MASTER CHECKBACK EQUIPMENT TYPE CB10A__P1

GENERAL

The automatic MASTER CHECKBACK equipment Type CB10A__P1, when used in conjunction with the REMOTE CHECKBACK equipment, provides the means for automatically testing equipment such as the G. E. AUDIO TONE EQUIPMENT TYPES NN40A AND NS40A, to verify proper equipment operation.

The equipment consists of a SHELF, a POWER SUPPLY, a MASTER CHECKBACK, and an AUXILIARY RELAY module. Detailed descriptions of these modules are included in subsequent sections of this INSTRUCTION BOOK.

This equipment was originally designed for use with CS26/27A/B BLOCKING CARRIER, therefore some of the labeling of indicators is not directly related to this application. For example, the indicator LED'S and the ALARMS are labeled "FULL POWER" and "REDUCED POWER" whereas they are used for CHANNEL 1 and CHANNEL 2 respectively when used with NN40A or NS40A TONE EQUIPMENT.

SHELF

The SHELF serves to mount the modules, provide the necessary interconnections between the modules, and provide customer connection points.

The 3 Rack-Unit high (5.25") steel shelf is designed for flush mounting in standard EIA 19-inch racks or cabinets. Auxiliary brackets (19B218789P008, Qty 2) are available for semi-flush mounting in shallow racks. The front door is removable. Barrier-type terminal boards, similar to GE EB-25 boards, which will accommodate wire sizes AWG 22 through AWG 10, are mounted on the printed-circuit mother-board backplane.

POWER SUPPLY

The POWER SUPPLY module occupies slot J1 in the shelf and is a DC-DC Converter. Power supplies are available for use with station batteries of 48, 110, 125, 220, and 250 Volts DC. This Converter, with battery surge and transient protection, provides +/-12VDC to operate the other modules in the shelf. A power ON-OFF switch, short-circuit protection, alarm relay and a fuse are part of this module. Test points on the front of the module can be used to monitor the +/-12VDC outputs.

MASTER CHECKBACK

The MASTER CHECKBACK module occupies slot J3 in the shelf.

Automatic testing of the system is provided by the timing and memory circuits of the MASTER CHECKBACK module. The time interval between tests is programmable from 1 to 255 hours in one-hour steps. The number of failed or successful tests can be recorded by a counter located on the module.

Remote supervision of the MASTER CHECKBACK module is available for CLOCK RESETTING, REMOTE TEST INITIATION, and REMOTE ALARM CLEARING. These supervisory functions can be optionally strapped to prevent automatic test initiation, or to disable one or two remote alarms. The remote supervision relays operate from Station Battery.

When applied with the TYPES NN40A or NS40A TONE EQUIPMENTS, the "FULL POWER" tests are used to verify CHANNEL ONE and the "REDUCED POWER" tests are used to verify CHANNEL TWO operation. Up to three remote terminals can be tested, and six LED'S mounted on the front panel indicate failures of either CHANNEL ONE or CHANNEL TWO for each remote.

Alarm contacts are also provided for remote indication of failures; however, before a failed test is alarmed, the test is automatically repeated up to three times to assure the user that a valid system failure has occurred. Nuisance alarms from temporary system disturbances are thus eliminated. This REPEAT TEST feature is field programmable to repeat the test after time intervals between O and 17 minutes.

AUXILIARY RELAY

The AUXILIARY RELAY module, located in slot J2 of the shelf, contains three mercury-wetted relays with separate inputs and outputs. The relays provide isolation between the CHECKBACK EQUIPMENT and the TONE EQUIPMENT. Front-mounted LED'S indicate which relays are energized.

APPLICATION

As the CHECKBACK EQUIPMENT actually sends a single-channel TRIP signal to verify proper channel operation, it should be applied only with DUAL channel DIRECT TRIP, or with PERMISSIVE relaying schemes.

Tone OPTIONS such as "REVERT TO SINGLE CHANNEL" or "TRIP WINDOW" cannot be used in conjunction with the CHECKBACK system.

If "TRIP HOLD" is used in the optional tone LOGIC MODULE, the tone "TRIP RECEIVED" signal used as the CHECKBACK "RECEIVE" input must be taken directly from the tone RECEIVER, rather than from the output of the LOGIC circuit.

The TONE EQUIPMENT must be equipped with the AUXILIARY RELAY module. Two of the relays on this module are employed to supply the "TRIP RECEIVED" signals to the CHECKBACK. This is necessary because the TONE EQUIPMENT heavy-duty output relays are not fast enough to follow the CHECKBACK signals.

OPERATION

The MASTER CHECKBACK test cycle can be initiated by the BUILT-IN CLOCK, by the front-panel "TEST INITIATE" push-button, by the operation of the supervisory "TEST INITIATE" relay, or by receipt of a "REQUEST FOR TEST" signal from a REMOTE CHECKBACK module.

The test cycle is composed of nine segments of one second each, as follows:

1. During the first segment, the MASTER CHECKBACK sends eight pulses of 32 msec. width at 16 cps on channel one.

2. During the second, third and fourth segments, the MASTER CHECKBACK "listens" for a response on channel one from the first, second, and third REMOTE CHECKBACK(s) respectively. Any of these segments that are not used can be disabled.

3. During the fifth segment, the MASTER CHECKBACK sends four pulses of 32 msec. width at 16 cps on channel two.

4. During the sixth, seventh, and eighth segments, the MASTER CHECKBACK "listens" for a response on channel two from the first, second, and third REMOTE CHECKBACK(s) respectively. Any of these segments that are not used can be disabled.

5. The ninth and final segment is used to initiate alarms, initiate the automatic re-test function, or (in the event of a successful test) reset all circuits.

NOMENCLATURE SELECTION GUIDE

CHECKBACK SHELF

CB10A 04 P 1

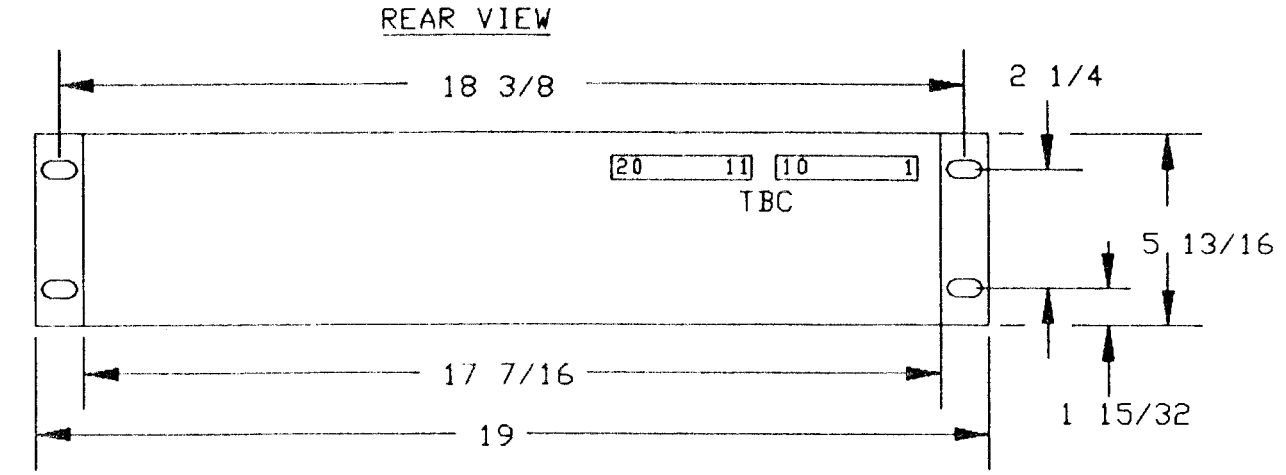
TYPE
1 MASTER CHECKBACK-STANDARD
2 MASTER CHECKBACK-CS26/27B
3 REMOTE CHECKBACK-STANDARD
4 REMOTE CHECKBACK-CS26/27B
5 DUAL REMOTE-STANDARD
6 DUAL REMOTE-CS26/27B
7 MASTER CHECKBACK-CS26/27A
8 REMOTE CHECKBACK-CS26/27A
9 DUAL REMOTE-CS26/27A

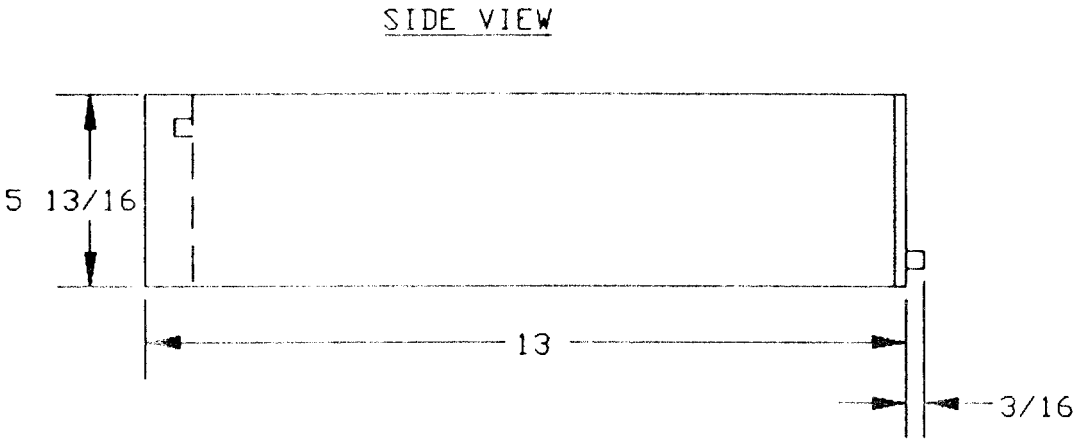
POWER SUPPLY
N NONE (NOTE 1)
P BUILT-IN POWER SUPPLY

NOTES:
1. POWER SUPPLY "N" CAN BE USED ONLY WITH TYPES 1, 3, AND 5 WHEN USED IN CONJUNCTION WITH GE TYPE 40 TONE EQUIPMENT.

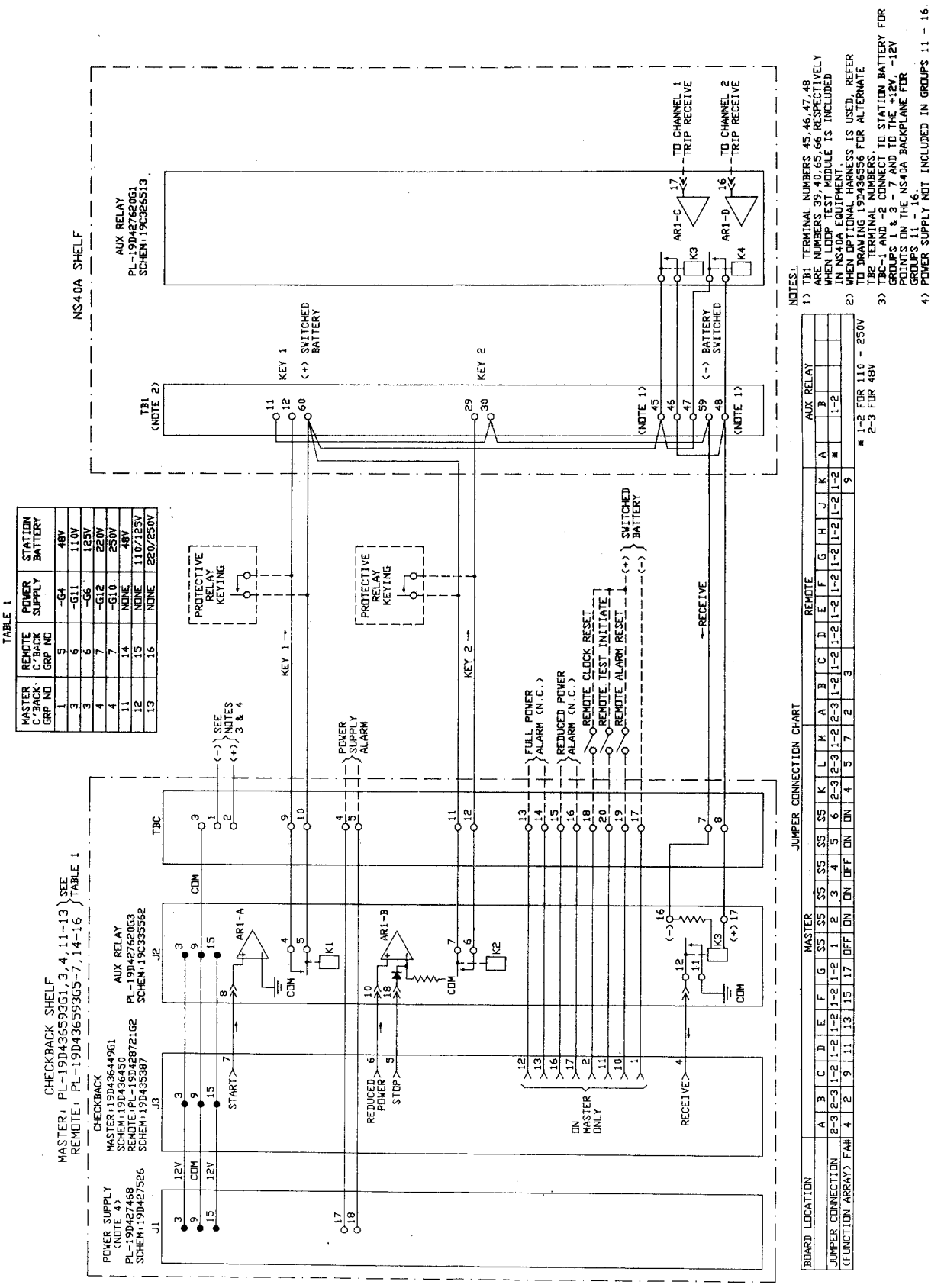
STATION BATTERY
04 48VDC
11 110VDC
12 125VDC
22 220VDC
25 250VDC

CHECKBACK EQUIPMENT





OUTLINE DIAGRAM-0286A2941



SYSTEM DIAGRAM-19C335802 Sh. 4 [1]