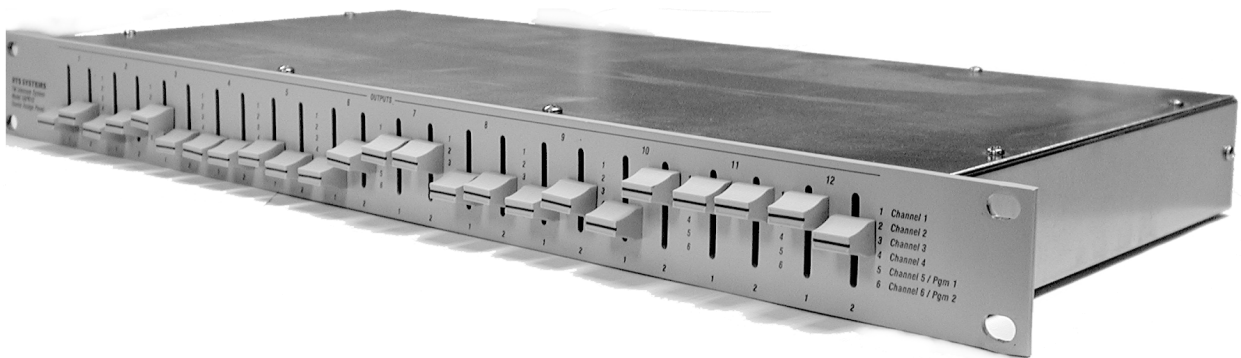


*Model SAP612  
Source Assign Panel  
User Manual*



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**WARRANTY NOTICE**

See the enclosed warranty card for further details.

**CUSTOMER SUPPORT**

Technical questions should be directed to:

Customer Service Department  
RTS/Telex Communications, Inc.  
12000 Portland Avenue South  
Burnsville, MN 55337 USA  
Telephone: 800-392-3497  
Fax: 800-323-0498

**RETURN SHIPPING INSTRUCTIONS**

Customer Service Department  
Telex Communications, Inc. (Lincoln, NE)  
Telephone: 402-467-5321  
Fax: 402-467-3279  
Factory Service: 800-553-5992

Please include a note in the box which supplies the company name, address, phone number, a person to contact regarding the repair, the type and quantity of equipment, a description of the problem and the serial number(s).

**SHIPPING TO THE MANUFACTURER**

All shipments of product should be made via UPS Ground, prepaid (you may request from Factory Service a different shipment method). Any shipment upgrades will be paid by the customer. The equipment should be shipped in the original packing carton. If the original carton is not available, use any suitable container that is rigid and of adequate size. If a substitute container is used, the equipment should be wrapped in paper and surrounded with at least four (4) inches of excelsior or similar shock-absorbing material. All shipments must be sent to the following address and must include the Proof of Purchase for warranty repair. Upon completion of any repair the equipment will be returned via United Parcel Service or specified shipper, collect.

Factory Service Department  
Telex Communications, Inc.  
8601 East Cornhusker Hwy.  
Lincoln, NE 68507 U.S.A.  
Attn: Service

This package should include the following:

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| <b>QTY</b> | <b>DESCRIPTION</b>     | <b>PART NO.</b> |
|------------|------------------------|-----------------|
| 1          | Final Assembly, SAP612 | 90106872-00     |
| 1          | User Manual            | 9350687200      |
| 1          | Warranty Statement     | 38110-387       |

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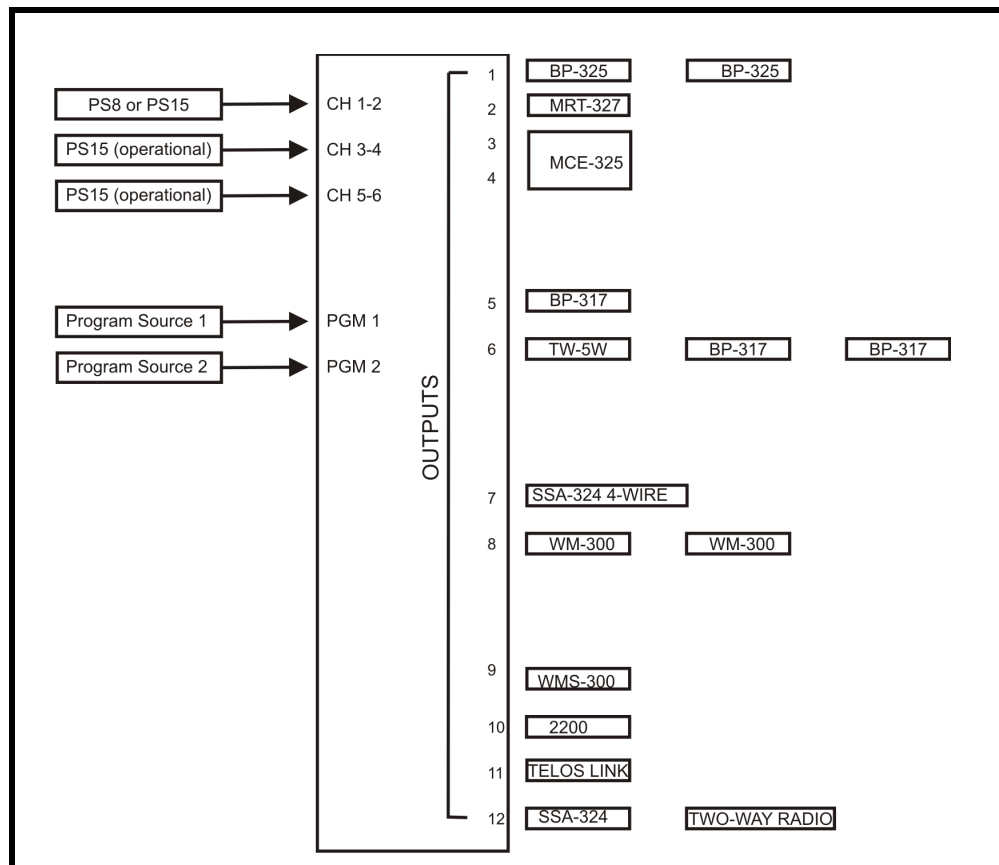
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# *Description and Specification*

## *Description*

The Model SAP612 Source Assign Panel independently assigns each of 24 TW channels (12, two-channel TW user station strings) to any one of six busses, or common channels. All channels assigned to a common buss channel can intercommunicate and exchange call signals. A typical application is diagrammed in Figure 1. One (1) to three (3) TW power supplied (such as Models PS8 or PS15) may be conveniently connected to the SAP612 to distribute power to the intercom stations. Or, the SAP612 may be used with a non-TW power source. The SAP-612 has two balanced, transformer isolated program inputs. Program 1 is permanently assigned to buss channel 5, and program 2 is permanently assigned to buss channel 6.



**FIGURE 1.** Typical System Diagram

## *Specifications*

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### **Maximum Switch Carrying Current**

1.0 ampere per outlet

### **Maximum Switch Breaking Current**

0.5 ampere per outlet

### **Inputs**

Full duplex lines (busses): 6

Program Inputs: 2

### **Outputs (Two Channel)**

User Station Strings: 12

### **Program Inputs**

Impedance: 600 Ohms

Level: 0 dBm

### **Power Requirements**

No external power required; power distributed from RTS Systems power supplies PS15 or PS31 connected at rear panel of SAP612.

### **Size (H x W x D)**

1.72 in. (44mm) x 19 in.(483mm) x 8 in. (204mm)

Allow another four (4) inches (102mm) depth for cables on the rear panel.

### **Weight (Mass)**

4.5 lbs. (2.05 kg)

### **Color**

Grey, Fed. Std. #595A-26492

*Specifications are subject to change without notice.*

Reference View

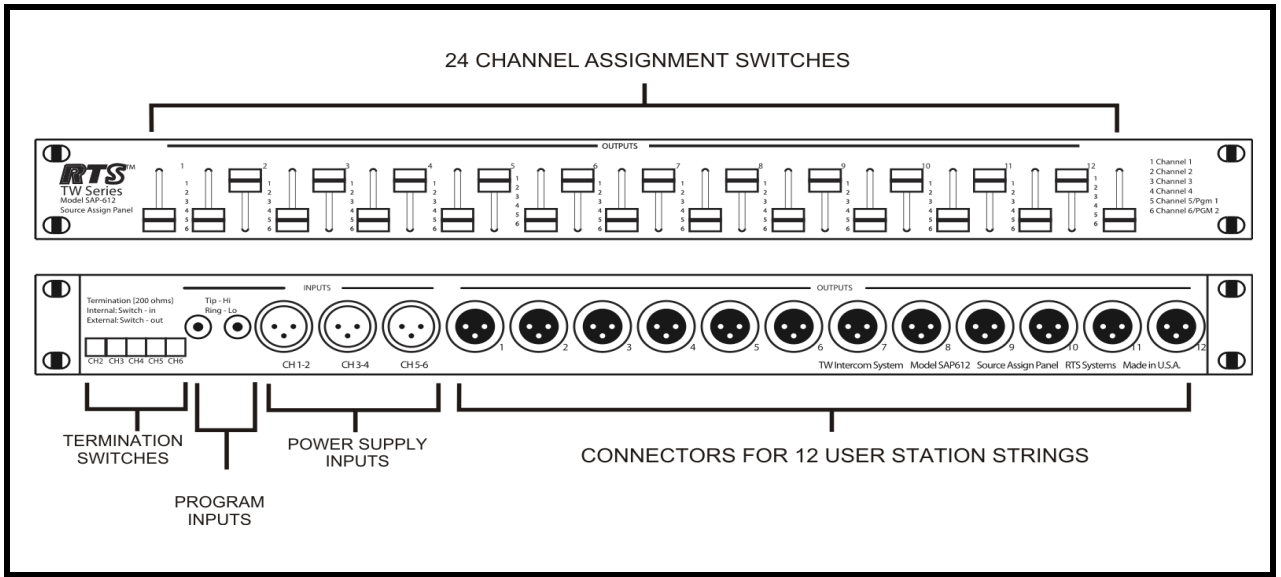


FIGURE 2. SAP-612 Reference View





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# *Installation and Operation*

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## *Mechanical Installation*

The Model SAP612 mounts into a standard 19-inch rack and occupies one rack unit of height (1.72 inches).

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## *Electrical Installation*

### **Power**

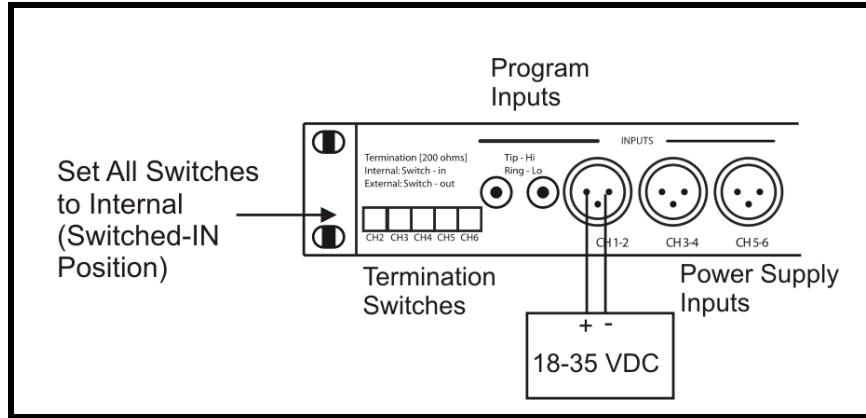
**NOTE:** Most TW user stations are powered from channel one, which is called a “wet” channel because it carries the DC current in addition to the channel 1 audio. Channel 2 is a “dry” channel because it carries audio only. It is important to remember this, since it can have an effect on channel assignment later.

### ***Using TW Power Supplies***

Connect TW power supplies (such as the RTS Models PS8 or PS15) to the CH 1-6 INPUT jacks on the back of the SAP612. One to three power supplies may be connected. Using more than one power supply not only increases the system capacity, but also offers more flexibility in channel assignment. The PS8 and PS15 supply power on channel one, or pin 2, of the output connectors. Therefore, if only one power supply is used, all externally powered user stations must have channel one assigned to the single powered buss. For example, if one PS8 is connected to the CH 1-2 INPUT, all externally powered stations must have channel one permanently assigned to buss 1 on the front panel. Connecting an additional PS8 to the CH 3-4 INPUT would permit channel one assignment to either use buss 1 or buss 3. Using three (3) PS8s would permit buss 1, 3, or 5 to be used for channel one assignment. Since TW power supplies are equipped with termination resistors, set the termination switches on the rear panel of the SAP612 to the External position (switch out).

### ***Using Other Power Sources (Figure 3 on page 8).***

TW systems require 18-35 volts DC (32 volts nominal). The power source must provide adequate filtering so as not to introduce noise into the system. Connect the external power supply ground lead to pin 1 of the CH1-2 INPUT connector; connect the positive lead to pin 2. Set all termination switches to the Internal (switch in) position. In this application, buss 1 is used to supply power only and cannot be used as an intercom buss. Channel 1 of all externally powered user stations must be assigned to buss 1.



**FIGURE 3.** Connecting a Non-TW Power Source

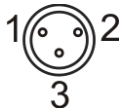
**System Capacity**

To determine power supply loading, add together all of the user stations that will be powered from a particular buss (less stations which are self-powered).

**NOTE:** The SAP612 distributes DC power, but uses no power itself. Refer to the power supply manual for power supply capacity information.

**Intercom Channels**

Connect intercom channels to the OUTPUTS 1-12 jacks on the rear panel. Each connector accommodates a pair of TW channels wired in the standard TW 2-wire configuration as follows:



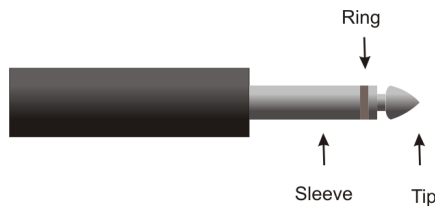
- Pin 1 Common (low side of line)
- Pin 2 Channel 1
- Pin 3 Channel 2

Shielded cable is recommended for user stations interconnections. Connect shields to circuit common, but do not tie shields to chassis, earth or connector shell ground.

**Program Sources**

Program Input 1 (PGM1) is assigned to buss 5, program 2 is assigned to buss 6. The program inputs are balanced and isolated. Connect program sources using 1/4-inch stereo phone plugs wired as follows:

- Tip** Program High
- Ring** Program Low
- Sleeve** Common



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*Operation*

The front panel of the SAP612 contains 12 pairs of switches; one pair for each user station string. The user station strings 1-12 are identified along the bottom of the panel. Buss numbers 1-6 are identified to the right of each pair of switches. Assign an intercom channel to a buss by setting the appropriate switch to the desired buss number. All channels assigned to a particular buss can intercommunicate and exchange call signals.

**IMPORTANT:** Each TW user station that receives power via the SAP612 must have channel 1 assigned to a powered buss.



*Diagrams and Drawings*

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|        |  |
|--------|--|
| AS6867 | Assembly Drawing, Connector Board, Model SAP612      |
| AS6866 | Assembly Drawing, Front Panel Switch Board           |
| SD6872 | Schematic Diagram, Source Assign Panel, Model SAP612 |





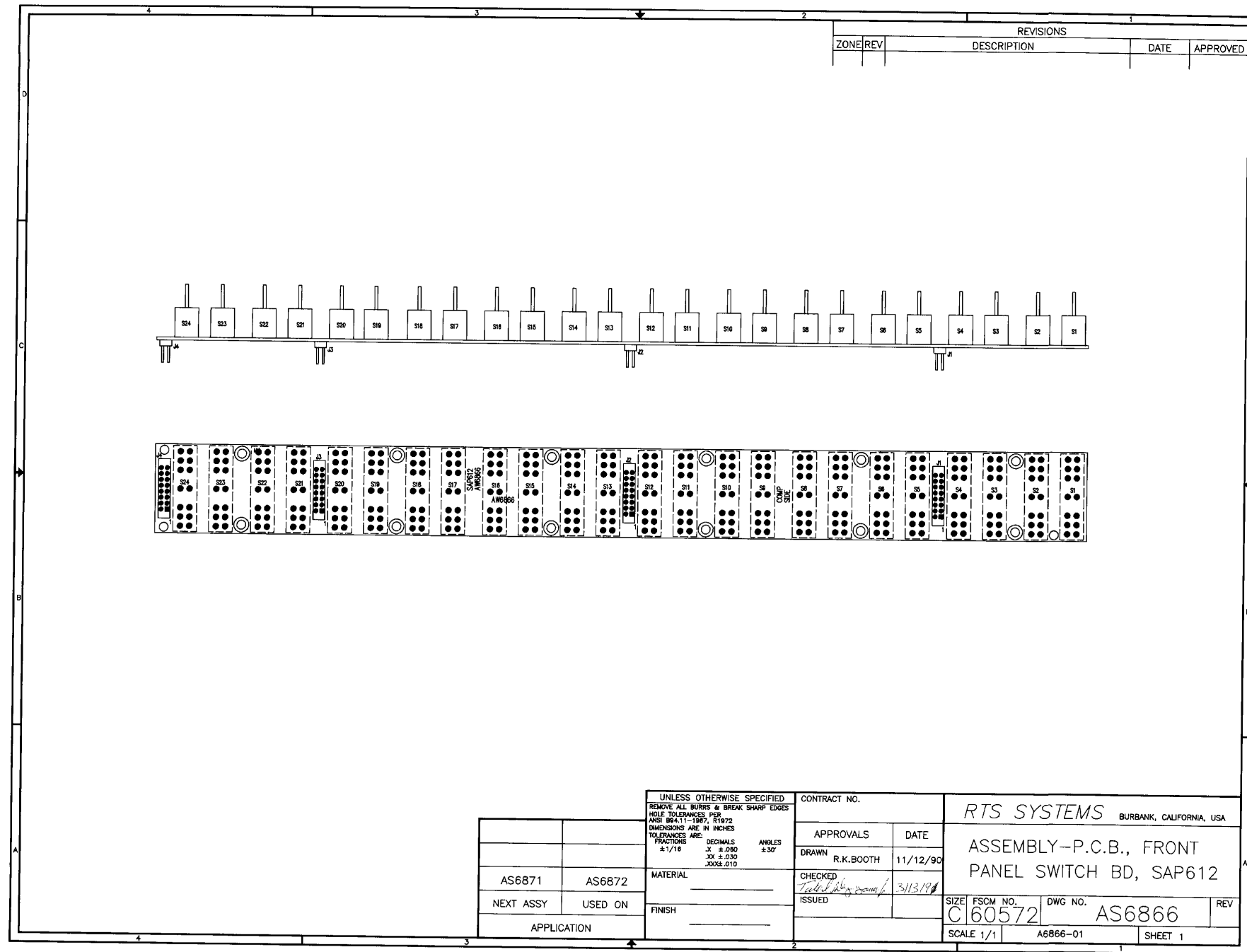


FIGURE 5. AS6866 - Assembly Drawing, Front Panel Switch Board



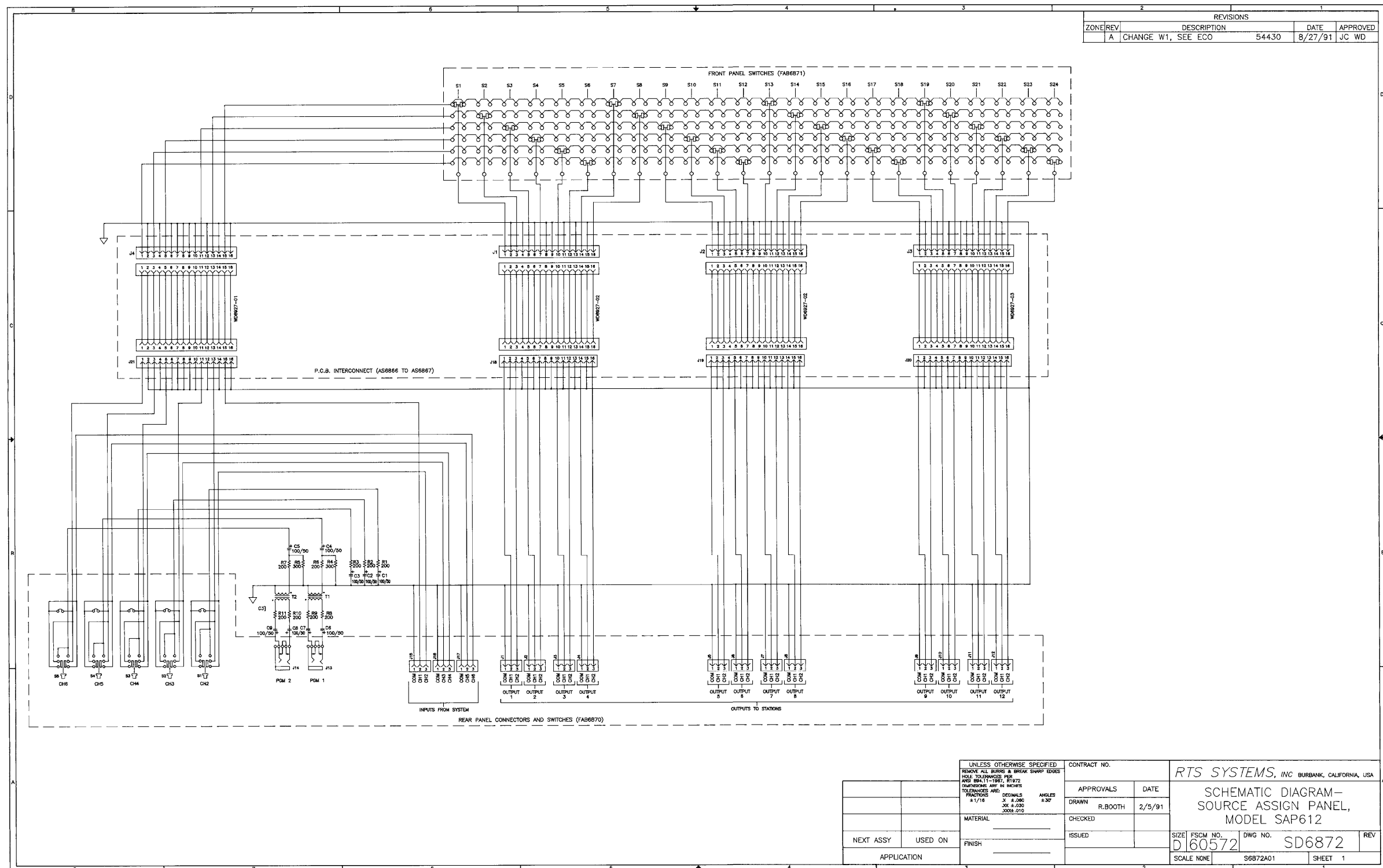


FIGURE 6. SD6872 - Schematic Diagram, Source Assign Panel Model SAP612