

VHF/UHF VARIABLE TAPS

Models VT-75U, VT-75UF and VT-300U

DESCRIPTION

Models VT-75U, VT-75UF, and VT-300U are resistive flat taps designed for use on high-level, all-channel feeder lines of MATV systems. The tap attenuation of each unit is adjustable through a potentiometer accessible from the front of the unit when the cover plate is removed.

Feeder line connections are made through expandable bushings for the cable braids and a binding screw terminal for the center conductors. The bushings, tooled for use with RG-59 type cable (dielectric diameter 0.146"), are expandable to accommodate RG-6 type cable (dielectric diameter 0.185"). Expansion is done by forcing the Model ET-659 plastic tool supplied through the bushing from the wide end. Another tool, Model ETM-659, similar to the ET-659 but made of metal and mounted in a punch holder, is available from Jerrold. With this tool the bushing may be expanded from either end.

The tap units are designed for installation in standard electrical outlet boxes and are shipped with cover plates. Model VT-75U or VT-75UF accepts a 75 Ω coaxial tap-off cable for which a tap plug or an F series connector, respectively, is provided. Model VT-300U accepts 300 Ω twin lead as the tap-off cable.

INSTALLATION

INSTALLING THE TAP

1. It is assumed that an electrical outlet box with a looped-through feeder line has been installed at the desired tap-off point.
2. Cut the feeder line at the center of the loop and remove $\frac{7}{8}$ " of the cable outer jacket on both sections (Fig. 1). Fan the shield back over the outer jacket and trim the shield close to the jacket. Next remove $\frac{3}{4}$ " of dielectric.

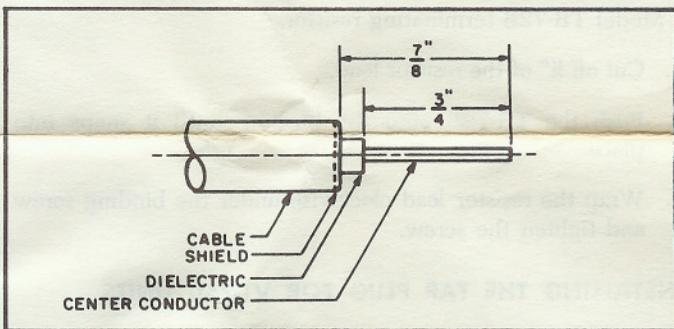


Fig. 1 – Preparing Feeder Line Cable

SPECIFICATIONS

	VT-75U, VT-75UF		VT-300U	
PASSBAND	54-216 MHz	470-800 MHz	54-216 MHz	470-800 MHz
INSERTION LOSS	0.75 dB	1.5 dB	0.75 dB	1.5 dB
TAP LOSS (variable)	12-25 dB	12-21 dB	12-23 dB*	12-20 dB*
TERMINAL IMPEDANCE	75 Ω		75 Ω	
Feeder line terminals	75 Ω		300 Ω	
Tap terminal	75 Ω		300 Ω	
TERMINAL MATCH				
Feeder line terminals	20 dB min. ret. loss	15 dB min. ret. loss	20 dB min. ret. loss	15 dB min. ret. loss
Tap terminal	12 dB min. ret. loss	10 dB min. ret. loss	12 dB min. ret. loss	10 dB min. ret. loss

*Ratio of 75 Ω feeder line voltage to 300 Ω tap voltage.

3. Slip one of the smaller ferrules over each cable end and perform steps 4 and 5 for each end.
4. Where RG-59 type cable is used, insert the cable end into the bushing so that the mandrel is forced between the shield and the dielectric; push the cable as far as it will go. Where RG-6 type cable is used, first expand the mandrel with the expansion tool, then proceed as above.
5. Position the ferrule over the mandrel; then crimp the ferrule with a Model PL-659 crimping tool.
6. Wrap both center conductors clockwise under the binding screw and tighten the screw.
7. Insert the unit into the outlet box and fasten the top and bottom screws.
8. Attach the cover plate with the center screw.
9. After all units have been installed on a feeder line, the taps can be adjusted as described under "Adjusting the Tap."

TERMINATING THE LAST TAP ON A LINE

The last terminal on a feeder line should be terminated with a Model TR-72B terminating resistor.

1. Cut off $\frac{1}{4}$ " of the resistor lead.
2. Push the TR-72B onto the bushing until it snaps into place.
3. Wrap the resistor lead clockwise under the binding screw and tighten the screw.

INSTALLING THE TAP PLUG FOR VT-75U UNITS

For Model VT-75U install the plug on the tap-off cable as shown in Fig. 2.

ADJUSTING THE TAP

The taps can be adjusted after all the units have been installed along a feeder line. The potentiometer rotation for increasing attenuation is indicated by an arrow stamped on the taps (maximum attenuation is at the fully clockwise position of the potentiometer).

Begin by adjusting the tap nearest the head end and work out toward the end of the feeder line.

1. Remove the cover plate.

2. For VT-75U or VT-75UF units connect a field strength meter to the tap through a coaxial cable equipped with suitable connectors (tap plug and F-59 type connector for the VT-75U and two F-59 type connectors for the VT-75UF). Adjust the potentiometer to obtain the desired tap output level (0 to +10 dBmV).
3. For VT-300U units connect a field strength meter to the tap through a 75/300 Ω matching transformer such as Jerrold Model T-379 or T-2000. Adjust the potentiometer to obtain the desired tap output level (500 to 1600 μ V: voltage is halved through the matching transformer so that the meter reading will be 6 dB below the actual voltage level at the tap).
4. Replace the cover plate.

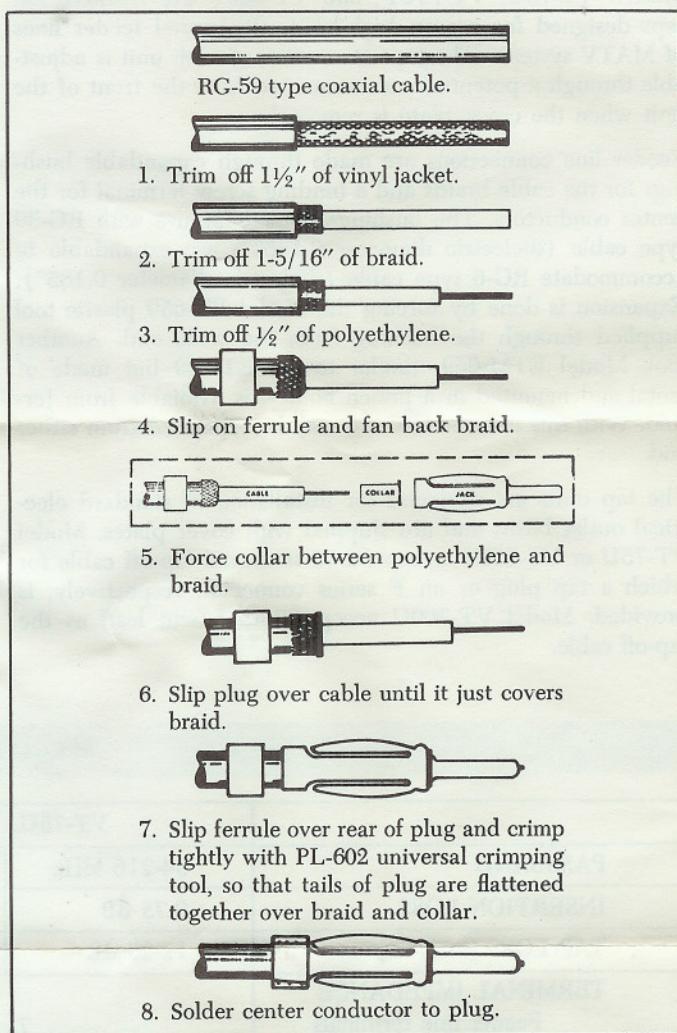


Fig. 2 – Mounting Tap Plug

All data subject to change without notice.

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