



BROADCAST[®] tools INC

Installation and Operation Manual



PBB-24 Plus *Programmable Button Box*

Firmware version v 3.19

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INTRODUCTION

Thank you for your purchase of a Broadcast Tools, Inc., PBB-24 Plus. We're confident that this product will give you many years of dependable service. This manual is intended to give you all the information needed to install and operate the unit.

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WHO TO CONTACT FOR HELP

If you have any questions regarding your product or you need assistance, please contact your distributor from whom you purchased this equipment.

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by American Workers*



CAUTION!

Broadcast Tools® Products, as with any electronic device, can fail without warning. Do not use this product in applications where a life threatening condition could result due to failure.



NOTE:

This manual should be read thoroughly before installation and operation.

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INTRODUCTION

PRODUCT DESCRIPTION

The PBB-24 Plus provides twenty-four spst buttons that may be configured to generate user programmable ASCII, HEX or control character strings, which are outputted to the provided RS-232 serial port. Custom programming of the PBB-24 PLUS is accomplished with a NON-DEDICATED computer.

Features:

- 24 - Heavy duty switches
- Switches may be remote controlled
- Thirty-two ASCII, HEX or control character strings per switch on depression and release Power and data activity LED's
- Non-volatile program memory
- One - RS-232 serial port
- Four baud rate settings, 1200, 2400, 4800 and 9600
- Ergonomically designed desktop unit with sloped front case.

Applications:

- Hot Keys for Digital Hard drive systems
- Push button control of satellite receivers
- GPI to serial converter
- Remote control of all types of equipment requiring control via RS-232.

Unpacking and Handling

Please examine your PBB-24 PLUS for any damage that may have been sustained during shipping. If any is noted, please notify the shipper immediately. Retain the packaging for inspection by the shipper. The package should contain the PBB-24 Plus, 9 vac wall power transformer, Installation manual, Female 25 pin D-sub solder cup connector and shell, DB-9 female/male serial cable.

NOTE: A "null-modem" adapter/cable may be needed in some applications.

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INSTALLATION

Mounting

Place the where it will be visible and close to the user.

Quick Start Setup

The PBB-24 PLUS is factory configured for the serial protocol of 2400, 8N1. The following table provides the default strings for each switch.

| Switch Position | J1, Remote Control Pin out | User Provided Switch Name | Switch Code "Depressed" | Switch Code "Release" |
|-----------------|----------------------------|---------------------------|-------------------------|-----------------------|
| 1 | 1 | | *01<cr> | #01<cr> |
| 2 | 2 | | *02<cr> | #02<cr> |
| 3 | 3 | | *03<cr> | #03<cr> |
| 4 | 4 | | *04<cr> | #04<cr> |
| 5 | 5 | | *05<cr> | #05<cr> |
| 6 | 6 | | *06<cr> | #06<cr> |
| 7 | 7 | | *07<cr> | #07<cr> |
| 8 | 8 | | *08<cr> | #08<cr> |
| 9 | 9 | | *09<cr> | #09<cr> |
| 10 | 10 | | *10<cr> | #10<cr> |
| 11 | 11 | | *11<cr> | #11<cr> |
| 12 | 12 | | *12<cr> | #12<cr> |
| 13 | 13 | | *13<cr> | #13<cr> |
| 14 | 14 | | *14<cr> | #14<cr> |
| 15 | 15 | | *15<cr> | #15<cr> |
| 16 | 16 | | *16<cr> | #16<cr> |
| 17 | 17 | | *17<cr> | #17<cr> |
| 18 | 18 | | *18<cr> | #18<cr> |
| 19 | 19 | | *19<cr> | #19<cr> |
| 20 | 20 | | *20<cr> | #20<cr> |
| 21 | 21 | | *21<cr> | #21<cr> |
| 22 | 22 | | *22<cr> | #22<cr> |
| 23 | 23 | | *23<cr> | #23<cr> |
| 24 | 24 | | *24<cr> | #24<cr> |
| | 25 | Ground | | |

Note: All pins on J1 are pulled to 5-volts thru a 10K pull-up. The input is equipped with a 470 ohm series resistor. To select any switch position, pulse the desired pin to digital ground (Low). Pin 25 is digital ground.

INSTALLATION

Labeling switches

To add labels to the unit, write your labels and cut to a size adequate to attach to the area above switches.

Custom programming setup:

Step 1. Connect one end of the supplied serial cable to J5 (Computer) on the PBB-24 PLUS and the other end to the computers serial port or a USB adapter.

Step 2. The unit is shipped set for 2400 baud, with 8 data bits; no parity and one stop bit. Load your favorite communication software package (Procomm, Bitcom, Windows 3.1/3.11 Terminal and/or Windows 95/98/ME/2000/NT/XP Hyper Terminal, etc). Using the protocol of 2400-N-8-1. Set the mode to: DIRECT to COM #, Flow Control to: NONE and emulation to: ANSI.

Step 3. Press the space bar ONCE and the configuration menu will appear.

Step 4. Pressed the desire function and follow the prompts.

Note 1: A: To enter a carriage return, press the back slash (\) key followed by pressing the “enter” key twice.

B: To enter control characters, press the back slash (\) key followed by the desired control character key. Terminate the entry by pressing the enter key.

C: To enter a HEX character, press the back slash (\) key followed by the letter x then the 2 digit character. Terminate the entry by pressing the enter key. Example: \x0D would generate a carriage return.

Note 2: To control the Wegener Unity 4000 and/or StarGuide II/III receivers, be sure to purchase or build a “NULL” modem cable or adapter between the DB-9 female connector and the 9 pin female connector (M&C) on the receiver. To build a NULL modem cable, purchase two 9 pin male D-sub solder cup connectors. Connect the two connectors together as listed in the table below.

Note 3: Be sure to remove and stow JP1 to disable the programming function when finished.

Specifications

| | |
|-------------------------|---|
| Serial: | 1200, 2400 (default), 4800 or 9600, 8-N-1. RS-232C. |
| Default serial strings: | *01 – 24 <cr> Key depressed // #01 – 24 <cr> Key released |
| String Length: | 32 character ASCII strings per key depression and release. |
| Logic: | Microprocessor, Non-volatile memory. |
| Logic input/output: | Switch input: 5 volts compatible, CMOS/TTL open collector or contact closures to ground. |
| Switch output: | Contact closure to ground thru 470-ohm resistor. Pulled up to 5-volts thru 10 K ohm pull-up. |
| Connectors: | I/O – Male 25 pin D-Sub. Mate supplied Serial – DB-9 female connector. Male/Female DB-9 cable supplied. |
| Power: | 9 Vac, 1-amp. Wall transformer. Supplied. |
| Dimensions: | 6.20"W x 6.27"D x 1.75"H, desktop chassis with sloped front. |
| Weight: | 3.0 lb. |
| Options: | USB to RS-232 smart cable. ESS-1, Ethernet to serial converter. CE certified 220vac 50 Hz power supply. |

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