# Chapter 7—Presentation and Transfer of a Schedule Data Set

## 7.1 General

This Chapter describes the rules for formatting complete schedules for processing by computerized systems. A complete schedule comprises all services operated under an Airline Designator for the Period of Schedule Validity as specified in Record Type 2.

These rules define the formats of schedules to be transmitted between two computers.

Communication of schedules by direct computer-to-computer transmission depends on the hardware and software used by each party and the standards for the transmission should be agreed bilaterally.

Technical characteristics of physical devices may also be agreed bilaterally but some examples of minimum standards are defined in the Technical Specifications section.

The rules have been constructed by the former IATA Schedules Information Standards Committee in close liaison with the ATC Passenger Committee, a committee of the ATC (Air Traffic Conference of America—Division of Airlines for America, A4A). This definition can thus be regarded as a world standard, equally usable for International IATA Carriers and for the American Domestic Carriers, each with their own special requirements.

This schedule transfer will also involve other organisations, such as air traffic control authorities and timetable agencies.

In order to facilitate industrywide acceptance, a range of optional features, such as the use of local times, non-weekly flight indicator, meal codes, traffic rights/prohibition notes, free text Data Elements, etc. have been included in the data formats.

## 7.2 Principles for the Transfer of Computerized Schedules

**7.2.1**  Data transfer takes place on a bilateral basis.

**7.2.2**  The data transferred must not be reforwarded to other parties unless permission is granted in a bilateral agreement.

**7.2.3**  Unless bilaterally agreed, the SSIM Standards for transferring computerized schedules give only the facility to transmit **complete schedules**. It is the responsibility of the recipient to select those areas of the schedule which he requires, rather than for the sender to select parts of schedules. This means that the recipient determines which parts of the schedule are relevant for his own purposes and which parts of the schedule have changes since previous issues.

It is recommended that at least 360 days of advance schedules data, including Minimum Connect Time data, should be distributed on an equal basis to all schedules aggregators, reservations and ticketing systems in which a carrier participates, to maximise the efficiencies of such systems.

**7.2.4**  File or transmission may contain for any one carrier (represented by a unique Airline Designator) sets of schedules of different status and period of validity. It is not obligatory to send schedules within discrete IATA seasons. This is, however, recommended in respect of schedules for IATA Schedules Conference.

**7.2.5**  Whenever a schedule is received the information contained supersedes all information covering the same period on a previously received file.

## 7.3 Computerized Schedules Constraints

Five Data Records have been defined. Each complete schedule is made up of a combination of these five record types. Each record is 200 bytes long and is subdivided into Data Elements.

Each Data Element is expressed in a single fixed length format; it occupies a fixed position in a record. The Data Element Status describes whether the information is mandatory, conditional or optional, also how

redundant information is to be padded, e.g. with blanks or zeroes. Incompletely filled or unused Data Elements will be padded so that all records are 200 bytes long.

It is important to recognize that schedules may be sent in Local Time or UTC. A UTC/Local Time Variation field is supplied for conversion from one standard to the other. This will mean that Local Time oriented carriers (such as American domestics) can use this format to exchange schedules between themselves in Local Time. Likewise, UTC oriented carriers can do the same in UTC. Exchange between a UTC oriented user and a Local Time oriented user will be carried out in UTC or Local Time by bilateral agreement:

All data will be expressed in EBCDIC or ASCII;

A blank should be equivalent to the space character, defined as hexadecimal 40;

A zero should be equivalent to the display zero character, defined as hexadecimal F0;

Records will be blocked in 5's, i.e. one block is equivalent to 5 × 200 byte records.

## 7.4 Record Organisation

Five Record Types are used. These are:

Header Record, Carrier Record, Flight Leg Record, Segment Data Record and Trailer Record.

**1st Block—Header Record—Record Type 1** (Mandatory)

The first 200 bytes will comprise the record itself. The block will then be filled with 4 × 200 byte zero records to the standard 1000 byte block length.

**2nd Block—Carrier Record—Record Type 2** (Mandatory)

The first 200 bytes will comprise the record itself. The block will then be filled with 4 × 200 byte zero records to the standard 1000 byte block length.

**3rd and—subsequent blocks**

The third block is used to commence expressing the schedule data. Subsequent 200 byte records blocked in 5's will be used to describe the total schedule desired. If the schedule terminates in the middle of a block, e.g. record 2 of block 41, then the block must be filled as appropriate with 200 byte zero records to the standard 1000 byte block length.

**(a) Flight Leg Record—Record Type 3** (Mandatory)

**(b) Segment Data Record—Record Type 4** (Conditional for Data Element Identifiers below 100 and Data Element Identifiers associated with Traffic Restrictions; Optional for others)

**Other (Repeated) Record Types 3 and 4 before Trailer Record**

**Subsequent Block—Trailer Record—Record Type 5** (Mandatory)

The first 200 bytes will comprise the record itself. The block will then be filled with 4 × 200 byte zero records to the standard 1000 byte block length.

Further sets of Carrier, Flight Leg, Segment Data and Trailer records may be included.

**End of file** will be marked by a further two standard length blocks containing only zeros, followed by at least two physical tape marks.

***Note:***
*Segment Data Records should always immediately follow the Flight Leg Record to which they refer. Flight Leg Records should be in Flight Designator order, within that by Itinerary Variation Identifier, and within that by Leg Sequence Number.*

## 7.5 Record Composition

### 7.5.1 Header Record—Record Type 1

The record has a standard length of 200 bytes broken into the following fields. The purpose of this record is to assure the users that the data set is being correctly read, and defines, where applicable, the number of seasons which follow.

| Bytes From | To | Data Element | Data Element Status | Remarks |
|---|---|---|---|---|
| 1 | 1 | **Record Type** | **M** | Always 1 |
| 2 | 35 | **Title of Contents** | **M** | Always reads AIRLINE STANDARD SCHEDULE DATA SET |
| 36 | 40 | (Spare) | M | Blank fill |
| 41 | 41 | **Number of Seasons** | **O** | Blank fill |
| 42 | 191 | (Spare) | M | Blank fill |
| 192 | 194 | **Data Set Serial Number** | **M** | |
| 195 | 200 | **Record Serial Number** | **M** | Always 000001 |

## 7.5.2 Carrier Record—Record Type 2

The record gives an indication of the period(s) of applicability of the schedules that follow on subsequent records. The record has the standard length of 200 bytes broken into the following fields:

| Bytes From | To | Data Element | Data Element Status | Remarks |
|---|---|---|---|---|
| 1 | 1 | **Record Type** | **M** | Always 2 |
| 2 | 2 | **Time Mode** | **M** | U = UTC<br>L = Local Time |
| 3 | 5 | **Airline Designator** | **M** | IATA Airline Designator of carrier whose schedules are contained within this Carrier/ Trailer Record Left justify |
| 6 | 10 | (Spare) | M | Blank fill |
| 11 | 13 | **Season** | **O** | Blank fill |

| | | | | |
|---|---|---|---|---|
| 14 | 14 | **Automated Check-In** | **O** | **A** if service is available |
| | | | | **N** if service not available |
| 15 | 28 | **Period of Schedule Validity**<br><br>(from) bytes 15–21<br><br>(to) bytes 22–28 | **M** | First and last date of the schedules contained within this Carrier/Trailer Record. Shown as day, month, year in the time mode as specified in byte 2.<br><br>*Note: When the Scheduled Time of Aircraft Departure (STD) is stated in Local Time and the recipient converts to UTC, or vice versa, the Period of Operation may need to be adjusted to maintain the correct Days of Operation around season boundaries and across Daylight Saving Time changes. If this is not done correctly, a lost day of operation and/or a day duplication may occur.* |
| 29 | 35 | **Creation Date** | **M** | Day, month, year of data set creation (e.g. 01APR90) |
| 36 | 64 | **Title of Data** | **O** | Free format, blank fill e.g. SAS IATA DRAFT S90 |
| 65 | 71 | **Release (Sell) Date** | **O** | Day, month, year or blank fill |
| 72 | 72 | **Schedule Status** | **M** | P or C |
| 73 | 107 | **Creator Reference** | **O** | Free format, blank fill |
| 108 | 108 | **Duplicate Airline Designator Marker** | **C** | Blank fill |
| 109 | 168 | **General Information** | **O** | Free format, blank fill |
| △ 169 | 169 | **Secure Flight Indicator** | **O** | Blank Fill<br>S if subject to additional passenger profile information required |
| 170 | 188 | **In-Flight Service Information** defaults | **O** | The format is as defined in Chapter 2, except that the DEI (503) is not required. Right justified, blank fill |
| 189 | 190 | **Electronic Ticketing Information** | **O** | EN = default for Carrier is that flight legs are Not Electronic Ticketing Candidates<br>ET = default for Carrier is that flight legs are Electronic Ticketing Candidates |
| 191 | 194 | **Creation Time** | **M** | Hours, minutes of data set creation, e.g. 1346. |

| Bytes From | To | Data Element | Data Element Status | Remarks |
|---|---|---|---|---|
| 195 | 200 | Record Serial Number | M | Numeric. One greater than the previous record which must have been either a Header Record or a Trailer Record. Zero fill. Right justified. See Chapter 2 Record Serial Number description if record count exceeds 999999. |

## 7.5.3 Flight Leg Record—Record Type 3

The record(s) gives schedule details leg by leg for each Flight Designator. The record has a standard length of 200 bytes broken into the following fields:

| Bytes From | To | Data Element | Data Element Status | Remarks |
|---|---|---|---|---|
| 1 | 1 | Record Type | M | Always 3 |
| 2 | 2 | Operational Suffix | C | Blank fill |
| (3) | (9) | Flight Designator | M | |
| 3 | 5 | Airline Designator | M | Left justified. Code as in bytes 3–5 of Record Type 2 |
| 6 | 9 | Flight Number | M | Right justified, blank fill |
| 10 | 11 | Itinerary Variation Identifier | M | Number between 01 and 99 |
| 12 | 13 | Leg Sequence Number | M | Number between 01 and 99, sequencing continuous flight legs as they operate within each Itinerary Variation Identifier |
| 14 | 14 | Service Type | M | Alpha |
| 15 | 28 | Period of Operation<br><br>(from) bytes 15–21<br><br>(to) bytes 22–28 | M | Day, month, year This field applies to the aircraft STD and must be compatible with the Time Mode in byte 2 of Record Type 2 |
| 29 | 35 | Day(s) of Operation | M | This field applies to the aircraft STD and must be compatible with the Time Mode in byte 2 of Record Type 2. This field is blank filled, for non-operational days |
| 36 | 36 | Frequency Rate | C | Blank fill |
| 37 | 39 | Departure Station | M | 3-character IATA code |

| 40 | 43 | **Scheduled time of Passenger Departure (Passenger STD)** | M | This field must be compatible with the Time Mode in byte 2 of Record Type 2. Although this time will nearly always be the same as aircraft STD it must be completed |
|----|----|----|----|----|
| 44 | 47 | **Scheduled Time of Aircraft Departure (Aircraft STD)** | M | This field must be compatible with Time Mode in byte 2 of Record Type 2. |
| 48 | 52 | **UTC/Local Time Variation** (for Departure Station) | M | Hours and Minutes variation from UTC (see Appendix F) |
| 53 | 54 | **Passenger Terminal** for departure station | C | Alphanumeric, left justify, blank fill |
| 55 | 57 | Arrival **Station** | M | 3-character IATA code |
| 58 | 61 | **Scheduled Time of Aircraft Arrival (Aircraft STA)** | M | This field must be compatible with the Time Mode in byte 2 of Record Type 2. |
| 62 | 65 | **Scheduled time of Passenger Arrival (Passenger STA)** | M | This field must be compatible with the Time Mode in byte 2 of Record Type 2. Although this time will nearly always be the same as aircraft STA it must be completed |
| 66 | 70 | **UTC/Local Time Variation** (for Arrival Station) | M | Hours and Minutes variation from UTC (see Appendix F) |
| 71 | 72 | **Passenger Terminal** for arrival station | C | Alphanumeric, left justify, blank fill |
| 73 | 75 | **Aircraft Type** | M | IATA Aircraft Type. See Appendix A. |
| 76 | 95 | **Passenger Reservations Booking Designator (PRBD)** **Note:** Either this field or the Aircraft Configuration/Version (in bytes 173–192) is mandatory. | C | Blank fill |
| 96 | 100 | **Passenger Reservations Booking Modifier (PRBM)** | C | Blank fill by Passenger Reservations Booking Designator class |
| 101 | 110 | **Meal Service Note** | O | Blank fill by Passenger Reservations Booking Designator class |
| 111 | 119 | **Joint Operation Airline Designators** | C | In the case of 2 character Airline Designators bytes 113 and/or 116 and/or 119 must be blank. Left justify and blank fill if fewer than three carriers. |
| 120 | 121 | **Minimum Connecting Time International/Domestic Status** | O | Blank fill Two character combination of D and/or I |

| | | | | |
|---|---|---|---|---|
| | | | | Position 120 is leg departure status<br>Position 121 is leg arrival status |
| △ 122 | 122 | **Secure Flight Indicator** | O | Blank Fill<br>S if subject to additional passenger profile information<br>required<br>X if additional passenger profile information not required |
| 123 | 127 | (Spare) | M | Blank fill |
| 128 | 128 | **Itinerary Variation Identifier Overflow** | C | Blank fill |
| 129 | 131 | **Aircraft Owner** | C | Left justify, blank fill |
| 132 | 134 | **Cockpit Crew Employer** | C | Left justify, blank fill |
| 135 | 137 | **Cabin Crew Employer** | C | Left justify, blank fill |
| (138) | (146) | **Onward Flight** | O | Blank fill |
| 138 | 140 | **Airline Designator** | M | Left justify, blank fill |
| 141 | 144 | **Flight Number** | M | Right justify, blank fill |
| 145 | 145 | **Aircraft Rotation Layover** | C | Blank fill |
| 146 | 146 | **Operational Suffix** | C | Blank fill |
| 147 | 147 | **Automated Check-In** | O | Blank fill |
| | | | | **A** if service is available |
| | | | | **N** if service not available |
| 148 | 148 | **Flight Transit Layover** | C | Blank fill |
| 149 | 149 | **Operating Airline Disclosure—Code Share (DEI 2)**<br>**or**<br>**Operating Airline Disclosure—Shared Airline or Wet Lease Designation (DEI 9)** | C | Blank fill |
| 150 | 160 | **Traffic Restriction Code** | C | Blank fill |
| 161 | 161 | **Traffic Restriction Code Leg Overflow Indicator** | C | Blank fill |

| Bytes From | To | Data Element | Data Element Status | Remarks |
|---|---|---|---|---|
| 162 | 172 | (Spare) | M | Blank fill |
| 173 | 192 | **Aircraft Configuration/Version** **Note:** Either this field or the Passenger Reservations Booking Designator (bytes 76–95) is mandatory. | C | Blank fill |
| 193 | 194 | **Date Variation** | O | Blank fill |
| 195 | 200 | **Record Serial Number** | M | Right justified, 0 filled and sequential to previous record irrespective of its Record Type. See Chapter 2 Record Serial Number description if record count exceeds 999999. |

## 7.5.4 Segment Data Record—Record Type 4

The record(s) specifies the information applicable to a unique Flight Leg Record as specified in bytes 02–14.

Although no order is prescribed when multiple Data Element Identifiers follow the same Flight Leg Record, the following is recommended:

—when multiple Segment Data Records apply to different Off Points, the Segment Data Records should be ordered according to the occurrence of the Off Point in the itinerary;

—if multiple Segment Data Records apply to the same Off Point, they should appear together and be ordered according to the numeric sequence of the Data Element Identifiers starting with the lowest number.

However, systems should be able to process data elements in any order.

The record has a standard length of 200 bytes broken into the following fields:

| Bytes From | To | Data Element | Data Element Status | Remarks |
|---|---|---|---|---|
| 1 | 1 | **Record Type** | M | Always 4 |
| 2 | 2 | **Operational Suffix** | C | Blank fill |
| (3) | (9) | **Flight Designator** | M | |
| 3 | 5 | **Airline Designator** | M | Left justified. Code as in bytes 3–5 of Record Type 2. |
| 6 | 9 | **Flight Number** | M | Right justified, blank fill |
| 10 | 11 | **Itinerary Variation Identifier** | M | Number between 01 and 99 |

| | | | | |
|---|---|---|---|---|
| 12 | 13 | **Leg Sequence Number** | M | Number between 01 and 99 sequencing continuous flight legs as they operate within each Itinerary Variation Identifier |
| 14 | 14 | **Service Type** | M | Alpha |
| 15 | 27 | (Spare) | M | Blank fill |
| 28 | 28 | **Itinerary Variation Identifier Overflow** | C | Blank fill |
| 29 | 29 | **Board Point Indicator** | M | Alpha |
| 30 | 30 | **Off Point Indicator** | M | Alpha |
| 31 | 33 | **Data Element Identifier** | M | Right justify, zero fill |
| (34) | (39) | **Segment** | M | |
| 34 | 36 | Board Point | M | 3-character IATA Code |
| 37 | 39 | Off Point | M | 3-character IATA Code |
| 40 | 194 | **Data** (associated with Data Element Identifier) | C | The format for each data element is defined in Chapter 2. Blank fill. |
| 195 | 200 | **Record Serial Number** | M | Sequential to previous record irrespective of its Record Type. 0 filled. Right justified. See Chapter 2 Record Serial Number description if record count exceeds 999999. |

## 7.5.5 Trailer Record—Record Type 5

The record defines the end of the data under the preceding Carrier Record. Further Carrier/Trailer Record combinations may appear on this data set. The record has a standard length of 200 bytes broken into the following fields:

| Bytes From | To | Data Element | Data Element Status | Remarks |
|---|---|---|---|---|
| 1 | 1 | **Record Type** | M | Always 5 |
| 2 | 2 | (Spare) | M | Blank fill |

| 3 | 5 | **Airline Designator** | M | Left justify |
|---|---|---|---|---|
| 6 | 12 | **Release (Sell) Date** | O | As in bytes 65–71 of Carrier Record or blank fill |
| 13 | 187 | (Spare) | M | Blank fill |
| 188 | 193 | **Serial Number Check Reference** | M | 6-digit numeric Serial Number. Equal to the Record Serial Number of the previous record irrespective of its Record Type and one less than the Record Serial Number of this Trailer Record (bytes 195–200). |
| 194 | 194 | **Continuation/End Code** | M | C or E |
| 195 | 200 | **Record Serial Number** | M | Sequential to previous record irrespective of its Record Type 0 filled. Right justified. See Chapter 2 Record Serial Number description if record count exceeds 999999. |

This block is then padded to the standard length (5 × 200 bytes) with zeroes. If a new period or season is to be put on the same physical device, as the first period or seasons, then it must commence with the new Carrier Record, and then follow the rules described in this Chapter.

At the end of the data set there must be 2 further length (5 × 200 bytes) blocks, which contain only zeros. For magnetic tapes two physical tape marks must follow.

## 7.6 Application

The code values are as follows:

| 1 | Arrival/departure on the next day |
|---|---|
| 2 | Arrival/departure two days later etc. |
| 0 | Arrival/departure on the same day |
| A | Arrival/departure is previous day |

The first indicator stated in the format applies to the Departure Variation and the second indicator applies to the Arrival Variation.

Example:

    3 XX 12340101J15AUG0615DEC061234567 ATL20002000-0500SLGW09000900…01
    3 XX 12340102J16AUG0616DEC061234567 LGW10301030+0000SFRA13301330…11
    3 XX 12340103J16AUG0616DEC061234567 FRA16001600-0100 SIN04000400…12
    3 YY 010101J15AUG0615DEC061234567 AKL10301030+1000 HNL21152115…0A
    3 YY 010102J14AUG0614DEC061234567 HNL23002300-1000 LAX07000700…A0