

# **CONFERENCE ROOM SCHEDULER**

---

**AN  
OPEN APPLICATION INTERFACE (OAI)  
INSTALLATION GUIDE**

**NEC America, Inc.**

NDA-30007-003

Revision 3.0

January, 1997

Stock # 241732

## **LIABILITY DISCLAIMER**

NEC America reserves the right to change the specifications, functions, or features in this document at any time without notice. NEC America has prepared this document for use by its employees and customers. The information contained herein is the property of NEC America and shall not be reproduced without prior written approval from NEC America.

Copyright 1996

**NEC America, Inc.**

# TABLE OF CONTENTS

	Page
<b>Chapter 1 - Introduction</b> .....	<b>1</b>
Software Installation .....	1
Application Configuration .....	1
Database Requirements .....	1
Mat Assignments .....	2
<b>Chapter 2 - Application Configuration</b> .....	<b>3</b>
Step 1 – Application Characteristics (Both Components) .....	3
Step 2 – Primary Configuration Parameters (Both Components) .....	4
Step 3 – Facilities (Conf_Room_Sch only) .....	5
Step 4 – Secondary OAI Configuration Parameters (Conf_Room_Sch only) .....	5
Step 5 – User-Defined Parameters (Both Components) .....	6
Conf_Room_Sch User-defined Parameters .....	6
Conf_Room_Sch User-defined Parameters .....	6
Conf_Room_Sch_Rpt User-defined Parameters .....	7
<b>Chapter 3 - Database Requirements</b> .....	<b>9</b>
Instructions .....	10
Conference Room Database Information .....	10
Field Definitions .....	10
Employee Identification Database Information .....	11
Field Definitions .....	11
<b>Chapter 4 - MAT Assignments</b> .....	<b>13</b>
AOKC COMMAND: (Assignment of OAI Key Codes) .....	14
AKYD COMMAND: (Assignment of Dterm Function Key) .....	14

This Page Left Blank.

## Chapter 1 Introduction

This guide provides specific field entries that need to be made in the process of installing and configuring *Conference Room Scheduler*. In addition to this guide, use the following manuals for this installation:

- **Applications Manager (APM) Installation Manual** – Contains step-by-step instructions for installing the software from the release media.
- **Applications Manager (APM) Operations Manual** – Explains how applications like *Conference Room Scheduler* are configured in the APM environment, using the entries and values provided in this guide.
- **NEAX2400 System Manuals** – Give very detailed explanations about the assignments that need to be made through the Maintenance Administration Terminal (MAT) commands on the NEAX2400.

Briefly, the installation and set up of *Conference Room Scheduler* involves the following processes:

### Software Installation

*Conference Room Scheduler* software must first be loaded from the release media. Log in to the APM Platform Management Menu, select the Installation of Applications/Packages option, and follow the instructions provided in the **APM Installation Manual** to complete this part of the installation.

### Application Configuration

*Conference Room Scheduler* is internally supported by the APM and must be configured in the APM environment. [Chapter 2](#) of this guide provides the information that must be entered into this APM configuration file. *Conference Room Scheduler* is comprised of two components, both of which must be configured. Use the instructions provided in the **APM Operations Manual** to make the entries provided in this section.

### Database Requirements

*Conference Room Scheduler* requires two application databases which are constructed and maintained through the APM Database Administration option. For each application database, the process begins with the creation of a master definition file and its related master database. Then, for each, an application definition file is constructed which enables the processing of the master files into an application database. [Chapter 3](#) of this guide defines the information which must be included in these definition and database files. Use the instructions provided in the **APM Operations Manual** to make the entries contained in this section.

**Note:** *Conference Room Scheduler maintains a 90-day calendar of room reservations. This 90-day period dynamically rotates so that it always extends from the current day only if Conference Room Scheduler is set to automatically update its database on a daily basis. Under **Control Options** on the **APM System Administration** menu, use the **Database** command to select the Conference Room Scheduler database and designate a daily time at which it will be automatically updated.*

## Mat Assignments

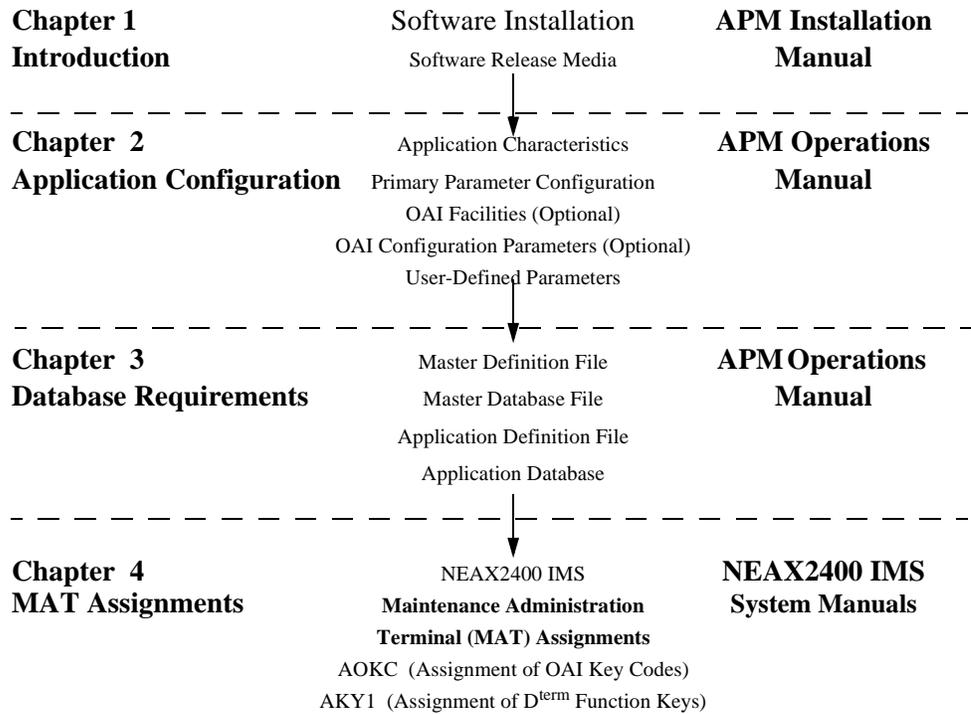
There are data settings which must be assigned at the NEAX Maintenance Administration Terminal (MAT) before *Conference Room Scheduler* will function. [Chapter 4](#) of this guide specifies the necessary commands and the values at which they are to be set. Use the instructions provided in the **NEAX2400 IMS System Manuals** to make the entries contained in this section.

The installation process, including its presentation in this manual and reference to other manuals that are necessary, is illustrated below:

### ASSET MASTER INSTALLATION REQUIREMENTS

Discussed in:

Instructions in:



## Chapter 2 Application Configuration

Conference Room Scheduler is configured into the APM system using the **Add** function of the Application Configuration option on the APM System Administration menu:

1. Enter the APM option from the APM Platform Management Menu.
2. Enter the System Administrator password at the APM password screen.
3. Enter the Application Configuration option from the System Administration menu.

This section contains the information that should be entered to the configuration file for Conference Room Scheduler. The following components must be configured:

- **Conf\_Room\_Sch** – The component application that maintains the real-time database and interacts with the user at the D<sup>term</sup>.
- **Conf\_Room\_Sch\_Rpt** – The component application that displays or prints the real-time database.

For specific instructions on what these parameters mean and how to make these entries, use the **APM Operations Manual**.

### Step 1 – Application Characteristics (Both Components)

In the APM Application Configuration option, make the entries shown below for the components:

Parameter	Description	Conf_Room_Sch	Conf_Room_Sch_Rpt
OAI Application	Indicates whether or not (Yes or No) this component communicates with the NEAX2400 using OAI processes.	Y	N
CRT Application	Indicates whether or not (Yes or No) this component requires a terminal screen that is of the same type as the one used by the APM.	N	Y
Communication Queue	Indicates whether or not (Yes or No) this non-OAI application needs an IPC queue to communicate with other processes.	N	N

## Step 2 – Primary Configuration Parameters (Both Components)

On the APM Configuration Entry screen, make the entries shown below to the parameters indicated:

Parameter	Description	Conf_Room_Sch	Conf_Room_Sch_Rpt
Application Name	Indicates the name to be displayed in the APM menus. This name is displayed in the same way it is entered here (i.e., capital letters, lower case, etc.)	Conf_Room_Sch	Conf_Room_Sch_Rpt
Executable Filename	Indicates the path name of the executable file.	/oai/app/c_rm	/oai/app/c_rm.rpt
Group	(Neither component is a member of a group of applications.)	(make no entry)	(make no entry)
Response Mode	Indicates the default value since the components do not belong to a group.	I(gnore)	I(gnore)
Initialization Batch	Indicates that neither component is to be initialized automatically when the OAI system is initialized.	N(o)	N(o)
Termination Mode	Indicates how the APM is to notify the component to terminate.	M(essage)	K(ill signal)
Standard Output	Indicates where the component output is sent.	/oai/log/dbg/cr.dbg	/dev/null
Number of Restarts	Indicates that the APM is not to restart either component if it terminates erroneously.	0	0

### Step 3 – Facilities (Conf\_Room\_Sch only)

According to instructions in the **APM Operations Manual**, designate the following NEAX2400 facilities for the Conf\_Room\_Sch component using the **Facilities** command on the APM Configuration Entry screen:

MRFI	Mode Release Facility (I)
MRFR	Mode Release Facility (R)
MSF	OAI Mode Set Facility
NTF	Number Transfer Facility
TCFD	Terminal Control Facility (D)

**Note:** The same MSF identification number (i.e., from 128 to 192) that is selected in the APM during Step 3 must be assigned to Conference Room Scheduler at the NEAX MAT. For more information, see [Chapter 4](#).

### Step 4 – Secondary OAI Configuration Parameters (Conf\_Room\_Sch only)

Using the **OAI-Conf** command on the APM Configuration Entry screen, make the entry shown for each of the following parameters required by Conf\_Room\_Sch. Use the instructions provided for this option in the **APM Operations Manual**:

Parameter	Entry	Definition
Database Name #1	/oai/db/cur/crminfofil	Indicates the path name of the database containing the conference room information. <u>This name must be the first listed database.</u> The database filename (i.e., <i>crminfofil</i> ), listed here with its path, should be used as the name of the corresponding Application Definition File (Refer to <a href="#">Chapter 3</a> .)
Database Name #2	/oai/db/cur/crmidfile	Indicates the path name of the database containing the employee identification data. <u>This name must be the second listed database.</u> The database filename (i.e., <i>crmidfile</i> ), listed here with its path, should be used as the name of the corresponding Application Definition File (Refer to <a href="#">Chapter 3</a> .)
Timeout Value #1	90	Designates the number of seconds Conf_Room_Sch will wait for user input before it will release the D <sup>term</sup> .
Tenant Number	0	Specifies the number of the tenant that Conf_Room_Sch serves.

Parameter	Entry	Definition
Source Link Name	OAI1X25	Identifies the port on the source side of the communication link; entry should correspond to a link name in the APM system configuration file.
Destination Link Name	PBX1X25	Identifies the port on the destination side of the communication link; entry should correspond to a link name in the APM system configuration file.
Association Recovery	60	Designates the number of seconds Conf_Room_Sch will wait before trying to re-establish an association with the NEAX that has been released.

## Step 5 – User-Defined Parameters (Both Components)

Make the following additional parameter entries through the **UserDefined** command on the APM Configuration Entry screen.

### Conf\_Room\_Sch User-defined Parameters

User-defined	Entry	Definition
#1	4	Indicates the length of the identification number assigned to each authorized employee (maximum 9 digits.)
#2	/oai/app/data/crdata	Specifies the path name of the reservation database built and maintained by Conf_Room_Sch as users make, modify, and cancel conference room reservations. (This path must be in the same partition as /oai.)

### Conf\_Room\_Sch User-defined Parameters

User-defined	Entry	Definition
#3	/oai/app/data/tmpcr	Specifies the path name of a temporary database that serves as a backup when the conference room reservation database is being updated. (This path must be in the same partition as /oai.)

### Conf\_Room\_Sch\_ Rpt User-defined Parameters

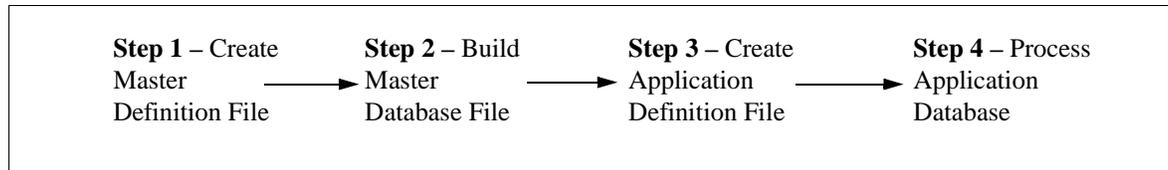
User-defined	Entry	Definition
#1	1 or 2	<p>Indicates how Conf_Room_Sch_Rpt sorts and displays names from the 90-day reservation database to create various reports of the data and uses the following values:</p> <ol style="list-style-type: none"> <li>Sort by the name in the first position.</li> <li>Sort by the name in the second position.</li> </ol> <p>For example: If names are entered to the database in the order <u>first name then last name</u>, then selection of option #1 sorts the database by the first name and option #2 sorts the database by the last name. On the other hand, if names are entered to the database in the order <u>last name then first name</u>, then selection of option #1 sorts the database by the last name and option #2 sorts the database by the first name.</p>
#2	Conf_Room_Sch	Indicates the name of the other component with which Conf_Room_Sch_Rpt must communicate in order to create its reports. This name must be entered in exactly the same way as the name entered to the “Application Name” parameter in Step 2.

This completes the configuration of Conference Room Scheduler in the APM. Now go to [Chapter 3](#) to create its database support.

This Page Left Blank.

## Chapter 3 Database Requirements

*Conference Room Scheduler* requires three databases (i.e., Conference Room, Employee Identification, and Reservation). Two of these databases need to be constructed and thereafter maintained through the APM; the third database (i.e., Reservation) is built by *Conference Room Scheduler* itself while it is running. Databases are created through the Database Administration option on the APM System Administration Menu. Database creation involves the following 4-step process for each of the two required databases:



1. **Create a Master Definition File:** This step involves creating the master definition file that defines the fields in the master database file. Generally one master definition file parents databases for several applications. *Conference Room Scheduler*, however, requires two separate sets of files, one for the conference room data and one for the employee identification data.
2. **Build a Master Database File:** This step involves entering data (e.g., conference room numbers and number of people accommodated) into the master database fields that were just defined in Step 1.
3. **Create an Application Definition File:** In this step, a definition file is created which defines how data from the master files is to be converted to meet the needs of *Conference Room Scheduler*. The database names in the application configuration file (*crminfofil* and *crmidfile*) must be used for these definition file names.
4. **Process the Application Database:** In this step, the Master Database input is converted to database files according to the definitions created in Step 3, using the Process/Install Application Databases option on the APM Database Administration menu. When the **Process** command is activated, data is drawn from the master database and converted to the formats specified in the corresponding application definition file. The **Install** command is then activated to enable *Conference Room Scheduler* to access the database.

## Instructions

The information required in all four steps for each *Conference Room Scheduler* database is provided in table form on the following pages. Using this information alongside of the procedural instructions provided in the **APM Operations Manual**, enter the Database Administration option on the APM System Administration Menu and build the *Conference Room Scheduler* databases, one at a time. Any messages displayed during these steps are addressed in the Process and Error Messages chapter of the **APM Operations Manual**.

**Note:** *Remember to complete STEP 4, Process the Application Database, for each database after entering the information on the following pages in STEPS 1 through 3.*

## Conference Room Database Information

This database contains all conference rooms, by room number, which are to be managed by the system and, for each, the number of people the room can accommodate. Name the master definition file **crminf\_m** and the application definition file **crminfofil**.

Field Description	Master Definition File				Application Definition File	Master Database
	Type	Size	Min. Value	Max. Value	Data Type	Typical Entry
Conference Room	N	5	0	99999	Long Integer	315
Capacity	N	4	0	9999	Long Integer	25

## Field Definitions

The following are the definitions for each field in the Conference Room Database:

- Conference Room – A number that identifies the room, lying within the range from 0 to 99999.
- Capacity – The number of people that the identified room can accommodate, up to 4 digits in length.

## Employee Identification Database Information

This database contains the identification number and name of all employees who are authorized to use the system. Name the master definition file **crmid\_m** and the application definition file **crmidfile**.

Field Description	Master Definition File				Application Definition File	Master Database
	Type	Size	Min. Value	Max. Value	Data Type	Typical Entry
Employee Identification	N	9	0	999999999	Long Integer	585273
Employee Name	A	8			ASCII	Thompson

### Field Definitions

The following are the definitions for each field in the Employee Identification Database:

- Employee Identification – A number that identifies the employee (e.g., social security number), lying within the range of 0 to 9-digits in length.
- Employee Name – The name of the employee associated with the identification number. The 90-day reservation database is later sorted for display and reporting purposes by this employee name. Coordinate the order in which this name is entered (e.g., last name, first name) with the way in which the database is configured to sort.  
Refer to [Step 5 – User-Defined Parameters \(Both Components\)](#) on page 6 for sorting information.

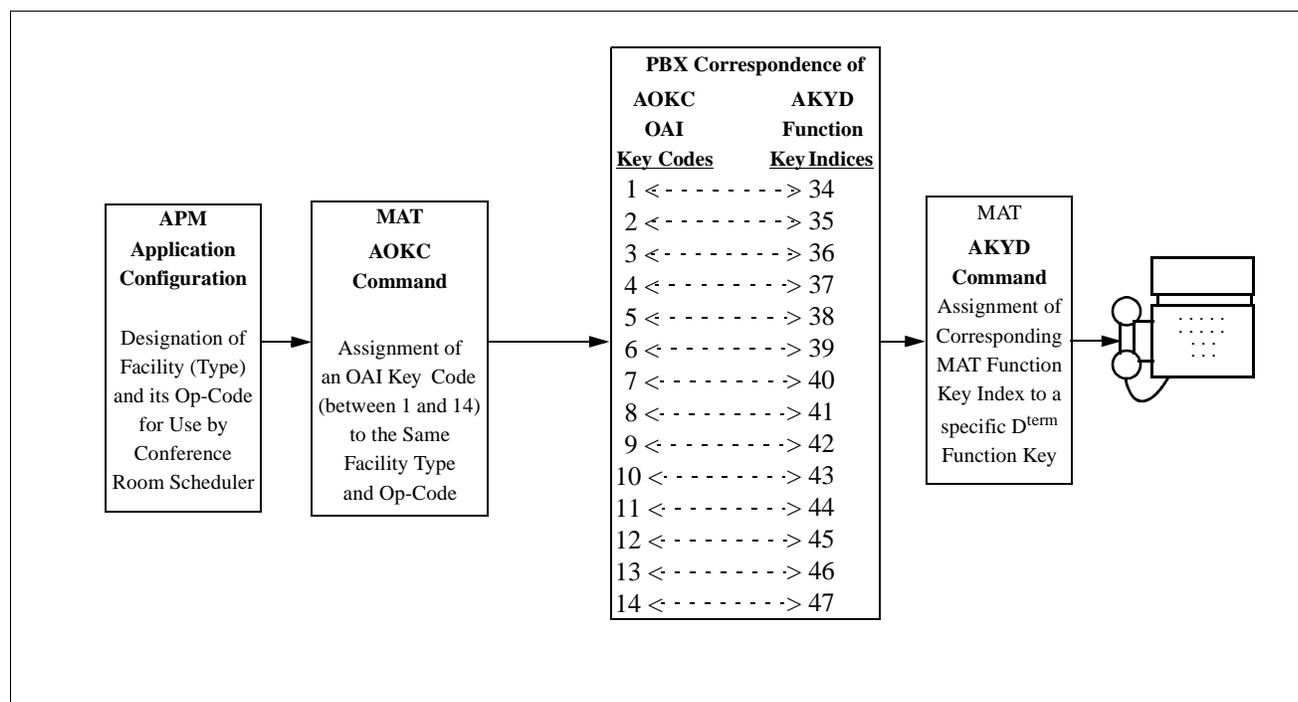
**Note:** *Conference Room Scheduler maintains a 90-day calendar of room reservations. This 90-day period dynamically rotates so that it always extends from the current day only if Conference Room Scheduler is set to automatically update its database on a daily basis. Under **Control Options** on the **APM System Administration** menu, use the **Database** command to select the Conference Room Scheduler database and designate a daily time at which it will be automatically updated.*

This Page Left Blank.

## Chapter 4 MAT Assignments

This guide assumes that data settings that affect the operation of all OAI software on a system-wide basis have already been assigned on the NEAX Maintenance Administration Terminal (MAT). Such settings include, for instance, system index values and assignment of Interface I/O Port Data in the Interface Processor (IP). For more information about these system data settings and the MAT commands described below for *Conference Room Scheduler*, refer to the **OAI Module Installation Manual for the NEAX2400 IMS**, the **NEAX2400 IMS Command Manual**, the **NEAX2400 IMS Job Specification Manual**, and the **NEAX2400 IMS Programming Manual**.

*Conference Room Scheduler* requires MAT assignment of the Mode Set Facility (MSF) to an OAI-assigned function key on all D<sup>term</sup>s affected by application. This process involves assigning the MSF and its Operation Code (Op-Code), configured for *Conference Room Scheduler* in the APM Application Configuration option, to one of the 14 OAI Key Codes. (The MSF Op-Codes range from 128 to 191; available for on-screen viewing through the **Providers** command in the APM Application Configuration option.) Each of the OAI Key Codes corresponds to an AKY1 Function Key Index (FKI) value which is then assigned to the specific D<sup>term</sup> function key. This process is illustrated below.



**Figure 4-1 OAI Function Key Assignment**

A knowledge of the D<sup>term</sup> stations in the NEAX system and which ones will have access to *Conference Room Scheduler* is necessary to using the following commands:

## AOKC COMMAND: (Assignment of OAI Key Codes)

This command is used to associate the MSF facility and its Op-Code that was configured in the APM for *Conference Room Scheduler* to one of the 14 OAI Key Codes in the MAT.

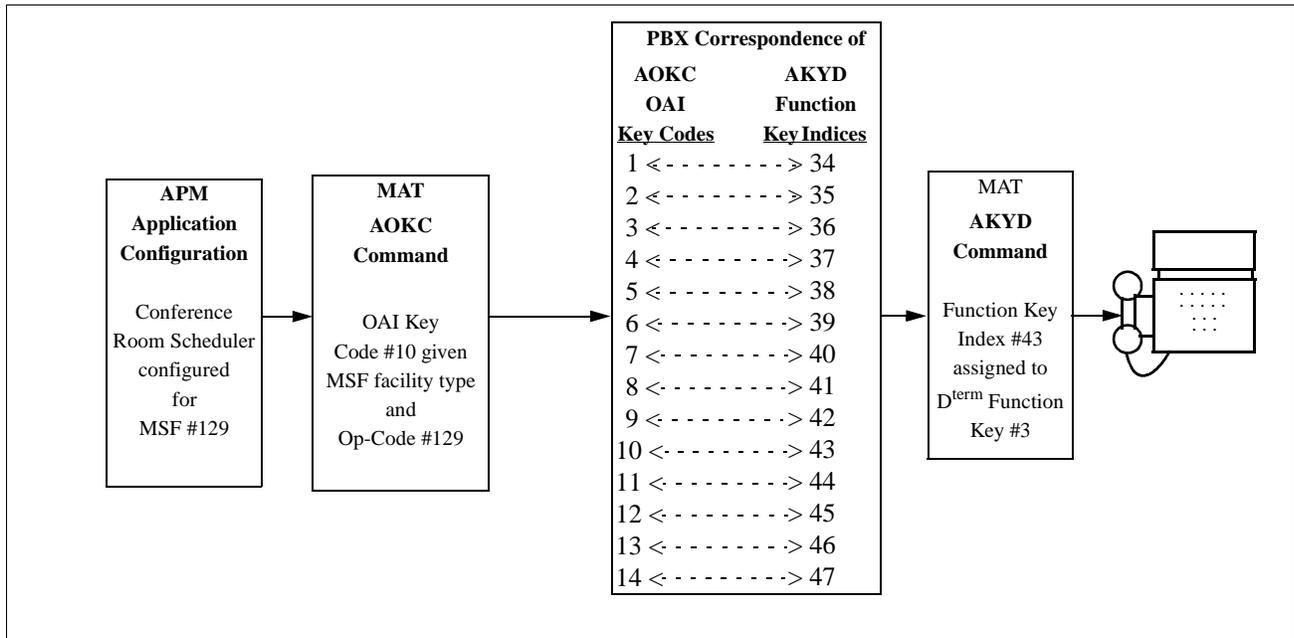
1. Select an unused OAI Key Code, from 1 to 14. To determine what Key Codes are available for assignment, use the LOKC command to list the AOKC Key Codes that are already assigned.
2. Enter MSF as the facility to be assigned to the selected Key Code, using the values on the screen.
3. Enter the same Op-Code that was configured for *Conference Room Scheduler* in the APM. If necessary, retrieve it using the **Provider** command on the APM Configuration Entry screen.

## AKYD COMMAND: (Assignment of D<sup>term</sup> Function Key)

This command is used to assign key data on the D<sup>terms</sup> that are to be used to access *Conference Room Scheduler*. MAT Function Key Indexes #34 to #47 have been designated for use in the OAI system and correspond to the 14 OAI Key Codes as illustrated on the previous page. The AKYD command is used to assign a D<sup>term</sup> function key to the specific MAT Function Key Index that, in turn, corresponds to the previously assigned OAI Key Code. This command must be used to assign the function key on each D<sup>term</sup> that is to be set up with access to *Conference Room Scheduler*.

1. Enter the same tenant number that is configured for *Conference Room Scheduler* in the APM Application Configuration option ([page 6](#)).
2. Enter the station number of the D<sup>term</sup> on which the function key is being assigned.

- Enter to the D<sup>term</sup> function key field the MAT Function Key Index that corresponds to the previously assigned OAI Key Code.



**Figure 4-2 OAI Function Key Assignment Example**

The example above indicates that MSF #129 is configured for *Conference Room Scheduler* and is assigned through the AOKC command to OAI Key Code 10. OAI Key Code 10 corresponds in the PBX to MAT Function Key Index 43. Each D<sup>term</sup> in the system that is to access *Conference Room Scheduler* has function key 3 assigned to MAT Function Key Index 43 via the AKYI command. Now whenever a phone user presses function key 3 on any assigned D<sup>term</sup>, MSF 129 initiates communication with *Conference Room Scheduler*.

Conference Room Scheduler is now installed and ready to be initialized. Enter the APM Operations Menu and initialize Conference Room Scheduler according to instructions provided in the **APM Operations Manual**.

This Page Left Blank.