



**MCB Fiber Ethernet Connection Point**

**VLA Expansion Project**  
Antenna Electronics  
Block Diagram

DATE	REV	NO	SCALE
E23010K0001	A	1	1:1

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**Legend:** ■ = MCB Fiber Ethernet Connection Point

Module	Power	Notes
M304-1 Module ID Memory	2W	Provides Slot IDs and IP Addresses to MIB's L302 (1), T305 (A), M301, L304, L305, L301 (both)
M304-2 Module ID Memory	2W	Provides Slot IDs and IP Addresses to MIB's L302 (2-4), T305 (B-D), P301 (1-2)
M304-3 Module ID Memory	2W	Provides Slot IDs and IP Addresses to MIB's P302, F317 (all), F320 (all), M302

**SAMPLER / DTS In FE RACK**

**D301-D304: Sampler/DTS Modules**

Each module (D301-D304) consists of:

- Power Supply PCB
- Samplers (8-bit, 3-bit, or 4-bit)
- De-multiplexers (64 bits wide)
- 3 x 128-bit IF Data Formatters
- Timing & PWR Control
- MIB

Outputs: ITU CH 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43

**48 Volt DC POWER SUPPLY SUBSYSTEM (In Pedestal Room C-Rack)**

AC (208/230V) → 48VDC / 60A POWER SUPPLY → 48VDC 40AH Battery Tray

Outputs: 48VDC to 120VAC, 48VDC to Vertex Room, 48VDC to Fire Alarm Power Dump Contactor

**M302 Utility Module** (3U 19" Chassis): Analog Monitor, Fire Alarm Power Dump Contactor

**M304-4 Module ID Memory** (M302, ACU): Provides Slot IDs and IP Addresses to MIB's M302, ACU

**MCB Rack (Shielded Enclosure)**

48VDC to 120VAC → Cisco Fiber Ethernet Switch (1x1Gb, 48x100Mb) → Fiber Optic Patch Panel to MIB's and Data Ports

Media Conv. → VOIP → Vertex Rm Analogue Phone

**L300 Synthesizer Reference Generator** (2W Module)

512 MHz 0 dBm → 1024 GHz to T301 (0 dBm)

128 MHz 0 dBm → 128 MHz Comb to L302-A, L302-B, L302-C, L302-D

19.2 Hz RS422 → 19.2 Hz LVDS, 19.2 Hz RS422

**T303 - UX Converter** (2W Module)

8-12 GHz, 8-18 GHz, 8-12 GHz

Inputs: X L1 FS, X L2 FS, X R1 FS, X R2 FS

Outputs: S1-1, S1-2, S2-1, S2-2, S3-1, S3-2, S4-1, S4-2

Power: 10W (allow 0.25A @ 54.2 VDC)

**UTILITY RACK**

F317 - Front End Controller 3W Module (3S)

F320 - FE Transition Module 2W Module (2S)

M303 - Vertex Room Utility Module 2W Module (2S)

P302 - FE / Converter Power Supply 1 2W Module (1.5S/0.5HS)