TDP 3511 / O/N 9300-3511-00 Second Edition / October 1989

# MODEL 862 SYSTEM INTERCONNECT

RTS SYSTEMS
1100 West Chestnut Street / Burbank, CA 91506 / Phone 566-6700 / FSCM: 60572

### Model 862 System Interconnect

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TECHNICAL DATA PACKAGE, TTM3511 Model 862 System Interconnect

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This manual is published by the Engineering Department of RTS Systems, which is responsible for its contents.

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### UNPACKING INFORMATION AND INSPECTION

Immediately upon receipt of the equipment, inspect the shipping container and the contents carefully for any discrepancies or damage. Should there be any, notify the freight company and the dealer at once.

The shipping Series 4001 IFB System, Model 4001 container should contain the following components:

Ordering Number 9000-3062-00

OTY	RTS Systems Part Number	Description
1	9010-3062-00	Model 862 System Interconnect
1	9300-3511-00	Technical Data Package

### Model 862 System Interconnect

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### Model 862 System Interconnect

### RTS SYSTEMS' LIMITED WARRANTY

The products of RTS Systems, a California corporation, are warranted to be free from defects in materials and workmanship for a period of one year from the date of sale.

RTS Systems' sole obligation during the warranty period is to provide, without charge, parts and labor necessary to remedy covered defects appearing in products returned prepaid to RTS Systems, 1100 W. Chestnut Street, Burbank, California, 91506, U.S.A.. This warranty does not cover any defect, malfunction or failure caused beyond the control of RTS Systems, including unreasonable or negligent operation, abuse, accident, failure to follow instructions in this Manual, defective or improper associated equipment, attempts at modification and repair not authorized by RTS Systems, and shipping damage. Products with their serial numbers removed or effaced are not covered by this warranty.

To obtain warranty service, follow the procedures entitled "PROCEDURE FOR RETURNS" and "SHIPPING TO MANUFACTURER FOR REPAIR OR ADJUSTMENT" listed below.

This warranty is the sole and exclusive express warranty given with respect to RTS Systems' products. It is the responsibility of the user to determine before purchase that this product is suitable for the user's intended purpose.

ANY AND ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY ARE LIMITED TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY.

NEITHER RTS SYSTEMS NOR THE DEALER WHO SELLS RTS SYSTEMS' PRODUCTS IS LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

### **RETURN SHIPPING INSTRUCTIONS**

**Procedure For Returns:** 

If repair is necessary, contact the dealer where this unit was purchased.

If repair through the dealer is not possible, phone the RTS Systems Customer Service Department, located at the factory, as directed below. They will issue a Return Authorization Number

# DO NOT RETURN ANY EQUIPMENT TO THE FACTORY WITHOUT FIRST OBTAINING A RETURN AUTHORIZATION NUMBER.

Be prepared to provide your company's name, address, phone number, a person to contact regarding the repair, the type and quantity of equipment, a description of the defect, and the serial number(s).

Questions regarding returns for repair should be directed to:

Customer Service Department RTS Systems 1100 W. Chestnut St. Burbank, CA 91506, U.S.A. Telephone: (818) 566-6700 Telex: 194855 Telefax: (818) 843-7953

# SHIPPING TO MANUFACTURER FOR REPAIR OR ADJUSTMENT

All shipments of RTS Systems, equipment should be prepaid via United Parcel Service or the best available shipper. The equipment should be shipped in the original packing carton; if that 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 inches of excelsior or similar shock-absorbing material. All shipments should be directed to the attention of the Customer Service Department and must include the Return Authorization Number.

Upon completion of repairs equipment will be returned <u>collect</u> via United Parcel Service or specified shipper.

### Model 862 System Interconnect

### **SECTION 1: INTRODUCTION**

The Model 862 System Interconnect interfaces with the Model 802 Master Stations and other external systems, and equipment. Typically, Model 802 Master Stations access communications circuits which include: conference-line and central matrix type intercom systems, paging systems, telephone lines and two-way radios. (see drawing AS3062).

The Model 862 System Interconnect enables the connection of up to twelve Model 802 type intercom channels; and up to twelve standard "TW" intercom system channels. The Model 802 Master Stations plug into the Model 862 System Interconnect at J1 -J4 inclusive. The Model 862 converts the twelve Master Station type channels (two-wire, balanced, dry) to twelve "TW" type channels (two-wire, unbalanced, 'wet = with dc) by using transformer and capacitive coupling. The "TW" circuits are accessed on rear panel mounted 4-pin XLR type connectors: J5 (channels 1, 2, 3), J6 (channels 4, 5, 6), J7 (channels 7, 8, 9) and J8 (channels 10, 11, 12). These circuits are directly plug-in compatible with standard "TW" intercom lines. The "TW" System power supply (ies) terminate the Master Station type channels. If a Master Station type channel does not interface to a "TW" system power supply, a proper termination must be added. This termination consists of a 200 ohm resistor and a 10 microfarad capacitor connected in series. The resistor-capacitor combination is connected on the unbalanced connector from the channel pin (to be terminated) to the common pin.

Associated with each Master Station channel is a "keying" logic type signal which operates a relay in the Model 862 System Interconnect. There are twelve such logic signals and they are originated by pressing a Model 802 "Talk" button. Each of the twelve relays has a set of single pole double throw contacts available on one of two rear panel mounted 25-pin "D" type connectors (J21, J22). The relay contacts may be used for control, signalling, or audio switching functions,

The relays for channels 7 though 12 have an additional set of audio contacts which are accessed on six female XLR-3 type input connectors (J9 - J14

inclusive). These circuits are line-level transformer-balanced and can be used for simple Studio Announce, Slate Microphone, IFB (Interrupted FeedBack or program interrupt), and/or similar functions. (These functions will be common to all Model 802 Master Stations in the system when they are equipped with the "Talk Option"). A transformer balanced, program input (J23, AUX PGM IN #2) on the Model 862 accepts a line level audio signal. This common program monitoring signal is disrupted to the "Auxiliary Program Input #2" on all the Model 802 Master Station in the system.

### **Additional Details**

If more than four Model 802 Master Stations LINE CONNECTORS are to be connected to the Model 862 System Interconnect, use (a) Model 4025A 1 x 4 Splitter Assembly (s) to parallel the additional incoming cables from the Models 802's. The Model 4025A may be plugged into either the Model 862 or another Model 4025A. Each Model 802 LINE CONNECTOR contains 12 balanced audio pairs for channels 1 through 12. 12 keying lines, 12 keying line returns and 1 audio program pair (AUX PGM IN #2).

### Functional Details of SA/IFB Feature

Normally, in a non-keyed condition, the relays connect the input female XLR-3 connectors to the output male XLR-3 connectors. When a talk circuit key of a given channel is activated, the relay disconnects the input female XLR-3 connector and connects the output male connector to that channel's talk audio from the Model 802. For example, a single IFB channel fed audio from channel 7, also, fed program audio into J9 should connect a power amplifier with speaker to J15. When the channel 7 talk button on any Model 802 is pressed, the program signal is interrupted and audio from that Model 802 will be fed to the power amplifier. When the talk button is released, the original program signal is restored.

### Model 862 System Interconnect

### 1.2 SPECIFICATIONS

Color:

Gray, Federal Standard 595A

Color #26492

Weight:

11 pounds (5 kilograms)

Dimensions:

3.5 inches (89 millimeters) high 19.0 inches (483 millimeters) wide

19.0 inches (483 millimeters) wide 14.4 inches (363 millimeters) deep

Inputs

**Program Input** 

Level:

0 10 dBu into 600 to 2000 ohms, balanced/floating

Power, Nominal:

120/240 volts ac rms at 20 volt-amperes

**Outputs** 

**Relay Contacts:** 

1 amp, 24 volts dc maximum 0.5 amp, 110 volts ac maximum

### **SECTION 2: PARTS LIST**

### 2.1 Introduction

This section contains parts lists and instructions for ordering replacement parts. The parts are divided into five sections: ship list, final assembly, back panel assembly, front panel and printed circuit board. Following the description of a part number is the manufacturer and the manufacturer's part number.

### 2.2 How To Obtain Parts

RTS Systems 1100 W. Chestnut Street Burbank, CA 91506 (818) 566-6700

### 2.3 Shipping List, Model 862

<b>Qty</b>	Description	RTS Part Number
1 1	862 System Interconnect Technical Data Package	9000-3062-00 9300-3511-00

### Model 862 System Interconnect

### 2.4 Final Assembly, Model 862 -- 9010-3062-00

Oty.	Description	RTS Part Number
5	Spacer, Hex 6-32 x 3/8" HH Smith 4304	1001-0012-00
1	Spacer, Hex 6-32 x 3/8" THD	1001-0081-00
20	Washer, Lock #6 Int'l Tooth, Zinc Plated	1006-0006-00
16	Screw, 6-32 x 1/4" Phil, Pan Hd, Ylw Cad	1008-6038-00
4	Screw, 8-32 x 1/2" Flat, Phil 82 Deg Blk	1008-8017-00
1	Thermal Cutout Klixon, 9700K51-11	1914-0001-00
3	Connector, Female Pin Molex 02-09-1118	2006-0006-00
4	Connector, 4 Pin Female Molex 09-50-3041	2006-0013-00
19	Connector, Pin Crimp term Molex 08-50-0108	2006-0014-00
1	Connector, 3 Pin Female Molex 09-50-3031	2006-0018-00
1	Recpt. No Mtg Ears Molex 19-09-1039	2006-0040-00
4	Connector, 14 Pin Female w/s.r. Berg 66900-014	2007-0037-00
4	Connector, 26 Pin Female 3M 3399-6026	2008-0033-00
4	Ribbon Cable 50 Cond Spectra 8431352801050	2501-0001-00

### 2.5 Back Panel Assembly, Model 862 -- 9020-3888-00

Oty.	Description	RTS Part Number
2	Standoff, 6-32 x 1 5/16" Amatom 8166-A-17-0632	1001-0139-00
26	Pop Rivet Dome Head Whitson SSD 4.2	1002-0006-00
4	Cable MTG Cradle Panduit TM1S4	1005-0046-00
4	Hex, Jack Screw, 9/16" Elec Hardware RA-47-50-7	1005-0092-00
4	Jack Socket, 3/8" Raf 4750-4	1005-0193-00
1	Washer, Lock #6 Int'l Tooth, Zinc Plated	1006-0006-00
1	Washer, Flat #6 Nylon Smith 2515	1006-0019-00
16	Nut, Hex Kep 4-40 Cad Plated	1007-0001-00
8	Screw 4-40 x 3/8" 100 de., Fl Hd, C/R, Br Wh Zinc	1008-4012-00
8	Screw, 4-40 x 1/2" Pan Hd, Phl, Yel Cad	1008-4025-00
1	Thumbscrew 6-32 x 1/2" Smith 2366	1008-6002-00
1	Screw, 6-32 x 1/4" Phil, Pan Hd, Ylw Cad	1008-6038-00
4	Connector, 50 Pin Female 3M 3565-1000	2008-0013-00
2	Connector, 25 Pin "D" Female 3M 8325-6000	2008-0040-00
1	Jack, 3 Cond Male Calrad 30-452	2013-0015-00
4	Connector, 4 Pin Female Cannon AXR 4-31	2018-0001-02
1	Power Cord 6" Grey Belden 17237	2504-0004-00
1	Strain Relief Heyco 1137	2509-1137-00
4	Cable Tie Panduit PLT2M	2516-0008-00
1	Fuse, 1/4 Amp Slo-Blo, Littlefuse 313.250	2801-0001-00
1	Fuse Carrier Schurter Fek 031,1666	2802-0002-00
1	Fuse Holder Body Schurter PCC 031.1653	2802-0003-00
	Rubber, Adhesive Back 1" x 5/16"	4501-0067-00

### Model 862 System Interconnect

### 2.6 Printed Circuit Assembly, Model 862 (Upper) -- 9030-3365-00

Qty.	Description	RTS Part Number
7	Connector, 3 Pin Female PC MT Neutrik NC3FD-H	2018-0011-00
1	Header, 14 Pin, DL Row Str, Berg 65611-414	9020-5841-14
19	Header, 72 Pin Berg 65611-472	2007-0039-00
2.7 Pr	inted Circuit Assembly, Model 862 (Lower) 9030-3366-00	
Oty.	Description	RTS Part Number
6	Connector, 3 Pin Male PC MT Neutrik NC3MD-H	2018-0010-00
1	Header, 14 Pin, DL Row Str, Berg 65611-414	9020-5841-14
	Header, 72 Pin Berg 65611-472	2007-0039-00
2.8 Pr	inted Circuit Assembly, Motherboard, Model 862 9030-3399-00	
Oty.	Description	RTS Part Number
1	Res. CF 1 ohm 2w 5%	1402-01R0-5G
12	Res. CF 10K ohm 1/4w 5%	1402-1002-5D
12	Res. CF 1M ohm 1/4w 5%	1402-1004-5D
1	Res. CF 620 ohm 1/2w 5%	1402-6200-5E
1	Res. MF 1.5K ohm 1/4w 1%	1403-1501-2D
1	Res. MF 243 ohm 1/4w 1%	1403-2430-2D
2	Res. Ntwk 22K Sip 8 Pos Bourns 4308R-101-223	1411-2202-00
8	Cap, .01uf/1Kv C.D., Disc Radial	1501-R103-2R
14	Cap. Mono .1uf/50v .1 Spacing, 1" Length	1511-R104-2I
26	Cap, Elec 10uf/50v Axial	1513-A106-4I
12	Cap, Elec 12uf/50v AX 20% Non Polarized	1513-A126-4I
1 1	Cap, Elec 10uf/16v radial Cap, Elec 100uf/16v radial	1513-R106-4E 1513-R107-4E
2	Cap, Elec 2200uf/35v Max - 3/4" OD x 1 1/2" H	1513-R228-4G
2	Cap, .01/5Kv Cer 1400v Murata DE7150FZ103PVA1	1524-R103-2X
8	Diode, 11DQ04 1 Amp, 40V	1601-0003-00
26	Diode, 1N4004 1 Amp, 400V	1601-4004-00
2	I.C. MC1416P Motorola Sub= 1603-0075-00	1603-0008-00
2	I.C., 74C04 National	1603-0068-00
1	Voltage Regulator, National LM317MP	1603-0317-MP
12	Relay, 12v Form Omron G2VN-234P-USDC12-OEI	1701-0008-00
1	L.E.D. Green Oshino OLG-147	1801-0147-0G
1	Switch, Slide, DPDT Switchcraft 11A-1101A	1902-0001-00
2	I.C. Socket, 14 Pin Burndy DIL14P-108	2001-0002-00
2	I.C. Socket, 16 Pin Burndy DIL16P-108	2001-0003-00
1	Connector, 3 Pin Wafer Molex 26-51-0032	2006-0002-00
4	Connector, 4 Pin Wafer Molex 09-65-1041	2006-0012-00
1	Connector, 3 Pin Molex 15-31-1036	2006-0038-00

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### Model 862 System Interconnect

### 2.8 Printed Circuit Assembly, 862 Motherboard -- 9030-3399-00 (continued)

Oty.	Description	RTS Part Number
1	Transformer EWC LP-20-600-B8	2301-0006-00
25	Transformer, Audio Bourns LM9003	2306-0001-00
	Wire, 20 Awg Buss	2512-0020-00
1	Fuse, 1 Amp Slo-Blo, Littlefuse 313001	2801-0007-00
2	Fuse Clip P.C. Littlefuse 102071	2802-0005-00
2	Header, 14 Pin, DL Row Str, berg 65611-414	9020-5841-14
	Header, 72 Pin Berg 65611-472	2007-0039-00
4	Header, 26 Pin, DL, Row Str, Berg 65611-426	9020-5841-26
	Header, 72 Pin Berg 65611-472	2007-0039-00

### 2.9 Front Panel, Model 862 -- 9070-3145-00

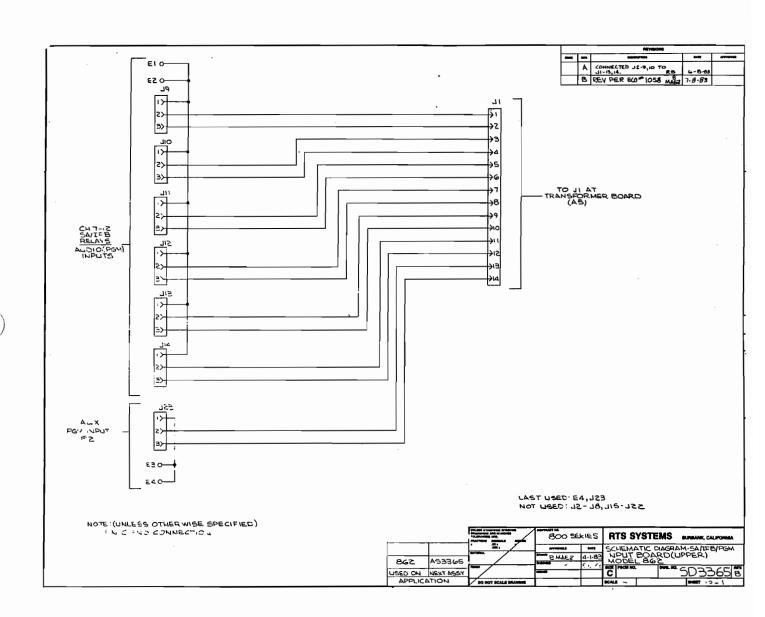
Oty.	<u>Description</u>	RTS Part Number
19	Extrusion, Front panel w/Grrove 11.25" x 3 1/2	9050-1629-00
2	Side rail, FAB Per Dwg 1835-4	9100-1835-04
28	Extrusion, Side Panel 10" x 3 1/2"	9050-1586-00
1	Cover, Top Model 862, FAB Per Dwg 3144-1	9100-3144-01
1	Cover, Bottom Model 862, FAB Per Dwg 3144-2	9100-3144-02

### Model 862 System Interconnect

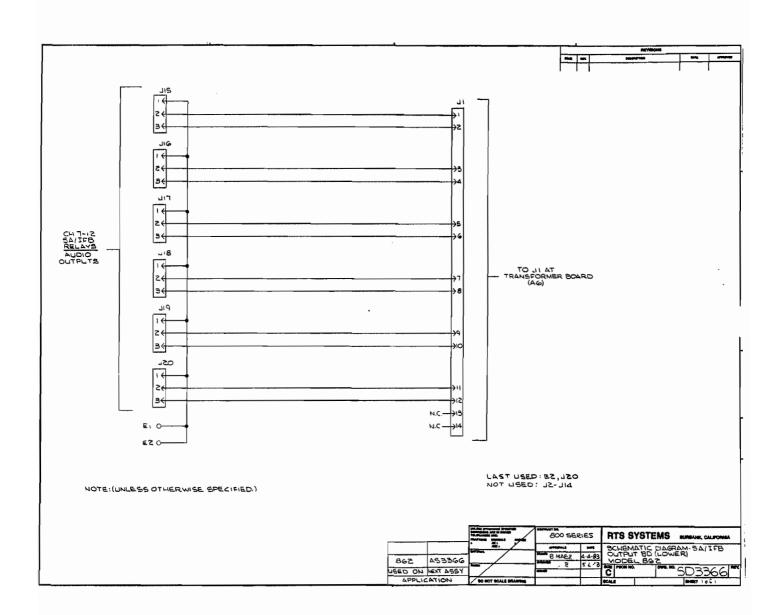
### **SECTION 3: LIST OF DRAWINGS**

RTS Systems		
Document		
<u>Number</u>	<u>Title</u>	<u>Page</u>
SD3365	Schematic Diagram, SA/IFB/PGM, Input Board (Upper) Model 862	1
SD3366	Schematic Diagram, SA/IFB Output Board (Lower), Model 862	
AS3062	Assembly Diagram, P.C. Board, SA/IFB/PGM Inputs (Upper) Board - Model 862	
AS3366	Assembly Diagram, P.C. Board, SA/IFB Outputs (Lower) Board - Model 862	
SD3399	Schematic Diagram, Model 862, sheet 1 through 3	
AS3399	Assembly Drawing, P.C.B. Board, System Interconnect, Model 862	
AS3062	Assembly Drawing, Top Assy, System Interconnect, Model 862	

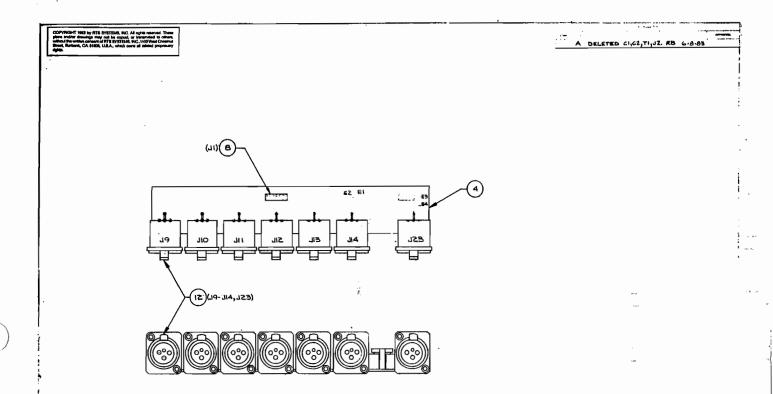
### Model 862 System Interconnect



### Model 862 System Interconnect



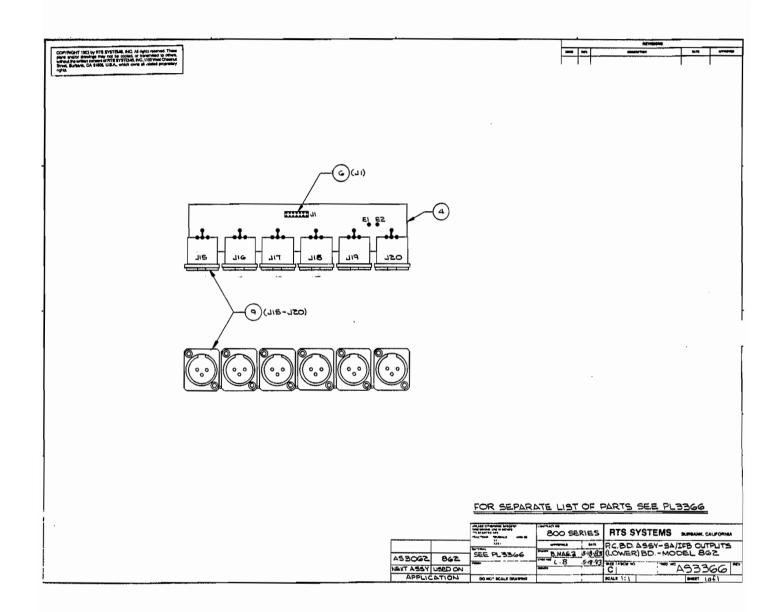
### Model 862 System Interconnect

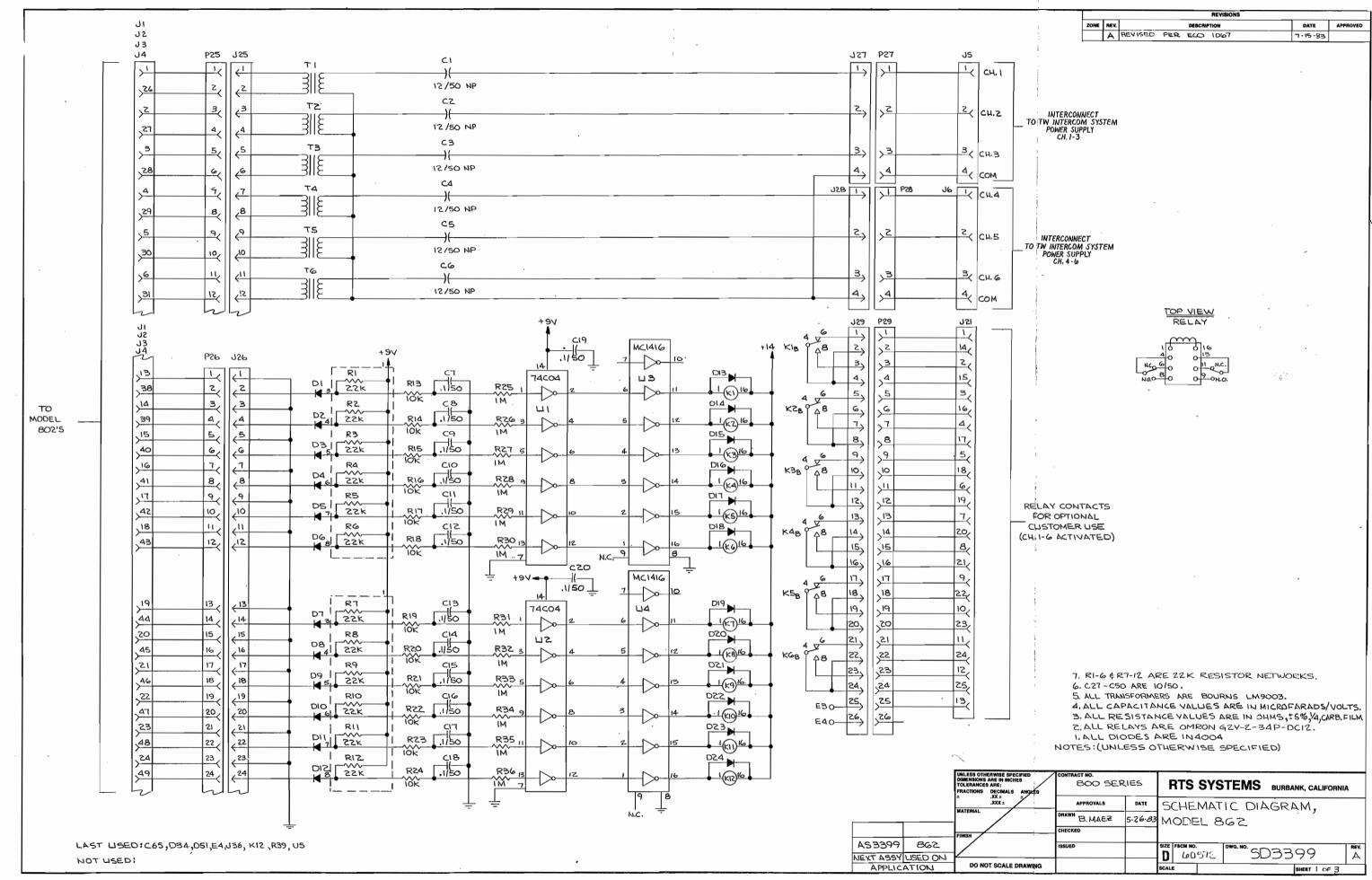


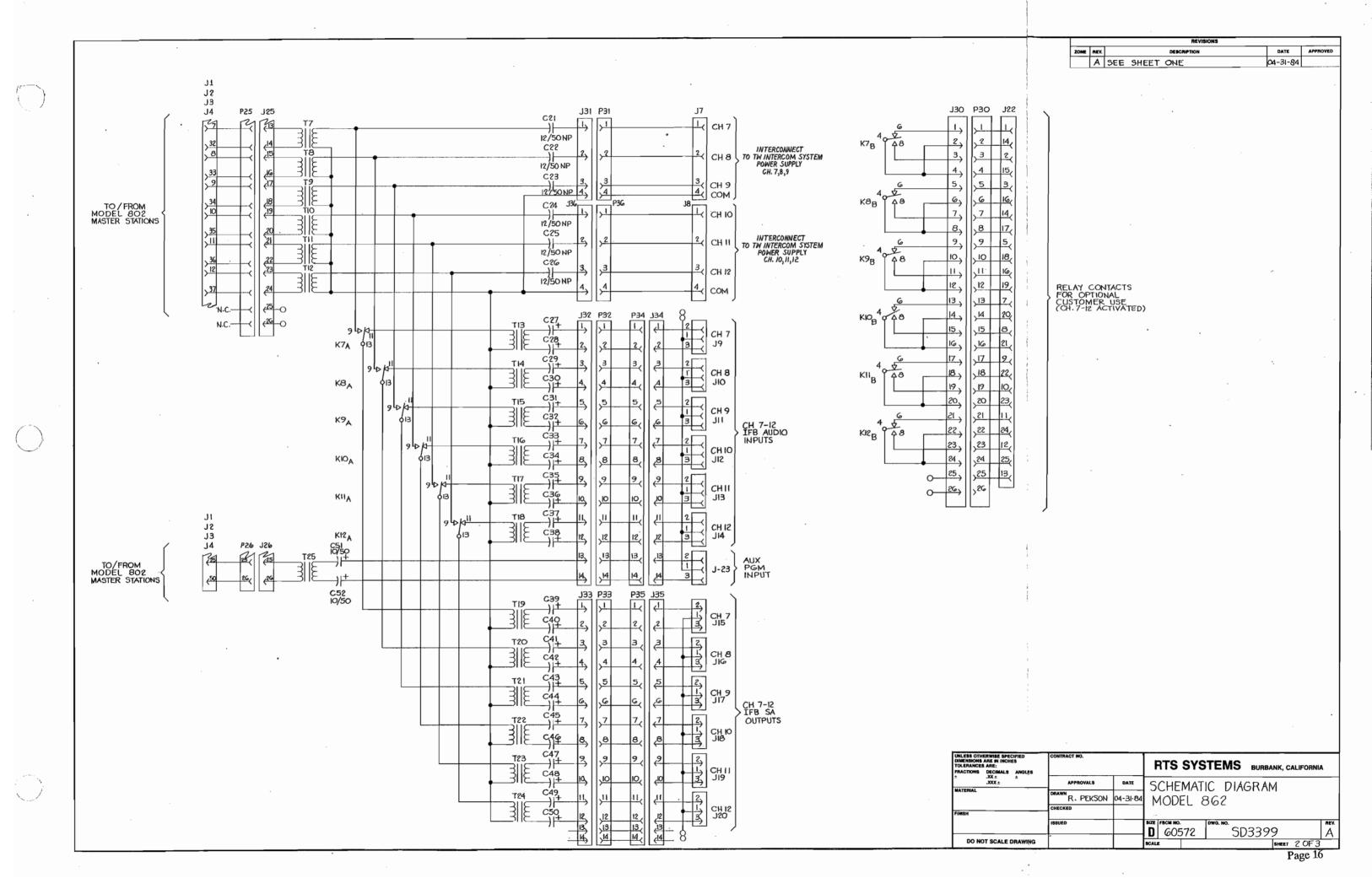
### FOR SEPARATE LIST OF PARTS SEE PL33GE

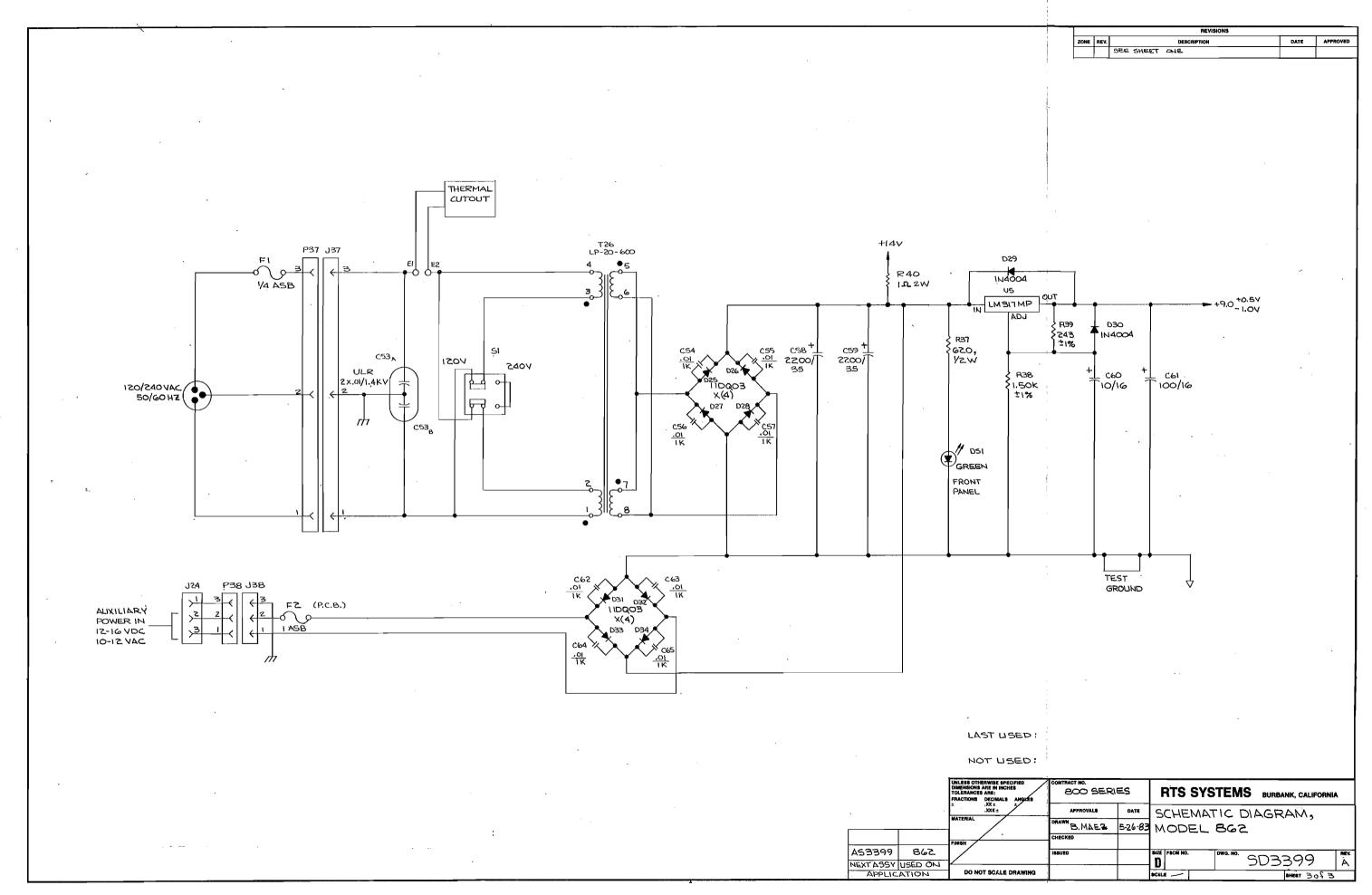
	:	800 Series			
A5306Z 86Z			P.C.BD ASSY-SA/ (UPPER) BDMOD		خ
NEXT ASSY USED ON APPLICATION	-	L. B. 5-16-13	ا ا مر	AS3365	A

### Model 862 System Interconnect

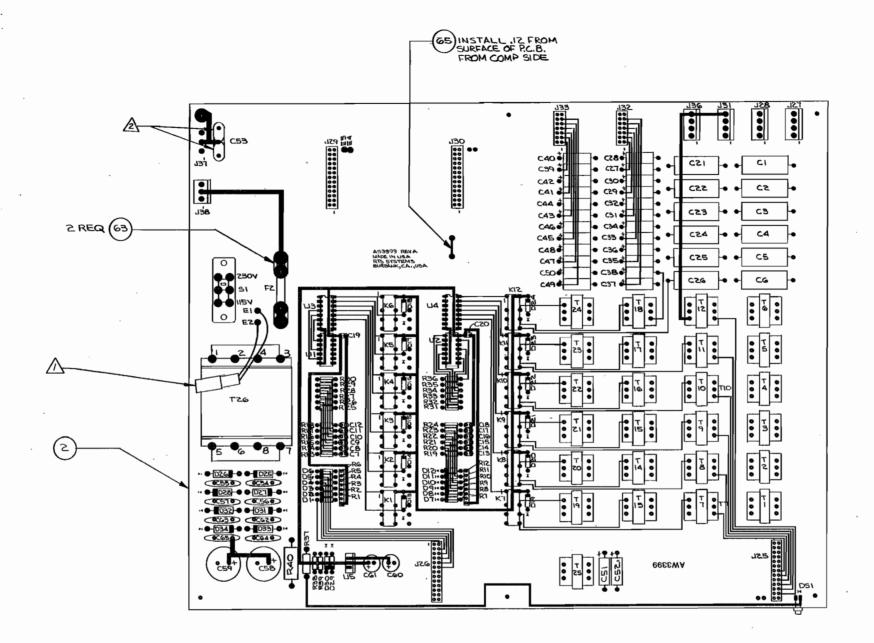












NOTES: (LINLESS OTHERWISE SPECIFIED)

SOLDER ITEM 32 OF PARTS LIST # 9010-3062-00 AT LOCATION SHOWN. USE THERMAL BOND, PIN 4002-0251-00 TO GLUE ITEM 32 ONTO TRANSFORMER (T24)

SEE NOTE 2 OF DWG AS 3062. NOT TO BE INSTALLED AT THIS LEVEL.

INSTALL TWO (.OIMF/2KV) CAPS IN PLACE OF DUAL CAP (C53). CAPS SHARE THE MIDDLE PAD.

### FOR SEPARATE PARTS LIST SEE PL3399

		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMALS ANGLES	CONTRACT HO 800 SERIES		RTS SYSTEMS BURBANK, CALIFORNIA		
		XXX ·	APPROVALS	DATE	P.C. BD ASSY- SYSTEM		
		SEE PL3399	B. MAEZ	7-14-83	INTERCONNECT-MODEL 862		
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APPLIC	МОІТА	DO NOT SCALE DRAWING			SCALE 1/1 SHEET 1041		
					40		

