NOTE:

This BSP is 201-653-122, Issue 1.

Its title is:
E2A - Telemetry System - Alarm
Processing Remotes (APR) System -
Description

pp. 1-6 are missing
in the original copy.

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4. FUNCTIONAL DESCRIPTION

4.01 Prior to the design of the E2A-APR remote, processing of status information for change of state, alarm definition, etc., was accomplished at the maintenance system central unit or, in the case of E2, at E2 remotes via alarm networks and cross connects. In the E2A-APR remote, this processing is accomplished by the firmware at the remote.

4.02 Referring to Fig. 5, the E2A-APR is constantly monitoring office equipment, scanning all the possible 2048 status inputs. Each status point is scanned approximately four or five times per second by the GSU under the control of the central processing unit (CPU). This status input data is retrieved by the GSU (CP 9s) and fed to the APRCC. This data is sent to the microprocessor via the remote interface and the I/O circuit (CP 104), and stored in the random access memory (RAM) data circuit (CP 102 or CP 109 depending on APR application). The stored data is processed by the CPU as directed by the generic programs stored in the read-only memory (ROM) circuits (CP 103A). The second scan of status input data is processed and compared with the previous scan. If a change of state is detected (a difference between the present and previous scan), the bit which has changed state is processed according to three masks; that is, to determine if the bit is conditioned for memory and if it is conditioned as an alarm. If it is an alarm, it is processed to determine whether it is unipolar or bipolar mask. The processed data is then stored in the RAM memory until the remote station is alarm polled and retrieved via display or group reports to the central station.

4.03 The central station periodically alarm polls each remote station using the E2-telemetry word format (refer to Section 201-644-112); or in case of SCOTS or TCAS centrals using E2A-Telemetry format, by sending an alarm poll command to the remote. Note that this is true only if APRs are on the data facility being monitored or a mixture of APRs and E2A units so that operation at 1200 bits per second can be performed. The APR processes the incoming command in the APRCC and responds with a 17-bit word indicating NO alarms, a NEW alarm, or an ANY (previously acknowledged) alarm. If an alarm is reported, the central will first request an INDEX display report and then a group display report (or a display report in case of E2 manual central), at which time the data stored in the RAM memory of the APRCC is retrieved by the central. Once the alarm is identified and the problem diagnosed, trouble tickets can be prepared, if necessary. If a remote switch is necessary, the system personnel at the central will send a remote switch command to the APR remote. The APRCC processes the command and directs the remote switch through the remote switch selector and/or expander.

5. MAINTENANCE

5.01 Maintenance of the E2A-APR remote is performed per Section 201-653-522.

6. REFERENCES

SECTION	TITLE
201-644-112	E2 Status Reporting and Control System—Manual Alarm Central—Description

DRAWING	TITLE
SD-2P022-01	E2A-Alarm Processing Remote

APR – COMMON CONTROL
J92621R

2/4 I/O
WITH EIA
CP 104

REMOTE
INTERFACE
MODULE

CP'S
42
41
40
39

TO
CIRCUITS USING
MOMENTARY
REMOTE SWITCHES

REMOTE
SWITCH
SELECTOR
J92621AB

REMOTE
SWITCH
EXPANDER
J92621AC

REMOTE
SWITCH
EXPANDER
J92621AC

TO
CENTRAL STATION
VIA
DATA FACILITY

202T
DATA
SET

MEMORY
(ROM)
GENERIC
PROGRAMS
CP 103A

MEMORY
(RAM)
CP 109 = 1K
OR
CP 102 = 2K

UNITS 1-4

UNITS 5-8
IF NEEDED

GROUP
SCAN
UNIT 1
J92621AA
(SEE NOTE)

GROUP
SCAN
UNIT 4
J92621AA

BUS
REPEATER
UNIT
J92621T

GROUP
SCAN
UNIT 5
J92621AA

TO
ADDITIONAL
GSU

MEMORY
(PROM)
STATION
CONSTANTS
CP 103B

TO CIRCUITS
PROVIDING
STATUS INPUTS

TO
OFFICE POWER
CIRCUIT

FUSE AND
ALARM UNIT
J92621U

POWER
CONVERTERS

OPX(-48V)
CP 45 & 46

OPY(-24V)
CP 43 & 44

CTMS
PARALLEL
INTERFACE
CP 108

TO
CTMS
SYSTEM

CENTRAL
PROCESSING UNIT
(CPU)

CP 100   CP 101

NOTE:
EACH GROUP SCAN UNIT (GSU)
IS RESPONSIBLE FOR FOUR
DISPLAYS OF SCAN POINTS:

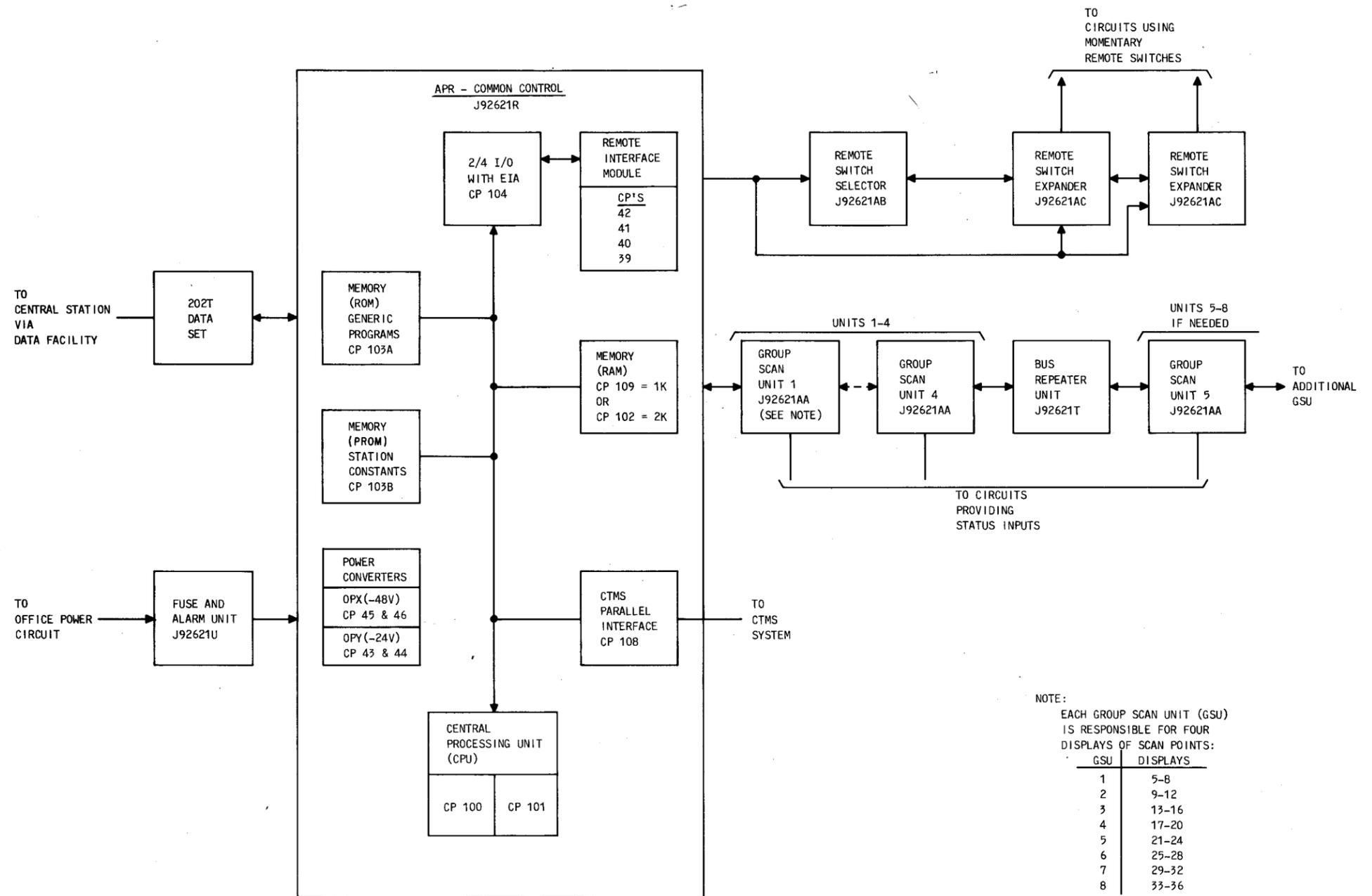| GSU	DISPLAYS
1	5-8
2	9-12
3	13-16
4	17-20
5	21-24
6	25-28
7	29-32
8	33-36

Fig. 5—E2A Alarm Processing Remote Block Diagram