

# Allegiant Software Updates

The software (SW) and Firmware (FW) updates listed below are for various products that make up the Allegiant series of matrix switcher/controllers. A basic understanding of the Allegiant product to be upgraded, familiarity with using a PC, and familiarity with using Windows operating systems are strongly recommended.

## 1. Allegiant CPU Firmware & PC Software Compatibilities

In general, old firmware is not compatible with the latest versions of MCS and GUI software, so you should verify that your PC-based software is compatible with the desired CPU FW upgrade. Identify the current CPU FW version and PC-based software, then check the compatibilities from the Tables below.

### a. Master Control Software.

There are two distinct versions of the Allegiant Master Control Software (MCS). Older versions of the MCS dating back to the introduction of the Allegiant series were implemented using a DOS platform. DOS versions of the MCS have been discontinued since 1998 and do not support firmware releases of Allegiant CPU modules made after 1998. In 1998, a Windows™ based MCS platform was released.

**Note:** DOS versions of MCS software (i.e., especially the very old versions) are likely to have problems operating on Pentium class or better PCs.

#### i. Windows™ based MCS versions:

To determine which version of CPU firmware is compatible with your Windows version of the MCS, please see the table below.

**NOTE:** Only the most recent MCS software release is available from the product catalog page. Older versions of MCS are available by contacting your local Technical Support.

MCS Version	Compatible CPU	Approximate release date of MCS
<b>2.80</b>	8.6x 8.7x, 10.0	June 2006
<b>2.72</b>	8.6	July 2004
<b>2.70</b>	8.5, 8.6	May 2004
<b>2.60</b>	8.1, 8.2, 8.3, 8.4	June 2000
<b>2.50</b>	8.0	June 1999
<b>2.41</b>	7.6, 7.8	March 1999
<b>2.40</b>	7.6, 7.7	October 1998
<b>None</b>	All firmware less than 7.7	(Not applicable)

**Table 1** – Compatibility of Windows based Master Control Software and CPU Firmware

#### ii. DOS-based MCS versions:

Allegiant series switcher/controllers with firmware version less than 7.7 had a compatible DOS version of the Master Control Software (MCS) unique to the model type. This means that a "TC8359" software (for an Allegiant 8300 system) package could not be used with an Allegiant 8800 system. In addition, because of feature changes that have occurred over the life of the product, there are different versions of the MCS corresponding to different versions of the Allegiant's CPU firmware.

CPU	Allegiant	MCS DOS		CPU	Allegiant	MCS DOS		CPU	Allegiant	MCS DOS
	Family	Version:			Family	Version:			Family	Version:
0.74	8700	1.12		4.9	8600	4.9		6.6	8600	6.7
0.86	8700	1.12		4.9	8700	4.9		6.6	8700	6.7
0.87	8700	1.12		4.9	8800	4.9		6.6	8800	6.7
0.91	8700	1.12		5	8600	4.9		6.7	8600	6.7
0.95	8700	1.12		5	8700	4.9		6.7	8700	6.7
0.96	8700	1.12		5	8800	4.9		6.7	8800	6.7
0.96	8700-3	0.704		5.1	8600	5.1		6.7	88K514	88K514
1.13	8500	1.3		5.1	8700	5.1		6.8	8301	6.8
1.202	8500	1.3		5.1	8700-3	5.1		6.8	8600	6.8
1.21	8500	1.3		5.1	8800	5.1		6.8	8800	6.8
1.211	8500	1.3		5.2	8600	5.2		6.9	8301	6.8
1.41	8500	1.3		5.2	8700	5.2		6.9	8600	6.8
2	8500	2		5.2	8700-3	5.2		6.9	8800	6.8
2.1	8500	2		5.2	8800	5.2		7	8301	6.8
2.2	8500	2		5.3	8600	5.4		7	8600	6.8
2.3	8500	2		5.3	8700	5.4		7	8800	6.8
2.4	8500	2		5.3	8700-3	5.3		7.1	8301	7.1
2.5	8500	2		5.3	8800	5.4		7.1	8500	7.1
2.6	8500	2		5.5	8600	5.4		7.1	8600	7.1
3	8500	3.2		5.5	8700	5.4		7.1	8800	7.1
3.1	8500	3.2		5.5	8800	5.4		7.2	8301	7.1
4	8500	4		5.6	8500	5.6		7.2	8500	7.1
4	8700	4		5.7	8500	5.6		7.2	8600	7.1
4.2	8500	4.2		5.8	8500	5.6		7.2	8800	7.1
4.2	8600	4.2		6	8600	6		7.3	8301	7.1
4.2	8700	4.2		6	8700	6		7.4	8301	7.1
4.2	8800	4.2		6	8800	6		7.4	8500	7.1
4.3	8500	4.3		6.1	8600	6.1		7.4	8600	7.1
4.3	8600	4.3		6.1	8700	6.1		7.4	8800	7.1
4.3	8700	4.3		6.1	8800	6.1		7.5	8301	7.6
4.3	8800	4.3		6.1	8800-3	6.1		7.5	8500	7.6
4.5	8500	4.9		6.2	8600	6.2		7.5	8600	7.6
4.5	8600	4.9		6.2	8700	6.2		7.5	8800	7.6
4.5	8700	4.9		6.2	8800	6.2		7.6	8300,01	7.6
4.5	8800	4.9		6.2	8800-3	6.2		7.6	8500	7.6
4.51	8500	4.9		6.3	8600	6.2		7.6	8600	7.6
4.52	8500	4.9		6.3	8700	6.2		7.6	8800	7.6
4.6	8600	4.9		6.3	8800	6.2		7.7	8300.01	7.6
4.6	8700	4.9		6.3	8800-3	6.2		7.7	8500	7.6
4.6	8800	4.9		6.4	8600	6.2		7.7	8600	7.6
4.7	8600	4.9		6.4	8700	6.2		7.7	8800	7.6
4.7	8700	4.9		6.4	8800	6.2		7.8	8300,01	7.6
4.7	8800	4.9		6.4	8800-3	6.2		7.8	8500	7.6
4.8	8600	4.9		6.5	8600	6.7		7.8	8600	7.6
4.8	8700	4.9		6.5	8700	6.7		7.8	8800	7.6
4.8	8800	4.9		6.5	8800	6.7				

**Table 2** – DOS-based versions of Master Control Software

- b. **Allegiant LTC 8850 Graphical User Interface (GUI) Software releases:**  
Refer to the table below for CPU FW compatibility.

<b>GUI Version</b>	<b>Compatible CPU</b>	<b>Approximate release date of GUI</b>
<b>2.80</b>	8.6x 8.7x, 10.0	June 2006
<b>2.72</b>	8.6	July 2004
<b>2.70</b>	8.5, 8.6	May 2004
<b>2.60</b>	8.1, 8.2, 8.3, 8.4	June 2000
<b>2.50</b>	8.0	June 1999
<b>2.41</b>	7.6, 7.8	March 1999
<b>2.40</b>	7.6, 7.7	October 1998
<b>2.30</b>	7.5	February 1998
<b>2.20</b>	7.2	July 1997
<b>2.11</b>	7.1	May 1997
<b>2.10</b>	7.0	December 1996
<b>1.04</b>	6.7	June 1996
<b>None</b>	All firmware less than 6.5	(Not applicable)

**Table 3** – Compatibility of Allegiant GUI Software and CPU Firmware

2. **How To Determine Your Allegiant CPU Firmware Version:**

There are three ways to determine your CPU firmware version number:

a. **Method 1: User Keyboard Function 23**

- Select User Keyboard Function 23 from an operating Allegiant system keyboard.  
The revision number of the CPU will display on the monitor text overlay in the format “x.xx,” where x.xx specifies the firmware version. If an “ERR 15” appears, it means that this user feature is not supported because the CPU is too old, and you will need to use one of the other options below.

b. **Method 2: Check the Label on the CPU circuit board**

- Remove the front panel of the modular CPU card cage unit. Turn off main power using the power switch on the Allegiant Power Supply.
- The CPU (or Data Receiver) module is the PCB located next to the Power Supply module. Using standard practices for handling static-sensitive devices, carefully pull the CPU module out of the card cage until you can see 2 or 4 relatively large ICs with white copyright labels on them.
- In some cases, the original firmware version may be listed directly, such as “Ver 1.40”. In other cases, there will be a part number that includes the firmware version as show below.

<b><u>Type module:</u></b>	<b><u>Part number printed on IC:</u></b>
CPUs	303-1029-xxx
Data Receivers	303-1061-xxx

where the 1<sup>st</sup> character of “xxx” denotes the IC, and the second and third characters of the “xxx” represent the firmware version number.

**NOTE:** The label will represent the original firmware version supplied in the product when first delivered. If you know or suspect that the firmware was upgraded, use Method 3 to determine the firmware number.

c. **Method 3: Allegiant Console cable**

- i. Connect a PC to the Allegiant Console and attach an Allegiant Console cable between a PC com port and the Allegiant Console port or Printer port.
- ii. Open a Windows HyperTerminal session and configure HyperTerminal for “N-8-1”, Handshake “on.” Set the baud rate to one of the following:

1<sup>st</sup> generation CPUs default baud rate = 1200

2<sup>nd</sup> generation CPUs default baud rate = 19200

3<sup>rd</sup> generation CPUs default baud rate = 115200

- iii. Press the ENTER key a few times to retrieve the Allegiant Prompt, which becomes “TC8x00 >”, where “x” represents the number of the model series. Once you see the prompt, type the command “Version” and press Enter. The CPU firmware version will display.

3. **CPU Firmware Upgrade**

a. **Saving user configuration data**


Upgrading CPU firmware causes loss of all user-programmed data. **Once the firmware upgrade process begins, all user data programmed into an existing Allegiant CPU will be lost!** If concerned about losing data, first save the User Configuration Data using one of the following three methods:

- i. **PC based Master Control Software** - If you are using the PC based Allegiant Master Control Software (MCS) or Allegiant GUI software, you should “Upload” all your tables from the existing CPU and save the information to disk before starting the upgrade process.
- ii. **Hardcopy Printout Method** – If you do not have the Allegiant Master Control Software available, it is possible to connect a RS-232 serial printer to the Allegiant CPU bay and printout hardcopies of the tables. These hardcopies can then be used as a reference for manually re-entering the data after the upgrade has been completed. Refer to the Allegiant series Instruction manual for the procedure to attach a printer to the system.
- iii. **Manual copy Method** – The least favorite method to back up your data before upgrading is to step through each user programmed item and manually copy down the user data to paper. Depending on the original user configuration data, this may include camera titles, monitor titles, sequence steps, alarm settings, and other system settings that would be unique to your site.

b. **General CPU Upgrade Information:**

Three generations of Allegiant CPU modules exist. The 1<sup>st</sup> generation CPUs cannot be upgraded.

- i. **Manufactured prior to 1995:** These “1<sup>st</sup> generation” versions do not support the ability to be upgraded. These old CPUs have a single 8-position dip switch near the front of the board. Newer/current CPU versions do not have this switch.
- ii. **Manufactured since 1995-1997:** These Allegiant CPUs comprise the “2<sup>nd</sup> generation” and the “3<sup>rd</sup> generation” versions. They support the ability to be upgraded using a 'software download' approach.
  1. The 2<sup>nd</sup> generation versions contain **two** 8-position dip switches.
  2. The 3<sup>rd</sup> generation versions contain **three** 8-position dip switches.
- iii. The most recent CPU firmware files are included in the ZIP files on each Allegiant product page.

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- iv. The FW files for the 2<sup>nd</sup> generation CPUs begin with the number of an Allegiant model series (i.e., such as “8600”) followed by the firmware revision number, and ending in **".MOT"**.
    - 1. For example, version 8.77.00.01 firmware for a 2<sup>nd</sup> generation LTC-8500 system would be named "**8500\_8.77.00.01.MOT**".
  - v. The files for the 3<sup>rd</sup> generation CPUs begin with 86-88-89, followed by the firmware revision number, and ending in **".MOT"**. These files are in the **Generation-3-CPU\_86\_88\_89** subfolder.
    - 1. For example, version 10.00.00.29 firmware for a 3<sup>rd</sup> generation LTC-8600 system would be named "**86-88-89\_10.00.00.29.MOT**".
  - vi. Firmware files are transferred from your PC to the Allegiant using a PC based utility program that is included in the ZIP file.
- c. **Allegiant CPU Firmware Update Procedure (except LTC 8900 series):**
- i. If not previously installed, download and install the Allegiant Firmware Downloader program on your PC.
  - ii. Download the latest version of CPU firmware and save the file(s) in the same directory as the Downloader utility program.
  - iii. Connect the Allegiant CONSOLE serial cable between the CONSOLE port of the CPU and an available PC com port.
  - iv. Open the Allegiant Firmware Downloader program. Select the appropriate PC com port number and the desired "MOT" file containing the Allegiant operating system firmware. Use the 'Browse' button if necessary to select the correct file name.
  - v. Press download to begin the upgrade. Once finished, allow 20-30 seconds for the Allegiant CPU to complete the initialization process. It will then be ready for use, but in a factory default state.
  - vi. Re-enter your user configuration data as necessary.
- d. **LTC 8900 series CPU Firmware Update Procedure**
- The CPU firmware upgrade procedure for Allegiant LTC 8900 series models is complex. There are procedure options to limit the downtime of the system during the upgrade process. Please refer to the separate document that is part of the ZIP file for complete details.

#### 4. Helpful Information

a. **Allegiant Software Security Device Information:**

Software licensing for many of the Allegiant-related software packages is controlled by the use of a “dongle” type security device that must be attached to the PC before the software is 100% operational. If the dongle is not attached, the software is designed to operate in a “demo” mode. With the Master Control Software, for example, configuration data can be entered and saved while operating in demo mode, but you will not be able to establish communication to an Allegiant CPU and transfer the data while in this mode.

There are 2 types of dongles. The older version attached to the PC’s 25-pin parallel port and was either white, black, or tan in color. (Tan and black are very old versions.) The more recent version is USB-based, and can attached directly to a PC’s USB port or a USB Hub connected to the PC.



## b. RS-232 Cables

The following RS-232 cables are provided with the Allegiant systems and some of them may also be purchased as spare parts. If you prefer to make one yourself, refer to the drawings in the PDF file named *Various\_RS-232\_Cables* for the required cable pinouts. This document is part of the ZIP file.

### i. **Allegiant CONSOLE Interface Cable:**

In order to do a firmware upgrade on an Allegiant series main CPU or Data Receiver module found in Allegiant Camera/Monitor Expansion bays, an RS-232 serial interface cable must be connected between the PC and the Allegiant device. This is the same cable supplied with the LTC 8059/00 Allegiant Master Control Software package and the LTC 8850/00 Allegiant GUI software package. If you prefer to make one yourself, click the link below to open a drawing of the required cable pinouts.

### ii. **Industry Standard Null Modem Interface Cable:**

In order to do a firmware upgrade on certain non-Allegiant series devices, an industry-standard RS-232 Null Modem interface cable must be connected between the PC and the device. Such a cable can be purchased directly from Bosch Security Systems using part number “S1385.” If you prefer to make one yourself, click the link below to open a drawing of the required cable pinouts.

### iii. **Allegiant ‘Alarm-port-as-Console’ Cable:**

If more than one serial interface must be connected to your Allegiant CPU, it is possible to re-configure the Allegiant’s Alarm Port into an additional CONSOLE port (refer to Allegiant Instruction manual for configuration details). Since the Alarm Port of an Allegiant CPU provides a low voltage AC output, it is important to use the correct serial interface cable to prevent damage to the external PC or controlling device. An interface cable such as this is not available from Bosch Security Systems, but you can make one yourself following the drawing in the link below.

### iv. **Allegiant Keyboard Cable**

This is the cable that connects any Allegiant keyboard to the keyboard port of the Allegiant system.

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