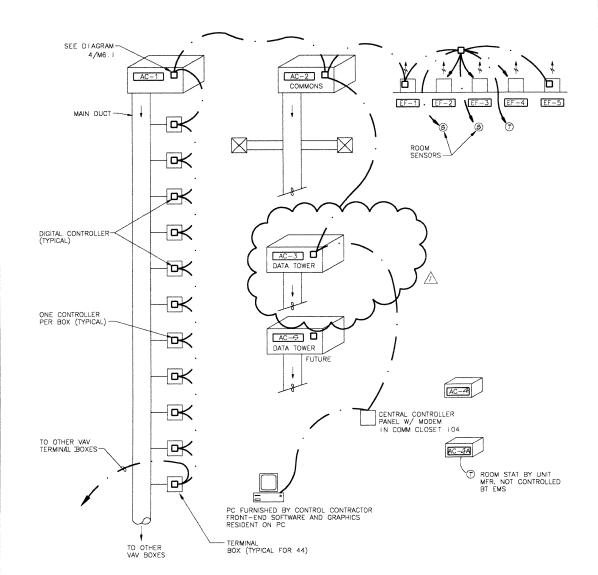
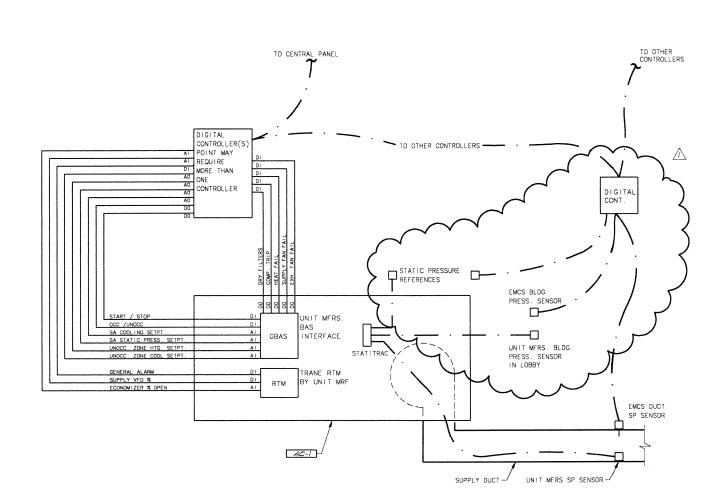


THE SERIES FAN POWERED MIXING BOX (FPMB) SHALL MAINTAIN YENTILATING AND COOLING REQUIREMENTS IN AREAS SHOWN ON PLANS FOR INDEPENDENT ZONE CONTROL. THESE DEVICES SHALL BE ELECTRONICALLY CONTROLLED. THE BOX SHALL SUPPLY A MX OF PRIMARY OR PLENUM AIR. AS THE SPACE TEMPERATURE INCREASES ABOVE ITS SETTIME, THE PRIMARY DUCT ARE VALVE SHALL MODULATE OPEN AND ADMIT AN INGREASING QUANTITY OF COOL PRIMARY AIR.

F.P.M. BOX M8.1 SCALE: N.T.S.



ELECTRONIC CONTROL (DOC) SYSTEM ARCHITECTURE



AC-1 UNIT CONTROL DIAGRAM M6.1 SCALE: N.T.S.

ANALOG IN							T						OUTPUTS SYSTEMS FEATURES																										
SYSTEM APPARATUS	\vdash	MEASURED						1	DIGITAL IN					D/O					T	A/0					ALARMS				Г	PROGRAMS									
OR AREA POINT														₹					ARM	z		z	NO.			-				9	RIDE	NO		5	8		Ca with an and an		
DESCRIPTION	SUPPLY TEMPERATURE	RETURN TEMPERATURE	SPACE TEMPERATURE	TEMPERATURE	RELATIVE HUMBATY	PRESSURE	AMPS/KR	LOW (CFN)	TARK	FRIER	SMOKE /FIRE		DCCUPANCY	PRESSURE / FL	LEAD/LAG/AUTO	ON/OFF	STAGED AC/HTG	ENABLE/DISABLE	AUDIO/VISUAL ALARM	DAMPER POSITIO	VFD	DAMPER POSITION	CAS VALVE POSITION	COIL CONTROL	HIGH ANALOG	LOW ANALOG	HIGH DIGITAL	LOW DIGITAL	STATUS	TIME SCHEDULING	SCHEDULE OVERRIDE	START OPTIMIZAT	PUSHIUN	CYCLE VS. DSA	E	MCHT SETBACK	LEAD \ LAG	TREND LOG	INCIDE CO.
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NOTES: (1) SUPPLY AIR DUCT SMOKE DETECTOR.

- (2) MEASURED WHERE INDICATED ON PLANS.
- (3) ONE (1) SENSOR, 2/3 DISTANCE DOWN MAIN TRUNK,

SEQUENCE OF OPERATION

ROOFTOP AIR CONDITIONING UNIT AC-1 AND TERMINAL BOXES

A. ROOFTOP PACKAGE UNIT SHALL BE PROVIDED WITH INTERNAL DOC MICROPROCESSOR CONTROLS BY UNIT
MANUFACTURER: INTERFACE SHALL BE THRU UNIT MRS.
DDC INTERFACE AND RTM MODULE LOCATED WITHIN GRADE— MOUNTED UNIT.

THE CENTRAL UNIT CONTROL SHALL PERFORM THE FOLLOWING FUNCTIONS AS DIRECTED BY THE CENTRAL EMS

- I) SUPPLY AIR PRESSURE CONTROL
 -VARIABLE SPEED DRIVE CONTROL
 -SUPPLY AIR STATIC PRESSURE CONTROL
- SUPPLY AIR TEMPERATURE CONTROL
 -COOLING AND ECONOMIZER CONTROL
 -SUPPLY AIR TEMPERATURE SETPOINT RESET BASED
 ON OUTDOOR AIR TEMPERATURE
- -MORNING WARMUP WITH GAS-FIRED HEATING

THE UNIT SHALL BE EQUIPPED WITH TRAQDAMPER CONTROL TO PROVIDE:

4) OUTDOOR AIR CFM COMPENSATION -MODULATES MINIMUM POSITION OF ECONOMIZER TO

ACCOMODATE VARYING UNIT AIRFLOWS THE UNIT SHALL BE EQUIPPED WITH STATITRAC CONTROL

TO PROVIDE 5) EXHAUST AIR FAN CONTROL -DIFFERENTIAL PRESSURE CONTROL VARIES EXHAUST AIR FAN CAPACITY TO MAINTAIN BUILDING

PRESSURE REFER TO DIAGRAM 4/M6.

- B. CENTRAL DDC PANEL SHALL PERFORM THE FOLLOWING
- START/STOP OF THE CENTRAL AIR HANDLING UNIT AND FUNCTIONS LISTED IN A ABOVE START/STOP OF EXHAUST FANS EF-1, EF-2, EF-3, EF-4, AND EF-5.

 OCCUPIED/UNOCCUPIED SETTINGS FOR THE CENTRAL
- AIR HANDLING UNIT AND THE TERMINAL BOXES.
 OPERATION OF ALL TERMINAL BOXES.
 -OCCUPIED/UNOCCUPIED SETTINGS
 -HEATING/COOLING
 FOR AC-2, STAGED HEATING, COOLING, AUTOMATIC
- FOR AC-2, STAGED HEATING, COOLING, AUTOMATIC CHANGEOVER, FAN CONTROL, ECONOMIZER, AND NIGHT SETBACK. FOR AC-3, STAGED HEATING, COOLING, AUTOMATIC CHANGEOVER, FAN CONTROL, ECONOMIZER, AND NIGHT SETBACK.
- ON POWER FAILURE, OPERATES FAN, ECONOMIZER, AND HEATING SECTION OF AC-3 TO SERVE DATA TOWER.
- CYCLES BUILDING LIGHTING BASED ON ASTRONOMI-CAL CLOCK SETTINGS (DRY CONTACT; LIGHTING CONTROL RELAY PANEL NOT IN DIVISION 15).
- 9) CYCLES BUILDING GROW LIGHTING BASED ON IGHTING CONTROL RELAY PANEL NOT IN DIVISION
- C. USER INTERFACES SHALL BE AS FOLLOWS:
- INTERFACE PANEL ON THE FACE OF THE AIR HANDLING UNIT DDC PANEL WITH A MINIMUM OF 2 LINE X 40 CHARACTER DISPLAY FOR MONITORING,
- SETTING, EDITING, AND CONTROLLING CENTRAL DDC PANEL SHALL BE MONITORED BY A PERSONAL COMPUTER PROVIDED BY THE CONTROLS CONTRACTOR.

 3) CENTRAL DDC PANEL SHALL BE PROVIDED WITH A
- MODEM FOR MONITORING BY A SERVICE CONTRACTOR
- 2. AIR CONDITIONING UNIT AC-4 AND AC-4A:
- A. UNIT MFRS. ELECTRONIC SEVEN-DAY THEROMOSTAT PROVIDES START/STOP, HEATING, COOLING, AUTOMATIC CHANGEOVER, FAN CONTROL, NIGHT SETBACK.
- INDEPENDENT ROOM SENSOR REPORTS TO DDC CONTROL PANEL FOR MONITORING BY THE CENTRAL SYSTEM.
- C. FAN RUNS CONTINUOUSLY DURING OCCUPIED HOURS
- - A. EXHAUST FANS EF-1 AND EF-5: RUN CONTINUOUSLY
 - B. EXHAUST FANS EF-2, EF-3 AND EF-4: CYCLED BY ROOM SENSOR TO OPERATE UPON TEMP RISE TO 80 F

WALL THERMOSTAT CYCLES FAN AND HEATER TO MAINTAIN

5. GENERAL

THE FOLLOWING WORK SHALL BE CONSIDERED TO BE UNDER

- A. ALL POWER WIRING FROM POWER SOURCE TO EQUIPMENT B. CHECKING CURRENT CHARACTERISTICS AND ROTATION OF ALL MOTORS.
- C. FURNISHING AND INSTALLING DISCONNECT SWITCHES UNLESS SPECIFICALLY NOTED OTHERWISE.
- D. FURNISHING AND INSTALLING ALL STARTERS
- THE FOLLOWING WORK SHALL BE CONSIDERED TO BE UNDER DIVISION 15:
- A. ALL TEMPERATURE, INTERLOCK, AND EQUIPMENT CONTROL WIRING, CONDUIT, AND APPURTENANCES, HIGH AND LOW VOLTAGE.
- B. ALL CONTROL WIRING, LINE OR LOW VOLTAGE, INCLUDING BUT NOT LIMITED TO WIRING THROUGH THE COILS OF THE MAGNETIC STARTERS AND RELAYS, AND THROUGH THE CONTACTS OF THERMOSTATS AND OTHER PILOT DEVICES, EXCEPT WHERE NOTED OTHERWISE

OWNER WILL NOT ENTERTAIN ADDITIONAL COSTS DUE TO LACK OF COORDINATION BETWEEN DIVISION 15 AND DIVISION 16

4 1 4 OLIVE WAY S U I T E S O O SEATTLE WA 98:01 (205) 623 3344 FAX(208) 623 7005 ARCHITECTURE
PLANNING &
INTERIOR DESIGN



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M6.1 CONSTRUCTION SET