Cisco Multimedia Stretch Taps - Technician Access (MMST-TA)

The Multimedia Stretch™ Tap - Technician Access (MMST-TA) is designed to support the delivery of advanced applications and services in a cost-effective platform. In addition to providing high-quality RF performance specifications essential for reliable transmission of data and digital video services, the MMST-TA includes the capability to house other performance enhancing options. For example, we have produced a version of the plug-in directional coupler module that cost-effectively balances reverse path signals, resulting in a marked performance improvement in this challenging portion of the network.

During system upgrades, operators are challenged to quickly install new equipment while minimizing the impact on customers. Splicing taps is a time-consuming process complicated by a widened gap in the feeder cabling. The MMST-TA features a nine-inch housing that fills this gap without using costly or performance reducing extension connectors while providing operators with the fastest way to restore service and complete upgrade efforts.

The MMST-TA also provides an important level of network flexibility by enabling reversibility. As operators expand the fiber optic portion of their broadband networks, the result is often a reversal of the feeder signal flow. By simply changing the orientation of the plug-in directional coupler module, technicians can avoid time-consuming and expensive resplicing of the cable. The plug-in directional coupler module further adds to the flexibility of the tap, and helps to control inventory expense. By removing and replacing the on-board device, operators are able to modify tap values without resplicing.

Most importantly, the MMST-TA is designed for the future. Our engineers have maximized available space in the device to allow for adding future advanced features.

Figure 1. Multimedia Stretch Tap – Technican Access

Features

- Patented Connection Beam's AC/RF bypass switch provides interruption-free service to downstream customers during faceplate removal
- Confined faceplate circuitry isolates and simplifies maintenance efforts
- Per-port power activation and protection, maximizing cost and customer service effectiveness
- Nine-inch housing simplifies system upgrades
- Plug-in directional coupler module enables field modification without costly resplicing
- Available in 2-, 4-, and 8-way versions
- Compatible with aerial or pedestal mounting
- Available space for future enhancements
- Capable of twisted pair per-port powering with the addition of an add-on module

Product Specifications

Table 1. Product Specifications

Specification	Value
Surge Resistance	
IEEE Category B1	C62 4-991
Mechanical	
F-port Interface	ANSI/SCTE 01 1996
Entry-port Interface	SCTE IPS-SP-500
Emissions	
FCC	Part 76, subpart K
EN 50083-2/A1	1998
Dimensions	
Product (H x W xD)	3.0 in. x 3.5 in. x 9.0 in. (76 mm x 89 mm x 230 mm)
Environment Specifications	
Weathering	ASTM G 53
Salt spray	ASTM B 117
Chip resistance	ASTM D 3170
Fungus growth rate of zero	ASTM G 21
1/A2 1997	EN 50083
AC/RF Bypass Switch Performace	
System Open Circuit Time	0 ms
Contact Resistance	10 m Ohms max
Current and Voltage Carrying	12 A 60/90 VAC
RF Frequency Range	5 to 1000 MHz
Operating Temperature	-40° to 140°F (-40° to +60°C)

Table 2. General Station Performance

Specification	Value			
	5 MHz	550 MHz	750 MHz	1 GHz
Insertion Loss (typical) Switch Active	0.1 dB	0.3 dB	0.9 dB	0.9 dB
Return Loss (typical) Switch Active	48 dB	15 dB	15 dB	15 dB

Note: Unless otherwise noted, specifications reflect typical performance and are referenced to 68°F (20°C). Specifications are based upon measurements made in accordance with SCTE/ANSI standards (where applicable) using standard frequency assignments.

Table 3. Tap Value – 2-Way MMST-TA

		Tap Value																	
	Freq	4 dB		8 dB		11 dB		14 dB		17 dB		20 dB		23 dB		26 dB		29 dB	
	MHz	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max
Insertion Loss (dB)	5	-	-	3.4	3.8	2.0	2.4	1.1	1.7	0.9	1.3	0.7	1.3	0.7	1.3	0.7	1.3	0.7	1.3
	40	-	-	3.2	3.7	1.5	1.9	0.9	1.4	0.7	1.1	0.5	1.0	0.5	1.0	0.7	1.0	0.6	1.0
	50	-	-	3.2	3.7	1.5	1.9	0.9	1.4	0.7	1.1	0.5	1.0	0.5	1.0	0.7	1.0	0.6	1.0
	450	-	-	4.1	4.5	2.2	2.9	1.6	2.1	1.4	2.0	1.1	1.7	1.1	1.6	1.1	1.6	1.1	1.6
	550	-	-	3.9	4.3	2.4	3.0	1.6	2.2	1.4	2.0	1.2	1.7	1.2	1.6	1.1	1.8	1.1	1.8
	750	-	-	3.6	4.6	2.2	3.5	1.8	2.3	1.6	2.0	1.3	1.8	1.3	1.8	1.2	1.8	1.2	1.8
	870	-	-	4.1	4.8	2.5	3.6	2.0	2.6	1.8	2.4	1.4	1.9	1.4	1.9	1.3	1.9	1.4	1.9
	1000	-	-	4.5	5.2	2.7	3.6	2.1	2.6	1.9	2.4	1.5	1.9	1.5	1.9	1.4	1.9	1.6	1.9
Tap Loss (dB) (max tolerance ± 1 dB)	5	5.0		8.0		11.0		14.0		17.0		20.0		23.0		26.0		29.0	
	40	5.0		8.0		11.0		14.0		17.0		20.0		23.0		26.0		29.0	
	50	5.0		8.0		11.0		14.0		17.0		20.0		23.0		26.0		29.0	
	450	4.5		8.0		11.0		14.0		17.0		19.5		22.5		25.5		28.5	
	550	4.5		8.0		11.0		14.0		17.0		19.5		22.5		25.5		28.5	
	750	4.5		8.5		11.5		14.0		17.0		19.5		22.5		26.0		28.5	
	870	5.0		8.5		11.5		14.0		17.0		20.0		23.0		25.5		29.0	
	1000	5.0		8.5		11.5		14.0		17.0		20.0		23.0		26.5		29.5	
Return Loss (dB, min)	5	16		16	16	14	16	12	16	14	16	14	16	14	16	14	16	14	16	14
	10	18		15	18	16	18	16	18	16	18	17	18	16	18	16	18	16	18	16
	50	18		16	18	16	18	16	18	16	18	17	18	16	18	16	18	16	18	16
	750	18		14	18	14	18	14	18	14	18	14	18	14	18	14	18	16	18	15
	870	18		14	18	14	18	14	18	14	18	15	18	14	18	15	18	14	18	14
	1000	18		14	18	14	18	14	18	14	18	15	18	18	18	15	18	14	18	14
Tap-to-Tap Isolation (dB, min)	5	18		18		18		18		18		18		18		18		18	
	11	18		18		18		18		18		18		18		18		18	
	750	18		18		18		18		18		18		18		18		18	
	1000	18		18		18		18		18		18		18		18		18	
Out-to-Tap Isolation (dB, min)	5	18		20		20		20		22		25		25		35		35	
	11	18		20		20		20		22		25		25		35		35	
	750	18		20		22		22		22		25		25		35		35	
	1000	18		20		22		22		22		25		25		35		35	

Table 4. Tap Value – 4-Way MMST-TA

		Tap Value															
	Freq	8 dB		11 dB		14 dB		17 dB		20 dB		23 dB		26 dB		29 dB	
	MHz	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max
Insertion Loss (dB)	5	-	-	3.4	3.9	2.0	2.4	1.1	1.7	0.9	1.4	0.7	1.3	0.7	1.3	0.7	1.3
	40	-	-	3.2	3.7	1.5	1.9	0.9	1.4	0.7	1.1	0.5	1.0	0.5	1.0	0.7	1.0
	50	-	-	3.2	3.7	1.5	1.9	0.9	1.4	0.7	1.1	0.5	1.0	0.5	1.0	0.7	1.0
	450	-	-	4.1	4.4	2.2	2.9	1.6	2.0	1.4	1.8	1.1	1.7	1.1	1.5	1.1	1.5
	550	-	-	3.9	4.5	2.4	3.0	1.6	2.1	1.4	1.8	1.2	1.7	1.2	1.5	1.1	1.5
	750	-	-	3.6	4.7	2.2	3.5	1.8	2.3	1.6	2.0	1.3	1.8	1.3	1.8	1.2	1.8
	870	-	-	4.1	4.8	2.5	3.6	2.0	2.6	1.8	2.4	1.4	1.9	1.4	1.9	1.3	1.9
	1000	-	-	4.5	5.2	2.7	3.6	2.1	2.6	1.9	2.4	1.5	1.9	1.5	1.9	1.4	1.9
Tap Loss (dB) (max tolerance ± 1 dB)	5	8.0		11.0		14.0		17.0		20.0		23.0		25.5		28.5	
	40	8.0		11.0		14.0		17.0		20.0		23.0		25.5		28.5	
	50	8.0		11.0		14.0		17.0		20.0		23.0		25.5		28.5	
	450	8.0		11.5		14.5		17.0		20.0		23.0		26.0		28.5	
	550	8.0		12.0		15.0		17.0		20.0		23.0		26.0		29.0	
	750	8.0		12.0		15.0		17.0		20.0		23.0		26.0		29.0	
	870	8.5		12.0		15.0		17.5		20.5		23.5		26.5		29.5	
	1000	8.5		11.5		15.0		17.5		20.5		23.5		26.5		30.0	
Return Loss (dB, min)	5	16	16	16	14	16	12	16	14	16	14	16	14	16	14	16	14
	10	18	12	18	17	18	15	18	16	18	16	18	16	18	16	18	16
	50	18	12	18	17	18	15	18	16	18	16	18	16	18	16	18	16
	750	18	14	18	14	18	14	18	14	18	15	18	14	18	14	18	15
	870	18	14	18	16	18	16	18	15	18	14	18	16	18	16	18	15
	1000	18	15	18	14	18	14	18	14	18	14	18	14	18	14	18	14
Tap-to-Tap Isolation (dB, min)	5	18		18		18		18		18		18		18		18	
	11	18		18		18		18		18		18		18		18	
	750	18		18		18		18		18		18		18		18	
	1000	18		18		18		18		18		18		18		18	
Out-to-Tap Isolation (dB, min)	5	18		20		20		20		22		25		25		35	
	11	18		20		20		20		22		25		25		35	
	750	18		20		22		22		22		25		25		35	
	1000	18		20		22		22		22		25		25		35	

Table 5. Tap Value – 8-Way MMST-TA

		Tap Value													
	Freq	11 dB		14 dB		17 dB		20 dB		23 dB		26 dB		29 dB	
	MHz	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max
Insertion Loss (dB)	5	-		3.4	3.9	2.0	2.4	1.1	1.7	0.9	1.4	0.7	1.3	0.7	1.3
	40	-		3.2	3.7	1.5	1.9	0.9	1.4	0.7	1.1	0.5	1.0	0.5	1.0
	50	-		3.2	3.7	1.5	1.9	0.9	1.4	0.7	1.1	0.5	1.0	0.5	1.0
	450			4.1	4.4	2.2	3.2	1.6	2.0	1.4	1.8	1.1	1.6	1.1	1.5
	550			3.9	4.5	2.4	3.2	1.6	2.1	1.4	1.8	1.2	1.7	1.1	1.5
	750			3.6	4.6	2.2	3.5	1.8	2.3	1.6	2.0	1.3	1.8	1.3	1.8
	870			4.1	4.8	2.5	3.6	2.0	2.4	1.8	2.2	1.4	1.9	1.4	1.9
	1000			4.5	5.2	2.7	3.6	2.1	2.6	1.9	2.4	1.5	1.9	1.5	1.9
Tap Loss (dB) (max tolerance ± 1 dB)	5	11.0		14.0		18.0		20.0		23.0		26.0		29.0	
	40	11.5		14.0		18.0		20.0		23.0		26.0		29.0	
	50	11.5		14.0		18.0		20.0		23.0		26.0		29.0	
	450	11.0		14.5		18.0		20.0		23.0		26.0		28.5	
	550	11.0		15.0		18.0		20.5		23.5		26.0		28.5	
	750	11.0		15.5		18.0		20.5		24.0		26.0		28.5	
	870	12.0		16.0		18.5		21.0		24.5		26.5		29.5	
	1000	12.5		16.5		19.0		21.5		25.0		27.0		30.5	
Return Loss (dB, min)	5	16	14	16	13	16	12	16	14	16	14	16	14	16	14
	10	18	12	18	16	18	15	18	16	18	16	18	16	18	16
	50	18	12	18	16	18	15	18	16	18	16	18	16	18	16
	750	18	14	18	14	18	15	18	14	18	14	18	14	18	14
	870	18	14	18	14	18	14	18	14	18	14	18	14	18	14
	1000	18	15	18	14	18	14	18	14	18	14	18	14	18	14
Tap-to-Tap Isolation (dB, min)	5	18		18		18		18		18		18		18	
	11	18		18		18		18		18		18		18	
	750	18		18		18		18		18		18		18	
	1000	18		18		18		18		18		18		18	
Out-to-Tap Isolation (dB, min)	5	-		20		22		25		25		35		35	
	11	-		20		22		25		25		35		35	
	750	-		20		22		25		25		35		35	
	1000	-		20		22		25		25		35		35	

Ordering Information

Table 6. Ordering Information

Description	Part Number
Complete Tap Assembly	
Multimedia Stretch Tap – Technician Access, 2-Way	591766
Multimedia Stretch Tap – Technician Access, 4-Way	591768
Multimedia Stretch Tap – Technician Access, 8-Way	591770
Faceplate Assembly	
Multimedia Stretch Tap – Technician Access, 2-Way Faceplate Assembly	591767
Multimedia Stretch Tap – Technician Access, 4-Way Faceplate Assembly	591769
Multimedia Stretch Tap – Technician Access, 8-Way Faceplate Assembly	591771
Other Accessories	
Positive Temperature Coefficient (PTC) Modules, qty. 100, *(required for port powering)*	592049

Tap Loss Value			1 GHz Equalizer Value and Part Number						
2-Way	**4-Way**	**8-Way**	**0 dB (standard)**	**3 dB (optional)**	**6 dB (optional)**	**9 dB (optional)**	**12 dB (optional)**	**15 dB (optional)**	**18 dB (optional)**
4 dB	8 dB	11 dB	543487	4038221	4038229	4038236	4038242	4038247	4038251
8 dB	11 dB	14 dB	562108	4038222	4038230	4038237	4038243	4038248	4038252
11 dB	14 dB	17 dB	562109	4038223	4038231	4038238	4038244	4038249	4038253
14 dB	17 dB	20 dB	562110	4038224	4038232	4038239	4038245	4038250	
17 dB	20 dB	23 dB	562111	4038225	4038233	4038240	4038246		
20 dB	23 dB	26 dB	562112	4038226	4038234	4038241			
23 dB	26 dB	29 dB	562113	4038227	4038235				
26 dB	29 dB	-	562114	4038228					
29 dB	-	-	562115						

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Cisco Systems, Inc.
800 722-2009 or 678 277-1120
www.cisco.com

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