Tally Ho! Systems

On Line Manual

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Tally Ho! Systems

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Welcome to the wonderful world of camera and monitor tally lights. The simple act of lighting a lamp when a button is pushed has brought many a good engineer to his knees. In that light I offer to you the Jonco, Inc" Tally Router System." Notice that I said system. We at Jonco have addressed the total need for a tally system. Not a power supply from here, a sliding matrix switch from there and some relays that the engineers in the shop put in a box with switches. I hope that you will find this system to be the easiest and quickest way to accomplish this basic task. This system is an embedded Micro controller that will allow for quick changes and additions that come just before show time. Those little "Oh by the ways" that we all love. The tally system is a matrix of 124 inputs and 128 output locations and consists of a central transmitter unit and a series of remote receivers located near the units to be tallied The system allows for mixed tally types on any given cross-point. This is task usually ends in an investment of diodes, black tape, burnt fingers and a considerable amount of time to make it all work., only to be redone the next time the system is changed. This is an advantage for multiple cross-point

as there is no interaction with tally that is already active. This de-centralize system allows for the best real estate management in today's shrinking available rack space. A variety of remote input options are available for truck to truck or facility interfacing.

The single rack space, central processor, is self-contained and does not require an external computer for programming. All operating functions are available from the front panel. Setup data for each show is stored in flash ram and will be retained even when power is removed. The unit stores up to fifteen different setups. Set ups may be copied between memories. Inputs to the master are optically isolated from the rest of the system and this limits the current through the switcher relays thus extending the switcher relay life. Just a small amount of current is drawn to help keep the relay contacts clean.

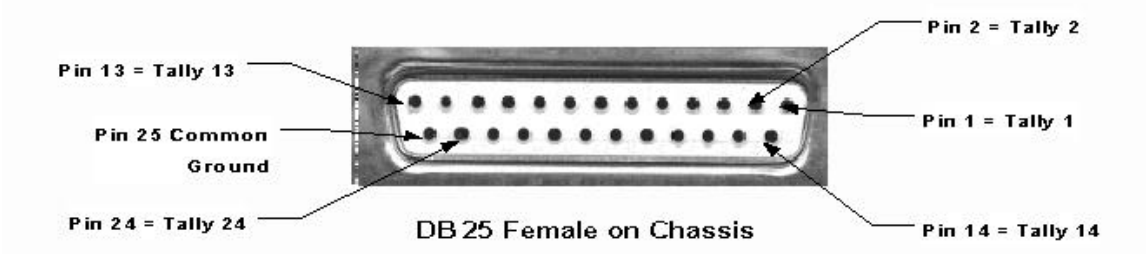
Serial date is sent to each remote from the master unit. Each remote is locally powered and supplies the voltage for all tallies, wet or dry. The tally type, "Wet or Dry" on each of the eight outputs is selected by a switch located under the remote's top cover. The remotes can be rack mounted in a single or dual side by side configuration in a single space rack mount adapter. The outputs of the remote receivers are relay outputs. In the dry mode the circuit is totally isolated from any reference. This is a true contact closure. In the wet mode the output voltage is placed in series with the relay contacts. No voltage is present until the relay closes. Grounds between wet outputs are common to the power supply DC grounds for the all remotes in the wet mode. Output current to loads and relay contacts is limited by a switching power supply. This will drive most loads with ease.

We here at Jonco, Inc feel that these features will make your tally experience truly pleasurable and the last thing that you will need to worry about. We offer twenty-four/seven tech support and keep units on the shelf and a complete stock of replacement parts should you ever need to replace any part.

John E. Hensch President of Jonco, Inc. Personal Pager Number 505-880-3668.

Tally Ho! Systems

Installation



Install the switcher-input cable between the switcher and the tally transmitter. The input Connectors is a standard Sub Miniature DB-25Male. **The input starts with number one and ends with number twenty-five as the common return to ground for all tallies.**

Pin 24 is the last tally in this group. Tallies follow the pin numbers in order, Pin 1 = Tally one, Pin 2= Tally, Pin 3 = Tally 3, (You get the idea) all the way up to pin 24 that is the last tally in this group. **Pin 25 is the common return to ground for all tallies.** There are twenty-four inputs to the transmitter per DB 25 connector for a total of seventy-two inputs. (3X24=72) Not all systems have all seventy-two inputs installed. **Use caution**. ***Don't solder the input connector with power on or with cable plugged into Tally Transmitter. This could destroy the Optical isolator in the transmitter and render the unit inoperable.***

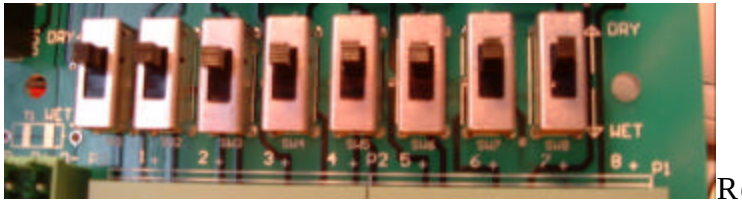
Setting the Address

Next you may need to set the Address and output type on the tally receivers. New systems that are supplied by us will have the address set and each receiver marked with its address and this step in not necessary. If you need to add to, or change your system then read on. To set the address a four-pole dipswitch is located near the top right of the board. This is a BCD address setting with the ones bit on the right and the eight bit on the left. 0-1-2-4-8 for a total of 16 location addresses All switches on (Down) are equal to address zero. Address 1 is the switch to the far right up (off).

Address			
0=1-8	**1**=9-16	**2**=17-24	**3**=25-32
4=33-40	**5**=41-48	**6**=49-56	**7**=57-64
8=65-72	**9**=73-80	**10**=81-88	**11**=89-96
12=97-104	**13**=105-112	**14**=113-120	**15**=121-128

The Red Led will now flash the switch settings. The green LED indicates the presents of valid data. You may now select the type of output that is appropriate for the tally type. Wet or Dry for each output in each group of eight outputs. Connect the output cable to the device to be tallied.

Setting the Output type



Remove the top cover by loosing the two screws on the top of the receiver and lifting the cover up and off. You will see the eight slide switches that set the type of output need by the device that you are trying to tally. The Wet setting will supply the unit to be tallied with 12 VDC when tally is active. A Dry setting will supply a true isolated contact closure when tally is active. The settings for each output are silk-screened on the board. Each output switch is marked.

Interconnecting

Hook up the remote receivers with an XLR Mic cable Loop from the transmitter to the remote receivers. The order of the receivers on the data chain is not important. They do not need in be connected in any order. The Transmitter unit and the receivers do not have a power switch. All that is necessary is to plug in the units in to their respective 120 VAC outlets.

Plug in the small switching power supply into the remote receiver with the small three pin locking connector. Then plug in the power cable into a 120 VAC outlet.

The Red LED should start to flash. This indicates that the unit is receiving power. Set the address switch to appropriate address. The RED LED will flash the address setting. The GREEN LED indicates the presents of a data information to the receiver.

We suggest before you do any programming that you do a deep reset by pressing and holding the **Reset** button until the **Red LED** on the **Record** switch starts to flash. The unit will display the options at this point. The display shows the factory default dialogue. Use the right side **Up** and **Down** buttons to change the options then press the **Red Record** button to move to the next parameter setup.

Programming the Unit

Setup Dialogue:

The first window shows the number of output channels that you may use.

The display shows

Display	Nomenclature	Default	Option	Your Setting
CO 8	Sets the number of output channels to be used by the System 8 or 6 active outputs per receiver	**CO 8**	**CO 6**	
Out 128	Number of outputs used by your system in-groups 8 or 6 as set by the above selection.	**CO 128** **CO 96**	**CO 128-8** **CO 96-6**	
In 124	Set the number of inputs by groups of eight to use in you system. Not all inputs are install in all units.	**In 124**	**In 124-8**	
PAt 1-1	Sets the default patching to 1-1 or all to off.	**PAt 1-1**	**PAt OFF**	

Press the **Red Record** button to exit! The unit will now flash the words "dEEP rESET" while the new information is being stored in memory. If you make a mistake or want to change the settings you must execute the entire dialogue each time. The default settings will show each time the setup is accessed.

Programming Crosspoint

You now my start the programming of your Tally Router System. Select an output number with the up or down switcher located on the left side of the **OUTPUTS** display. You may step through one at a time or hold the button down to use the rapid advance. The display will pause briefly before it rolls over to the start of the number sequence when the button is held depressed. When the number you need appears in the window you may select a crosspoint number from the right hand display by depressing the up or down button on the right of the right **Switcher Crosspoint** display. If you change the **Switcher Crosspoint** display number the RED LED on the RED RECORD button will start to flash. This indicates that you have made a change and

need to record your changes. Repeat this action until you have made all the connections you need. You may assign multiple output to any crosspoint. This will tally multiple outputs when that crosspoint is activated

On/OFF Function

Two more selections are included on the Switcher Crosspoint display. They are **On** and **Off.** The **On** function will turn on the selected output until you turn it off or assign it to switcher crosspoint. This action is made immediate by depressing the **Red RECORD** button. This is very useful when trouble shooting a given output. The **OFF** function is for a crosspoint has become active and you or the screaming T.D doesn't want it on and you cant get to the source to turn it off. (The remote truck that you are getting a feed from becomes active for some reason.) Any of the outputs of greater number than the number of inputs are set to off by the default software. This is in systems say that are 24 X 48, 48 X 128 for example.

Selecting a show number

The Show memory number one is the default setting. If you desire a setting other than this, select a new location by depressing the **Show** push button. The Display will show the current show selected. Use the Up or Down button to select a new number between 1 and 15. The Red LED on the **Red Record** button will start to flash. Depress the **Red Record** button to load your selection. You may depress the **Reset** button to display the show number. This will not change programming of any memory.

Show Copy

You may want to copy one show setup information in a particular memory location for storage in a second memory location for use at a future time. This is handy to store a basic setup say in memory 15 and be able to recall it and modify the setup and at the end of a run save it in memory 10 for future use.

To Copy from a memory location to another memory location lets say from Sho 1 to Sho 2 Press the Show Button. The display will show the current memory location "Sho 1". Press the Show button again and the display will change to "CPY Sho". The RED LED in the RECORD switch will start to flash. Press the RED RECORD button. The display will change to "F 1 T 1". Use the

up down buttons to select the memory that you want to copy from on the left display to the memory that you wish to copy to in the right display. (F 1 t 2) The RED LED in the RECORD switch will start to flash. When you have the information the way that you want it, press the RED RECORD button. You may abort the show copy at any tine by pressing the RESET button.

Resetting the Unit

The unit should never need to be reset under normal conditions. If a power glitch should cause the unit to hang up depress the **Reset** button to restart the unit. ***Using the DEEP RESET will reset ALL parameters to Default and clear any show setting in memory.***

Trouble Shooting the Transmitter:

Trouble Shooting the Transmitter:

The Switcher Crosspoint Display on the right Display will light the **Left decimal point** when the transmitter is receiving a tally command from the switcher. This aids in ascertaining if a tally should be active. Use the output select switches to look at the channel crosspoint. If you have a single input or more up to the next four that don't work on the transmitter, take a voltmeter and measure between that switcher input lead and the ground return lead. If you don't read at least 5-12 VDC, then the input Optic isolator is bad and should be replaced. They are in sockets to aid in replacement

Trouble Shooting the Receivers:

If the Red Led is not blinking and you're sure the unit is powered, the PIC processor has stopped running. Check to see that chip is seated in its socket. If the Green Led on the remote receiver is not active, the differential receiver IC may have become damaged. Replace the 75179 integrated circuit. A second cause of the Green Led not to be lit is bad data to the receiver. Polarity counts, Pin one must be pin one on both ends just as pin two and three should be the same on both ends of the cable. Try replacing the XLR Mic cable. If the system works up to point, but beyond that point things are not just right , replace the cable. If all the LED's are illuminated and the processor is running and you don't hear a clicking sound coming from the remote receiver when the address is tallied, the relay is bad. Over current of the relays can weld both contacts together and cause the unit to be on all the time. You can check this by

depressing the reset button and the light should go out if everything is ok with the relay. If all the relays don't click when all eight addresses are tallied the driver chip should be changed. Return the receiver to us for repair.

Most time the trouble is external to the system electronics. Check connectors and wires for loose or improper connections. We find that most of the time that something simple has been overlooked. Remember that it takes two wires for electricity to flow properly.

If you can't resolve the trouble please give us a call and we will try to get up and running. We are here 24/7/360.

Our Pager number is 505-880-3668. Enter a number that we can call back to and will ring at your location. Sometimes on location, this can be hard to find. You might ask to use someone's cellular phone. Please include the area code. For international calls please include the country code. If we don't return your call in five minutes please re-page us until we call you.

We at **Tally Ho! Systems** think that we have made the tally process as simple as it gets. We only hope that all your needs have been met with this system. If you have an idea or a comment about the system call us and tell use your need or idea. We take any idea under consideration to build a better product that better meets your needs. We hope the only way that it could be any simpler is if we were to come out and install it for you.

Thank you for choosing Tally Ho! Systems.

John E. Hensch

President

Jonco, Inc.

Switcher Input Cable Color Code No 1

This is the most common input cable Try this one first.

1	Black
2	Brown
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
8	Violet
9	White
10	Gray
11	Pink
12	Light Gray

13	Lavender
14	Black/White
15	Brown/White
16	Red/white
17	Green/White
18	Blue/White
19	Violet/White
20	Orange/Black
21	Yellow/Black
22	Gray/Black
23	White/Black
24	Lt. Gray/Black

25	Purple/Black

Number 25 is common dc return Ground

Switcher Input Cable Color Code No 2

Some supplied input cables have this color code.

1	Brown
2	Red
3	Orange
4	Pink
5	Yellow
6	Green
7	Lt. Green
8	Blue

9	Lt. Blue
10	Purple
11	Gray
12	White
13	Black
14	Red / White
15	Red /White
16	White / Green
17	White / Blue
18	Brown / White
19	Red / Black
20	Yellow/Black

21	Green / Black
22	Blue / Black
23	Gray / Black
24	White / Black
25	Yellow / Green

Number 25 is common dc return Ground

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