

SRM-921
SELECTIVE RINGING MODULE
METHODS AND PROCEDURES

1. GENERAL

- 1.01 This section is a cover sheet for the Keptel SRM-921 Selective Ringing Module.
- 1.02 Whenever this section is reissued the reason(s) for reissue will be listed in this paragraph.
- 1.03 The SRM-921 is a solid state, field programmable, electronic module. Placed at the subscriber premise, it is designed to allow party line subscribers to connect standard bridged ringer apparatus to the network.
- 1.04 If corrections are required in the attached document, use Form E-3973 as described in Section 000-010-015.
- 1.05 If equipment design and/or manufacturing problems should occur, refer to Section SW 010-522-906 for procedures on filing an Engineering Complaint.

2. ORDERING PROCEDURE

- 2.01 The SRM-921 Selective Ringing Module may be ordered via the Southwestern Inventory Management System (SWIMS).
- 2.02 To order additional copies of this practice, use Section KPTL 501-375-802SW as the section number.

3. REPAIRS/RETURN

The SRM-921 is not a repairable unit. For warranty credit, defective products should be returned utilizing existing procedures.

Attachment: SRM-921
Selective Ringing Module
Methods and Procedures

NOTICE
Not for use or disclosure outside
Southwestern Bell Telephone Company
except under written agreement.

SRM-921 SELECTIVE RINGING MODULE METHODS AND PROCEDURES

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1. GENERAL

1.01 This package is designed to serve as the Methods and Procedures for the Keptel SRM-921 Selective Ringing Module.

1.02 This package is intended for the Technician/Craftperson who is already familiar with completing service orders.

1.03 This package will focus on the Selective Ringing Module when used in conjunction with the Keptel series of Weather-resistant Network Interface Closures.

2. DESCRIPTION

2.01 The SRM-921 is a solid state, field programmable, electronic module. Placed at the subscriber premise, it is designed to allow party line subscribers to connect standard bridged ringer apparatus to the network.

2.02 The SRM-921 will not provide T.P.I. (Tip Party Identification).

2.03 The SRM-921 is intended for installation in the Keptel series of Weather-resistant Network Interface Closures.

2.04 The SRM-921 is connected to the Keptel series of Network Interface Closures via leads terminated with spade connectors.

2.05 The SRM-921 can be used effectively on lines with high induction.

2.06 The SRM-921 will function properly with most electronic ringers. This includes answering machines and cordless phones.

2.07 The SRM-921 is completely encapsulated offering additional mechanical integrity as well as excellent vibration, corrosion and moisture resistance.

2.08 The SRM-921 is not a repairable unit.

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3. INSTALLATION IN A KEPTEL NETWORK INTERFACE CLOSURE:

3.01 Remove any existing Ringer Isolator or Half Ringer devices.

3.02 Verify line quality by taking routine measurements.

 **NOTE:** Positive identification of Tip, Ring and Ground must be made.

3.03 Terminal assignments for the Keptel SNI-2100 Network Interface Closure are as follows:

Terminal 1	Tip/C.O. Side
Terminal 2	Ring/C.O. Side
Terminal 3	Tip Junction
Terminal 4	Ring Junction
Terminal 5	Tip/Station Side
Terminal 6	Ring/Station Side

3.04 In the Network Interface Closure, move the Green and Red wires on the modular jack from terminals 1 and 2 (C.O. Tip and Ring) to terminals 5 and 6 (Station Tip and Ring).

3.05 Slide the SRM-921 into the Network Interface Closure and wire to appropriate terminals. Lead designations for the SRM-921 module are as follows:

Green	Tip/C.O. Side
Red	Ring/C.O. Side
Green/White	Tip/Station Side
Red/White	Ring/Station Side
Yellow	Ground

Refer to Figure 1.

 **NOTE:** On installations where the SRM-921 is installed with a Tip Party Identifier device (such as the Keptel ANI-911 or DNI-910), the SRM-921 is installed in slot B or C, the Tip party Identifier in slot A.

 **NOTE:** When bridging station apparatus in the Network Interface Closure by connecting the Yellow I/W ground wire to either Tip or Ring, the following steps should be taken:

1. Connect I/W to Subscriber Wiring Bridge in normal fashion (Green to Green, Red to Red, etc.).
2. Move the Yellow wire on the modular jack to either terminal 5 or 6 (Station Side Tip or Ring) in the Network Interface. Refer to Table C.

 **IMPORTANT:** It is recommended that the Yellow ground wire on the modular jack be disconnected from ground if:

1. All station sets are wired for bridged ringing at the set.
2. The Yellow wire of the I/W is no longer in use.

3.06 If installing the SRM-921 in conjunction with a Tip Party Identifier device (such as the Keptel ANI-911 or DNI-910), refer to Figure 2.

 **IMPORTANT:** The C.O. Side Tip and Ring leads of the SRM-921 module must be connected the Station Side Tip and Ring leads of the ANI-911 or DNI-910 (or any compatible device made by another manufacturer) at the Tip and Ring Junction terminals in the Network Interface Closure.

3.07 For SRM-921 D.I.P. switch programming tables, see Tables A and B.

3.08 Test unit for operation (refer to paragraph 4). If problem is found, refer to paragraph 5 on Troubleshooting.

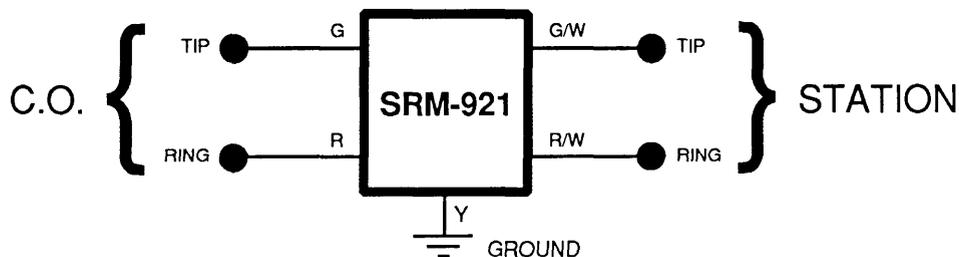


Fig. 1—SRM-921 Lead designations and connections

3.09 Insure all terminals are tight and wiring is routed properly (no shorts).

3.10 Close covers completely and secure using 216 tool. Make sure Subscriber cover is securely fastened to Telco cover.

4. TESTING

4.01 Check operation by revertive calling code using subscriber's telephone (with bridged ringer).

4.02 It is recommended that line measurement tests be made before and after installation.

4.03 With both the drop and I/W disconnected from the SRM-921, take readings (with an ohmmeter) from Tip to Ground and from Ring to Ground. Both measurements should read nearly infinite resistance.



NOTE: These readings may be taken in an any valid programmed state with the meter leads in either polarity.

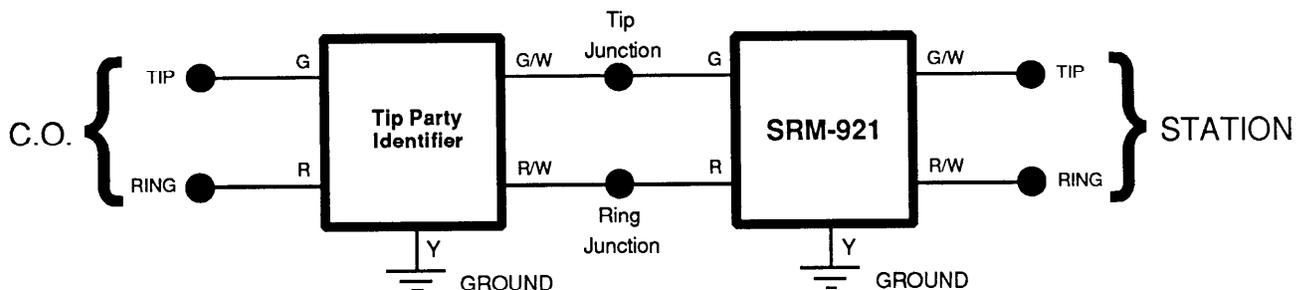


Fig. 2—Block diagram showing SRM-921 wired in conjunction with a Tip Party Identifier

Table A

D.I.P. switch programming for full selective service

PARTY POSITION	PARTY DESIGNATION	D.I.P. SWITCH NUMBER			
		1	2	3	4
PARTY 1, 5	NEG. RING	ON	OFF	OFF	ON
PARTY 2, 6	NEG. TIP	OFF	ON	OFF	ON
PARTY 3, 7	POS. RING	OFF	ON	ON	OFF
PARTY 4, 8	POS. TIP	ON	OFF	ON	OFF

Table B

D.I.P. switch programming for semi-selective service

PARTY POSITION	PARTY DESIGNATION	D.I.P. SWITCH NUMBER			
		1	2	3	4
PARTY 1	NEG. RING	ON	OFF	OFF	ON
PARTY 2	NEG. TIP	OFF	ON	OFF	ON
PARTY 3	NEG. RING	ON	OFF	OFF	ON
PARTY 4	NEG. TIP	OFF	ON	OFF	ON

Table C

Connections for external bridging of ringers

PARTY POSITION	PARTY DESIGNATION	STATION WIRE COLOR CODES (connect at Subscriber Wiring Bridge)
1 1 5	NEG. RING	GREEN TO YELLOW
2 2 6	NEG. TIP	RED TO YELLOW
3 7	POS. RING	GREEN TO YELLOW
4 8	POS. TIP	RED TO YELLOW

6. TROUBLESHOOTING REFERENCE

SYMPTOM	TEST	PROBABLE CAUSE/REPAIR
NO RING TO SUBSCRIBER EQUIPMENT	Use 145A Loop Measurement Test Set or equivalent to read A.C. ring voltage at subscriber wiring bridge.	<ol style="list-style-type: none"> 1. Wiring error 2. Programming error 3. Telephone sets not bridged 4. Poor ground 5. Remove Ringer Isolator 6. Excessive ringer load for given loop length 7. Defective Protector
BELL TAP	<p>Look for electronic ringer (Does telephone set "chirp" when rotary dialing from another bridged set?)</p> <p>Look for Half Ringer load</p> <p>Check ringer bias spring</p> <p>Check date code *</p> <p>Use an ohmmeter to check leakage to ground on I/W & CPE (with Network disconnected).</p>	<ol style="list-style-type: none"> 1. Defective or inadequate ringer circuitry design in electronic telephone set 2. Remove Half Ringer load 3. Adjust bias spring 4. Update SRM-921 to 435 date code or later * 5. Bad wiring (I/W) 6. P.R.D. at premise; replace with SRM-921
CROSS-RING OR INCORRECT RING	<p>Check Line Records, use standard methods to verify proper party position.</p> <p>Check for an electronic telephone set at other party position.</p> <p>Refer to section on "Bell Tap"</p>	<ol style="list-style-type: none"> 1. Programming error 2. Tip and Ring reversed (wiring error) 3. Damaged or defective circuitry in electronic telephone set

SYMPTOM (CONT.)	TEST (CONT.)	PROBABLE CAUSE/REPAIR (CONT.)
NO DIAL TONE	Use 1011B or equivalent Line-man's Test Set (butt-in) first at protector, then at subscriber wiring bridge.	<ol style="list-style-type: none"> 1. Wiring error 2. Network problem †† 3. Defective unit; replace
	†† Use 145A or equivalent Loop Measurement Test Set to verify loop current.	Low loop current, check or add loop treatment if low or borderline
	†† Measure Tip/Ring voltage on idle loop. Does polarity change after going off hook?	<ol style="list-style-type: none"> 1. Reversed Range Extender power supply in C.O.. Refer to supervisor 2. Use of non-standard range extender
NO DIAL TONE (OCCASIONALLY) OR ON REVERTIVE CALLS	Use 145A or equivalent Loop Measurement Test Set to measure loop current.	Low loop current, check or add loop treatment if low or borderline
IMBALANCED LINE OR NOISE ON LINE	<p>Look for wired sets to ground at other party positions.</p> <p>Look for high power influence or abnormal leakage to ground.</p>	<ol style="list-style-type: none"> 1. Number of ringers to ground on opposite side loop unequal 2. Loop measurements out of specification 3. If all sets have ringers bridged internally, disconnect yellow wire in I/W

* The three digit date code on the back side of the Keptel series of Station Electronics modules is read as:

Date code "435" is week 43 (43) of the year 1985 (5)

Therefore, a module with a date code of "236" was manufactured at a later date than that of a module with a date code of "435".

NOTES: 1. The SRM-921 when programmed for party 3, will appear as a 50k ohm (Tip to Ring) short on MLT only. This is only a result of the test routine and does not normally exist on the loop..

2. It is recommended that final loop measurements are taken on the subscriber side of any electronics modules at the subscriber premise. This will account for losses (if any) through added equipment.

Exception: If a Differential type of Tip Party Identifier (eg. DNI-910) is used at party two position, refer to Practice KPTL 501-375-801 for special loop measuring procedures.

6. COMPATIBILITY

6.01 The SRM-921 is not compatible with 2 party Anaconda S6A applications (consult factory).

6.02 The SRM-921 is not compatible with Step-by-Step offices where a positive ringing board is wired in place for two (2) party service. Consult factory.

6.03 The SRM-921 is not compatible with a Western Electric #97 Step-by-Step office.

6.04 The SRM-921 is compatible with all Bell System Ringing where 20 Hz ringing is applied with the D.C. ring trip battery.

6.05 The SRM-921 is compatible with both AC-DC and superimposed ringing for single party, two party (including A.N.I.—Automatic Number Identification), four party semi-selective, four party full selective and eight party semi-selective or divided code service.

6.06 The SRM-921 is compatible with most carrier and “floating” systems such as a RSS C.O.