DIGITAL SWITCHING SYSTEMS

DMS*-100 FAMILY DATAPATH

MSL/DMS-100* ASYNCHRONOUS ACCESS INSTALLATION

* DMS-100, MSL-100 and DATAPATH are trademarks of Northern Telecom

(c) Northern Telecom 1985 and 1988

CONTENTS

PAGE

1. INTRODUCTION 4

Practice Application 4
Software Identification 4
References 4

2. INSTALLATION 6

AIM AND AILC 6
Protocol Converters and X.25 Gateway Pad 6
PC Interface Card 6

3. ABBREVIATIONS 15

FIGURES

FIG. TITLE PAGE

1 QMT9A Asynchronous Interface Module - Rear and Top View 14

TABLES

TABLE TITLE PAGE

A Install Asynchronous Interface Module 7
B MSL/DMS-100 Switch Connections and Configurations . . . 12
C Protocol Converter and AILC Pinouts to Cross-Connect Field 13

1. INTRODUCTION

1.01 The Asynchronous Interface Module (AIM) forms part of a data facility used to provide circuit switched data service.

1.02 The Asynchronous Interface Line Card (AILC) is used in conjunction with the AIM to interface a user's DTE to the telephone switch.

1.03 The Asynchronous Access feature can be used in either DMS-100 offices or Meridian SL-100 PBXs. In either case, Asynchronous Access is supported only on inside plant facilities. It may not be extended to outside plant facilities. Throughout this document, the telephone switch supporting Asynchronous Access is referred to as the MSL/DMS-100.

PRACTICE APPLICATION

1.04 The information in this Practice applies to offices with Batch Change Supplements 18-25 (BCS18-25) release software. Unless reissued, the Practice also applies to any office with subsequent BCS release software. The correspondence between BCS releases and Northern Telecom Practice (NTP) issues is given in "DMS-100 Master Index of Practices" (297-1001-001).

SOFTWARE IDENTIFICATION

1.05 Software applicable to a specific DMS-100 Family office is identified by a BCS release number and by Northern Telecom (NT) Product Engineering Codes (PEC). The significance of the BCS number and the PEC is described in 297-1001-450 (section 450/32) and in the Office Feature Record D-190.

1.06 A display of the BCS number and PEC for the NT feature packages available in a specific office can be obtained by entering the command string:

```
PATCHER;INFORM LIST;LEAVE
```

at a Maintenance and Administration Position (MAP).

REFERENCES

1.07 References listed as prerequisites are essential for an understanding of this Practice. Those listed as informative contain detailed information concerning other items mentioned in this Practice, but are not essential. References are inserted at the appropriate places in the text.

Note: The documents listed may exist in more than one version. See 297-1001-001 to determine the release code of the version compatible with a specific release of software.

Prerequisite References

DOCUMENT NUMBER	TITLE
297-1001-100	System Description
297-2121-103	Asynchronous Access General Description

Informative References

DOCUMENT NUMBER	TITLE
297-1001-001	Master Index of Practices
297-2101-310	Service Order and Query System Reference Manual
297-2101-451	Customer Data Schema
297-2121-303	Asynchronous Access Operations and Performance Testing

2. INSTALLATION

AIM AND AILC

2.01 Table A provides the installation procedures for the QMT9A AIM switched through an AILC in the MSL/DMS-100 office.

Note: The AIM can also be used in the back-to-back configuration if the send pair of one set is connected to the receive pair of the other set and vice versa.

2.02 Table B provides the installation procedures for the NT6X76AA AILC.

2.03 Any exceptions are shown in the appropriate steps as notes, alternate procedures or alternate references.

PROTOCOL CONVERTERS AND X.25 GATEWAY PAD

2.04 The installation information is located in the associated Reference Manuals and User Guides. Table A may be referenced for some detail of the connection to the AILC.

2.05 The RDA, RDB, SDA and SDB interface leads from the Protocol Converter ports and X.25 Gateway ports are supported by the AILC (Table C).

PC INTERFACE CARD

2.06 The Personal Computer Interface Card (PCIC) is shipped with a User Guide that provides the installation procedures. However, the Keyboard Dialing (KBD) instructions in the guide only apply to the SL-1 Digital Communications Systems. Therefore, the KDB instructions shown in 297-2121-303 must be used when a Personal Computer equipped with the PCIC is connected to the MSL/DMS-100 switch and Datapath.

2.07 The following charts detail the DATAPATH Asynchronous Access hardware installation procedures for the various possible configurations.

TABLE A
INSTALL ASYNCHRONOUS INTERFACE MODULE

MATERIALS:

* QMT9A

* AILC

* 24 V transformer (120 VAC 60 Hz, 16 Watt input; 24 VAC, 0.46 A Output)

* NE D4B4 cord to connect telephone to AIM (optional)

* NPS50318-L1 Line cord AIM to wall jack (supplied with AIM)

* NE 25MQ2A cord AIM to DTE.

Note: When the AIM is wall mounted, use a hook or other device that can hold approximately 5 lbs and mount the unit close to the terminal. When desk mounted, locate the AIM close to the terminal.

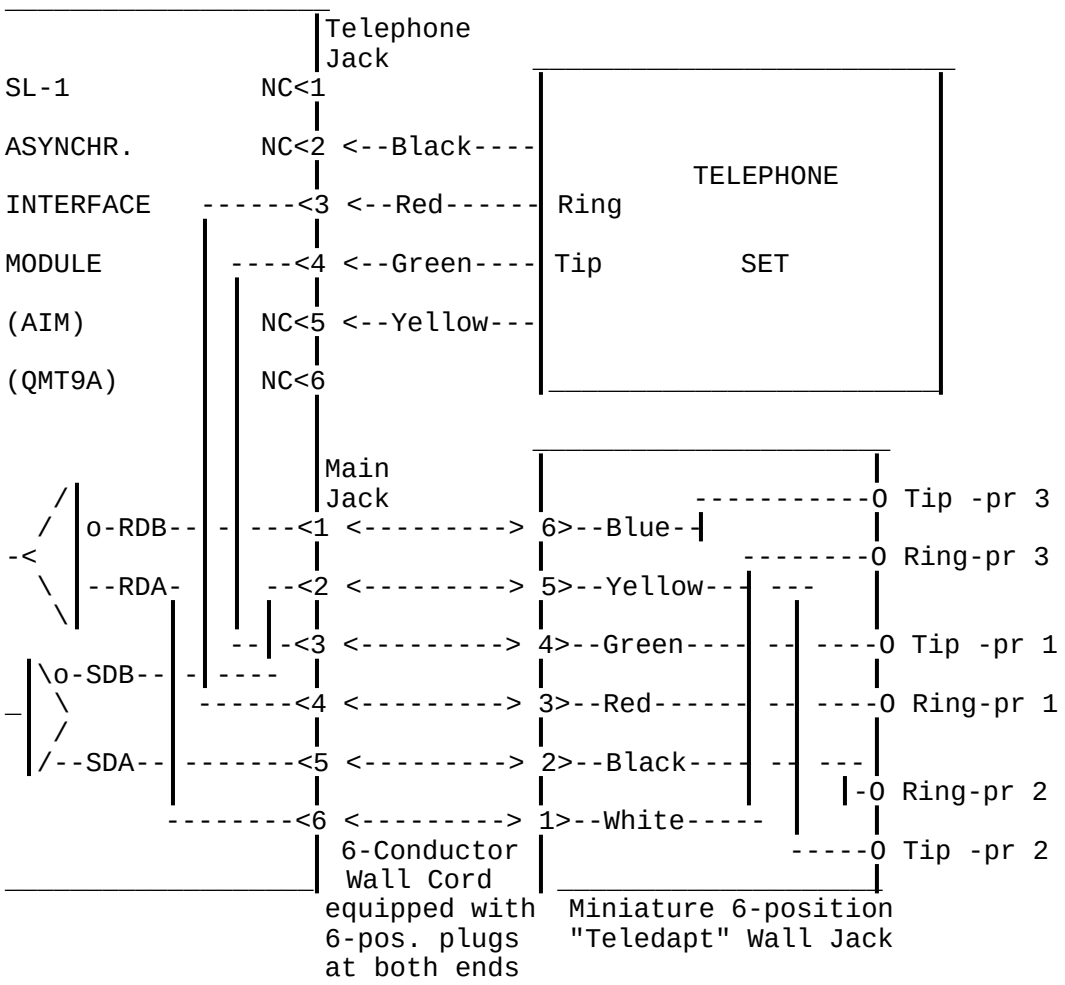
CAUTION

The AILC and some devices on the AIM circuit board can be damaged by electrostatic discharge. Wear a grounding strap while working on the AIM or AILC and discharge all tools by touching them to ground. A detailed description of grounding procedures and associated equipment is given in NTP 297-1001-010.

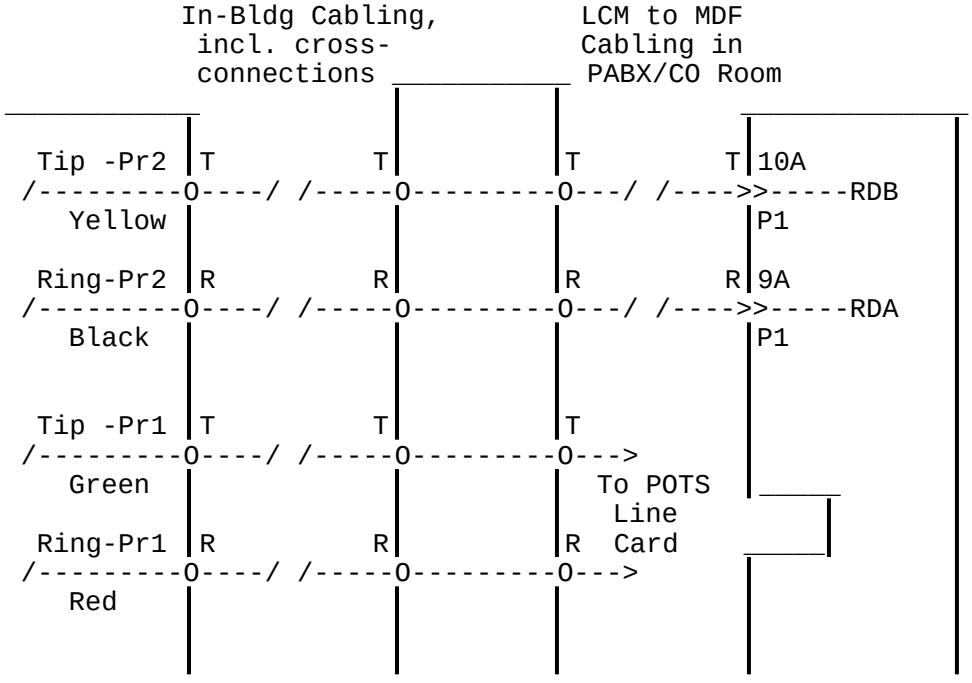
STEP	PROCEDURE	REFERENCE
1	Operate the power supply switch to OFF.	
2	Connect one end of the supplied 6-conductor cord to the miniature 'line' jack closest to the RS-232 connector on the rear of the AIM. (The supplied cord is terminated at each end with a miniature six-position plug). Note: Failure to maintain correct Tip and Ring integrity within a pair prevents correct operation, e.g., AILC is unable to autobaud if logical 'one' and 'zero' have been reversed.	

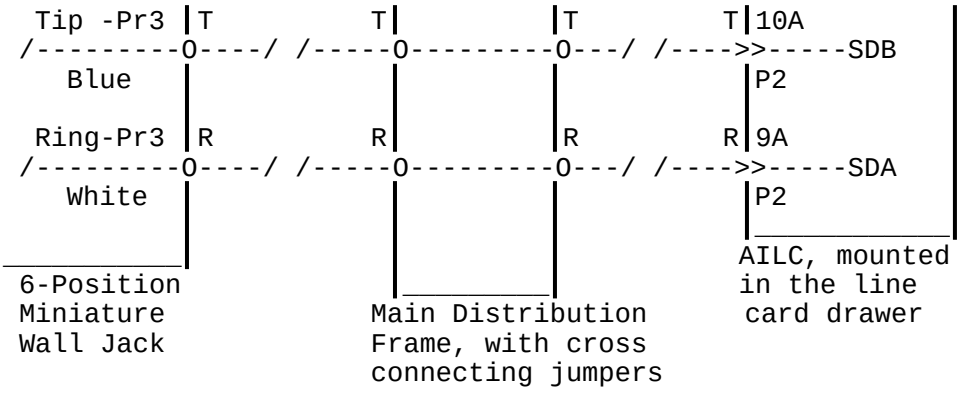
Table Continued

STEP	PROCEDURE	REFERENCE
3	Connect the other end of the cord to the wall jack (see sketch of wiring between AIM, wall jack and telephone set and ensure that the wire continuity is maintained).	



STEP	PROCEDURE	REFERENCE
4	Connect the power cord to the QTK312A6 power transformer. Use one transformer per AIM. Do not share the transformer with other apparatus. Note: The power cord exits from the rear of the AIM and is 7 ft long.	
5	Plug the 24 V transformer into a commercial 110V ac outlet.	
6	Use an RS-232 NE-25MQ2A cable (or equivalent) to connect the female connector on rear of AIM to a computer port or a supplied DTE.	
7	If a telephone set is to be associated with the AIM, use a 4-conductor NE D4B4 cord to connect it to the miniature 'phone' jack on the rear of the AIM.	Fig. 1
8	Install AILC in LCM drawer of the MSL/DMS-100 Switch.	
9	Make the MDF cross-connections and ensure that the pin numbers are correctly connected. Connect the voice pair in the usual manner.	





Wiring between wall jack, MDF, and AILC

Note: There should be no bridge taps, etc., on the line.

* P1 numbers from 16 to 31 and P2 numbers from 0 to 15.

* T indicates Tip and R indicates Ring.

STEP	PROCEDURE	REFERENCE
10	Designate the cross-connections.	
11	Use service order commands to update system memory for the AIM/AILC.	297-2101-451 297-2101-310
	Note: These assignments apply even if a terminal is directly connected to the AILC without an AIM. Ensure the following restrictions are observed: key 2 NRS key 3 Auto Dial Calling key 4 Speed Call key 7 Ring Again * Key 2 is programmed to provide access to outbound modem pooling.	
12	Operate the power switch to ON.	
13	Test the stand-alone AIM.	297-2121-303

TABLE B
MSL/DMS-100 SWITCH CONNECTIONS AND CONFIGURATIONS

STEP	PROCEDURE	REFERENCE
1	Plug in AILC Circuit Packs (NT6X76AA) as required.	
2	Use service order commands to configure software for AILC connected to AIM or other RS-422 devices as required including the following: FEATURE — KEY Resource — 2 Automatic Dial (AUD) — 3 Speed Call (SC) — 4 Ring Again — 7	297-2101-451 297-2101-310
3	Cross Connect to AIM via MDF.	

TABLE C
PROTOCOL CONVERTER AND AILC PINOUTS TO CROSS-CONNECT FIELD

PROTOCOL CONVERTER LOCATION (FROM) 50-PIN AMPHENOL CONNECTOR			TO EACH AILC		
PORT NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME	CONNECTOR NO.	PIN
1	RDB	1	SDB	P2	10A
	RDA	26	SDA	P2	9A
	SDB	2	RDB	P1	10A
	SDA	27	RDA	P1	9A
2	RDB	3	Same as above		
	RDA	28			
	SDB	4			
	SDA	29			
3	RDB	5	Same as above		
	RDA	30			
	SDB	6			
	SDA	31			
4	RDB	7	Same as above		
	RDA	32			
	SDB	8			
	SDA	33			
5	RDB	9	Same as above		
	RDA	34			
	SDB	10			
	SDA	35			
6	RDB	11	Same as above		
	RDA	36			
	SDB	12			
	SDA	37			
7	RDB	13	Same as above		
	RDA	38			
	SDB	14			
	SDA	39			

Notes:

1. All Other Pins - No Connection.

2. The interconnect cable should be equipped with a female connector to mate with male connector on Protocol Converter.

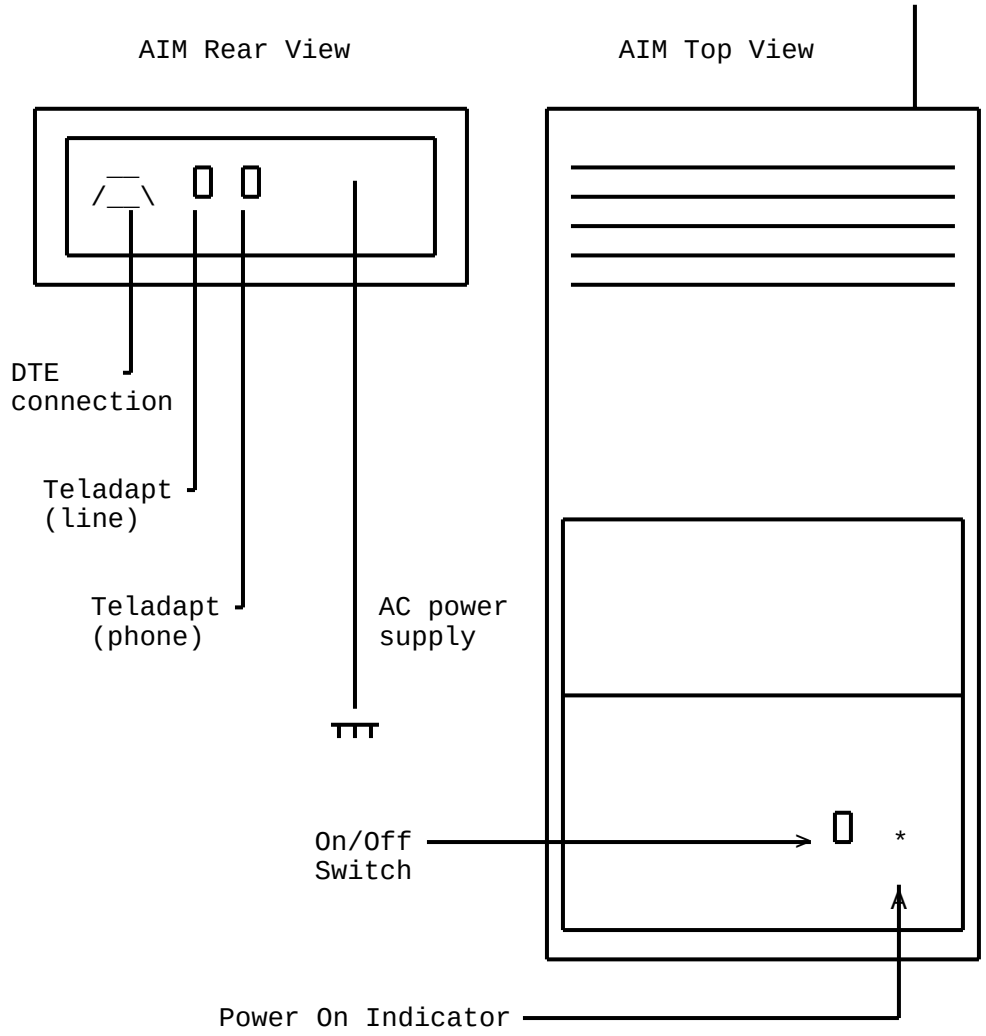


Fig. 1 - QMT9A Asynchronous Interface Module - Rear and Top View

3. ABBREVIATIONS

AILC	Asynchronous Interface Line Card
AIM	Asynchronous Interface Module
DTE	Data Terminal Equipment
KBD	Keyboard Dialing
LCM	Line Concentrating Module
MDF	Main Distributing Frame
PCIC	Personal Computer Interface Card