

Mediacom Upgrade/Splicing Procedures
(based on original document from Corporate dated 4/16/98)

1. Splicing specifications are provided by Mediacom, but due to resplice conditions, many locations become a custom build. For example - field decisions regarding the use of extension connectors (3-inch or 6-inch) to maintain proper spacing from the pole and to provide a uniform and straight entry into the equipment on the input and output sides. Most locations will require the input loop to be straightened and reformed (with Jackson/Lemco mechanical benders only - no boards, forms or hand-formed loops) with the proper spacing (see attached drawings).
2. All strand-mounted equipment, including amplifiers, directional couplers, splitters and power inserters will have input and output loops. If a power inserter falls at a location with a piece of feeder equipment, the feeder equipment (tap, directional coupler or line extender) should be on brackets with the power inserter mounted above it on the strand, just offsetting the bracket. Don't force the input loop! Taps are the only devices that do not require an input loop, EXCEPT at terminating taps. The loops at a terminating pole may be deleted in certain situations where the pole is accessible ONLY by climbing.
3. Grounding and bonding:
 - a. All active components require either a bond or their own ground rod and vertical groundwire at the pole ~~or pedestal~~ prior to and after the active.
 - b. All junction poles can be "share bonded" with the power or telephone vertical, but a split-bolt connector must be connected below the CATV strand.
 - c. If local utilities allow, strand may be bonded to power or telephone. If no telephone or power vertical exists, install a full vertical and ground rod.
 - d. For underground plant – no new grounds are required, and any existing grounds should be reconnected securely.
1. All rusted lashing wire clamps and straps are to be replaced. Tree guard shall be installed beneath the suspension clamp on all trunk or multiple cables.
2. On dual cable, two straps are placed in the bottom of each loop. Loops without two straps are to be brought up to Mediacom specifications where contractor work is being performed. Skip (no cut) poles do not have to be reworked, with the exception of straps, spacers, and lashing wire clamps.
3. Straight splices require an input loop, as well as the standard output loop.

4. Do not place taps on preformed strand splices, deadends, or other obstructions.
5. Self-support cable shall be treated with the same specifications as any other cables. Split the cable from the messenger with great care so as not to damage the jacket. Use straps and spacers (55 inches out from the suspension clamp), and Jackson/Lemco mechanical benders must be used to form the loops. Forming boards are not allowed.
6. Where possible, taps are to be placed 18 inches from the suspension clamp. When necessary, one may use a measurement of NO LESS THAN 12 INCHES to save a straight splice or extension connector.
7. When the combined length of multiple pieces of equipment would put the furthest connector beyond 4 feet from the suspension clamp, the equipment may be “split” into two separate pieces – which may then be spliced on each side of the pole. All other applicable specifications shall be adhered to, including length of doglegs, loops, etc.
8. Long, straight doglegs into equipment shall be the standard. There must be a minimum of 6 inches of straight cable into any connector. There must be a minimum of 4 inches of straight cable into any strap and spacer.
9. Any active house drops must have new “Snap-N-Seal” F connectors installed, with proper tools used for preparation and installation. When moving span clamps, install them no closer than 18 inches from the pole.
10. Mediacom mandated working hours are to be coordinated with Project Managers. Although local requirements may vary, the following is recommended:

Trunk:

Off – 12 midnight

On – 6AM Answering service is to be notified before and after
(by person coordinating nighttime splicing)

Feeder:

Off – 6AM

On – 3:30 PM Areas to be affected by work must be logged on
street sheets the previous day, and faxed to the Regional dispatch
center

No active system work is to be performed on weekends or holidays unless
specified in advance by Mediacom personnel.

1. Signal levels of amplifiers, and end-of-line levels are to be noted on amplifier log sheets, and the control maps, during upgrade. Balancing is to be performed using channels 4, 58 or 70 (or applicable pilot channels) and two additional channels to be designated. Log sheets will be collected daily.
 2. Street sheets showing daily work locations are required to be turned in to the project supervisor, before 8:30AM each day.
 3. Wall maps are to be marked up daily for Mediacom, with all end-of-line levels posted, noting any added equipment or other design changes.
 4. Contractors for Mediacom are required to provide magnetic identification signs for all trucks. Contract personnel will carry photo ID cards identifying them as contractors for Mediacom.
 5. Proper splicing techniques are to be used at all times:
 - a. Coring tools are required that leave a smooth edge on the coax sheath (Cablematic or Lemco tools)
 - b. Center conductor cleaner tools must not damage copper cladding. The Plexiglas Y-190 tool works well. No metal blades are allowed. Center conductors must be cut to length in accordance with the connector manufacturer's specifications. EXPECT MEDIACOM TO REGULARLY INSPECT SPLICING.
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1. Bishop #10 3-3/4" x 10' Electro-Seal tape will be applied to all housing to housing connectors. Do not apply Bishop tape to 90_, 180_, or other connectors. The tape may be cut in half for easier application in small spaces, but in any case should be stretched tight as it is wrapped.
 2. In underground areas, all equipment will be securely mounted to the pedestal or closure with the proper mounting bracket. Taps may be mounted directly to the pedestal, if a proper mounting point exists. No equipment is to be left floating, or mounted to ground rods.
 3. Pedestals will be replaced only if they are the incorrect size, or damaged. Dull paint is not a reason to replace an otherwise functional metal pedestal.
 4. Safety
 - a. Hard hats are to be worn whenever doing any aerial work.
 - b. Cones are to be set out at rear and front of truck.
 - c. Men Working signs shall be used when mandated.
 - d. Flares shall be used when conditions warrant.

- e. Ladders must not be left unattended.
- f. Debris including staples, loose wire, pieces of shielding or center conductors, connectors, etc., must not be left unattended at the job site.

General information

1. When applicable, use top feeder ports on amplifiers.
2. All splicing should conform to Mediacom's specifications regarding proper spacings, and uniform and straight entry. If done properly, no individual's splicing can be singled out from the rest (see attached drawings).
3. All equipment provided by Mediacom should be handled properly without abuse – including keeping it dry, secure, etc. Organized trucks do help.

FIBER OPTIC CABLE SPECIFICATIONS AND NOTES

1. Underground fiber:

Depth will vary from region to region – a 36 inch to 42 inch depth will be considered a minimum.

One underground warning tape will be placed 12 inches above the cable. If all-dielectric fiber cable is used, an additional tape with an integral metallic locating conductor will be placed directly on top of the cable.

Use Budco Brady stakes for above grade warning markers. DO NOT place stakes directly above the fiber path, or within the trench/plow path.

NOTES:

- Conduit being used for fiber will be of nothing less than a schedule 40.
- Long distance fiber locators may be required due to long runs.

1. Aerial fiber:

The "bag loop" in the fiber at the pole, on the attached drawings, is exaggerated for clarity, and should not be built as drawn. The loop at the pole should be a shallow, smooth curve that maintains a slight separation between the fiber sheath and the suspension clamp.

Use Vikimatic (TVC) fiber optic warning tag – yellow or orange with black letters, to be attached to bottom of loop at pole, with tie wraps.

Fiber lashing wire clamps will be placed on the pole side of the existing lashing wire clamps.

Above existing coaxial cable loops, fiber will be attached using stainless steel cable straps.

All fiber will be installed, no partial fiber reels will be brought back to the warehouse.

All fiber lashbacks will be installed 10 feet from the pole. Fiber loops will be teardrop-shaped, hanging vertically, with manufacturer's bending radius specifications observed.

Snowshoes WILL NOT be used as a bending form – and are not to be used AT ALL.

Node service cables should be lashed or strapped out along the strand - not coiled.

1. Fiber backlashes:

Regional preferences or local codes may apply. All storage fiber is to be lashed to the strand (see attached drawings).

MULTIPLE DWELLING UNITS (MDUs)

1. The upgrade process will generally provide a minimum +20dBmV input signal to an active or a lockbox serving a MDU complex. This may be reflected on the design maps as individual tap ports for 12 units and under, or a terminated feeder leg with signal level shown. Adjustments to the design may be necessary to properly provide signal for each building in a complex.
2. Any lockbox work, splitter updating, indoor amplification, or rewiring is the responsibility of the local technical operations personnel.
3. Construction personnel and a representative from the local technical staff should meet well in advance of the upgrade start date, to review the work necessary and coordinate efforts.
4. All lockboxes should be grounded with #6 copper at the input. Local codes regarding grounding and bonding should be followed.
5. Interior distribution amplifiers should be avoided, if at all possible. Outdoor line extenders, powered from the outside plant, are preferred.

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