

DATA SYSTEMS — COMMON CIRCUITS, EQUIPMENT, AND PROCEDURES
STATION MONITORING TEST TRUNKS
TRUNKS USING SD-98141-01 AT THE MDF
CIRCUIT ORDER AND ROUTINE TESTS

CONTENTS	PAGE
1. GENERAL	1
2. CIRCUIT ORDER AND ROUTINE TESTS	1

1. GENERAL

1.01 This section covers the circuit order and routine tests required on station monitoring test trunks that use circuit per SD-98141-01 at the MDF.

1.02 This trunk consists of the facilities and equipment used between a (MON TRK) test jack in a testboard or serviceboard, located at a data systems test center, and a (MON) test jack(s) at a switching office MDF. In some switching offices, where local conditions permit, a test cord may be used in lieu of the (MON) jack(s). The switching office may be in the same building with the test center or it may be located remotely (in the same or another city) with respect to the test center. Typical layouts are shown in foldout Fig. 2.

1.03 By suitable patches or connections at the switching office MDF, this trunk may be bridged (on a high-impedance basis) across any data subscriber line served by the office. The subscriber line may be one having access to the regular direct distance dialing (DDD) network. It may also be one having access to the dedicated data line switching (DLS) network. Examples are Boeing and other wide area data service (WADS) subscribers in the DLS network and mechanized teletypewriter (TWX) subscribers in the DDD network.

1.04 When Par. 1.03 connections have been established (at the request of the test center), the data signals present on the subscriber line are transmitted over this one-way

monitoring trunk to the (MON TRK) jack at the test center. At this point, the signals may be monitored by patching in an appropriate station monitoring test line circuit. Other practices, in the — 805 — subdivision, cover the installation, maintenance and use of the station monitoring test line circuits that may be associated with the monitoring trunk.

2. CIRCUIT ORDER AND ROUTINE TESTS

2.01 Foldout Fig. 1 covers the circuit order and routine tests required on permanently assigned monitoring test trunks. Explanatory notes relating to these tests are included in the remainder of this section. When a trunk uses a temporary "traffic turn-down" facility it should be lined up (prior to use) to meet the requirements of Tests 4, 5 and 6 of Fig. 1. This is necessary to be compatible with the test center test line gain setting.

2.02 Test Cable Pairs Used on VF Layouts:
Cable pairs used on VF portions of the trunk layout should be tested for "opens," "shorts," "grounds" and loop and leakage resistance. This should be done in accordance with the test desk or testboard procedure applicable to the type of facility used.

2.03 Test Amplifier (if used) on VF Layout:
Any amplifier included in the intercity portion of the trunk layout should be tested and adjusted in accordance with the applicable BSP. These tests include setting the gain to the value specified on the circuit layout or equivalent record card.

2.04 Test Carrier Channels: Verify that all necessary tests have been made and that the over-all gain has been set to 23 db (–16 to +7 dbm) at 1000 cycles.

SECTION 314-800-300

2.05 *Adjust Gain of Monitoring Amplifier at 2300 cps*

- Step 1: At the serving central office, adjust output of a 600-ohm oscillator (e.g., a 21A TMS) to produce an output of -38 dbm at 2300 cps. Connect oscillator to the (AMP IN) jack as shown in Fig. 2.
- Step 2: Connect a 600-ohm transmission measuring set (e.g., 21A) to the (AMP OUT) jack shown in Fig. 2.
- Step 3: Adjust (GAIN) potentiometer of V3 amplifier to produce a TMS reading of -10 dbm (this sets the V3 to produce a gain of 28 db).
- Step 4: Remove all test connections.

Note: Without changing (GAIN) setting, measure gain at 1000 cps. Use this gain value for subsequent amplifier maintenance.

A V3 repeater test panel (if available) will assist in these tests.

2.06 *Line up Trunk at 2300 cps*

- Step 1: Adjust oscillator to produce an output of -38 dbm at 2300 cps. Connect oscillator output to (AMP IN) jack as shown in Fig. 2.
- Step 2: Connect 600-ohm transmission measuring set to (MON TRK) jack at the test center.
- Step 3: Adjust receive pads as required to produce a TMS reading of -23 dbm.

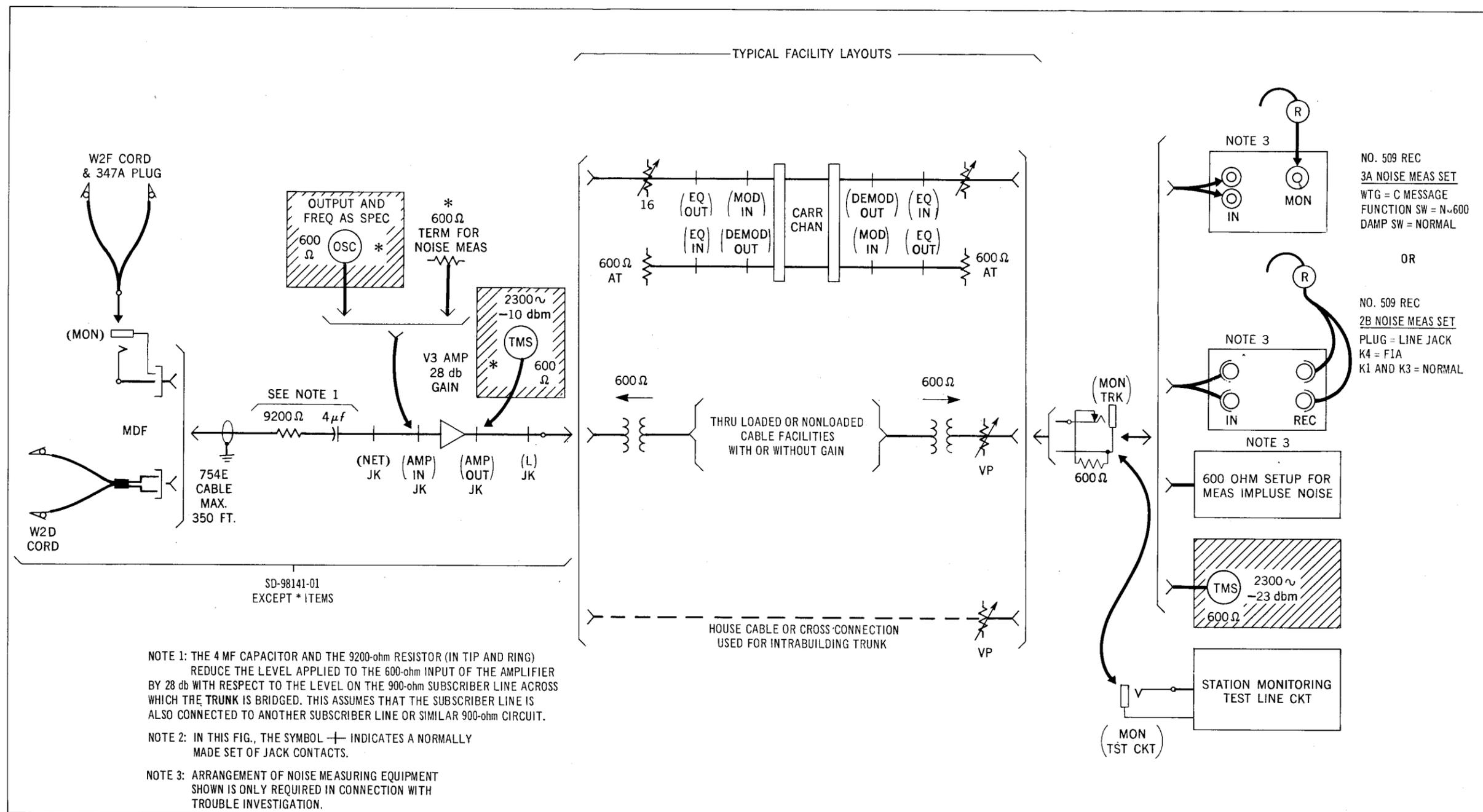
2.07 *Measure 1000-Cycle Loss on Trunk*

- Step 1: At serving office, readjust the oscillator to produce -38 dbm at 1000 cps. At the test center, the TMS reading at the (MON TRK) jack should be within the limits of -20 to -26 dbm.

TEST	"WHAT-TO-DO"	"WHEN-TO-DO-IT"			"HOW-TO-DO-IT" AND REQUIREMENTS
		ON CKT ORD	ON ROUTINE BASIS	ON TROUBLE REPORT	
1.	Test Cable Pairs Used on VF Layout	X	—	AR	See Par. 2.02
2.	Test Amplifier (if used) on VF Layout	X	**	AR	See Par. 2.03
3.	Test Carrier Channels	X	**	AR	See Par. 2.04
4.	Adjust Gain of Monitoring Amplifier at 2300 cps	X	3 Mos	AR	See Par. 2.05
5.	Line up Trunk at 2300 cps	X	3 Mos	AR	See Par. 2.06
6.	Measure 1000 cps loss on Trunk	X	3 Mos	AR	See Par. 2.07
7.	Measure Message Circuit Noise and "Narrow-Band" Impulse Noise — Over-all Circuit and Carrier Channels	—	—	AR	See Section 314-855-500

AR = As Required

** = In accordance with normal office routines



NOTE 1: THE 4 MF CAPACITOR AND THE 9200-ohm RESISTOR (IN TIP AND RING) REDUCE THE LEVEL APPLIED TO THE 600-ohm INPUT OF THE AMPLIFIER BY 28 db WITH RESPECT TO THE LEVEL ON THE 900-ohm SUBSCRIBER LINE ACROSS WHICH THE TRUNK IS BRIDGED. THIS ASSUMES THAT THE SUBSCRIBER LINE IS ALSO CONNECTED TO ANOTHER SUBSCRIBER LINE OR SIMILAR 900-ohm CIRCUIT.

NOTE 2: IN THIS FIG., THE SYMBOL $\text{---} \perp \text{---}$ INDICATES A NORMALLY MADE SET OF JACK CONTACTS.

NOTE 3: ARRANGEMENT OF NOISE MEASURING EQUIPMENT SHOWN IS ONLY REQUIRED IN CONNECTION WITH TROUBLE INVESTIGATION.

Fig. 2 - Block Diagram