

5

OPERATIONS SUPPORT SYSTEMS
 MAINTENANCE CONNECTOR
 APPLICATION SCHEMATIC
 FOR SWITCHED MAINTENANCE ACCESS SYSTEM
 (SMAS) 3 and 5

TABLE OF CONTENTS	PAGE	<u>SECTION I - GENERAL DESCRIPTION</u>
<u>SECTION I - GENERAL DESCRIPTION . . .</u>	1	<u>1. PURPOSE OF CIRCUIT</u>
<u>1. PURPOSE OF CIRCUIT</u>	1	1.01 The purpose of this circuit is to provide connecting information for miscellaneous mounted maintenance connectors and associated equipment.
<u>2. GENERAL DESCRIPTION OF OPERATION</u>	1	<u>2. GENERAL DESCRIPTION OF OPERATION</u>
<u>SECTION II - DETAILED DESCRIPTION . .</u>	1	<u>2.01 Maintenance connectors (MC) provide access relays for circuit testing and maintenance. These relays may be operated either locally or remotely. Manual access panels (MAP) provide local jack access, and communication path and test (CPT) panels provide the capability to talk on an accessed circuit.</u>
<u>1. FUSE AND ALARM CIRCUIT FOR SMAS 5 DISTRIBUTION NETWORKS AND MAINTENANCE CONNECTORS - FS1</u>	1	<u>SECTION II - DETAILED DESCRIPTION</u>
<u>2. MANUAL ACCESS AND COMMUNICATIONS CIRCUIT - FS2</u>	1	<u>1. FUSE AND ALARM CIRCUIT FOR SMAS 5 DISTRIBUTION NETWORKS AND MAINTENANCE CONNECTORS - FS1</u>
<u>3. 6-WIRE ACCESS POINT - FS3</u>	2	1.01 The circuit of FS1 provides fused battery for all the equipment in the frame. FS1 also provides an interface to the office alarm system and remote status indicating systems. Fuses are provided in the quantity required.
<u>4. 2-WIRE/4-WIRE ACCESS CIRCUIT - FS4</u>	2	1.02 This circuit is not used to provide power and alarm for maintenance connectors not mounted in the same frame as this circuit. See 3.05 and 4.04 for additional information.
<u>5. 6-WIRE ACCESS CIRCUIT FOR D-TYPE CHANNEL BANKS - FS5</u>	2	1.03 Two fuses are provided for each distribution network (DN): one fuse for the A battery and one fuse for the B battery. One fuse is provided per MC. One fuse each is provided for the MAP and CPT panel.
<u>6. 6-WIRE ACCESS CIRCUIT FOR DISTRIBUTING FRAME CROSS CONNECTION - FS6</u>	2	1.04 Alarm information from the fuses, DNS, and MCs is combined to operate a minor alarm relay.
<u>7. 2-WIRE/4-WIRE ACCESS CIRCUIT FOR DISTRIBUTING FRAME CROSS CONNECTIONS - FS7</u>	3	<u>2. MANUAL ACCESS AND COMMUNICATIONS CIRCUIT - FS2</u>
<u>8. 4-WIRE ACCESS CIRCUIT FOR DIGITAL DATA SYSTEM APPLICATION - FS8 . .</u>	3	2.01 <u>Manual Access Circuit.</u> The manual access circuit gains access via a cord reel plug and MAC jacks on type 2B maintenance connectors. This provides a connection to the external digital transmission and noise measuring system, the external milliwatt distribution circuit, and the communications circuit on frame. This circuit is optional.
<u>9. 4-WIRE ACCESS CIRCUIT WITH MAC JACKS - FS9</u>	3	
<u>10. 4-WIRE ACCESS CIRCUIT WITH MAC JACKS FOR BRIDGE APPLICATIONS - FS10</u>	3	
<u>11. BLOCK DIAGRAMS</u>	3	
<u>SECTION III - REFERENCE DATA</u>	4	
<u>1. WORKING LIMITS</u>	4	
<u>2. FUNCTIONAL DESIGNATIONS</u>	4	
<u>3. FUNCTION</u>	4	
<u>4. CONNECTING CIRCUITS</u>	4	
<u>5. MANUFACTURING TESTING REQUIREMENTS</u>	4	
<u>6. ALARM INFORMATION</u>	4	
<u>SECTION IV - REASONS FOR REISSUE . .</u>	4	

2.02 Communications Circuit. The communications circuit provides monitor or communications over the circuit selected by the manual access circuit. This circuit provides communication over 4-wire order-wire circuits or five 2-wire circuits. The tandem patching feature may be used with type 2B maintenance connections with MAC jacks. This circuit is optional but must be provided if manual access is provided.

2.03 If provided, the communications panel and manual access panel are in every third frame in a line-up.

3. 6-WIRE ACCESS POINT - FS3

3.01 This circuit provides connecting information for miscellaneous mounted 6-wire maintenance connectors.

3.02 Connectors. Maintenance connectors (MCs) may either be connectorized (J98622EL) or nonconnectorized (J98622AN). Each has twenty-four 6-wire access circuits. MCs may have MAC jacks for manual access. Each circuit in an MC may be split in either transmission direction (E or F - not simultaneously); each circuit may be split in either signaling direction (E or F - simultaneously). Each circuit is accessed in a monitor mode. Each circuit may be marked for special identification. See CD-1C454-01 for additional information on maintenance connectors.

3.03 Connections to SMAS. MCs may connect to either SMAS 3 or SMAS 5. MCs are numbered according to the connecting system and Note 23. The correct options per SD-1C454-01 for connections to SMAS 3 or 5 are given in Note 109.

3.04 Connection to SMAS 3. The interface is via TS1 and TS2 on the frame. Multiple connection of control leads is performed on the TS. Maintenance connectors are mated in groups of ten. Carrier group conditioning and lockout leads are run from MCs to SMAS 3 and are typically run from MC to the connecting circuit for No. 4A crossbar switch applications. Power and alarm are provided by the bay fuse panel.

3.05 Connections to SMAS 5. The interface is via connector J33 on the unit. Multiple connection of control leads is provided in the DN. The DN is typically located in the same frame as the MC. Carrier group conditioning and lockout leads are cables to the DN but are not functional for SMAS 5. For maintenance connectors mounted in the same frame as the fuse and alarm circuit of FS1, power and alarm is provided by FS1 through the DN. For maintenance connectors mounted in a different frame than the fuse and alarm circuit of FS1, power and alarm for the maintenance connectors is provided directly by the frame circuit covering the frame in which the maintenance connectors are mounted. This latter situation will typically occur in unitized facility terminal arrangements. If the DN is mounted in the same frame as the maintenance connector, power and alarm for the maintenance connector may be provided through the DN.

4. 2-WIRE/4-WIRE ACCESS CIRCUIT - FS4

4.01 This circuit provides connecting information for miscellaneous mounted 2-wire/4-wire maintenance connectors.

4.02 Connectors. Maintenance connectors may only be connectorized (J98622BT). Each has twenty-four 4-wire access circuits or forty-eight 2-wire access circuits. The MCs may connect only to SMAS 5. Each circuit in an MC may be split in either transmission direction (E or F - simultaneously). Each circuit is accessed in the monitor mode. Each circuit may be marked for special identification. See CD-1C605-02 for additional information.

4.03 Connections to SMAS. The MCs may only connect to SMAS 5. The MCs are numbered per the connecting system drawing SD-1P106-01 and Note 203. The correct options per SD-1C602-02 for connection to SMAS are given in Note 109.

4.04 Connections to SMAS 5. The interface is via connector J33 on the unit. Multiple connection of control leads is provided in the DN. The DN is typically located in the same frame as the MC. Carrier group conditioning and lockout leads are cabled to the DN but are not functional for SMAS 5. For maintenance connectors mounted in the same frame as the fuse and alarm circuit of FS1, power and alarm is provided by FS1 through the DN. For maintenance connectors mounted in a different frame than the fuse and alarm circuit of FS1, power and alarm for the maintenance connectors is provided directly by the frame circuit covering the frame in which the maintenance connectors are mounted. This latter situation will typically occur in unitized facility terminal arrangements. If the DN is mounted in the same frame as the maintenance connector, power and alarm for the maintenance connector may be provided through the DN.

5. 6-WIRE ACCESS CIRCUIT FOR D-TYPE CHANNEL BANKS - FS5

5.01 This circuit provides connecting information for maintenance connectors and D-type channel banks. This circuit may be used for retrofit or hard-wired applications. If use of a unitized D4 channel bank bay is appropriate, see SD-7C086-01.

5.02 This circuit provides the means for routing the SG and SB leads around the MC. These leads are not accessed.

5.03 If D4 channel banks are used, this circuit may be used per BD1.

5.04 For SMAS 3 applications, see Note 109.

6. 6-WIRE ACCESS CIRCUIT FOR DISTRIBUTING FRAME CROSS CONNECTION - FS6

6.01 This circuit provides a 6-wire access circuit using a miscellaneous mounted maintenance connector.

6.02 The purpose of this FS is to show the lead designation, the transmission and signaling assignment, and the equipment (E) and facility (F) orientations.

6.03 The circuits in the maintenance connectors are numbered per the connecting system and Note 203. For ease of circuit identification, these SMAS numbers shall be stamped on the DF in accordance with the appropriate CADs.

6.04 As indicated in Note 110, the lead designations shown in this FS are the appropriate designations for SARTS applications.

7. 2-WIRE/4-WIRE ACCESS CIRCUIT FOR DISTRIBUTING FRAME CROSS CONNECTIONS - FS7

7.01 This circuit provides a 2-wire/4-wire access circuit using a miscellaneous mounted maintenance connector.

7.02 The purpose of this FS is to show the lead designation, transmission and signaling assignment, and the equipment (E) and facility (F) orientation.

7.03 The circuits in the maintenance connector are numbered per the connecting system and Note 203. For ease of circuit identification, these SMAS numbers shall be stamped on the DF in accordance with the appropriate CADs.

7.04 As indicated in Note 110, the lead designations shown in this FS are the appropriate designations for SARTS applications.

8. 4-WIRE ACCESS CIRCUIT FOR DIGITAL DATA SYSTEM APPLICATION - FS8

8.01 This circuit shows the transmission lead designation and orientation for a 4-wire maintenance connector used in DDS applications. This FS is to support the use of miscellaneous mounted maintenance connectors to provide DDS loop access and DS0A access.

8.02 Notes 204, 205, 208, and 209 provide lead length restrictions and detailed equipment information. If these maintenance connectors are used to provide DS0A access, they must be equipped with option Y per SD-1C602-02.

8.03 This FS should be used with FS3 or FS9 of SD-7C087-01 (DDS Application Schematic) and FS9 of SD-7C085-01 (950-Type Testboard) as required.

8.04 BE5 and BE6 show typical application information.

9. 4-WIRE ACCESS CIRCUIT WITH MAC JACKS - FS9

9.01 The circuit of this FS provides connecting information for the MAC jack unit (J98622BS) and the 2-wire/4-wire maintenance connector. The MAC jack unit provides full-splitting jack access to the circuit and is typically used for long-term testing or termination. The maintenance

connector provides the features listed in 4.02.

9.02 Although the MAC jack unit provides access to ten leads, only four leads are used in this application.

10. 4-WIRE ACCESS CIRCUIT WITH MAC JACKS FOR BRIDGE APPLICATIONS - FS10

10.01 This circuit provides connecting information for the use of FS9 in a bridge circuit. The maintenance connector provides access for testing the facility and the MAC jacks provide access to terminate the bridge port and to disconnect the facility from the bridge.

10.02 As indicated in Note 107, this circuit is intended to solve a particular problem associated with testing bridge circuits and is not intended for general equipment aisle access to special service circuits.

10.03 A typical application is shown in BD8. In order to allow testing across the bridge, the maintenance connector associated with the incoming facility must be different from the one associated with the facilities to customers.

11. BLOCK DIAGRAMS

11.01 The block diagrams are provided to show interconnection information for various applications. These are intended to be used for retrofit or hard-wire applications. Some arrangements may be provided by unitized consolidated bays.

11.02 The hard-wired arrangement of BD1, D4 channel banks, will be replaced by the unitized arrangement per SD-7C086-01.

11.03 The hard-wired or retrofit arrangements, BD2, N2 terminal and F AUX signaling, and BD3, N3 terminal and F AUX signaling, will be replaced by the consolidated arrangement per SD-1C375-02.

11.04 BD4, the schematic application diagram, shows the relationship of various SMAS schematics. SD-1P138-01 is not intended to cover unitized or consolidated applications.

11.05 BD5, for DDS applications, shows the location, lead designation, and orientation of access points in DDS circuits. This is part of Note 344 in SD-73087-01.

11.06 BE6, for DDS OCU applications, shows detailed connecting information for adding maintenance connectors to 11-it 6-inch OCU bays to provide loop access.

11.07 The figures of BD7, for general information, show the arrangement of maintenance connectors in unitized or consolidated bays. Typical application schematics are SD-7C013-01 for 6-wire FW() signaling applications, SD-99552-03 for 6-wire FU and AUX signaling applications, SD-7C018-01 for MFT applications, and SD-7C086-01 for DFT applications.

11.08 ED8, for bridge circuits, shows how FS10 may be applied to a bridge circuit and provide access per the SARTS Access Point Application Guidelines, ESP 667-000-001.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

1.01 The ambient temperature shall be between +40 and +100 degrees F. Somewhat inferior performance may be expected outside this range. In no case shall the ambient temperature exceed +135 degrees F.

2. FUNCTIONAL DESIGNATIONS

2.01 Units

MAC () Multipin Access Connector
 MC () Maintenance Connector
 DN () Distribution Network
 CPT Communication, Patch, and Test Panel
 2EXMAP Manual Access Panel

2.02 Fuses

MC () Maintenance Connector
 DN () Distribution Network
 CPT Communication, Patch, and Test Panel
 MAP Manual Access Panel

2.03 Relay

MNFA Minor Fuse Alarm

2.04 Lamp

MNFA Minor Fuse Alarm

3. FUNCTION

3.01 Provides application information for type 2 6-wire maintenance connectors.

3.02 Provides application information for type 3 2-wire/4-wire maintenance connectors.

3.03 Provides application information for multipin access connectors.

3.04 Provides fuse and alarm circuit for powering miscellaneous mounted maintenance connectors and associated equipment.

4. CONNECTING CIRCUITS

4.01 The following drawings provide further information on the units not covered in detail here.

4.02 Maintenance Connectors

- (a) Type 2 and 2B Maintenance Connector Circuit - SD-1C454-01.
 (b) Type 3 Maintenance Connector Circuit - SD-1C605-02.

4.03 Associated Equipment

- (a) Type 2BX Nonmetallic Manual Access Circuit - SD-96619-01.
 (b) Communication Panel for Unitized Terminal Equipment - SD-99555-01.

4.04 SMAS Equipment

- (a) SMAS 3 Maintenance Concentrator and Control Circuit - SD-99500-01.
 (b) SMAS 5 Local Test Ports and Distribution Circuit - SD-1P106-01.

4.05 Typical Application Schematics

- (a) 48 Channel PCM Bank Type D4 Application Schematic - SD-3C304-01.
 (b) DDS System Interconnection and Application Schematic - SD-73087-01.
 (c) N2 Carrier Telephone Terminal Bay Circuit - SD-97118-01.
 (d) N3 Terminal Circuit - SD-97185-01,02.
 (e) Consolidated Dual F-Signaling and Optional Maintenance Connector Circuit - SD-1C375-01.
 (f) Application Schematic and Bay Wiring for FU () Plus Auxiliary Equipment - SD-1C240-02.

5. MANUFACTURING TESTING REQUIREMENTS

5.01 This circuit shall be capable of performing in accordance with the specifications of 3. FUNCTIONS. A continuity test to ensure proper bay wiring shall be performed.

6. ALARM INFORMATION

6.01 The circuit of FS1 provides a minor fuse alarm relay (MNFA). This relay provides loop closures for the office minor visual and audible alarms and one closure for remote indications. A lamp (MNF) operates in conjunction with the relay to provide a visual bay alarm.

SECTION IV - REASONS FOR REISSUE

A. Changed and Added Functions

- A.1 In FS3 and 4, add sheet note indicating that power and alarm are provided by UFT frame circuit when maintenance connector is mounted in UFT.
 A.2 In FS3, 4, 5, and 6, Note 108, and ED4, add reference to Note 109 regarding SMAS 3 applications.
 A.3 In FS4 and ED9, remove connection to SMAS 3.
 A.4 In FS6, 7, and 8 and CADs 19, 20, 21, and 22, add reference to Note 110 regarding use of TA, RA lead designations for SARTS.
 A.5 In FS3, correct symbol.

A.6 In FS9 and 10, add MAC() designation to MAC jack unit.

A.7 In Note 104, in column headed "This Option Was Furnished," change App Fig 5 to App Fig 1.

L. Description of Changes

D.1 In FS3 and 4, a sheet note was added indicating that power and alarm normally provided by FS1 is provided by the UFT frame circuit when the maintenance connectors are mounted in unitized facility terminals.

D.2 Note 109 was added to clarify the options that are required to properly configure a maintenance connector for each SMAS.

D.3 The capability to connect 2-wire/4-wire maintenance connectors to SMAS 3 has been removed from the SMAS 3 schematics. This application schematic has been changed to reflect the current capabilities of SMAS 3.

D.4 To ensure that the correct CADs and lead designations are used for SARTS applications, Note 110 was added indicating that TA, RA, TE, RE, TC, RC as required, are the correct designations.

D.5 The option symbol in FS3 was corrected.

D.6 The designation MAC() was added to the MAC() jack unit in FS9 and 10.

D.7 The table in Note 104 was incorrect.

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