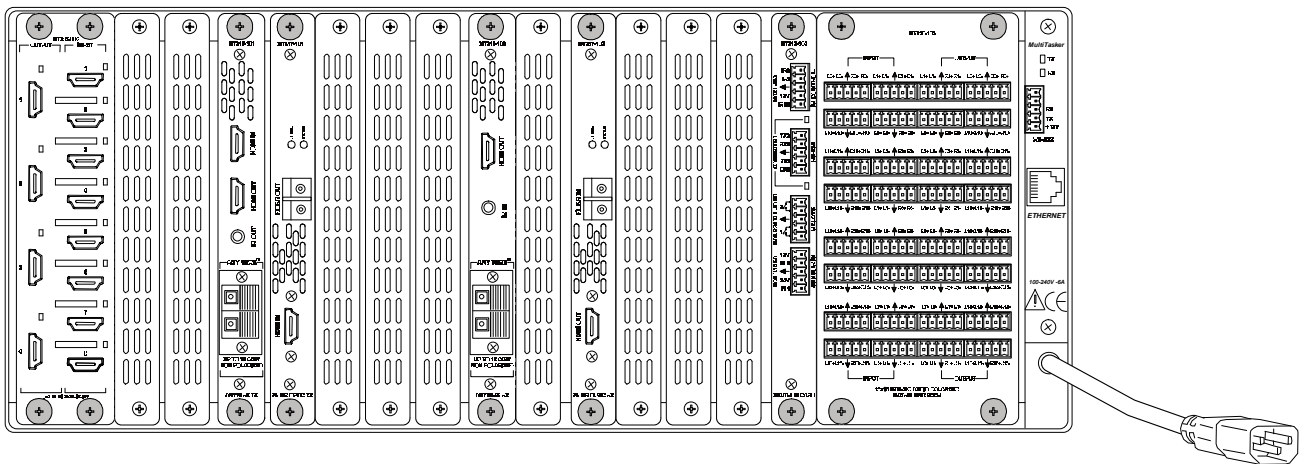
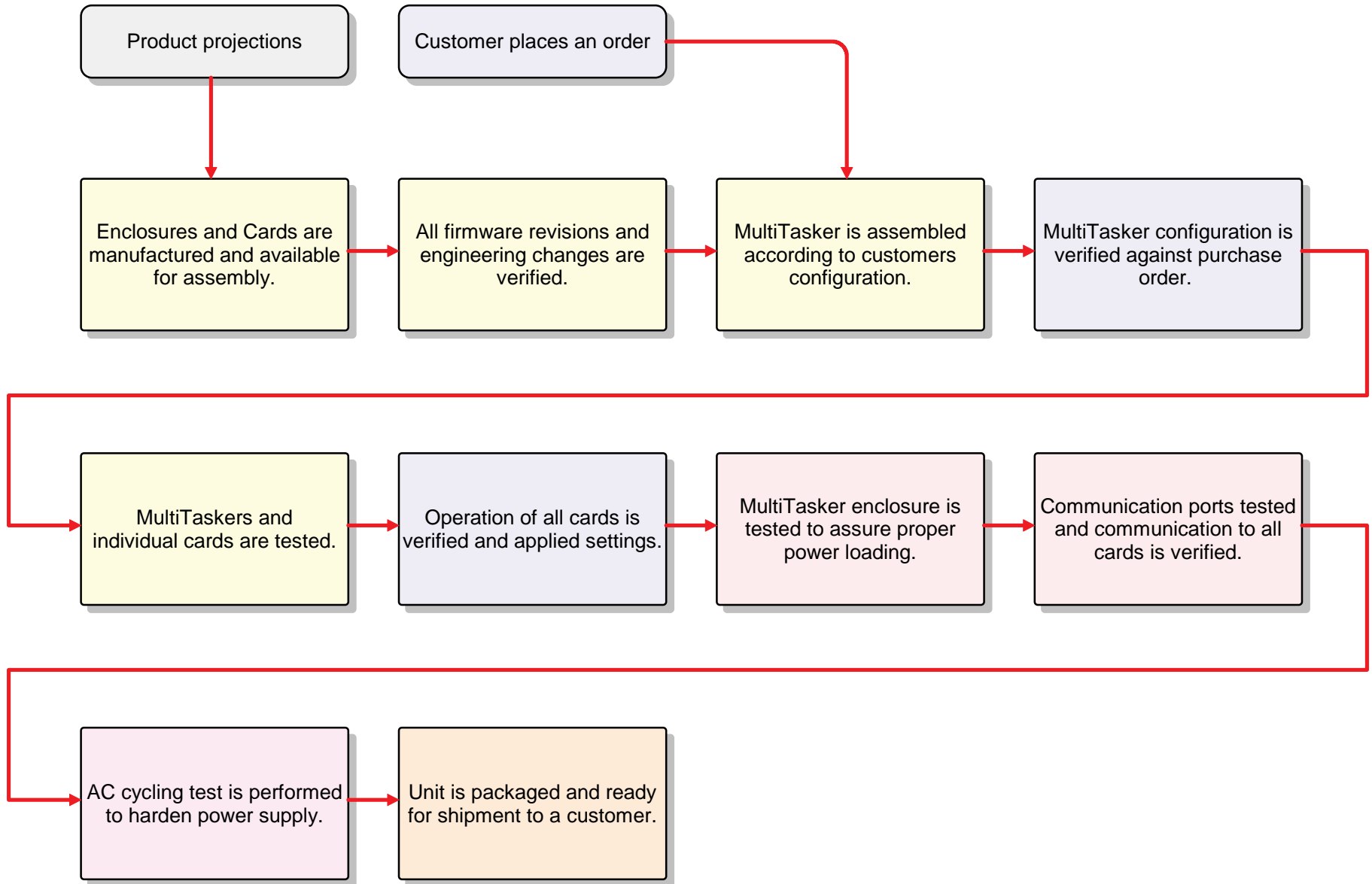


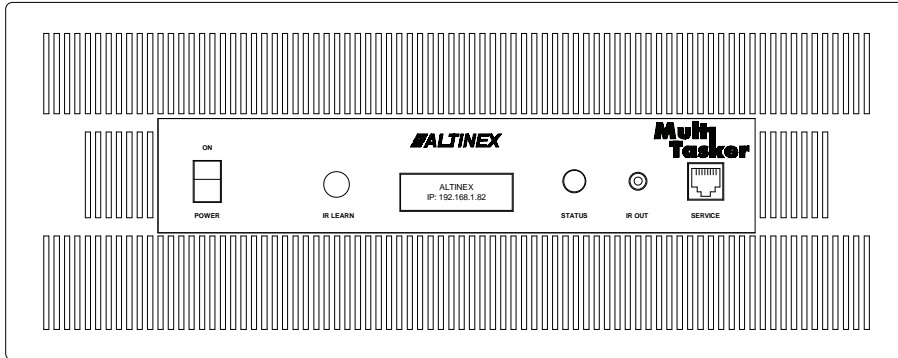
# MultiTasker Design Guide



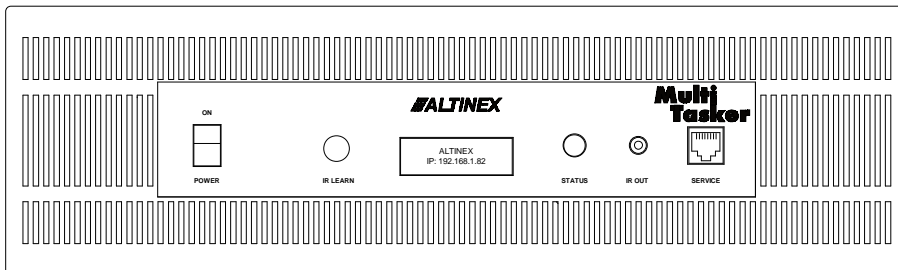
# MultiTasker manufacturing process



## FRONT PANEL VIEW



20 Slot Enclosure



12 Slot Enclosure

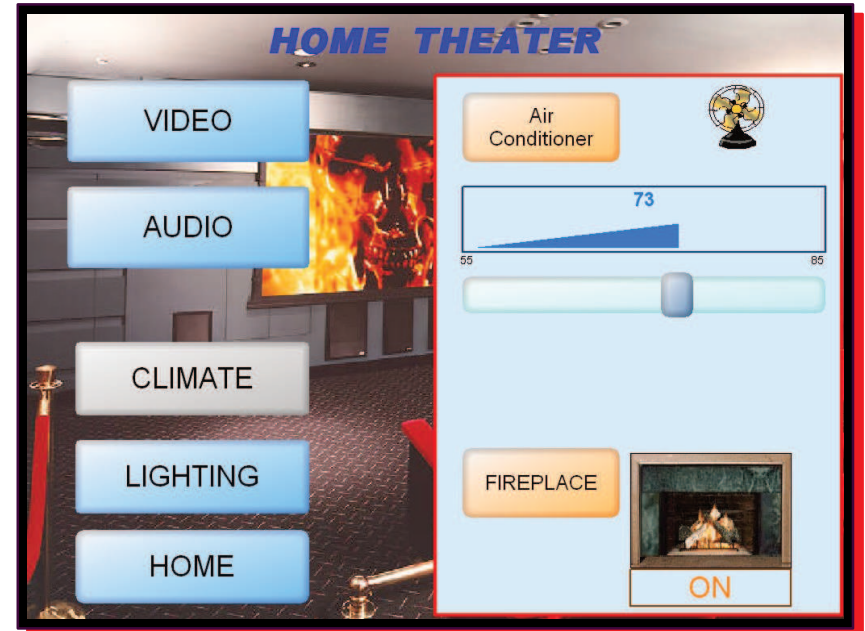
All enclosures are shipped fully tested.

- \* Ready to use out of the box
- \* 100% tested on a system level
- \* Front Panel On/Off switcher
- \* Front Panel IR Learner
- \* Front Panel Network Connect
- \* Front Panel IR Blaster

## PC USER INTERFACE

Graphical User Interface (GUI) is can be designed for all MultiTasker configurations. GUI interface is designed to operate on a PC through TCP/IP ports. User defines functions we do the rest. The completed source code is provided to customer and compiled software is available as a stand alone application. User interface is designed using AVSnap software.

- \* Part #: AVSNAP
- \* Up to 5 pages for one low price
- \* Custom screens, layout and buttons
- \* Source code provided for easy modifications
- \* Simple field update and modifications
- \* Customer logos and artwork
- \* Operates as a stand alone program (WIN 7, WIN 8, WIN 8.1, WIN 10)



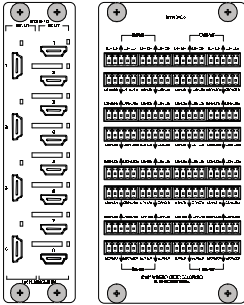
Step

# 1

Select cards to fit your AV system.

### Audio

- Distribution
- Switching
- Matrix
- Mixers



### Video

- Distribution
- Switching
- Matrix
- Scaling
- Scan conversion

### AnyWire

- Transmit
- Distribution

### Fiber Optics

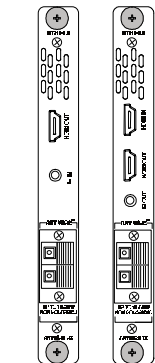
- Transmit
- Distribution

### HDTV

- Distribution
- Switching
- Matrix

### Control

- Relay
- IR
- RS-232
- IP
- Contact closures
- I/O Ports



### Convertors

- HDMI® to AnyWire
- Audio to CAT5
- HDMI to Fiber Optic

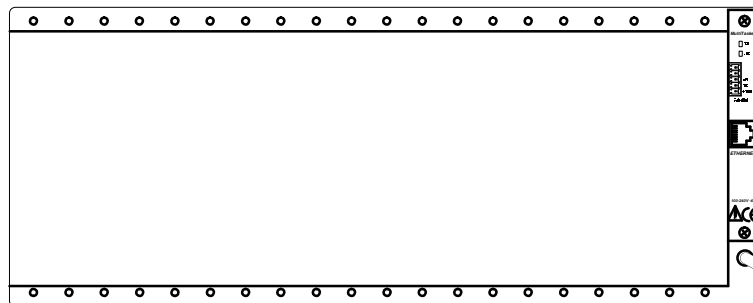
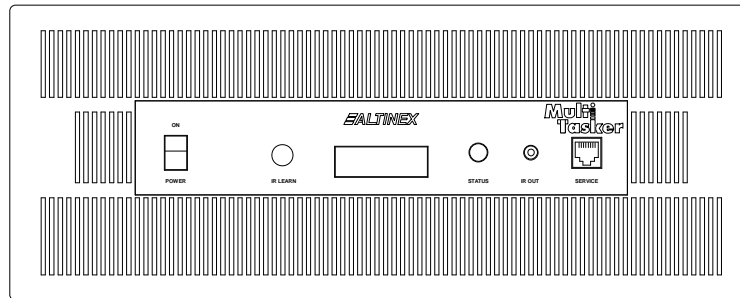
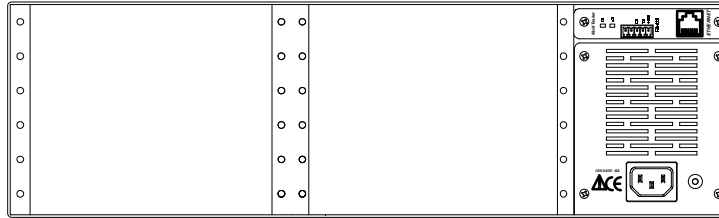
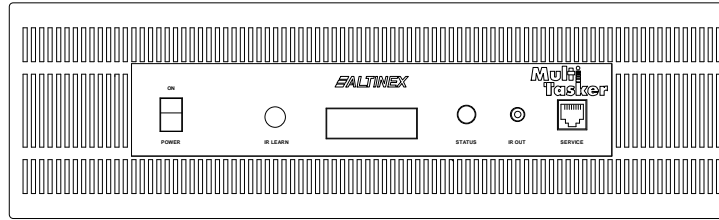
Step

# 2

Select enclosure to fit number of selected cards.

### Enclosures

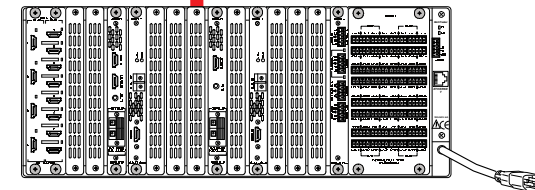
- 12 Slots
- 20 Slots



Step

# 3

Place order for selected components.



**MultiTasker is fully assembled and shipped in 10 working days.**

# PRODUCTS LISTING

## ENCLOSURES

**MT302-201** - 20 Slot Multitasker

**MT302-121** - 12 Slot Multitasker

## HDMI DAs

**MT303-103** - 1-In, 3-Out HDMI DA 2K/4K\*

**MT303-106** - 1-In, 6-Out HDMI DA 2K/4K\*

## CONTROL

**MT312-104** - CONTROL CARD

## AUDIO DAs

**MT306-301** - HDMI /AUDIO Breakout Card\*

## HDMI EXTENDERS

**MT315-101** - HDMI over ANYWIRE, TX Card

**MT315-102** - HDMI over ANYWIRE, RX Card

**MT317-101** - HDMI over Fiber Optic, TX Card

**MT317-102** - HDMI over Fiber Optic, RX Card

**MT316-101** - HDMI TO IP Stream\*

**MT318-101** - Dual HDMI to HDBaseT Transmitter\*

**MT318-102** - Dual HDBaseT to HDMI Receiver \*

## HDMI SWITCHERS

**MT304-103** - 3-In 1-Out HDMI Switcher 2K/4K\*

**MT304-106** - 6-In 1-Out HDMI Switcher 2K/4K\*

## SMALL MATRIX SWITCHERS

**MT305-804** - 8 X 4 HDMI Matrix Switcher

**MT305-402** - 4-In 2-Out HDMI Matrix Switcher\*

**MT305-404** - 4-In 4-Out HDMI Matrix Switcher\*

## VIDEO PROCESSORS

**MT306-101** - Dual Media Player Processor\*

**MT306-501** - Video Scaler Processing card\*

**MT316-102** - IP Camera To HDMI Output\*

## AUDIO MATRIX SWITCHERS

**MT310-104** - 16 X 16 Stereo Audio Matrix Switcher, 4 Slot  
(TB IN/OUT); BAL. IN/OUT; Volume Control

## POWER DISTRIBUTION

**MT322-105** - 1-In, 3-Out Power Distribution with  
Current Sensor, 1 IEC IN, 3 NEMA AC OUT\*

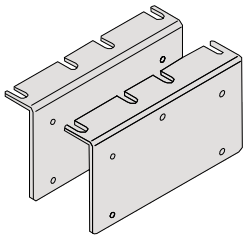
**MT322-107** - 1-In, 3-Out Power Distribution with  
Current Sensor, 1 IEC IN, 3 AC OUT,  
International Version (250VAC)\*

## CONVERTER

**MT306-201** - HDMI to VGA/VGA to HDMI Converter\*

\* Products coming soon

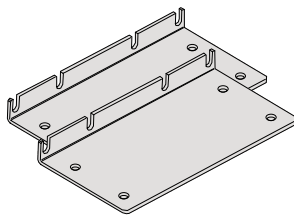
# ACCESSORIES



## MT399-102

12 slot enclosure rack mount ears kit (3U)

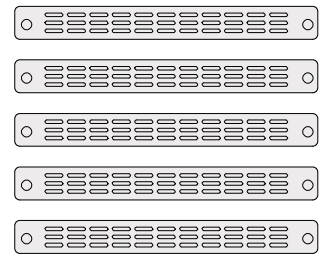
Included with enclosure



## MT399-101

20 slot enclosure rack mount ears kit (4U)

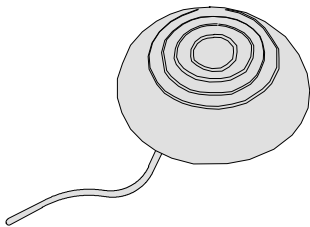
Included with enclosure



## MT399-105

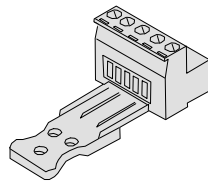
Empty card slot cover (5pc)

Included with enclosure



## RC5205CV

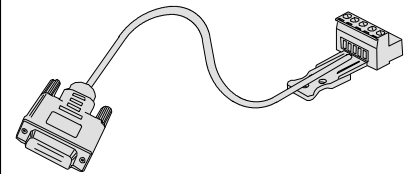
Judge override button for system shutdown  
50ft cable



## AC101-302

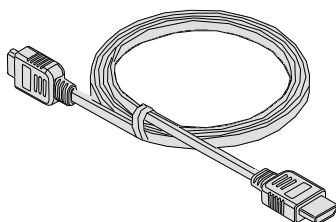
5 pin terminal block audio / control (1pc)

Included with enclosure



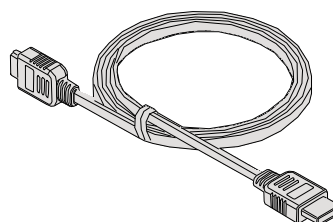
## RC5211MT

6ft, 9 pin M to 5 terminal block  
RS-232 cable  
(20 slot)



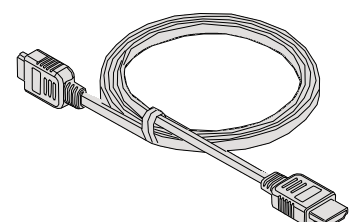
## CB300-102

10FT Active HDMI  
Cable



## CB470-003

3.3 FT, HDMI  
HIGH SPEED WITH  
INTERNET,  
M/M, CABLE

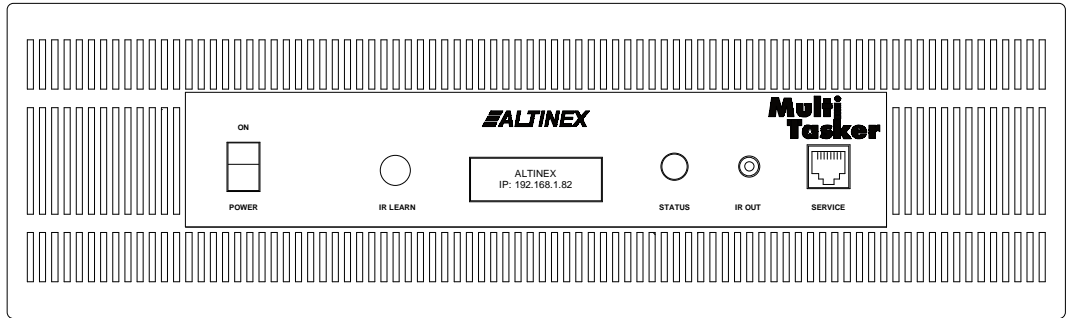
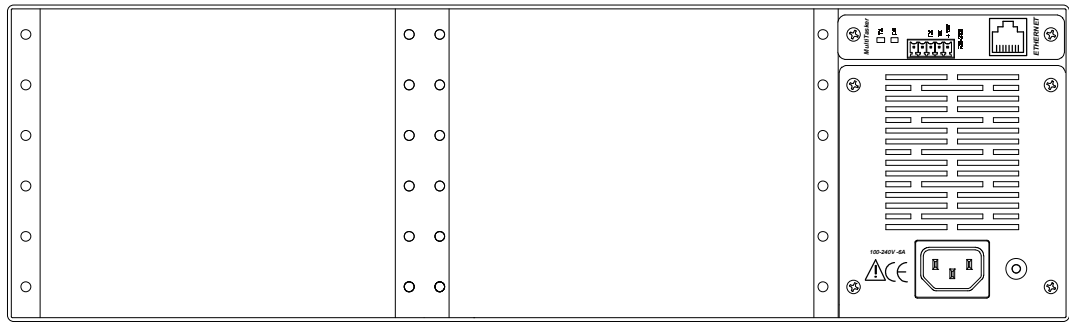


## CB470-006

6.5 FT, HDMI  
HIGH SPEED WITH  
INTERNET,  
M/M, CABLE

**Features:**

- Basic foundation of Digital MultiTasker solutions
- 3U high, full rack wide
- TCP/IP control
- LCD display
- ON/OFF button
- IR receiver/IR blaster
- Ethernet control

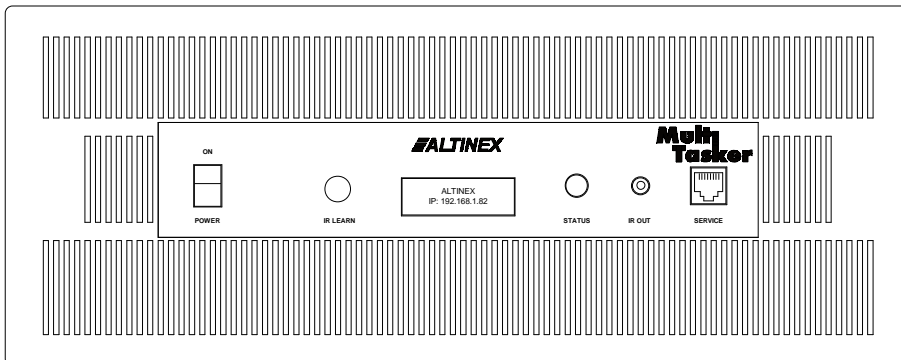
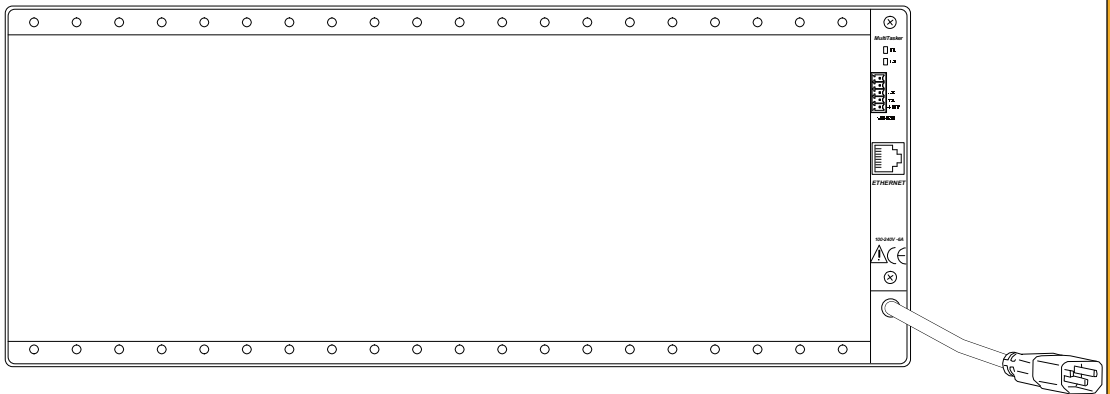


12 SLOT, MultiTasker Enclosure

**MT302-121**

**Features:**

- Basic foundation of Digital MultiTasker solutions
- 4U high, full rack wide
- TCP/IP control
- LCD display
- ON/OFF button
- IR receiver/IR blaster
- Ethernet control (2 ports)



20 SLOT, MultiTasker Enclosure

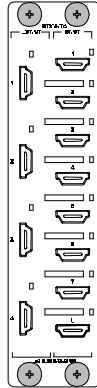
**MT302-201**

# CARDS

## Matrix Switcher

### Features:

- HDMI input/outputs
- HDCP compliant
- Signal Status LEDs
- Full matrix
- 400mA Output Current



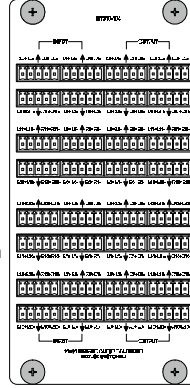
8 X 4 HDMI Matrix Switcher

**MT305-804**

## Audio Matrix Switcher

### Features:

- Balanced In/Out
- Power LED
- Volume Control
- 20Hz-20KHz bandwidth
- Line Level in/out/output



16 X 16 Stereo Audio Matrix Switcher (TB IN/OUT) 4 Slot; BAL. IN/OUT; Volume Control

**MT310-104**

## Control

### Features:

- 2 Bi-directional RS-232 ports
- 2 IR ports
- 2 relay ports
- 2 sensor ports



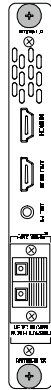
Control Card

**MT312-104**

## HDMI Extender

### Features:

- HDMI over 2-conductor cable
- Automatic input/receiver detection
- Transmission up to 300 m
- IR pass-through control
- Local monitor output
- Signal/Power LEDs
- HDMI resolutions 720p, 1080i, and 1080p



HDMI Over Any Wire, TX Card

**MT315-101**

## HDMI Extender

### Features:

- HDMI over 2-conductor cable
- Automatic input/receiver detection
- Transmission up to 300 m
- IR pass-through control
- Local monitor output
- Signal/Power LEDs
- HDMI resolutions 720p, 1080i, and 1080p



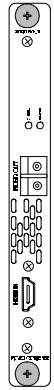
HDMI Over Any Wire, RX Card

**MT315-102**

## HDMI Extender

### Features:

- HDMI over fiber optic cable
- Transmission up to 300 m
- HDMI resolutions up to 4K



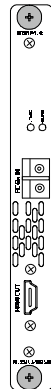
HDMI Over Fiber Optic, TX Card

**MT317-101**

## HDMI Extender

### Features:

- HDMI over fiber optic cable
- Transmission up to 300 m
- HDMI resolutions up to 4K



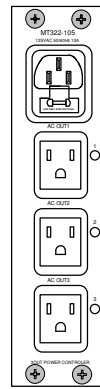
HDMI Over Fiber Optic, RX Card

**MT317-102**

## POWER DISTRIBUTION

### Features:

- Programmable power sequence
- Independent control for each socket
- Status LED for each output
- 10 Amp loading
- Over-current/pre-programmed shutdown
- Read current on each connector
- North American version



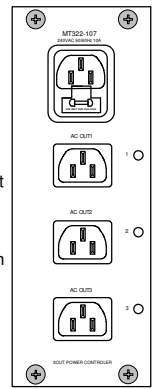
1 IN/ 3 OUT Power Distribution With Current Sensor, 1 IEC IN, 3 NEMA AC OUT

**MT322-105\***

## POWER DISTRIBUTION

### Features:

- Programmable power sequence
- Independent control for each socket
- Status LED for each output
- 9 Amp loading
- Over-current/pre-programmed shutdown
- Read current on each connector
- International version



1 IN/ 3 OUT Power Distribution With Current Sensor, 1 IEC IN, 3 AC OUT (250VAC)

**MT322-107\***

\*products coming soon



# CARDS

## HDMI DAs

### Features:

- HDMI input/outputs
- HDCP compliant
- Power/signal Status LEDs
- Output ON/OFF control
- Auto input equalization
- 400mA Output Current



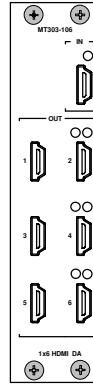
1-In 3-Out HDMI DA 2K/4K

**MT303-103\***

## HDMI DAs

### Features:

- HDMI input/outputs
- HDCP compliant
- Power/signal Status LEDs
- Output ON/OFF control
- Auto input equalization
- 400mA Output Current



1-In 6-Out HDMI DA 2K/4K

**MT303-106\***

## AUDIO DAs

### Features:

- HDMI IN/OUT
- Analog unbalanced/balanced
- Audio input/output
- Fiber Optic Input/Output(Toslink)
- HDCP compliant
- 400mA HDMI Output Current



HDMI/AUDIO Breakout Card

**MT306-301\***

## HDMI EXTENDERS

### Features:

- HDMI input
- Ethernet output



HDMI TO IP Stream

**MT316-101\***

## HDMI EXTENDERS

### Features:

- HDMI inputs
- CAT6 outputs
- HDCP compliant
- IR Outout (AC301-114-IR Emitter)
- Power/signal Status LEDs



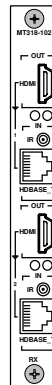
Dual HDMI to HDBaseT Transmitter

**MT318-101\***

## HDMI EXTENDERS

### Features:

- CAT6 inputs
- HDMI outputs
- HDCP compliant Power/signal Status LEDs
- IR inputs (AC301-115-IR Receiver)
- 400mA Output Current



Dual HDBaseT to HDMI Receiver

**MT318-102\***

## HDMI SWITCHERS

### Features:

- HDMI input/outputs
- HDCP compliant
- Power/signal Status LEDs
- Auto /Priority/Manual Switch
- 400mA Output Current



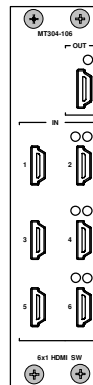
3-In 1-Out HDMI Switcher 2K/4K

**MT304-103\***

## HDMI SWITCHERS

### Features:

- HDMI input/outputs
- HDCP compliant
- Power/signal Status LEDs
- Auto /Priority/Manual Switch
- 400mA Output Current



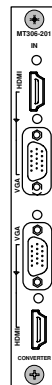
6-In 1-Out HDMI Switcher 2K/4K

**MT304-106\***

## CONVERTER

### Features:

- HDMI/VGA inputs
- VGA/HDMI outputs
- Resolution up to 2K/4K
- Power/signal Status LEDs
- 400mA HDMI Output Current
- HDCP compliant



HDMI to VGA/VGA to HDMI Converter

**MT306-201\***

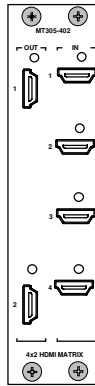
\*products coming soon

# CARDS

## SMALL MATRIX SWITCHER

### Features:

- HDMI input/outputs
- HDCP compliant
- Signal Status LEDs
- Full matrix
- 400mA Output Current



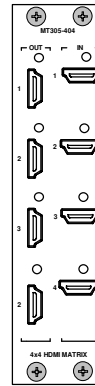
4-In 2-Out HDMI Matrix Switcher

**MT305-402\***

## SMALL MATRIX SWITCHER

### Features:

- HDMI input/outputs
- HDCP compliant
- Signal Status LEDs
- Full matrix
- 400mA Output Current



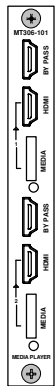
4-In 4-Out HDMI Matrix Switcher

**MT305-404\***

## VIDEO PROCESSOR

### Features:

- HD 720p/1080p media player
- USB flash memory source
- NON-HDCP (for video conference)
- HDCP compliant on bypass
- 8 play files, 8 independent tracks
- Output with bypass
- Power/signal Status LEDs
- Auto-Play function on power-up
- 400mA Output Current



Dual Media Player Processor

**MT306-101\***

## VIDEO PROCESSOR

### Features:

- HDMI/audio input
- HDMI/audio output
- Audio output
- HDCP compliant Power/signal status LEDs
- Upscale the video signal from HDMI source up to 1080p@50/60
- Audio combiner/separator
- Accept input resolutions from 480i to 1080P
- (HDTV) and VGA to WUXGA (PC)
- 400mA Output Current



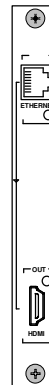
Video Scaler Processing card

**MT306-501\***

## VIDEO PROCESSOR

### Features:

- Ethernet input
- HDMI output

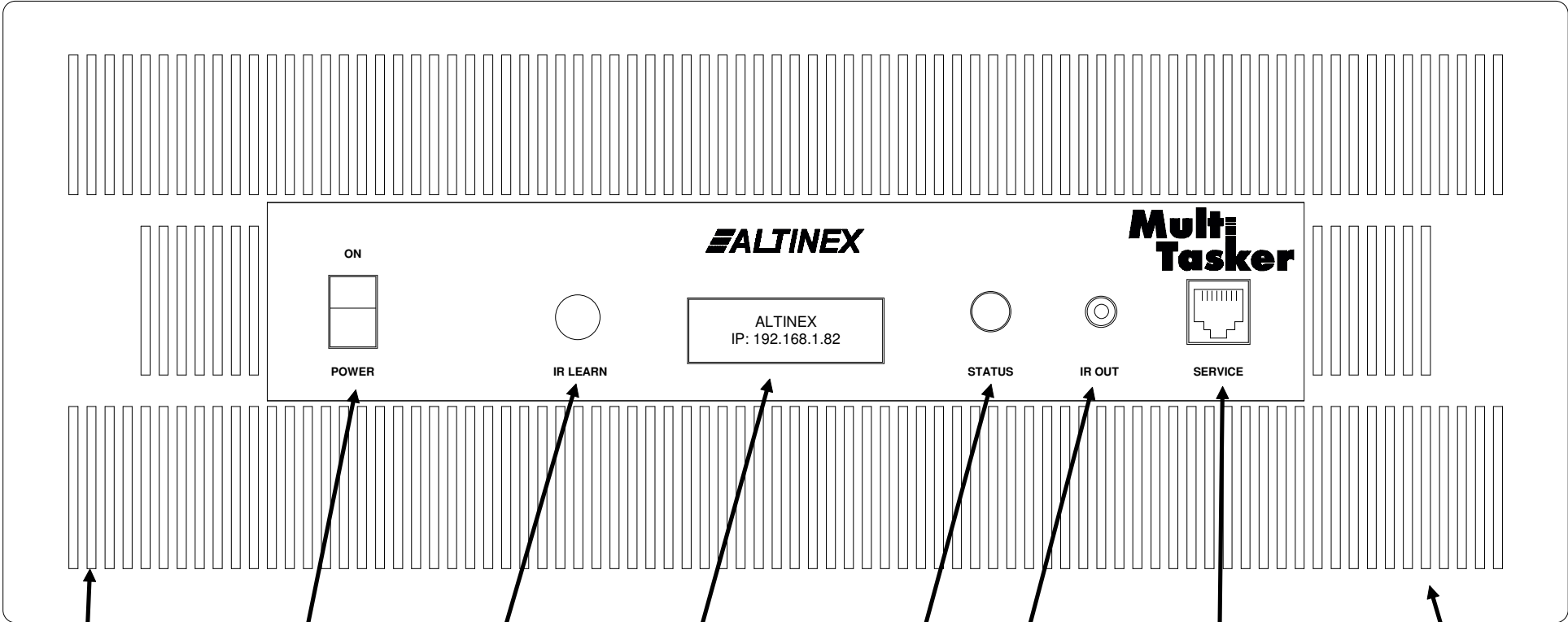


IP Camera to HDMI Output

**MT316-102\***

\*products coming soon

# FRONT PANEL LAYOUT



Cooling Vents

Power ON/OFF

IR Learning Window

Status Display

Menu Button

IR Driver Output

Network Control

Cooling Vents



---

## ETHERNET SETTINGS

---

**Default TCP/IP** - 192.168.10.85 port 23

Communication with the MultiTasker is TCP/IP with limited support of UDP options.

The MultiTasker defaults to DHCP mode and obtains an IP address automatically from the network server. It can also be configured to use a fixed IP address.

**UDP** - The MultiTasker listens and broadcasts on UDP port 30305.

The UDP option is used for network discovery. Additionally, some commands are supported using the UDP option but without feedback.

---

## NETWORK DISCOVERY

---

**Find Enclosures** - In order to find out the address assigned to enclosures on a network, broadcast the UDP discover command to the network on port 30305. The discover command is as follows:

?Altinex

Send "?Altinex" in a single packet. Do not type the characters individually or the command is ignored.

Any MultiTaskers on the network respond with feedback similar to the following single line:

```
[MT302 201,00:1E:C0:C9:6A:24,00023,192:168:1:121,255:255:255;0:192:168:1:254]
```

The data inside the brackets includes the enclosure alias, MAC address, and TCP/IP port, plus the IP address, subnet mask, and gateway address assigned to the by the network.

Use this information to establish a TCP/IP connection to the MultiTasker for control and/or configuration.

---

## LAN CONNECTION

---

A computer or control system is used to control the cards in the MultiTasker. Connect to the RJ45 on the front or rear of the MultiTasker.

---

## WEBSERVER

---

The MultiTasker includes an internal webserver. Use the webserver to find out information about the MultiTasker and the cards installed in the system. You can view the card models, see their functional description, and view their slot IDs.

MultiTasker system statistics are also available. View system on time, card and system power consumption, internal temperatures, etc.

---

## POWER UP DEFAULTS

---

At power up or soft reset [RES], all cards are initialized to their saved configuration states. Saved configurations include input to output connections, on/off settings, volume levels, relay positions, etc. In the event the cards have not been previously configured, they initialize to their factory defaults.

---

## FRONT PANEL DISPLAY

---

The front panel displays the current IP address of the enclosure. Press the button to cycle through all the cards installed in the enclosure. This provides the card ID and model of each card to make identification possible without establishing a network connection.

---

---

## PROTOCOL

---

The protocol for the MultiTasker uses a simple keyboard character format.

- Brackets Square brackets "[ ]" are part of the command for the enclosure or plug-in card. All commands begin with an open "[" bracket and end with a close "]" bracket. Do not send carriage returns or line feeds; these characters are invalid.
- Characters Only keyboard characters are accepted, and all letters are uppercase only.
- Cxx This term refers to a MultiTasker card where the ID number is 2-digits; "xx"; typically the slot number of the card; C01 through C20.
- Feedback Feedback refers to data that is received from the MultiTasker or any of the cards installed in the enclosure. All TCP/IP commands provide feedback either in the form of the data requested or as command acknowledgement.  
Control Command Feedback: Commands that are used to control the switcher provide the following feedback responses:

[ ]	Enclosure	Command executed
[ER]	Enclosure	Command error (bad format, out of range, etc.)
[Cxx ]	Card	Command executed
[ERCxx]	Card	Command error (bad format, out of range, etc.)

---

## CONTROL

---

### Controlling MultiTasker

When controlling MultiTasker do not send carriage returns or line at the end of commands.

# COMMAND LIST



## Enclosure Control

[VER]	Firmware Version
[RES]	Reset enclosure
[MOD101-yyy]	Set the model number
[?]	Display cards in system
[?C]	Display card info and status
[STAx]	Auto feedback ON/OFF
[BEEP]	Play default beep
[PING]	Returns [ ]
[TEST]	Test Internal Memory

## Card ID Control

[RSI]	Reset Card ID
[SIDxx]	Set ID of All Cards
[SIDnCx]	Set single Card ID
[SID+]	Set Card ID offset
[RSNCxx]	Display Card No.

## Card Control

[?]	System Data
[?C]	Card Data
[+]/ [-]	Inc./Dec.
[AUTO=mCx]	Auto Switching
[Cx]	Show status
[SAVECx]	Show/save status
[CLRCx]	Reset card
[ImOxCx]	In to Out
[ImO*Cx]	In to All Out
[MUTEx1Cx]	Mute On/Off
[OFFCx]	All Outputs OFF
[OFFmCx]	Single Output OFF
[ONCx]	All Outputs ON
[ONmCx]	Single Output ON
[SDImmCx]	Input Signal Detect
[SDOmmCx]	Output Signal Detect
[SELBCx]	Adjust Bass
[SELTCx]	Adjust Treble
[SOFFCx]	Read OFF sequence/delay
[SOFFn..nTxCx]	Set OFF sequence/delay
[SONCx]	Read ON sequence/delay
[SONn..nTxCx]	Set ON sequence/delay
[TESTCx]	Test Memory ICs
[VERCx]	Model and Version
[VLixAyCx]	Set Input Volume
[VLOAyCx]	Set Output Volume
[VLOxAyCx]	Set Output Volume
[VLBAxCx]	Set Bass Level
[VLTAxCx]	Set Treble Level

