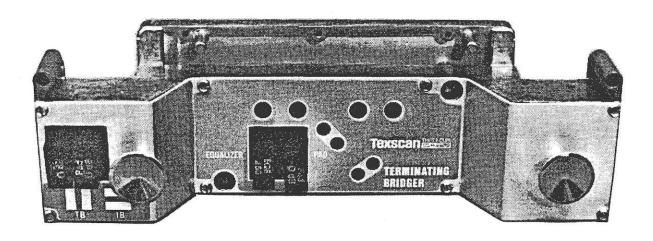
Texscan CORPORATION CATV Instruction Manual

Model T9TB-17

Intermediate/Terminating Bridger
Module



Changes which occur after this field instruction manual has been printed will be described in instruction manual Revision Bulletins. These bulletins will give the reader a detailed description of each change and can be attached to the basic manual for reference purposes. Copies may be obtained by contacting Texscan Communication Products Division at the address shown in the adjacent block.

The instructions in this manual do not cover all details on the equipment it supports, nor do they provide for all circumstances that could arise during equipment maintenance. The instructions included are intended to be performed only by an experienced CATV service technician. However, if further information is desired, or if certain problems arise which are not covered in this manual, please contact Texscan Communication Products Division.

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Information, Parts, and Servicing Facility Location:

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Attn: Customer Service Representative

Model T9TB-17

Intermediate/Terminating Bridger Module

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Section 1 GENERAL INFORMATION

1.1 Scope of Manual

This manual provides information and instructions to support the Intermediate/Terminating bridger module, Model T9TB-17, in the field. Included are procedures to set up and service the module and to troubleshoot and repair malfunctions to the replaceable module/component level. The T9TB-17 Module is aligned at the factory prior to shipment; no user bench alignment adjustments are provided.

1. 2 General Description

The T9TB-17 Module, illustrated in Figure 1.2.1, is used in T Series CATV System trunk amplifier stations to provide intermediate operation (with 8 dB gain) or terminating operation (with 16 dB gain) in the 47 to 450 MHz spectrum. The T9TB-17 Module is installed in the trunk station in place of the forward amplifier module. Selection of intermediate or terminating operation is made by the simple positioning of two 0 dB, plug-in configuration pads, allowing you the flexibility of changing from intermediate to terminating or from terminating to intermediate operation in the field. Plug-in pads and equalizers inserted in the T9TB-17 Module provide the necessary signal level and slope correction to the output bridger module located in the same amplifier station.

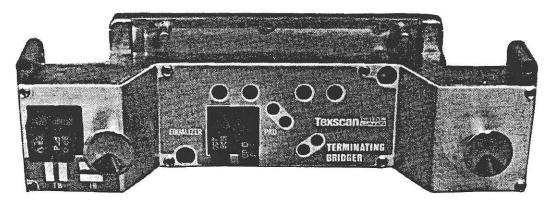


Figure 1.2.1 T9TB-17 Module

The modular equipment design provides a high degree of system flexibility to meet present and future equipment needs. The versatility of the T9TB-17 Module allows the amplifier station in which it is installed to be adapted to most CATV systems.

Note:

Since the T9TB-17 Module can be configured for different types of operation, some sections of this manual may not apply to your particular system. Reference the Texscan *CATV Systems Application Handbook, T300-T400 Equipment* for system applications.

The T9TB-17 Module carries a terminating (TB) designation; however, intermediate operation may be selected at time of installation (reference Section 3.3). The T9TB-17 Module employs one hybrid amplifier, part number 15-0020478-1.

SPECIFICATIONS

DI BEM TERMINORIA	
Model	T9TB-17 Int/Term Bridger 60-Channel
Operational Bandwich (MHZ)	47-450
Response Flatness (dB)	±0.25
Gain Range (dB)	8
Minimum Full Gain (dB)	
Typical Operating Level Reference (dBmV) Out	28
Typical Distortion Characteristics (dB) XM 2IM CTB	92 86 89
Typical Noise Figure (dB)	9
Return Loss (dB)	16
Slope Control Range (dB of cable @ upper frequency)	4
Typical Current Drain (mA @ 24 VDC)	200

NOTES:

- Cross-modulation (XM) measurements taken in accordance with NCTA Standard 0267 with amplifier modules operating at recommended operating gains with slope controls set to compensate for 12dB of cable at the modules' highest operating frequencies; composite triple beat (CTB) measured on spectrum analyzer with 30 kHz bandwidth and zero scan width or in accordance with NCTA recommended practices.
- Noise figure measurements taken with 0dB equalizers (i.e., PD-0) installed in modules.
- Trunk stations are normally set to compensate for 12dB of cable; 8dB is built into the station, with the slope control at mid-range providing 4dB for a total of 12dB.

Specifications are subject to change without notice. Texscan Communication Products Division reserves the right to ship product meeting current specifications.

Section 2 FUNCTIONAL DESCRIPTION

2.1 T9TB-17 Module

The T9TB-17 Module, which can be configured for intermediate or terminating operation, obtains an RF signal from the trunk station input module and DC power from the trunk station output module. Plug-in pads and equalizers inserted in the T9TB-17 Module provide the necessary signal level and slope correction to the output bridger module.

2.1.1 Intermediate Bridging Operation

When the T9TB-17 Module is configured for intermediate operation, the intermediate bridger supplies feeder signals from the trunk line between standard trunk locations. In this application, the intermediate bridger provides two output signals--one to the bridger module, and one to the forward trunk line.

An 8 dB directional coupler splits the incoming signal to provide a through leg in the trunk path and a down leg that feeds a pad, an equalizer, and a hybrid amplifier. This output then feeds the bridger module installed in the same amplifier station. Reference Figure 2.1.1.1 for a block diagram illustration of the intermediate operation. This configuration is used where bridging is desired and trunk signal amplification is not required. The intermediate bridger can be spaced from 4 to 14 dB of cable from the previous amplifier station. (The 4 represents the 4 dB of built-in equalization, and the 14 is the limit to maintain a typical trunk C/N ration.)

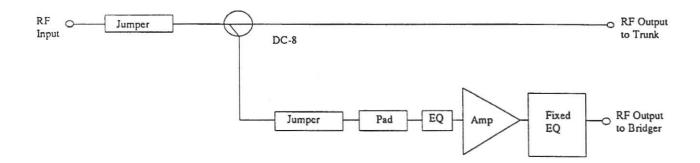


Figure 2.1.1.1 Intermediate Operation

2.1.2 Terminating Bridging Operation

When the T9TB-17 Module is configured for terminating operation, the terminating bridger is placed at the end of the trunk line in order to terminate the line. In this application, the terminating bridger provides only one output signal-to the bridger module.

The terminating bridger input is fed directly to a pad, an equalizer, and a hybrid amplifier; this output feeds the bridger module. Reference Figure 2.1.2.1 for a block diagram illustration of the terminating operation. The terminating bridger can be spaced out to 22 dB from the previous amplifier station.

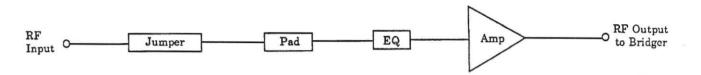


Figure 2.1.2.1 Terminating Operation

Section 3 FIELD SETUP

3.1 GENERAL

This section provides T9TB-17 Module field setup procedures for intermediate or terminating operation. Complete system setup is provided in the Texscan CATV Systems Application Handbook, T300-T400 Equipment.

In order to successfully perform field setup, the following are required: a tested amplifier station with a 2 or 4 output bridger module and both input and output modules installed and operational. (The gain and slope on the bridger module should be set initially as indicated in the Texscan *Bridging Amplifier Manual*.)

3.2 Test Equipment Required (or equivalent) *

1. Signal Level Meter

Texscan Spectrum 700

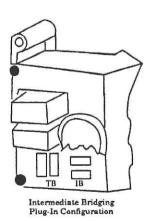
Test Probe

Texscan T6TP20 or XR2TP (power blocked, -20 dB)

* All test equipment must be properly calibrated.

3.3 Setup Procedure

1. Set up the T9TB-17 Module for either intermediate or terminating operation as illustrated in Figure 3.3.1. Note that the mode of operation is changed from intermediate to terminating and vice versa simply by repositioning the plug-in configuration pads located on the left side of the T9TB-17 module.



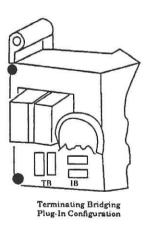
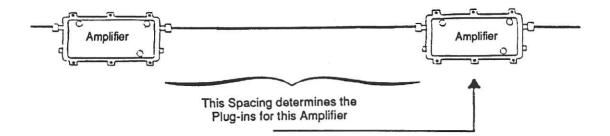


Figure 3.3.1 Plug-in Configuration Pad Installation

Reference Figure 3.3.2 for proper pad and equalizer selection. Install the proper pad and equalizer in the T9TB-17 Module.



CABLE LOSS ONLY (at upper frequency)	EQUALIZER PLUG-IN	CABLE & FLAT LOSS (at upper frequency)	PAD PLUG-IN
0 to 4 dB	EQ 0	2 to 7 db	12
4 to 8 dB	EQ 4	7 to 10 dB	9
8 to 14 dB	EQ 8	10 to 14 dB	5

Intermediate Bridger Module Plug-in Selection

CABLE LOSS ONLY (at upper frequency)	EQUALIZER PLUG-IN	CABLE & FLAT LOSS (at upper frequency)	PAD PLUG-IN
12 to 14 dB	EQ 8	12 to 16 db	11
14 to 17 dB	EQ 12	16 to 18 dB	9
17 to 20 dB	EQ 15	20 to 22 dB	5
20 to 22 dB	EQ 18		

Terminating Bridger Module Plug-in Selection

Figure 3.3.2 Plug-in Pad and Equalizer Selection Guide

- 3. Set the gain and slope of the bridger module to the desired output.
- 4. Using the test probe, connect a signal level meter to the bridger module output test point. Reference Figure 5.3.1 for output test point location. (While this figure illustrates input and output modules installed in the test fixture, all connections are the same when installed in the "T" Series amplifier station.)
- 5. Set the bridger module gain control for proper levels at the high end of the band (highest channel).
- 6. Set the bridger module slope control for proper levels at the low end of the band (lowest channel).
- 7. Repeat Steps 5 and 6 to eliminate any interaction.

Section 4 FIELD SERVICE

4.1 GENERAL

This section describes field service procedures for the T9TB-17 Module only. For information concerning complete system field service, reference the Texscan CATV Systems Application Handbook, T300-T400 Equipment.

The T9TB-17 Module has been carefully designed to provide efficient and reliable performance. Since all modules are easily replaced in the field, modular replacement is the most economical means of field service. A supply of T9TB-17 Modules and plug-ins should be carried in stock for field replacement.

The Voltage Verification Test described in Section 4.3 helps isolate defective input/output modules, power supply connector cables, power supplies, and other modules in the amplifier station. For this reason, it is recommended that all modules in the amplifier station configuration also be carried in stock for field replacement.

4.2 Test Equipment Required (or equivalent) *

1. Signal Level Meter

Texscan Spectrum 700

2. Test Probe

Texscan T6TP20 or XR2TP (power blocked, -20 dB)

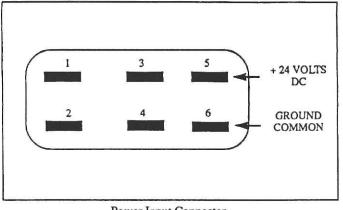
3. Volt Ohm Meter

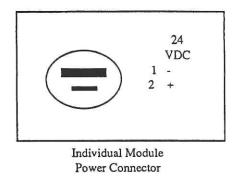
Triplett 630-na

4.3 Voltage Verification Test Procedure

 With all modules plugged into the amplifier station, check the power supply voltage at the power supply connector. Reference Figure 4.3.1 for an illustration of power connector pin-out locations. The voltage should be 24 VDC ±1 VDC. If the voltage is not within limits, proceed with the following steps. (If it is determined that the power supply voltage was initially maladjusted, reference the Texscan Power Supply Module Manual for proper adjustment procedures.)

^{*}All test equipment must be properly calibrated.





Power Input Connector

Figure 4.3.1 Power Connector Pin-outs

- 2. Remove all the modules in the amplifier station one at a time while monitoring the power supply voltage. If the power supply voltage returns to normal, one of the modules is defective.
- 3. If the power supply voltage is missing or below normal, then disconnect the station power supply connector from the input/output module(s). If the voltage returns to normal after disconnecting the station power supply connector, the input and/or output module is defective. Repair or replace the defective input and/or output module(s).
- 4. If the power supply voltage remains missing or below normal with the power supply connector disconnected from the input/output module(s), then the power supply and/or the connecting cable is defective. Repair or replace the defective power supply and/or connecting cable. (If the power supply being used is a T4PL, its status can be determined by the indicator lights on the power supply. Reference the Texscan Power Supply Module Manual for complete information.)
- To determine which module is defective, replace each module in the amplifier station while monitoring the power supply voltage. When inserted, a defective module will cause the voltage to drop below normal or to zero. Repair or replace the defective module.
- 6. Before returning the amplifier station to operation, check the voltage and current to verify that both are within specifications. If the current is checked with all modules plugged in, add the current requirements of each module to obtain the total current requirement for this procedure.

NOTE: The amplifier station may also be tested using AC powering. When powering the station by this method, follow the steps described above for locating defective modules or a defective power supply. Any terminators used must be AC power blocked.

4.4 Field Test Procedure

- Verify that the plug-in configuration pads are correctly installed for the desired mode of operation (intermediate or terminating). Reference Figure 3.3.1 for an illustration of plug-in configuration pad installation. The T9TB-17 Module will not function unless both of these pads are installed.
- 2. Verify that the correct pad and equalizer values are installed. Reference Figure 3.3.2 for proper pad and equalizer selection. The T9TB-17 Module will not function unless both of these plug-ins are installed.
- 3. Determine the correct output level from the station log, system map, and/or specifications. When the T9TB-17 module is set up for terminating operation, there will be only a bridger module output. When the T9TB-17 module is set up for intermediate operation, there will be both a forward trunk output and a bridger module output.
- 4. Measure the RF input to the bridger module. Note the signal level values for both "High" and "Low" pilot frequencies. These levels must meet the system specifications before you can proceed. If the levels are not correct, reference the Texscan CATV Systems Application Handbook, T300-T400 Equipment for system troubleshooting.
- 5. Measure the T9TB-17 Module output level. This level should conform to the level determined in Step 3.
- Measure the T9TB-17 forward trunk output. (This output is present ONLY when the module is configured for intermediate operation.) The forward trunk output level will be lower than the measured input level. The maximum thru loss @ 450 MHz for the intermediate bridger model undergoing test is 4.0 dB.
- If the input level is correct and the output level is incorrect, substitute a known good T9TB-17 module for the suspected defective module. The operating levels are determined according to your system design specifications.
- 8. Module replacement requires field setup. Reference Section 3 for proper field setup procedures.

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Section 5 TROUBLESHOOTING AND REPAIR

5.1 GENERAL

This section provides the troubleshooting and repair instructions for defective or suspected defective T9TB-17 Modules. Troubleshooting and repair should be performed by a qualified CATV service technician only on out of warranty modules. Under no conditions should a module under warranty be repaired in the field, as such repair voids the warranty. If conditions permit, it is recommended that the defective module be returned to Texscan Communication Products Division Servicing Facility for troubleshooting and repair.

Troubleshooting and repair of the T9TB-17 Module is more convenient when the module undergoing test is installed in the Texscan Test Fixture, Part Number 01-21127-1001. Reference Figure 5.3.1 for an illustration of the test fixture and the test points.

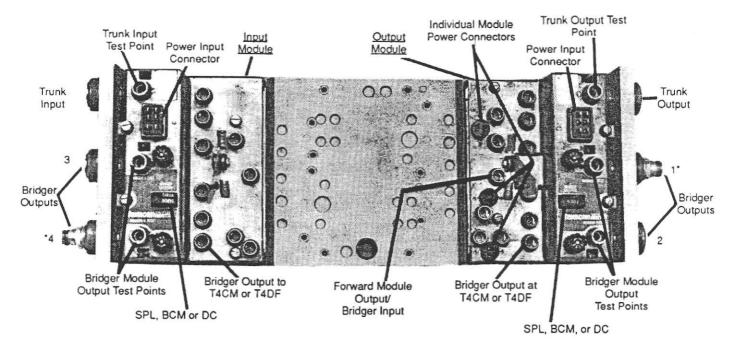
5.2 Test Equipment Required (or equivalent)*

Volt Ohm Meter	Triplett 630-na
Oscilloscope	•
Sweep Generator	Texscan VS60CZ
Attenuator	Texscan RA70F &
	Texscan RA73F
DC Power Supply	Power Design 5015T
	(Must be regulated)
75 Ohm Terminator	Texscan 15493-1
AC Voltmeter	Weston Model 1954
Digital Volt Meter	Data Precision 2480
Signal Level Meter	Texscan Spectrum 700
Detector Probe	Texscan CD75N
Coax Cable &	Cable length 12 dB at
Connectors	test frequency
	Oscilloscope Sweep Generator Attenuator DC Power Supply 75 Ohm Terminator AC Voltmeter Digital Volt Meter Signal Level Meter Detector Probe Coax Cable &

^{*}All test equipment must be properly calibrated.

5.3 Test Fixture Setup

1. Install the proper input and output modules (with their appropriate plug-ins) in the test fixture.



*These outputs are used for single output modules

Figure 5.3.1 Test Fixture and Test Points

Before connecting the power supply, verify the absence of shorts on the test fixture power inputs. Verify that
the station power supply output voltage is 24 VDC ±1 VDC. (The power supply must be regulated.) Connect
the power supply to the power supply connector on the test fixture. Reference Figure 4.3.1 for power connector
pin-out locations.

NOTE:

If AC powering is used, the bridger port termination must be AC power blocked, or the bridger fuses must be removed.

- 3. Terminate all unused ports with a 75 ohm terminator.
- 4. Install the T9TB-17 Module undergoing test in the test fixture.

5.4 T9TB-17 Module Functional Test

This procedure is a simplified test to verify that the RF signal is being amplified by the module. The test may be performed using the test fixture, or it may be performed without using the test fixture by making connections directly to the module. When using the test fixture, reference Figure 5.4.1 for test fixture connection points and signal routing within the input and output modules.

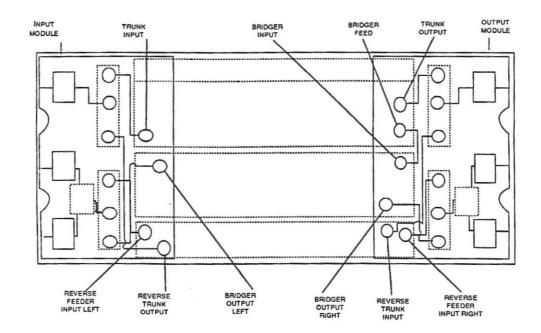


Figure 5.4.1 Test Fixture Connection Points and Input/Output Module Signal Routing

5.4.1. Test Procedure

- 1. Set up the equipment as illustrated in Figure 5.4.1.1, using 0 dB of cable.
- 2. Using a minimum of 20 dB of attenuation on the variable attenuator pad set, set up a reference by connecting the detector probe to the variable attenuator pad set output. (In order to set up the reference, a jumper connector is temporarily installed as indicated by the dotted lines in Figure 5.4.1.1.)
- Set up vertical sensitivity on the oscilloscope for 1 dB/Div., and set the oscilloscope display to view at least 25MHz past the upper bandwidth edge.
- 4. Terminate all unused ports with a 75 ohm terminator.

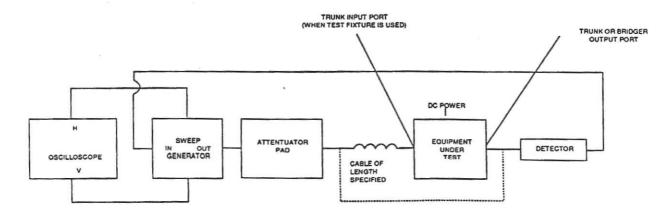


Figure 5.4.1.1 Equipment Setup

- Install the plug-in confuguration pads to provide intermediate operation, and insert a 0 dB pad in both the T9TB-17 Module pad and equalizer sockets.
- 6. Connect the attentuator pad set output to the trunk input. Connect the detector probe to the trunk output. Adjust the variable attenuator set to return the output signal level to the high frequency end of the reference point on the oscilloscope screen (for the module undergoing test). The difference between the variable attenuator pad setting used for the initial reference level and this new setting equals the thru loss of the module undergoing test.
- Repeat the above procedure for the bridger input feed. The amount of attenuation added is the gain of the module undergoing test.
- The lack of an output signal at any signal leg will require troubleshooting. Reference Section 5.5 for a description of T9TB-17 Module troubleshooting procedures.

5.5 T9TB-17 Module

Following are instructions to help troubleshoot and repair the T9TB-17 Module. Reference Figure 5.5.1.1 for a T9TB-17 Module Troubleshooting Flow Diagram.

5.5.1 Circuit Description

(A)Input Matching

This section consists of the input connector and fixed components. In troubleshooting, the signal being transferred through the connector must be verified. In this signal block, no significant loss is incurred.

BInput Mode Selection

This section consists of a connector block and two external 0 dB pads. Depending on their plug-in configuration, these pads determine either intermediate or terminating operation.

C Directional Coupler

This section is used in conjunction with Section B to determine the operational mode of the module. When intermediate operation is selected, two signal paths are provided—one to the bridger module and one to the forward trunk line. When terminating operation is selected, only a signal path to the bridger module is provided; the forward trunk output is inactive.

D Trunk Output Matching

This section consists of the output connector and fixed components. In troubleshooting, the signal being transferred through the connector must be verified. In this signal block, no significant loss is incurred.

E)Plug-in Pad and Equalizer

This section consists of a connector block and an external pad and equalizer which, when properly selected, provide the necessary signal level and slope correction to the output bridger module

FHybrid Amplifier Module

This section consists of a prepackaged, broadband hybrid amplifier module. The only customer serviceable parts are the hybrid amplifier and/or its associated socket strip. When the hybrid is replaced, heat sink compound must be used between the hybrid and the chassis, and the two bolts holding the hybrid to the chassis must be torqued to 6 in./lbs. This circuit has a standard gain of 18 dB minimum. (28 dB gain version)

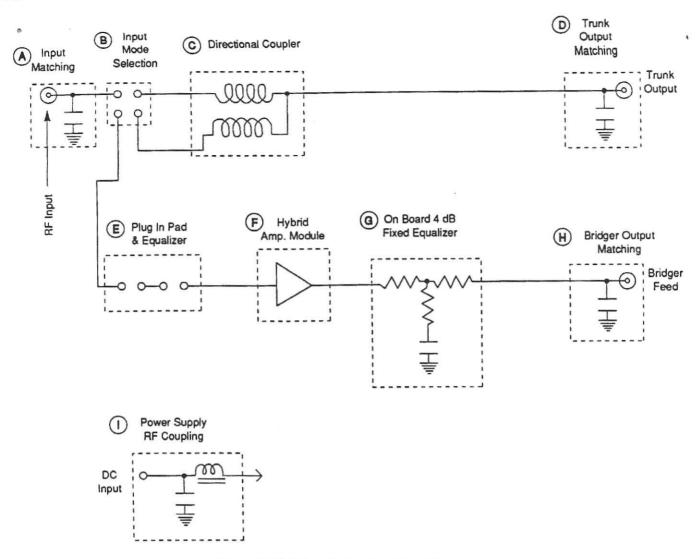


Figure 5.5.1.1 Troubleshooting Flow Diagram

GOn-Board Fixed Equalizer

This section consists of fixed components used to provide a built-in, predetermined slope of 4 dB of cable at the module operating frequency.

H Bridger Output Matching

This section consists of an output connector and fixed components. In troubleshooting, the signal being transferred through the connector must be verified. In this signal block, no significant loss is incurred.

Power Supply RF Decoupling

This section consists of a filter used to prevent the RF signal from being fed back into the power supply.

5.5.2 Power Supply Troubleshooting Procedure

- 1. Verify that the power supply voltage is 24 VDC ±1 VDC.
- 2. Verify the input current to the T9TB-17 Module according to the specifications in Section 1.3. If the input current is too high, remove the hybrid amplifier module to determine if it is drawing too much current. Replace if defective. Reference Figure 5.5.2.1 for T9TB-17 Module printed circuit board component locations.

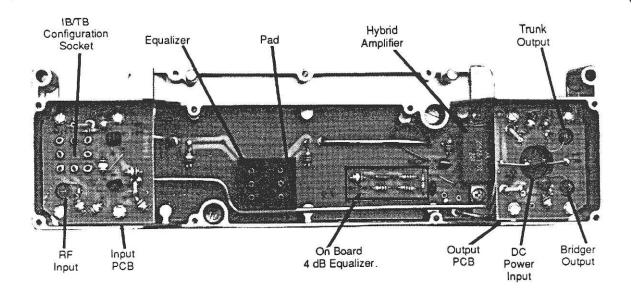
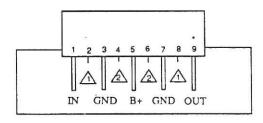


Figure 5.5.2.1 T9TB-17 Module
Printed Circuit Board Component Locations

3. Measure the input voltage at pin 5 of the hybrid amplifier module. Reference Figure 5.5.2.2 for hybrid amplifier pin-out locations. If the voltage is incorrect, troubleshoot the hybrid amplifier according to the information provided in F, or replace the hybrid amplifier and recheck the voltage.



NOTES:

- PIN NUMBERING NOT DEPENDENT ON PIN ACTUALLY BEING PRESENT.
- 2. PIN CLIPPED OFF DURING ASSEMBLY PROCESS.
- 3. 2 NO PIN AT THIS POISITION.

Figure 5.5.2.2 Hybrid Pin-out Locations

5.5.3 Intermediate Mode Troubleshooting Procedure

- 1. Insert the proper plug-in equalizer.
- 2. Install the plug-in configuration pads to provide intermediate operation.
- 3. Verify the input signal level.
- 4. Check the trunk output level; there will be approximately 2 dB of loss.
- 5. If the trunk output level is incorrect, troubleshoot (A), (B), (C), and (D). Replace the defective component and recheck the trunk output level.
- 6. Remove the plug-in pad, and using a detector probe, check the signal level at the pad input. The signal will be down approximately 8.5 dB from the input signal level. If the signal level is correct, reinstall the plug-in pad.
- 7. If the signal level is incorrect, troubleshoot (A), (B), and (C). Replace the defective component and recheck the signal level at the pad input. Reinstall the plug-in pad.
- 8. Check the signal level at the bridger feed. There should be a minimum gain of 10 dB over the input signal level.
- 9. When the signal level is correct at the pad input and is incorrect or missing at the bridger feed, troubleshoot (F), (G), (H). Replace the defective component and recheck the signal level at the bridger feed.
- 10. After repairs are made, perform the T9TB-17 Module Functional Test described in Sections 5.4 and 5.4.1.
- 11. Module replacement requires field setup. Reference Section 3 for a description of proper field setup procedures.

5.5.4 Terminating Mode Troubleshooting Procedure

- 1. Install the plug-in configuration pads to provide terminating operation.
- Remove the plug-in pad, and using a detector probe, check the signal level at the pad input. The signal will be down approximately 1.0 dB from the input signal level. If the signal level is correct, reinstall the plug-in pad.
- 3. If the signal level is incorrect, troubleshoot (A), (B), and (C). Replace the defective component and recheck the signal level at the pad input. Reinstall the plug-in pad.

- 4. Check the signal level at the bridger feed. There should be a minimum gain of 17 dB over the input signal level.
- 5. When the signal level is correct at the pad input and is incorrect or missing at the bridger feed, troubleshoot (F), (G), and (H). Replace the defective component and recheck the signal level at the bridger feed.
- 6. After repairs are made, perform the T9TB-17 Module Functional Test described in Sections 5.4 and 5.4.1.
- Module replacement requires field setup. Reference Section 3 for a description of proper field setup procedures.

Section 6 PARTS LIST AND CIRCUIT DIAGRAMS

This section lists the replaceable parts of the T9TB-17 Module and contains supporting location/assembly drawings so that such parts can be readily identified, either through the drawings in this section or through those previously presented. Included is a schematic diagram of the module.

6.1 T9TB-17 Module

6.1.1

Description	Reference Designator	Part#
Printed Circuit Board Assembly Capacitor, Fixed Molded		32-0041110-0041
.82 pF Capacitor, Fixed Molded		45-0001000-0017
1.5 pF		45-0001000-0019
Wire, Bus (.60 ft.) 22	AWG	19-0023202-0022
Cable, Micro Coax		19-0091424-0001
Form		22-0024325-0011
Coil, 2 Turn, A W		50-0020823-3021
Choke, Molded		50-0082041-0034
Capacitor, Dipped M	ica	
39 pF		44-0020526-3902
Capacitor, Disc Cerai	mic	
.001 uF		43-0020515-0001
Capacitor, Fixed Mol	lded	
2.2 pF		45-0001000-0016
Capacitor, Fixed Mol	lded	
.27 pF		45-0001000-0018
Resistor, 1/4 W, 160		35-0241615-0101
Resistor, 1/4 W, 30 C		35-0243005-0101
Resistor, 1/4 W, 75 C	Ohm	35-0247505-0101
Socket Strip, 5 Pin		73-0023852-0051
Socket, Miniature PC		73-0023776-0001
Guide, Plug in Modu	ile	81-0032043-0001
Module, Hybrid		15-0020540-0001
Pad, Plug-in	0)	02 0021902 0000
0-dB, Standard (pad-	.0)	02-0021892-0000
Pad, Plug-in	ad-XX) (See Note 1)	02-0021892-00XX
Equalizer	au-AA) (See Note 1)	02-0021892-00AA
Optional (EQ-XX) (S	See Note 2)	36695-YYXX
Cover Assembly	3cc (\dic 2)	41303-011
Label		05-0041106-0051
Label		05-0041107-0051
Lauci	•	05 00 1110 7 0051
Input Board		
Printed Circuit Boar	d Assembly	32-0041120-0041
Transformer		50-0020851-0251
Transformer		50-0020851-0241
Socket, Miniature Po	СВ	73-0023776-0001
Resistor, 91 Ohm		35-0249105-0101
1.0010101, 71 011111		

Capacitor, 1.5 pF	45-0001000-0019
Capacitor, 1.0 pF	45-0001000-0012
Capacitor, 1.2 pF	45-0001000-0022
Capacitor, 1.8 pF	45-0001000-0023
Capacitor, 2.7 pF	45-0001000-0007

6.1.2 Output Board

Printed Circuit Board Assembly	32-0041130-0041
Capacitor, 1.0 pF	45-0001000-0012
Capacitor, 1.2 pF	45-0001000-0022
Capacitor, .56 pF	45-0001000-0004

Note 1 - Reference schematic and/or Figure 3.3.2 for available options.

Note 2 - EQ-XX/300 MHz EQ-XX/330 MHz

EQ-XX/400 MHz

EQ-XX/450 MHz

Reference schematic and/or Figure 3.3.2

for available options.

