Alcatel-Lucent 7705

SERVICE AGGREGATION ROUTER | RELEASE 2.1

SERIAL DATA INTERFACE CARD INSTALLATION GUIDE

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Table of Contents

List of Tables

List of Figures

Preface

About This Guide

This guide provides site preparation recommendations and step-by-step procedures to install, remove, and replace a 12-port Serial Data Interface card.

The 12-port Serial Data Interface card has four 68-pin connectors on its faceplate. Each connector supports three data ports. The connectors are labeled ports 1-3, 4-6, 7-9, and 10-12. The Serial Data Interface card data ports operate in access mode only and can be configured for a V.35 or RS-232 (also known as EIA/TIA-232) interface.

The Serial Data Interface card is connected to either a V.35 or RS-232 distribution panel using a 2 m (6.5 ft) cable, or to a customer-supplied distribution panel using a 10 m (32.8 ft) single-ended cable.

After the hardware installation process is completed, refer to the List of Technical Publications for details on the boot process, software configuration, and Command Line Interface (CLI) information to configure system and network parameters.

List of Technical Publications

The 7705 SAR OS documentation set is composed of the following guides:

- 7705 SAR OS Basic System Configuration Guide

  This guide describes basic system configurations and operations.
- 7705 SAR OS System Management Guide

  This guide describes system security and access configurations as well as event logging and accounting logs.
- 7705 SAR OS Interface Configuration Guide

  This guide describes card and port provisioning.
- 7705 SAR OS Router Configuration Guide

  This guide describes logical IP routing interfaces, IP-based filtering, and routing policies.

- 7705 SAR OS MPLS Guide

  This guide describes how to configure Multiprotocol Label Switching (MPLS), Resource Reservation Protocol for Traffic Engineering (RSVP-TE), and Label Distribution Protocol (LDP).

- 7705 SAR OS Services Guide

  This guide describes how to configure service parameters such as service access points (SAPs), service destination points (SDPs), customer information, user services, and Operations, Administration and Maintenance (OAM) tools.

- 7705 SAR OS Quality of Service Guide

  This guide describes how to configure Quality of Service (QoS) policy management.

- 7705 SAR OS Routing Protocols Guide

  This guide provides an overview of dynamic routing concepts and describes how to configure them.

Warnings and Notes

Observe the warnings and notes to avoid injury or router damage during installation and maintenance. Follow the safety procedures and guidelines when working with and near electrical equipment. Warning statements and notes are provided in each chapter.

Audience

This guide is intended for network installers and system administrators who are responsible for installing, configuring, or maintaining networks. This guide assumes you are familiar with electronic and networking technologies.

Information Symbols

Table 1 describes symbols contained in this guide.

Table 1: Information Symbols

Symbol	Meaning	Description
	Danger	This symbol warns that improper handling and installation could result in bodily injury. Before you begin work on this equipment, be aware of hazards involving electrical circuitry, be aware of your networking environments, and instigate accident prevention procedures.
	Warning	This symbol warns that improper handling and installation could result in equipment damage or loss of data.
	Caution	This symbol warns that improper handling may reduce your component or system performance.
	Note	This symbol provides additional operational information.

Technical Support

If you purchased a service agreement for your 7705 SAR-8 and related products from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller for assistance. If you purchased an Alcatel-Lucent service agreement, contact your welcome center at:

Web: http://www.alcatel-lucent.com/support

Installing an Adapter Card

In This Chapter

This chapter provides information about installing and removing a 12-port Serial Data Interface card in the 7705 SAR-8.

This chapter provides information on the following topics:

Provisioning Requirements

To configure cards and ports, you must be able to access the 7705 SAR-8 by console or Telnet connection. Refer to the 7705 SAR-8 Installation Guide for information and instructions on console and Telnet connections.

The CSM does not require provisioning. However, the IOM, which is an integral part of the CSM software module, must be activated before any adapter cards and port parameters can be provisioned and configured. The IOM is activated using the `card` and `card-type` CLI commands to specify its slot number and card type. Adapter cards must be provisioned before their ports can be configured.

Notes:

- IOMs are specified using the card and card-type commands (items 1 and 2 in the list below).
- Adapter cards are provisioned and configured using the mda and mda-type commands (items 3 and 4 in the list below).

Provision components in the following order:

1. Card slot number (use the `card` command)
2. Card type
3. Adapter card slot number (use the `mda` command)
4. Adapter card type
5. Ports

Component Power Consumption

Table 2 lists the power consumption for the SAR-8 chassis, CSM, and Serial Data Interface card.

Table 2: Component Power Consumption

Component	Conservative Estimate (Watts)
SAR-8 chassis (unpopulated, all fans operating)	28 W
CSM	17 W
Serial Data Interface card	26 W

Refer to the 7705 SAR-8 Installation Guide for more information on the power consumption of other components.

Provisioning an Adapter Card

After the IOM has been activated on the CSM (Steps 1 and 2 below), continue in the `config` context with the following CLI commands to provision the adapter card. The steps below provision two 12-port Serial Data Interface cards, one in slot 1 and another in slot 2. The 7705 SAR-8 chassis supports a maximum of six adapter cards. The cards can be configured in any combination; however, network applications require at least one 16-port T1/E1 ASAP Adapter card or 8-port Ethernet Adapter card.

	Command Syntax	Example
Step 1.	`card` *`slot-number`*	`card 1`
Step 2.	`card-type` *`card-type`*	`card-type iom-1g`
	Note: The *slot-number* is always 1 and the *card-type* is always iom-1g.	
Step 3.	`mda` *`mda-number`*	`mda 1`
Step 4.	`mda-type` *`mda-type`*	`mda-type a12-sdi`
Step 5.	`exit`	`exit`

To provision an additional adapter card, continue the configuration process with Step 6:

Step 6.	`mda` *`mda-number`*	`mda 2`
Step 7.	`mda-type` *`mda-type`*	`mda-type a12-sdi`
Step 8.	`exit`	`exit`

Notes:

- Ports cannot be configured until the adapter card is provisioned.
- Services cannot be provisioned until the ports are configured.
- Adapter card slot numbers are MDA 1 through MDA 6.

Configuration Example

The following example shows the `card`, `card-type`, `mda` and `mda-type` commands to specify the IOM as an `iom-1g` type and provision Serial Data Interface cards in slots 1 and 2.

```
ALU-1>config# card 1
ALU-1>config>card# card-type iom-1g
ALU-1>config>card# mda 1
ALU-1>config>card>mda# mda-type a12-sdi
ALU-1>config>card>mda# exit
ALU-1>config>card# mda 2
ALU-1>config>card>mda# mda-type a12-sdi
ALU-1>config>card>mda# exit
```

Sample Output

Use the `config>info` command to display card configuration information:

```
ALU-1>config# info
...
#------------------------------------------------
echo "Card Configuration"
#------------------------------------------------
    card 1
        card-type iom-1g
        mda 1
            mda-type a12-sdi
        exit
        mda 2
            mda-type a12-sdi
        exit
        mda 3
            mda-type a4-oc3
        exit
        mda 4
            mda-type a16-chds1
        exit
        mda 5
            mda-type a8-eth
        exit
        mda 6
            mda-type a2-choc3
        exit
    exit
#------------------------------------------------
...
```

Use the `show card state` command to display administrative and operational states for all cards:

```
ALU-1# show card state

===============================================================================
Card State
===============================================================================
Slot/  Provisioned      Equipped         Admin Operational   Num   Num Comments
Id     Type             Type             State State         Ports MDA
-------------------------------------------------------------------------------
1      iom-1g           iom-1g           up    up                  6
1/1    a12-sdi                           up    provisioned   12
1/2    a12-sdi                           up    provisioned   12
1/3    a4-oc3                            up    provisioned   4
1/4    a16-chds1        Unknown          up    failed        16
1/5    a8-eth           Unknown          up    failed        8
1/6    a2-choc3         Unknown          up    failed        2
A      csm-1g           csm-1g           up    up                        Active
B      csm-1g                            up    down                      Standby
===============================================================================
ALU-1#
```

Use the `show mda` command to display provisioned adapter card information:

```
ALU-1# show mda

===============================================================================
MDA Summary
===============================================================================
Slot  Mda   Provisioned           Equipped              Admin     Operational
            Mda-type              Mda-type              State     State
-------------------------------------------------------------------------------
1     1     a12-sdi                                     up        provisioned
      2     a12-sdi                                     up        provisioned
      3     a4-oc3                                      up        provisioned
      4     a16-chds1             Unknown               up        failed
      5     a8-eth                Unknown               up        failed
      6     a2-choc3              Unknown               up        failed
===============================================================================
ALU-1#
```

Installation Procedures

Warnings and Notes

Danger: Always assume that fiber-optic cables are connected to a light source.

Warnings:

- Electrostatic discharge (ESD) damage can occur if adapter cards are mishandled. Always wear an ESD-preventive wrist or ankle strap and always connect an ESD strap to a nearby ground point that is connected to the site grounding point when working with an adapter card. Typical ground points include the ground stud on the 7705 SAR-8 mounting bracket, or a properly grounded rack or work bench.
- Always place components on an anti-static surface.
- Do not power up a 7705 SAR-8 before verifying that all common equipment (chassis, power, cooling, and grounding) is connected properly.
- Filler plates are required in all empty slots to prevent excess dust accumulation and to help control airflow and electromagnetic interference.
- Use only approved small form-factor pluggable (SFP) fiber-optic devices in adapter card ports.
- To comply with the GR-1089-CORE requirement R4-9 [31] standard for electromagnetic compatibility and safety, all intra-building ports are specified for use with shielded and grounded cables at both ends.
- The intra-building port(s) of the equipment or sub-assembly is suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building port(s) of the equipment or sub-assembly must not be metallically connected to interfaces that connect to the Outside Plant (OSP) or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection in order to connect these interfaces metallically to OSP wiring.

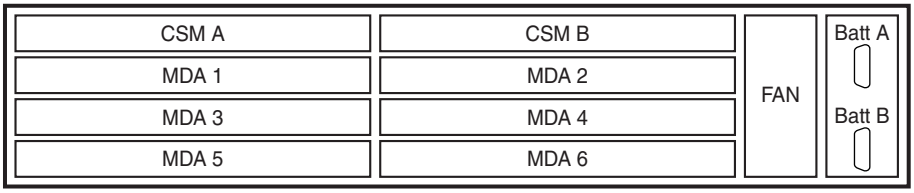
Notes:

- Ports cannot be configured until the adapter card is provisioned.
- Services cannot be provisioned until the ports are configured.
- Adapter card slot numbers are MDA 1 through MDA 6.

Installing an Adapter Card

A maximum of six 12-port Serial Data Interface cards may be installed on the 7705 SAR-8 in MDA slots 1 through 6; however, for a network application, at least one of the installed cards must be a 16-port T1/E1 ASAP Adapter card or 8-port Ethernet Adapter card. Figure 1 identifies the location of the MDA slots. Figure 2 illustrates the installation of an adapter card. Table 3 identifies the installation features. Ejector levers help install and remove the adapter card; captive screws secure the card in place.

Figure 1: 7705 SAR-8 Slot Identification



The 12-port Serial Data Interface card has four 68-pin mini-Champ connectors on its faceplate. These connectors are cabled to either a V.35 or RS-232 distribution panel using a 2 m (6.5 ft) cable, or to a customer-supplied distribution panel using a 10 m (32.8 ft) single-ended cable. See Serial Data Interface Card Connectors.

The 12-port Serial Data Interface card has four LEDs on its faceplate to display card and port status. See LED Descriptions.

Figure 2: Installing an Adapter Card

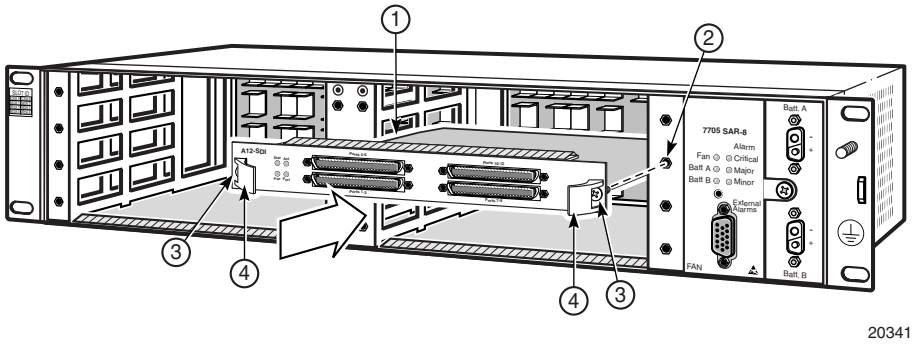


Table 3: Adapter Card Installation Features

Key	Description
1	Slot guide
2	Threaded receptacle
3	Captive screw
4	Ejector lever

Tools required:

- torque driver for Phillips screws

To install an adapter card:

Step 1. Remove the adapter card from the packaging and place on an anti-static work surface. Avoid touching the card components and connector pins.

Step 2. Insert the adapter card into an empty MDA slot.
With the ejector levers pressed inward, hold the adapter card by the levers and align the adapter card with the slot guides and the captive screws with the threaded receptacles (see Figure 2).

Step 3. Press the adapter card firmly into the slot. Make sure that the card connectors are seated and that the captive screws are engaged in the threaded receptacle.

Step 4. Tighten the captive screws to secure the card. Do not over-tighten. The recommended torque is 3 or 4 lbf.-in.

Step 5. Check the Power LED on the adapter card faceplate. If the adapter card is properly inserted and the 7705 SAR-8 has valid power, the Power LED is lit blue. See LED Descriptions for a description of LED activity.

Step 6. Connect the distribution panel cables. See Serial Data Interface Card Connectors for cable descriptions and pinout assignments.

Removing and Replacing an Adapter Card

If you replace an adapter card with a different type, you must change the configuration to reflect the new adapter card type prior to removing the installed card. Each active port must be shut down before you shut down and remove an adapter card configuration (see Changing an Adapter Card Configuration for the required command steps). If you replace an adapter card with the same type, no configuration change is necessary. Refer to the 7705 SAR OS Interface Configuration Guide for details on configuring cards and ports.

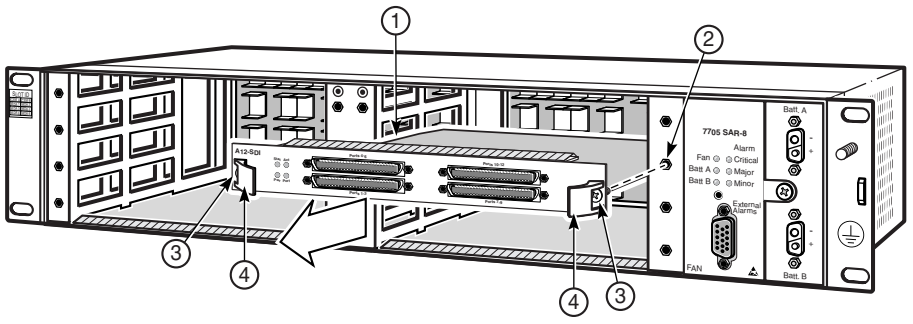
If you are removing the card, but not replacing it, install a filler plate over the empty slot.

Changing an Adapter Card Configuration

	Command Syntax	Example
Step 1.	`port` *`port-id`*	`port 1/1/5`
Step 2.	`shutdown`	`shutdown`
	Note: The `port>shutdown` command must be repeated for all enabled ports on the adapter card.	
Step 3.	`exit`	`exit`
Step 4.	`card` *`slot-number`*	`card 1`
Step 5.	`mda` *`mda-slot`*	`mda 1`
Step 6.	`shutdown`	`shutdown`
Step 7.	`exit`	`exit`
Step 8.	`no mda` *`mda-slot`*	`no mda 1`
Step 9.	`mda` *`mda-slot`*	`mda 1`
Step 10.	`mda-type` *`mda-type`*	`mda a12-sdi`
Step 11.	`no shutdown`	`no shutdown`
Step 12.	`exit`	`exit`

Figure 3 illustrates removing an adapter card. Table 3 identifies the installation features.

Figure 3: Removing an Adapter Card



Tools required:

- Phillips screwdriver
- torque driver for Phillips screws

To remove and replace an adapter card:

Step 1. Disconnect all cable connections to the adapter card.

Step 2. Use a Phillips screwdriver to loosen the captive screws.

Caution: Do not try to remove the adapter card from the slot before the captive screws are loosened.

Step 3. Simultaneously pull both ejector levers outward, grasp the ejector levers, and pull the adapter card out of the slot.

Step 4. Place the adapter card on an anti-static surface.

Step 5. Immediately install a replacement adapter card in the slot or cover the slot with a filler plate.

Step 6. Tighten the captive screws to secure the card or filler plate. Do not over-tighten. The recommended torque is 3 or 4 lbf.-in.

Step 7. Check the Power LED on the adapter card faceplate. If the adapter card is properly inserted and the 7705 SAR-8 has valid power, the Power LED is lit blue. See LED Descriptions for a description of LED activity.

Step 8. If you replaced the adapter card, reconnect all cable connections to the card.

Serial Data Interface Card Connectors

In This Chapter

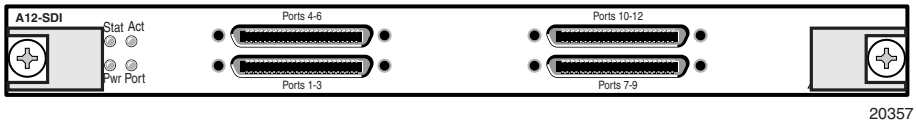
This chapter provides information about the cables and connector panels used with the 12-port Serial Data Interface card.

This chapter provides information on the following topics:

Serial Data Interface Card Connectors

The 12-port Serial Data Interface card has four 68-pin mini-Champ connectors on its faceplate. Each connector supports three data ports. The connectors are labeled ports 1-3, 4-6, 7-9, and 10-12. See Figure 4.

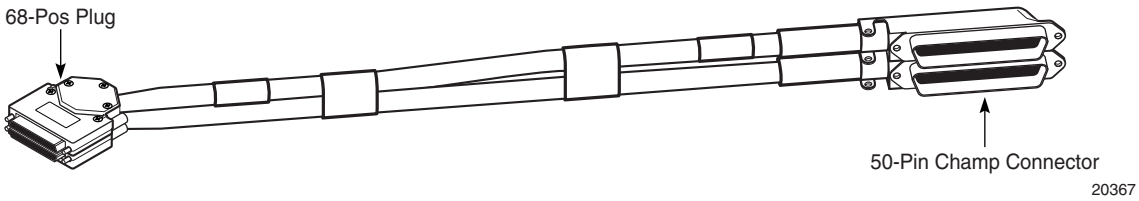
Figure 4: 12-port Serial Data Interface Card



The Serial Data Interface card can be connected to a V.35 distribution panel using a 2 m (6.5 ft) V.35 cable, or to an RS-232 distribution panel using a 2 m (6.5 ft) RS-232 cable. It can also be connected to a customer-supplied distribution panel using a 10 m (32.8 ft) single-ended cable; the unterminated end connects to the distribution panel. Each cable assembly consists of two cables bundled into a single assembly.

The cable assemblies have a 68-Pos plug that attaches to the 68-pin mini-Champ connectors on the Serial Data Interface card faceplate, and a 50-pin Champ connector that attaches to the rear of the V.35 or RS-232 distribution panel. See Figure 5.

Figure 5: Serial Data Interface Card Cable Assembly



The Serial Data Interface card cables are identical in appearance, but have different connector pinouts to match the corresponding distribution panel. On the V.35 distribution panel, the cable connects to two 25-pair connectors on the rear and the panel breaks out to six M34 female connectors on the front. On the RS-232 distribution panel, the cable connects to two 25-pair connectors on the rear and the panel breaks out to six DB25 female connectors on the front.

See Table 4 for a description of the Alcatel-Lucent approved cables and connector panels used with the Serial Data Interface card. See Table 5 for the cable pinouts for each interface type. See the 7705 SAR-8 Installation Guide for more information on the V.35 and RS-232 distribution panels.

Notes:

- The cables use small diameter 30 AWG copper. Use of the open-ended cable for punch-block applications is not recommended due to the potential for wire breakage. Other connection methods, such as screw type panels, should be used.
- The pinouts shown in Table 5 are for a typical DCE connection.

Table 4: Serial Data Interface Card Cables and Connector Panels

Part Number	Type	Description
3HE04506AB	V.35 cable, 2 m (6.5 ft)	Connects the Serial Data Interface card to the 3HE04510AA V.35 distribution panel
3HE04507AB	RS-232 cable, 2 m (6.5 ft)	Connects the Serial Data Interface card to the 3HE04511AA RS-232 distribution panel
3HE04509AD	Open-ended SDI cable, 10 m (32.8 ft)	Connects the Serial Data Interface card to a customer-supplied external connector panel. The mini-SCSI connector attaches to the Serial Data Interface card and the open end can be directly attached to other telecom equipment.
3HE04510AA	6-port V.35 distribution panel	Breakout panel with six M34 connectors for V.35 access; requires a 3HE04506AB V.35 cable to connect to the Serial Data Interface card
3HE04511AA	6-port RS-232 distribution panel	Breakout panel with six DB25 connectors for RS-232 access; requires a 3HE04507AB RS-232 cable to connect to the Serial Data Interface card

Connector Pinouts

Table 5 shows the pinouts for the Serial Data Interface card connectors according to interface type. Table 6 describes the Serial Data Interface card connector cable twisted pairs.

Table 5: Serial Data Interface Card Connector Pinout Options

Pin Number on 68-pin Connector	SDI Card Net Name	Signal Direction (SDIC - DCE)	V.35 Port Signal Name	RS-232 Port Signal Name
1	PA_SCT_B	Bi-Dir	SCT(B)	—
35	PA_SCT_A	Bi-Dir	SCT(A)	SCT
2	PA_TXD_A	Input	TXD(A)	TXD
36	PA_TXD_B	Input	TXD(B)	—
3	PA_SCR_B	Output - Tri	SCR(B)	—
37	PA_SCR_A	Output - Tri	SCR(A)	SCR
4	PA_CTS	Output	CTS	CTS
38	PA_DSR	Output	DSR	DSR
5	PA_TXCE_B	Input	TXCE(B)	—
39	PA_TXCE_A	Input	TXCE(A)	XCLK1
6	PA_RXD_A	Output	RXD(A)	RXD
40	PA_RXD_B	Output	RXD(B)	—
7	PA_DCD_B	Output	—	—
41	PA_DCD_A	Output	DCD	DCD
8	PA_RTS_A	Input	RTS	RTS
42	PA_RTS_B	Input	—	—
9	PA_ALB	Input	ALB	ALB
43	PA_DTR	Input	DTR	DTR
10	PA_RDL	Input	—	RDL
44	PA_XCLK2	Input	—	XCLK2
11	PA_GND	Isolated ground	—	GND
45	PA_RI	Output	—	RI

Table 5: Serial Data Interface Card Connector Pinout Options (Continued)

Pin Number on 68-pin Connector	SDI Card Net Name	Signal Direction (SDIC - DCE)	V.35 Port Signal Name	RS-232 Port Signal Name
12	PB_SCT_B	Bi-Dir	SCT(B)	—
46	PB_SCT_A	Bi-Dir	SCT(A)	SCT
13	PB_TXD_A	Input	TXD(A)	TXD
47	PB_TXD_B	Input	TXD(B)	—
14	PB_SCR_B	Output - Tri	SCR(B)	—
48	PB_SCR_A	Output - Tri	SCR(A)	SCR
15	PB_CTS	Output	CTS	CTS
49	PB_DSR	Output	DSR	DSR
16	PB_TXCE_B	Input	TXCE(B	—
50	PB_TXCE_A	Input	TXCE(A)	XCLK1
17	PB_RXD_A	Output	RXD(A)	RXD
51	PB_RXD_B	Output	RXD(B)	—
18	PB_DCD_B	Output	—	—
52	PB_DCD_A	Output	DCD	DCD
19	PB_RTS_A	Input	RTS	RTS
53	PB_RTS_B	Input	—	—
20	PB_ALB	Input	ALB	ALB
54	PB_DTR	Input	DTR	DTR
21	PB_RDL	Input	—	RDL
55	PB_XCLK2	Input	—	XCLK2
22	PB_GND	Isolated ground	—	GND
56	PB_RI	Output	—	RI
23	PC_SCT_B	Bi-Dir	SCT(B)	—
57	PC_SCT_A	Bi-Dir	SCT(A)	SCT
24	PC_TXD_A	Input	TXD(A)	TXD
58	PC_TXD_B	Input	TXD(B)	—

Table 5: Serial Data Interface Card Connector Pinout Options (Continued)

Pin Number on 68-pin Connector	SDI Card Net Name	Signal Direction (SDIC - DCE)	V.35 Port Signal Name	RS-232 Port Signal Name
25	PC_SCR_B	Output - Tri	SCR(B)	—
59	PC_SCR_A	Output - Tri	SCR(A)	SCR
26	PC_CTS	Output	CTS	CTS
60	PC_DSR	Output	DSR	DSR
27	PC_TXCE_B	Input	TXCE(B)	—
61	PC_TXCE_A	Input	TXCE(A)	XCLK1
28	PC_RXD_A	Output	RXD(A)	RXD
62	PC_RXD_B	Output	RXD(B)	—
29	PC_DCD_B	Output	—	—
63	PC_DCD_A	Output	DCD	DCD
30	PC_RTS_A	Input	RTS	RTS
64	PC_RTS_B	Input	—	—
31	PC_ALB	Input	ALB	ALB
65	PC_DTR	Input	DTR	DTR
32	PC_RDL	Input	—	RDL
66	PC_XCLK2	Input	—	XCLK2
33	PC_GND	Isolated ground	—	GND
67	PC_RI	Output	—	RI
34	CGND	—	—	—
68	CGND	—	—	—

Table 6: Serial Data Interface Card Cable Twisted Pair Description

Pin Number on 68-pin Connector	SDI Card Port Number	Port Signal Name	Signal Direction (DCE Electrical Interface)	Conductor Color Code (Base/Stripe)	SDI Cable Twisted Pair Number	Twisted Cable Pair Conductor Number
1	1, 4, 7, 10	PA_SCT_B	Bi-Dir	White/Tan	1	1
35	1, 4, 7, 10	PA_SCT_A	Bi-Dir	Tan/White	1	2
2	1, 4, 7, 10	PA_TXD_A	Input	White/Brown	2	1
36	1, 4, 7, 10	PA_TXD_B	Input	Brown/White	2	2
3	1, 4, 7, 10	PA_SCR_B	Output - Tri	White/Pink	3	1
37	1, 4, 7, 10	PA_SCR_A	Output - Tri	Pink/White	3	2
4	1, 4, 7, 10	PA_CTS	Output	White/Orange	4	1
38	1, 4, 7, 10	PA_DSR	Output	Orange/White	4	2
5	1, 4, 7, 10	PA_TXCE_B	Input	White/Yellow	5	1
39	1, 4, 7, 10	PA_TXCE_A	Input	Yellow/White	5	2
6	1, 4, 7, 10	PA_RXD_A	Output	White/Green	6	1
40	1, 4, 7, 10	PA_RXD_B	Output	Green/White	6	2
7	1, 4, 7, 10	PA_DCD_B	Output	White/Blue	7	1
41	1, 4, 7, 10	PA_DCD_A	Output	Blue/White	7	2
8	1, 4, 7, 10	PA_RTS_A	Input	White/Violet	8	1
42	1, 4, 7, 10	PA_RTS_B	Input	Violet/White	8	2
9	1, 4, 7, 10	PA_ALB	Input	White/Gray	9	1
43	1, 4, 7, 10	PA_DTR	Input	Gray/White	9	2
10	1, 4, 7, 10	PA_RDL	Input	Tan/Brown	10	1
44	1, 4, 7, 10	PA_XCLK2	Input	Brown/Tan	10	2
11	1, 4, 7, 10	PA_GND	Isolated Ground	Tan/Pink	11	1
45	1, 4, 7, 10	PA_RI	Output	Pink/Tan	11	2
12	2, 5, 8, 11	PB_SCT_B	Bi-Dir	Tan/Orange	12	1
46	2, 5, 8, 11	PB_SCT_A	Bi-Dir	Orange/Tan	12	2

Table 6: Serial Data Interface Card Cable Twisted Pair Description (Continued)

Pin Number on 68-pin Connector	SDI Card Port Number	Port Signal Name	Signal Direction (DCE Electrical Interface)	Conductor Color Code (Base/Stripe)	SDI Cable Twisted Pair Number	Twisted Cable Pair Conductor Number
13	2, 5, 8, 11	PB_TXD_A	Input	Tan/Yellow	13	1
47	2, 5, 8, 11	PB_TXD_B	Input	Yellow/Tan	13	2
14	2, 5, 8, 11	PB_SCR_B	Output - Tri	Tan/Green	14	1
48	2, 5, 8, 11	PB_SCR_A	Output - Tri	Green/Tan	14	2
15	2, 5, 8, 11	PB_CTS	Output	Tan/Blue	15	1
49	2, 5, 8, 11	PB_DSR	Output	Blue/Tan	15	2
16	2, 5, 8, 11	PB_TXCE_B	Input	Tan/Violet	16	1
50	2, 5, 8, 11	PB_TXCE_A	Input	Violet/Tan	16	2
17	2, 5, 8, 11	PB_RXD_A	Output	Tan/Gray	17	1
51	2, 5, 8, 11	PB_RXD_B	Output	Gray/Tan	17	2
18	2, 5, 8, 11	PB_DCD_B	Output	Brown/Pink	18	1
52	2, 5, 8, 11	PB_DCD_A	Output	Pink/Brown	18	2
19	2, 5, 8, 11	PB_RTS_A	Input	Brown/Orange	19	1
53	2, 5, 8, 11	PB_RTS_B	Input	Orange/Brown	19	2
20	2, 5, 8, 11	PB_ALB	Input	Brown/Yellow	20	1
54	2, 5, 8, 11	PB_DTR	Input	Yellow/Brown	20	2
21	2, 5, 8, 11	PB_RDL	Input	Brown/Green	21	1
55	2, 5, 8, 11	PB_XCLK2	Input	Green/Brown	21	2
22	2, 5, 8, 11	PB_GND	Isolated Ground	Brown/Blue	22	1
56	2, 5, 8, 11	PB_RI	Output	Blue/Brown	22	2
23	3, 6, 9, 12	PC_SCT_B	Bi-Dir	Brown/Violet	23	1
57	3, 6, 9, 12	PC_SCT_A	Bi-Dir	Violet/Brown	23	2
24	3, 6, 9, 12	PC_TXD_A	Input	Brown/Gray	24	1
58	3, 6, 9, 12	PC_TXD_B	Input	Gray/Brown	24	2
25	3, 6, 9, 12	PC_SCR_B	Output - Tri	Pink/Orange	25	1

Table 6: Serial Data Interface Card Cable Twisted Pair Description (Continued)

Pin Number on 68-pin Connector	SDI Card Port Number	Port Signal Name	Signal Direction (DCE Electrical Interface)	Conductor Color Code (Base/Stripe)	SDI Cable Twisted Pair Number	Twisted Cable Pair Conductor Number
59	3, 6, 9, 12	PC_SCR_A	Output - Tri	Orange/Pink	25	2
26	3, 6, 9, 12	PC_CTS	Output	Pink/Yellow	26	1
60	3, 6, 9, 12	PC_DSR	Output	Yellow/Pink	26	2
27	3, 6, 9, 12	PC_TXCE_B	Input	Pink/Green	27	1
61	3, 6, 9, 12	PC_TXCE_A	Input	Green/Pink	27	2
28	3, 6, 9, 12	PC_RXD_A	Output	Pink/Blue	28	1
62	3, 6, 9, 12	PC_RXD_B	Output	Blue/Pink	28	2
29	3, 6, 9, 12	PC_DCD_B	Output	Pink/Violet	29	1
63	3, 6, 9, 12	PC_DCD_A	Output	Violet/Pink	29	2
30	3, 6, 9, 12	PC_RTS_A	Input	Pink/Gray	30	1
64	3, 6, 9, 12	PC_RTS_B	Input	Gray/Pink	30	2
31	3, 6, 9, 12	PC_ALB	Input	Orange/Yellow	31	1
65	3, 6, 9, 12	PC_DTR	Input	Yellow/Orange	31	2
32	3, 6, 9, 12	PC_RDL	Input	Orange/Green	32	1
66	3, 6, 9, 12	PC_XCLK2	Input	Green/Orange	32	2
33	3, 6, 9, 12	PC_GND	Isolated Ground	Orange/Blue	33	1
67	3, 6, 9, 12	PC_RI	Output	Blue/Orange	33	2
34		CGND	Chassis Ground	Orange/Violet	34	1
68		CGND	Chassis Ground	Violet/Orange	34	2

Notes:

The signal direction is relative to the Serial Data Interface card ports.

The conductor color code names are based on Madison Cable (Tyco Electronics) part number 68KBKLF065.

The conductor cable size is 30 AWG stranded (7 x 38).

The conductor cable contains an inner shield of aluminum with an outer shield of copper braid. The copper braid is connected to the metal back shell housing of the mini-Champ connector.

The port signal names PA_xxx map to ports 1, 4, 7 and 10; the port signal names PB_xxx map to ports 2, 5, 8 and 11; the port signal names PC_xxx map to ports 3, 6, 9 and 12.

Distribution Panels Pinouts for the Serial Data Interface Card

For RS-232 and V-35 distribution panels pinout information, refer to the Distribution Panels and Cables section in the 7705 SAR-8 Installation Guide.

LED Descriptions

In This Chapter

This chapter provides information on the following topic:

Serial Data Interface Card LEDs

Figure 6 shows the LEDs on the 12-port Serial Data Interface card faceplate. Table 7 describes the LEDs. For a description of the connectors, see Serial Data Interface Card Connectors on page 25.

Figure 6: 12-port Serial Data Interface Card LEDs

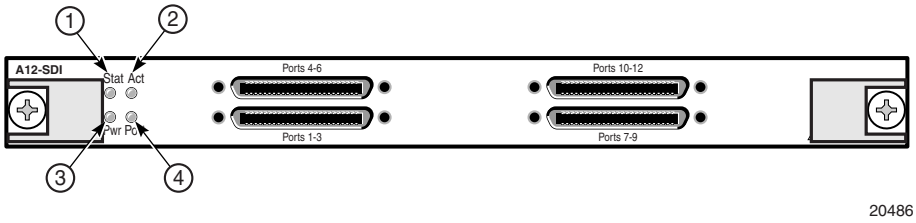


Table 7: 12-port Serial Data Interface Card LEDs

Key	Label	Description
1	Stat	Card status LED: **Green (blinking)**: Initializing **Green (solid)**: Operationally up, administratively up **Amber**: Operationally down, administratively up **Unlit**: Operationally down, administratively down
2	Act	Card active LED: **Green (lit)**: Card is active **Unlit**: Card is not active
3	Pwr	Power status LED: **Blue**: On **Unlit**: No power or faulty power
4	Port	Aggregate port status LED (ports 1 to 12): **Green**: All ports are active **Unlit**: All ports are disabled or shut down **Amber (blinking)**: At least one port is in loopback **Amber**: At least one data link is experiencing HCM synchronization loss

Customer documentation and product support

Customer documentation

http://www.alcatel-lucent.com/osds

Product manuals and documentation updates are available through the Alcatel-Lucent Support Documentation and Software Download service at alcatel-lucent.com. If you are a new user and require access to this service, please contact your Alcatel-Lucent sales representative.

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