

# AstroComms Mega Shield

Software User Manual v1.0 - 03/2020

## Welcome to this manual

This manual will show you how to use your AstroComms board.

First connect a USB cable to your AstroComms and open Arduino IDE (or any other app that supports a serial terminal using USB), but Arduino IDE it's highly recommended.

You will see the following welcome message on the app

```
Welcome to AstroComms Mega Shield and Mega Shield Pro v1.0.2
Developed in 2020 by walex - Astromech Spain
```

You can enter commands directly on the terminal or type '/help' for more information.

Do not forget to send CR after the command.

Do you need assistance?

Please visit [www.astrocomms.net](http://www.astrocomms.net) for more info

Much to learn you still have my old Padawan. This is just the beginning

Waiting for shadow boot... done!

Your R2-D2 unit it's listening now

Touch a key on your PlayStation Navigation Controller, you will see some lines on the screen, for example:

```
>>> Received from shadow dome :SE10
<<< Send to dome :SE10
<<< Send to Flthys #A0971
```

First line shows received command from ShadowMD, second line shows where the command has been forwarded to, and third command shows command send to Flthy

Not all commands are send to Fltys, for instance this one

```
>>> Received from shadow body :0P00
<<< Send to body :0P00
```

# Sending Commands

You can type commands directly on the console and press enter to send it to your droid.

For the first command you should try this: /help

```
/commands - display the full list of commands for Marcdduino, Holo  
Projectors servos and leds, Teeces and sounds  
/read all - reads all commands data  
/read xx - reads command data to send to Flthys for a given index from 00  
to 22. Example: /read 01  
/write xx command milliseconds - writes command data to Flthys for a  
given index from 00 to 22. Example: /write 01 #A0971 10000  
/reset - reset command table to factory
```

All options will be explained later

Type: SE01 to make your R2 unit scream.

NOTE: You need to send CR after any command, so please check if you need to change some parameter on your app to do so automatically when you press send button. For instance, on Arduino IDE you need to set Carriage Return

## /commands

This command will display the full list of commands available in your AstroComms board.

The list it's self explanatory, and you can send any of those to your droid at any time.

### MARCDUINO SEQUENCES

```
:SE00 Close all panels (full speed), servo off - use as init only. Use  
CL00 for all soft close  
:SE01 Scream, with all panels open  
:SE02 Wave, one panel at a time  
:SE03 Fast (smirk) back and forth wave  
:SE04 Wave 2 (open progressively all panels, then close one by one)  
:SE05 Beep cantina (with marching ants panel action)  
:SE06 Faint/short circuit  
:SE07 Cantina dance (orchestral, rythmic panel dance)  
:SE08 Leia  
:SE09 Disco  
:SE10 Quite Mode reset (panel close, stop holos, stop sounds)  
:SE11 Full Awake Mode reset (panel close, random sound, holo movement, no  
holo lights)  
:SE12 Top Panels to RC  
:SE13 Mid Awake Mode reset (panel close, random sound, stop holos)  
:SE14 Awake+ Mode reset ((panel close, random sound, holo movement,  
lights on)  
:SE15 Screams no panels  
:SE51 Scream, with all panels open  
:SE52 Wave, one panel at a time  
:SE53 Fast (Smirk) back and forth wave  
:SE54 Wave 2 (open progressively all panels, then close one by one)  
:SE55 Marching ants  
:SE56 Faint/Short Circuit  
:SE57 Rythmic panel dance)
```

## DOVE PANELS

x parameter: 0 all panels or 1-10 panel number)  
:OPxx Open panel xx number)  
:CLxx Close panel xx number)

## BODY PANELS

x parameter: 0 all panels or 1-10 panel number)  
:OPxx Open panel xx number)  
:CLxx Close panel xx number)

## HOLO PROJECTORS SERVOS

x parameter: 0 all hp or 1-3 HPnumber)  
\*RDxx Random move HP xx number)  
\*STxx Stop HP xx number)  
\*HDxx Still HP xx number)

## HOLO PROJECTORS LEDS

x parameter: A all, F Front, R Rear HP, T Top HP, X Front & Rear, Y Front & Top, Z Rear & Top  
c parameter (optional): 1 Red, 2 Yellow, 3 Green, 4 Cyan, 5 Blue, 6 Magenta, 7 Orange, 8 Purple, 9 White, 0 Random  
s paramter (optional): Speed setting integer for the Dim Pulse LED function below (0-9)  
#x001 Leia sequence, Random shades of blue to mimic Leia Hologram  
#x002c Color projector sequence, Like Leia above but using color command value  
#x003cs Dim pulse sequence, color slowly pulses on and off  
#x004c Cycle sequence, using color command value  
#x005c Toggles color, simply sets LEDs to solid color value  
#x006 Rainbow sequence  
#x007c Short circuit, led flashes on and off with interval slowing over time  
#x96 Clears LED, Disables Auto LED Sequence & Off Color  
#x971 Clears LED, Enables Auto LED Sequence, Enables Default Sequences, Disables Off Color  
#x972 Clears LED, Enables Auto LED Sequence, Enables Random Sequences, Disables Off Color  
#x98 Clears LED, Disables Auto LED Sequence, Enables Off Color  
#x991 Clears LED, Enables Auto LED Sequence, Enables Default Sequences, Enables Off Color  
#x992 Clears LED, Enables Auto LED Sequence, Enables Random Sequences, Enables Off Color

## TEECES

x parameter: 0 - All, 1 TFLD (Top Front Logic Display), 2 BFLD (Bottom Front Logic Display), 3 RLD (Rear Logic Display), 4 Front PSI, 5 Rear PSI  
@xT0 Teeces test (switches all logics to on)  
@xT1 Teeces display to normal random  
@xT2 Teeces flah, same as alarm  
@xT3 Teeces alarm for 4 seconds (flashes displays on and off)  
@xT4 Teeces short circuit (10 seconds sequence)  
@xT5 Teeces scream, same as alarm  
@xT6 Teeces Leia, 34 seconds (moving horizontal bar)  
@xT10 Teeces Star Wars. Displays 'Star Wars' on RLD, 'STARS' on TFLD, 'WARS' on BFLD  
@xT11 Teeces March (alternating halves of logics, 47 seconds)  
@xT20 Teeces turn displays off  
@xP61 Teeces swtich display to aurabesh characters

@xP60 Teecees switch display to latin (e.g.english) characters  
@xT92 Teecees spectrum, bargraph displays. Runs forever, reset by calling to 0T1  
@xT100 Teecees text displays. Displays text set by the M command below  
@xMmessage Teecees 'message' is an ASCII string to be displayed. Only uppercase implemented.

#### SOUND

x parameter: sound number  
\$xx Play sound  
\$R Play random sound  
\$S Play scream sound  
\$D Play disco sound  
\$c Play beep cantina sound  
\$F Play faint sound  
\$C Play cantina sound  
\$L Play Leia sound  
\$M Play Imperial March sound  
\$s Stop sound  
\$+ Increase volume  
\$- Decrease volume  
\$m Set volume to medium

## /read all

There are 23 memory registers from 0 to 22

This command will display every command on the board memory.

Every command correspond to a Mardcuino sequence, and you have access to two fields: Flthy command and Flthy reset time.

First one is the command that will be send to Flthy when that Marcdcuino command is received, and second one is the reset time (expressed in milliseconds, 4.000 means 4 seconds). If you specify a number (0 means take no action), a reset will be send to Flthy after that time, returning your holo projectors to default status.

```
Command number: 0  
Mardcuino command >>> :SE00  
Flthy command >>> #A0971  
Flthy reset time >>> 0
```

...

```
Command number: 22  
Mardcuino command >>> :SE57  
Flthy command >>> #A00387  
Flthy reset time >>> 40000
```

## /read xx

This command reads command data to send to Flthys for a given index from 00 to 22

## `/write xx`

It writes command data to Flthys for a given index from 00 to 22.

Example: `/write 01 #A0971 10000`

First field its memory index from 00 to 22

Second field is Flthy command to be send

Third field is Flthy reset time in milliseconds, 0 means take no action

## `/reset`

This command resets all commands to default state just in case you need to clear all your memory and start configuring your board from scratch.

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