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# SerialPlayer Data File Format

*File Format for the .ser file extension*

2.0

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## Document Revision

Version	Date	Author	Description
1.0	3-Nov-2006	John Donoghue	Initial version
2.0	12-Sep-2008	John Donoghue	Update for Serialplayer 2 differences

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# 1 Introduction

## 1.1 Overview

SerialPlayer is an application that allows the user to record serial data on a Personal Computer (PC) and replay back the data at a later time.

It is available at <http://www.lostbard.com/serialplayer/index.html>

The data can be saved to a file as well as exported in imported from a number of different file sources.

The file format used for native SerialPlayer data files is a simple binary format that provides information on the timing of when a series of bytes was received during recording. This information is used to determine when to send data during playback.

## 1.2 Purpose

This document provides a specification of the file format used for the native saving of data within SerialPlayer.

## 1.3 Referenced Documents

Document ID	Version	Description
N/A		

## 1.4 Abbreviations and Acronyms

PC	Personal Computer
SerialPlayer	The SerialPlayer application

## 2 File Format

### 2.1 Overview

The SerialPlayer data format is a simple file format used for saving to SerialPlayer files with the .ser extension.

The file format provides information on when a series of bytes of data was sent in relation to the start of recording as well as containing the actual bytes itself.

### 2.2 Data Chunks

The file is essentially a series of data “chunks”, with each “chunk” containing a 2 sync bytes, data size, actual data bytes and end marker as shown in Table 1.

If a chunk is read from file that does not contain a matching end marker for the given chunk size, the chunk is ignored and SerialPlayer will skip to the next.

Offset	Value Name	Description
0	SYNC0	The first sync byte of the chunk. It is always “S” (Hex 0x53)
1	SYNC1	The 2 <sup>nd</sup> sync byte. It is always hex 0x01.
2 .. 5	TickTime	Integer number of serial player ticks from the beginning of the file. Ie: a value of 10 would mean 10 ticks from the start of the file. The value is stored in little endian format. (LSB)  In SerialPlayer V2.X, a tick period is a 10th of a second. In SerialPlayer V2.X, the tick period was changed to a 100 <sup>th</sup> of a second.
6	DataLen	Number of bytes of serial data to follow in the chunk. (0 .. 255)
7 .. DataLen+7	SerialData	The actual data bytes of serial data received. The number of them defined in the DataLen value above.
DataLen+8	End Marker	The end of chunk marker: hex 0x0A

Table 1: Chunk Offset Definition

## 2.3 *Multiple Chunks*

The next “chunk” should follow directly after the previous, however the specification of the file format allows non serial data to be within the file and safely ignored if it does not meet the chunk sync/endmarker requirements.

## 3 File Format Limitations

### 3.1 *Device Properties*

The file format currently does not provide any way of saving information such as baud rate at which the data was recorded, serial port recorded from or other user data.

This information may be added to the format at a later date.

### 3.2 *Tick Rate Changes*

Tick period changed between SerialPlayer 1.X to 2.X.

The file format does not contain any information to differentiate between files created in one version of the serial player to another. This will cause files recorded in Serial Player 1.X to be played back in SerialPlayer 2.X as ten times the speed.

SerialPlayer 2.X does provide a “Stretch Time” option to change the timing of files, allowing older files to be easily modified to run correctly on the newer versions of software.