

CONNECTING ARRANGEMENT C1Y

J92614E-1 INTERFACE UNIT

1. GENERAL

1.01 This section provides identification, installation, operation, maintenance and connection information for Connecting Arrangement C1Y using the J92614E-1 interface unit to provide traffic usage data to customer-provided (CP) equipment.

1.02 The J92614E-1 interface unit (Fig. 1) is used to connect from 1 to 15 Bell System traffic data register circuits to CP monitoring equipment. One Connecting Arrangement C1Y is required for each circuit to be monitored.

1.03 The J92614E-1, List 1 provides assembly wiring and equipment for five inputs. The J92614E-1, List 2 provides for five additional inputs. A fully equipped mounting plate provides 15 inputs (one List 1 and two List 2).

1.04 If the customer wants a copy of the Technical Reference which covers this interface specification, the customer should contact the local Telephone Company Business Office or the Marketing Representative.

1.05 This issue of the section is based on the following drawing:

SD-99400-01, Issue 5A

If this section is to be used with equipment or apparatus reflecting later issue(s) of the drawing(s), reference should be made to the SDs and CDs to determine the extent of the changes and the manner in which the section may be affected.

2. IDENTIFICATION

PURPOSE

- Connecting Arrangement C1Y provides for the connection of Bell System Force Administration Data System (FADS) traffic usage data circuits to CP monitoring equipment.

- To protect Telephone Company personnel and facilities from potentially hazardous voltages which may be applied to the connecting arrangement.

APPLICATION

- Bell System Automatic Call Distributing Systems (ACD) type 2A and 3A.

ORDERING GUIDE

- J92614E-1, L1 Interface Unit (five circuits).

Note: If more than five circuits are required, a J92614E-1, List 1 equipped with one or two J92614E-1, List 2 must be ordered.

Associated Apparatus (Order Separately)

- Block, Connecting, 66M1-50 (Fig. 2)
- Clip, Bridging, B (25 per pack, Fig. 2)
- Wire, "D" inside or equivalent (for cabling from J92614E-1 to 66M1-50 interface connecting block and to J92614C transfer unit).

DESIGN FEATURES

- Components mounted on a 189A (2-inch by 23-inch) mounting plate for use with a standard relay rack .
- Detects operation of the traffic register associated with a FADS installation.
- Provides a contact closure to CP equipment indicating a usage registration.
- Provides dc and ac isolation to CP equipment.
- Requires approximately 0.010 ampere at 48V direct current per input circuit.
- Maximum voltage and current on the relay contacts is 50V and 0.500 ampere.

3. INSTALLATION

3.01 The J92614E-1 interface unit will usually be mounted on the same relay rack or in the same equipment cabinet that houses the associated 2A or 3A ACD FADS equipment.

3.02 The 66M1-50 interface connecting block may be wall-mounted and located at a convenient location to permit testing and connection to the CP equipment. The distance between the interface unit and interface connecting block should be kept as short as possible.

3.03 Connect R() input leads from J92614E-1 interface unit to J92614C transfer unit and terminate on D4A terminal strips using a hand-operated wire-wrap tool.

Note: Do not connect the interface unit to leads going to the administrative cabinet as the transfer unit switches these leads every half-hour.

3.04 If the FADS installation does not include a transfer unit, the J92614E-1 interface unit may be connected to the output leads from the 3B traffic usage recorder (TUR) and KS-15947, List 2 totalizer. In this case, refer to the 3B TUR lead assignment sheet prepared by local engineering for connections.

3.05 Connect R()A and R()B output leads to D4A terminal strips on J92614E-1 interface unit using a hand-operated wire-wrap tool. Extend R()A and R()B output leads to 66M1-50 interface connecting block and terminate. Stencil lead designations on designation strip as shown in Fig. 2. The customer must terminate the CP equipment to the interface connecting block using the terminals stenciled on the customer side.

3.06 Refer to block diagrams shown in Fig. 3, 4, or 5 for basic ACD FADS System in use and follow the wiring plan shown in Fig. 6 and Table A.

3.07 Perform tests shown in Part 5 after installation.

4. OPERATION

4.01 General: The 3B TUR obtains the FADS usage data from ACD trunk circuits using the switch count method. This method involves

repeated scanning of test terminals at 100 second intervals, which equates to 18 scans (cycles) per half-hour. The cumulative total of the number found busy (grounded) on each scan is recorded on registers in the FADS administrative cabinet. The 3B TUR records incoming trunk usage, incoming trunk waiting usage, transfer trunk usage, position manned usage, and position busy usage as 100 call second (CCS) registrations and cycle count as a peg count. The electronic totalizer sums position call counts as peg counts. This data is shown on registers in the administrative cabinet. Refer to Section 981-234-100 for a detailed description of FADS used with 2A and 3A ACD Systems.

4.02 Connecting Arrangement C1Y (Fig. 6) permits these traffic data circuits to be monitored directly by CP equipment. The R() relay is connected to the traffic measuring circuit of the FADS. Ground received on the R() lead from one of the traffic measuring circuits operates the R() relay momentarily providing a contact closure between the output leads R()A and R()B to the CP equipment to indicate a traffic registration. Removal of the ground on the R() lead releases the R() relay to open the contact closure between the R()A and R()B output leads. The 3,000-ohm resistor in series with the relay coil reduces the operate current and contact bounce. The 185A network provides protection to the make contact of the R() reed relay by reducing arcing and increasing contact life. The interface unit circuit does not provide for filtering of input or output signals. The output signal may contain irregularities (spurious or split pulses) requiring filtering by the CP equipment for proper operation.

5. MAINTENANCE (Fig. 6)

5.01 Check for blown fuses, loose or broken connections.

5.02 Precautions should be taken when performing the tests to avoid adversely affecting service to the customer. Local instructions should be followed for notifying the customer before performing tests and for recording and reporting any register operations caused by performing tests.

5.03 Open the output leads to the circuits under test by removing the B bridging clips (or wire straps) at the 66M1-50 interface connecting block. Make any test connections on the Telephone Company side of the connecting block, and perform

the following tests: Connect an 81A or KS-16990, List 1 test set across R()A and R()B output terminals of the circuit under test. Set the test set to the continuity position (continuity should not be indicated). Momentarily apply ground (ground side of -48V supply) to the R() input lead at the D4 terminal strip of the circuit under test. R() relay should operate closing the contact to the R()A and R()B output terminals, and the test set should indicate continuity. Remove ground, releasing R() relay, and the test set should indicate an open circuit.



Do not attempt any tests or repairs to the CP equipment.

5.04 If all circuits test satisfactorily, restore circuits to normal by removing all test connections and replace the B bridging clips (or wire straps) on the 66M1-50 interface connecting block.

6. CONNECTIONS

6.01 Refer to Fig. 1 and 6 and Table A for connections for Connecting Arrangement CIY.

6.02 The -48V operating voltage for the J92614E-1 interface unit is obtained from the power supply for the FADS equipment. The -48V lead may be connected directly to the J58833A-2 fuse panel, to a separate 1-1/3 ampere fused circuit, or to a -48V terminal on the J92614C transfer unit through a separate fuse.

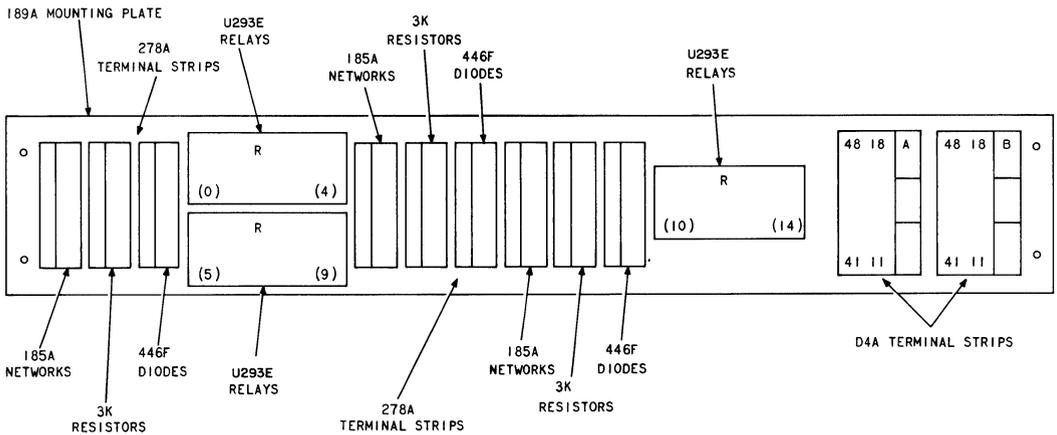


Fig. 1—J92614E-1 Interface Unit

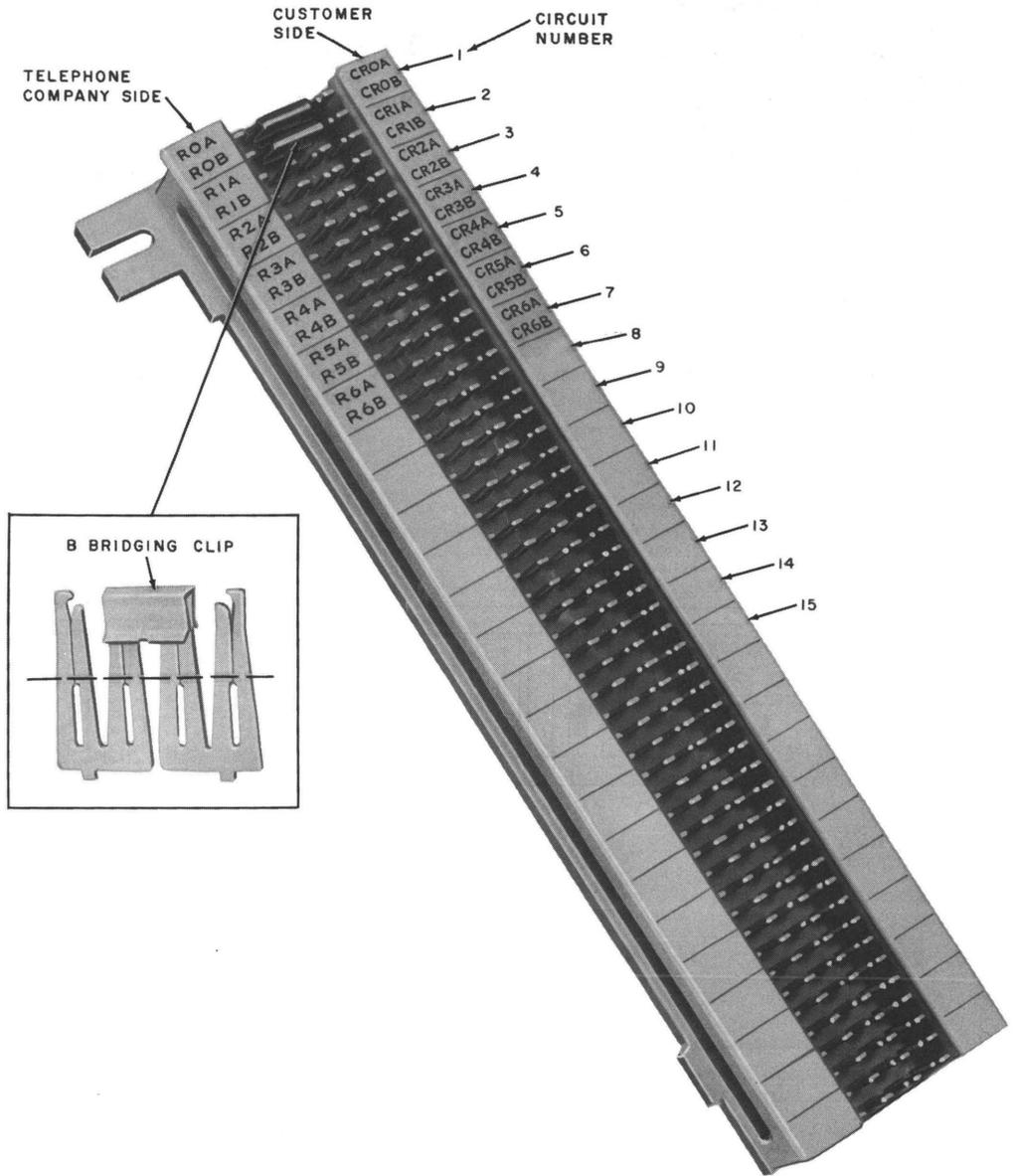


Fig. 2—66M1-50 Interface Connecting Block

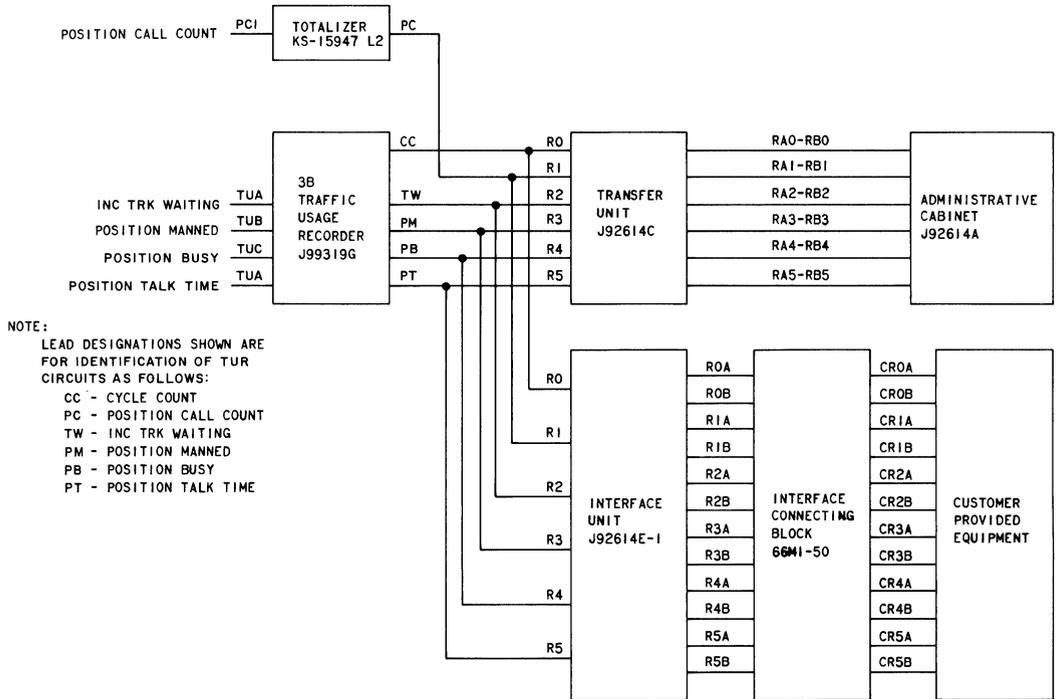


Fig. 3—Block Diagram of Connecting Arrangement C1Y With 2A ACD FADS

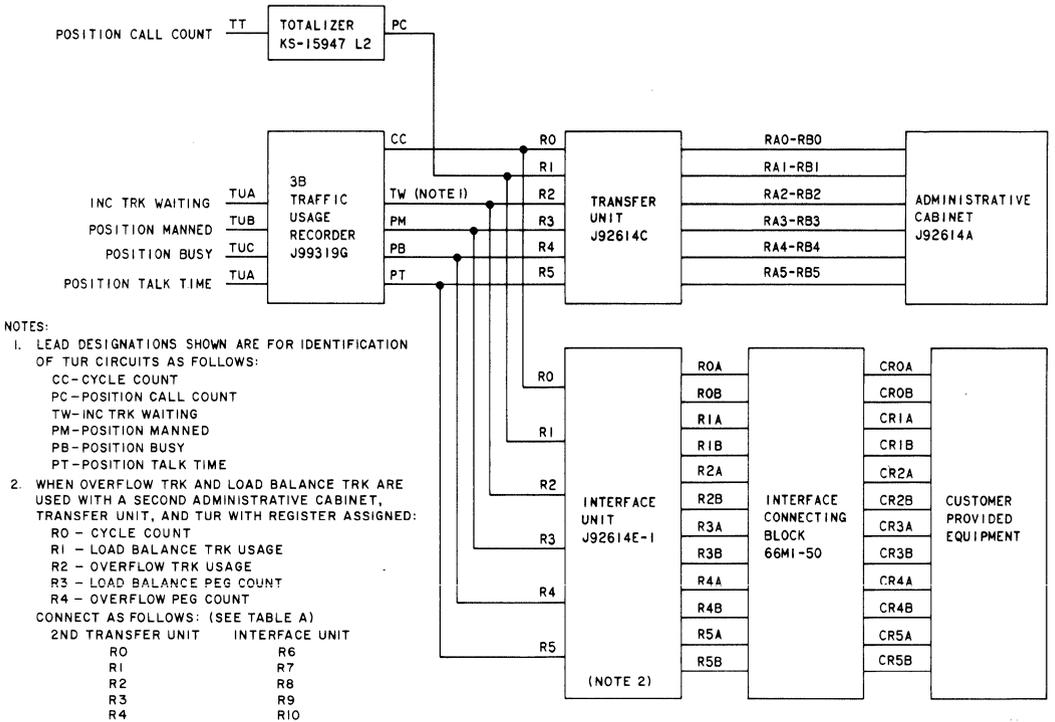


Fig. 4—Block Diagram of Connecting Arrangement C1Y With 3A ACD FADS

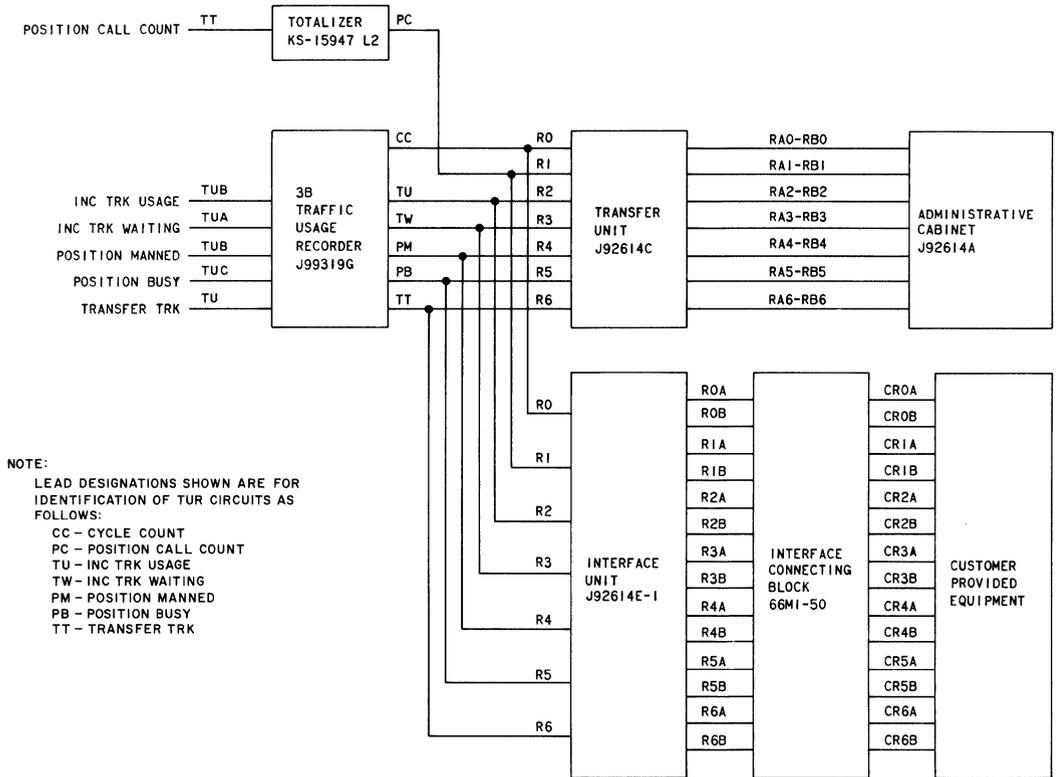
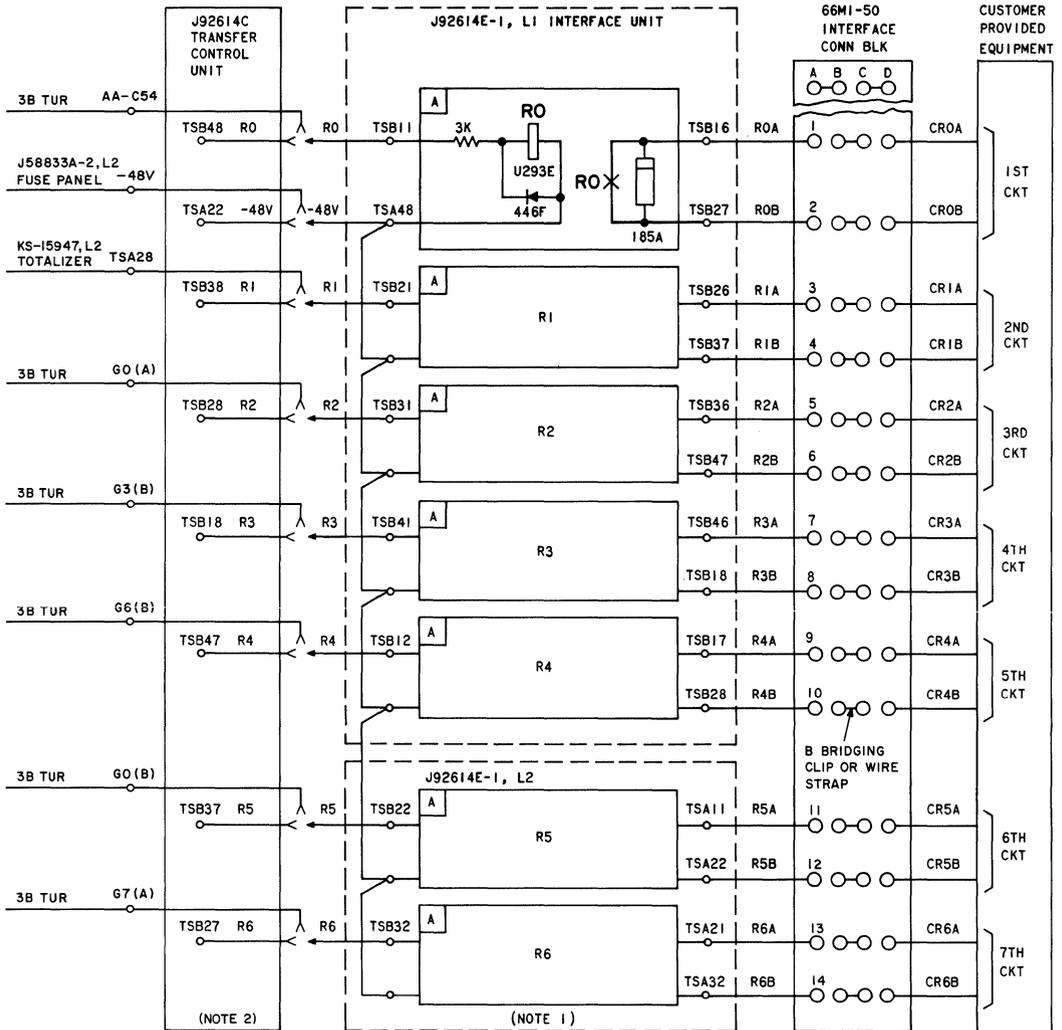


Fig. 5—Block Diagram of Connecting Arrangement C1Y With Optional (MD) 3A ACD FADS



- NOTES:
1. UNIT MAY BE EQUIPPED WITH 15 CIRCUITS. REFER TO TABLE A FOR ADDITIONAL CIRCUIT CONNECTIONS.
 2. IF TRANSFER UNIT IS NOT PROVIDED, CONNECT TO TUR AND TOTALIZER, REFER TO 3B TUR LEAD ASSIGNMENT SHEET PREPARED BY LOCAL ENGINEERING FOR CONNECTIONS.

Fig. 6—Connecting Arrangement C1Y-Connections

TABLE A

*J92614E-1 CONNECTIONS

CIRCUIT	DESIG	TERMINALS
0	R0	TSB11
	R0A	TSB16
	R0B	TSB27
	-48V	TSA48
1	R1	TSB21
	R1A	TSB26
	R1B	TSB37
2	R2	TSB31
	R2A	TSB36
	R2B	TSB47
3	R3	TSB41
	R3A	TSB46
	R3B	TSB18
4	R4	TSB12
	R4A	TSB17
	R4B	TSB28
5	R5	TSB22
	R5A	TSA11
	R5B	TSA22
6	R6	TSB32
	R6A	TSA21
	R6B	TSA32
7	R7	TSB42
	R7A	TSA31
	R7B	TSA42

CIRCUIT	DESIG	TERMINALS
8	R8	TSB13
	R8A	TSA41
	R8B	TSA13
9	R9	TSB23
	R9A	TSA12
	R9B	TSA23
10	R10	TSB33
	R10A	TSA33
	R10B	TSA44
11	R11	TSB43
	R11A	TSA43
	R11B	TSA15
12	R12	TSB14
	R12A	TSA14
	R12B	TSA25
13	R13	TSB24
	R13A	TSA24
	R13B	TSA35
14	R14	TSB34
	R14A	TSA34
	R14B	TSA45
*Unit arranged for maximum of 15 inputs (one List 1 and two List 2)		