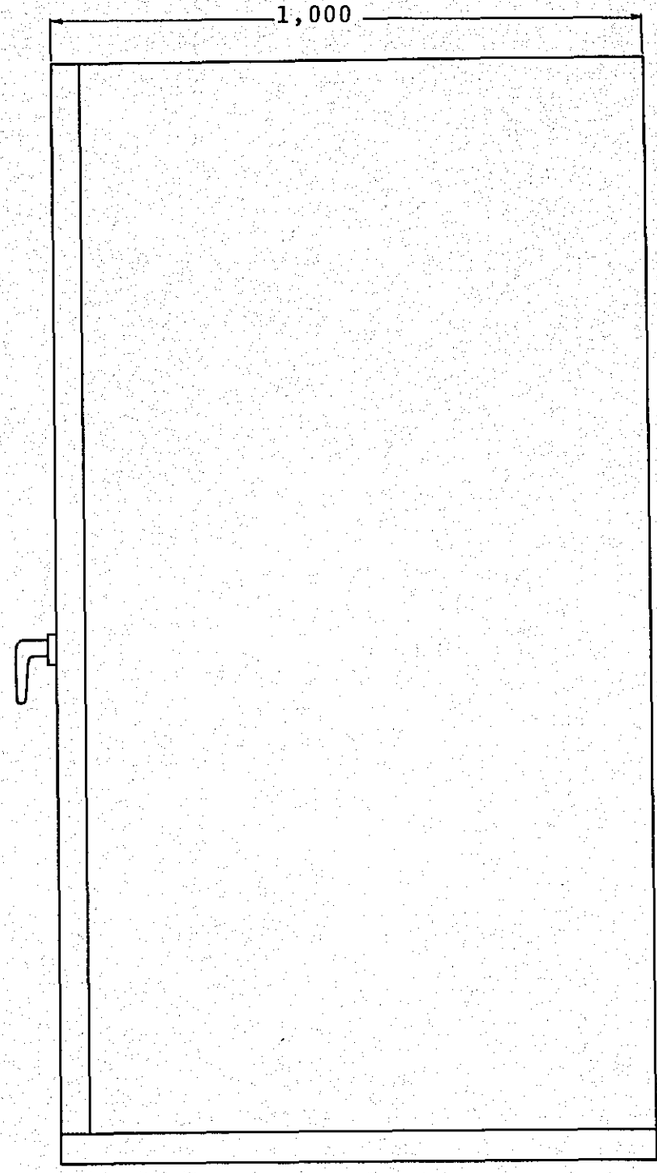


SIDE VIEW

CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTSIDE VIEW OF CVCF	DRG. NO. 2–46

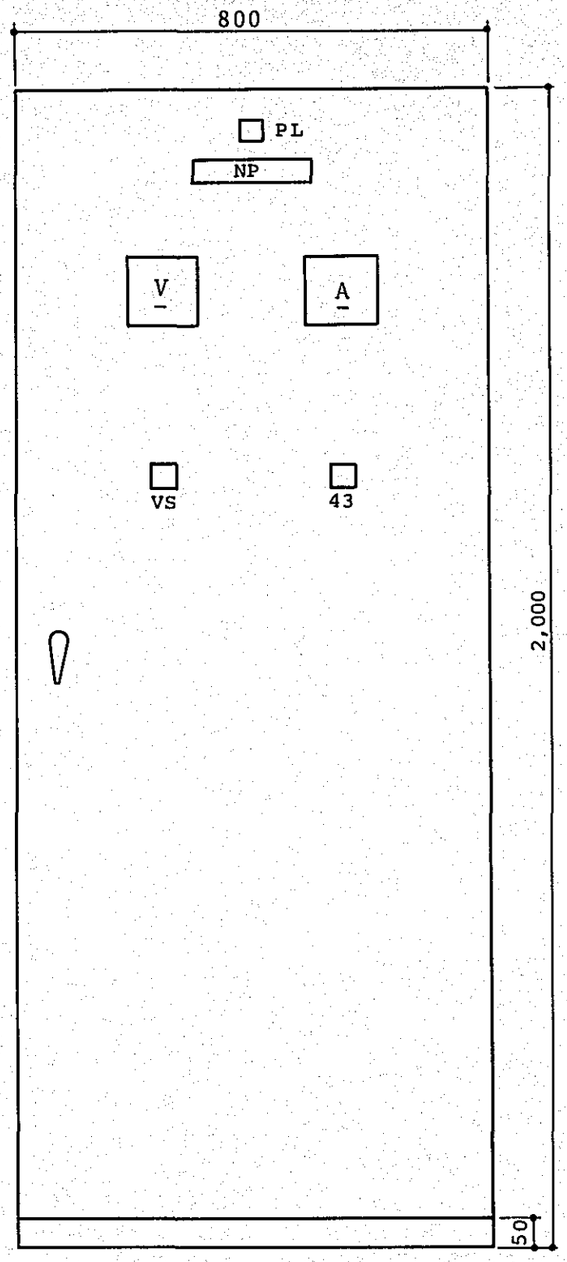


FRONT VIEW

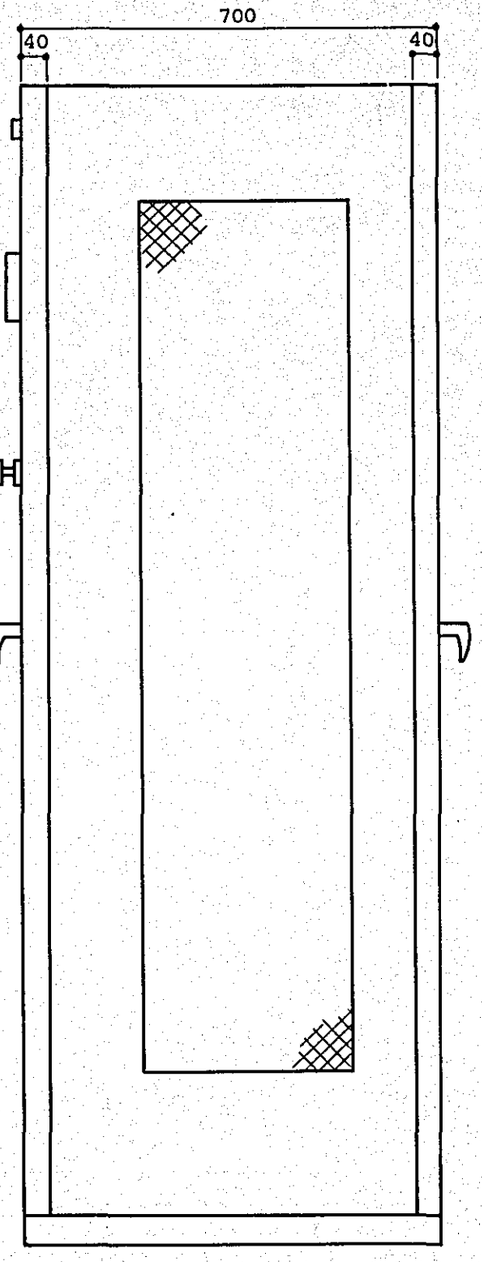


SIDE VIEW

CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTSIDE VIEW OF AVR	DRG. NO. 2–47

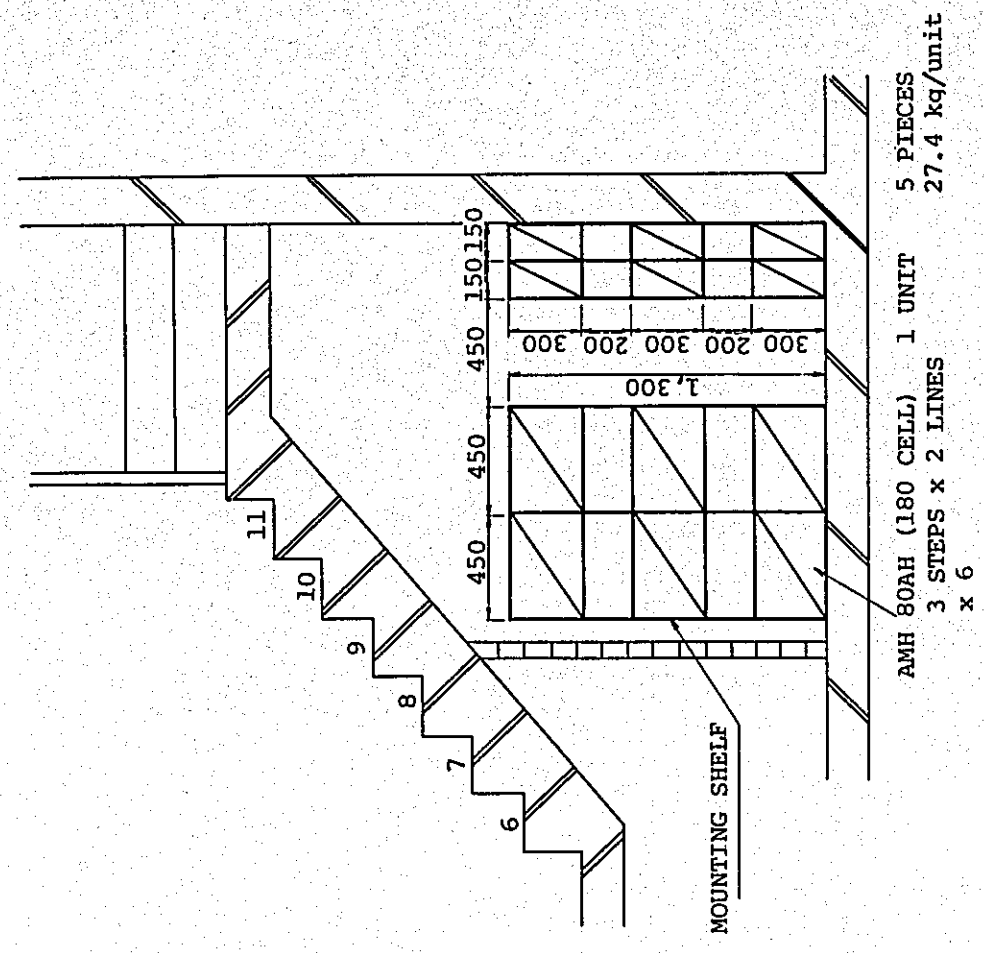


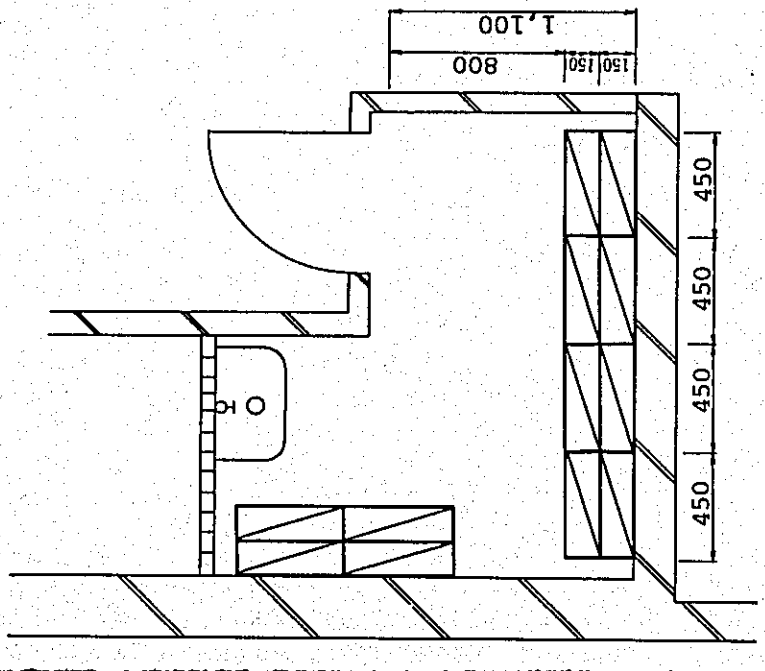
FRONT VIEW



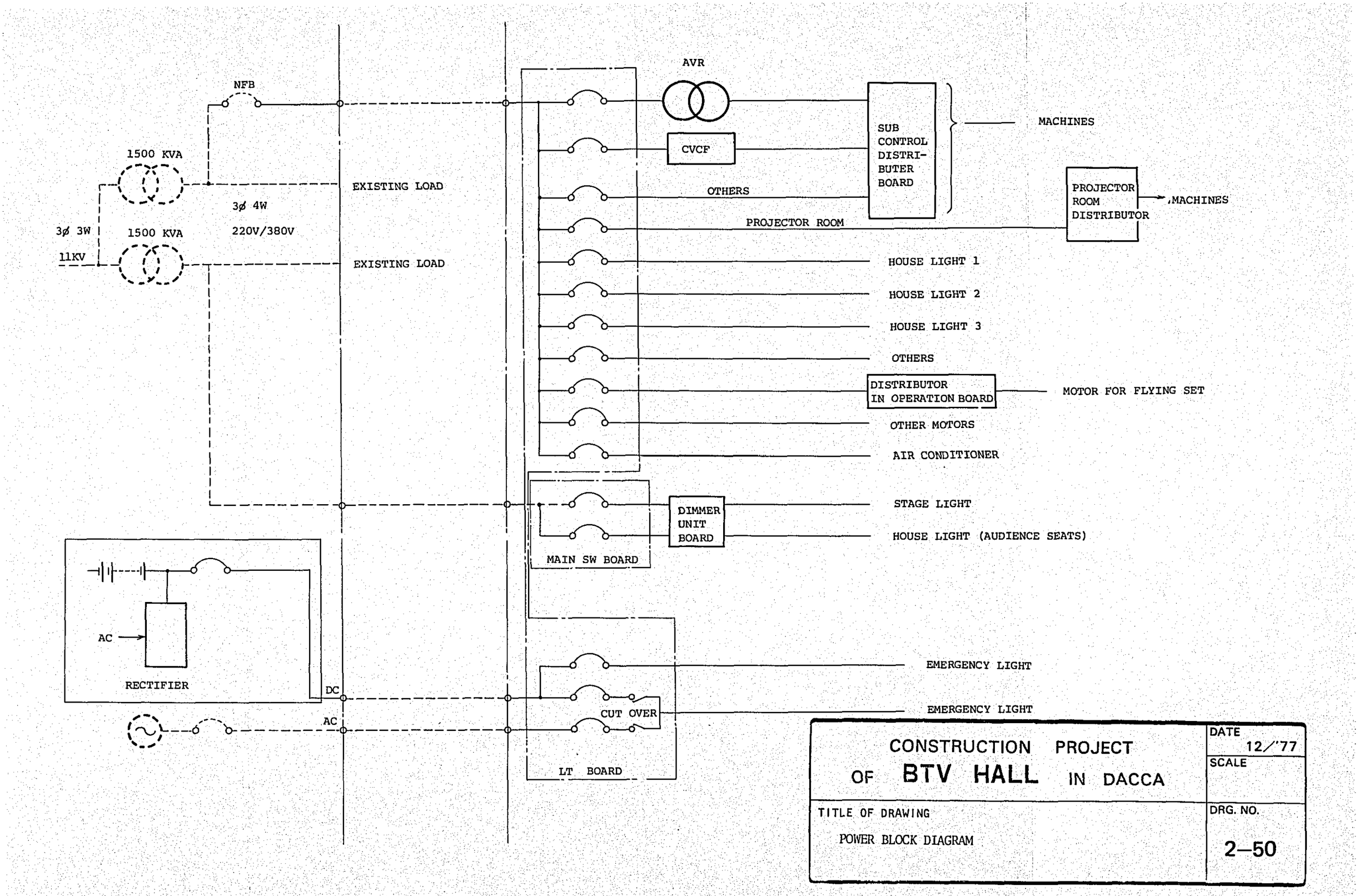
SIDE VIEW

CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTSIDE VIEW OF EMERGENCY DC SUPPLY BOARD	DRG. NO. 2–48





CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING LAYOUT OF THE BATTERY FOR EMERGENCY USE	DRG. NO. 2–49



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA

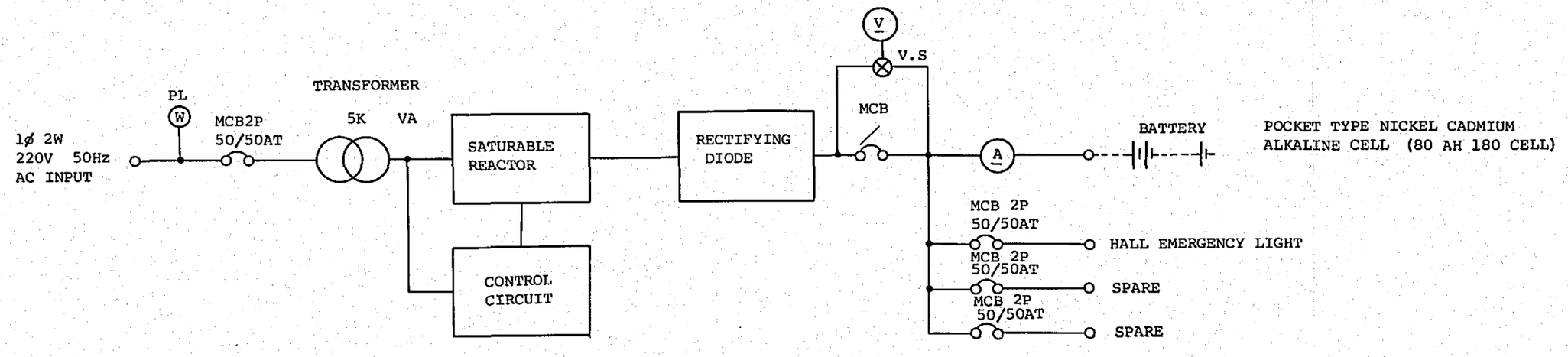
DATE 12/'77

SCALE

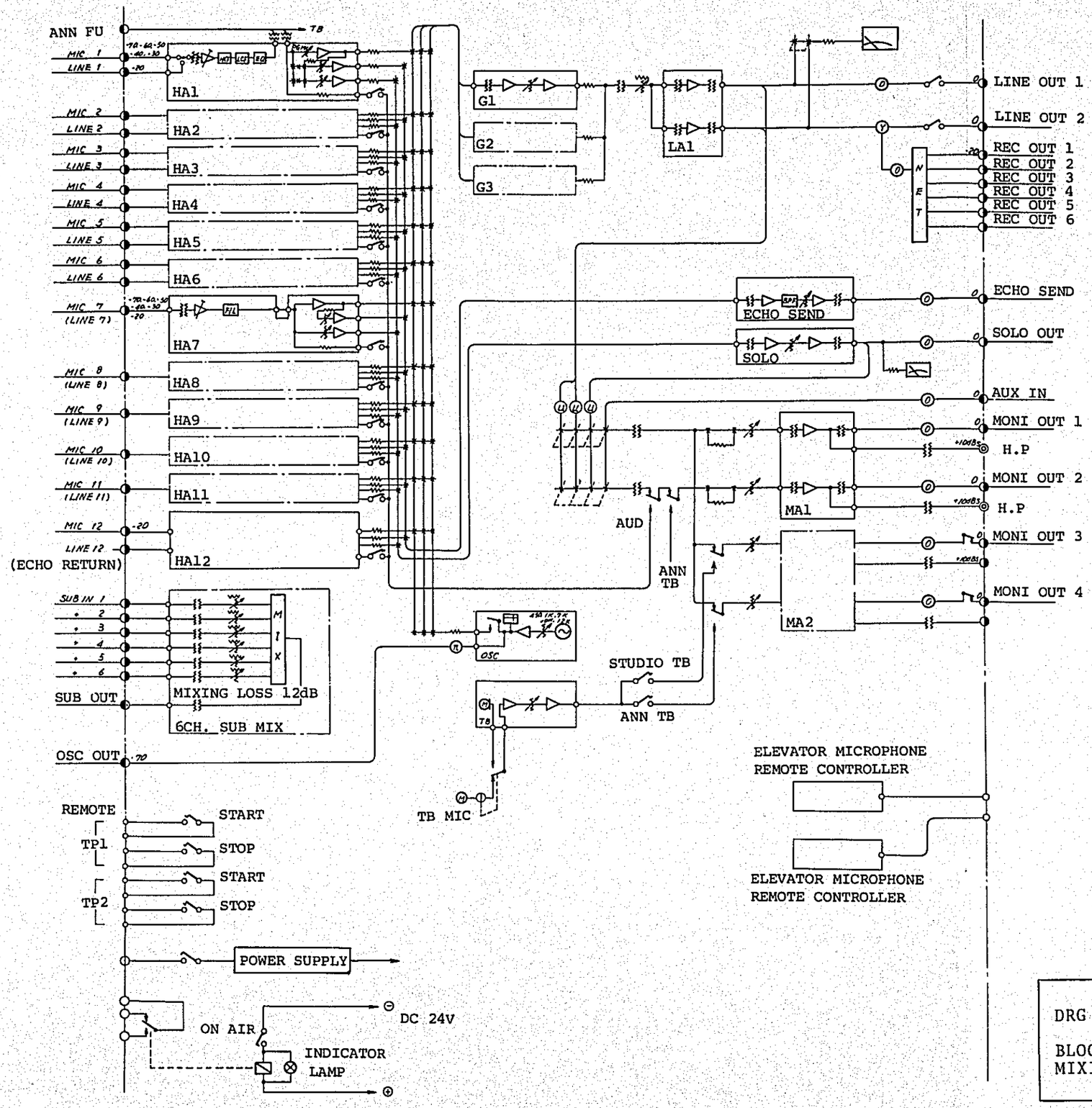
TITLE OF DRAWING

POWER BLOCK DIAGRAM

DRG. NO. 2–50

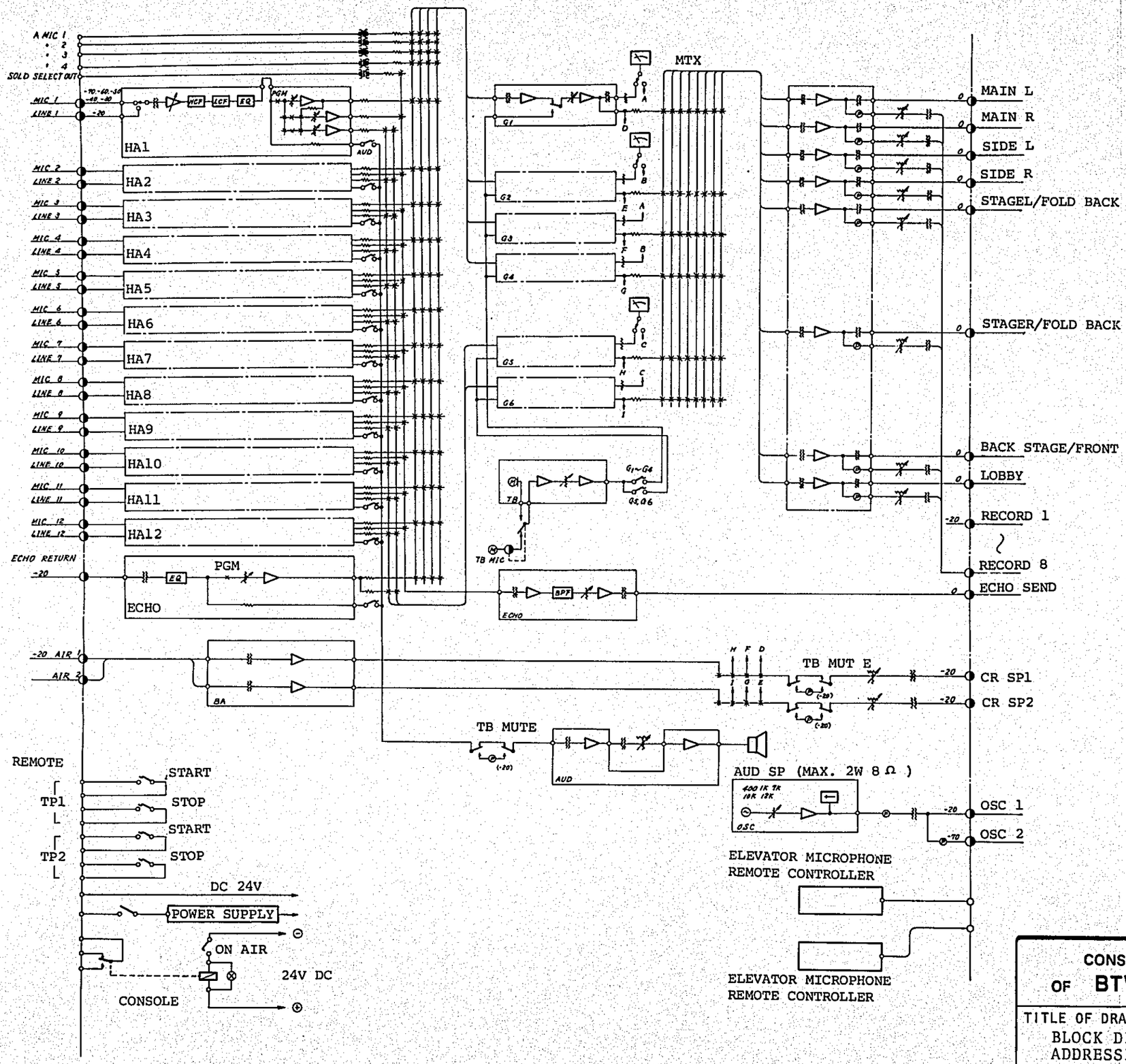


CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTLINE OF EMERGENCY LIGHTING SYSTEM	DRG. NO. 2–51



DRG NO. **2–52**

BLOCK DIAGRAM OF AUDIO MIXING CONSOLE



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING BLOCK DIAGRAM OF PUBLIC ADDRESSING CONSOLE	DRG. NO. 2–53

INPUT POWER SOURCE
3-PHASE 4-WIRE 220V/400V
50Hz 250kVA

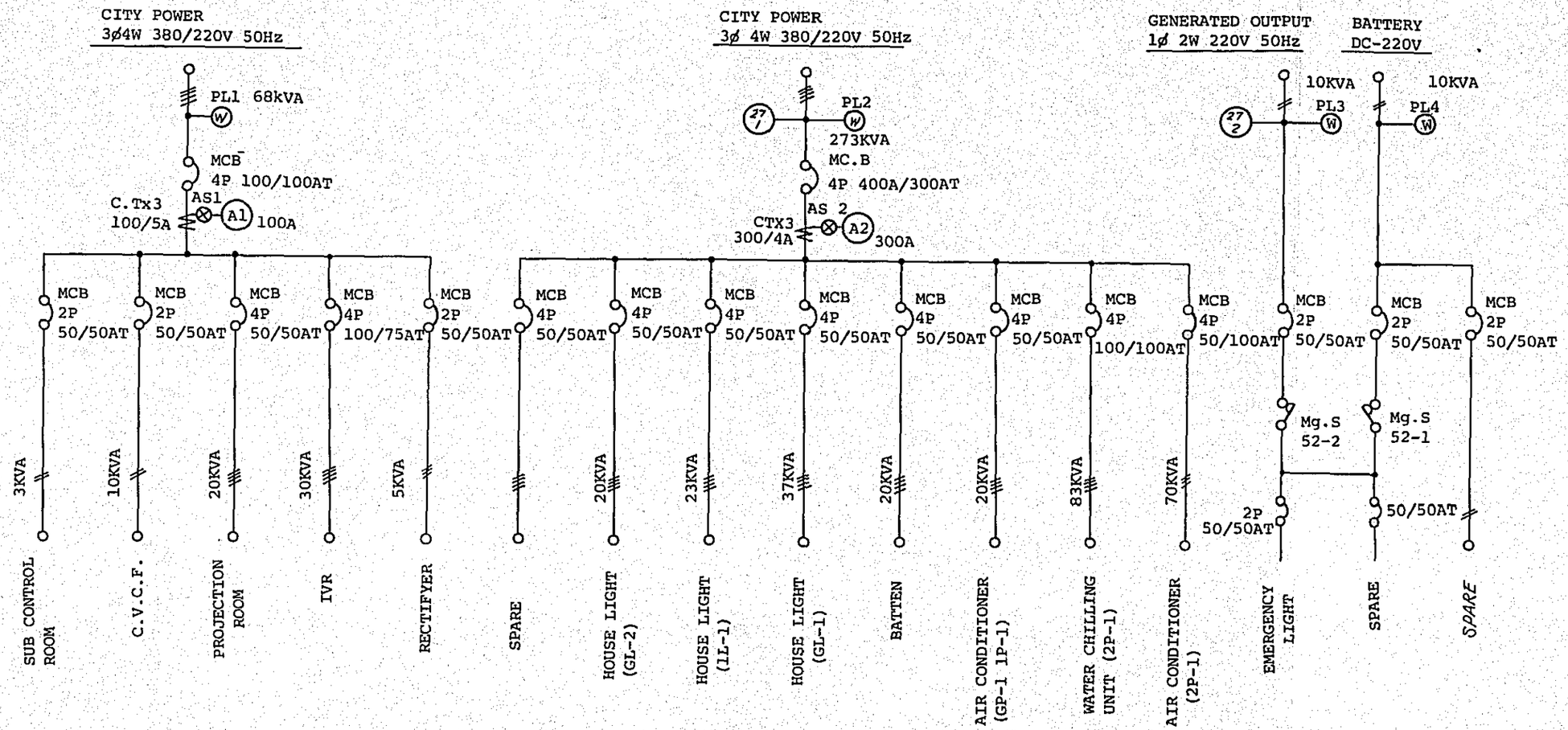
PILOT LAMP
R S T N
VOLT-METER×1 AM-METER×3
PUSH BUTTON FOR MAIN POWER
ON OFF
M
VMS
MOTORIZD MAIN BREAKER AP400AF/350AT
CT 400:5
OFF ON
PUSH BUTTON CONTROL POWER
SPEED CONTROLLER FOR FAN
FOR STAGE ×48 UNITS (6kW x 48 UNITS)
DIMMER UNIT FOR HOUSE LIGHT (10KW x 2 UNITS)
MASTER FADER
R.D.M
GROUP FADER ×5
A B
CROSS FADER
OP
AUTO DIMMING SYSTEM FOR CROSS FADE
SCENE CHANGE-OVER SW
A B
5 4 3 2 1
OFF
FOR CONSOLE
FADE-IN-STOP FADE-OUT
D.B FOR PROJECTOR ROOM
AUTO-DIMMING SYSTEM FOR HOUSE LIGHT
COOLING FAN
BREAKER FOR FOLLOW SPOT
PORT V. FOR AUDIENCE
P/L CHANGE-OVER SWITCH FOR HOUSE LIGHT ×4
BREAKER AND NEUTRAL SWITCH FOR HOUSE LIGHT
P/L CHANGE-OVER SWITCH FOR STAGE LIGHTING ×112
BREAKER AND NEUTRAL SWITCH FOR STAGE LIGHTING ×112
P.O.F CHANGE-OVER SWITCH × 46
O.P AMP ×46
5
PRESET FADER 46×5=230
4
3
2
P.F.G CHANGE-OVER SWITCH ×46
1
M
DIMMER OUT-PUT JACK 46×3=138
LOAD CIRCUIT PLUG 112
TRANSFORMER FOR INDICATOR LAMP
LOAD CIRCUIT INDICATOR PANEL

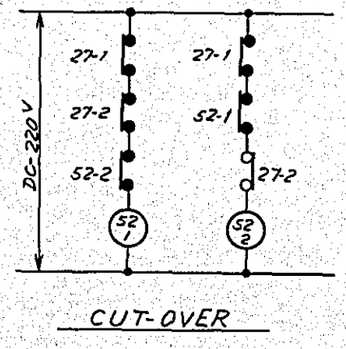
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA

DATE 12/'77
SCALE

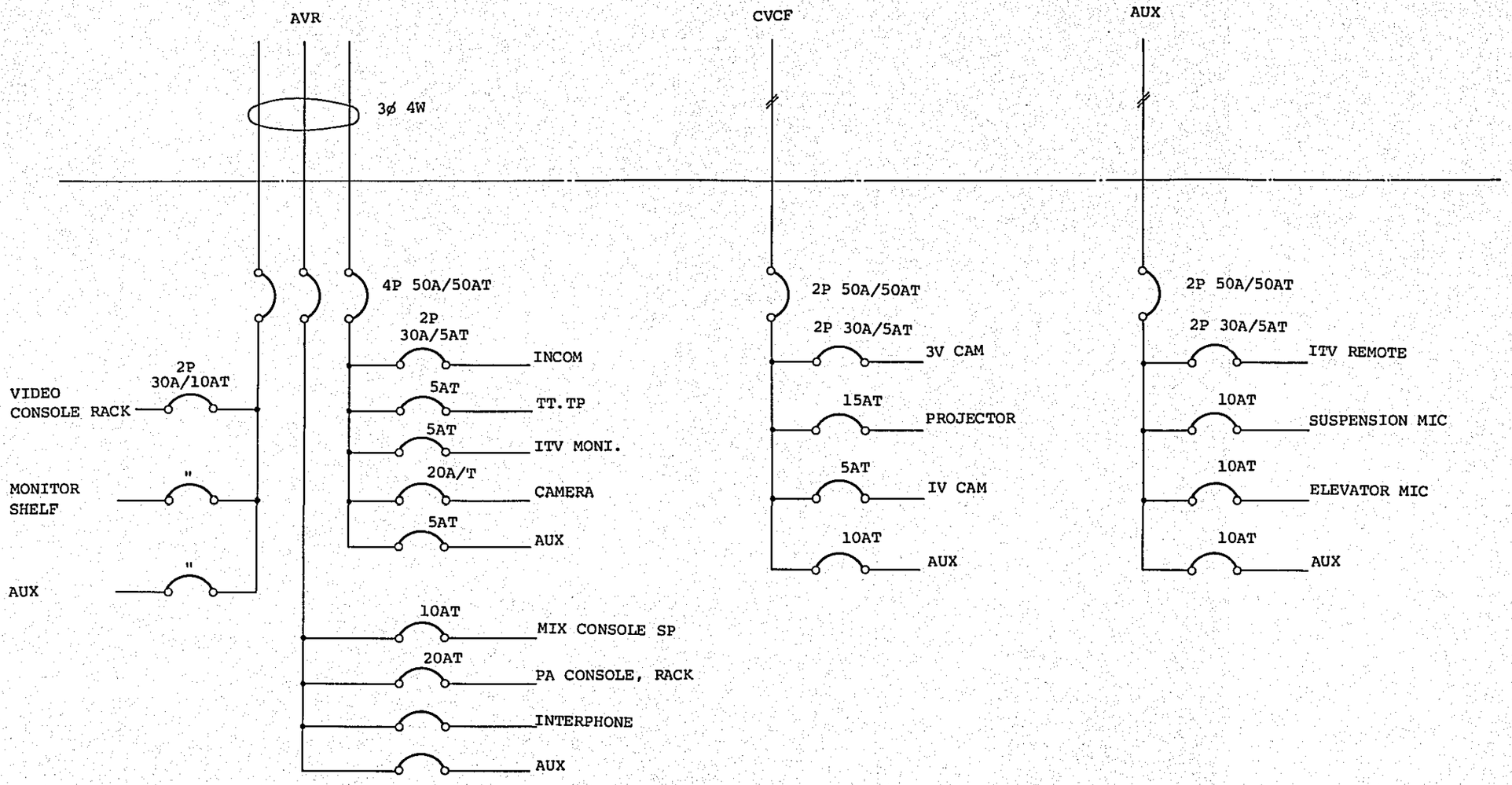
TITLE OF DRAWING
BLOCK DIAGRAM OF LIGHTING CONTROL SYSTEM

DRG. NO.
2–54

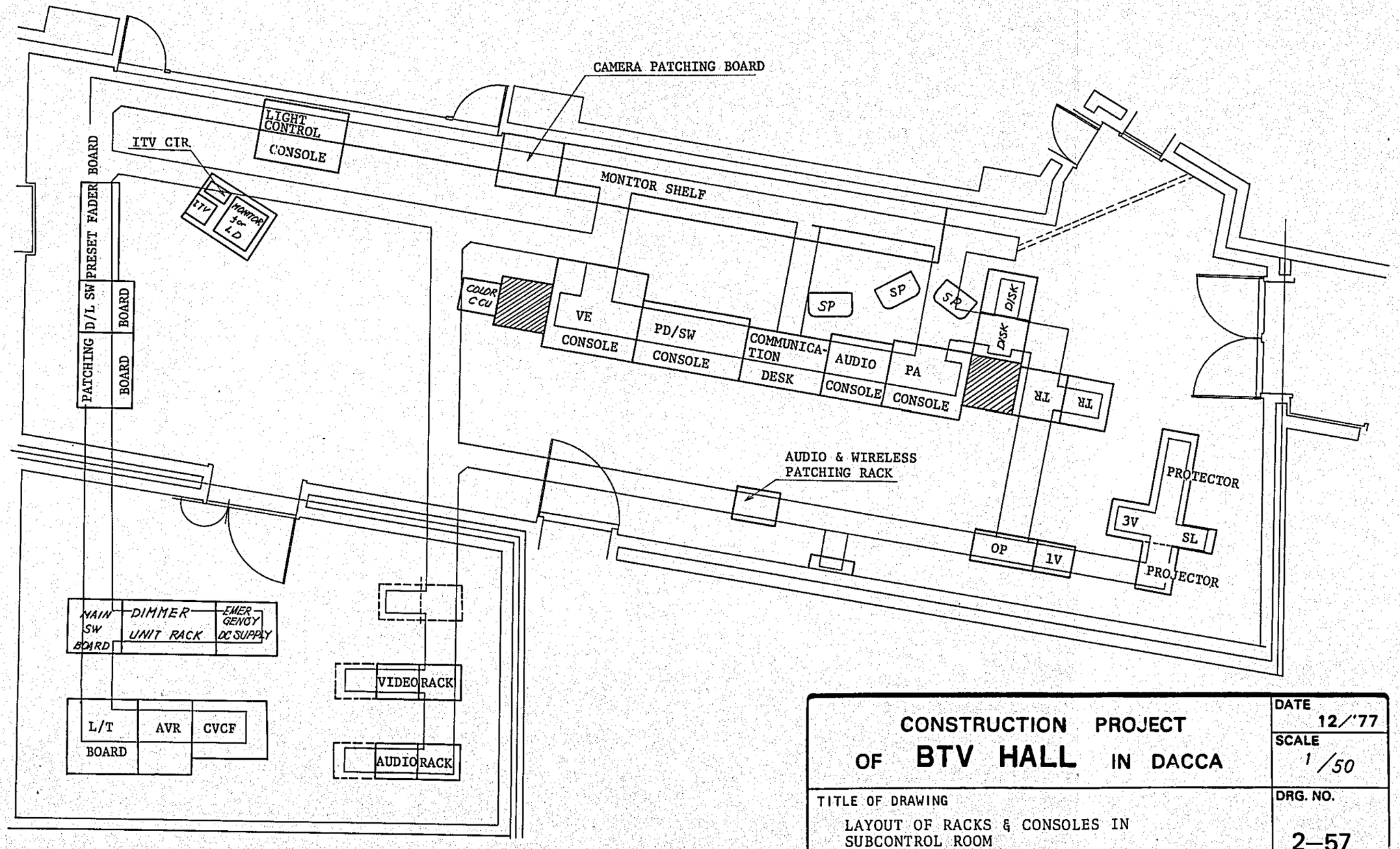




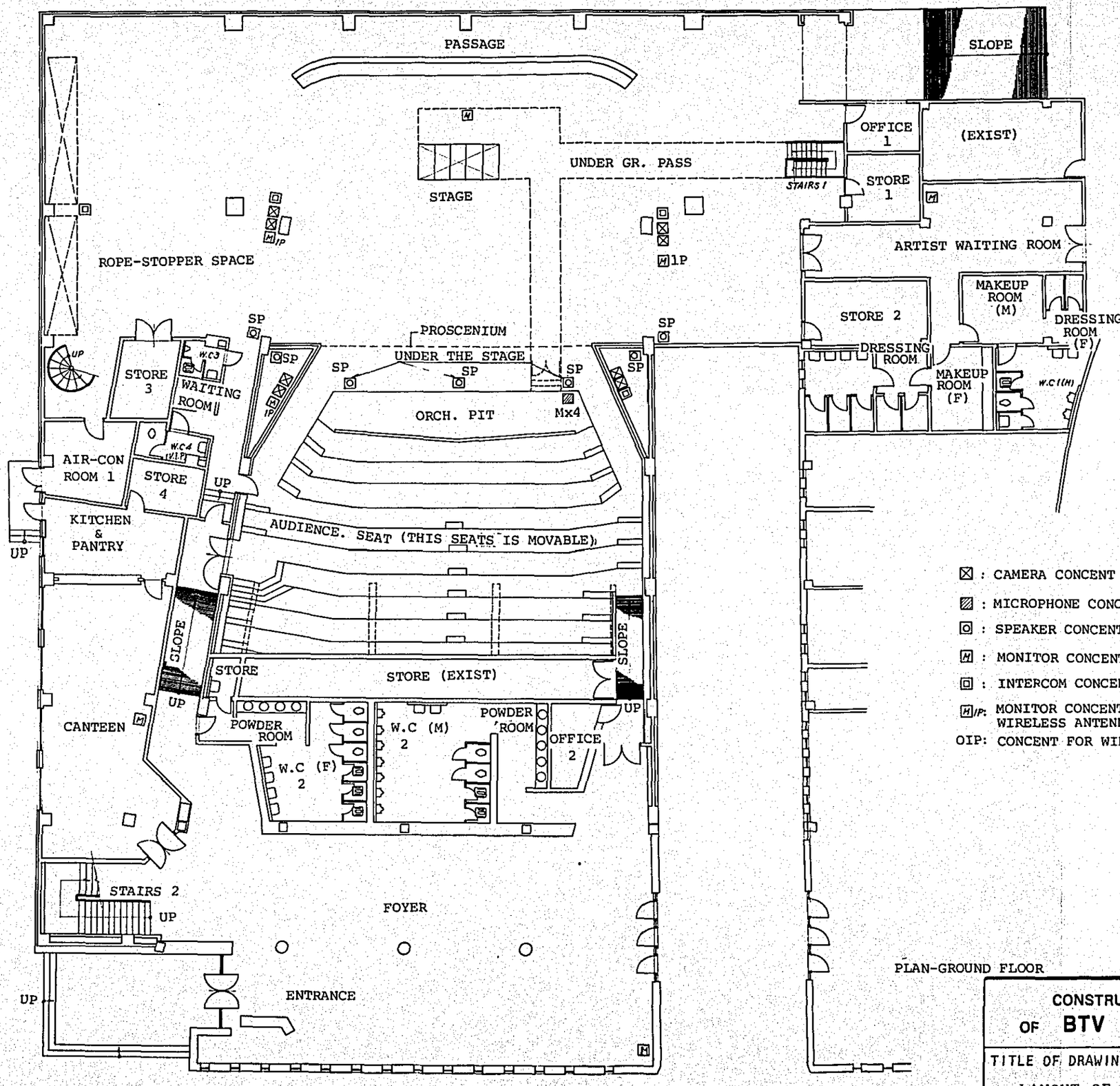
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING CONNECTION DIAGRAM OF MAIN CIRCUIT IN LT BOARD	DRG. NO. 2–55



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING CONNECTION DIAGRAM OF POWER DISTRIBUTER BOARD IN SUB-CONTROL ROOM	DRG. NO. 2–56



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE 1/50
TITLE OF DRAWING LAYOUT OF RACKS & CONSOLES IN SUBCONTROL ROOM	DRG. NO. 2–57



⊠ : CAMERA CONCENT PLATE & BOX

▨ : MICROPHONE CONCENT PLATE & BOX

◎ : SPEAKER CONCENT

M : MONITOR CONCENT PLATE & BOX

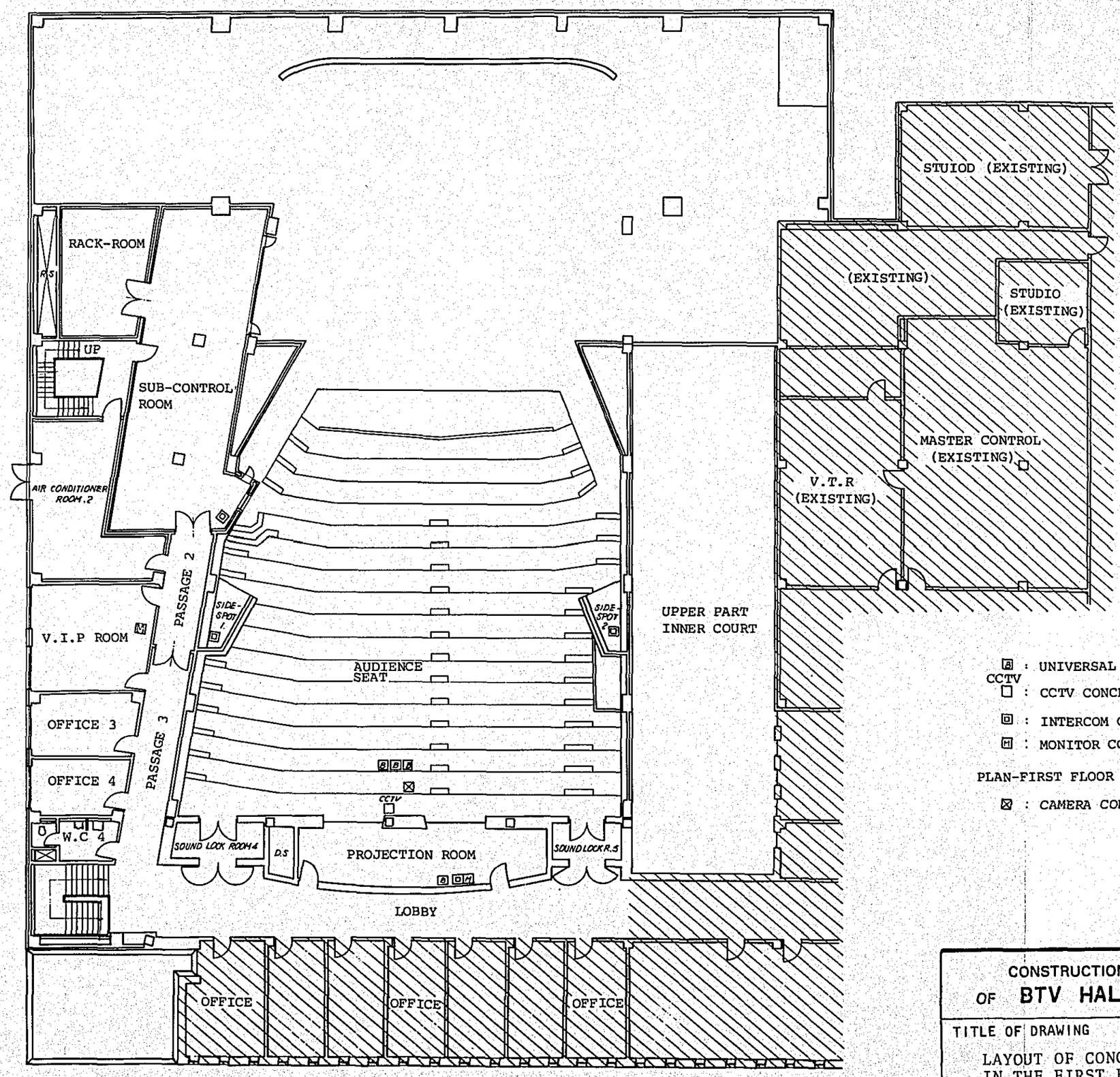
⊡ : INTERCOM CONCENT PLATE & BOX

M/P: MONITOR CONCENT WITH 1P FOR WIRELESS ANTENNA

OIP: CONCENT FOR WIRELESS ANTENNA

PLAN-GROUND FLOOR

CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING LAYOUT OF CONCENT BOXES IN THE GROUND FLOOR	DRG. NO. 2–58



A : UNIVERSAL PLATE & BOX

CCTV

□ : CCTV CONCENT PLATE & BOX

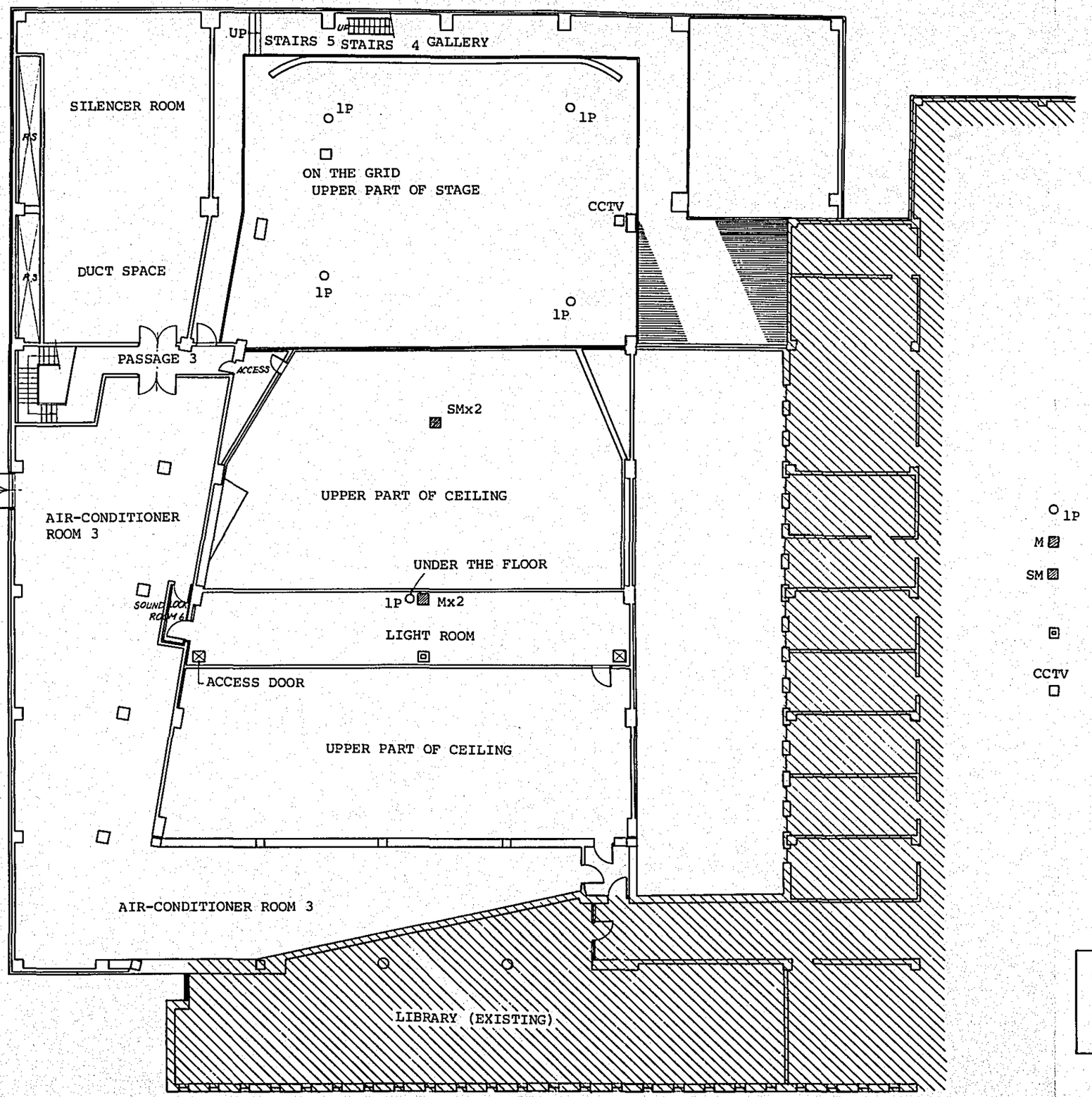
▣ : INTERCOM CONSENT PLATE & BOX

H : MONITOR CONSENT PLATE & BOX

PLAN-FIRST FLOOR

⊠ : CAMERA CONSENT PLATE & BOX

CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/''77 SCALE
TITLE OF DRAWING LAYOUT OF CONCENT BOXES IN THE FIRST FLOOR	DRG. NO. 2–59



1P WIRELESS ANTENNA'S CONSENT

M MICROPHONE CONCENT PLATE & BOX

SM SUSPENSION MICROPHONE CONSENT PLATE & BOX

INTERCOM CONSENT PLATE & BOX

CCTV CCTV CONSENT PLATE & BOX

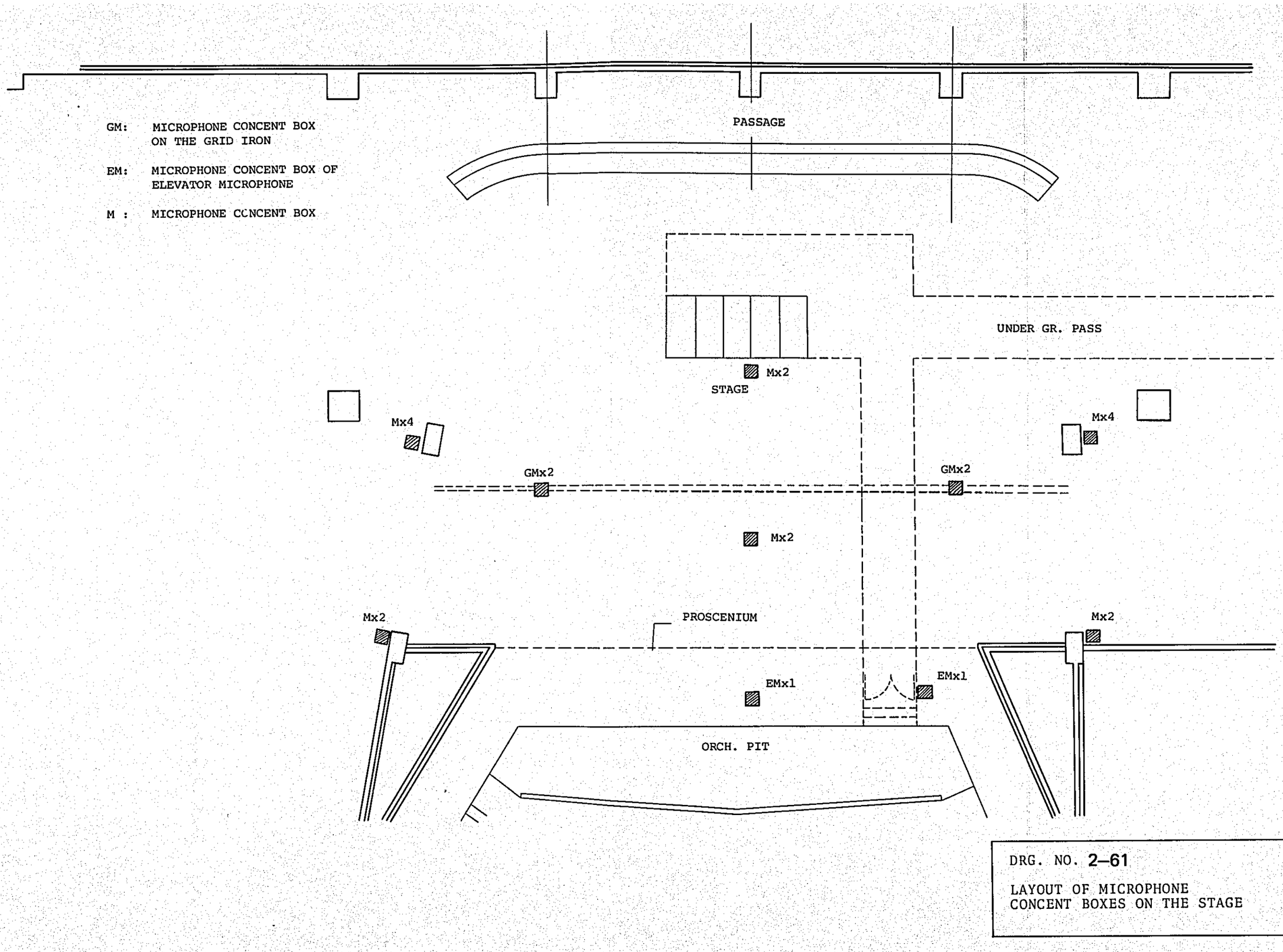
DRG. NO. **2–60**

LAYOUT OF CONCENT BOXES IN THE SECOND & THIRD FLOOR

GM: MICROPHONE CONCENT BOX
ON THE GRID IRON

EM: MICROPHONE CONCENT BOX OF
ELEVATOR MICROPHONE

M : MICROPHONE CONCENT BOX



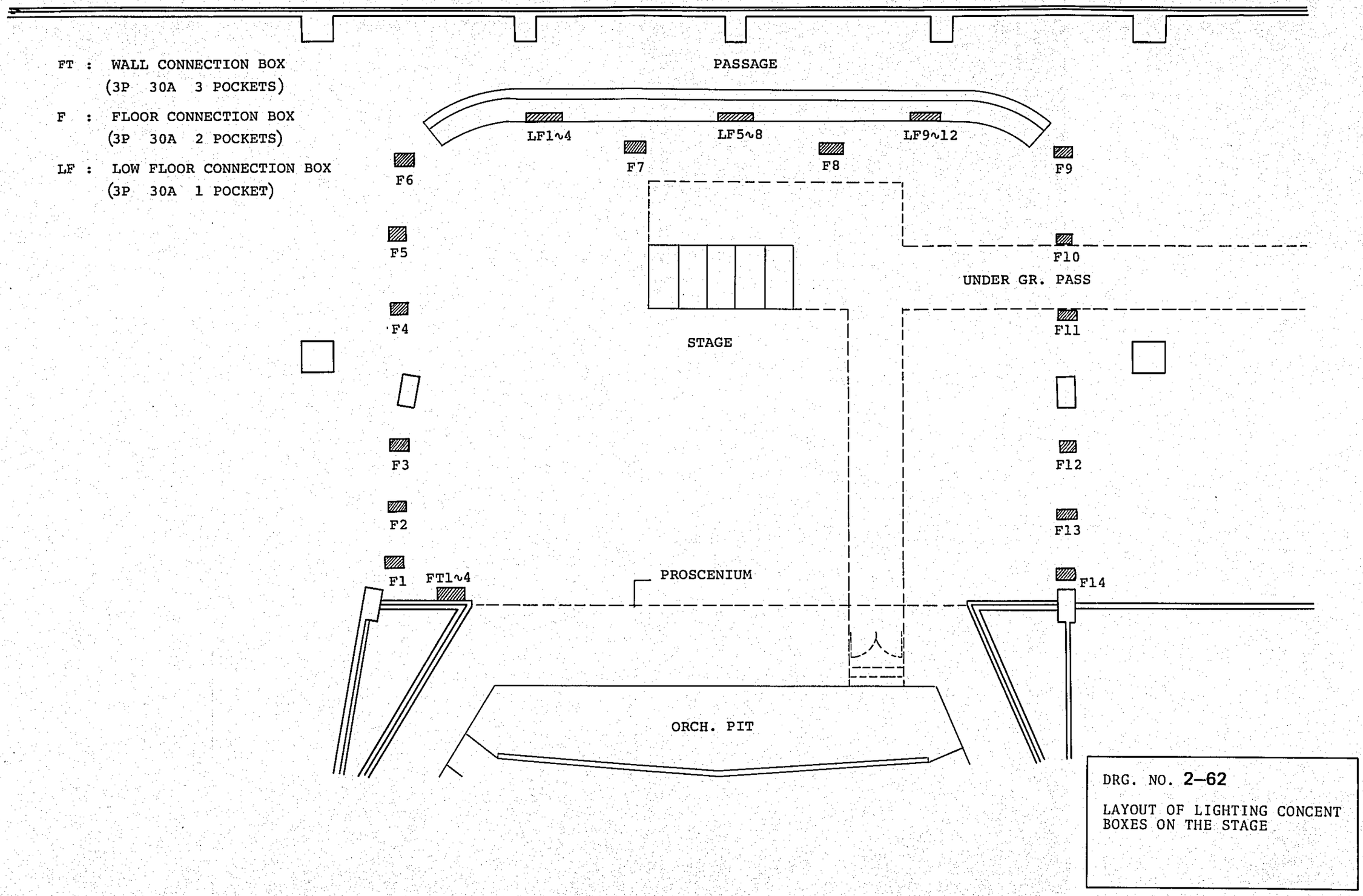
DRG. NO. **2–61**

LAYOUT OF MICROPHONE
CONCENT BOXES ON THE STAGE

FT : WALL CONNECTION BOX
(3P 30A 3 POCKETS)

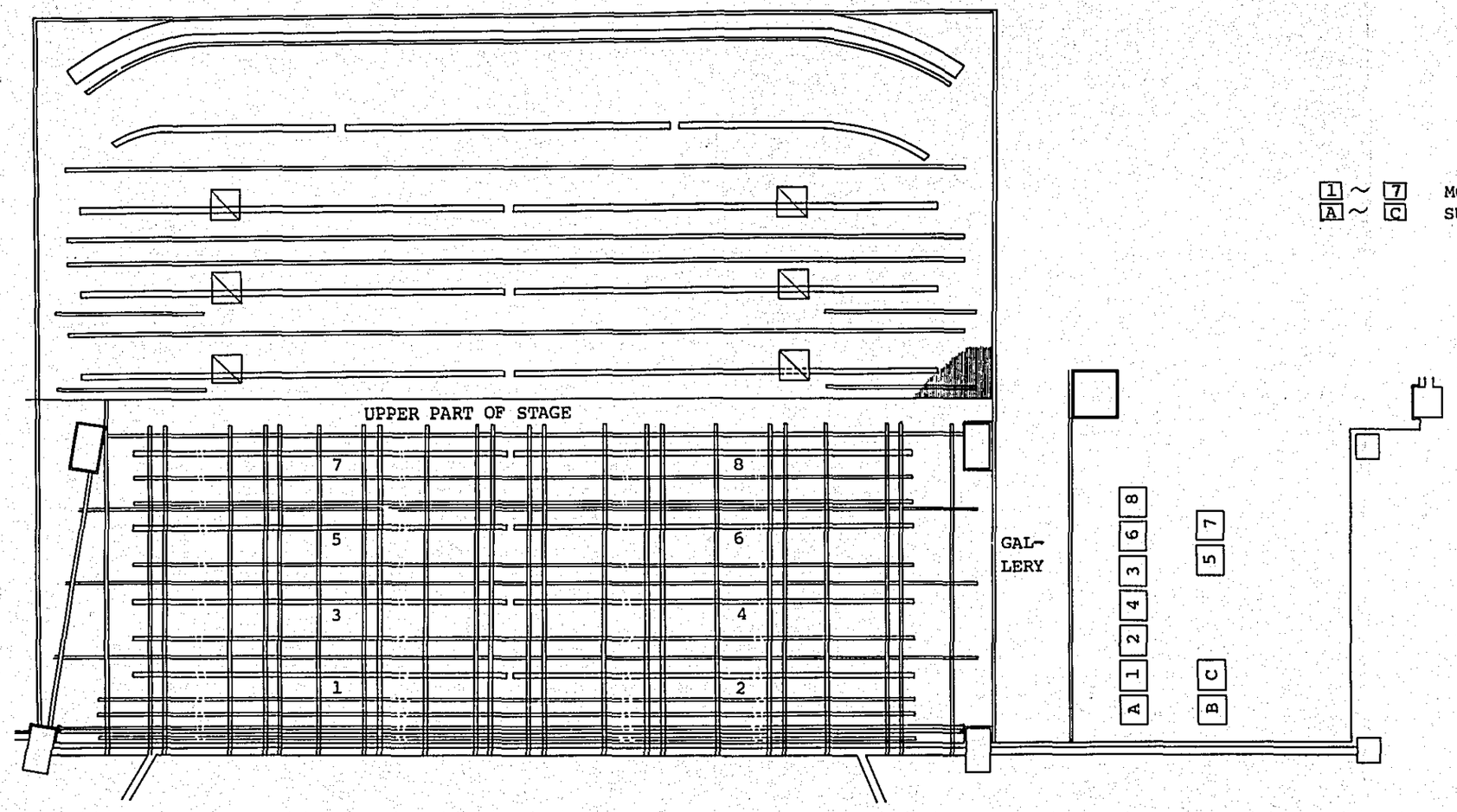
F : FLOOR CONNECTION BOX
(3P 30A 2 POCKETS)

LF : LOW FLOOR CONNECTION BOX
(3P 30A 1 POCKET)



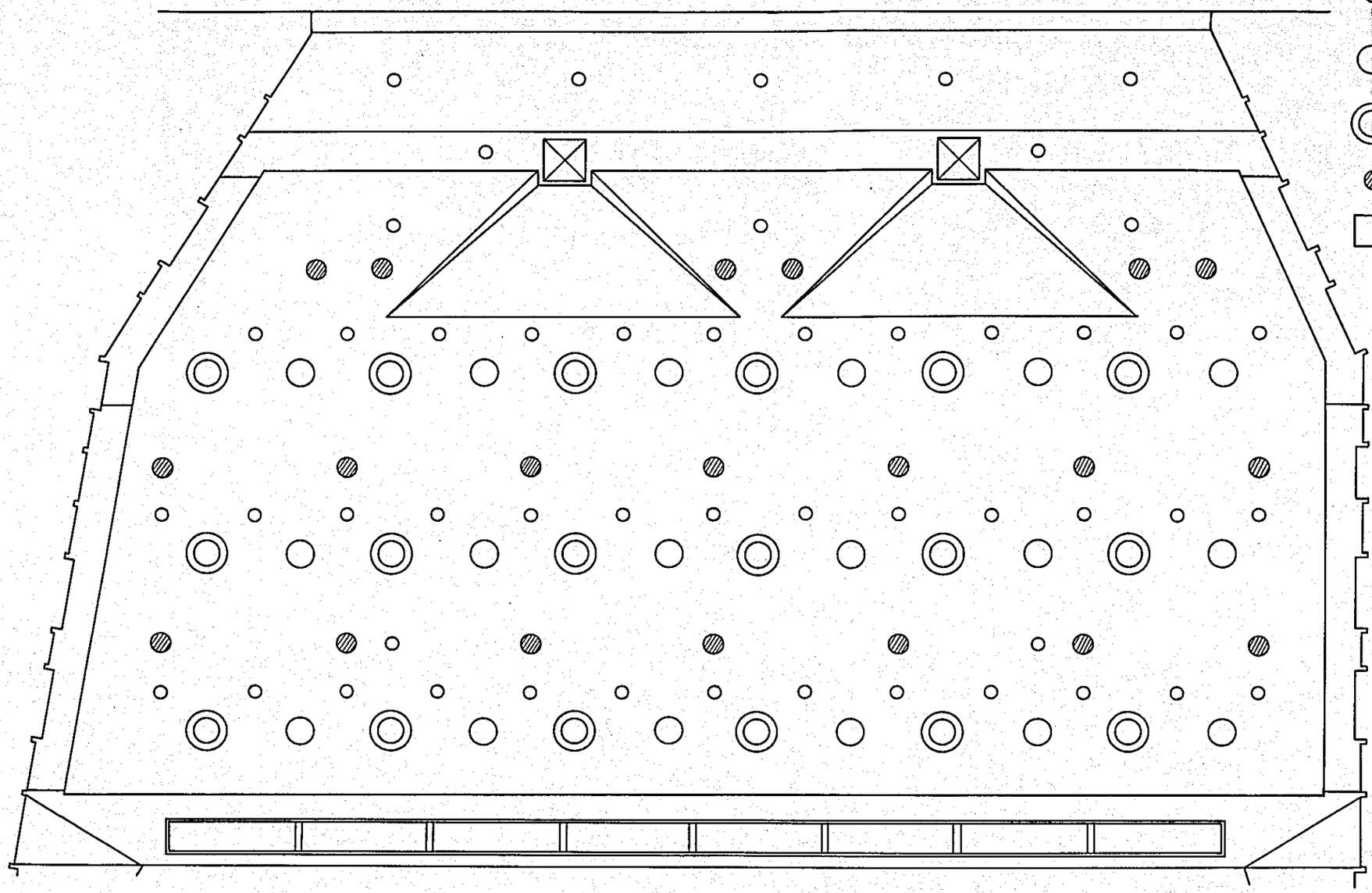
DRG. NO. **2–62**

LAYOUT OF LIGHTING CONCENT BOXES ON THE STAGE



1 ~ 7 MOTOR FOR
A ~ C SUSPEND BATTEN

CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING ARRANGEMENT OF SUSPENSION BATTENS (I)	DRG. NO. 2–63



NOTES

- CEILING LIGHT (E. WORK)
- AIR INLET (A.C. WORK)
- AIR OUTLET (A.C. WORK)
- T.V LIGHT (E. WORK)
- PERFORATED CALCIUM SILICATE BOARD T-6 9ø@45

CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA

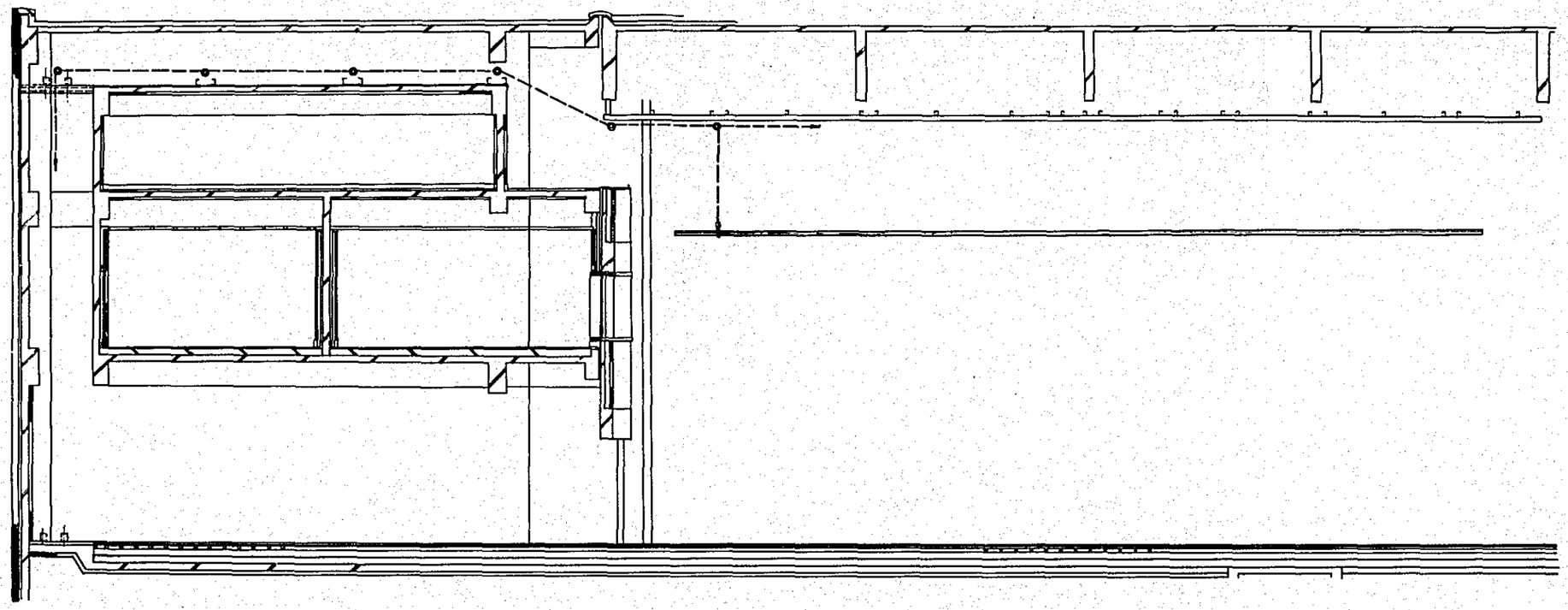
DATE 12/'77

SCALE

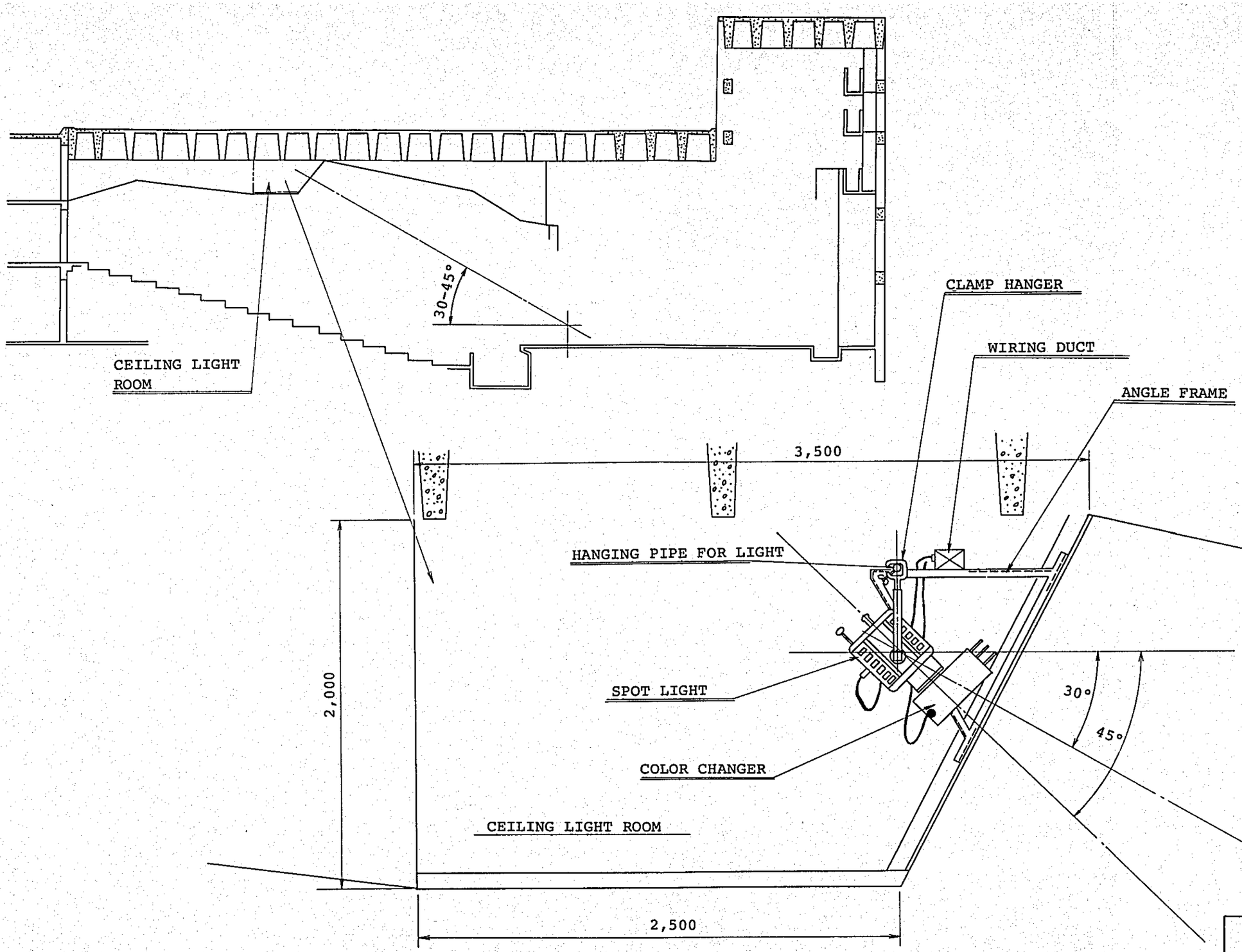
TITLE OF DRAWING

LAYOUT OF THE LIGHTS FOR TV USE IN AUDIENCE

DRG. NO. 2–64



CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING WIRE ROUT FOR FLYING SETS	DRG. NO. 2–65

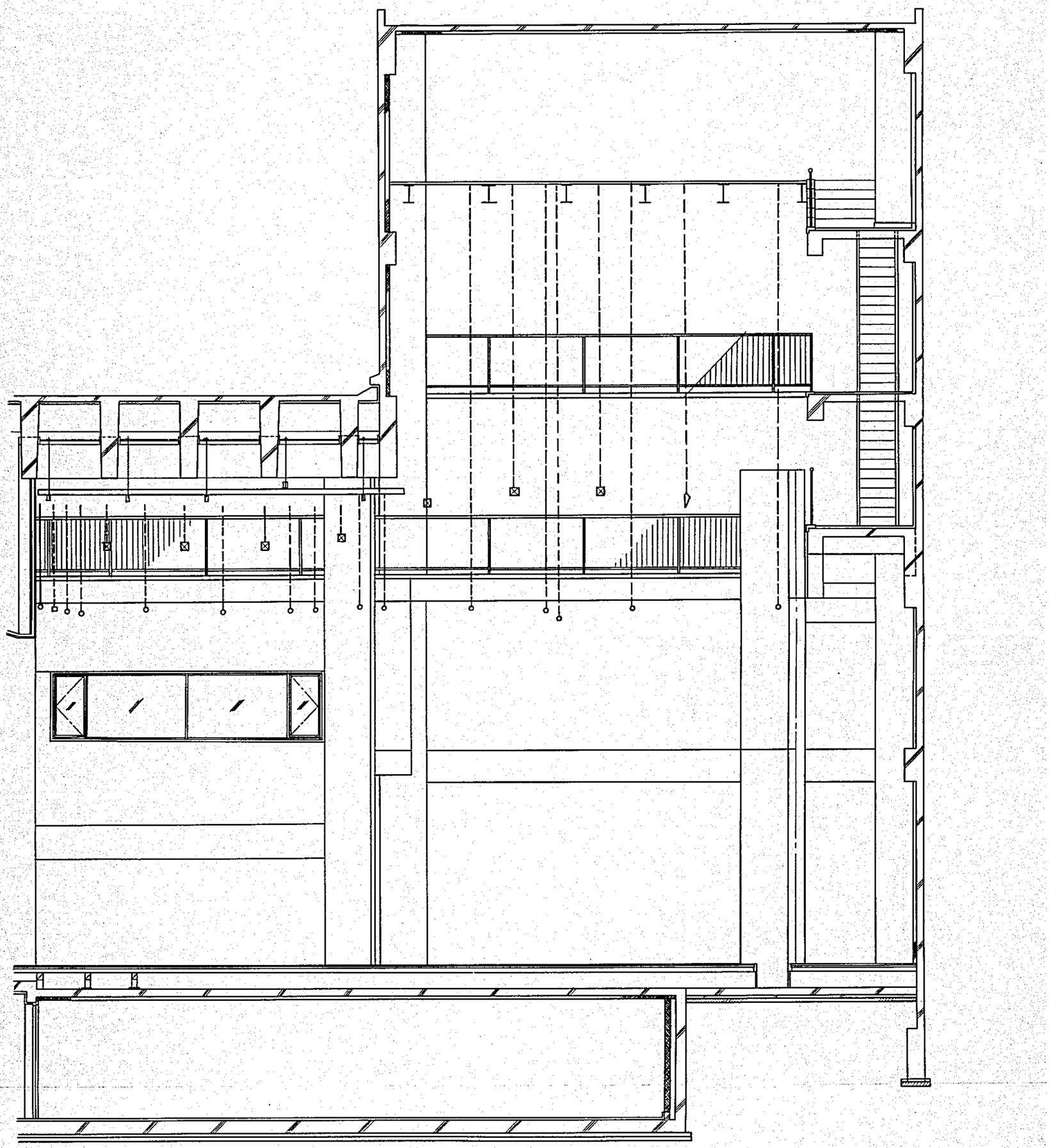


DRG. NO. 2–66

TITLE OF DRAWING

CLAMP OF CEILING

SPOT LIGHT



CONSTRUCTION PROJECT
OF **BTV HALL** IN DACCA

DATE 12/'77

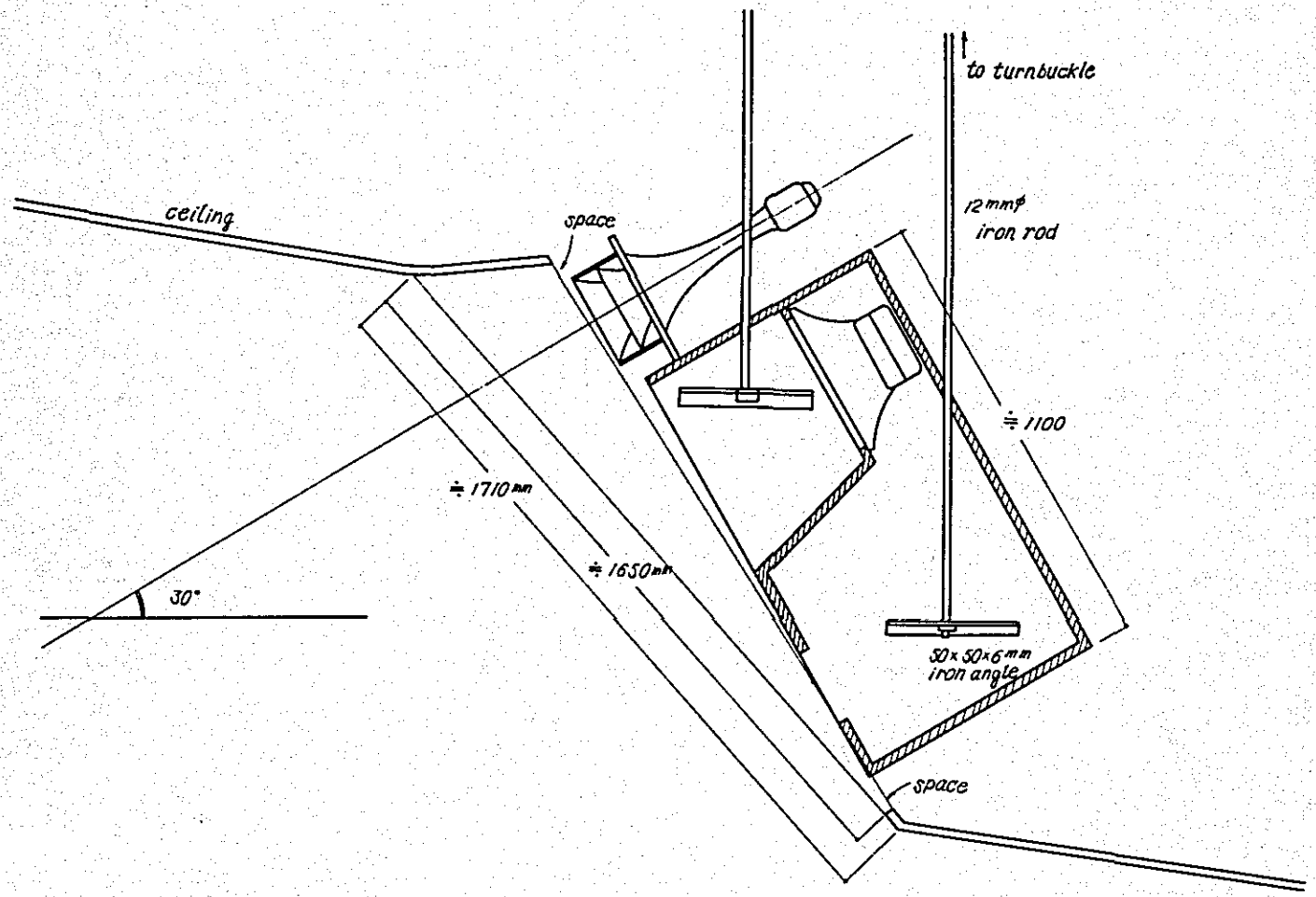
SCALE

TITLE OF DRAWING

ARRANGEMENT OF SUSPENSION
BATTENS (II)

DRG. NO.

2–67



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING ARRANGEMENT OF THE MAIN LOUDSPEAKER	DRG. NO. 2–68

ITEMS	PERFORMANCE REQUIREMENTS		CONDITIONS
INPUT IMPEDANCE	75 ohms ±5%		60Hz - 8MHz
GAIN CHANGING RANGE	PICTURE	±3dB	INPUT LEVEL 0.7V (P-P)
	SYNC	NORMAL LEVEL	INPUT LEVEL 3 - 5V (P-P)
LINEARLITY	DIFFERENTIAL GAIN	±2%	4.43MHz
	DIFFERENTIAL PHASE	±2%	"
FREQUENCY CHARACTERISTIC	60Hz - 7MHz	±0.5dB	. STANDARD 100KHz . FADER POSITION 100% IF FADER POSITION 75.50% LESS THAN ±1dB
	7MHz - 8MHz	0dB -1dB	
	OVER 8MHz	GRADUALLY DOWN CHARACTERISTIC	

DISTORTION	60Hz	15KHz	250KHz	
STAND UP TIME		0.06μS	0.06μS	IN 15KHz 250KHz SHOULD BE USED THE SYMMETRICAL SQUARE WAVE THAT HAVE LESS THAN 0.03μS RISE UP TIME.
SAG		Less 1%	Less 1%	
OVERSHOOT RINGING (LESS 0.1μS)		Less 3%	Less 3%	
OVERSHOOT RINGING (MORE 0.1μS)		Less 12%	Less 12%	
STREAKING	NOT VISIBLE			

NOISE		
PERIODIC	7mV (P-P)	
INDUCTION	0.7mV (P-P)	
RANDOM	0.7mV (P-P)	
BY SWITCHING	NOT VISIBLE	

LINEARLITY OF FADER	LESS 5%		
CROSS TALK	100KHz	60dB	. INTER CHANNEL
	3MHz	40dB	
PHASE OF SWITCHING POINT	LESS ±1%		3.5MHz

DRG. NO. 2-69
TOTAL VIDEO PERFORMANCE TABLE

ITEMS				PERFORMANCE REQUIREMENT
GAIN THROUGH INSTALLATION			PROGRAM LINE	±0.5dB
			MONITOR LINE	±1.0dB
DISTORTION	PROGRAM LINE	NORMAL LEVEL	FREQUENCY RANGE FOR USING	LESS 0.5dB
		NORMAL LEVEL	100 - 10,000Hz	LESS 0.75%
		+15dB	< 100 or > 10,000	LESS 1.0%
	MONITOR LINE	NORMAL LEVEL	FREQUENCY RANGE FOR USING	LESS 0.75%
		NORMAL LEVEL +10dB	"	LESS 3.0%
S/N (INPUT LEVEL -72dBm)			"	MORE 50dB
CROSS TALK			"	THE LEVEL CAN NOT HEAR
ALLOWANCE OF THE MAXIMUM GAIN *			PROGRAM LINE	MORE +20dB
			MONITOR LINE	MORE +10dB

* ALLOWANCE OF THE MAXIMUM GAIN FOLLOWS:
WHEN THE ATTENUATER GRADUALLY INCREASE UP TO THE LEVEL OF THAT THE STATE IS NO TROUBLE.

DRG. NO. 2-70

TOTAL AUDIO PERFORMANCE TABLE

1 Performance

1.1 Performance test

Using the specified power supply, a performance test will be conducted to check whether there is any abnormality in the performance of the equipment involved.

Measurement will also be made of the power supply voltage and all currents employed by use of the voltage meter and ampere meter with an accuracy of more than the 2.5th Class.

1.2 The following items will be measured during a continuous operation of more than 10 hours under normal operating conditions and at a normally rising temperature.

(1) Measurement will be made of the voltage and current applied and flowing through the specified points.

(2) A check for normality will be made of each section

(3) The temperature of the following sections will also be measured to confirm whether or not it is below the standard value specified for the points. Selenium rectifier, electrolytic condenser close to a heat emitting body, heat proof type resister, power transformer, temperature inside the control console, temperature of the heat radiating plate, and room temperature etc.

1.3 Insulation resistance.

The insulation resistance of the equipment and circuits involved will be as given in TABLE 1 when measurement is made using a 500V megger.

TABLE 1

Equipment and circuit	Measuring points	Insulation resistance
Distribution board and dimmer unit	Between the wiring and earth and between the wirings	Over 10MΩ
Wiring between equipment and the wiring of terminal equipment	Same as above	Over 5MΩ
Pilot lamp circuit and control circuit	Between the wiring and earth.	Over 5MΩ

1.4 Dimming characteristics

The characteristics of the dimmer will be such as given by that performance curve, nearest to the calculated performance curve and dimming range will be from 0 to 100%.

1.5 Temperature characteristics

The voltage fluctuation in the dimmer will be within 10% at a dimming output voltate of 50V and within the ambient temperature range 5 to 40°C.

1.6 Protection circuit

The dimmer will be equipped with a protective circuit to protect it against overcurrent.

1.7 Dimmer unit

The dimmer to be applied will be of the remote control type, and the range of applicable load is as given in TABLE 2

TABLE 2

Dimmer unit	Range of applicable load	Remarks
15A 30A 50A	30W - 3KW 60W - 5KW 100W - 10KW	For the incandescent lamp

1.8 Electrical effects with the use of dimmer

The dimmer involved will be designed in such a way that there will be no adverse effects to the audio system, video system and other TV broadcasting equipment under normal operating conditions.

2. Tests and Procedures

2.1 Test items

(1) Construction and appearance

(2) Electrical performance

2.2 Test requirements

Both the appearance and electrical performance test will be conducted at a temperature of 20°C and at a relative humidity of 65%. If the temperature and relative humidity inside the test room are respectively within 5-35°C and 45-85%, the test conditions may be regarded as normal.

2.3 Construction and appearance test

In the performance of this test, a check will be made as to whether or not the following items meet the requirements given belows.

(1) Appearance — Paint applied to the dimmer assembly, color identification for the writing, and other indications.

(2) Condition — Unit configuration, component, quantity of spare parts and others.

2.4 Electrical performance test

In the performance of this test, a check will be made as to whether or not the performance of the dimmer complies with the specification.

CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 1/'78
	DRG. NO.
TITLE OF DRAWING PERFORMANCE TABLE OF LIGHTCONTROL SYSTEM	2—71

1 Electrical specifications of flying set battens and lighting battens

1.1 Both the lighting battens and flying set battens will be of remote control type and will be fixed at an optional height.

1.2 For safety, they will be stopped with a limit switch which is actuated whenever they come into contact with the stage set while they are being moved up or down.

1.3 Range of batten elevation
The lighting battens and flying set battens will be elevated and lowered within the following range.

(1) Upper limit	Distance between the lower part of the grid pipe (channel iron) and upper part of the batten.
(2) Lower limit	Distance between the stage floor and the batten pipe center.

1.4 Elevating and lowering speed 7,500 mm/min

1.5 Concentrated load (a) Lighting batten over 20kg/1000mm
(b) Flying set batten over 25kg/1000mm

2 Mechanical specifications

2.1 Flying set batten

(1) Elevating method Manual counter weight type

(a) The flying battens will be fixed at an optional height with the use of counter weight.

(b) The flying battens will be operated beside the wall of right side stage.

(2) Load Over 7.5kg/1000mm (concentrated Load)

3 Issolation test

The issolation test resistance of the equipment and circuit involved will be such as given in TABLE 1 when measurement is made using a 1000V megger.

TABLE 1

Equipment and circuits	Measuring points	
Circuit connection board-terminal board circuit wiring.	Between the wiring for one circuit system and earth and between the wirings.	Over 5MΩ
Control circuit	Between the wiring for one circuit system and earth.	Over 5MΩ

4 Overall performance test

An overall performance test will be conducted for the electrical and mechanical performances of the lighting battens and flying set battens.

CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 1/'78 DRG. NO.
TITLE OF DRAWING PERFORMANCE TABLE OF SUSPENSION BATTENS	2—72

A TABLE OF LOAD CIRCUIT

CIRCUIT NAME	CAPACITY OF EACH LOAD CIRCUIT	NUMBER OF CIRCUIT
BASE LIGHT F1 - F6 (BORDER LIGHT)	6 KW	24
SUSPENSION LIGHT S1 - S8 (FLYING DUCT)	6 KW	24
UPPER HORIZON LIGHT (FLYING DUCT) UH1 - UH3	6 KW	12
LOWER HORIZON LIGHT LH1 - LH12	6 KW	12
CEILING SPOT LIGHT CS1 - CS6	6 KW	6
SIDE FRONT LIGHT SF1 - SF4	6 KW	4
FOOT LIGHT FT1 - FT4	6 KW	4
FLOOD LIGHT F1 - F14	6 KW	14
CENTER SPOT LIGHT CL1, CL2	6 KW	2
CAT-WALK LIGHT CW1 - CW5	6 KW	5
CEILING SPOT LIGHT (EFFECT) CE1	6 KW	1
AUDITORIUM CEILING LIGHT (FOR T.V) ACT1, ACT2	6 KW	2
AUDITORIUM CEILING LIGHT (FOR GENERAL) ACG1, ACG2	10 KW	2
	TOTAL	112

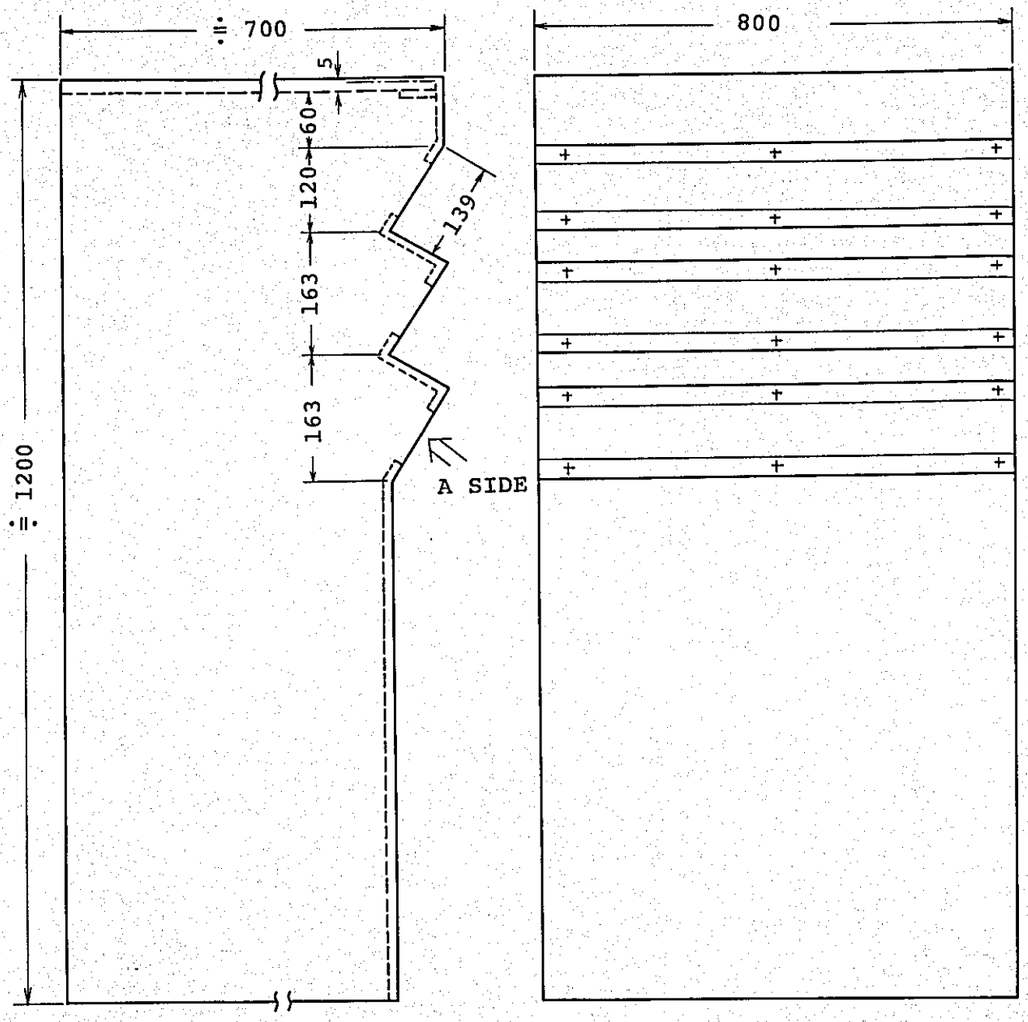
6KW 110 CIRCUITS

10KW 2 CIRCUITS

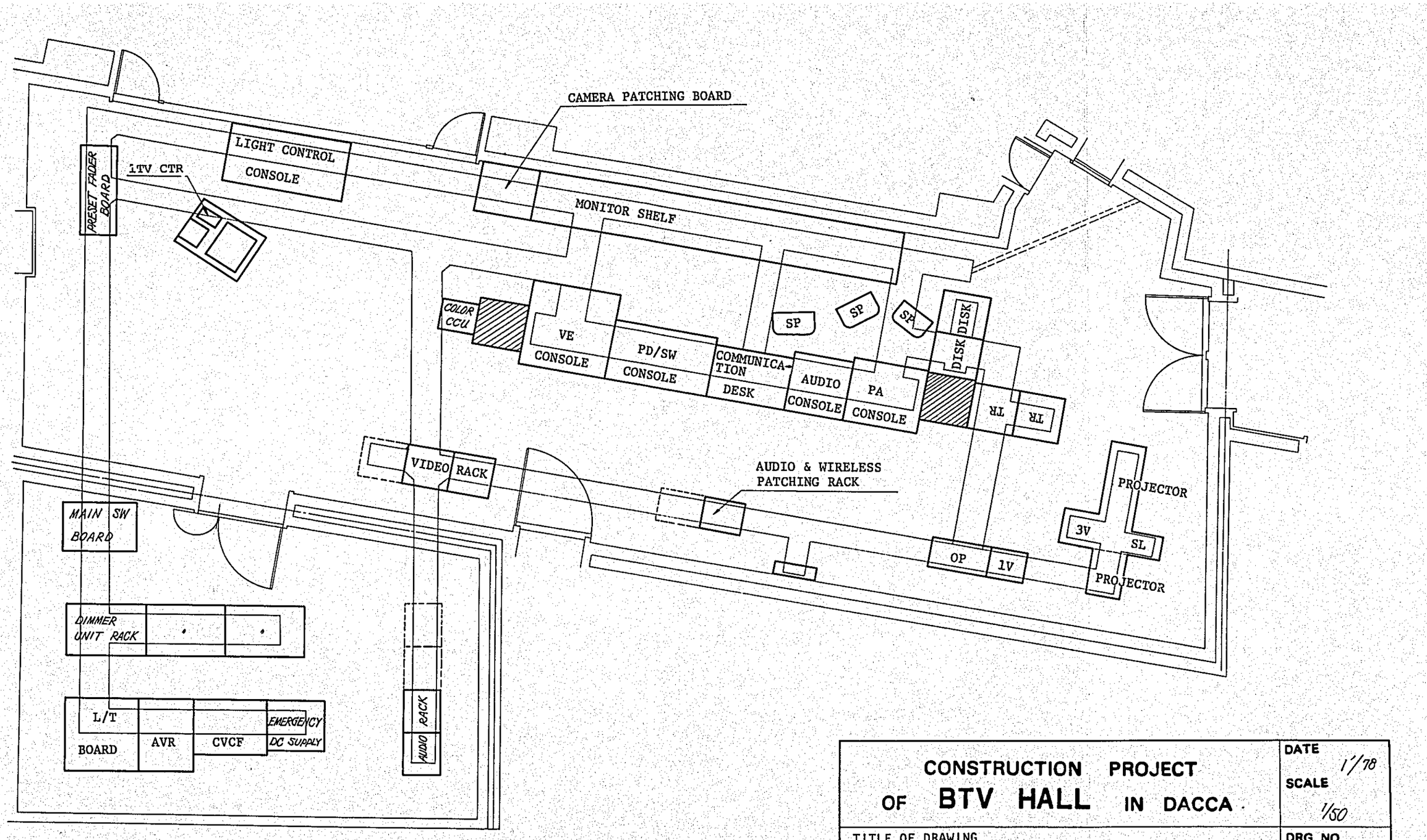
TOTAL: 112 CIRCUITS

DRG. NO. 2–73

A TABLE OF LOAD CIRCUIT



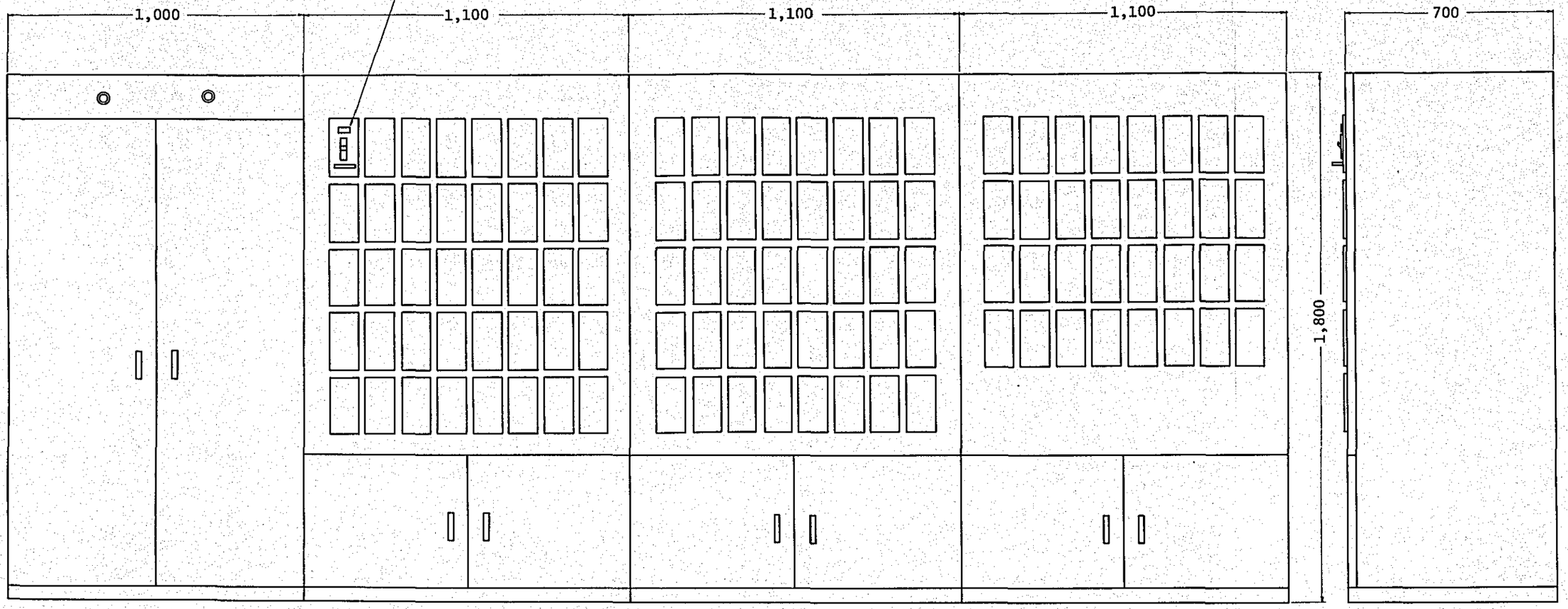
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 12/'77
	SCALE
TITLE OF DRAWING OUTSIDE VIEW OF CAMERA CABLE PATCHING BOARD	DRG. NO. 2–74



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 1/78 SCALE 1/50
TITLE OF DRAWING RACK & CONSOLE'S LAYOUT IN SUB CONTROL ROOM (II)	DRG. NO. 2–75

3KW ---------- 84
6KW ---------- 26
10KW ---------- 2

PLUG-IN TYPE DIMMER UNIT
112 UNITS



MAIN SWITCH BOARD

NO. 1 UNIT RACK

NO. 2 UNIT RACK

NO. 3 UNIT RACK

INPUT POWER SOURCE SYSTEM
3ϕ 4W 220V/380V 50Hz 250K.V.A

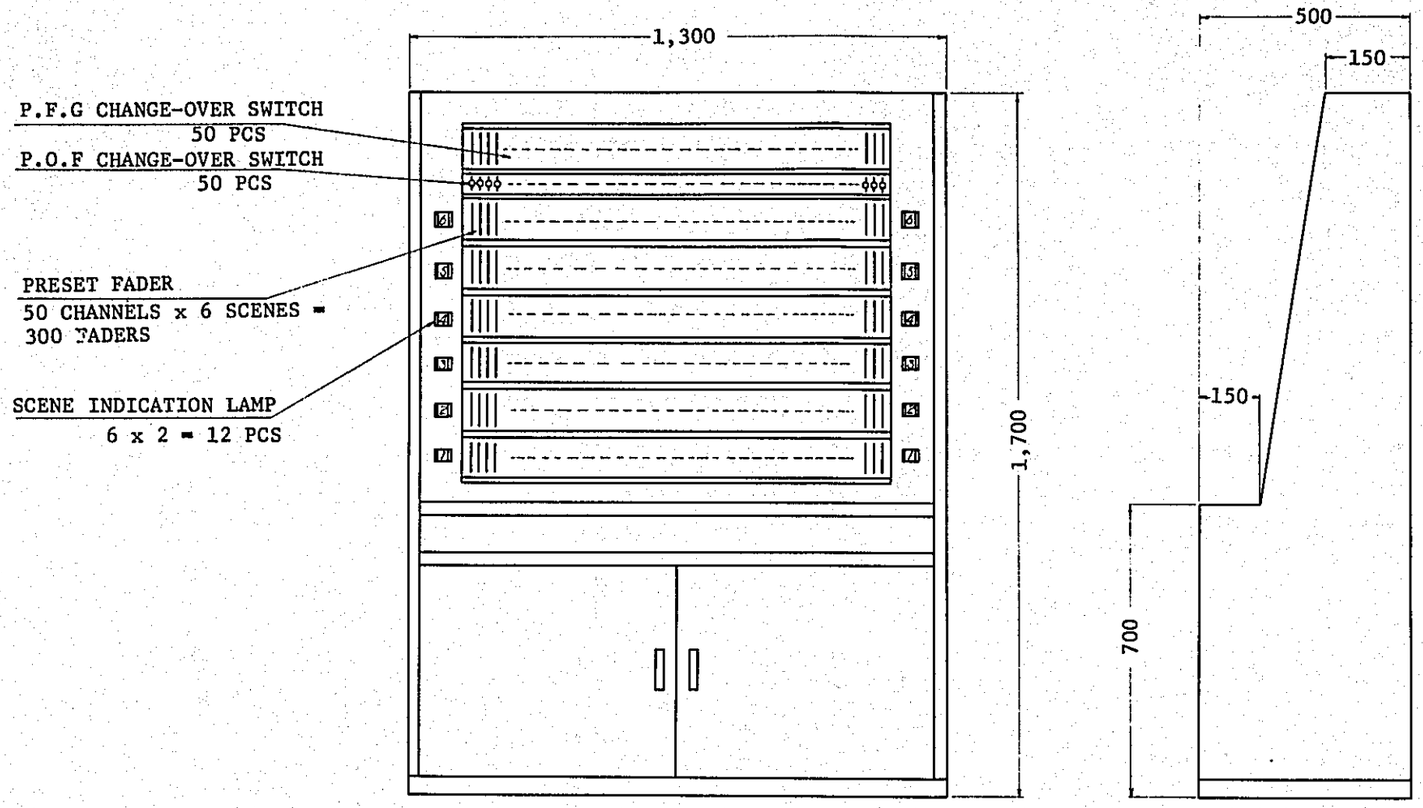
CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA

DATE 1/'78

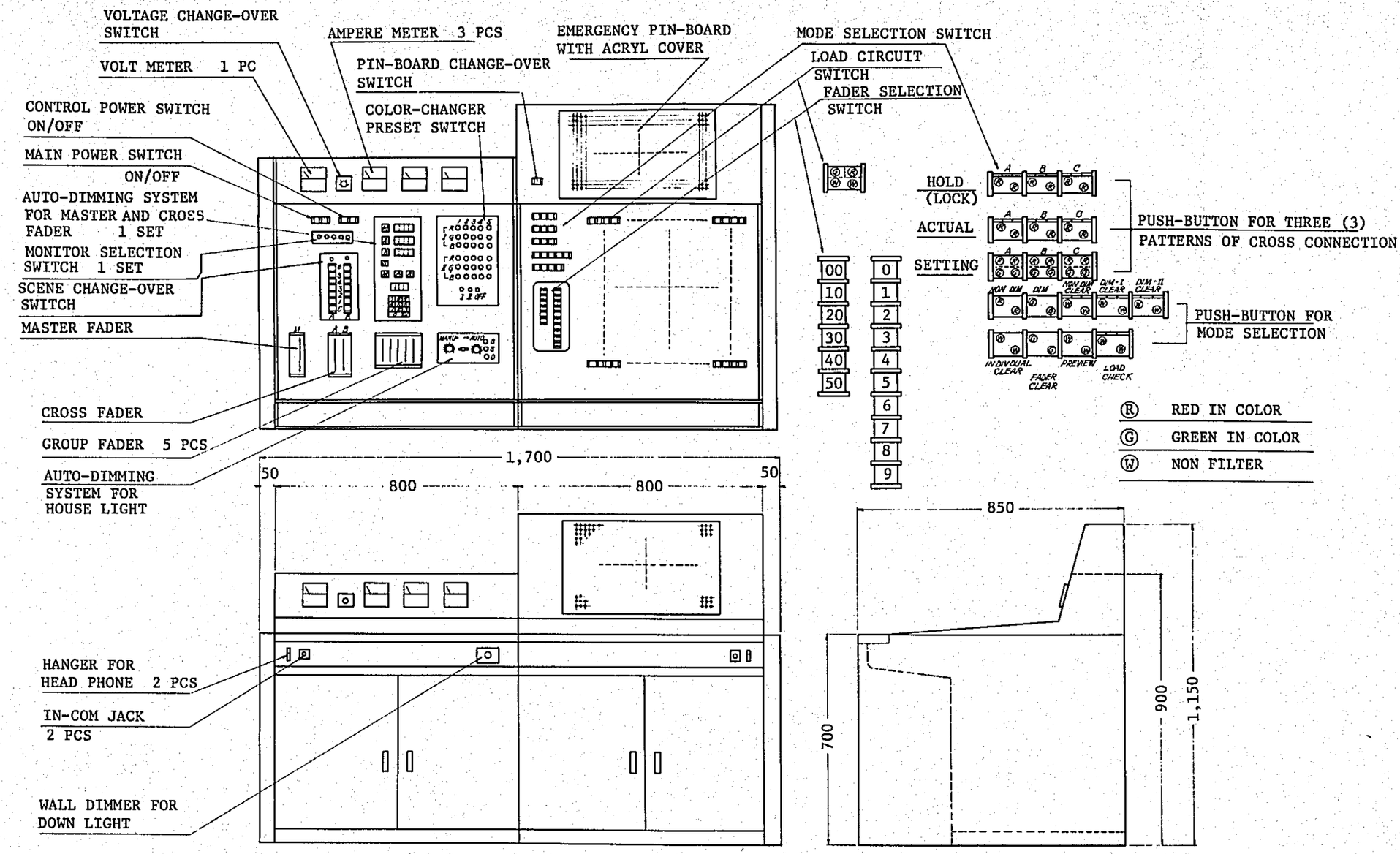
SCALE

TITLE OF DRAWING
MAIN SWITCH BOARD &
DIMMER UNIT RACK

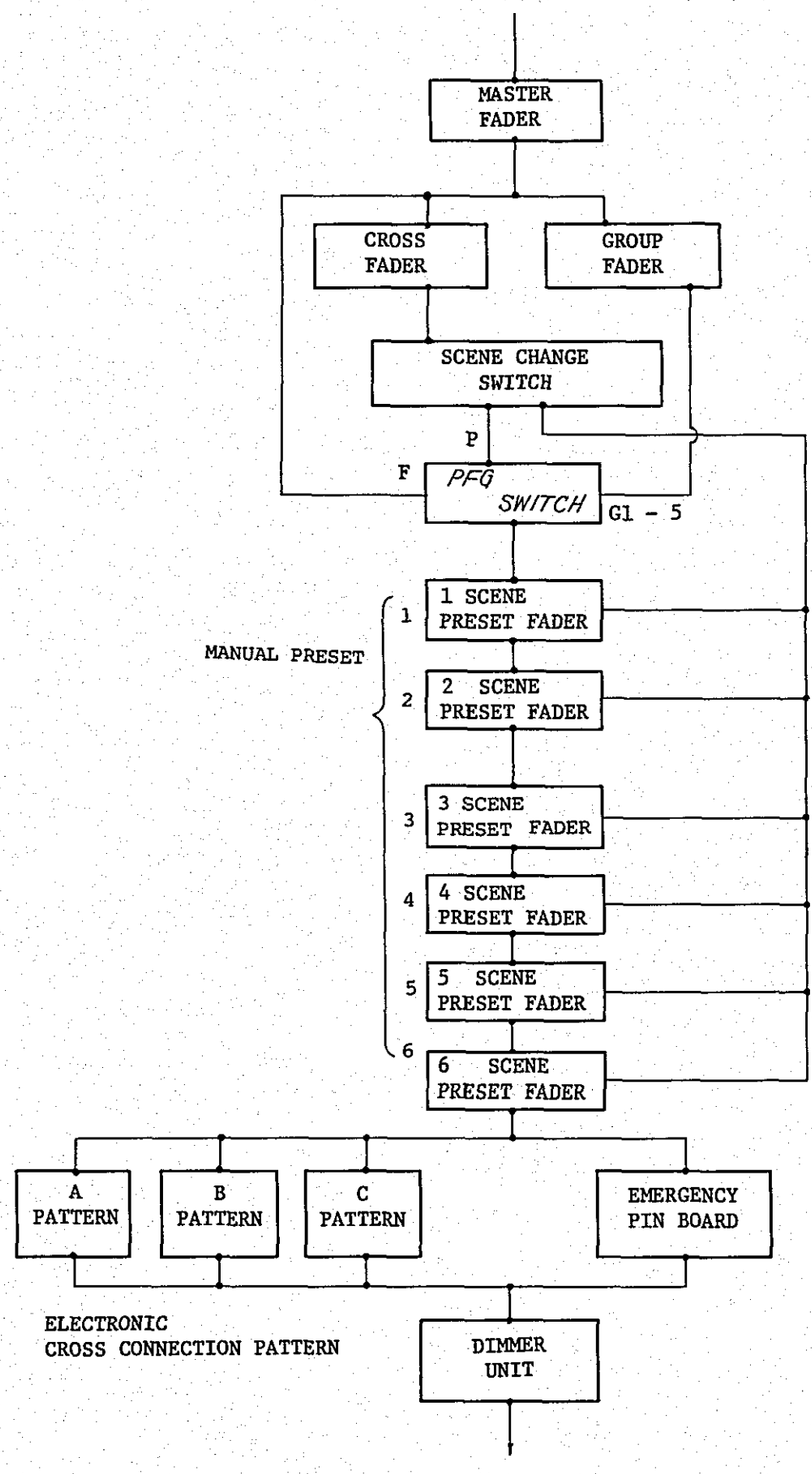
DRG. No
2–76



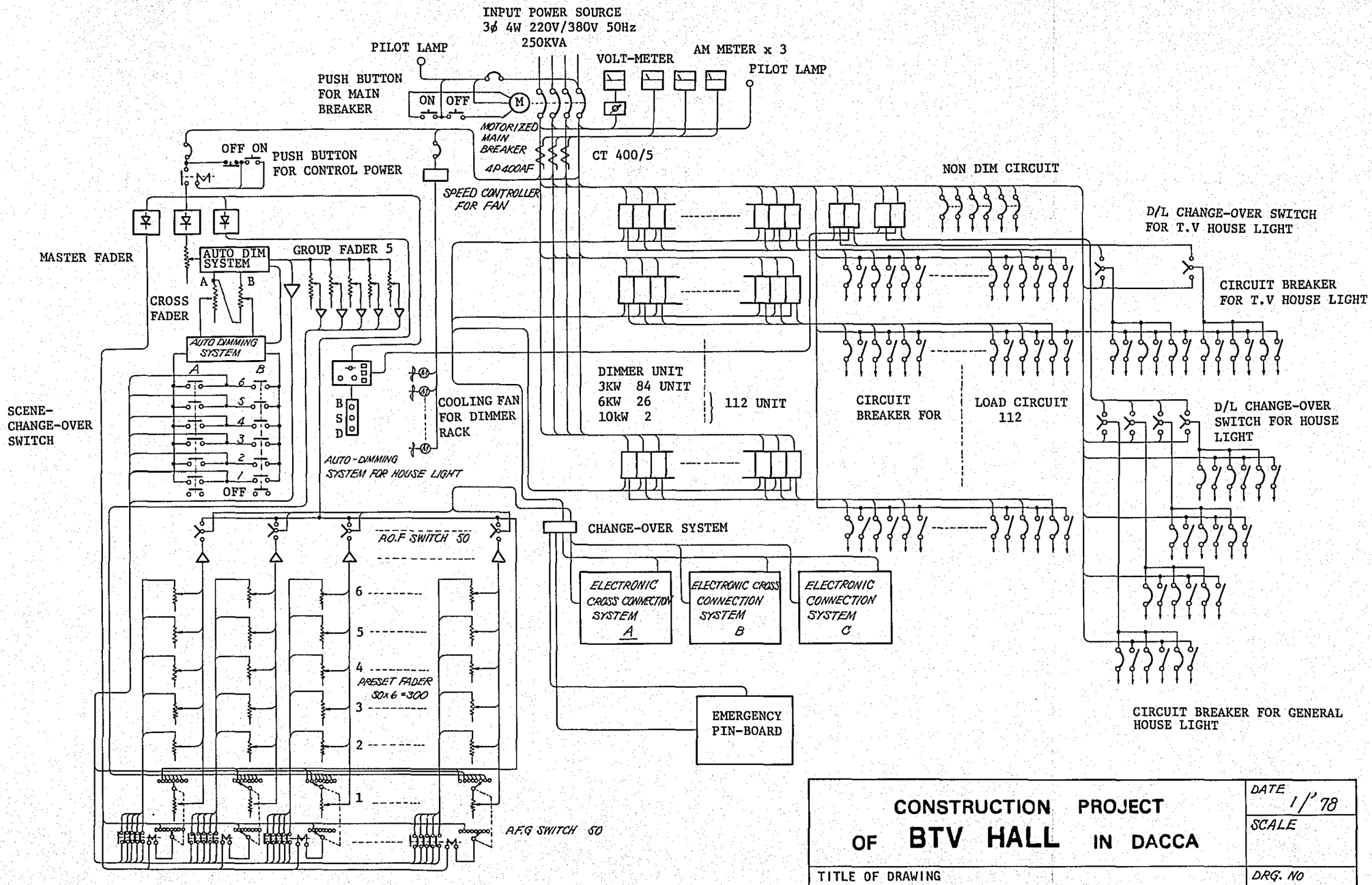
CONSTRUCTION PROJECT OF BTV HALL IN DACCA	DATE 1/78
	SCALE
TITLE OF DRAWING PRESET FADER BOARD	DRG. NO. 2–77



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 1/78 SCALE
TITLE OF DRAWING OPERATE & CONTROL DESK	DRG. NO 2–78



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 1/'78
	SCALE
TITLE OF DRAWING BLOCK DIAGRAM OF LIGHTING CONTROL SYSTEM BY ELECTRONIC CONNECTION METHOD	DRG. NO 2–79



CONSTRUCTION PROJECT OF **BTV HALL** IN DACCA	DATE 1/'78
	SCALE
TITLE OF DRAWING CIRCUIT BLOCK DIAGRAM OF CROSS CONNECTION METHOD	DRG. NO 2–80