

Professional Electronic Component Assembly, Inc.'s (PECA) Model LMT-1544 Test Signal Generator is an AC powered signal generator designed for use during installation, test, and maintenance of baseband (100 KHz to 5 MHz) data transmission systems.

The LMT-1544 generates a 1V RMS signal at 1.544 MHz into a 75 ohm load impedance. The output circuitry has been designed to maintain this level and frequency over a reasonable range of impedance variations and environmental conditions.

#### Operation

1. Connect the line cord to a 117 VAC outlet.
2. Turn "ON" power switch. Observe LED power indicator and meter reading.
3. Allow 15 to 30 minutes for generator to stabilize.
4. Use the BNC to F adapter provided; connect the LMT-1544 to the system under test.
5. Using the Signal Level control, located below the meter movement, set the generator output level to 1 volt RMS as indicated by the meter reading at the 1V level set mark.

The LMT-1544 is now sending a 1.544 MHz test signal, at 1 volt RMS, throughout the data transmission system. This can be monitored or measured by using the LMR-1544 Baseband Data Transmission Test Signal Receiver.

Professional Electronic Component Assembly, Inc.'s (PECA) Model LMR-1544 Test Signal Receiver is a battery operated receiver designed to be used in conjunction with PECA's LMT-1544, Test Signal Generator, during the installation, test, and maintenance of baseband (100 KHz to 5 MHz) data transmission system.

The LMR-1544 receives the 1 volt RMS test signal applied to the input of the data transmission system via an input attenuator (dB Range Switch), and through the corresponding metering reading, the loss of the transmission system can be determined and compared to the system design or previous level readings.

The LMR-1544 is equipped with NiCad rechargeable batteries and a built in charging circuit.

Operation

1. Turn "ON" power switch. (Prototype has no front panel power on indicator.)
2. Place the dB Range Switch to the "0 dB" position. (Meter Scale is calibrated in dB loss.)

dB Range Switch

Setting	Meter Range (0 dB Reference)		
0 dB	0	to	+10 dB (1V to 3V)
-10 dB	-10	to	0 dB
-20 dB	-20	to	-10 dB
-30 dB	-30	to	-20 dB
-40 dB	-40	to	-30 dB
-50 dB	-50	to	-40 dB
-60 dB	-60	to	-50 dB

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NOTE

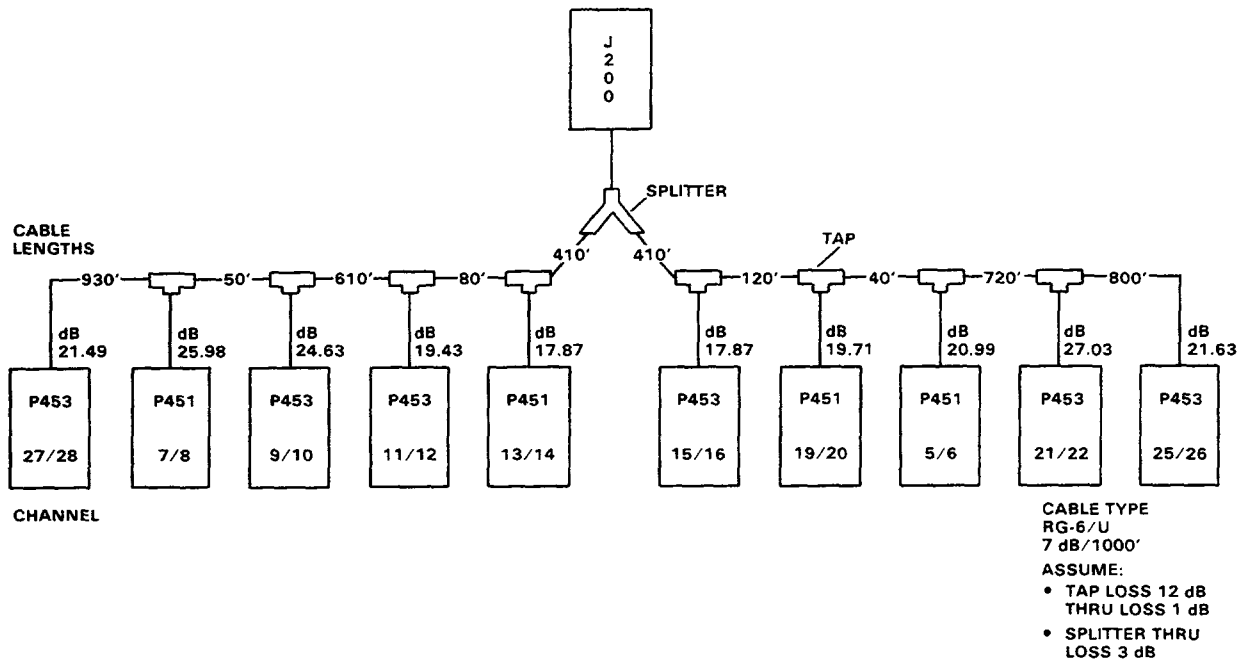
Meter readings below -3 dB point are less accurate and should be used only for reference or for course measurements.

3. Using the BNC to F adapter, connect the LMR-1544 (via a short length of RG-59 cable with male F connectors) to the particular tap or splitter port to be measured.
4. Note the meter reading. Switch dB Range Switch so meter reading is between 0 dB and +10 dB.
5. Observe dB Range Switch setting and meter reading to determine system loss.

Battery Charging

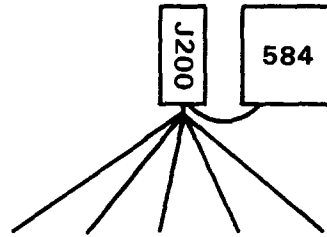
To charge batteries, connect the AC line cord to a 117 VAC outlet. (Observe Battery Charge LED.) In order to reduce battery drain, the LMR-1544 can be operated when connected to a convenient AC outlet.

APPENDIX E  
 TOPOLOGY DRAWING

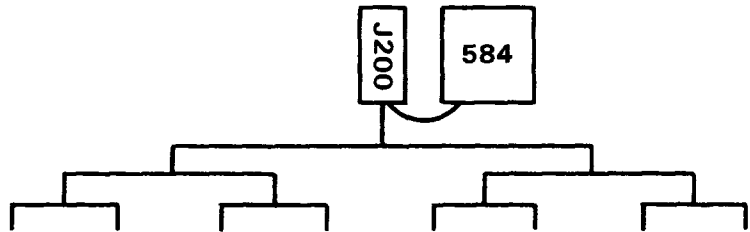


These Configurations are not Allowed.

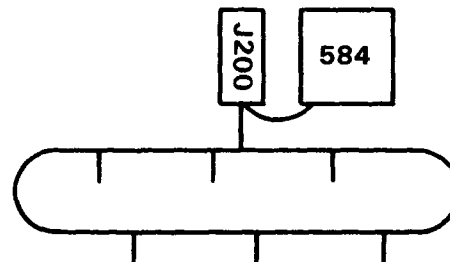
STAR:



TREE:

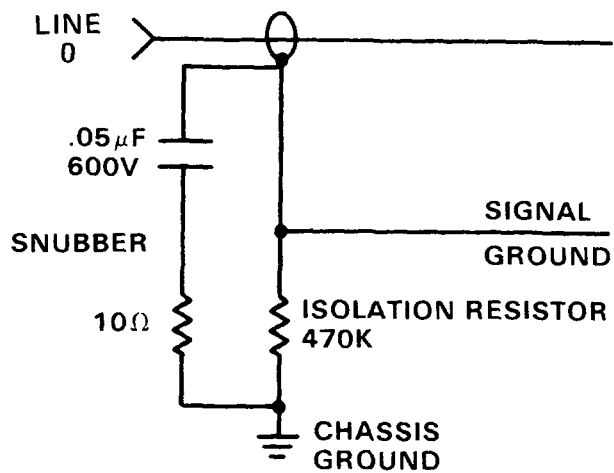


RING:

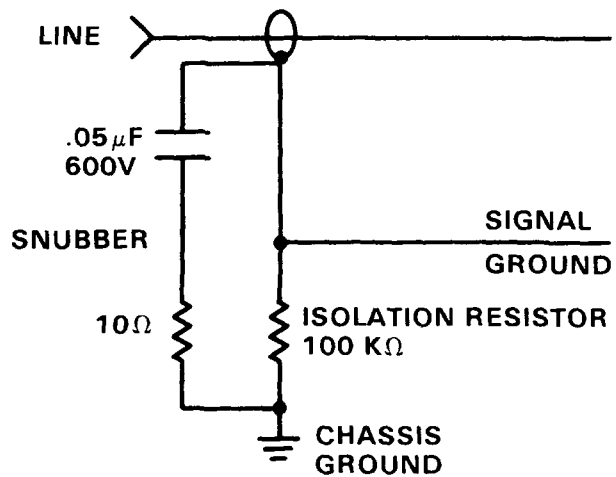


APPENDIX F  
SNUBBER CIRCUITS

P453 UNIT



P451 UNIT

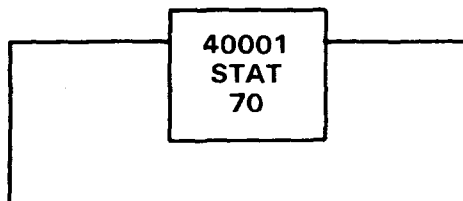


APPENDIX G  
STAT BLOCK APPLICATIONS PROGRAMS

These programs monitor both remote I/O and I/O module communications with user logic, and they annunciate failures. These annunciators should be driven by local I/O because local I/O are independent of R.I.O. failures.

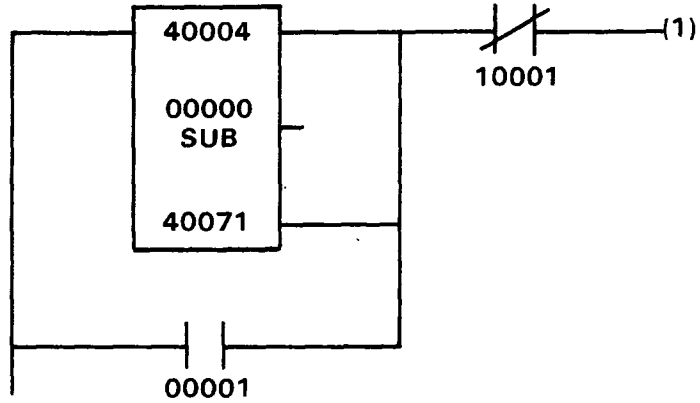
The following program monitors the J200 status word for its failure. The individual R.I.O. drops are monitored for a communications restart which indicates a complete loss of communications. The program does not monitor the R.I.O. retry counter. The retry counter is not intended to be an on-line diagnostic; it is a tool to aid in system start-up and troubleshooting. Individual I/O modules can be monitored for a loss of active light.

The other status words are useful only in troubleshooting a 584 that has lost its run light. In this event, the I/O is shut down so the status words must be obtained via P190 or register access panel.



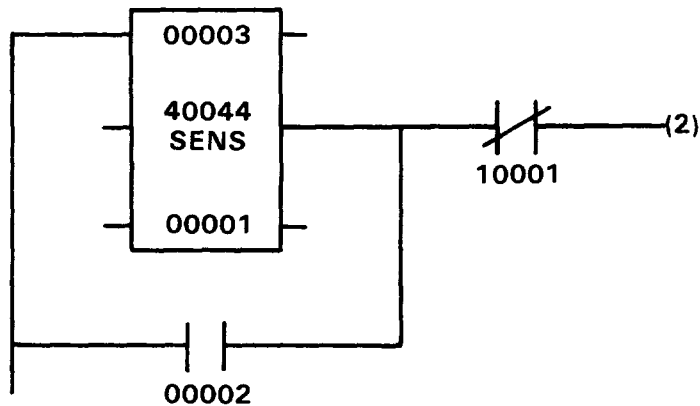
The STAT block moves 584 internal status words into 4XXXY registers so that they are accessible to user logic. Word one moves into register 40001, word two into 40002, etc. Finally, word 70 moves into 40070. The complete status table is moved once per scan.

J200 Digital Test Failure



40004 is the J200 digital test status word. If 40004 is not equal to zero, coil 1 is latched to indicate the test failure. This test failure may be intermittent, and the status word would reset to zero when the test is passed on subsequent scans. Contact 10001 is a master reset.

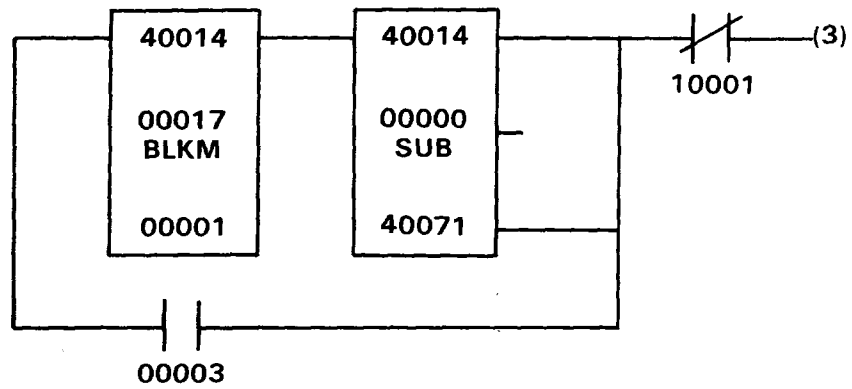
IOR Communication Drop-out



Register 40044 is the first IOR status word for channels 5 and 6. If bit 3 is set to one, the J200 has initiated a communications reset to the IOR. Coil 2 is latched because the bit will clear if the restart was successful.

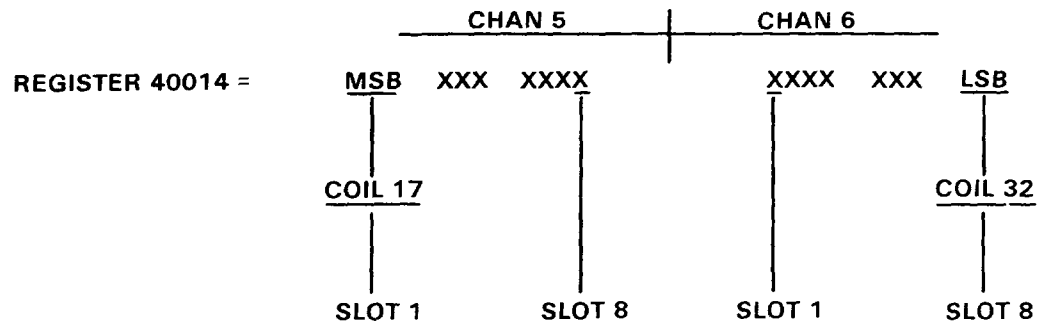


I/O Module Active Light Drop-out

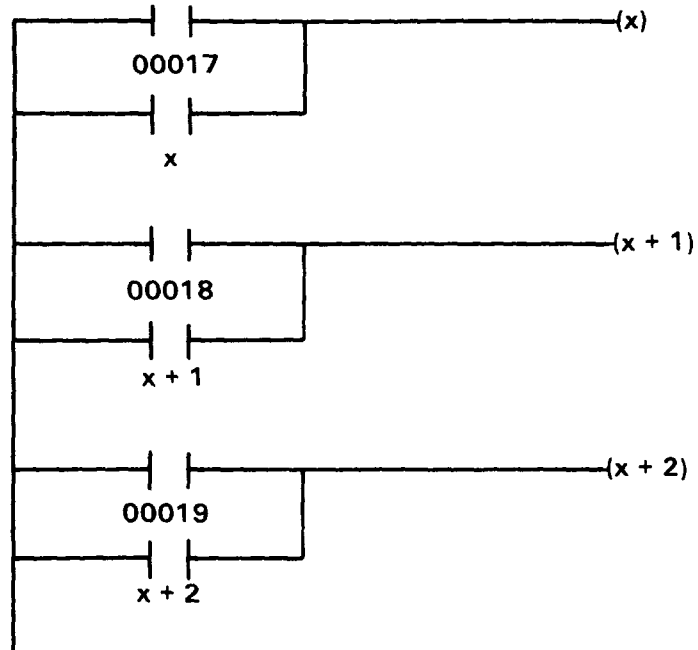


If an I/O module is in the Traffic Cop for a specific slot of a channel and the mainframe loses communication with that module, its corresponding bit is set to one in the status word.

Register 40014 contains the status word for channels 5 and 6 input module active lights. The most significant bit is slot 1, channel 5; the least significant bit is slot 8, channel 6. The block move outputs the status bits to coils. Coil 17 is the most significant bit; coil 32 is the least significant bit.

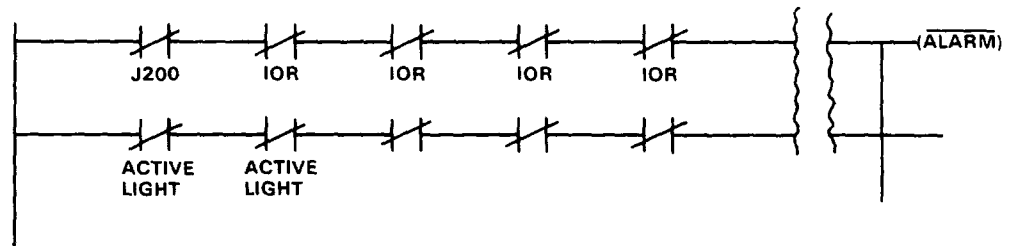


It is possible to latch the module active lights with the following network, but it requires a large portion of memory; 86 networks for 32 full I/O channels.



General Alarm

The J200 status word, IOR communications restarts, and I/O module active light status words should be logically OR'ed together to produce a general alarm. Preferably, this alarm should be driven by a B268 normally closed relay module. With any fault, including a complete 584 system failure, the alarm will sound.



A Typical Annunciator Panel Layout

