Multi Tasker™

MANUAL PART NUMBER: 400-0187-002

MT104-105

3-IN, 1-OUT VGA SWITCHER

CARD FOR MULTI-TASKER™ ENCLOSURES

USER'S GUIDE

ALTINEX

SIGNAL MANAGEMENT SOLUTIONS™

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PRECAUTIONS / SAFETY WARNINGS   1

Please read this manual carefully before using your **MT104-105**. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **MT104-105** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

1.1 GENERAL

- Qualified ALTINEX service personnel, or their authorized representatives must perform all service.

1.2 INSTALLATION

- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **MT104-105** in direct sunlight, near heaters or heat radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.

- Handle the **MT104-105** carefully. Dropping or jarring can damage the card.

- Do not pull the cables that are attached to the **MT104-105**.

- Insert the card carefully into the slots of the Multi-Tasker™ without bending any edges.

- When removing a card, please make sure that the card to which it is attached is also pulled out simultaneously.

1.3 CLEANING

- Clean only the connector area with a dry cloth. Never use strong detergents or solvents, such as alcohol or thinner. Do not use a wet cloth or water to clean the card. Do not clean or touch any component or PCB.

1.4 FCC / CE NOTICE

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their expense.

- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

MULTI-TASKER™

MT104-105
3-In, 1-Out MT VGA Switcher Card

The **MT104-105** is a 3-In 1-Out MT VGA Switcher Card. This card enables multiple computer video sources to be connected and switched to a single, scan-rate compatible, display. Resolutions supported range from VGA to QXGA.

Female 15-pin HD (VGA-type) connectors are provided for input and output. If used together with 15-pin HD to 5-BNC adapter the **MT104-105** can pass RGBHV format computer video signals as well. The necessary cables for various types of setups are all available from ALTINEX.

Inputs are selected via easy-to-use ASCII commands. The commands may be sent from a control system or computer connected to the RS-232 port of the Multi-Tasker™ Basic Enclosure. Additionally, depending upon the enclosure, front panels are available with push button controls that may be programmed with the same ASCII commands.

Sync Delay™ is offered on the **MT104-105** for convenience and flexibility. Sync Delay™ briefly "blanks" the video channel signals when switching between sources. This blanking eliminates the visual "glitch" associated with other switching devices.

FEATURES/ DESCRIPTION	MT104-105
GENERAL	
Inputs	
Input Connector	(3) 15-pin HD Female
Outputs	
Output Connector	(1)15-pin HD Female
Compatibility	VGA thru QXGA, RGBHV & RGBS

Table 1. **MT104-105** General

MECHANICAL	MT104-105
Enclosure Slots	One
Weight	1.0 lb (0.45 kg)
Connector Panel	Black
T° Operating	10°C-35°C
T° Storage	50°C
Humidity	90% non-condensing
MTBF (calc.)	40,000 hrs

Table 2. **MT104-105** Mechanical

ELECTRICAL	MT104-105		
Input Video Signals			
Analog	1.7Vp-p max		
Impedance	75 Ohms +/-1% (terminated)		
Type	Differential		
Input Sync Signal			
Horizontal, Vertical	TTL (+/-)		
Impedance	10k Ohms		
Output Video Signals			
Analog	1.7V p-p max (terminated)		
Impedance	75 Ohms		
Output Sync Signals			
Horizontal, Vertical	TTL (+/-)		
Impedance	22 Ohms		
Frequency Compatibility			
Horizontal	15-130 kHz		
Vertical	25-180 Hz		
Bandwidth	350 MHz @-3dB		
Power			
Power from MT100-100	**+6V**	**-6V**	**Power Consumption**
MT104-105	125mA	90mA	1.3 watts

Table 3. **MT104-105** Electrical

ALTINEX

MULTI-TASKER™

TOP RETAINER SCREW

MT104-105

OUTPUT

VGA OUTPUT

POWER/SIGNAL
PRESENT LED

RED POWER/
GREEN SIGNAL

INPUT

1

3 VGA INPUTS

2

3

VGA SW

BOTTOM RETAINER SCRE

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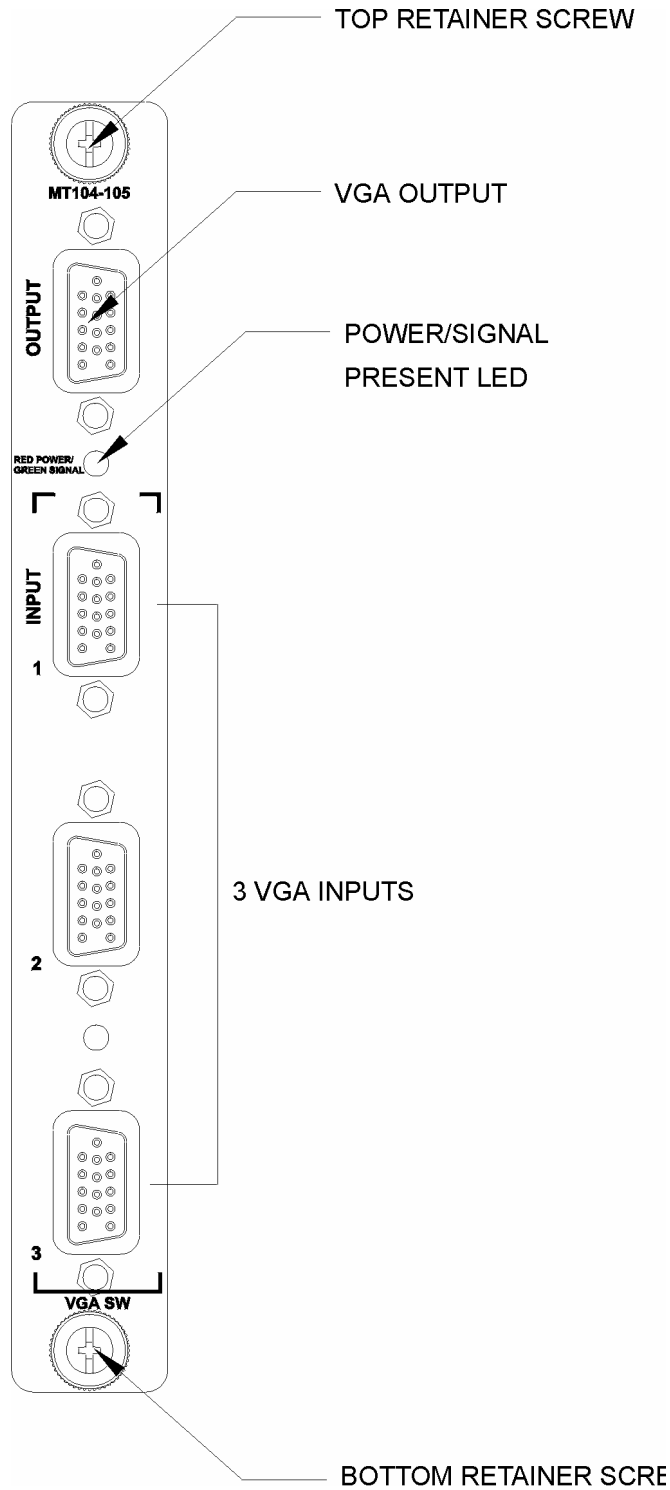
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DIAGRAM 1: TYPICAL SETUP

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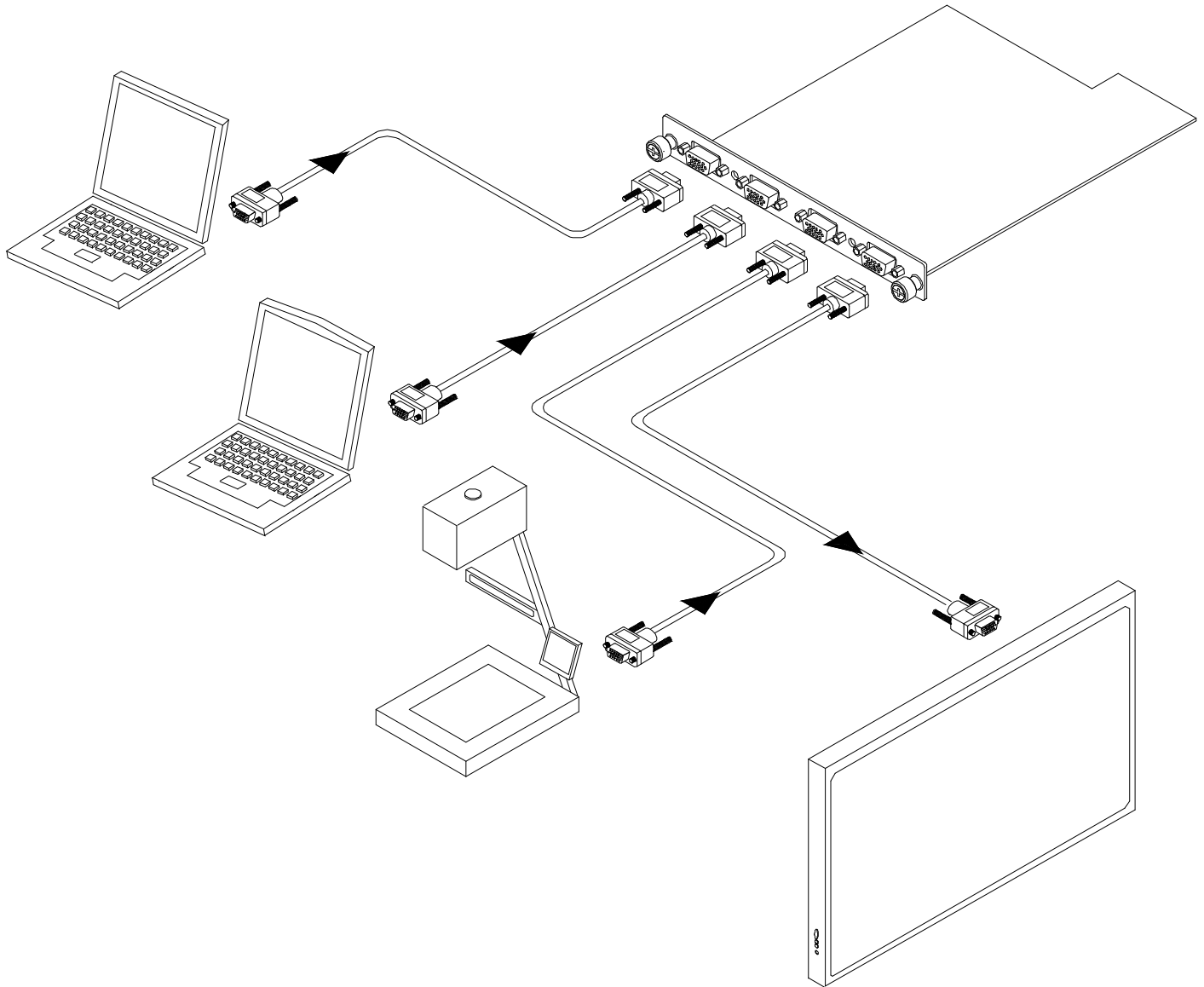
DIAGRAM 2: INTERNAL VIEW

MT104-105
3 IN, 1 OUT VGA SWITCHER + 350MHZ + SIGNAL DETECT

SIGNAL DETECT   POWER

VGA IN 1
PNP

VGA IN 2   VGA OUT
PNP

VGA IN 3
PNP

INPUT SELECT
CONTROL

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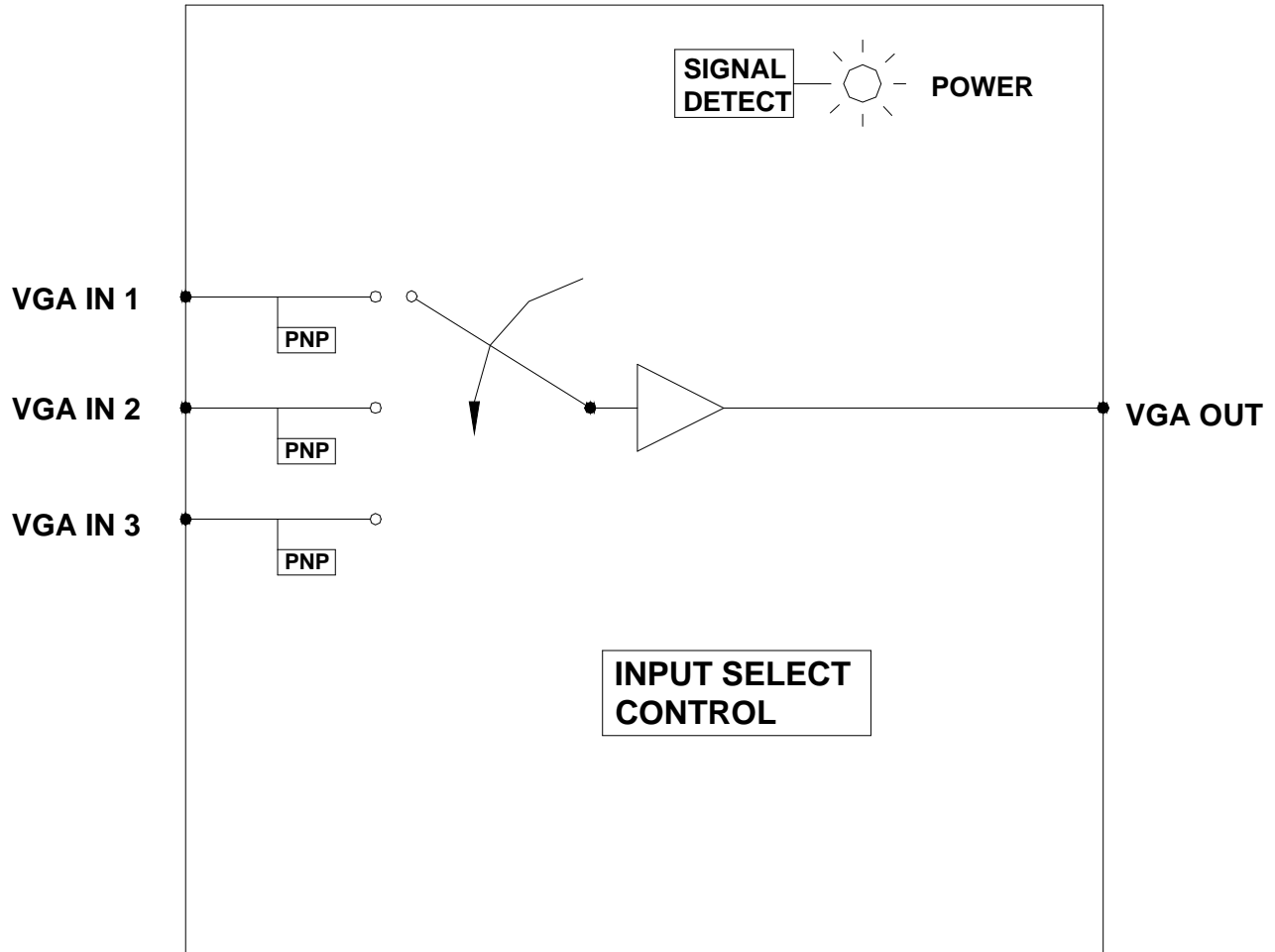
MULTI-TASKER™

Step 1. Slide the **MT104-105** into an available slot in the Multi-Tasker™ Enclosure in order to connect to the bus. Make sure that the **MT104-105** card fits into place.

Step 2. Secure the card to the Multi-Tasker™ by tightening the retainer screws located on the top and bottom of the **MT104-105** card.

Step 3. Turn ON the enclosure power and the LED on the card panel will turn red indicating that the card is in full operation. A green LED indicates that a signal is present on the selected input. An LED that is blinking red indicates that the card is experiencing a problem. If the LED is blinking, see Troubleshooting Guide in Section 8.

Step 4. Connect a cable from the video source to the input connector of the **MT104-105**.

Step 5. Connect the output connectors of the **MT104-105** to the display devices through the proper cables.

Step 6. Starting from the left, identify the slot number the **MT104-105** card is plugged into and note that it is for RS-232 control.

7.1 RS-232 CONTROL

When used in the Multi-Tasker™ Enclosure, the **MT104-105** has many advanced remote control capabilities, which are accessible through standard RS-232 communication. The actual controlling can be accomplished through a computer control system or any other device capable of sending RS-232 commands.

7.1.1 RS-232 INTERFACE

The RS-232 commands, for the **MT104-105**, are in a simple ASCII character format.

> 1. **Square brackets "[ ]" are part of the command.**
>
> 2. **Use uppercase letters for all commands.**

After processing a command, an OK or ER will be returned as feedback if "F" is included at the end of a command string.

Commands that end in "S" will be saved into memory. Commands not ending in "S" will still be executed but will not be restored when the system is reset or powered off and then power on.

7.2 DESCRIPTION OF COMMANDS

Each command consists of three parts: Function, Card ID, and Unit ID.

[Function , Card ID , Unit ID **]**

Example: [VERC3U2]

VER = Function
C3   = Card ID or Group ID
U2   = Unit ID

For Function, see a detailed explanation under each command description.

The Card ID is an assigned value. It is equal to the enclosure slot number in which the card is installed. The value can range from 1 to 4 up to 1 to 20 depending on the enclosure.

Card ID 0 (C0) is used for the controller. See the MT100-100 User's Guide for details.

The Group ID is a number representing a group of cards defined with the [WR] command. When using the Group ID, all cards in the group will perform the given instruction.

Changing the position of a card will significantly affect the commands recorded on software definitions or third party control systems.

The Unit ID has a value from 0 to 9. Unit ID 0 should be used for single unit operation. If the Unit ID is set to zero, each command may be used without Ui. Use the command [SETU0], as explained in the MT100-100 User's Guide.

Example:

[VERC3]:   For Unit ID Zero
[VERC3Ui]: For Unit ID other than Zero
[VERC3]:   Equivalent to [VERC3U0]

1. **[VER]**

    This command receives the software version and card type for the **MT104-105** card.

    Command Format: [VERCnUi]

    Cn = Card ID (n = # from 1 to max slots)

    Ui   = Unit ID (i = # from 0 to 9)

    Example:

    There is an MT104-105 card is in slot #4. Send the command [VERC4] to the Multi-Tasker™. The feedback will be as follows:

    MT104-105 690-0158-004

    MT104-105   = card type
    690-0158-004 =software version

2. **[C]**

    This command receives the status of the card.

    Command Format: [CnUi]

    Cn = Card ID (n = # from 1 to max slots)

    Ui   = Unit ID (i = from 0 to 9)

    Example:

    There is one MT104-105 card in slot #4 with Input 2 ON. Sending the command [C4] to the Multi-Tasker™ will yield the following feedback:

    ON 2 C04

    ON 2 = Input 2 is ON/enabled

    C04   = Card is in slot 4

    If there is no card in slot #4, sending the [C4] command will not return any feedback.

3. **[CnS]**

    This command saves the status of the card's input enable settings. The configuration will be restored after the system is reset or powered off then on.

    Command Format: [CnUiS]

    Cn = Card ID (n = # from 1 to max slots)

    Ui   = Unit ID (i = # from 0 to 9)

    S   = save configuration

    Example:

    Input 3 of the card in slot #4 is enabled. Save the card's state by sending the command [C4S]. The feedback will be as follows:

    ON 3 C04 Saved

4. **[?Ui]**

    This command will return general information about the Multi-Tasker™ and cards installed in the unit.

    Command Format: [?Ui]

    Cn = Card ID (n = # from 1 to max slots)
    Ui   = Unit ID (i = from 0 to 9)

Example:

A Multi-Tasker™ with Unit ID #0 has a front panel with part number MT101-102 and contains an **MT104-105**. Send the command [?] and receive the following feedback:

[+MT101-102U0+MT104-105C04]

MT101-102U0   = Panel Number and Unit ID

MT104-105C04   = An MT104-105 is in slot 4

5. **[?CnUi]**

This command will return general information about the card and its status. It is a function of both the card and the front panel and is only available with Multi-Tasker™ Front Panel systems that have the following firmware:

690-0122-015   = Version 015 or later.
690-0123-004   = Version 004 or later.
690-0124-018   = Version 018 or later.

NOTE: In MTSetup™, send the command [VER] from the Terminal Window. The system will respond with feedback similar to the following:

   [690-0122-015 690-0123-004 690-0124-018]

Check the last three digits against the numbers above to determine if the option is available.

Command Format: [?CnUi]

Cn = Card ID (n = # from 1 to max slots)

Ui = Unit ID (i = from 0 to 9)

The **MT105-104** in slot #4 has Input 1 selected and ON. Send the command [?C4] to receive the feedback status.

Each status field begins with a '+' and ends with the card slot number (ex: C04). The feedback will be similar to the following:

[+MT104-105C04+VR690-0158-004C04+IN1C04]

MT105-104   = Card Type
VR690-0158-004   = Firmware version
IN1   = Input 1 ON and enabled

6. **[STA]**

This command enables/disables automatic feedback from the front panel. The command affects any card with auto-feedback capability, not just the **MT104-105.** The default at power on or reset is STA0, OFF.

Command Format [STA1] = ON

Command Format [STA0] = OFF

Feedback Prefix Definitions:
+VR = Firmware Version
+IN = Input Selected
Example:

Command = [ON3C4]
Feedback = [+IN3C04]
                +IN = Input Select
                3 = Selected Input
                C04 = Card slot number

7. **[ON]**

This command will enable one input of a single card, or a group of cards.

<u>SINGLE CARD OPERATION</u>

Command Format: [ONmCnUi]

This command enables input "m" and disables all other inputs.

m = Input (m = # from 1 to 3)

Cn = Card ID (n = slot # from 1 to max slots)

Ui = Unit ID (i = 0 to 9)

Example:

All of the inputs on the MT104-105 card are OFF and the card is in slot #4:

1) [ON1C4]: Turns ON only Input 1 of the MT104-105 card.

2) [ON3C4]: Turns ON only Input 3. Input 1 is now OFF.

GROUP OPERATION

Command Format: [ONmGkUi]

This command enables input "m" for each card in group "k" of unit "i".

m = card input (m = # from 1-3)

Gk = group number (k = # from 1-8)

Ui = unit number (i = # from 0-9)

S = saves command to memory

Example:

[ON1G1]: Turns ON Input 1 for each card in Group 1. See the GROUP commands for a detailed explanation.

PATH OPERATION

Command Format: [ONmCnUiP]

This command will set the path for the output, but it is not active until the switch command, [SW], is executed. Commands ending in "P" are not executed immediately. The path for outputs on multiple cards or the same card may be preloaded.

Command Format: [ONmCnUiP]

m = Input number (m = 1 to 3)

Cn = Card ID (n = # from 1 to max slots)

Ui = Unit ID (i = 0 to 9)

P = Path

Example:

There are two MT104-105 cards in slots 6 and 7. Enable Input 1 of card 6 and Input 3 of card 7 simultaneously. Use the following commands:

[ON1C6P]
[ON3C7P]
[SW]

If "F" is included, use the [ONmCnPF] command or the [ONmCnFP] command.

FEEDBACK OPERATION

Command Format: [ON…..F]

After processing a command, an OK or ER will be returned as feedback if "F" is included at the end of a command string.

Example:

[ON1C6F]: if path is not set
[ON3C7PF]: if path is set

8. **[OFF]**

This command disables one or all inputs of a single card or a group of cards.

SINGLE CARD OPERATION

Command Format: [OFFmCnUi]

m = Input number (m = # from 1 to 3)

Cn = Card ID (n = # from 1 to max slots)

Ui = Unit ID (i = # from 0 to 9)

Example:

Card 4 has Input 1 ON. The following commands may be used to turn OFF the input.

1) [OFF1C4]: Turns OFF only Input 1.

2) [OFFC4]: Turns OFF ANY inputs.

GROUP OPERATION

Command Format: [OFFmGkUi]

This command disables input "m" for each card in a group "k" of unit "i".

m = Card input (m = # from 1-3)

Gk = Group ID (k = # from 1-8)

Ui = Unit ID (i = # from 0-9)

Example:

1. [OFF1G1]: Turns OFF Input 1 for each card in Group 1.

2. [OFFG1]: Turns OFF all inputs for each card in Group 1.

PATH OPERATION

Command Format: [OFFmCnUiP]

This command will set the path for the output, but it is not active until the switch command, [SW], is executed. Commands ending in "P" are not executed immediately. The path for outputs on multiple cards or the same card may be preloaded.

m = Input number (m = 1 to 3)

Cn = Card ID (n = # from 1 to max slots)

Ui = Unit ID (i = # from 0 to 9)

P = Path

Example:

There are two MT104-105 cards in slots 6 and 7. Disable Input 1 of card 6 and Input 3 of card 7 simultaneously using the following commands:

[OFF1C6P]

[OFF3C7P]

[SW]

If "F" is included, use the [OFFmCnUiPF] command or the [OFFmCnUiFP] command.

FEEDBACK OPERATION

Command Format: [OFF…..F]

After processing a command, an OK or ER will be returned as feedback if "F" is included at the end of a command string.

Example:

[OFF1C2F]: if path is not set

[OFF1C2PF]: if path is set

9. **[…S] – Save**

This command will save the configuration command being sent in memory. When sending the command [ON1C4S], after reset or power up, Input 1 on C4 will be enabled.

10. **[…F] – Feedback**

After processing a command, an OK or ER will be returned as feedback if "F" is included at the end of a command string.

11. **[…P] – Path**

This command will set the path for the output, but it is not active until the switch command, [SW], is executed. Commands ending in "P" are not executed immediately. The path for outputs on multiple cards or the same card can be loaded. See examples in ON and OFF commands.

12. **[SW] – Switch**

The switch command immediately connects inputs and outputs, which were previously set with the PATH command on this card and all other cards in the MT100-100.

Example:

[ON1C6P]

[ON3C7P]

[SW]

13. **[SIG]**

The Signal Present command tests for the presence of an input signal. The Multi-Tasker™ returns either a "1" or a "0" as feedback.

1 = Signal detected

0 = No signal detected

Command Format: [SIGCnUi]

Cn = Card ID (n = # from 1 to max slots)

Ui = Unit ID (i = 0 to 9)

Example:

There is a properly formatted input signal being applied to the card in slot #4. Check for the presence of an input signal by sending the command [SIGC4].

The feedback will be a "1" immediately following the command sent:

[SIGC4] 1

[SIGC4]   = command sent
1   = feedback, signal is present

14. **[CLR]**

This command clears the card, restoring the default settings. In this case, Input 1 ON.

Command Format: [CLR**Cn**Ui]

Cn = Group ID (n = # from max slots)

Ui   = Unit ID (i = # from 0-9)

Example:

To clear the card in slot #4, send the [CLRC4] command. This command resets the card in slot #4 to its default.

15. **[TEST]**

This command performs a test on the internal memory. The system will display the results. If there are no problems, the system will display:

MEMORY IS GOOD

Otherwise, failures will be indicated.

Command Format: [TESTCnUi]

Cn = Card ID (n = slot # from 1 to max slots)

Ui   = Unit ID (i = # from 0 to 9)

Example:

There is an **MT104-105** in slot #4. Test the internal memory by sending the command [TESTC4].

16. **[FBD]**

This command turns feedback delay on or off. It is necessary when installing some newer cards in older systems. If the system does not receive all of the feedback from the card, the card may be communicating too fast. This command will slow down the card's communication rate.

Command Format: [FBDmCnUi]

m   = Delay (0= no delay, 1= delay 100mS)

Cn = Card ID (n = # from 1 to max slots)

Ui   = Unit ID (i = from 0 to 9)

Example:

The command [HELPC4] is sent to the card in slot #4. Some of the HELP file is displayed on the screen, but most is missing. Send the command [FBD1C4] to slow down the rate at which the card sends feedback to the system.

CARD ID COMMANDS

The default Card ID is the same as the card slot number. The next several commands allow the user to change the Card ID to a value other than the slot number.

The ID commands work with all Multi-Tasker™ Front Panel systems. However, front panels that have firmware releases prior to the following will not be able to address Card ID's greater than the number of slots in the system:

690-0122-019 = Version 019 or later.

690-0123-005 = Version 005 or later.

690-0124-019 = Version 019 or later.

NOTE: In MTSetup™, send the command [VER] from the Terminal Window. The system will respond with feedback similar to the following:

  [690-0122-015 690-0123-005 690-0124-019]

Check the last three digits against the numbers above to determine if the Card ID commands can address all 99 Card ID's.

Some cards require more than one slot in the Multi-Tasker™ system. As an example, some matrix switcher cards require 4 slots. If there are 5 of these cards installed, they would be numbered C4, C8, C12, C16 and C20. Changing the Card ID allows the user to define the cards as C1, C2, C3, C4 and C5.

Another use for changing the Card ID is to be able to use multiple systems without having to set each unit to a different Unit ID. All systems may be left as Unit ID 0 for ease of programming. The cards in the first unit may be numbered 1-10 and in the second unit 11-20.

17. **[RSI]**

This command resets the card ID's in the system. After sending this command, each card ID in the system will match the slot number of the card. Use this command along with the SID commands that follow. The [RSI] command MUST be used prior to changing Card ID's once they have already been set.

Command Format: [RSI]

Example:

Send the command [RSI] to the system with Unit ID 0. The card in slot 1 will have ID 1, the card in slot 2 will have ID 2 and so on.

18. **[SIDn]**

This command sets all the cards installed in the Multi-Tasker™ system to the same Card ID. After sending this command, all cards will be addressed with the same ID. Use caution when sending this command to a system with multiple board types.

Command Format: [SIDn]

n = Card ID (n = # from 1 to 99)

Example:

Send the command [SID1] to the system. All the cards in the system now have ID 1. Any commands that are sent to Card ID 1 will be received and executed by each card.

19. **[SIDnCi]**

This command sets the Card ID of a single card to a number from 1 to 99.

Command Format: [SIDnCi]

n   = Card ID (n = # from 1 to 99)
Ci = Slot Number (i = # from 1 to max slots)

Example:

Send the command [SID50C10] to set the ID of the card in slot #10 to an ID of 50.

20. **[SID+]**

This command sets the Card ID of all cards in a system to the slot number plus the offset.

Command Format: [SID+n]

n = Offset amount (n = # from 0 to 99)
The maximum Card ID is 99. Subtract the highest slot number from 99 to find the maximum offset. In an 8 slot system, the maximum offset would be 91. The slot number, 8, plus the offset, 91, equals 99.

Example:

There are two, 20 slot enclosures to be connected together during normal operation. The first unit will use the Card ID defaults which are equal to their slot numbers. The second unit will have the same Unit ID, but will have the card ID's offset by 20.

Connect the computer to the second unit only and send [SID+20] to set the ID of all the cards in the enclosure to their slot number plus 20. Reconnect both units to the computer.

The cards in the first unit will be referenced as Card ID's 1-20 and the cards in the second unit will be referenced by Card ID's 21-40.

21. **[RSN]**

This command reads the slot number of the card with a specified ID number, and returns the value to the system to be displayed in the terminal window. If more than one card has the same ID, each slot number will be displayed.

Command Format: [RSNCi]

Ci = Card ID (i = # from 1 to 99)

Example:

The card in slot #4 takes up four slots. Its ID was set to 1 since it is the first card installed in the system, reading from left to right. Send the command [RSNC1] to find the slot number. The system responds with the following feedback:

4

22. **[HELP]**

This command displays information available for the Multi-Tasker interface commands.

Command Format: [HELPCnUi]

Cn = Card ID (n = # from 1 to max slots)

Ui = Unit ID (i = # from 0 to 9)

Example:

In order to view the RS-232 commands available for the MT104-105 card in slot 4, send the command [HELPC4]. The commands along with a brief description will be displayed in the Terminal Window.

23. **[WR]**

This command groups multiple cards in the enclosure allowing all the group members to be controlled simultaneously with the same command. Each unit may define a maximum of eight groups.

In Multi-Tasker™ systems with audio and video cards, boards are typically grouped as follows:

Group 1 = Video Cards
Group 2 = Audio Cards
Group 3 = Video and Audio Cards

If assigning group commands to button functions, it is best to use the "Press and Hold on Power Up" to make group settings.

Command Format: [WRCn$_1$Cn$_2$…GkUi]

Cn = Card ID (n = slot # from 1 to max slots)
Gk = Group number (k = # from 1-8)
Ui   = Unit ID (i = # from 0-9)

Example:

To group cards 1, 2, and 3 as group 5 of Unit ID 1, send the command [WRC1C2C3G5U1]. After executing this command, cards 1, 2 and 3 will be grouped together as group 5 of Unit ID 1. The system will return the following feedback:

G1=C1C2C3

Now, when a command is sent to G1, each board in G1 will execute the same command.

24. **[RMC]**

This command may be used to remove one or more group members from a group. Reset the system after using this command for all changes to take effect.

Command Format: [RMCn$_1$Cn$_2$…GkUi]

Cn = Card ID (n= # from 1 to max slots)
Gk = Group number (k = # from 1-8)
Ui   = Unit ID (i = # from 0-9)

Example:

Group 1 consists of the cards located in slots numbered 1, 2, 3, 4 and 5. Remove just cards #4 and #5 from the group by sending the command [RMC4C5G1]. The system will return the following feedback:

G1=C1C2C3

25. **[RMG]**

This command may be used to delete an entire group, or all groups.

REMOVE ONE GROUP MEMBERS

Remove all the members from the group, effectively deleting the group.

Command Format: [RMGkUi]

Gk = Group number (k = # from 1-8)

Ui   = Unit ID (i = # from 0-9)

Example:

Group 1 consists of the cards located in slots number 1, 2 and 3. Remove all cards from the group by sending the command [RMG1]. The system will return the following feedback:

G1=EMPTY

REMOVE ALL GROUPS

Remove all the members from every group, effectively deleting all groups.

Command Format: [RMGÜUi]

Ui = Unit ID (i = # from 0-9)

Example:

Group 1 consists of cards 1 and 2. Group 2 consists of cards 1, 2, 3, 4 and 5. Delete all the groups by sending the command [RMGÜ]. The system will return the following feedback:

G1-G8:EMPTY

26. [RD]

This command reads and then displays the members in each group.

Command Format: [RDGkUi]

Gk = Group number (k = # from 1-8)

Ui = Unit ID (i = # from 0-9)

Example:

The cards in slots 1, 2 and 19 are part of group 5. Read the member data for group 5, by sending the command [RDG5]. The system will return feedback as follows:

G1=C1C2C19

The feedback shows G1 (Group 1) and then the cards that make up Group 1. In this case, Group 1 includes C1, C2 and C19.

27. [CLRG]

This command clears the members for a single group or for all groups. The clear command restores the cards to default settings and is the equivalent to sending the [CLR] command to each individual card.

NOTE: Since this command is sending the [CLR] command to its group members, each card will display its own reset message, if any.

Command Format: [CLRGkUi]

Gk = Group ID (k = # from 1-8, or Ü for all)

Ui = Unit ID (i = # from 0-9)

Example:

1) To clear group 1 of Unit ID 0, send the [CLRG1] command. This command clears the members for the specified group only.

2) To clear all groups of Unit ID 1, send the [CLRGÜU1] command.

28. [CLM]

This command removes the members in a group and leaves the group empty. It is equivalent to sending the [RMGkUi] command without card references.

Command Format: [CLMGkUi]

Gk = Group number (k = # from 1-8)

Ui = Unit ID (i = # from 0-9)

Example:

Group 5 of Unit ID 1 contains the cards in slots 1, 2 and 19. Read the member data for group 5 of Unit ID 1. Send the command [RDG5U1] and receive the following feedback:

G1=C1C2C19

Now, clear group 5 by sending the command [CLMG5U1]. Reread the member data as above and note the following feedback:

G1=EMPTY

MULTI-TASKER™

7.3 SUMMARY OF COMMANDS

Card Commands

1) **[VER]**   **Receives software version**
2) **[Ci]**   **Receives status of the card**
3) **[CnS]**   **Saves card configuration.**
4) **[?]**   **Show system cards**
5) **[?C]**   **Show card information**
6) **[STA]**   **Enable/disable auto feedback**
7) **[ON]**   **Turn input ON/OFF**
8) **[OFF]**   **Turn output ON/OFF**
9) **[…S]**   **Save command configuration**
10) **[…F]**   **Provides feedback after send**
11) **[…P]**   **Set the path for [SW] command**
12) **[SW]**   **Switch preloaded buffer**
13) **[SIG]**   **Check for input signal**
14) **[CLR]**   **Reset card to default values**
15) **[TEST]**   **Test internal memory IC's**
16) **[FBD]**   **Feedback delay on/off**
17) **[RSI]**   **Reset Card ID's**
18) **[SIDn]**   **Set all Card ID's**
19) **[SIDnCi]**   **Set one Card ID**
20) **[SID+n]**   **Set Card ID offset**
21) **[RSN]**   **Read Card slot number**
22) **[HELP]**   **Display available commands.**

Group Commands

23) **[WR]**   **Groups multiple cards**
24) **[RMC]**   **Remove members from group**
25) **[RMG]**   **Delete group**
26) **[RD]**   **Displays group members**
27) **[CLRG]**   **Clears group members**
28) **[CLM]**   **Delete group**

TROUBLESHOOTING GUIDE   8

We have carefully tested and have found no problems in the supplied **MT104-105**; however, we would like to offer suggestions for the following:

8.1 LED IS NOT LIT

Cause 1:   **Card cage is not plugged in.**

Solution: Plug card cage in. If the LED lights, the problem is solved. If the LED is still not ON, see Cause 2.

Cause 2:   **Card is not plugged in all the way.**

Solution: Push the card in all the way. If the LED is still not ON, see Cause 3.

Cause 3:   **Card cage slot has a problem.**

Solution 1: Test the card in other slots of the card cage. If the slot was damaged, the card may work in other slots. If other slots work and the LED lights, the problem is the card cage slot. The card cage may require service. Call ALTINEX at (714) 990-2300. If the other slots do not work and the LED is still not lit, see Solution 2.

Solution 2: Take any other known good card with an LED and verify that the slot used is good by seeing if the other card's LED lights in that slot. If it lights, then the original card may be the source of the problem. Call ALTINEX at (714) 990-2300.

8.2 LED IS BLINKING RED

Cause 1:   **CPU is not working properly.**

Solution 1: Look at the card and verify that there is no damage. If there is no damage, see Solution 2.

Solution 2: Verify that all IC's are seated in their sockets. If the LED is still blinking red, see Cause 2.

ALTINEX

SIGNAL MANAGEMENT SOLUTIONS

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Cause 2: **The card and its serial device are not communicating.**

Solution 1: Turn the system OFF and then ON again. If there is still an error, see Cause 3.

Cause 3: **RS485 communication error**

Solution 1: Make sure that the card is pushed all the way into the slot. If there is still an error, see Solution 2.

Solution 2: Turn the system OFF and then ON again. If there is still an error, see Solution 3.

Solution 3: Call ALTINEX at (714) 990-2300.

8.3 NO DISPLAY

Cause 1: **The source has a problem.**

Solution: Check the source and make sure that there is a signal present and all source connections are correct. If the source is working and there is still no display, see Cause 2.

Cause 2: **The card output is not selected.**

Solution: Select the card output. See RS-232 accessible commands in Section 7. If no display is present, see Cause 3.

Cause 3: **Cable connections are incorrect.**

Solution: Make sure that cables are properly connected. Also, make sure that the continuity and wiring are good. If there is still no display present, see Cause 4.

Cause 4: **The display has a problem.**

Solution: Make sure the display is powered and is turned ON. If there is still no display, please call Altinex at (714) 990-2300.

ALTINEX POLICY 9

9.1 LIMITED WARRANTY/RETURN POLICY

Please see the Altinex website at www.altinex.com for details on warranty and return policy.

9.2 CONTACT INFORMATION

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