

**JERROLD**

a GENERAL INSTRUMENT company

INSTRUCTION SHEET

435-661-03

ULTRA-TAPS®

Models UT-12 Series 2, UT-13 Series 2,

UT-82 Series 2, and UT-85

AND

SADDLE BLOCK

Model UTS-R

DESCRIPTION

MODEL UT-12 SERIES 2

Model UT-12 Series 2 is a wall outlet for connection to the end of a distribution line coming from a tap or splitter. The 75 Ω output fitting permits connection of a VHF/UHF-TV receiver or an FM tuner via a coaxial cable.

The line terminal comprises a B-659 bushing for the cable braid and a push-in clutch for the center conductor. The tap terminal is a G-type fitting which accepts a G-56, G-59, PG-59 or SF-59 connector mounted on a coaxial cable, or a G-300A adapter for 300 Ω twin lead. A T-4000 matching transformer can be used with coaxial cable for making the connection to the 300 Ω input terminals of a receiver.

The UT-12 Series 2 can be surfaced-mounted in a Model UT-SM housing, or flush-mounted in a standard electrical outlet box with cover plate Model UT-PI or UT-PS.* The tap can be used with the saddle block supplied or with optional saddle block Model UTS-R, which is available on special order.

The unused bubble of the saddle block supplied with the tap is scored for easy knock-out of a $\frac{3}{8}$ " diameter hole for mounting a device such as a phone jack. To facilitate the use of this feature, the tap has a large square opening in the area immediately behind the scored bubble of the saddle block.

MODEL UT-13 SERIES 2

Model UT-13 Series 2 is a two-terminal wall outlet for connection to the end of a distribution line coming from a tap or splitter. One output terminal is a 75 Ω fitting which permits connection of a VHF/UHF-TV receiver via a coaxial cable; the second output is a 300 Ω terminal for connection of an FM tuner via a twin lead. The FM terminal is well isolated from the TV terminal.

The line terminal comprises a B-659 bushing for the braid and a push-in clutch for the center conductor of either RG-59/U, RG-6/U, CAC or CAC-6 coaxial cable. The TV terminal is a G-type push-on fitting which accepts a G-56, G-59 or PG-59 connector mounted on a coaxial cable, or a G-300A adapter for 300 Ω twin lead. A T-4000

*Cover plates to be procured separately.

matching transformer can be used with coaxial cable for making the connection to the 300 Ω terminals of a TV receiver.

The UT-13 Series 2 can be surface-mounted in a Model UT-SM housing, or flush-mounted in a standard electrical outlet box, using the saddle block supplied and cover plate Model UT-PI or UT-PS.*

MODELS UT-82 SERIES 2 AND UT-85

The UT-82 Series 2 and UT-85 taps are designed for tapping VHF/UHF signals from high signal level feeder lines. The taps are color-coded (white, red, yellow, blue) according to their attenuation ratings (see specifications). The UT-82 Series 2 has one tap terminal, the UT-85 has two.

Each feeder terminal comprises a B-659 bushing for the cable braid and a push-in clutch for the center conductor. The tap terminals are G-type fittings which accept G-56, G-59, PG-54 or SF-59 connectors mounted on a coaxial cable, or G-300A adapters for 300 Ω twin lead. A T-4000 matching transformer can be used for making the connection to the 300 Ω input terminals of a receiver.

Both units can be surface-mounted in a Model UT-SM housing, or flush-mounted in a standard electrical outlet box with cover plate Model UT-PI or UT-PS.* The UT-82 Series 2 can be used with the saddle block supplied or with optional saddle block Model UTS-R, which is available on special order.

The unused bubble of the saddle block supplied with the UT-82 Series 2 is scored for easy knock-out of a $\frac{3}{8}$ " diameter hole for mounting a device such as a phone jack. To facilitate the use of this feature, the tap has a large square opening in the area immediately behind the score bubble of the saddle block.

MODEL UTS-R

Model UTS-R is a saddle block designed for use with UT-12 and UT-82 (Series 2) taps, replacing the saddle block supplied with these units. The UTS-R has an aperture for the tap terminal and is equipped with a receptacle for making power, communications, or other connections at the tap location. A mating five-pin plug is supplied with the unit.

SPECIFICATIONS

MODELS UT-12 SERIES 2 AND UT-13 SERIES 2

	UT-12 Series 2	UT-13 Series 2	
PASSBANDS	5-806 MHz	2-890 MHz	
FEED-THRU LOSS	0.3 dB Nom.	0.5 dB Nom., 2-300 MHz 0.8 dB Nom., 470-890 MHz	
FM TAP ISOLATION	N.A.	-12 dB	
TERMINAL IMPEDANCE	75 Ω	75 Ω TV	300 Ω FM
MIN. RETURN LOSS	20 dB, 5-806 MHz	21 dB, 5-300 MHz 18 dB, 470-890 MHz	N.A. N.A.

MODEL UT-82 SERIES 2

		W	R	Y	B
PASSBAND		5-806 MHz			
TAP LOSS	5-54 MHz 216 MHz 470 MHz 806 MHz	30.0 \pm 2 dB 30.0 \pm 2 dB 28.5 \pm 1.5 dB 26.5 \pm 1.5 dB	24.0 \pm 2 dB 24.0 \pm 2 dB 23.0 \pm 1.5 dB 22.0 \pm 1.5 dB	21.0 \pm 2 dB 21.0 \pm 2 dB 19.0 \pm 1.5 dB 17.0 \pm 1.5 dB	17.5 \pm 2 dB 14.0 \pm 2 dB 13.0 \pm 2 dB 12.0 \pm 2 dB
FEED-THRU LOSS	5-300 MHz 470-806 MHz	0.3 \pm 0.1 dB 0.5 \pm 0.2 dB	0.6 \pm 0.2 dB 0.9 \pm 0.2 dB	0.8 \pm 0.2 dB 1.2 \pm 0.3 dB	1.2 \pm 0.2 dB 1.2 \pm 0.2 dB
TERMINAL IMPEDANCE		75 Ω			
MIN. RETURN LOSS Line Terminals	5-300 MHz 470-806 MHz	22 dB 17 dB	21 dB 17 dB	20 dB 18 dB	16 dB 16 dB
Tap Terminal	5-300 MHz 470-806 MHz	18 dB 18 dB	20 dB 18 dB	19 dB 15 dB	9 dB 6 dB

MODEL UT-85

		W	R	Y	B
PASSBAND		5-806 MHz			
TAP LOSS	5-54 MHz 216 MHz 470 MHz 806 MHz	30.0 \pm 2 dB 30.0 \pm 2 dB 28.5 \pm 1.5 dB 27.0 \pm 1.5 dB	24.5 \pm 2 dB 24.5 \pm 2 dB 23.5 \pm 1.5 dB 22.5 \pm 1.5 dB	21.5 \pm 2 dB 21.5 \pm 2 dB 20.5 \pm 1.5 dB 17.5 \pm 1.5 dB	18.5 \pm 2 dB 15.0 \pm 2 dB 14.0 \pm 2 dB 13.0 \pm 2 dB
FEED-THRU LOSS	5-300 MHz 470-806 MHz	0.7 \pm 0.2 dB 0.9 \pm 0.2 dB	1.2 \pm 0.2 dB 1.4 \pm 0.2 dB	1.7 \pm 0.2 dB 2.0 \pm 0.2 dB	2.3 \pm 0.3 dB 2.3 \pm 0.3 dB
TERMINAL IMPEDANCE		75 Ω			
MIN. RETURN LOSS Line Terminals	5-300 MHz 470-806 MHz	22 dB 17 dB	18 dB 16 dB	15 dB 12 dB	11 dB 11 dB
Tap Terminal	5-300 MHz 470-806 MHz	22 dB 17 dB	20 dB 17 dB	18 dB 13 dB	9 dB 6 dB

INSTALLATION

PREPARING AND CONNECTING THE FEEDER CABLE

1. Feeder connections are made in the same manner for all three taps. The cable loops referred to below apply only to the UT-82 Series 2 and UT-85 taps; only one cable end is connected for the UT-12 Series 2 and UT-13 Series 2 taps.
2. It is assumed that the cable runs have been completed

and that outlet boxes and cable loops have been provided at the tap installation points. Cable preparation and connection is the same for both RG-59 and RG-6 type cable.

3. Cut the cable loops at the center; then cut the cable ends at a convenient length so that the outlet box will not be crowded by excess cable and the cable will not be kinked.

4. From each cable end, remove $\frac{3}{8}$ " of the outer jacket (Fig. 1), taking care not to cut into the cable shield.
5. Fan the shield back over the outer jacket and trim the shield close to the jacket.
6. Remove $\frac{3}{8}$ " of the cable dielectric, taking care not to nick the center conductor. Scrape off any fuzz from the surface of the center conductor and file off any burrs from its end.
7. Install a ferrule over the cable end.
8. Install the cable as follows:
 - a. 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. See that the center conductor is fully engaged by the push-in clutch.
 - b. Where RG-6 type cable is used, first expand the mandrel with a Model ETM-659 tool, then proceed as in step 8a.
9. Position the ferrule over the mandrel; then crimp the ferrule with a Model PL-659 crimping tool.

INSTALLING THE SADDLE BLOCK ON UT-13 (SERIES 2) TAPS

1. Place the saddle block over the tap, place the cover plate over the block and secure both to the tap with the machine screw provided.

INSTALLING THE STANDARD SADDLE BLOCK ON UT-12 AND UT-82 (SERIES 2) TAPS

1. The unused bubble of the saddle block supplied with the UT-12 and UT-82 (Series 2) taps is scored for easy knock-out of a $\frac{3}{8}$ " diameter hole for mounting a device, such as a phone jack. To use this feature, proceed as in the following steps. It is assumed that the cable run connecting to the device installed on the saddle block has been completed.
2. Punch out the scored area on the saddle block and mount the device.
3. Pass the connecting cable through the square opening in the tap. Cut any excess cable and connect the cable to the device.
4. Mount the tap in the usual manner.
5. Place the saddle block over the tap, place the cover plate over the block and secure both to the tap with the machine screw provided.

INSTALLING THE UTS-R SADDLE BLOCK ON UT-12 AND UT-82 (SERIES 2) TAPS

1. It is assumed that the cable run connecting to the UTS-R receptacle has been completed.
2. Pass the cable through the square opening in the tap. Cut any excess cable; then strip the cable conductors and solder them to the appropriate pins of the receptacle.

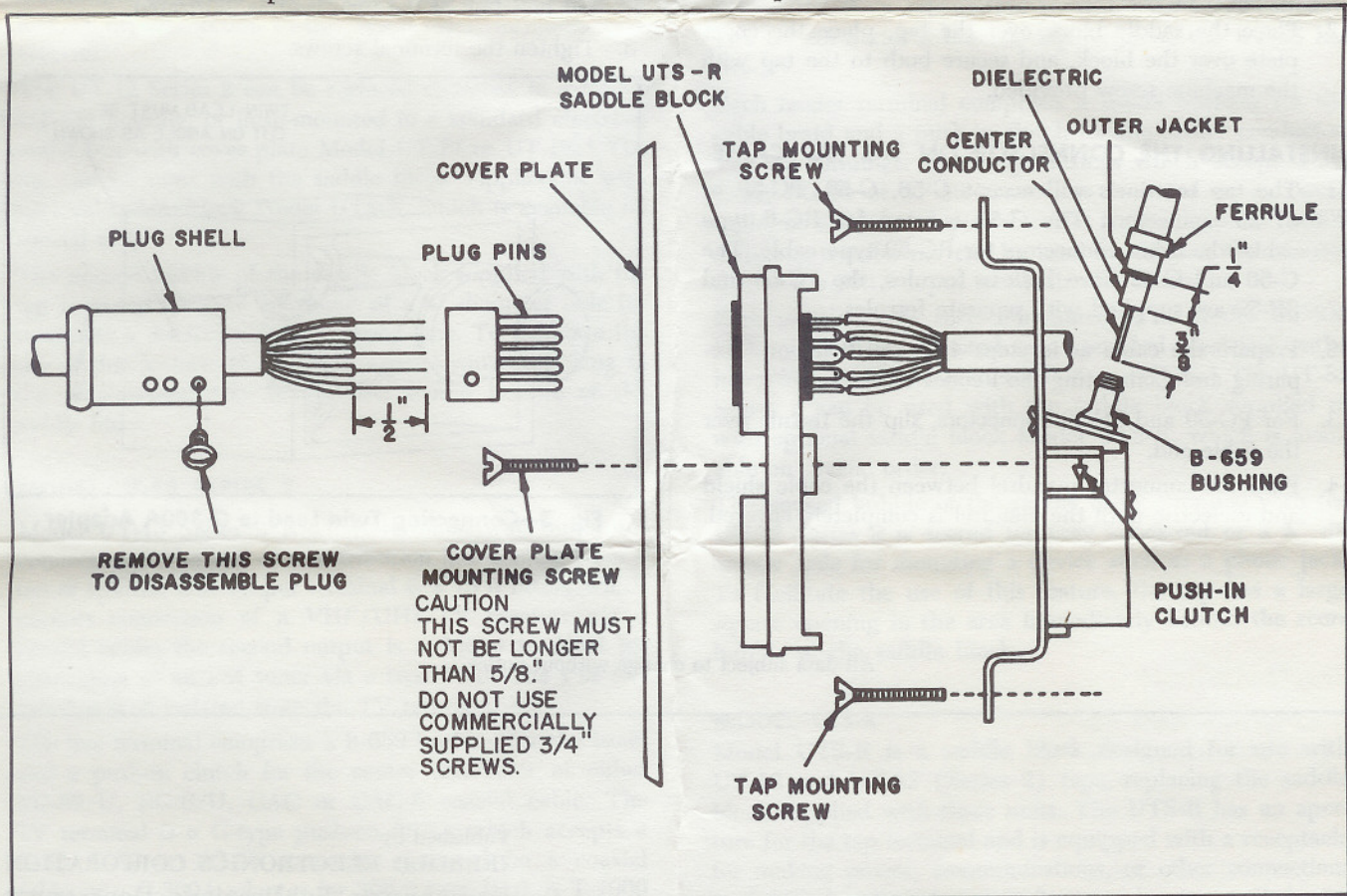


Fig. 1—Installation of Tap and Model UTS-R Saddle Block

3. Mount the tap in the usual manner.
4. Place the saddle block over the tap, place the cover plate over the block, and secure both to the tap with the machine screw provided.
5. Disassemble the five-pin plug supplied by removing the screw at the base of the plug, and pass the connecting cable through the shell of the plug (Fig. 1).
6. Strip approximately $\frac{1}{2}$ " of the insulation from the cable conductors. Insert the bare wires into the appropriate pins of the plug and solder them. Trim any excess wire protruding from the pins.

TERMINATING THE LAST UT-82 OR UT-85 ON A LINE

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

1. Remove the sleeving from the resistor lead and cut the lead $\frac{1}{2}$ " from the end of the housing shell.
2. Cut the sleeving in half and slip one piece over the resistor lead.
3. Install the TR-72B by pushing it onto the feed-thru bushing until it snaps into place. Be sure that the resistor lead is fully engaged by the clutch.

FLUSH MOUNTING THE TAP

1. Position the tap in the outlet box so that the cables are not kinked. Secure the tap to the box with machine screws supplied.
2. Place the saddle block over the tap, place the cover plate over the block, and secure both to the tap with the machine screw provided.

INSTALLING THE CONNECTOR ON THE TAP CABLE

1. The tap terminals will accept G-56, G-59, PG-59 or SF-59 connectors. The G-56 is used for RG-6 type cable, the other connectors for RG-59 type cable. The G-56 and G-59 have built-in ferrules, the PG-59 and SF-59 are supplied with separate ferrules.
2. Prepare the cable as in steps 4, 5 and 6 under "Preparing and Connecting the Feeder Cable."
3. For PG-59 and SF-59 connectors, slip the ferrule over the cable end.
4. Push the connector mandrel between the cable shield and dielectric until the mandrel is completely covered.

5. For PG-59 and SF-59 connectors, position the ferrule over the mandrel.
6. Use a Model PL-659 crimping tool for crimping the ferrule tight.

NOTE:

The end of the cable center conductor should be about $\frac{3}{16}$ " below the end of the connector (Fig. 2). If necessary, trim any excess conductor with a pair of miniature cutters.

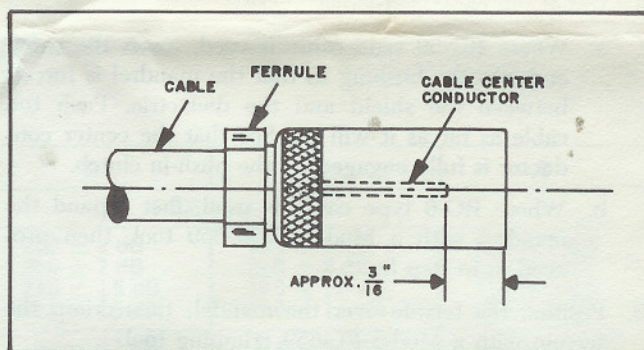


Fig. 2—G-59 Installed on RG-59 Cable

INSTALLING THE G-300A ADAPTER

1. Cut the twin lead on a bias as shown in Fig. 3.
2. Loosen the screw and crown washer terminals to permit insertion of the twin lead as illustrated.
3. Tighten the terminal screws.

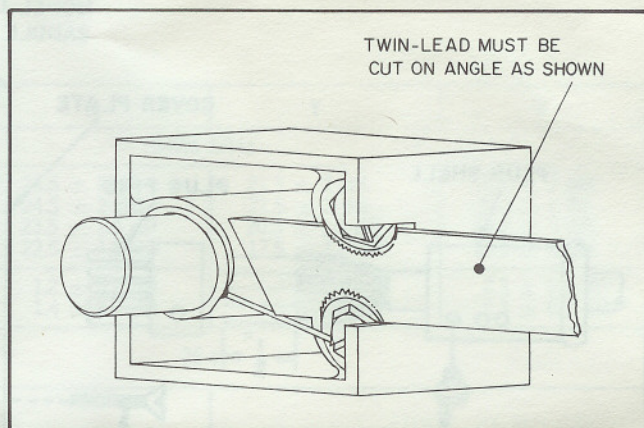


Fig. 3—Connecting Twin Lead to G-300A Adapter

All data subject to change without notice.

Published by
JERROLD ELECTRONICS CORPORATION
 Engineering Publications Department

Printed in U.S.A.

KM, 1/76

435-661-03