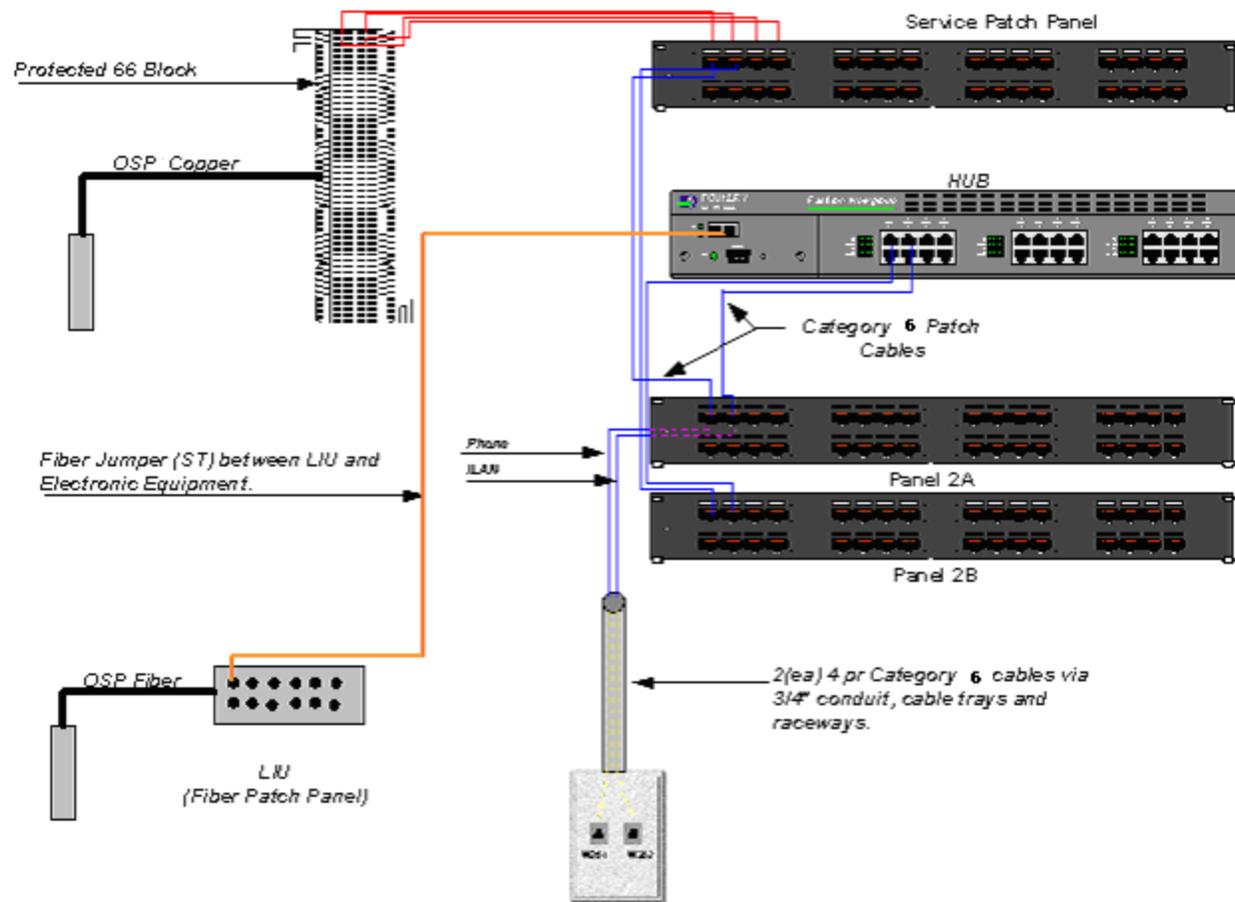
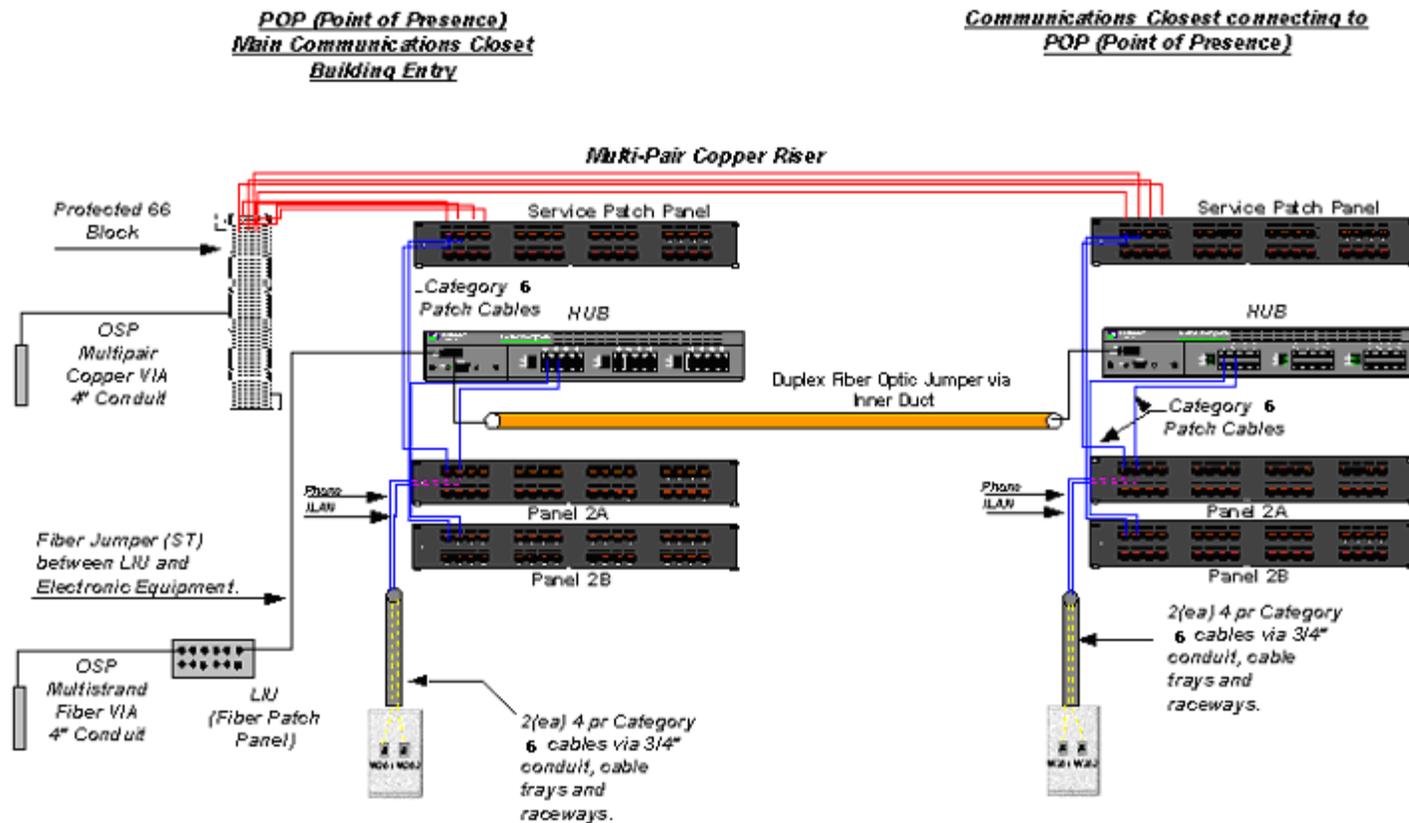


1114th Signal Battalion
Directorate of Information Management
Building Communications wiring standard

Scenario#1
POP (Point of Presence)
Main Telecommunications Closet



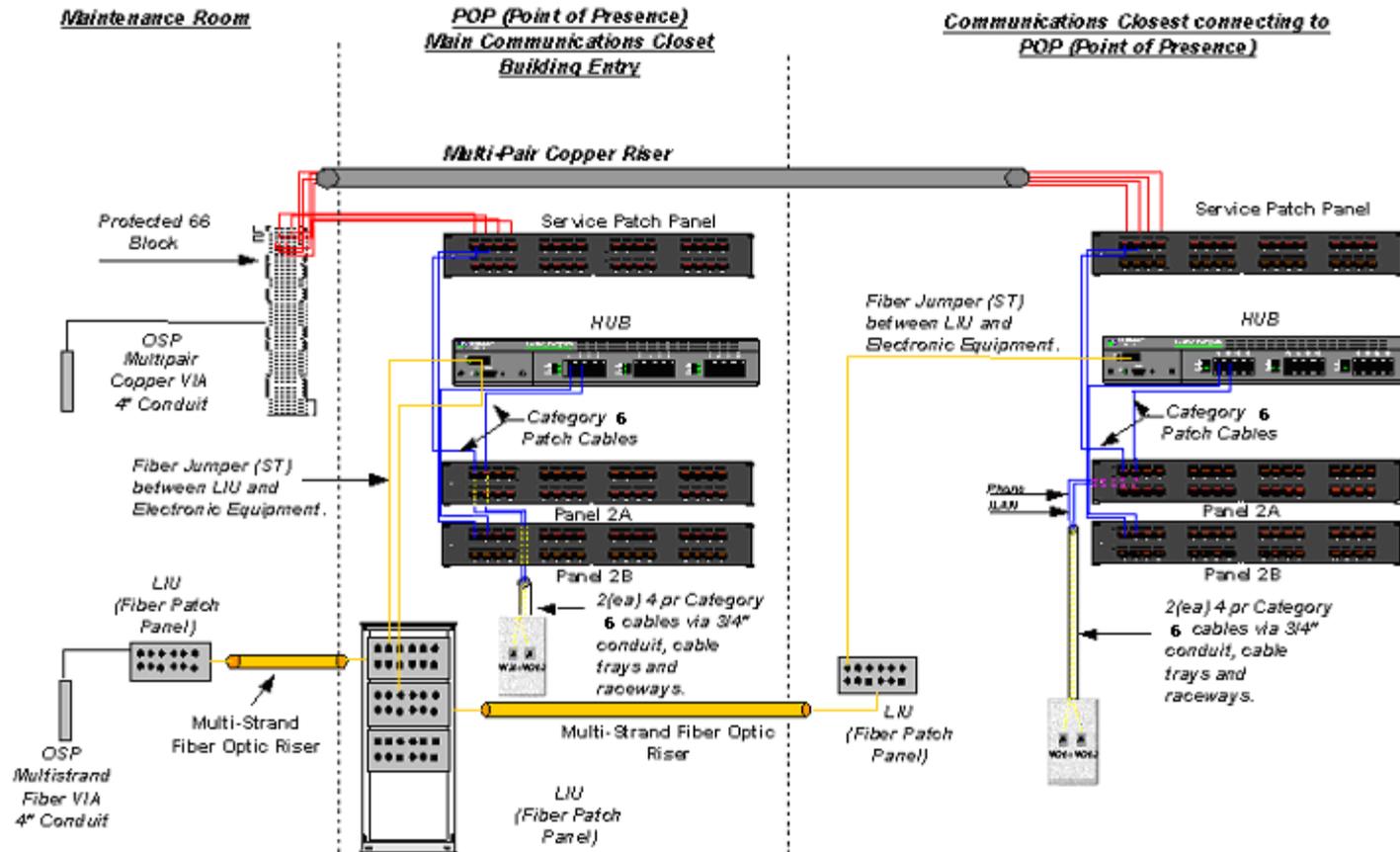
Scenario #2
Single Floor with two Communications Closet



NOTES:

- Outside Plant (OSP) enters and terminates into the Main Communications Closet.
- Single Floor with two communications closets that extends less than 100 meters apart will be connected utilizing duplex (ST) fiber jumpers.

**Scenario #3
Multi-Floor/Multi-Closet**



NOTES:

- Outside Plant (OSP) enters and terminates into the Maintenance room.
- Multi-Strand Fiber Optic cable will route via Inner Duct from the maintenance room LIU to the LIU located in the Main Communications Closet. Fiber ends will be terminated with ST type connections and connected to the LIU's.
- Multi-Strand Fiber Optic cable will run from the Main Communications Closet LIU to all other communications closet LIU's located on other floors via Inner Duct.

Procedures

1. *Patch Panels shall be labeled by floor and closet.*

Example:

- *A single floor building with two (2) closets having two (2) patch panels per closet.*

W1A (West Wing, 1st floor, Patch Panel “A”)

W1B (West Wing, 1st floor, Patch Panel “B”)

NOTE: *This same method would apply to the East Wing. In the case of a North/South facing building substitute the appropriate letter for the North or South closet.*

- *A two Story building with two (2) closets having two (2) Patch Panels per closet.*

W1A (West Wing, 1st floor, Patch Panel “A”)

W1B (West Wing, 1st floor, Patch Panel “B”)

W2A (West Wing, 2nd floor, Patch Panel “A”)

W2B (West Wing, 2nd floor, Patch Panel “B”)

NOTE: *This same method would apply to the East Wing. In the case of a North/South facing building substitute the appropriate letter for the North or South closet.*

Buildings with only one closet would be labeled in a similar fashion. However, you would remove the West/East & North/South relationship!

Example:

- *A single floor building with two patch panels.*

1A (1st floor, Patch Panel “A”)

1B (1st floor, Patch Panel “B”)

- *A two story building with two patch panels per floor.*

1A (1st floor, Patch Panel “A”)

1B (1st floor, Patch Panel “B”)

2A (2nd floor, Patch Panel “A”)

2B (2nd floor, Patch Panel “B”)

2. *Wall Jacks shall be labeled with the Patch Panel identifier and the Port number. This Port number identifies the port each individual outlet is assigned to at the Patch Panel.*

Example:

- *A single floor building with two (2) closets having two (2) patch panels per closet.*

W1A1 (West Wing, 1st floor, Patch Panel “A”, 1st Port on the Patch Panel)

W1B24 (West Wing, 1st floor, Patch Panel “B”, 24th Port on the Patch Panel)

NOTE: *This same method would apply to the East Wing. In the case of a North/South facing building substitute the appropriate letter for the North or South closet.*

- *A two Story building with two (2) closets having two (2) Patch Panels per closet.*

W1A1 (West Wing, 1st floor, Patch Panel “A”, 1st Port on the Patch Panel)

W1B24 (West Wing, 1st floor, Patch Panel “B”, 24th Port on the Patch Panel)

W2A1 (West Wing, 2nd floor, Patch Panel “A”, 1st Port on the Patch Panel)

W2B24 (West Wing, 2nd floor, Patch Panel “B”, 24th Port on the Patch Panel)

NOTE: This same method would apply to the East Wing. In the case of a North/South facing building substitute the appropriate letter for the North or South closet.

Buildings with only one closet would be labeled in a similar fashion. However, you would remove the West/East & North/South relationship!

1A1 (1st floor, Patch Panel “A”, 1st Port on the Patch Panel)

1B24 (1st floor, Patch Panel “B”, 24th Port on the Patch Panel)

2A1 (2nd floor, Patch Panel “A”, 1st Port on the Patch Panel)

2B24 (2nd floor, Patch Panel “B”, 24th Pot on the Patch Panel)

- 3. Electrical Outlets should be installed in close proximity to each drop.*
- 4. Interconnecting patch cables between patch panels and hubs will be Category 6.*
- 5. House wiring (Telephone and LAN) from the protected 66 block and room drops will be Category 6 or better, unshielded, twisted four (4) pair and will be punched down on the backside of the Patch Panels. Dual outlet jacks will be Category 6, RJ45 and installed approximately two meters apart along each wall in rooms except for Latrines, Hallways, and Janitor’s Closets. A minimum of three dual outlets will be installed in each room.*
- 6. Each cable will be marked at the wall outlet and the RJ45 Patch Panel. Maximum distance for cable runs is 100 meters (328 feet). Cable runs in excess of 100 meters will require an intermediate distribution point with associated electronics and fiber jumper run to the POP (Point of Presence) main LIU.*
- 7. OSP fiber will single mode fiber unless otherwise stated and will terminate into the LIU (Fiber Patch Panel). Interconnecting fiber patch cables from the electronic equipment will terminal in the LIU. Patch cables will also be single mode fiber unless otherwise stated.*
- 8. The Telco 66 block will be such that offers surge protection.*

9. *EIA/TIA 568B Commercial Building Telecommunications Wiring Standard is to be used.*
10. *Testing will be conducted for each cable and jack and results will be documented and submitted to Directorate of Information Management (DOIM), Network Plans for review and final acceptance.*
11. **Any deviation to this standard must be cleared through DOIM Plans Section.**

EXAMPLE TEST RESULTS FOR CATEGORY 5e

Your Company Name: ABC Company
 SITE: Client Name Bldg 89000
 OPERATOR: **Your Name: Joe Tester**
 NVP: 69.0% FAULT ANOMALY THRESHOLD: 15%
 FLUKE DSP-2000 S/N: 7261020
 HEADROOM: 9.1 dB

Test Summary: PASS
 Cable ID: **B17**
 Date / Time: 09/22/1999 06:07:14pm
 Test Standard: TIA Cat 6 Channel
 Cable Type: UTP 100 Ohm Cat 6
 Standards Version: 5.5
 Software Version: 5.5

Wire Map PASS	Result	RJ45 PIN:	1	2	3	4	5	6	7	8	S
		RJ45 PIN:	1	2	3	4	5	6	7	8	
Pair		1,2	3,6	4,5	7,8						
Impedance (ohms), Limit 80-120		108	109	107	110						
Length (ft), Limit 328		82	81	81	80						
Prop. Delay (ns)		121	120	120	118						
Delay Skew (ns), Limit 50		3	2	2	0						
Resistance (ohms)		4.8	4.8	4.7	4.8						
Attenuation(dB)		5.0	5.1	5.0	4.8						
Limit (dB)		24.0	24.0	23.9	24.0						
Margin (dB)		19.0	18.9	18.9	19.2						
Frequency (MHz)		100.0	100.0	98.6	100.0						
Pairs		1,2-3,6	1,2-4,5	1,2-7,8	3,6-4,5	3,6-7,8	4,5-7,8				
NEXT(dB)		41.6	58.2	36.5	41.2	50.8	42.4				
Limit (dB)		28.8	45.6	27.4	28.9	37.4	32.3				
Margin (dB)		12.8	12.6	9.1	12.3	13.4	10.1				
Frequency (MHz)		80.4	8.1	95.9	78.6	25.0	50.4				
NEXT @ Remote		41.4	55.1	37.5	38.3	54.0	39.3				
Limit (dB)		28.8	45.0	27.4	27.1	41.6	27.9				
Margin (dB)		12.6	10.1	10.1	11.2	12.4	11.4				
Frequency (MHz)		80.3	8.8	96.9	100.0	14.0	91.0				