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MODEL No. SW1X8

RS422 SWITCHER

User Manual

TABLE OF CONTENTS

I.	REVISION HISTORY	2
II.	INTRODUCTION	3
III.	STANDARD FEATURES.....	3
IV.	PERMANENT GANG OPTION	4
V.	INSTALLATION	5
VI.	1XN EXPANSION PORT INSTALLATION.....	5
VII.	NX8 EXPANSION PORT INSTALLATION.....	6
VIII.	OPERATION WITHOUT GANG FUNCTION	6
IX.	OPERATION WITH GANG FUNCTION	7
X.	SPECIFICATIONS	8
XI.	FRONT PANEL / REAR VIEW	11
XII.	CONNECTION DIAGRAM.....	11
XIII.	DNF CONTROLS LIMITED WARRANTY	12

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I. REVISION HISTORY

010604	Rev. 2.2	Company header information revised. Added DNF Controls Limited Warranty. Reformatted.
030804	Rev. 2.3	SPECIFICATIONS section, Rear Panel, 1 External Select: Changed no. of pins from 9 to 25.
081805	Rev. 2.4	Changed description of Tally Outputs.
051606	Rev. 2.41	Minor Specification corrections

II. INTRODUCTION

- A. A Highly Effective Routing and Distribution System
- B. Quick and Easy to Operate
- C. Fast and Simple Installation

III. STANDARD FEATURES

- A. At the press of a button
 - 1. Select one of 8 individual VTRs
 - 2. Select a Group of VTRs
 - 3. Gang Roll (Common Roll) all 8 VTRs
- B. 1XN Expansion Port
 - 1. Connects two or more **SW1X8 RS422** Switchers to control more than 8 VTRs.
 - 2. Create 1 x 16, 1 x 24, etc. configurations.
- C. NX8 Expansion Port
 - 1. Control 8 VTRs from multiple control points. Connect multiple **SW1X8 RS422** Switchers in 2 x 8, 3 x 8, and 4 x 8 configurations.
- D. External Select /Status
 - 1. Provides external control and monitoring crosspoints.

IV. PERMANENT GANG OPTION

When the PERMANENT GANG Software option is included in the SW1X8, the following functionality is changed as follows:

When a gang is created, it is **Permanent** (until the operator clears the gang).

Example: Gang Outputs **[1]**, **[2]** and **[3]**.
Output 1 LED blinks.
Output 2 & 3 LEDs stay on solid.

Select Output **[5]**.
Only Output #5 LED is on and blinks.

Select Output **[1]**, **[2]** or **[3]**.
All of the members of the gang have their LEDs on.
Output 1 blinks.

To CLEAR old gang and create a new one:
Press and hold any key, then select the other keys to be ganged.

While holding the master of the gang (the key with the blinking LED), it is now possible to toggle members in and out of the gang.

Example: Gang outputs **[1]**, **[2]** and **[3]**.
Output 1 LED blinks.
Output 2 and 3 LEDs stay on solid.
Release all keys.

Press and hold Output **[1]**; the gang master LED blinks.

Press any key: It becomes a member of the gang.
Press it again and it is removed from the gang.

V. INSTALLATION

- A. Connect one end of a 9-pin D-type male to male cable into the rear panel 9-pin D-type female connector labeled **RS422 Input**. Connect the other end to a VTR Controller.
- B. Connect up to 8 RS422 Serial Controlled VTRs using 9-pin D-type male to male cables into the 9-pin D-type female connectors labeled **OUT1** through **OUT8**.
- C. Connect the **Power Supply**'s 9-pin female D-connector to the rear panel connector labeled **Power**. Connect the AC plug to an outlet, 90 VAC to 265 VAC, 50 - 60 Hz. The **Power** indicator will turn on.
- D. When power is applied, OUT1 is active and its indicator light will blink.

Installation is complete.

VI. 1XN EXPANSION PORT INSTALLATION

To control more than 8 VTRs from a single controller:

- A. Follow the instructions in the **INSTALLATION** section for first 8 VTRs.
- B. Connect the **RS422 INPUT** connector on the second **SW1X8** to the **1 X N EXPANSION PORT** connector on the first **SW1X8**, using a standard 9-pin **RS422** cable, with all 9 pins wired one to one.
- C. Remove the top cover of the second **SW1X8**. Move the **NORMAL/EXPANSION** jumper on the main printed circuit board to "Expansion."
- D. Connect VTRs 9 through 16 to the second **SW1X8**.
- E. Connect the third **SW1X8** to the **EXPANSION PORT** connector on the second **SW1X8**. Repeat Step d. on the third **SW1X8**.

VII. NX8 EXPANSION PORT INSTALLATION

To control 8 VTRs from more than one controller/control point:

- A. Follow the instructions in the **INSTALLATION** section for first 8 VTRs.
- B. Using "Y" connectors, connect each VTR to the appropriate OUT connector on every **SW1X8**.

Example: In a 3 x 8 configuration, connect VTR#1 to OUT1 on SW1X8 #1, SW1X8 #2 and SW1X8 #3

- C. Connect one end of a standard RS422 cable 9-pin D-type male to male cable with all 9 pins wired one to one into the **NX8 Expansion Port** on the **SW1X8**. Using "Y" connectors, connect the other end into all of the other **SW1X8s**.

VIII. OPERATION WITHOUT GANG FUNCTION

A. To Control An Individual VTR

1. Press the switch corresponding to the desired VTR; its indicator will light. The VTR Controller can now control the selected VTR.

Example: To control VTR4, press switch number **[4]**; its indicator light will be steady.

IX. OPERATION WITH GANG FUNCTION

A. To Control A Gang of VTRs

1. Press and hold the switch corresponding to the Status VTR (the VTR that will be monitored for status and timecode). Its indicator will light.
2. Now press and release the switch corresponding to each VTR to be added to the gang. Their respective indicators will light.
3. Release the Status VTR switch. It will begin to blink.

Example: To gang VTRs 2, 4, 5 and 7

Press and hold switch number **[2]**, its indicator will light.

Press and release switch numbers **[4]**, **[5]** and **[7]**.

Their respective indicators will light.

Release switch number **[2]**; its indicator will blink.

B. To Control All 8 VTRs

1. Press the **[GANG]** switch.
2. The Switch number 1 indicator will blink (it is the default Status **VTR**). All other switch indicators, 2 through 8, will light.

Example: To Gang Roll (Common Roll) VTRs 1 through 8, press **GANG**. The indicator for each VTR will turn on.

X. SPECIFICATIONS

Power Requirements: 5 VDC regulated, 1 Amp Universal Power Supply.
90-265 VAC, 50-60 hz supplied.

Size: 1RU Rack-mountable housing, (H x W x D) 1.75"
x 19" x 4.5"

Weight: 5 lbs.

A. Front Panel

8 Output selector switches with status indicators, labeled 1 through 8
1 Gang selector switch
1 Power Indicator

B. Rear Panel

1 RS422 Input	9-Pin D-Type Female
8 RS422 Outputs	9-Pin D-Type Female
1 NX8 Expansion Port	9-Pin D-Type Female
1 1XN Expansion Port	9-Pin D-Type Female
1 External Select	25-Pin D-Type Female
1 Power Connector	9-Pin D-Type Male

C. RS422 Input Connector

9-Pin D-Type Female

<u>Pin#</u>	<u>Description</u>
1	Frame Ground
2	Transmit A →
3	Receive B ←
4	Transmit Common
5	Spare
6	Receive Common
7	Transmit B →
8	Receive A ←
9	Frame Ground

D. Outputs 1 - 8 RS422 Connectors

9-Pin D-Type Female

<u>Pin#</u>	<u>Description</u>
1	Frame Ground
2	Receive A ←
3	Transmit B →
4	Transmit Common
5	Spare
6	Receive Common
7	Receive B ←
8	Transmit A →
9	Frame Ground

E. NX8 Port Function Description

The port has an OUTPUT line for each of the eight VTR ports. When the OUTPUT line is held low, the selection of the corresponding VTR port is prohibited.

F. NX8 Connector

9-Pin D-Type Female

<u>Pin#</u>	<u>Description</u>
1	OUTPUT 1 ON (Active Low)
2	OUTPUT 2 ON (Active Low)
3	OUTPUT 3 ON (Active Low)
4	OUTPUT 4 ON (Active Low)
5	OUTPUT 5 ON (Active Low)
6	OUTPUT 6 ON (Active Low)
7	OUTPUT 7 ON (Active Low)
8	OUTPUT 8 ON (Active Low)
9	GROUND

G. 1XN Port Function Description

When the **1 X N Expansion Line** is active, all **SW1X8s** with the **Expansion/Normal** jumper set to Expansion will turn off all of its **OUTPUTS**.

H. 1XN Connector

9-Pin D-Type Female

<u>Pin#</u>	<u>Description</u>
1	Frame Ground
2	Receive A ←
3	Transmit B →
4	Expansion Mode
5	Spare
6	Receive Common
7	Receive B ←
8	Transmit A →
9	Frame Ground

I. External Select Input Connector

25-Pin D-Type Female

<u>Pin#</u>	<u>Connection</u>	<u>Description</u>
1	Switch #1	Active Low (Internal Pullup to +5 VDC is provided)
2	Switch #2	
3	Switch #3	
4	Switch #4	
5	Switch #5	
6	Switch #6	
7	Switch #7	
8	Switch #8	
9	No Connection	
10	No Connection	
11	No Connection	
12	Switch Common	
13	Tally Common	
14	+5v DC	
15	+5v DC	
16	OUT1 tally	When #1 is selected)
17	OUT2 tally	When #2 is selected)
18	OUT3 tally	When #3 is selected)
19	OUT4 tally	When #4 is selected)
20	OUT5 tally	When #5 is selected)
21	OUT6 tally	When #6 is selected)
22	OUT7 tally	When #7 is selected)
23	OUT8 tally	When #8 is selected)

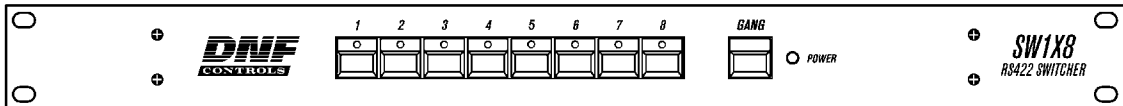
Active state follows front panel selector switch LED.

Low when LED is ON.

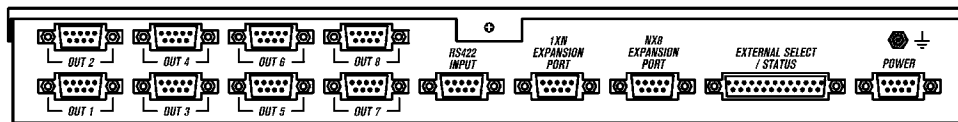
XI. FRONT PANEL / REAR VIEW

SW1X8 RS422 SWITCHER

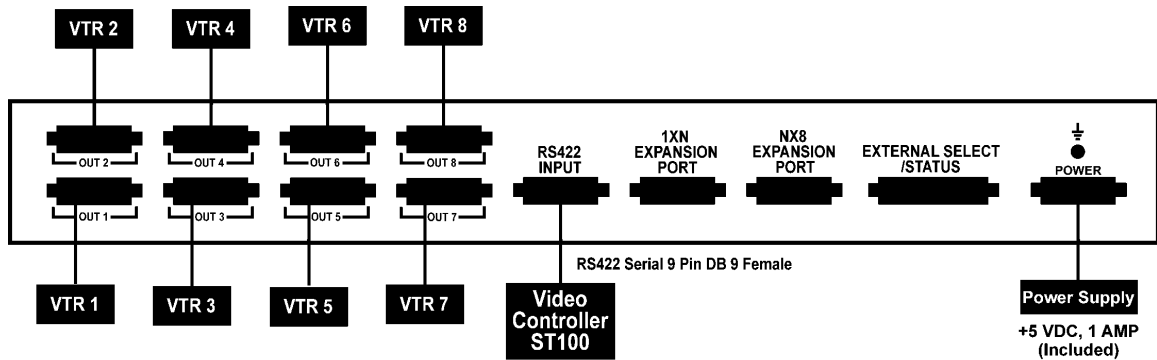
FRONT PANEL



REAR VIEW



XII. CONNECTION DIAGRAM



XIII. DNF CONTROLS LIMITED WARRANTY

DNF Controls warrants its product to be free from defects in material and workmanship for a period of one (1) year from the date of sale to the original purchaser from DNF Controls.

In order to enforce the rights under this warranty, the customer must first contact DNF's Customer Support Department to afford the opportunity of identifying and fixing the problem without sending the unit in for repair. If DNF's Customer Support Department cannot fix the problem, the customer will be issued a Returned Merchandise Authorization number (RMA). The customer will then ship the defective product prepaid to DNF Controls with the RMA number clearly indicated on the customer's shipping document. The merchandise is to be shipped to:

DNF Controls
12843 Foothill Blvd., Suite D
Sylmar, CA 91342
USA

Failure to obtain a proper RMA number prior to returning the product may result in the return not being accepted, or in a charge for the required repair.

DNF Controls, at its option, will repair or replace the defective unit. DNF Controls will return the unit prepaid to the customer. The method of shipment is at the discretion of DNF Controls, principally UPS Ground for shipments within the United States of America. Shipments to international customers will be sent via air. Should a customer require the product to be returned in a more expeditious manner, the return shipment will be billed to their freight account.

This warranty will be considered null and void if accident, misuse, abuse, improper line voltage, fire, water, lightning or other acts of God damaged the product. All repair parts are to be supplied by DNF Controls, either directly or through its authorized dealer network. Similarly, any repair work not performed by either DNF Controls or its authorized dealer may void the warranty.

After the warranty period has expired, DNF Controls offers repair services at prices listed in the DNF Controls Price List. DNF Controls reserves the right to refuse repair of any unit outside the warranty period that is deemed non-repairable.

DNF Controls shall not be liable for direct, indirect, incidental, consequential or other types of damage resulting from the use of the product.

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