2 Fault Identification and Isolation

Refer to the following associated manuals for assistance in identifying and isolating System faults.

65601012	BridgeMaster II S-Band Supplement (Hybrid Systems) Additionally covers DCU and Scanner Control Unit faults.	- Chapter 6
65601013	BridgeMaster II X-Band Supplement (Hybrid Systems) Additionally covers DCU faults.	- Chapter 6
65800011	Ship's Technical Manual (Additional information for S-Band and X-Band systems)	
65800012	Ancillary Units and Radar Systems Manual Covers DCU, TCU, 2- & 6-way Interswitch, Serial Interface Unit.	

2.1 Display Unit

Flow charts for the isolation of Display Unit faults are given on the following pages. Flow Charts 1 & 2 cover the situation where there is no picture, and Flow Chart 3, where there is a picture but there are other faults.

The Flow Charts should be read in conjunction with the following notes.

Notes

1. *The YELLOW LED, indicating power supply active, is located approximately 100 mm from the right hand side of the power supply, towards the rear of the PSU. It can be viewed through the front grill of the PSU.*

2. *The RED LED, indicating power supply trip, is located approximately 125 mm from the right hand side of the power supply, towards the rear of the PSU. It can be viewed through the front grill of the PSU.*

3. *The DISPLAY EHT SUPPLY has a thermal trip circuit. Following the removal of an overload, it self resets after 15 seconds.*

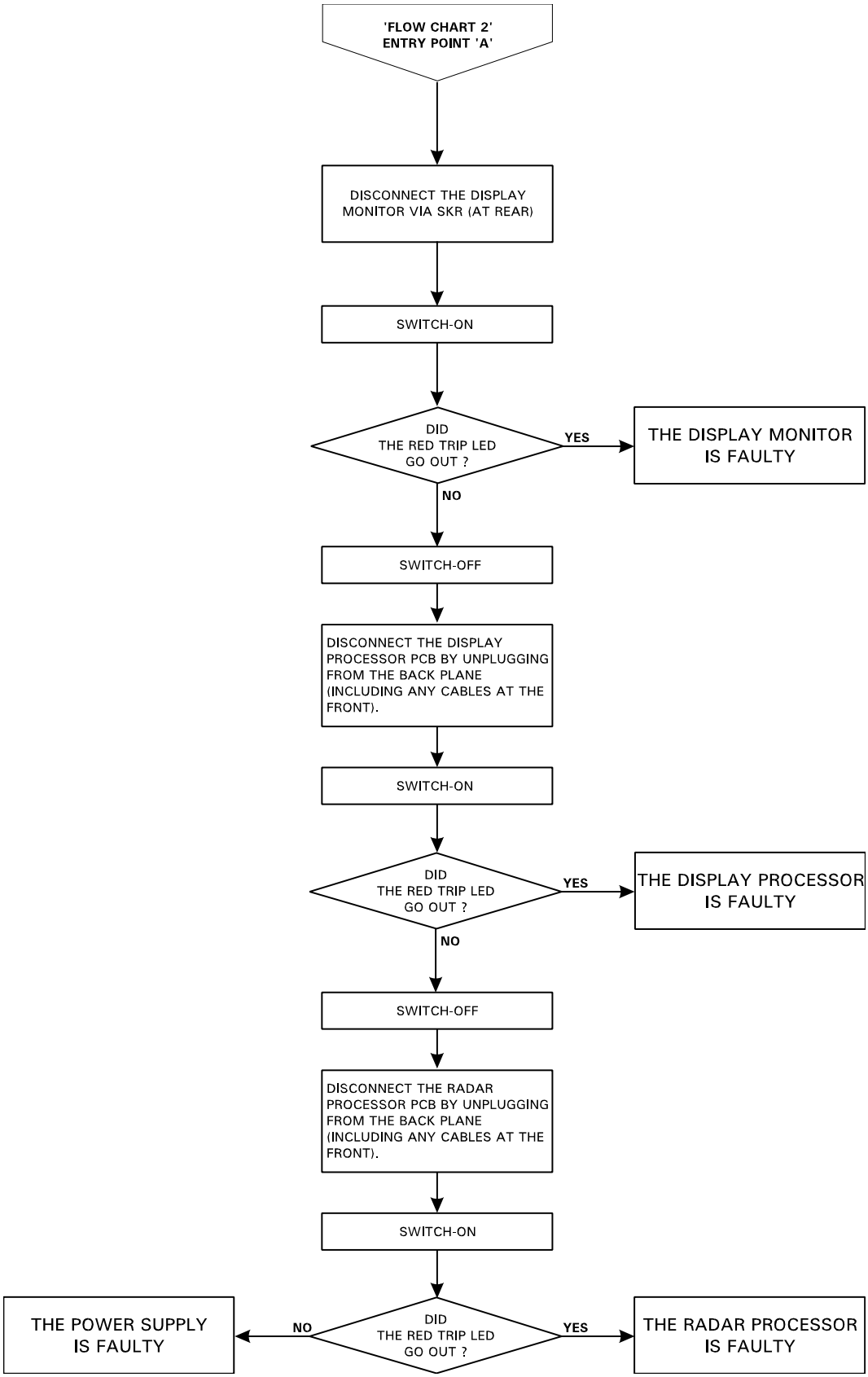
4. *The DISPLAY POWER SUPPLY has a thermal trip that shuts down the power supply if the heatsink temperature exceeds 110°C. This thermal trip will not activate the PSU RED TRIP LED. The YELLOW LED is similarly not affected. The PSU will self reset when the heatsink cools to approximately 90°C.*

5. *Use the following table to help with decisions on DISPLAY FLOW CHART 3.*

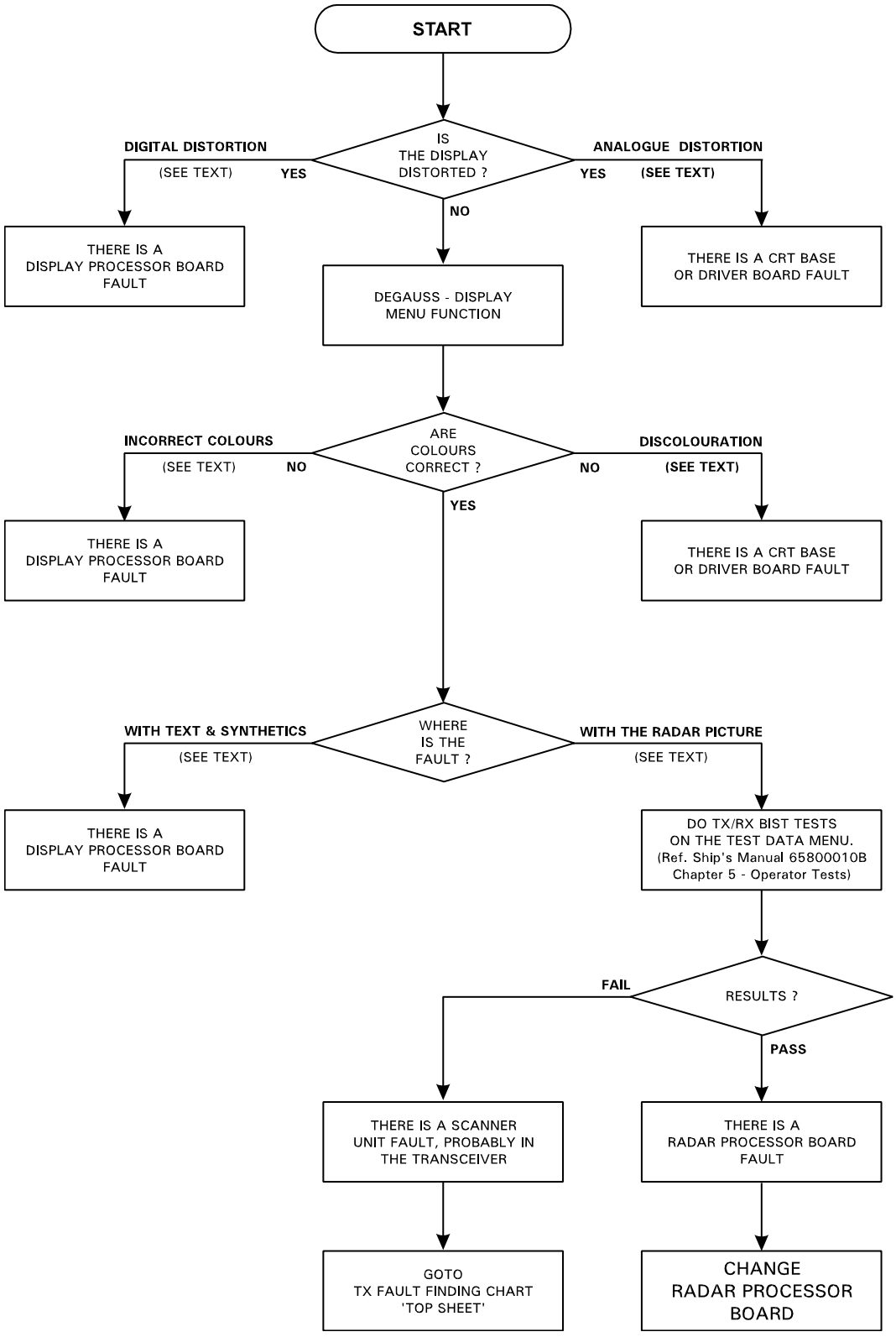
Decision	Answers	Example Symptoms
Is the display distorted ?	Digital Distortion	Broken or missing text, misaligned text.
	Analogue Distortion	Non-circular range rings.
Are the colours correct ?	Incorrect Colours	Different colours shown from those set.
	Discolouration	Set colours vary.
Where is the fault ?	Within Radar Picture	Missing targets, no gain, strange patterns.
	Text and Synthetics	Missing text, non-function of menus, strange patterns.

FLOW CHART 1 - DISPLAY UNIT FAULTS (No Picture)

FLOW CHART 2 - DISPLAY UNIT FAULTS (No Picture)



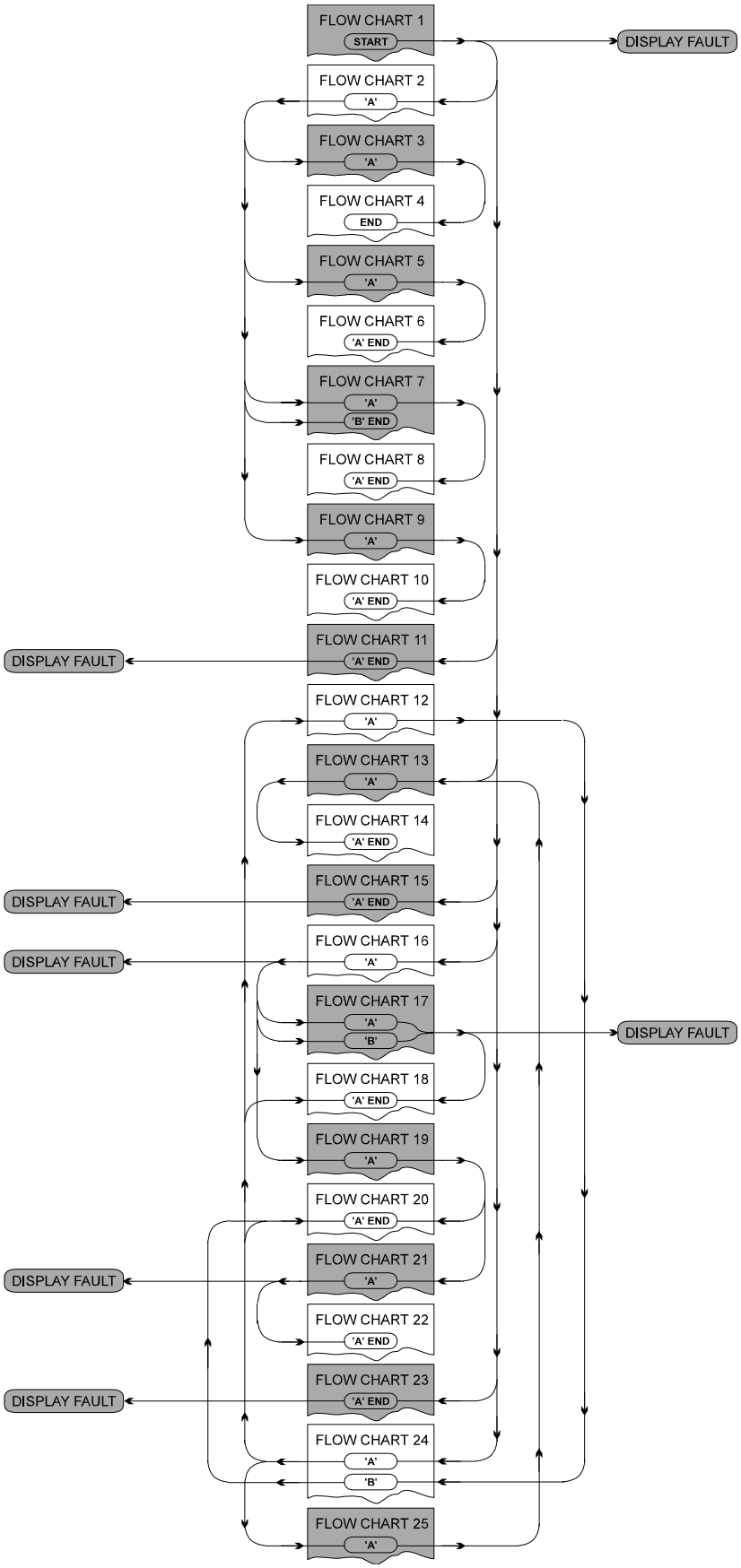
FLOW CHART 3 - DISPLAY UNIT FAULTS (With Picture)



2.2 S-Band Scanner Unit

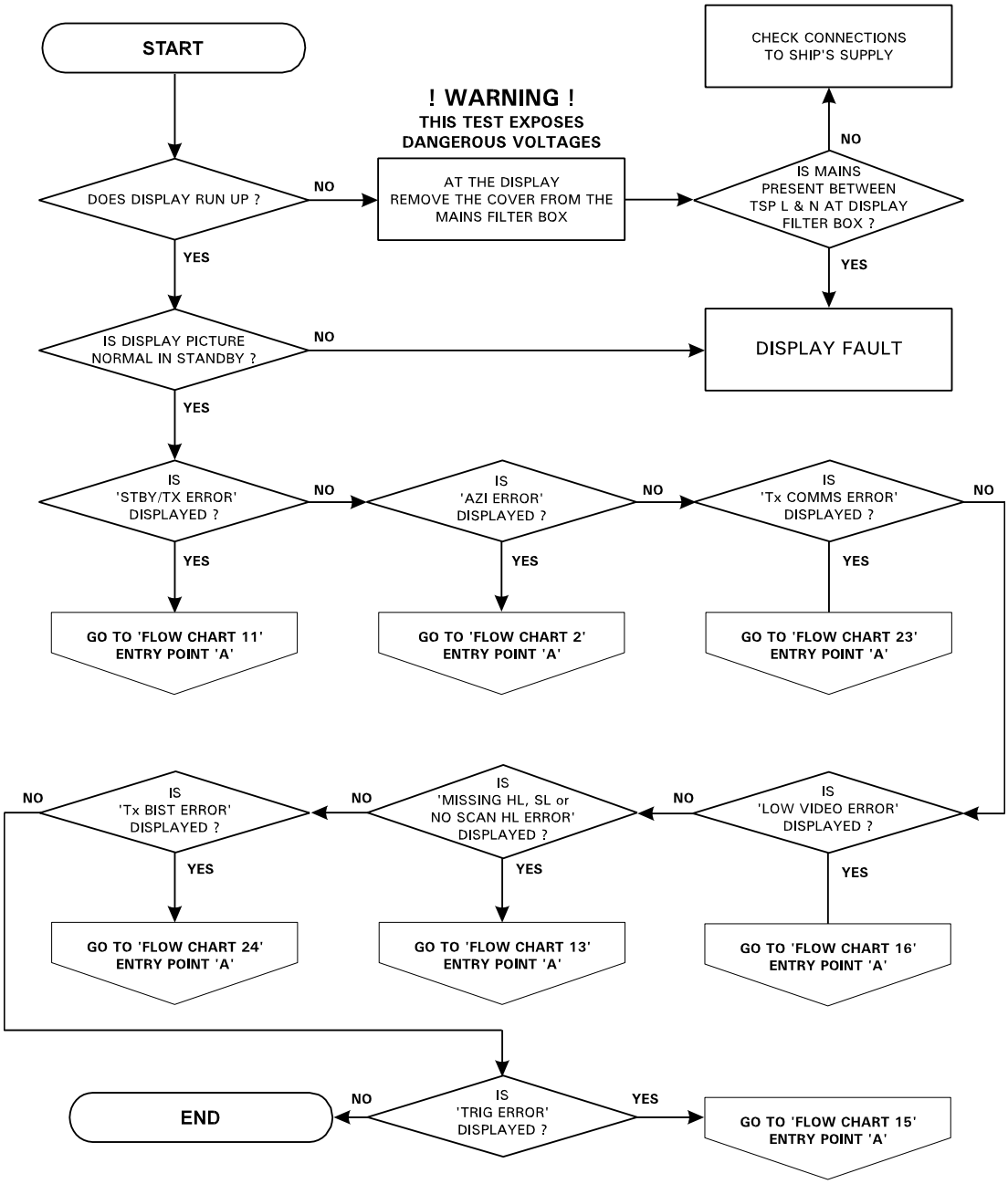
Flow charts for isolating faults on S-Band Scanner Units are given on the following pages. The lead sheet shows the overall flow through individual Flow Charts 1 to 25.

OVERALL FLOW CHART - S-BAND SCANNER FAULTS

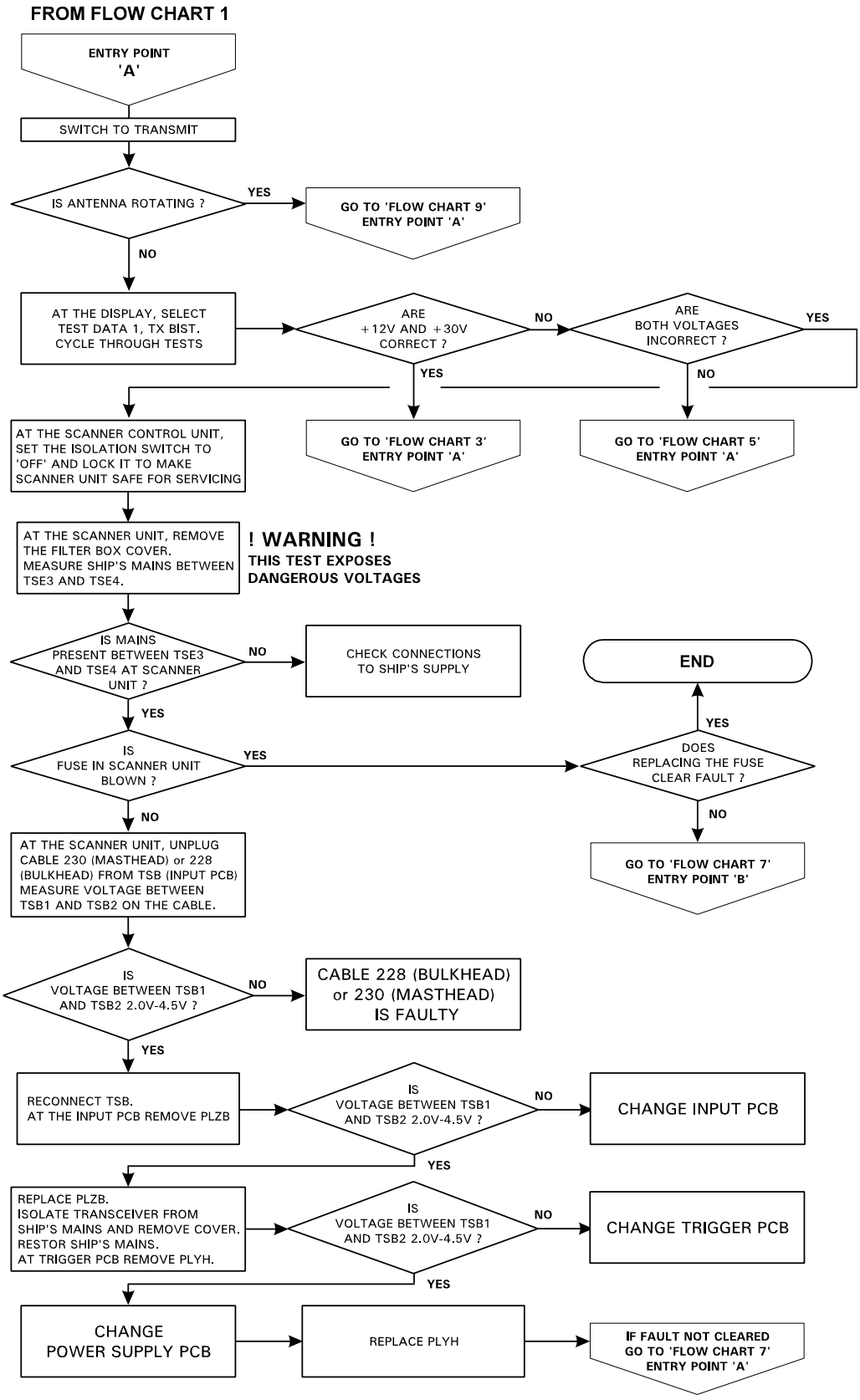


FLOW CHART 1 - S-BAND SCANNER FAULTS

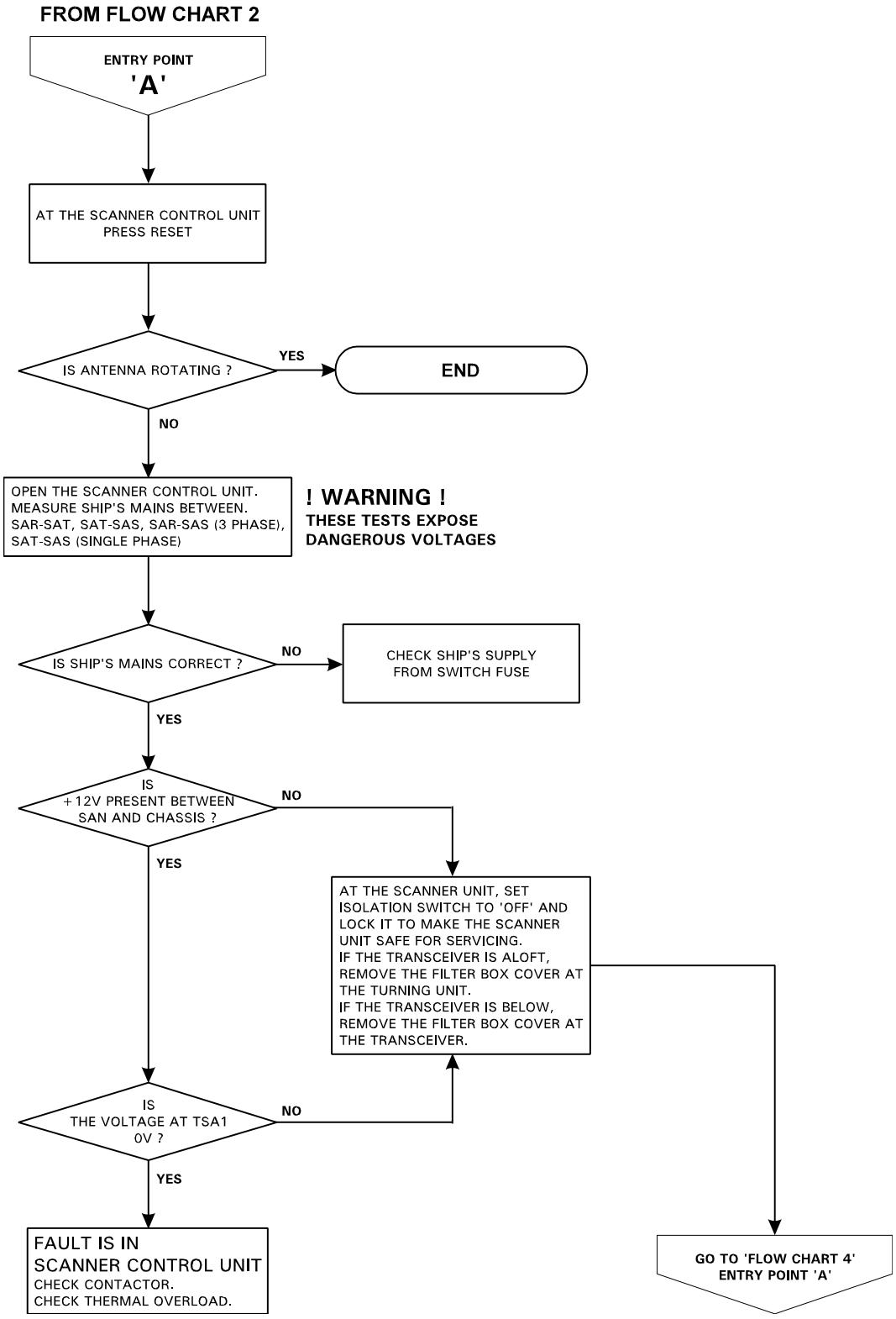
! WARNING !
WHEN THE COVERS ARE REMOVED FROM THE EQUIPMENT, DANGEROUS VOLTAGES ARE EXPOSED. ONLY QUALIFIED PERSONS SHOULD WORK ON THE EQUIPMENT WHEN POWER IS APPLIED. ALWAYS ISOLATE THE TURNING UNIT FROM THE SHIP'S SUPPLY BEFORE WORKING ON IT. ALWAYS ISOLATE THE TRANSCEIVER FROM THE SHIP'S SUPPLY WHILE REMOVING OR REPLACING THE TRANSCEIVER COVER



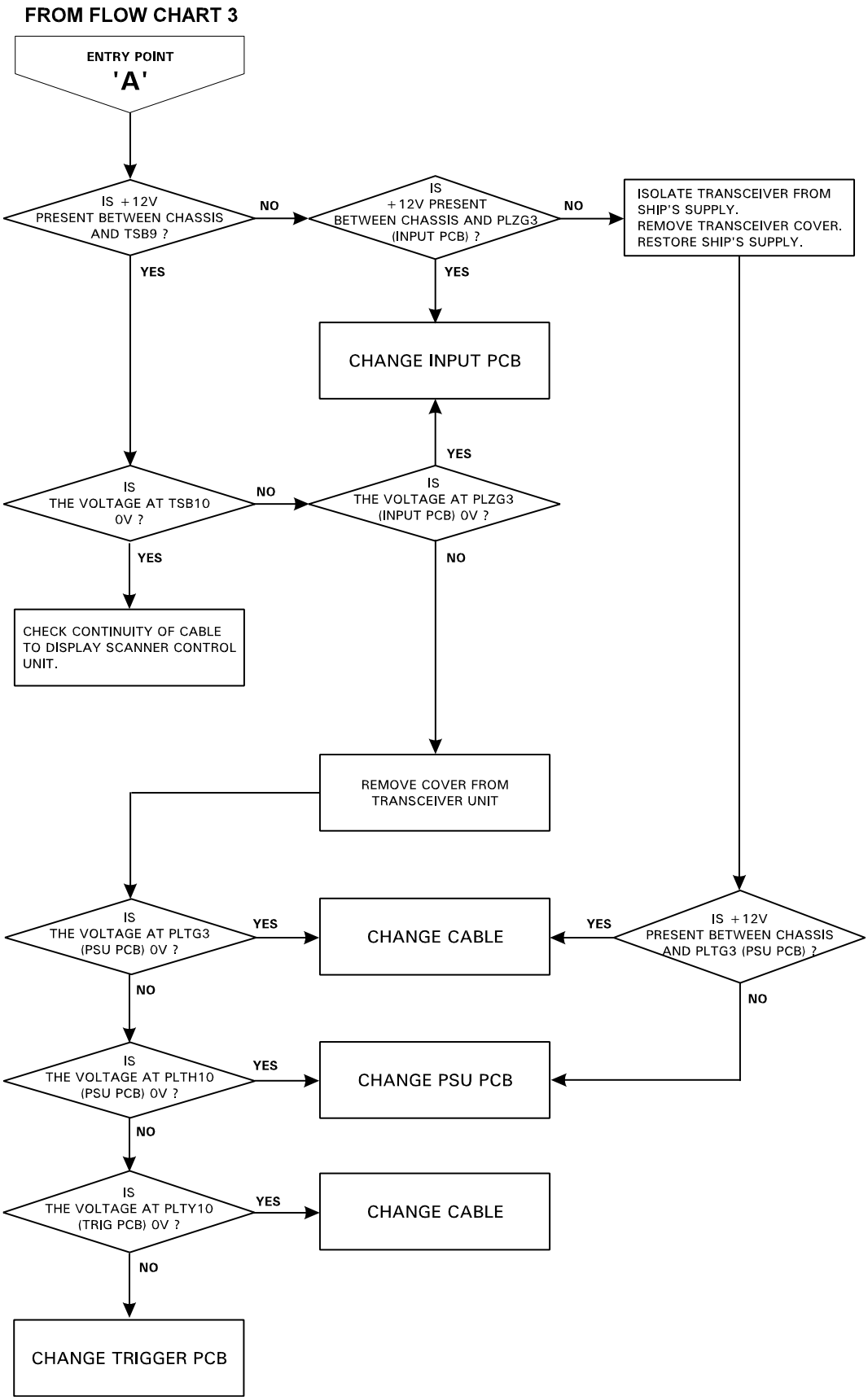
FLOW CHART 2 - S-BAND SCANNER FAULTS
('AZI ERROR' Displayed)



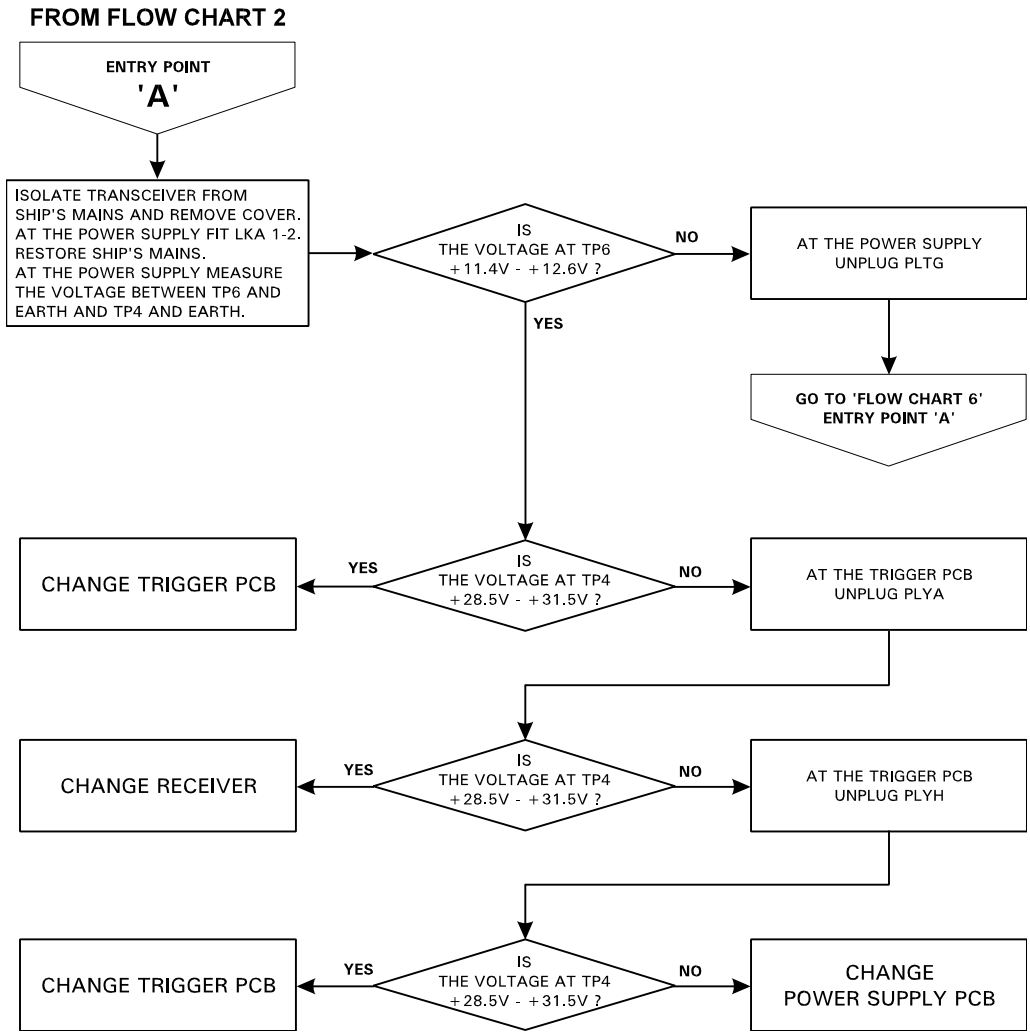
FLOW CHART 3 - S-BAND SCANNER FAULTS



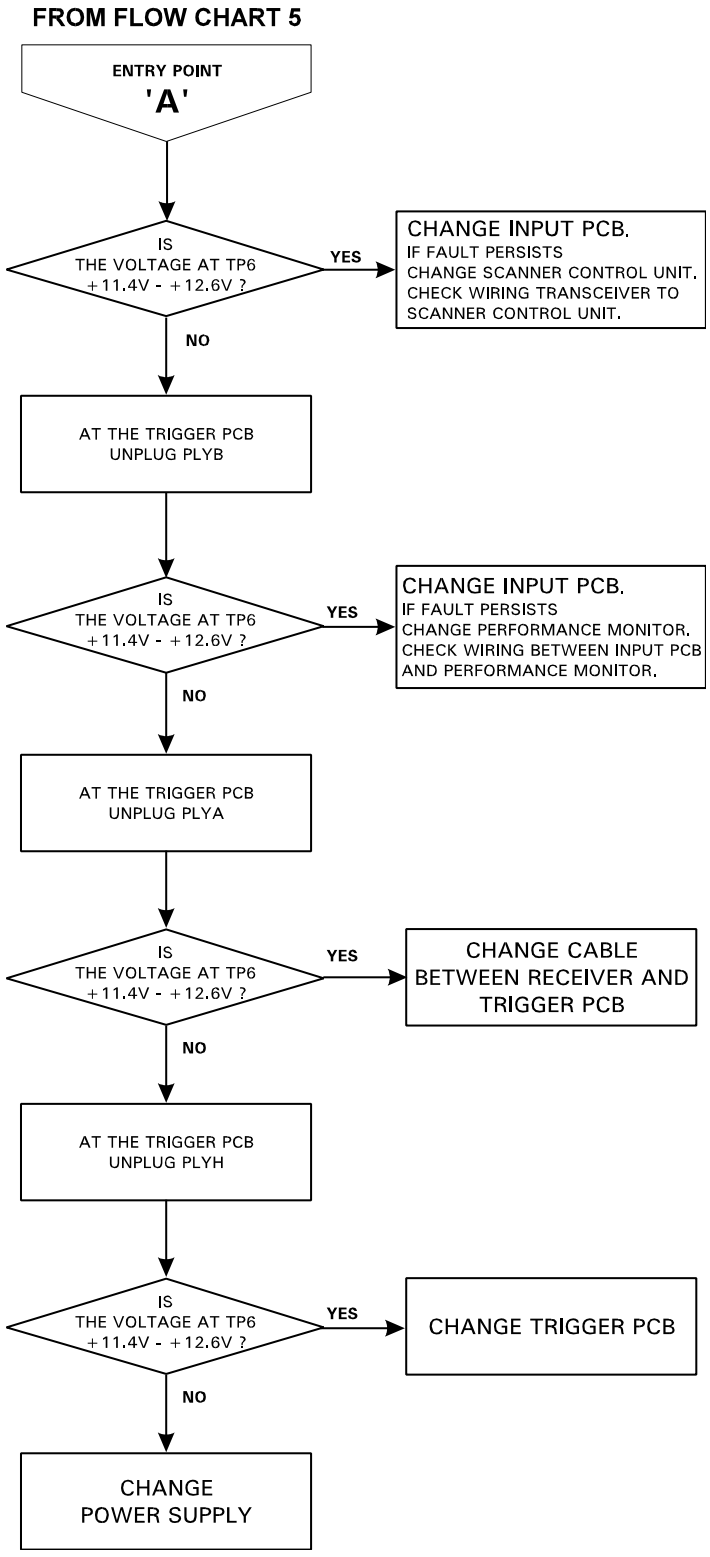
FLOW CHART 4 - S-BAND SCANNER FAULTS



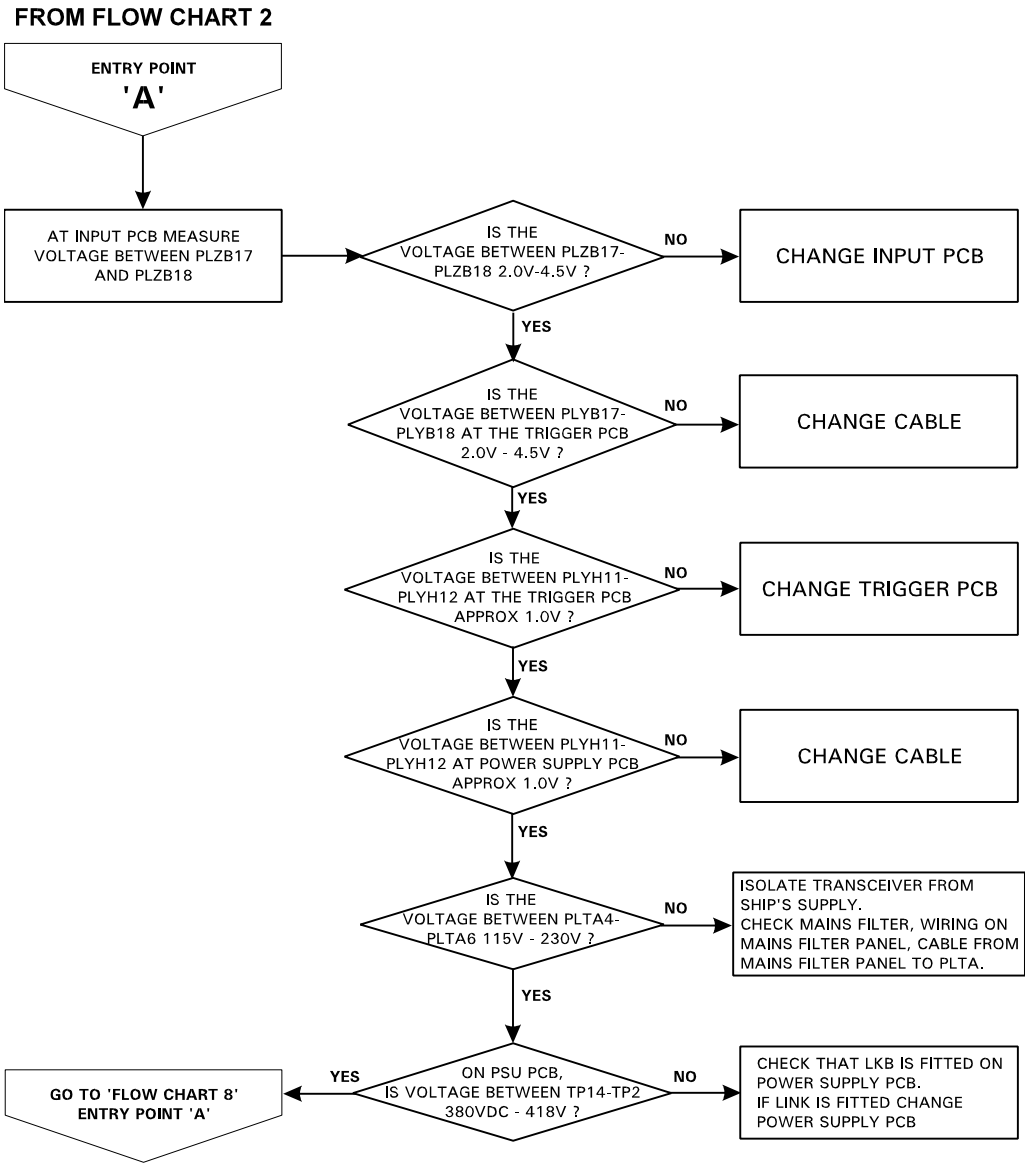
FLOW CHART 5 - S-BAND SCANNER FAULTS



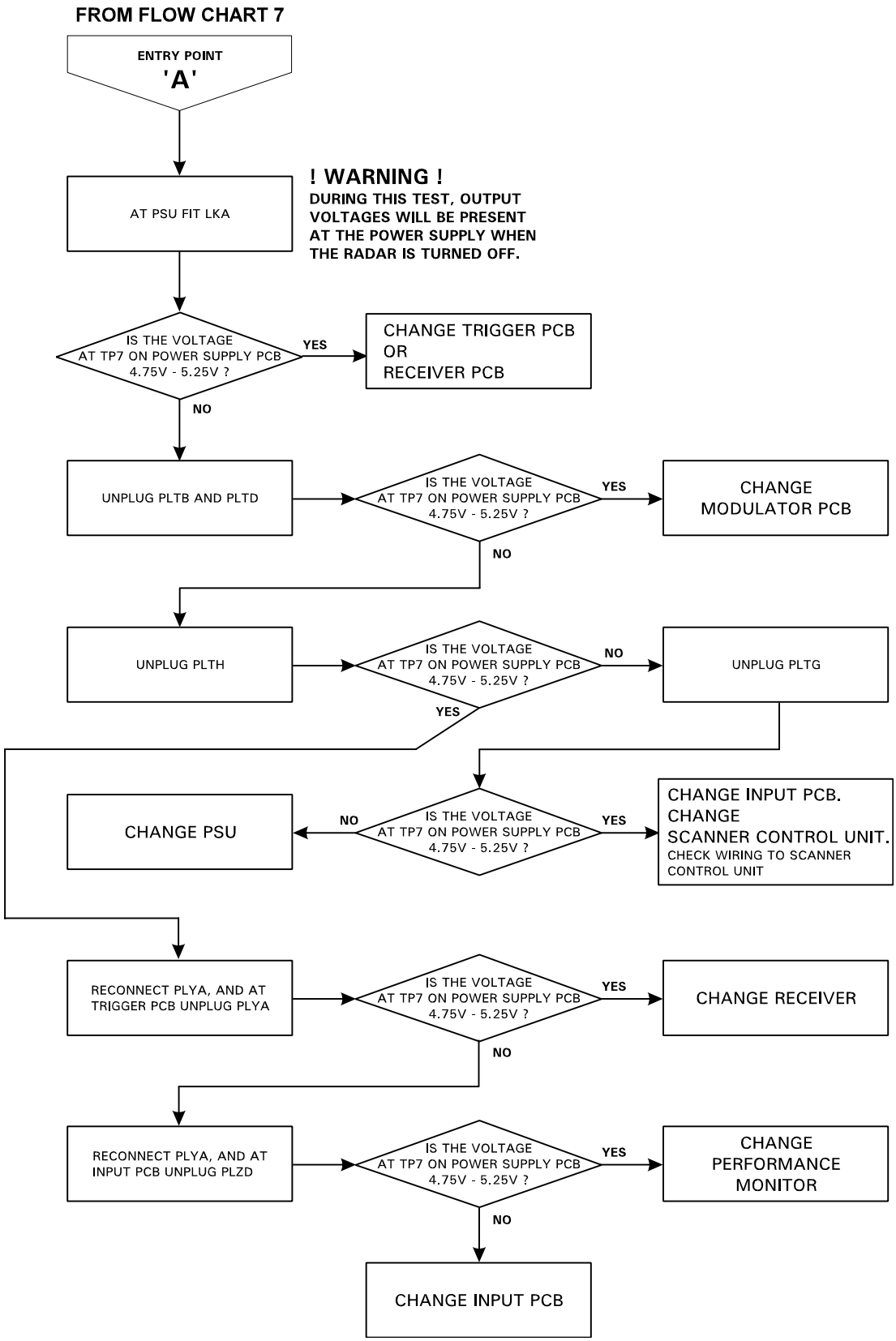
FLOW CHART 6 - S-BAND SCANNER FAULTS



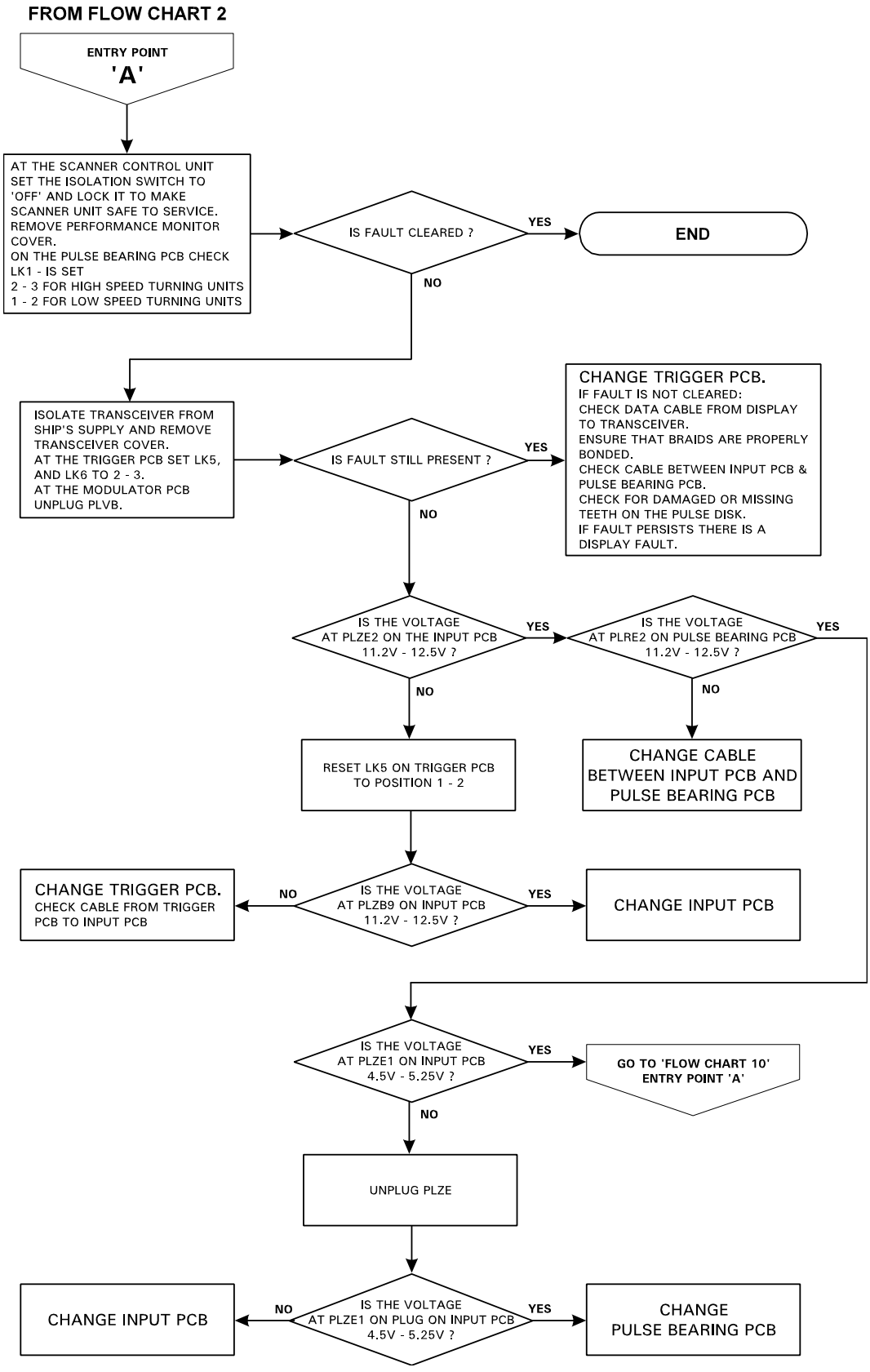
FLOW CHART 7 - S-BAND SCANNER FAULTS



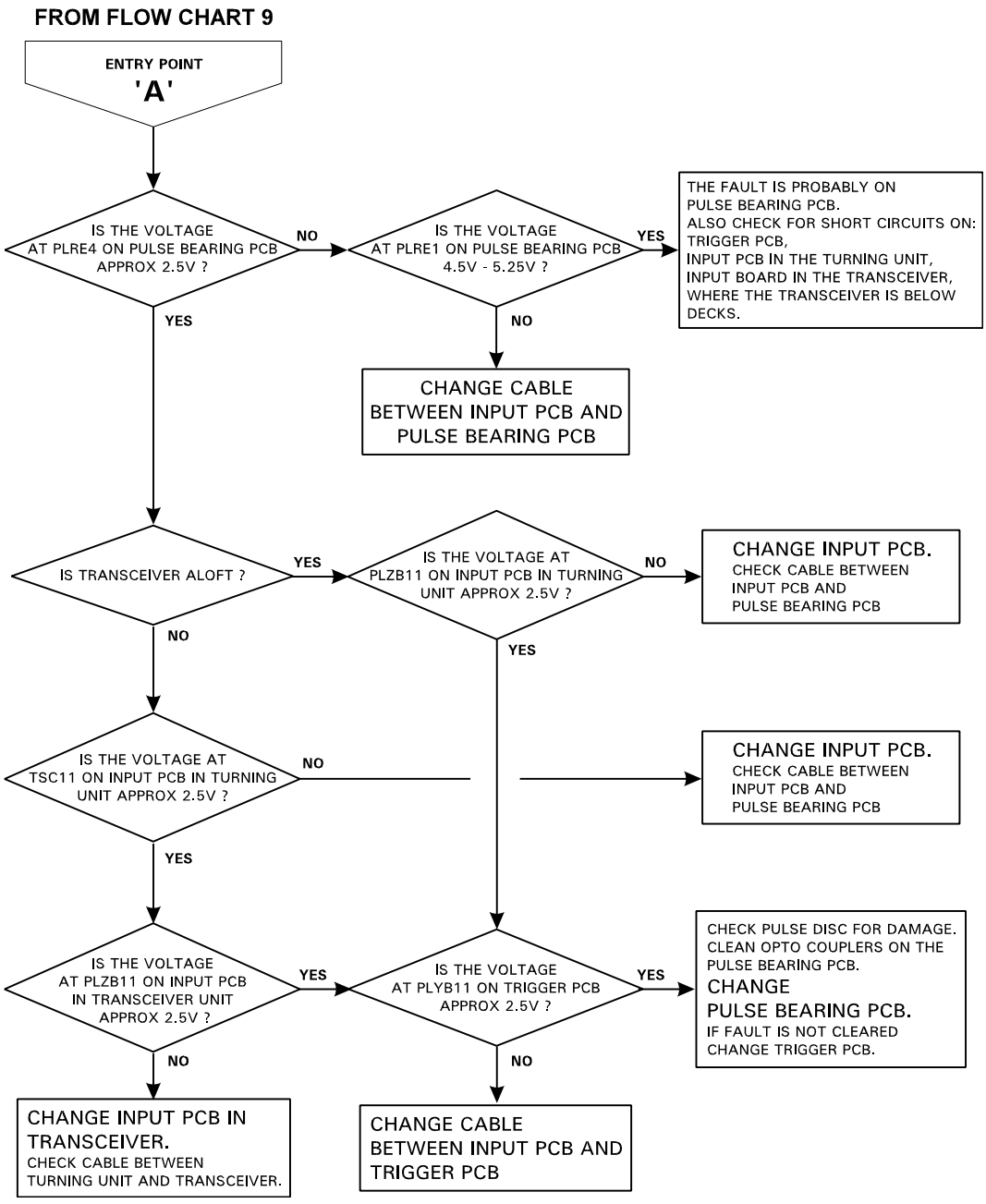
FLOW CHART 8 - S-BAND SCANNER FAULTS



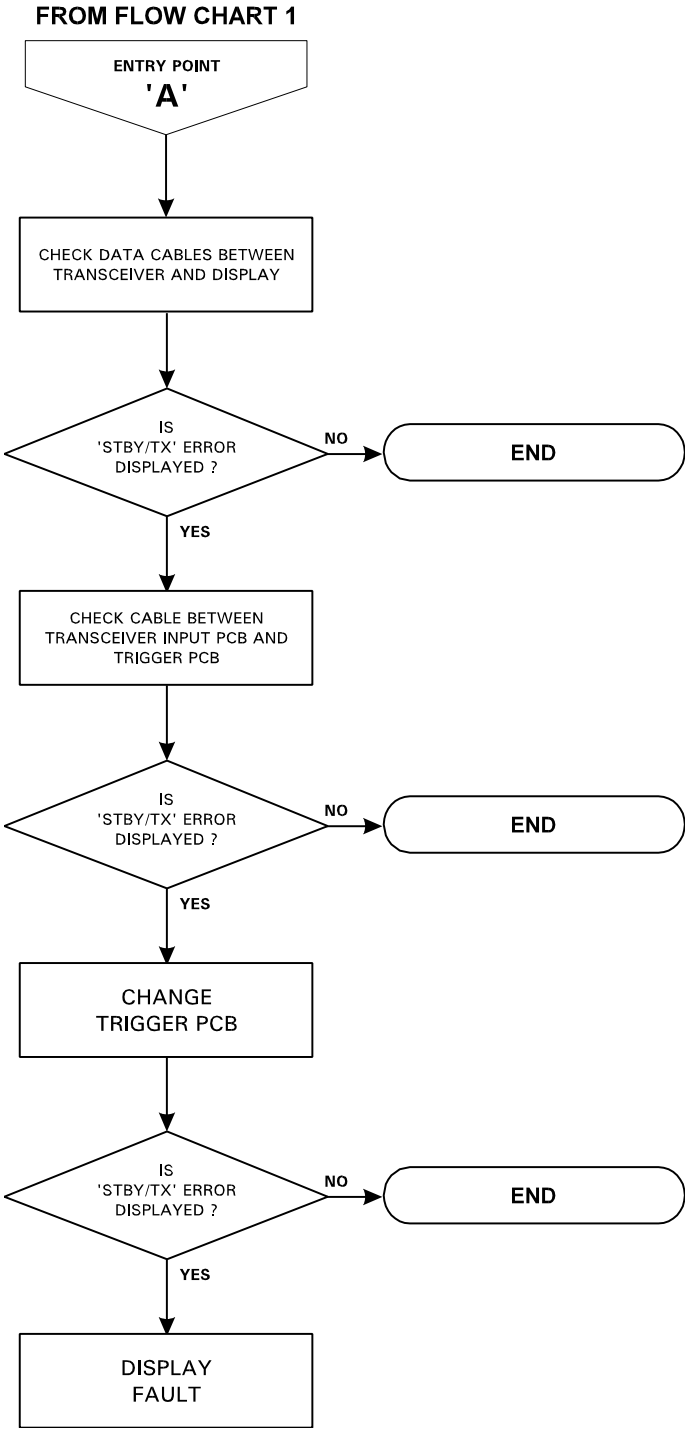
FLOW CHART 9 - S-BAND SCANNER FAULTS



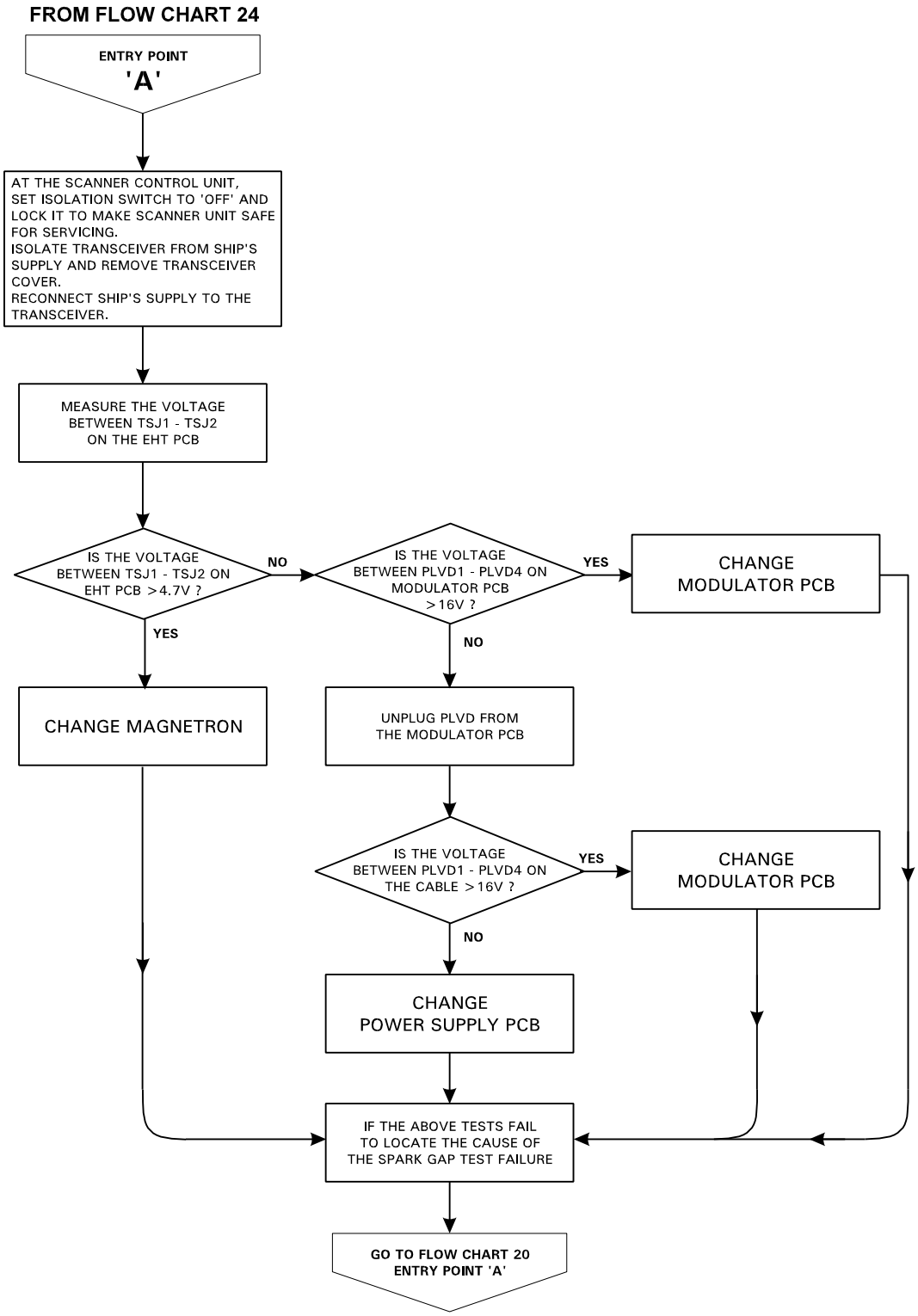
FLOW CHART 10 - S-BAND SCANNER FAULTS



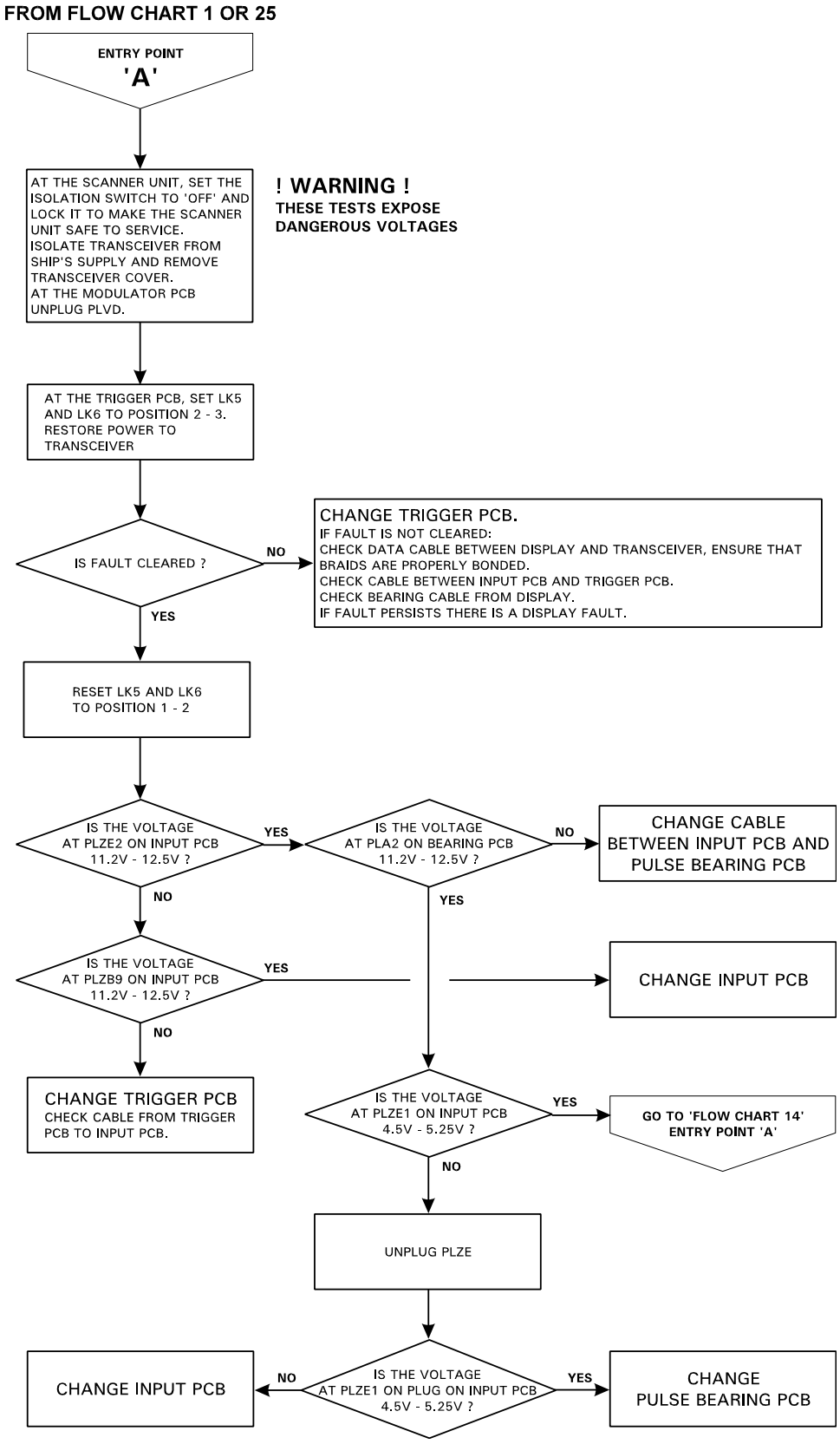
FLOW CHART 11 - S-BAND SCANNER FAULTS ('STBY/TX ERROR' Displayed)



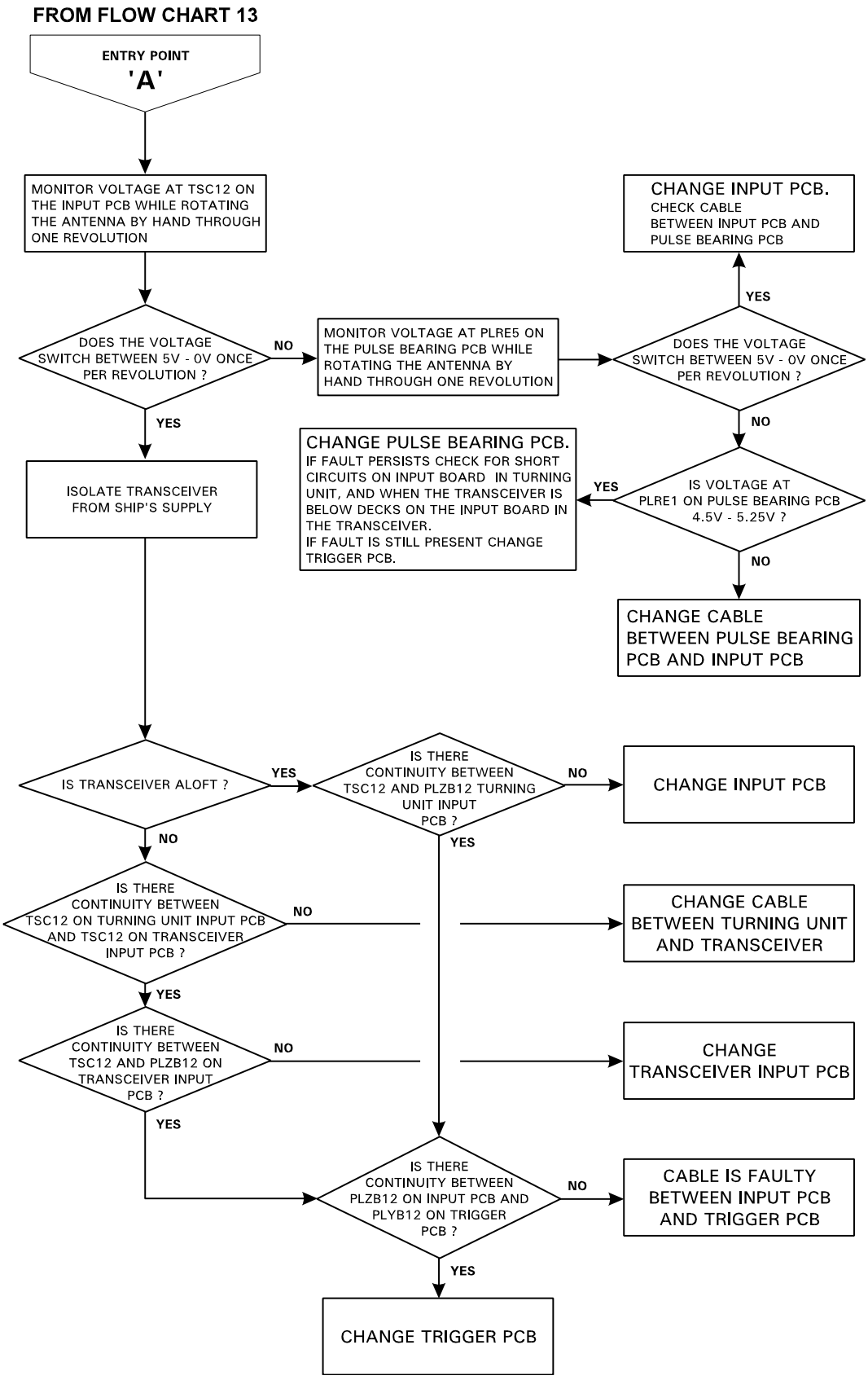
FLOW CHART 12 - S-BAND SCANNER FAULTS
('SPARK GAP TEST' Failure)



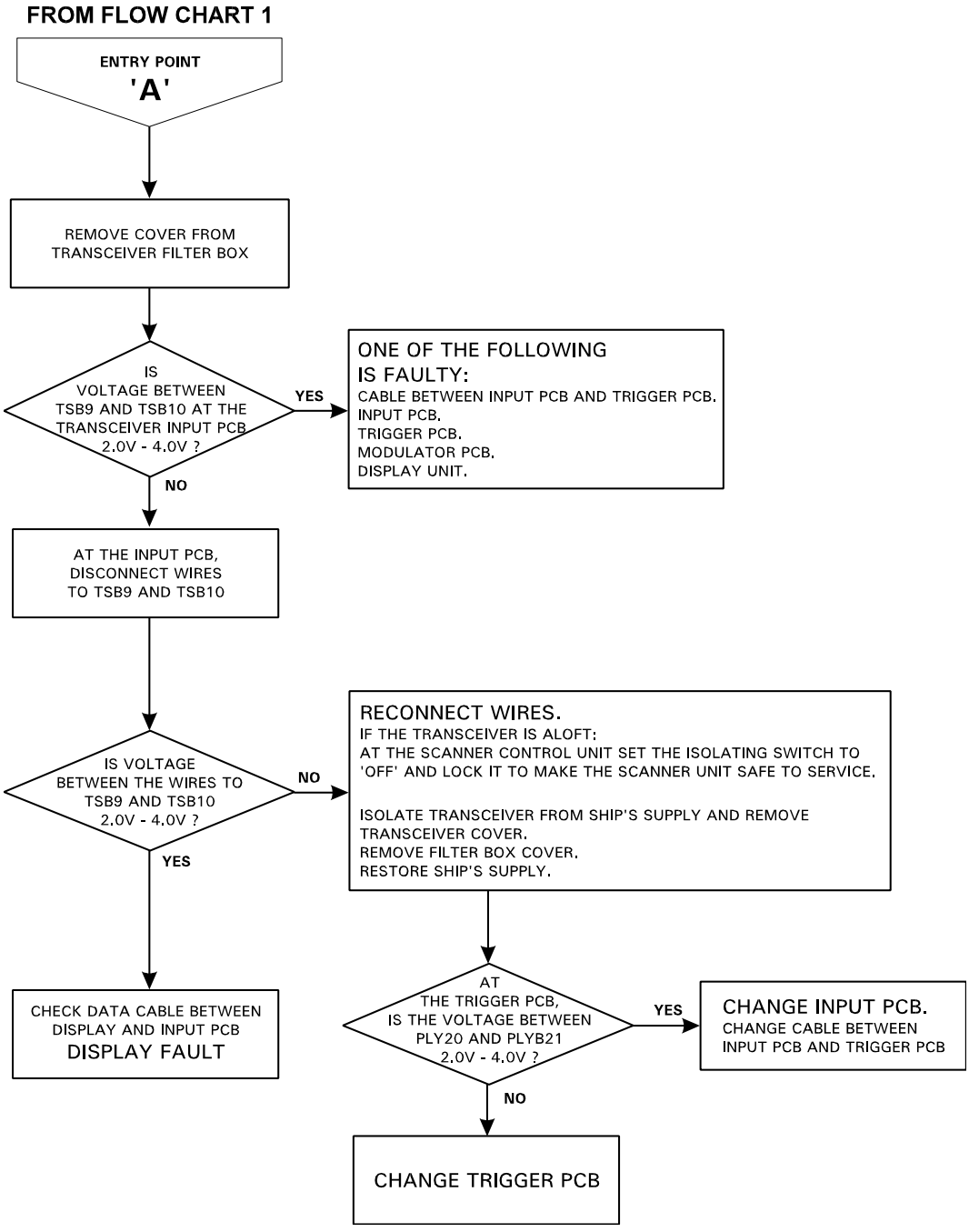
FLOW CHART 13 - S-BAND SCANNER FAULTS ('MISSING HMKR ERROR' Displayed)



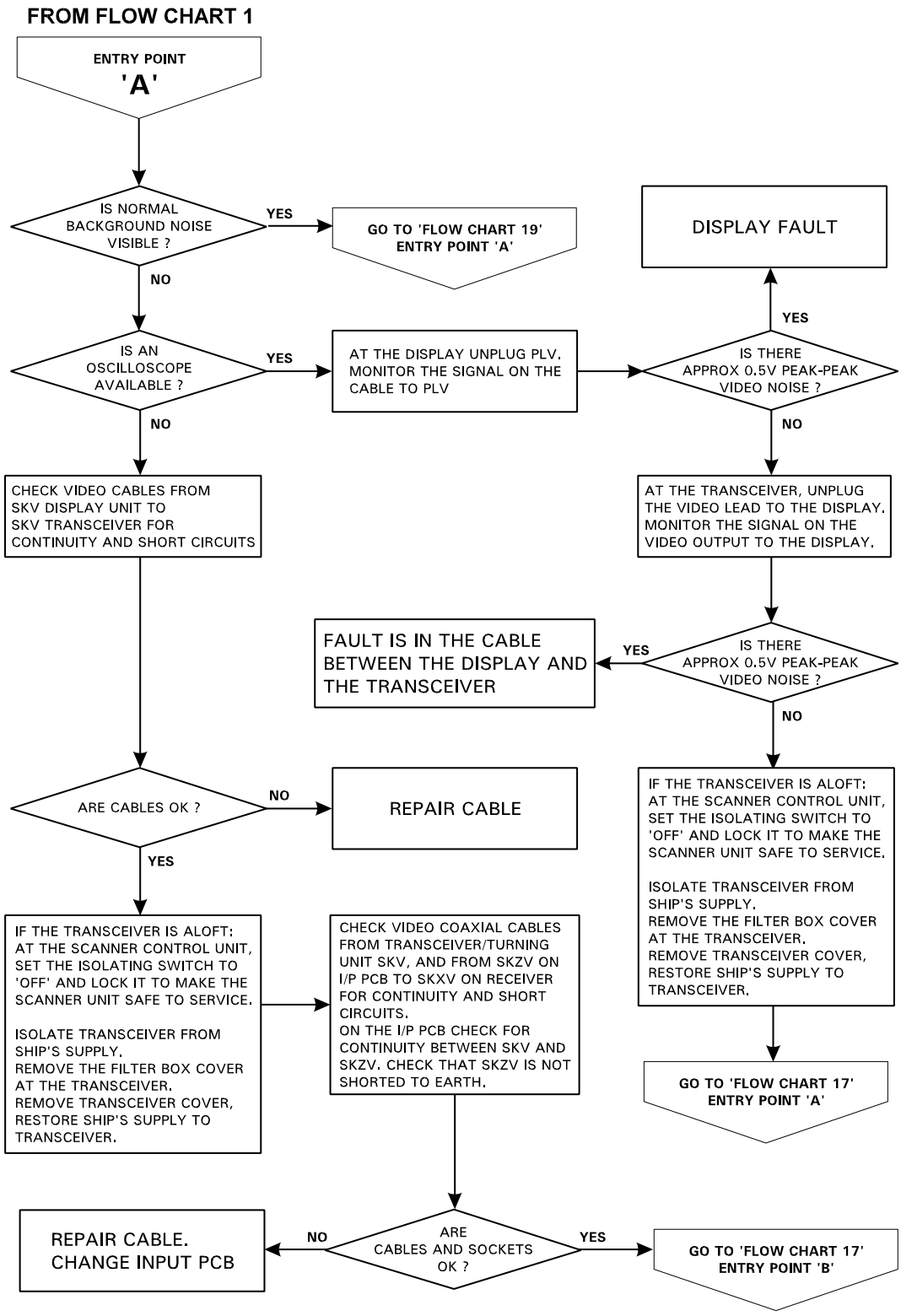
FLOW CHART 14 - S-BAND SCANNER FAULTS



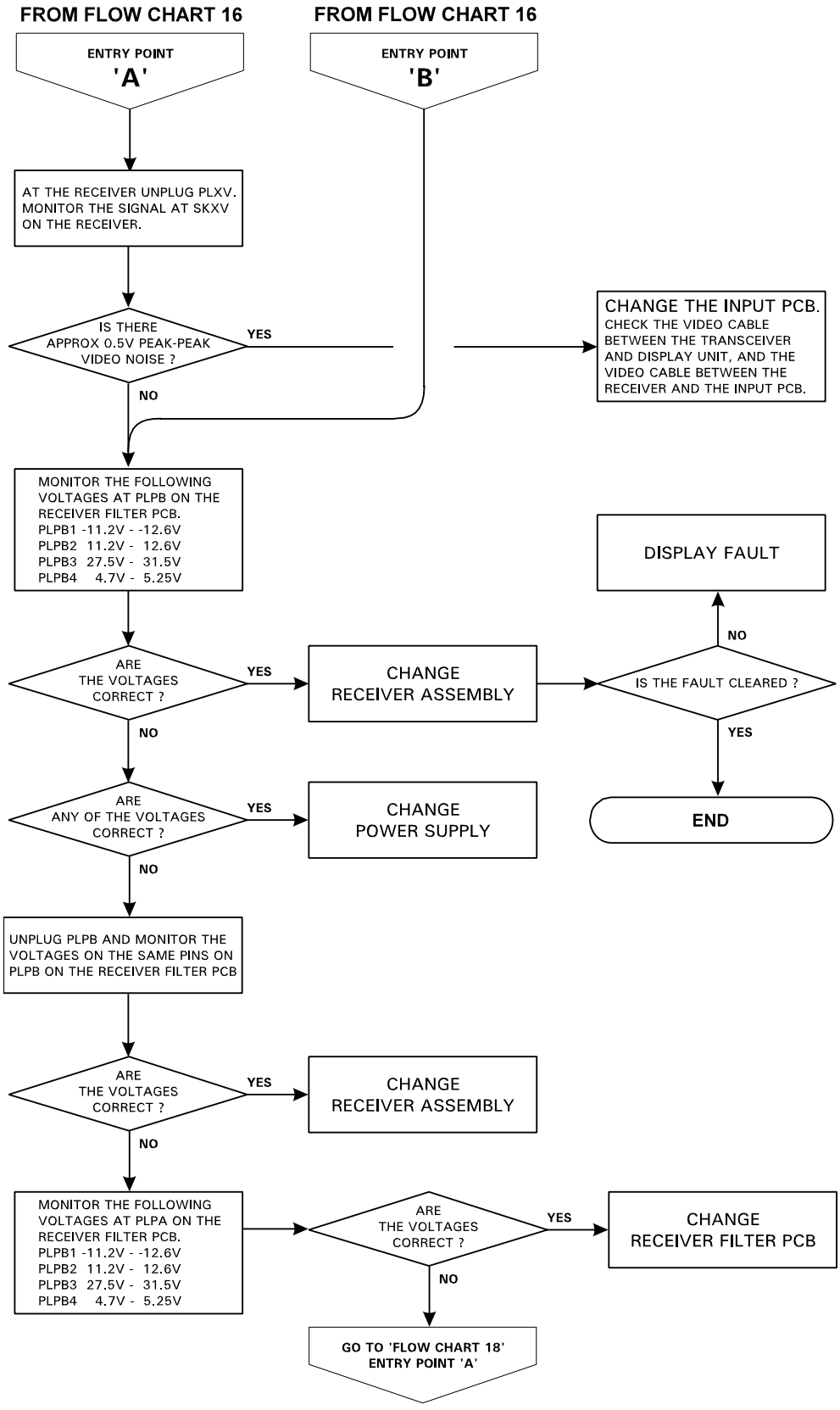
FLOW CHART 15 - S-BAND SCANNER FAULTS ('TRIGGER ERROR' Displayed)



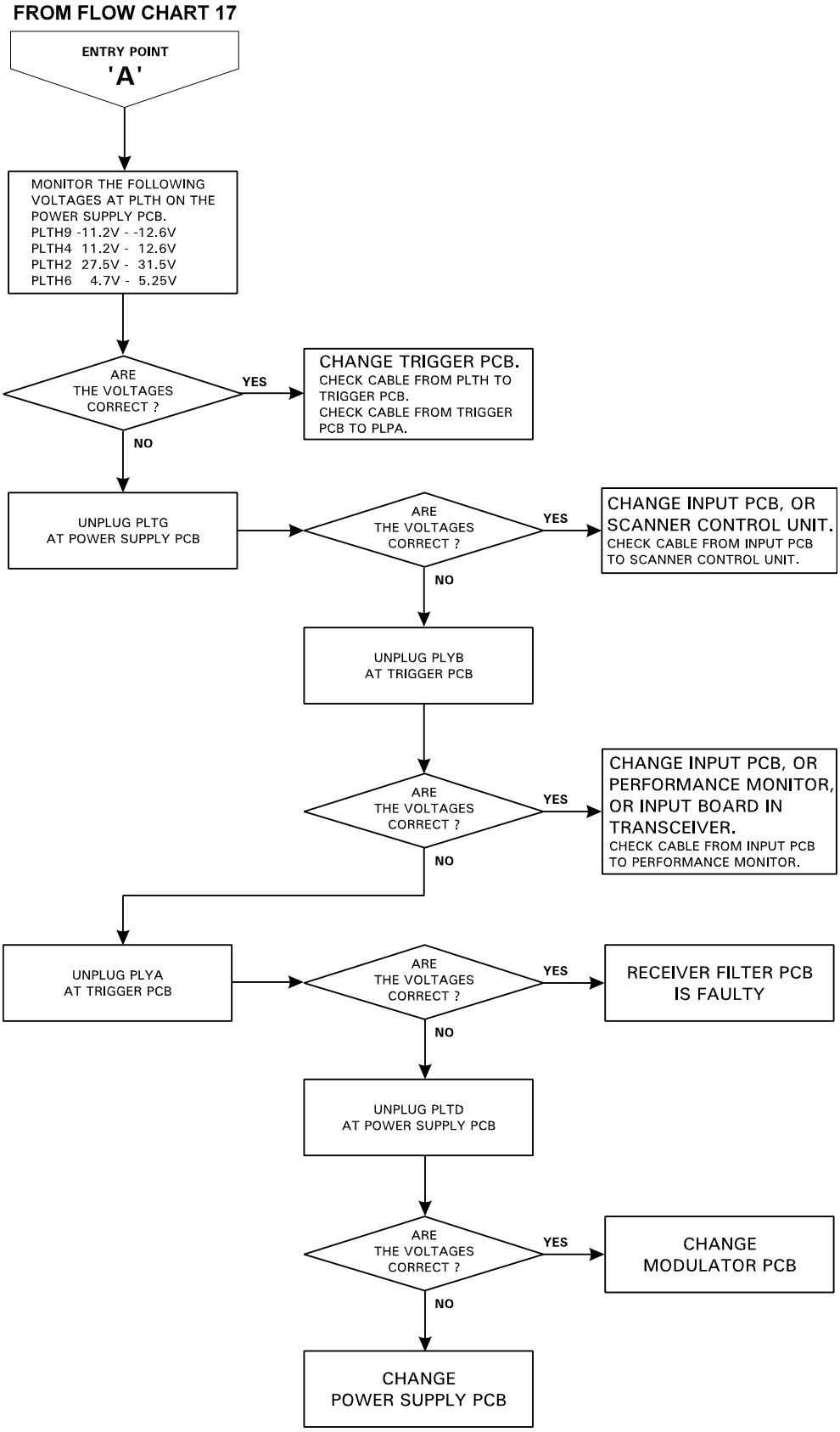
FLOW CHART 16 - S-BAND SCANNER FAULTS
('TX ERROR'/'LOW VIDEO ERROR' Displayed)



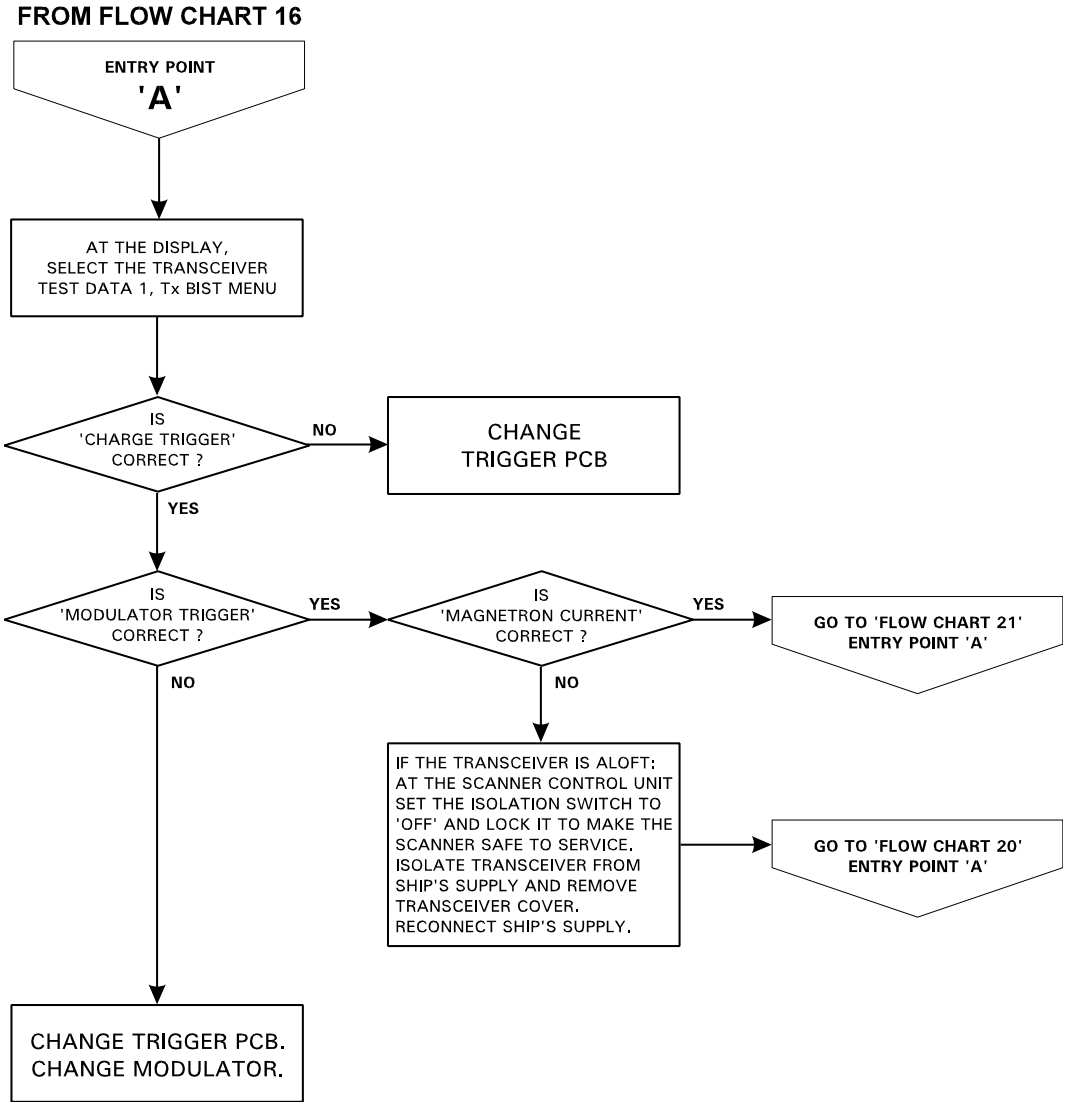
FLOW CHART 17 - S-BAND SCANNER FAULTS



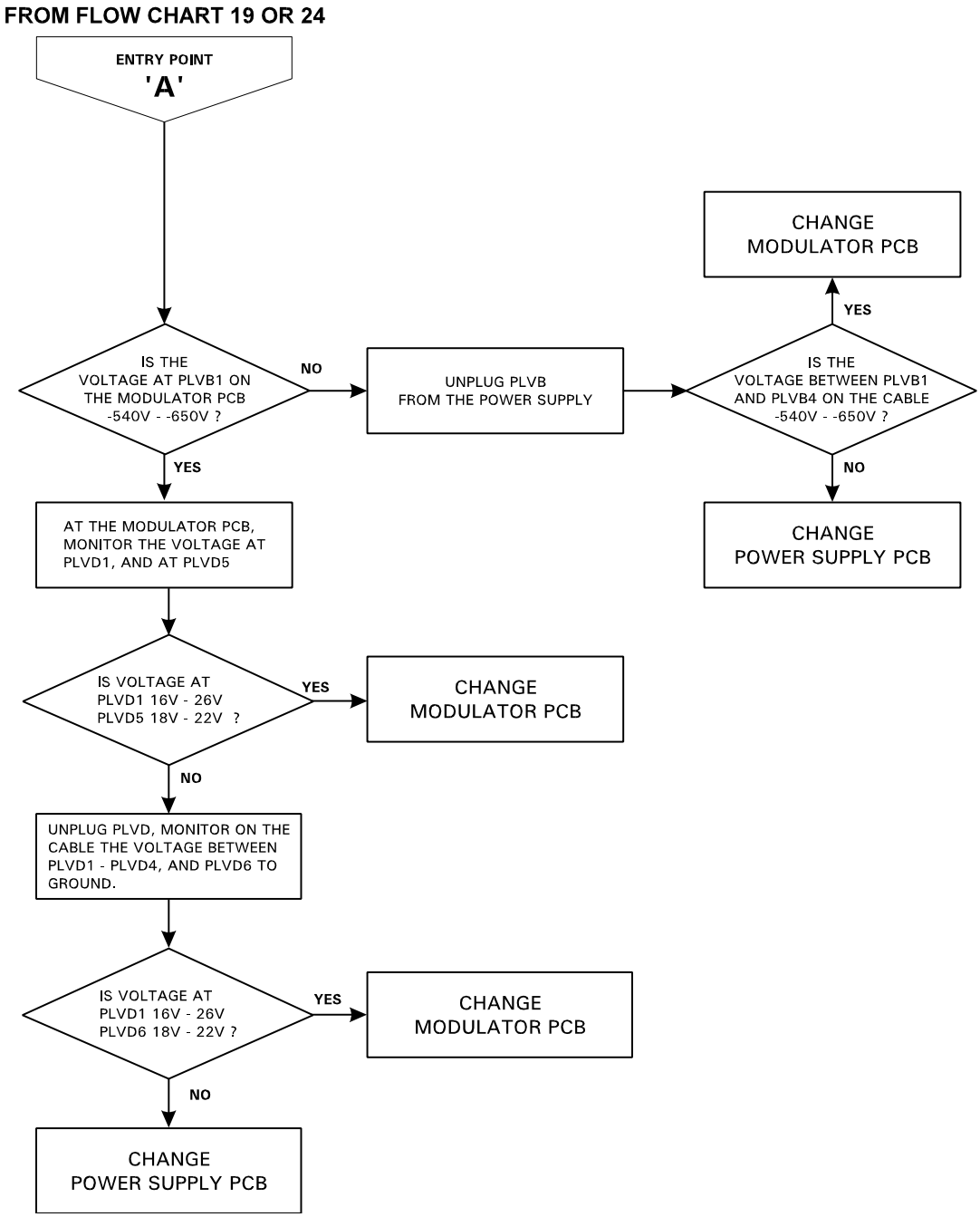
FLOW CHART 18 - S-BAND SCANNER FAULTS



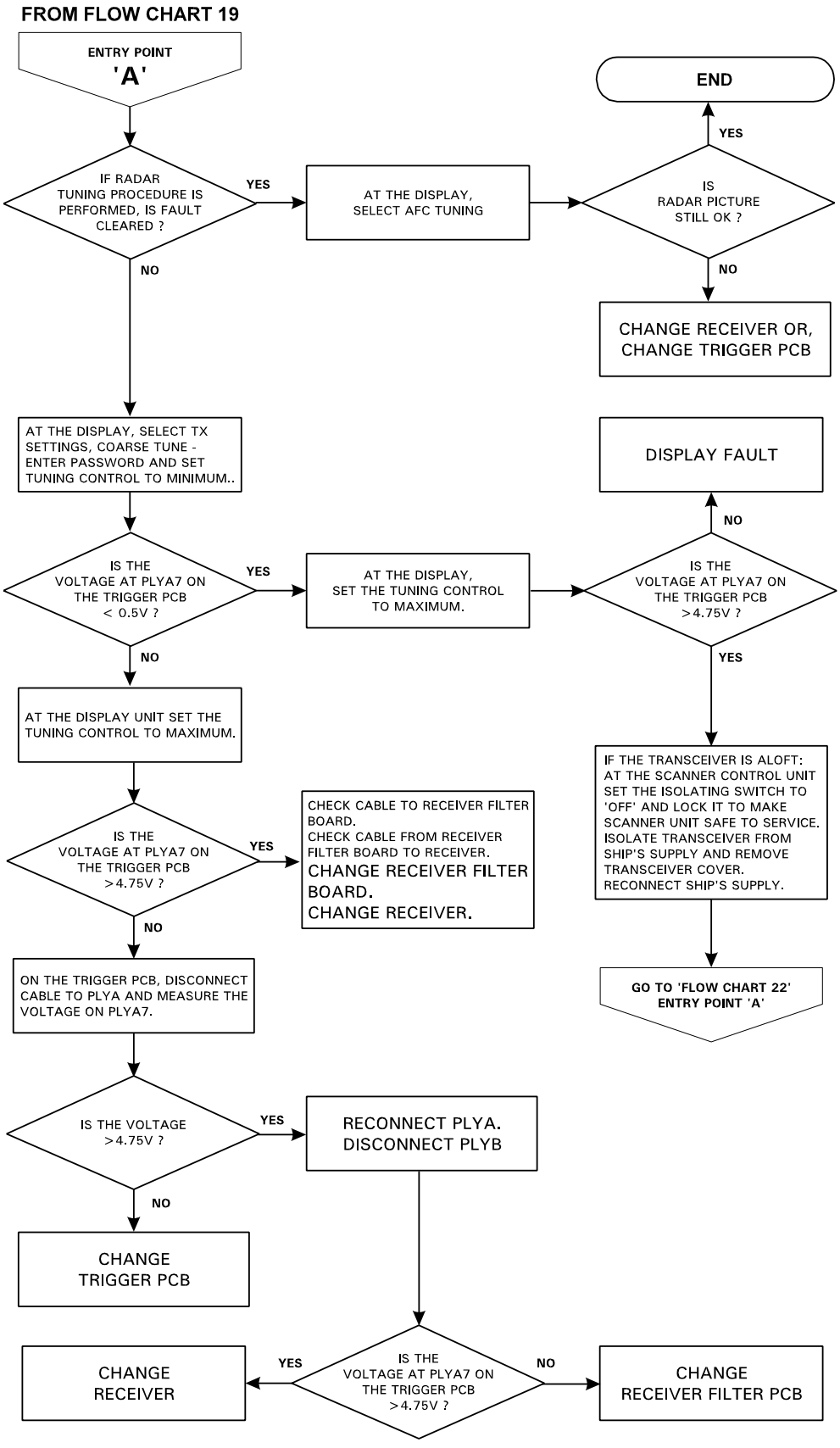
FLOW CHART 19 - S-BAND SCANNER FAULTS ('LOW VIDEO ERROR' Displayed)



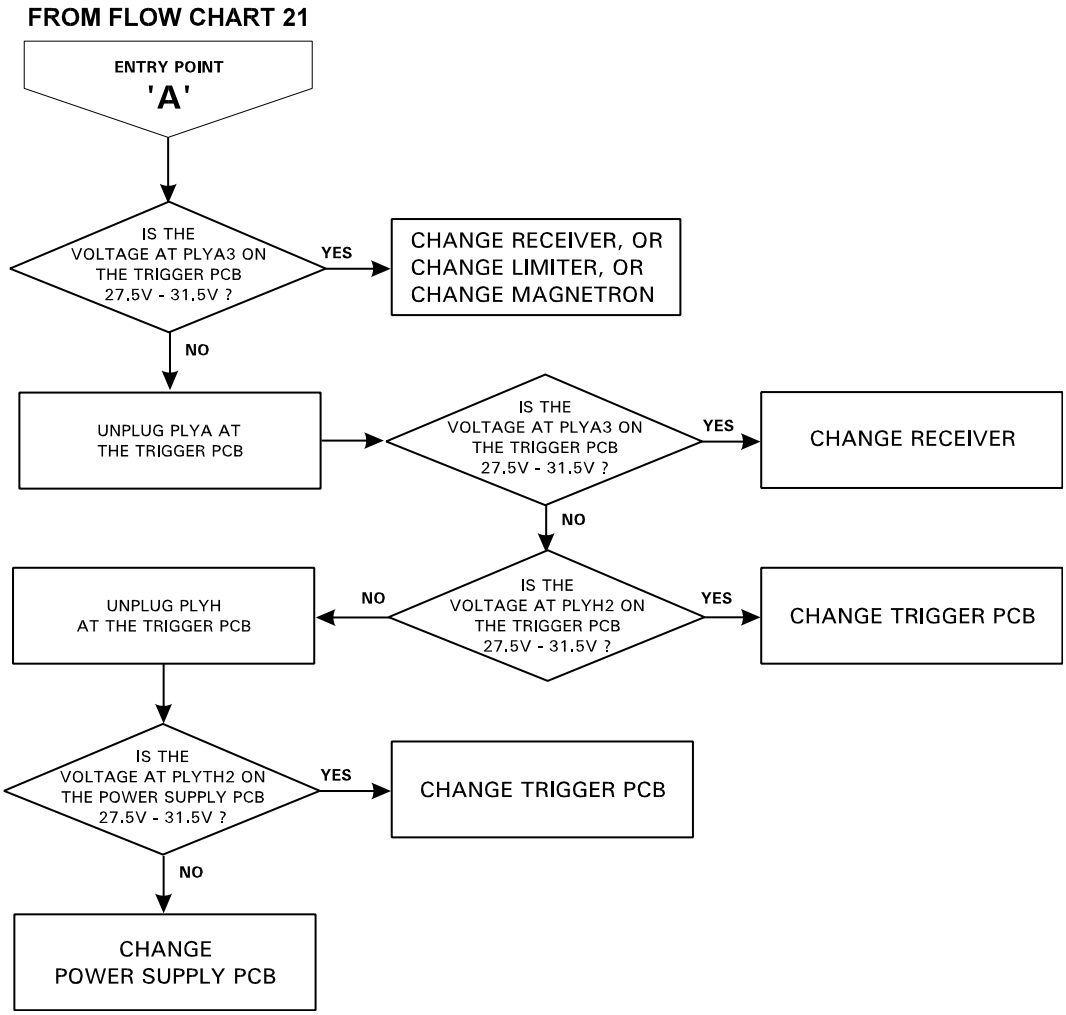
FLOW CHART 20 - S-BAND SCANNER FAULTS



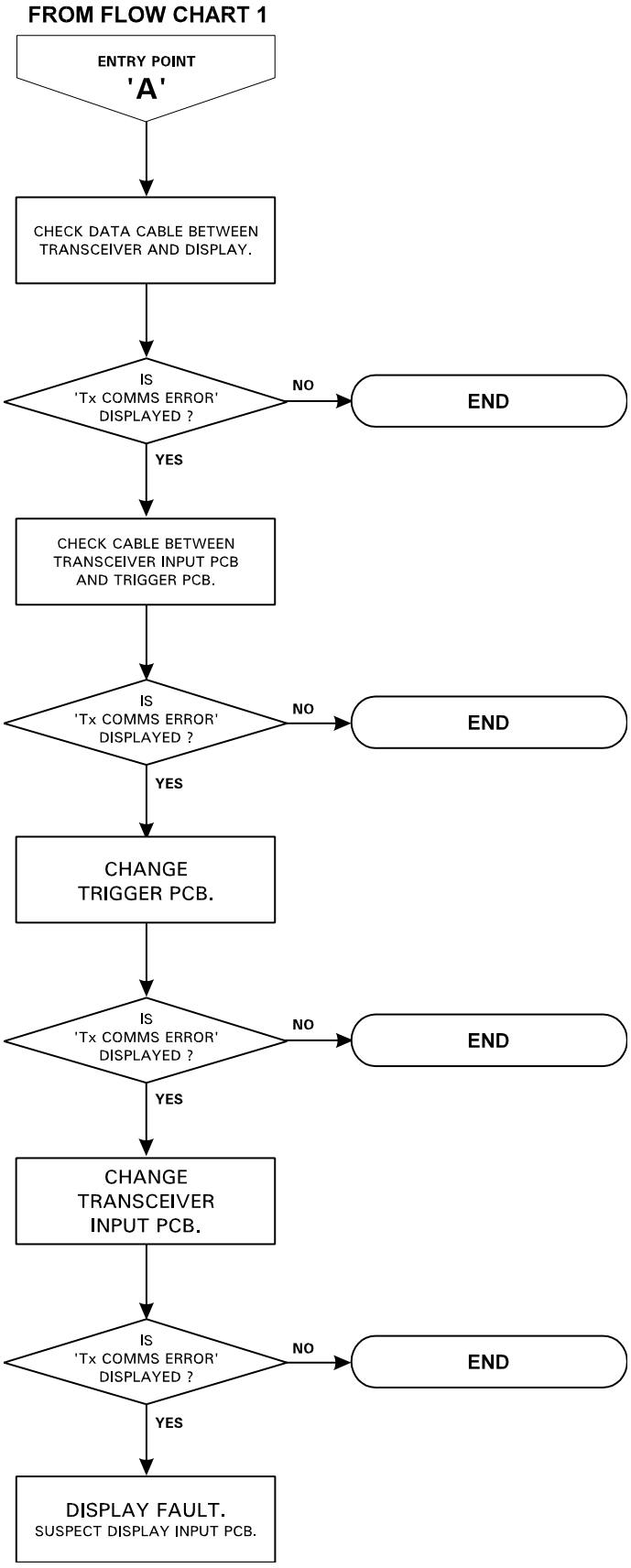
FLOW CHART 21 - S-BAND SCANNER FAULTS



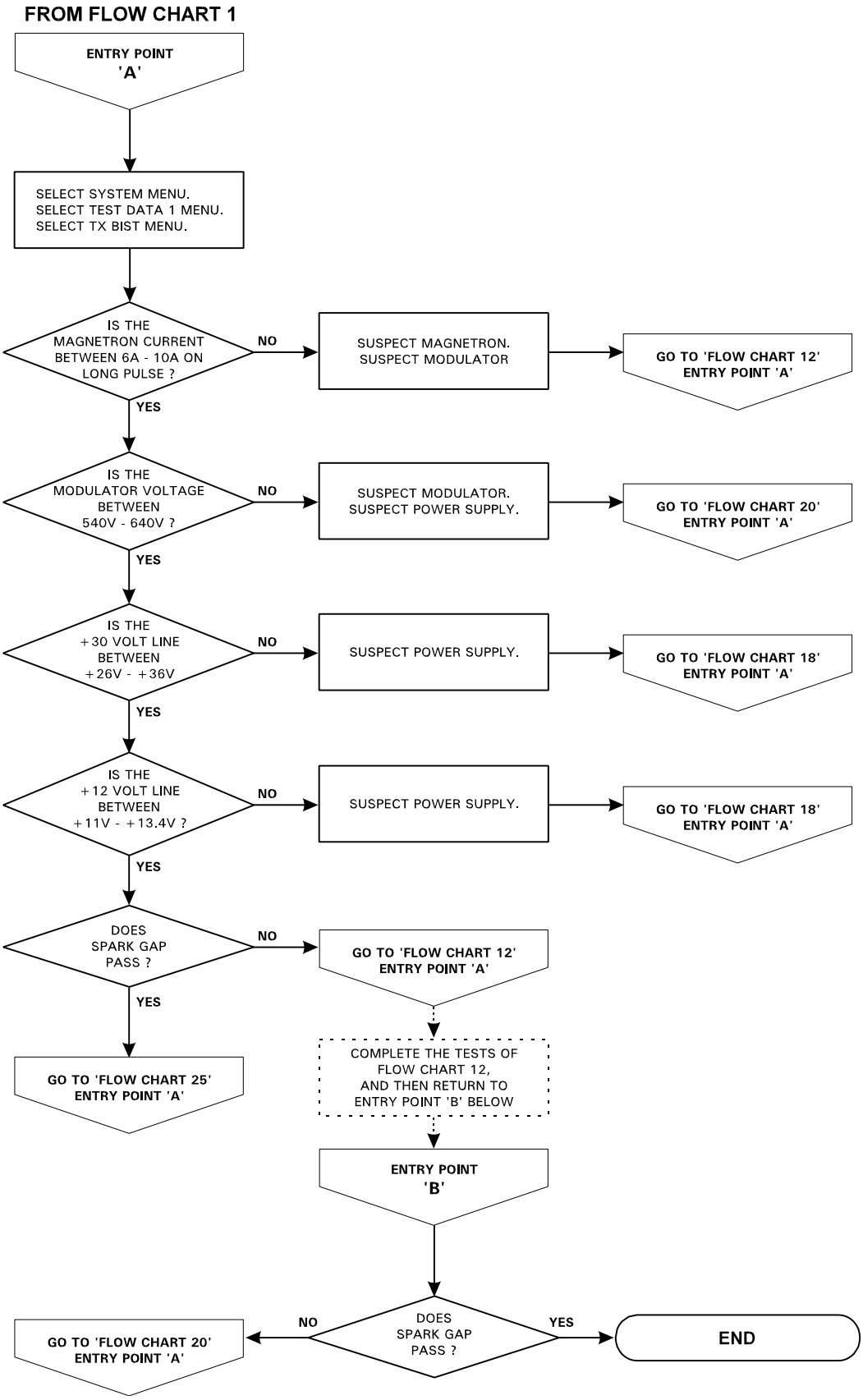
FLOW CHART 22 - S-BAND SCANNER FAULTS



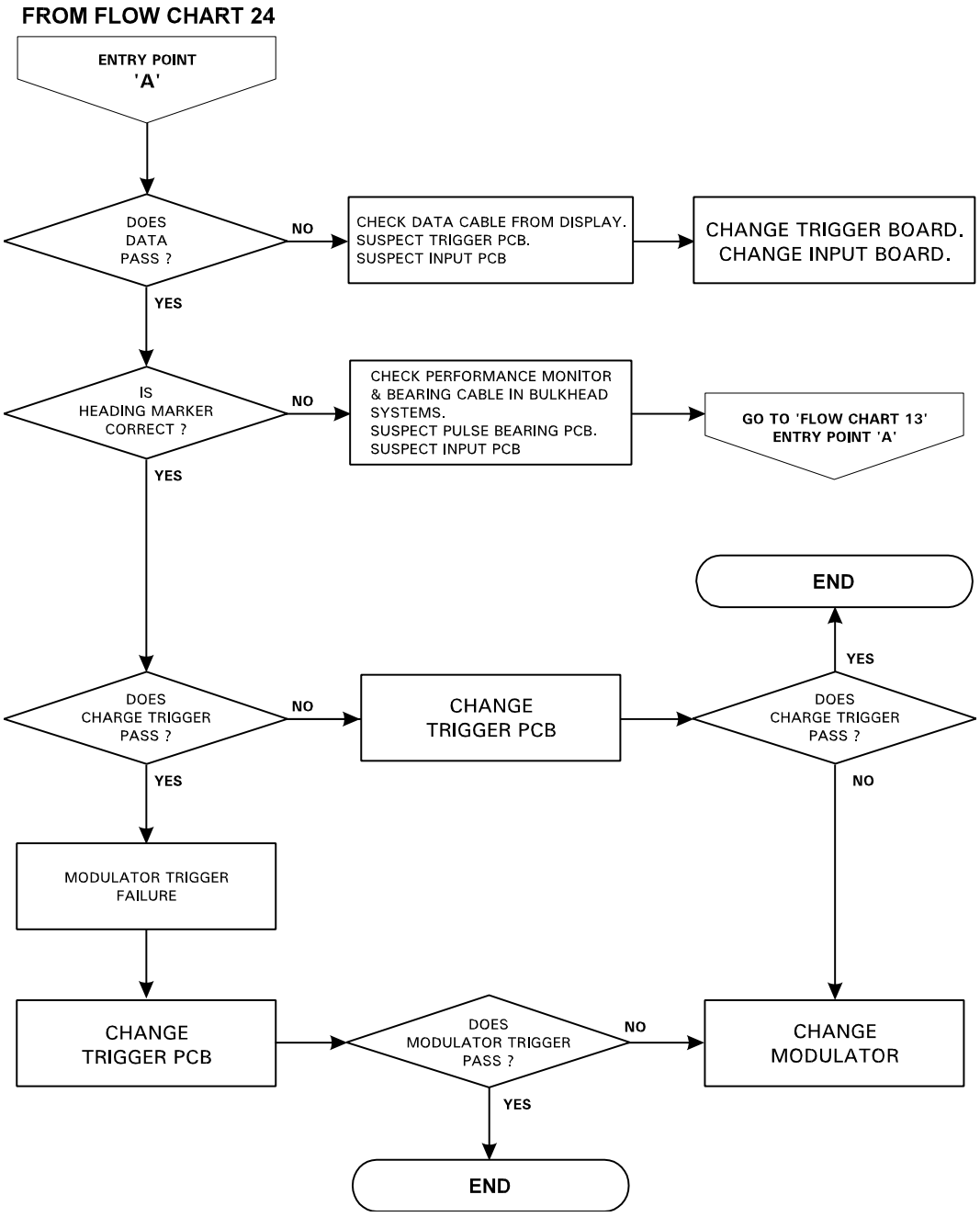
FLOW CHART 23 - S-BAND SCANNER FAULTS ('TX COMMS ERROR' Displayed)



FLOW CHART 24 - S-BAND SCANNER FAULTS
('TX BIST ERROR' Displayed)



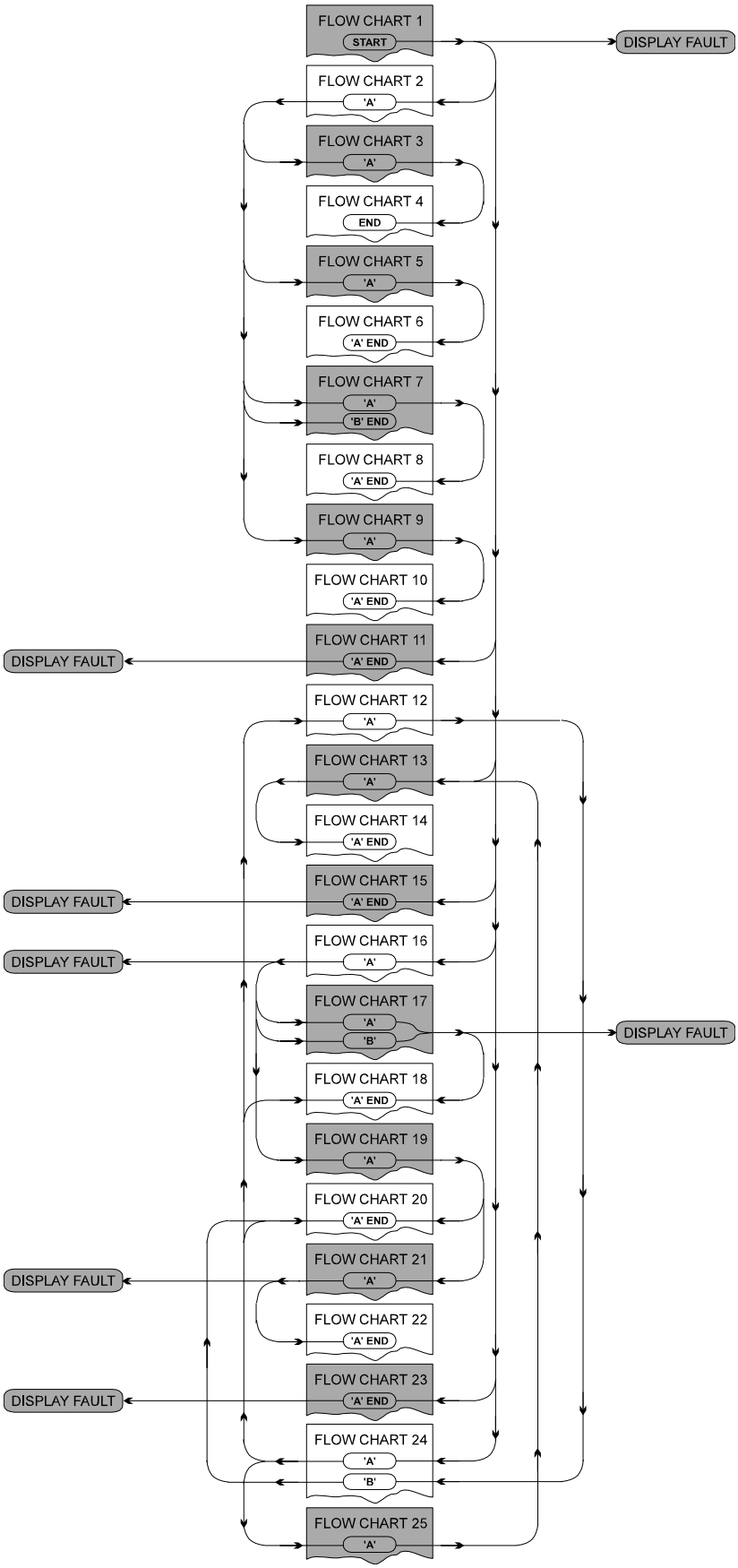
FLOW CHART 25 - S-BAND SCANNER FAULTS



2.3 X-Band Scanner Unit

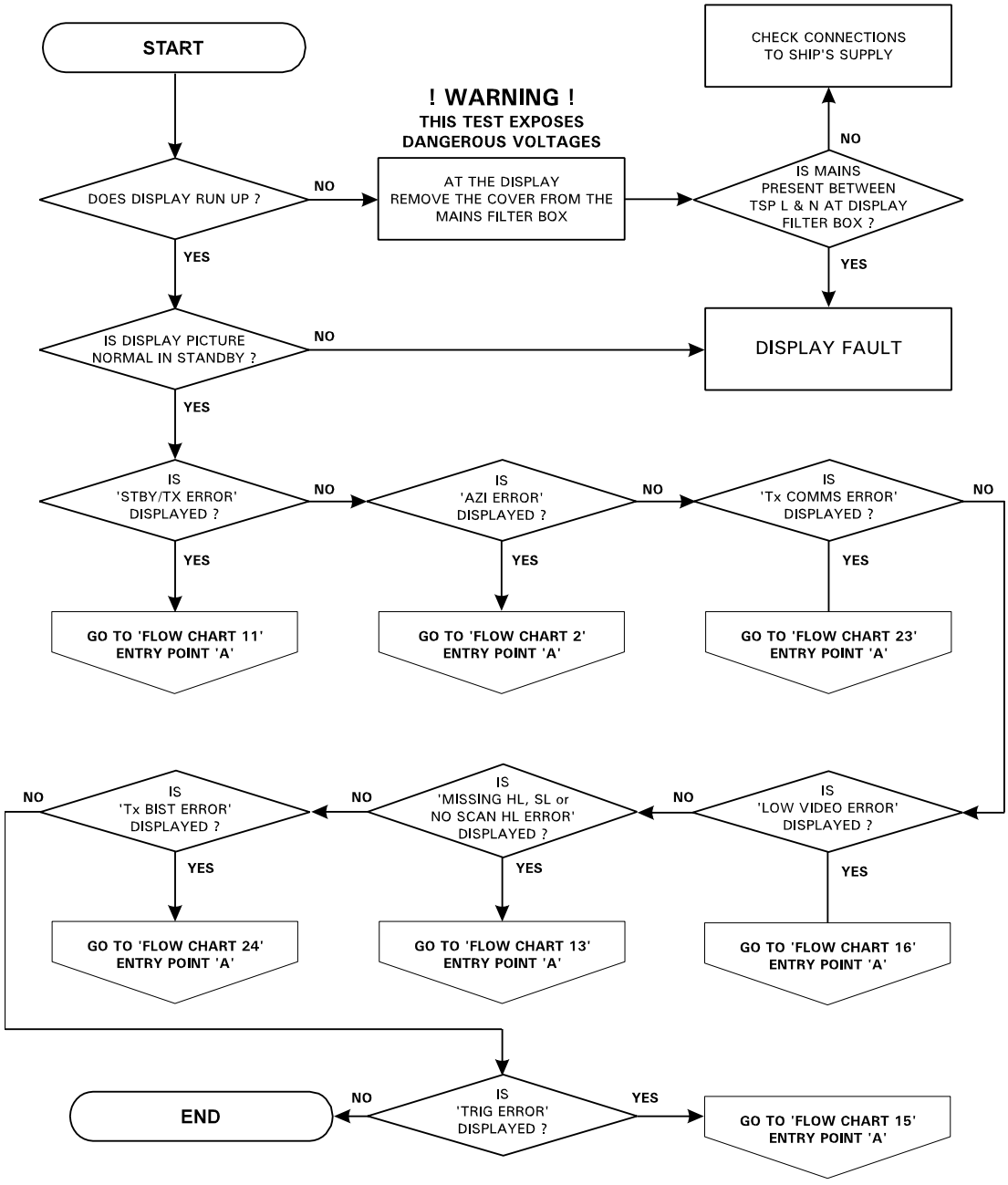
Flow charts for isolating faults on X-Band Scanner Units are given on the following pages. The lead sheet shows the overall flow through individual Flow Charts 1 to 25.

OVERALL FLOW CHART - X-BAND SCANNER FAULTS

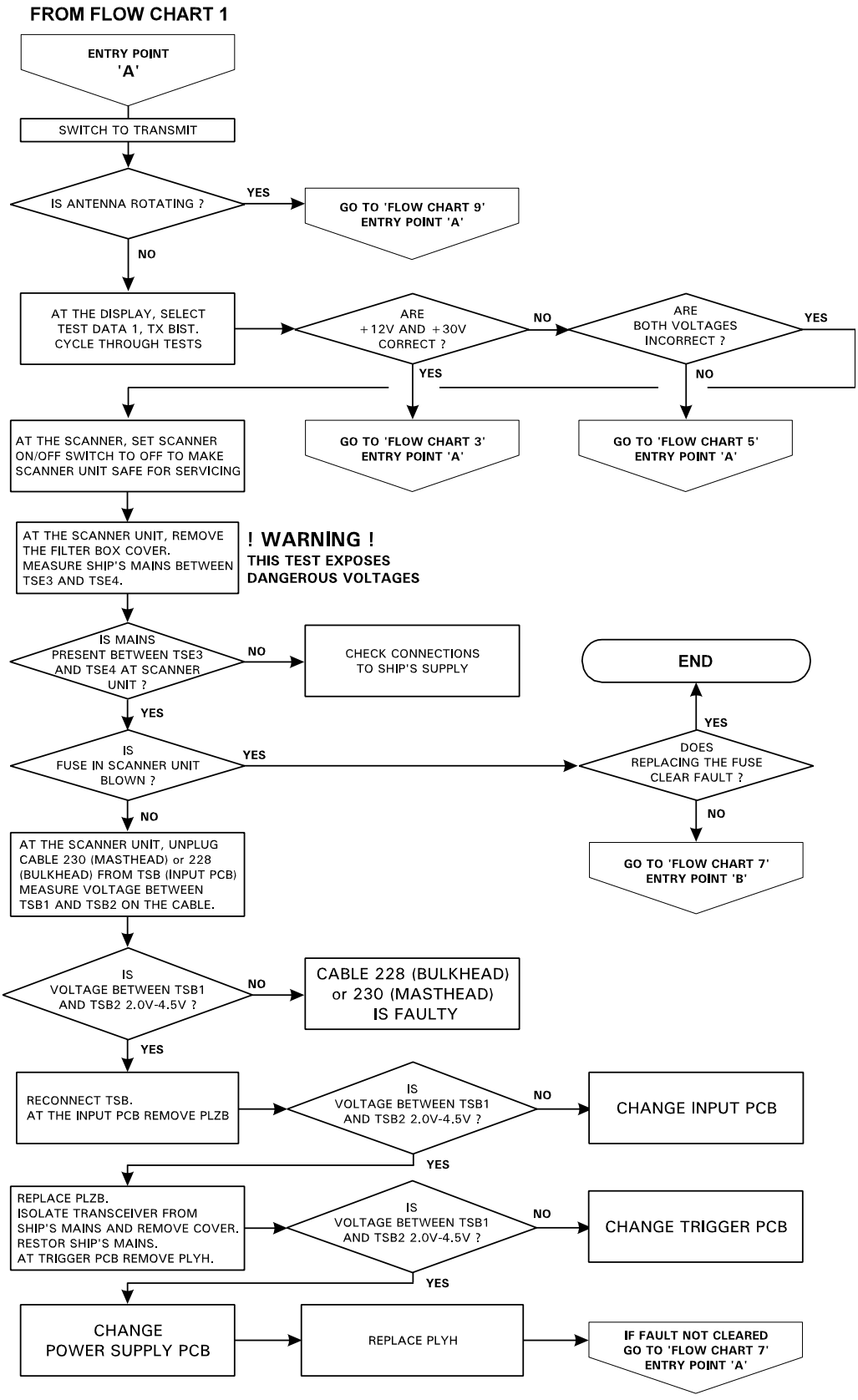


FLOW CHART 1 - X-BAND SCANNER FAULTS

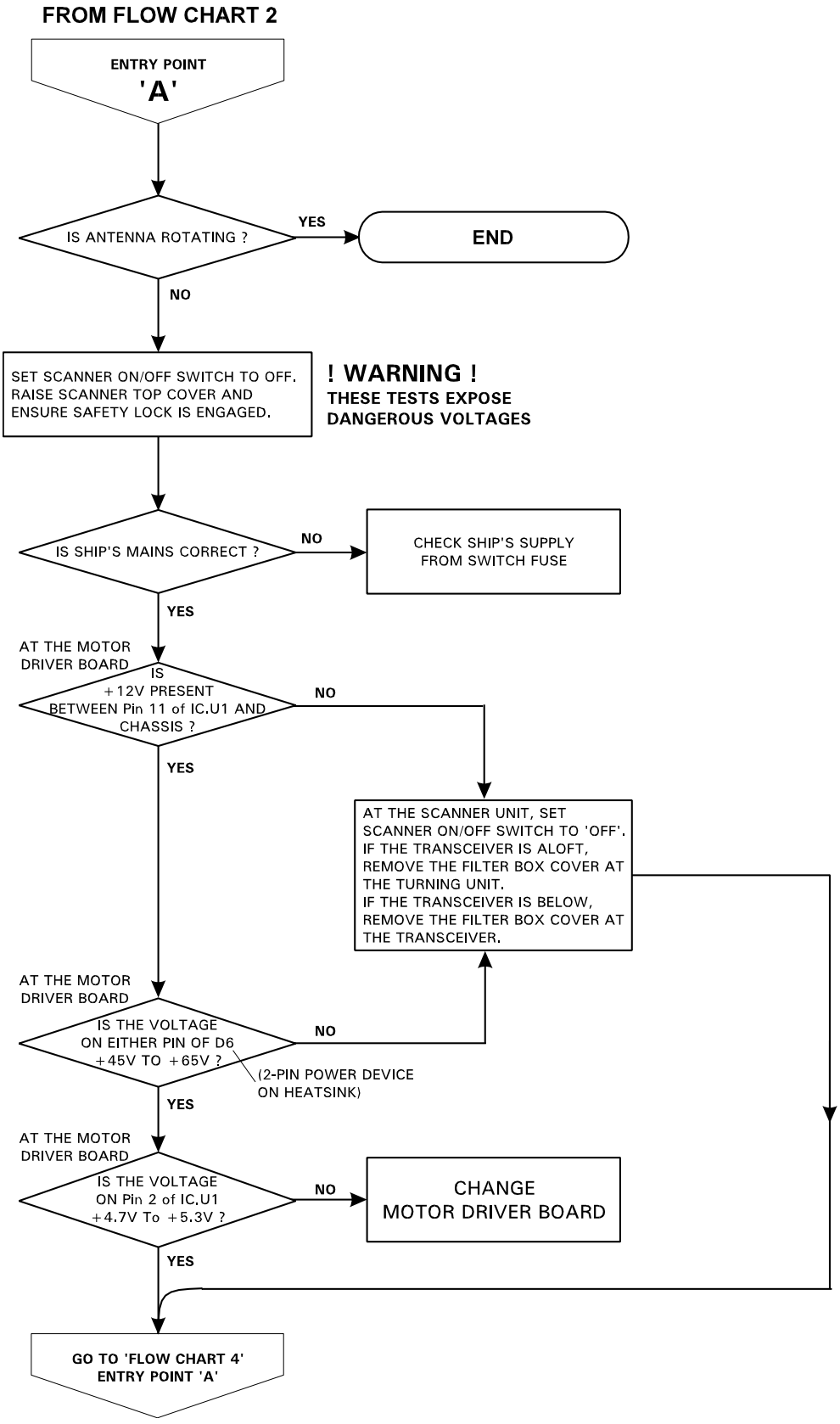
! WARNING !
WHEN THE COVERS ARE REMOVED FROM THE EQUIPMENT, DANGEROUS VOLTAGES ARE EXPOSED.
ONLY QUALIFIED PERSONS SHOULD WORK ON THE EQUIPMENT WHEN POWER IS APPLIED.
ALWAYS ISOLATE THE TURNING UNIT FROM THE SHIP'S SUPPLY BEFORE WORKING ON IT.
ALWAYS ISOLATE THE TRANSCEIVER FROM THE SHIP'S SUPPLY WHILE REMOVING OR REPLACING THE TRANSCEIVER COVER



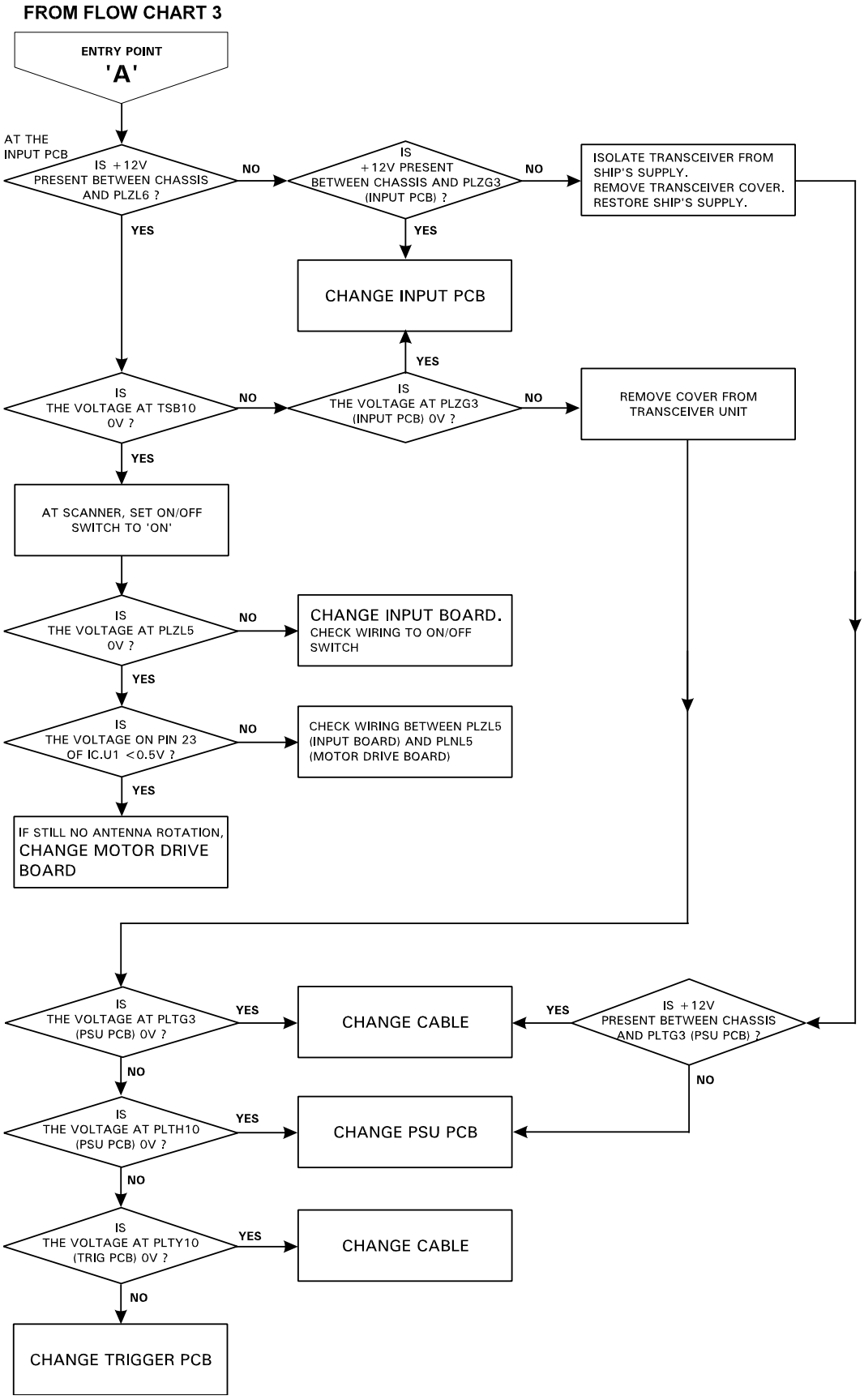
FLOW CHART 2 - X-BAND SCANNER FAULTS ('AZI ERROR' Displayed)



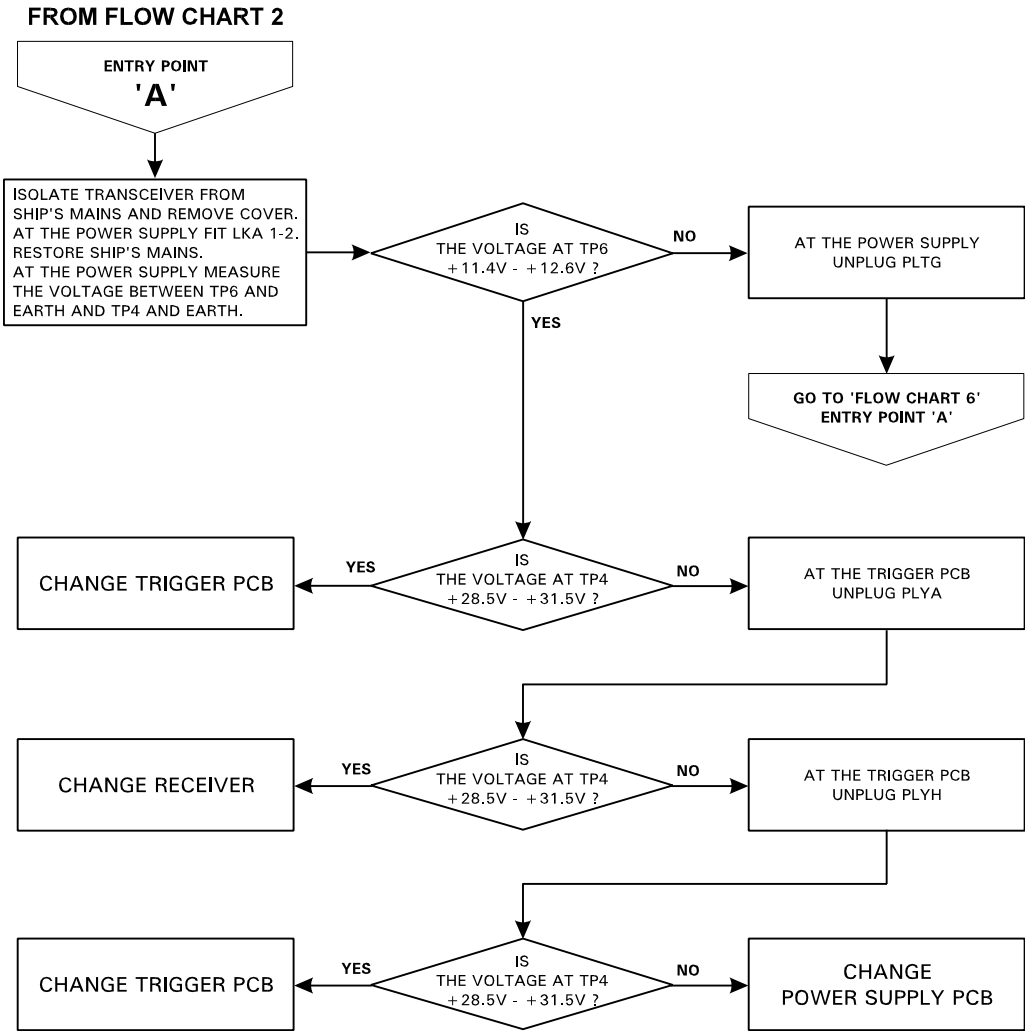
FLOW CHART 3 - X-BAND SCANNER FAULTS



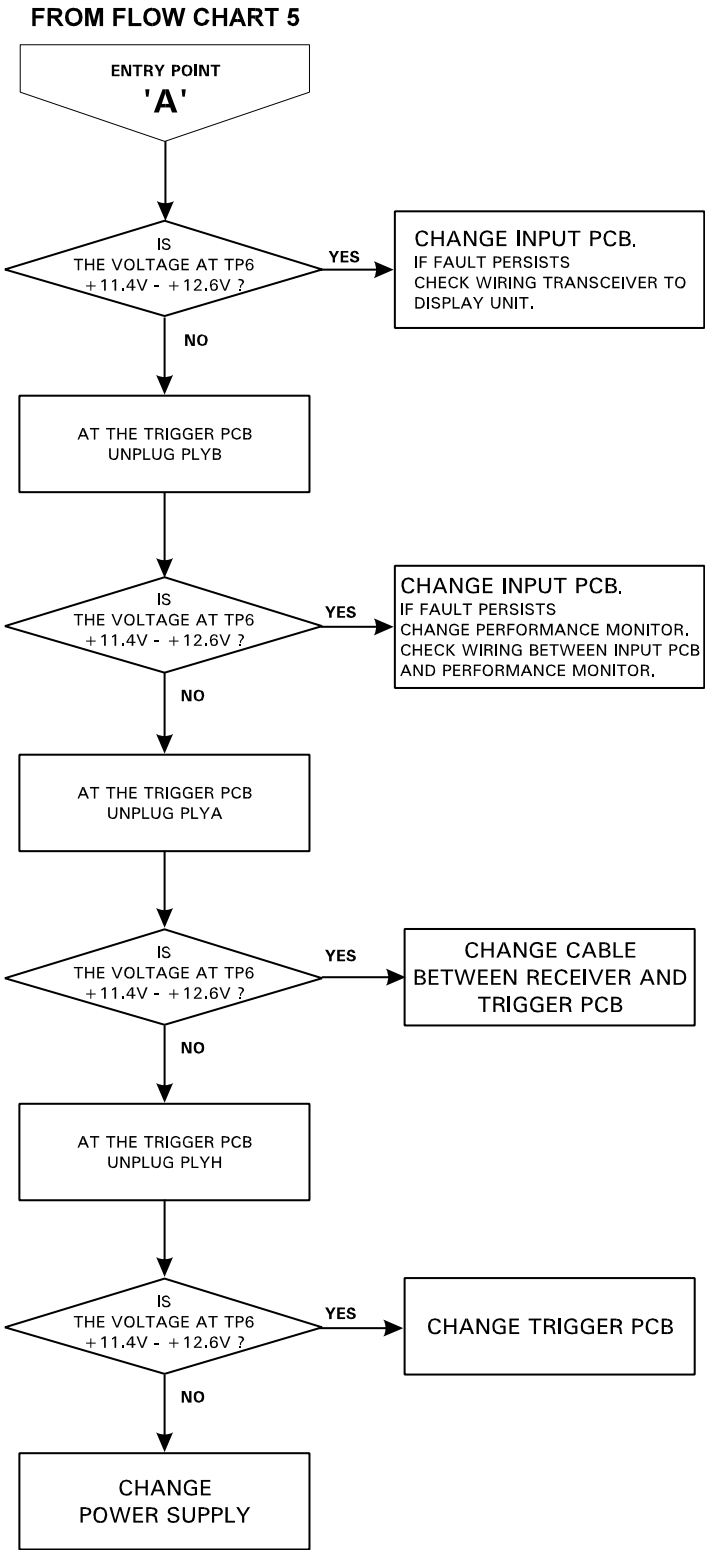
FLOW CHART 4 - X-BAND SCANNER FAULTS



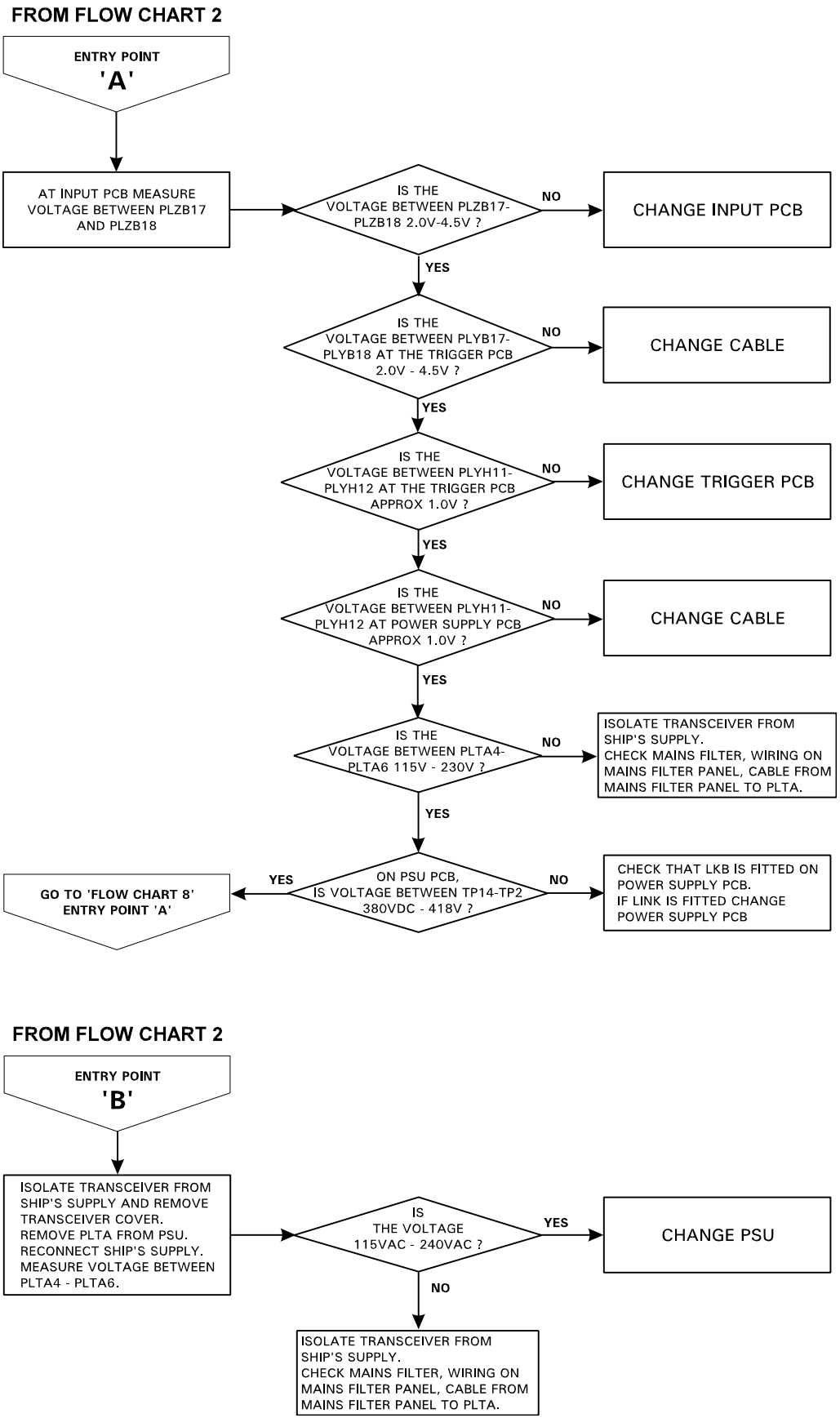
FLOW CHART 5 - X-BAND SCANNER FAULTS



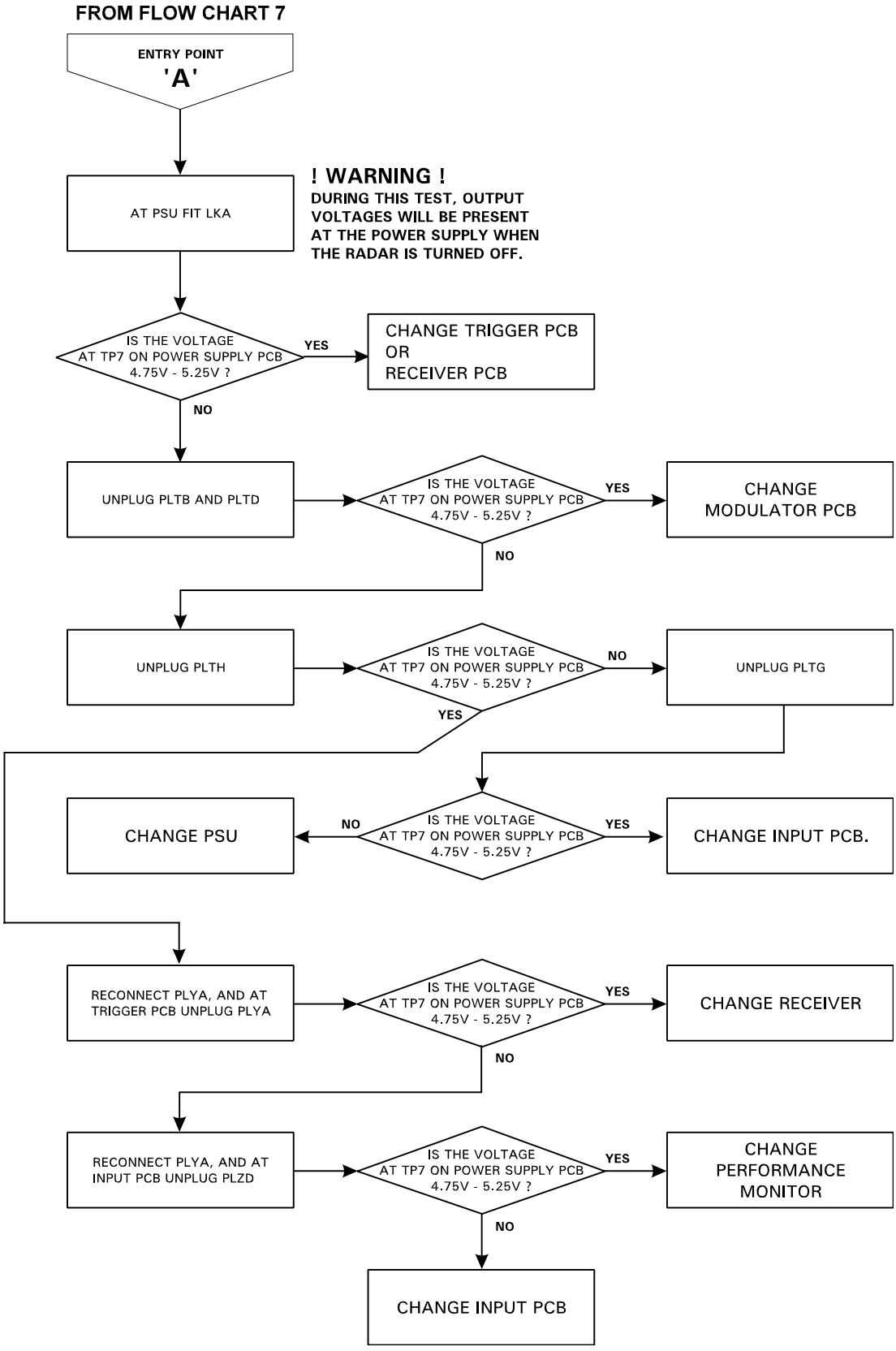
FLOW CHART 6 - X-BAND SCANNER FAULTS



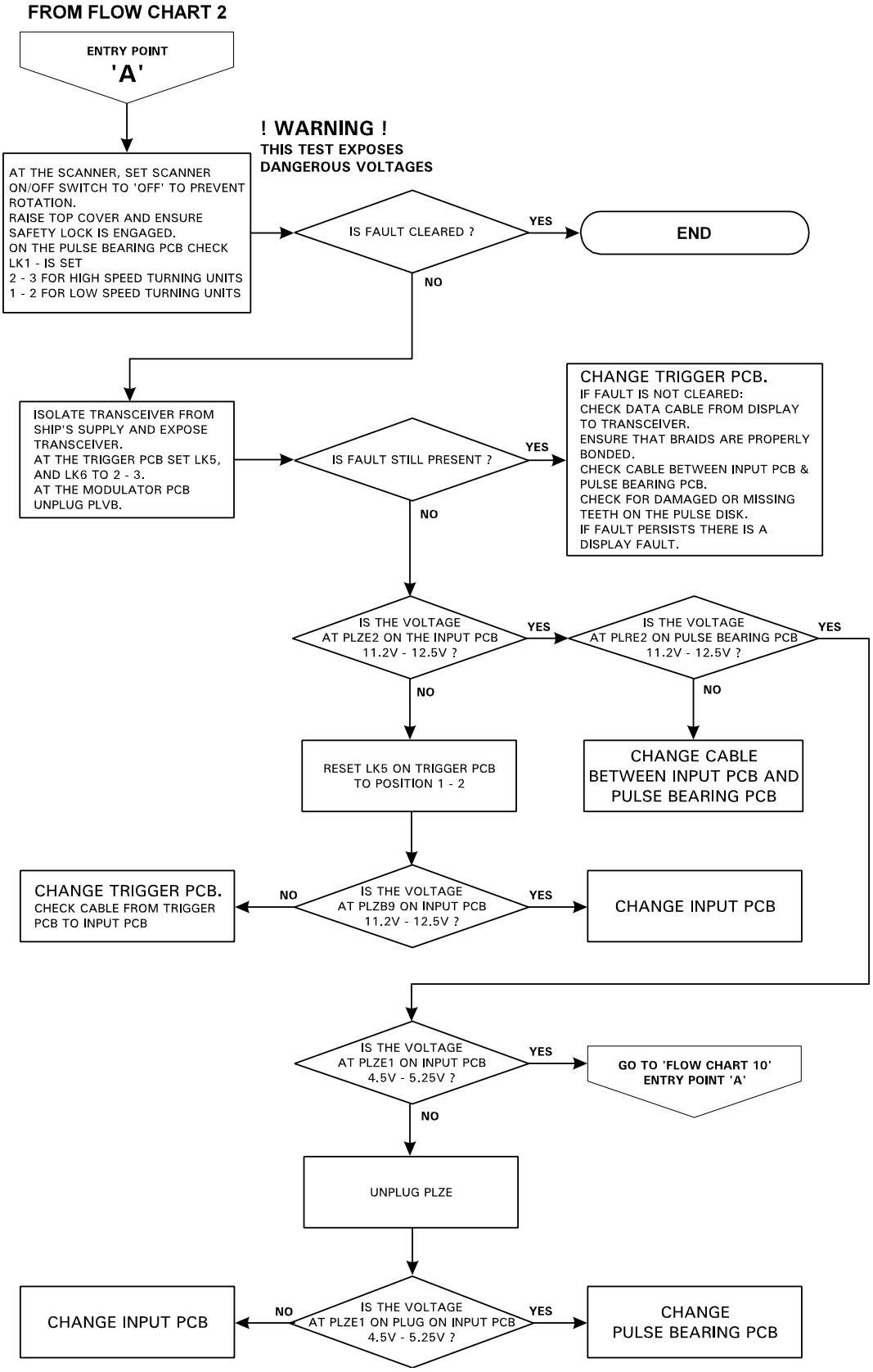
FLOW CHART 7 - X-BAND SCANNER FAULTS



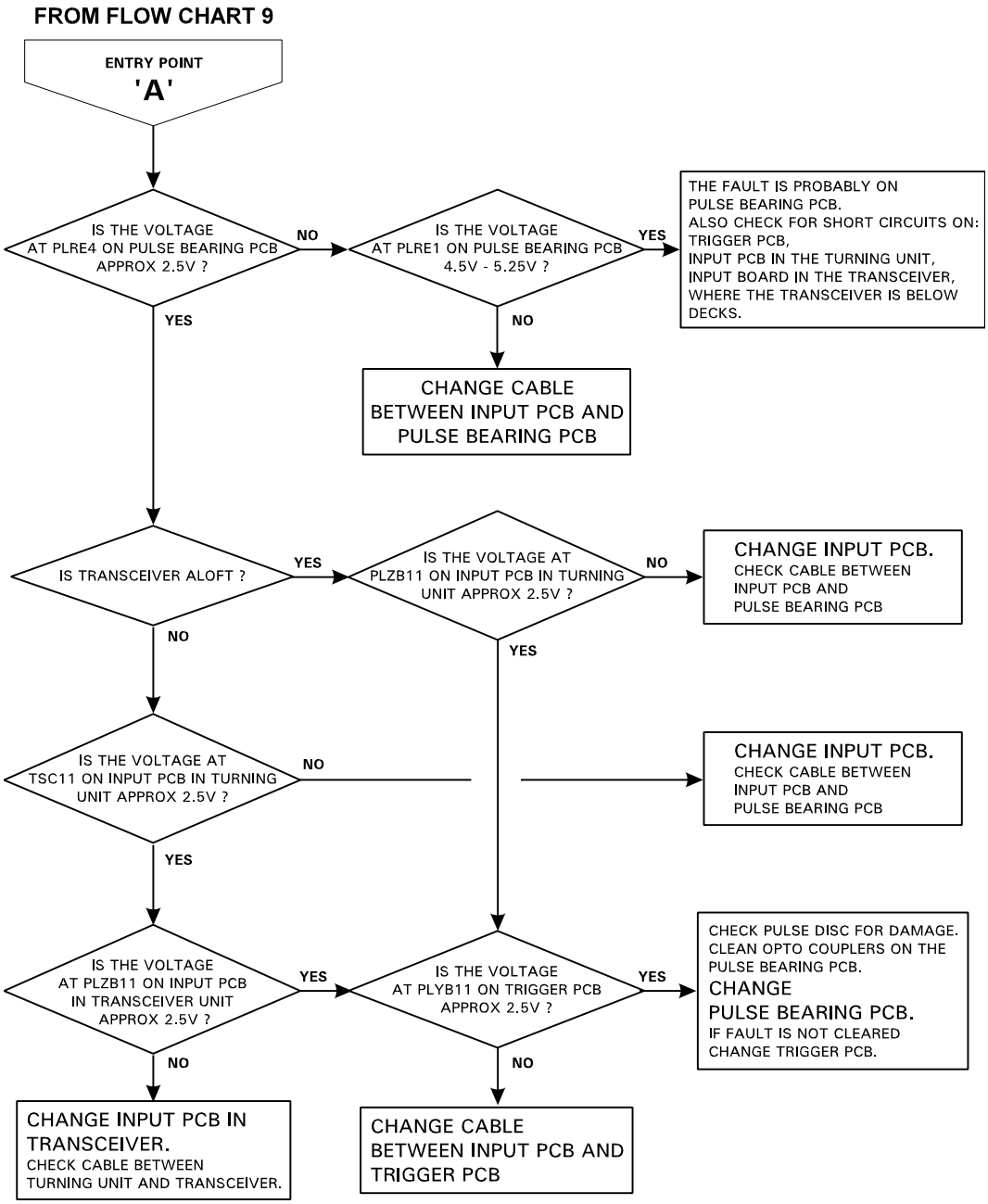
FLOW CHART 8 - X-BAND SCANNER FAULTS



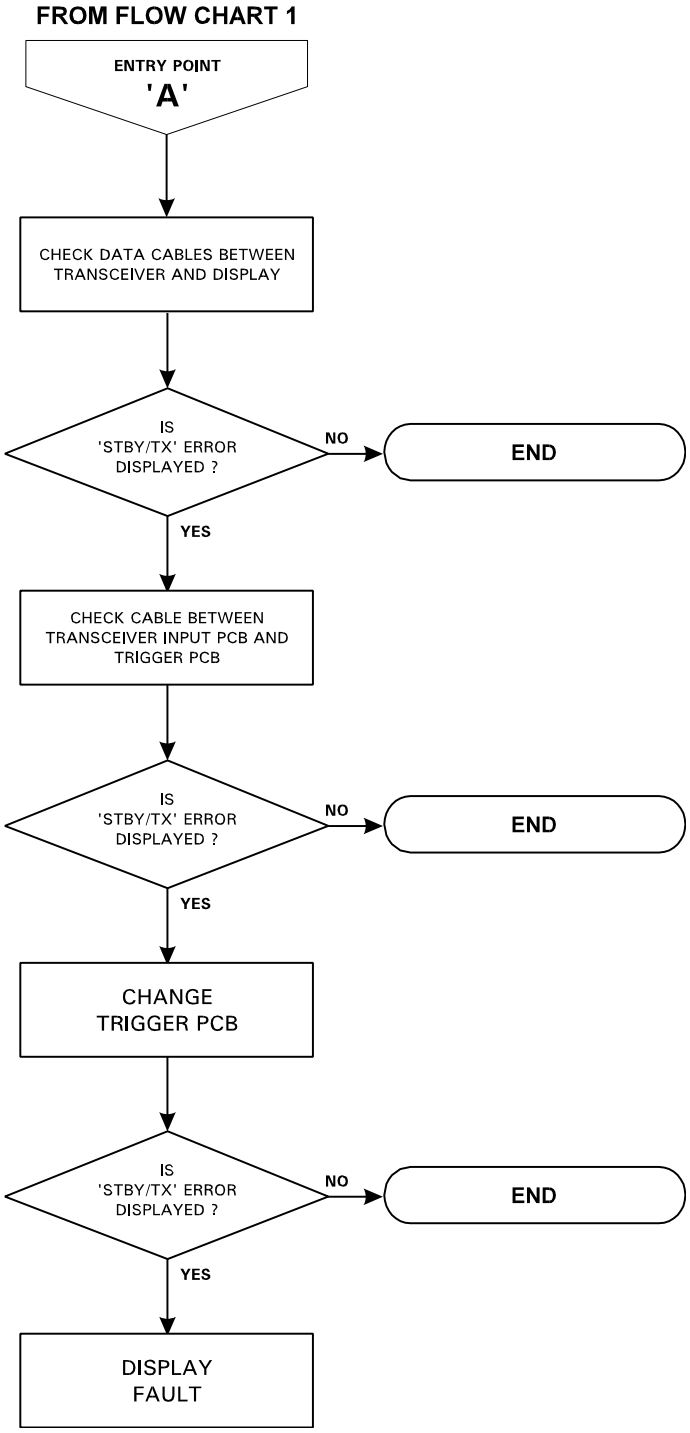
FLOW CHART 9 - X-BAND SCANNER FAULTS



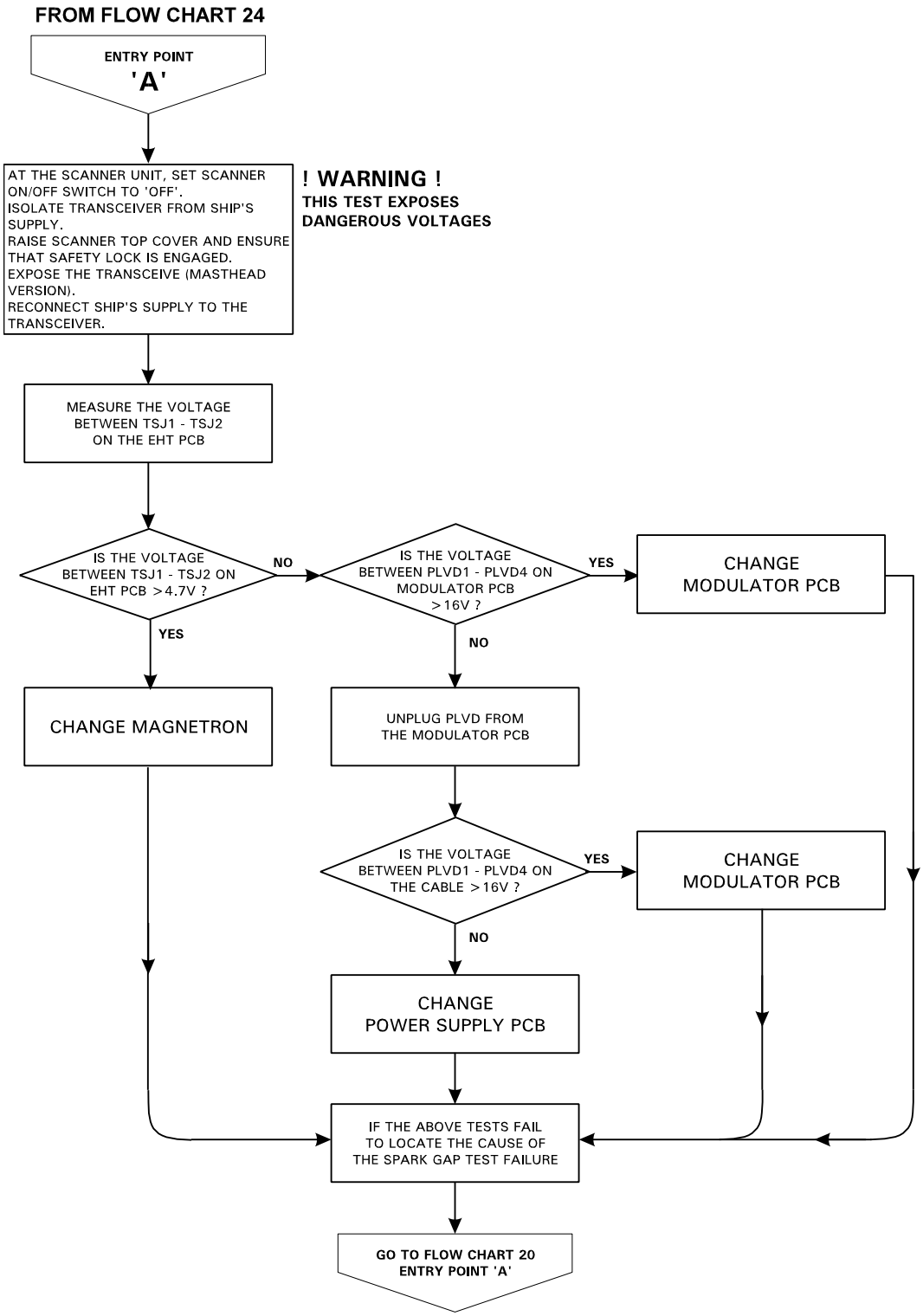
FLOW CHART 10 - X-BAND SCANNER FAULTS



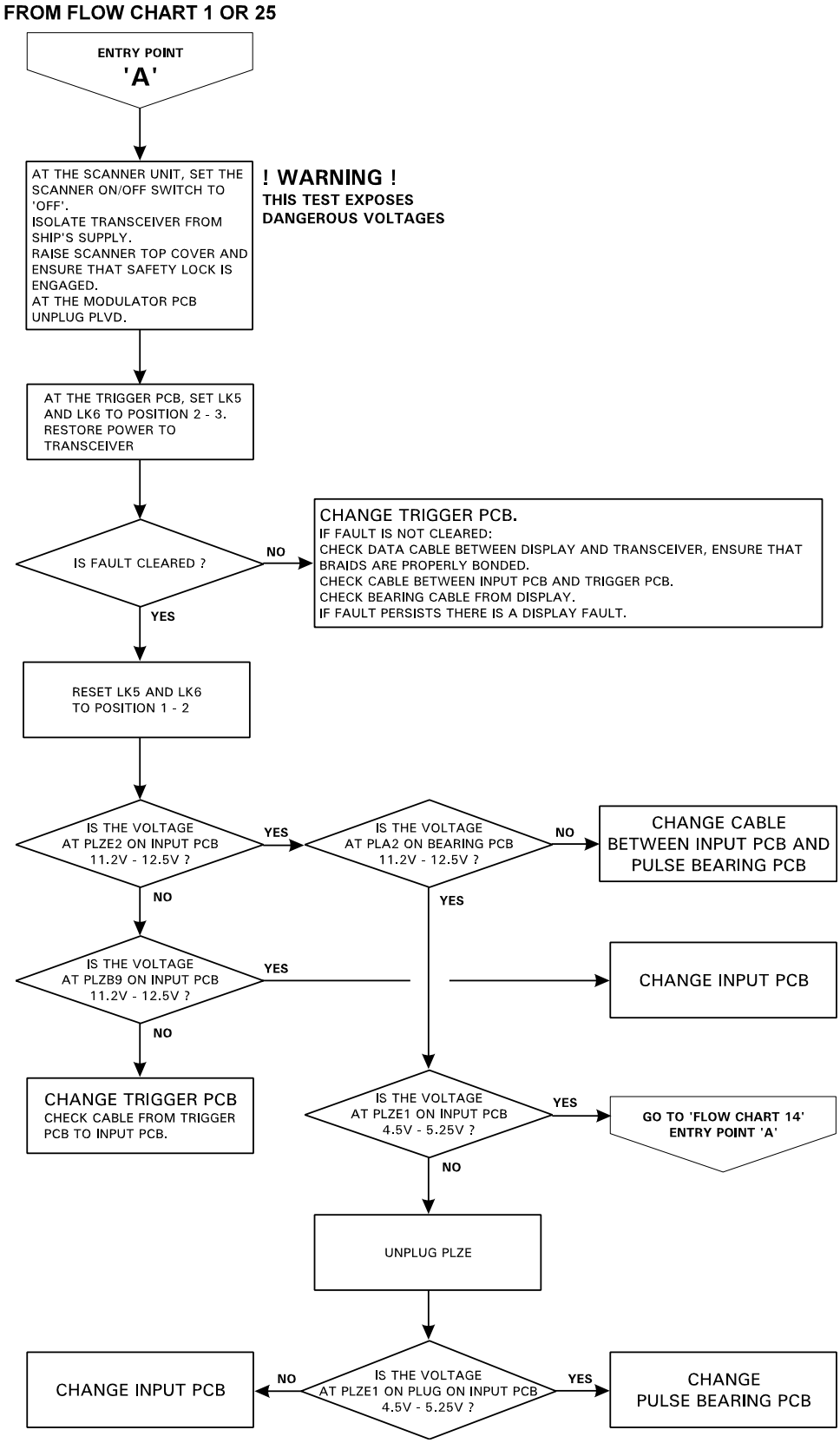
FLOW CHART 11 - X-BAND SCANNER FAULTS
('STBY/TX ERROR' Displayed)



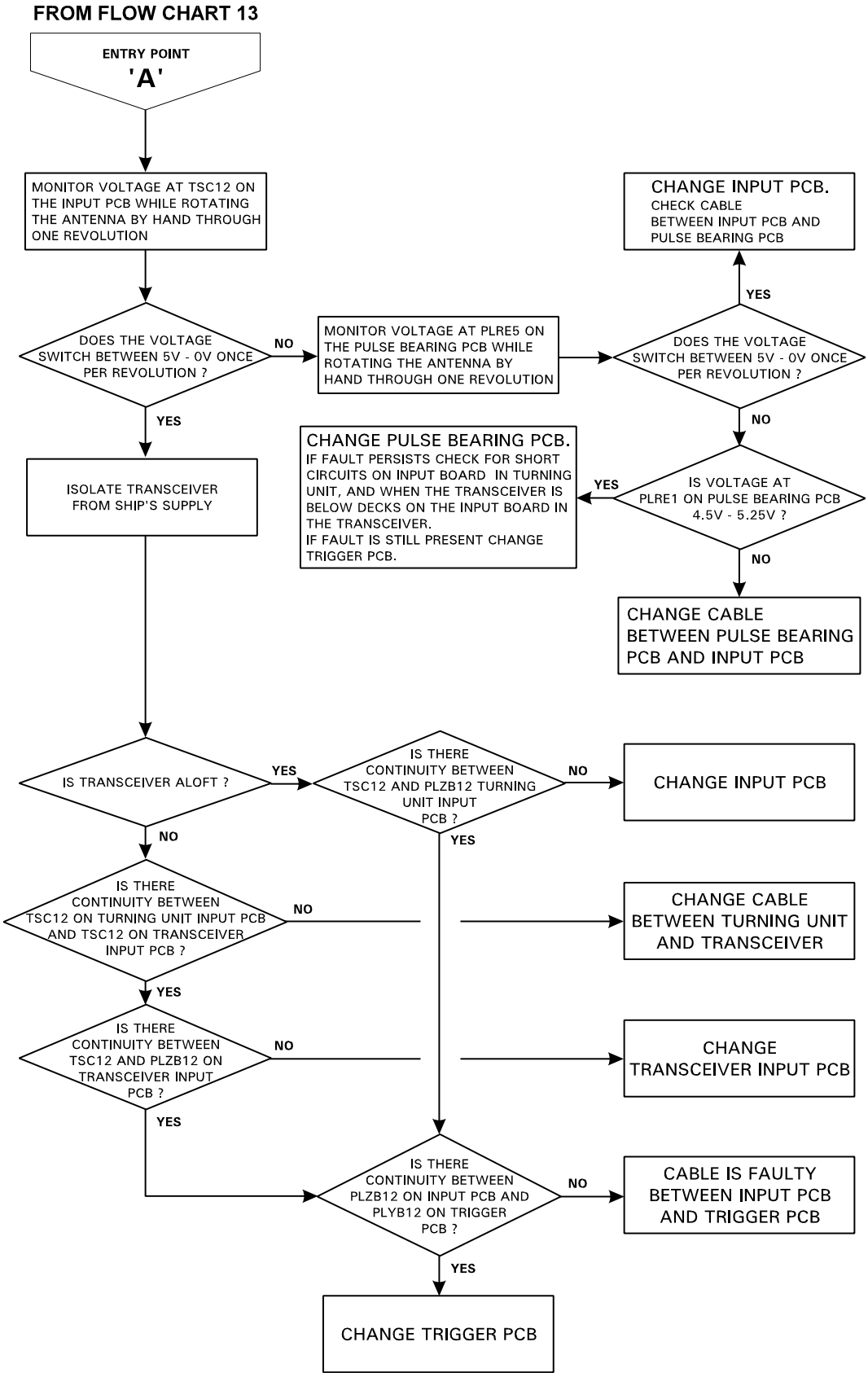
FLOW CHART 12 - X-BAND SCANNER FAULTS ('SPARK GAP TEST' Failure)



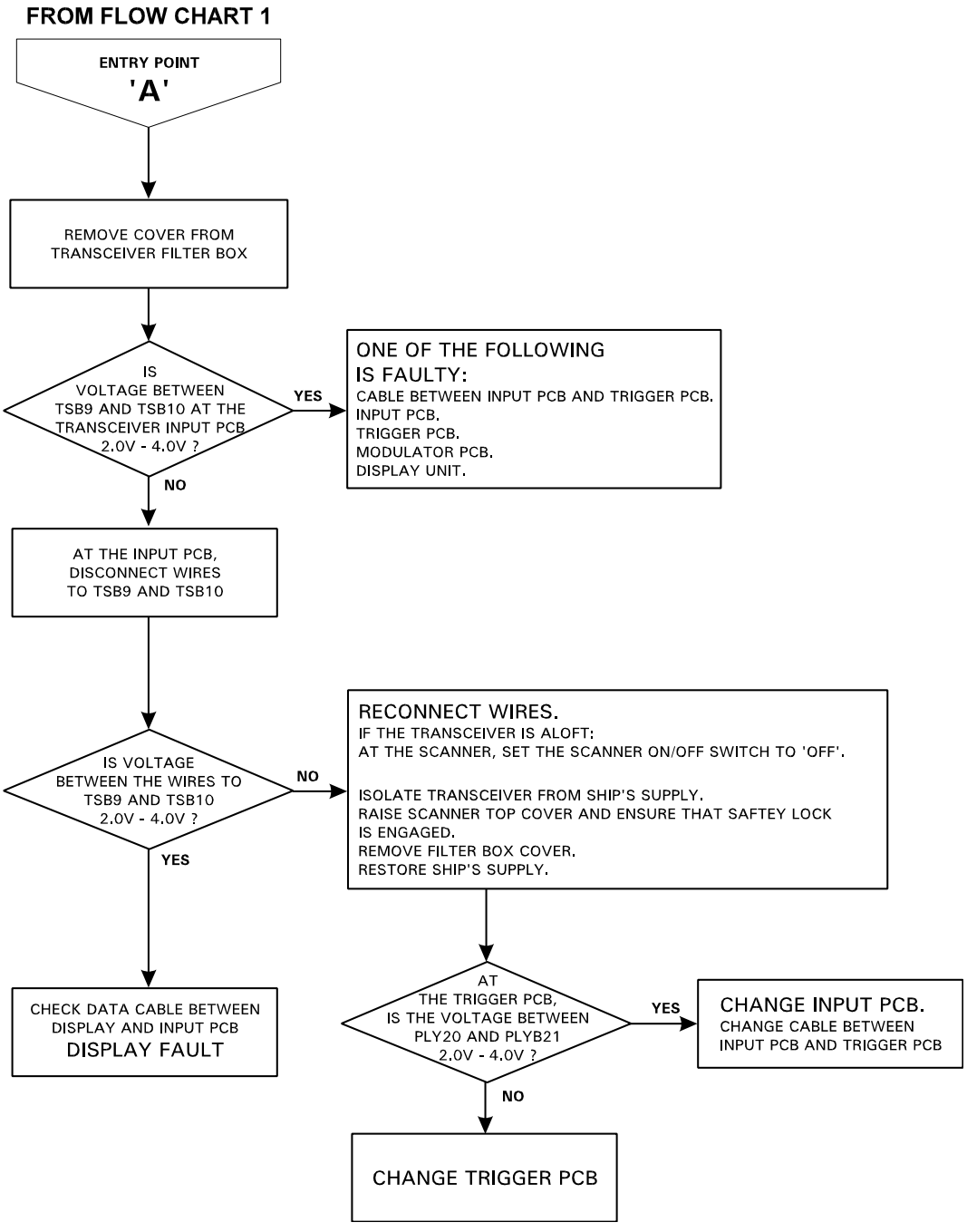
FLOW CHART 13 - X-BAND SCANNER FAULTS
('MISSING HMKR ERROR' Displayed)



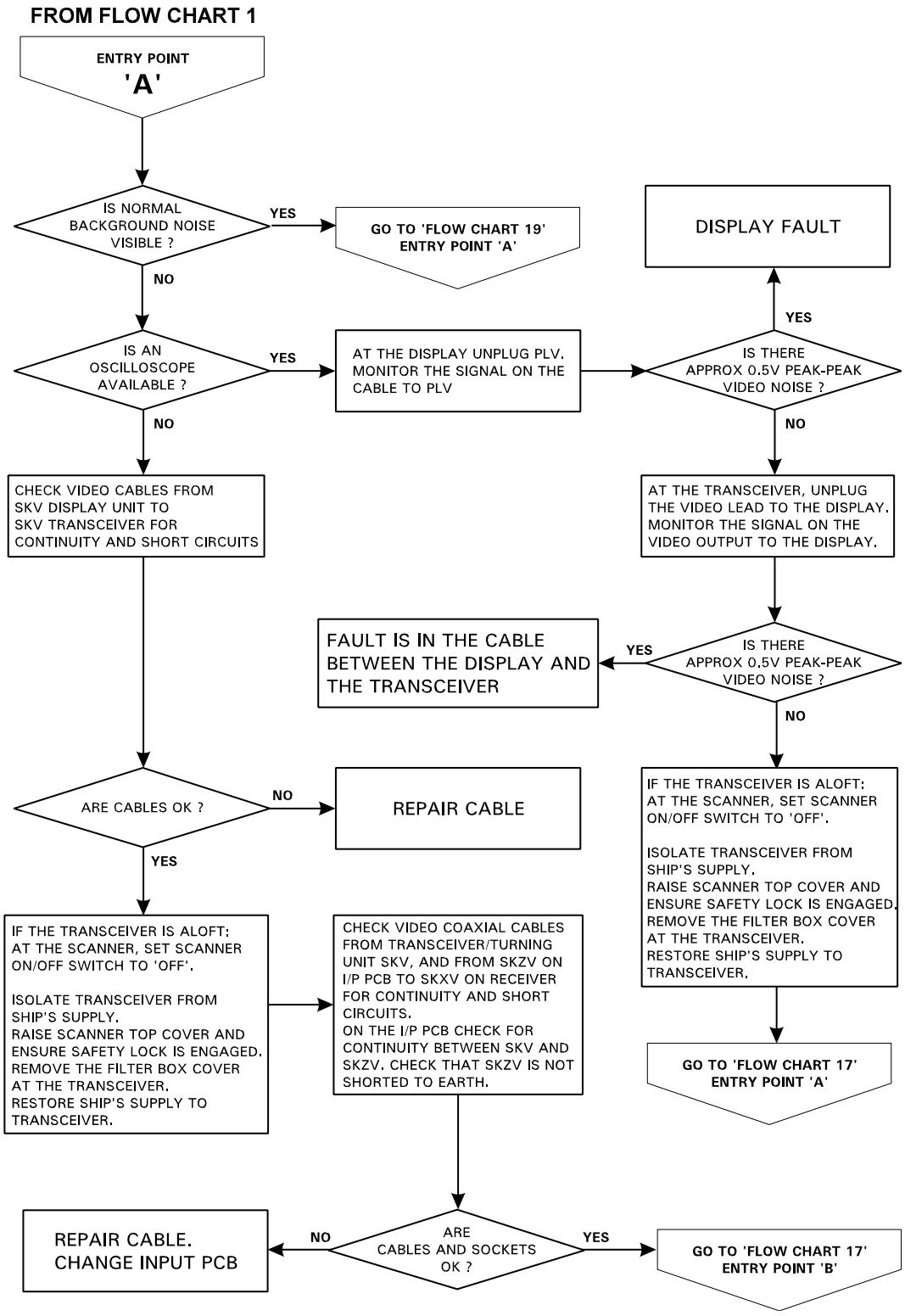
FLOW CHART 14 - X-BAND SCANNER FAULTS



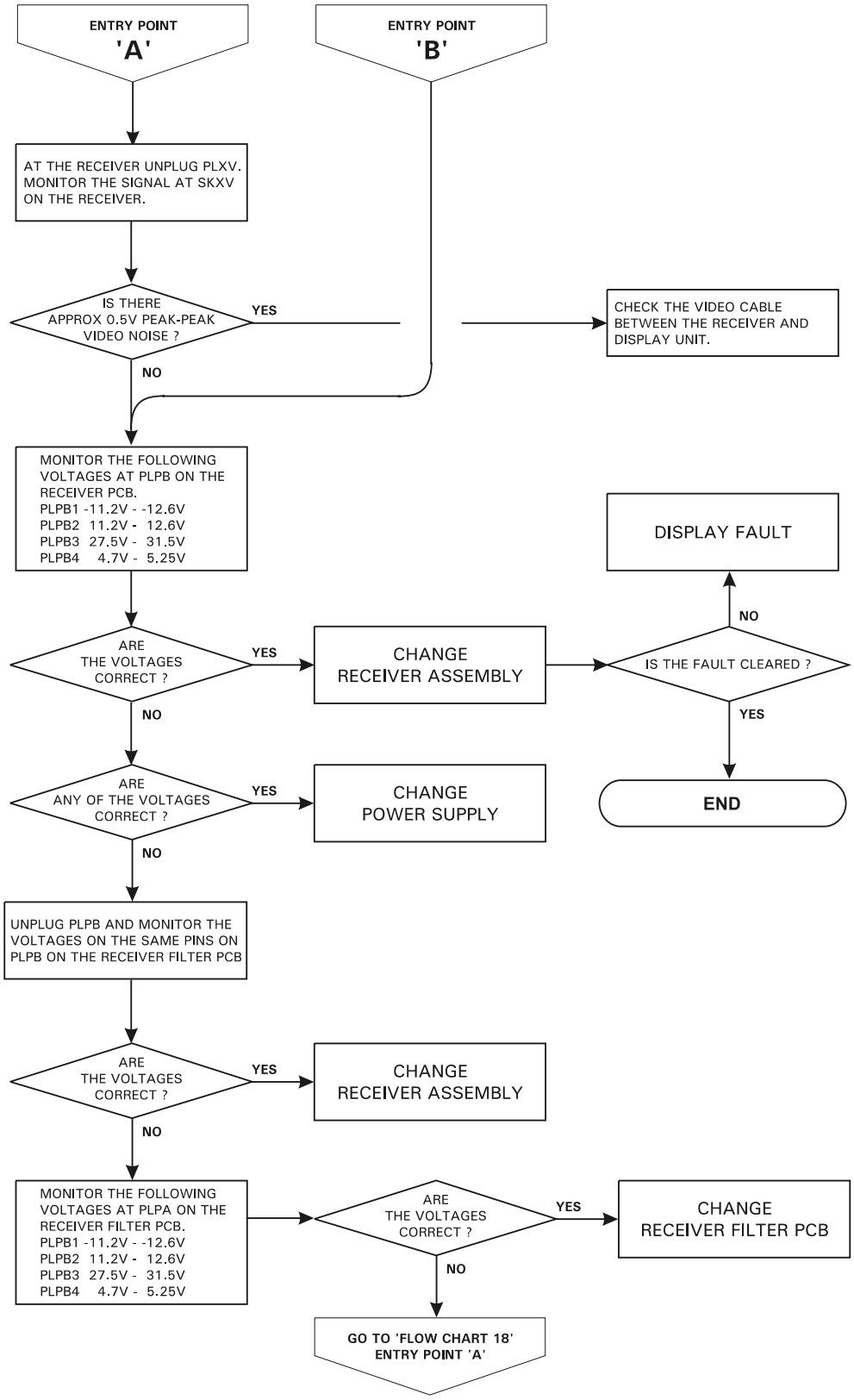
FLOW CHART 15 - X-BAND SCANNER FAULTS
('TRIGGER ERROR' Displayed)



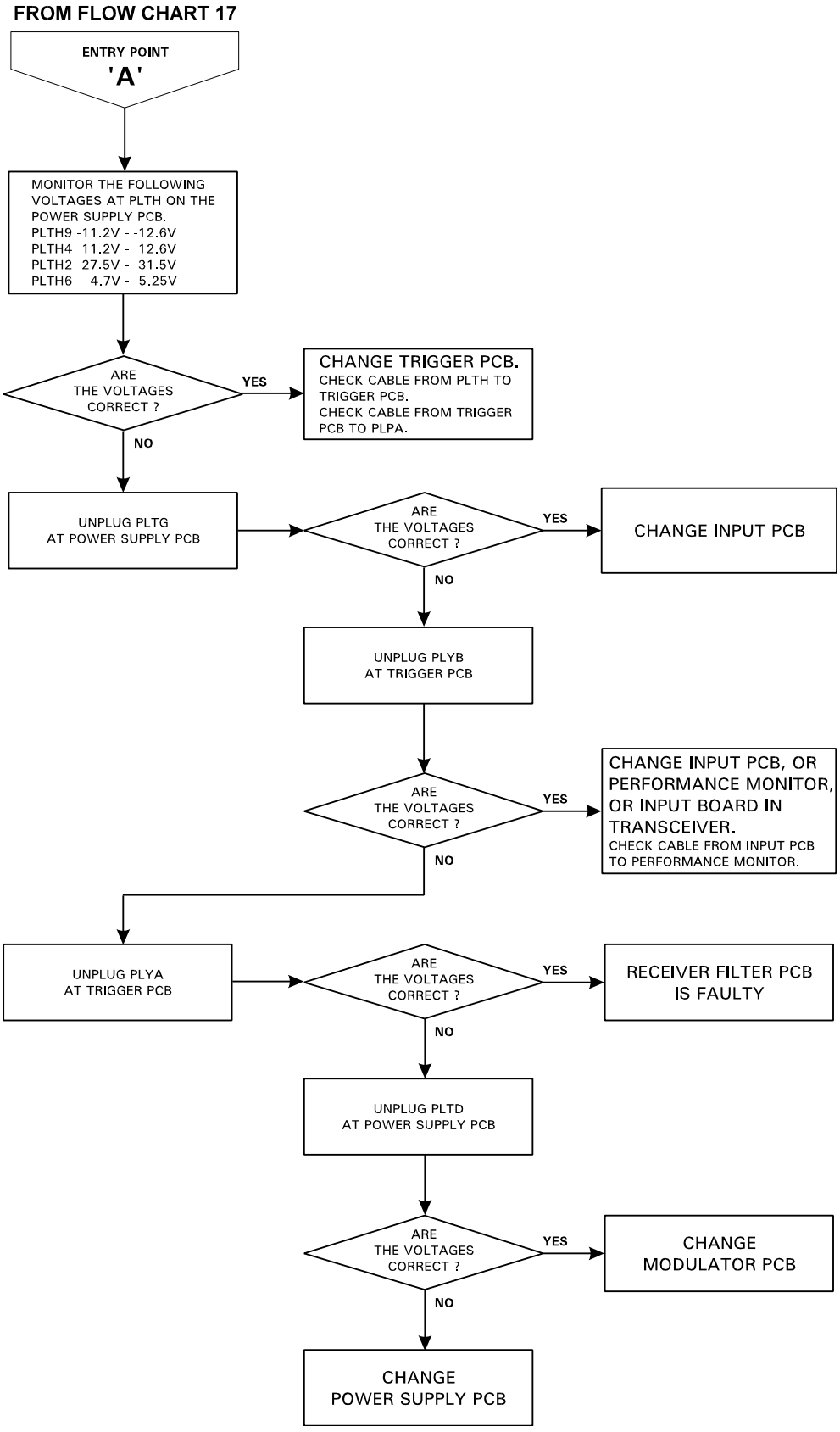
FLOW CHART 16 - X-BAND SCANNER FAULTS ('TX ERROR'/'LOW VIDEO ERROR' Displayed)



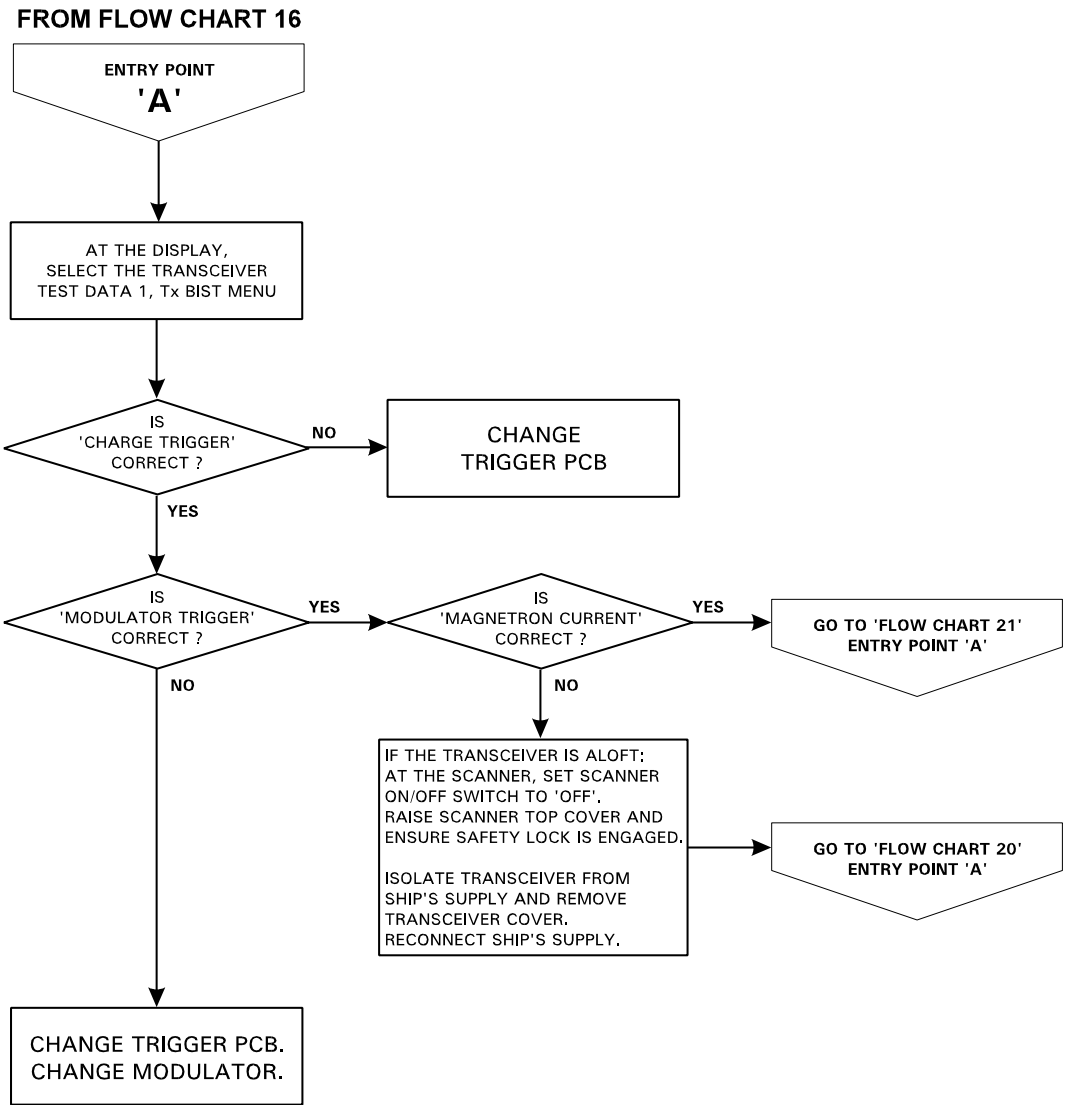
FLOW CHART 17 - X-BAND SCANNER FAULTS



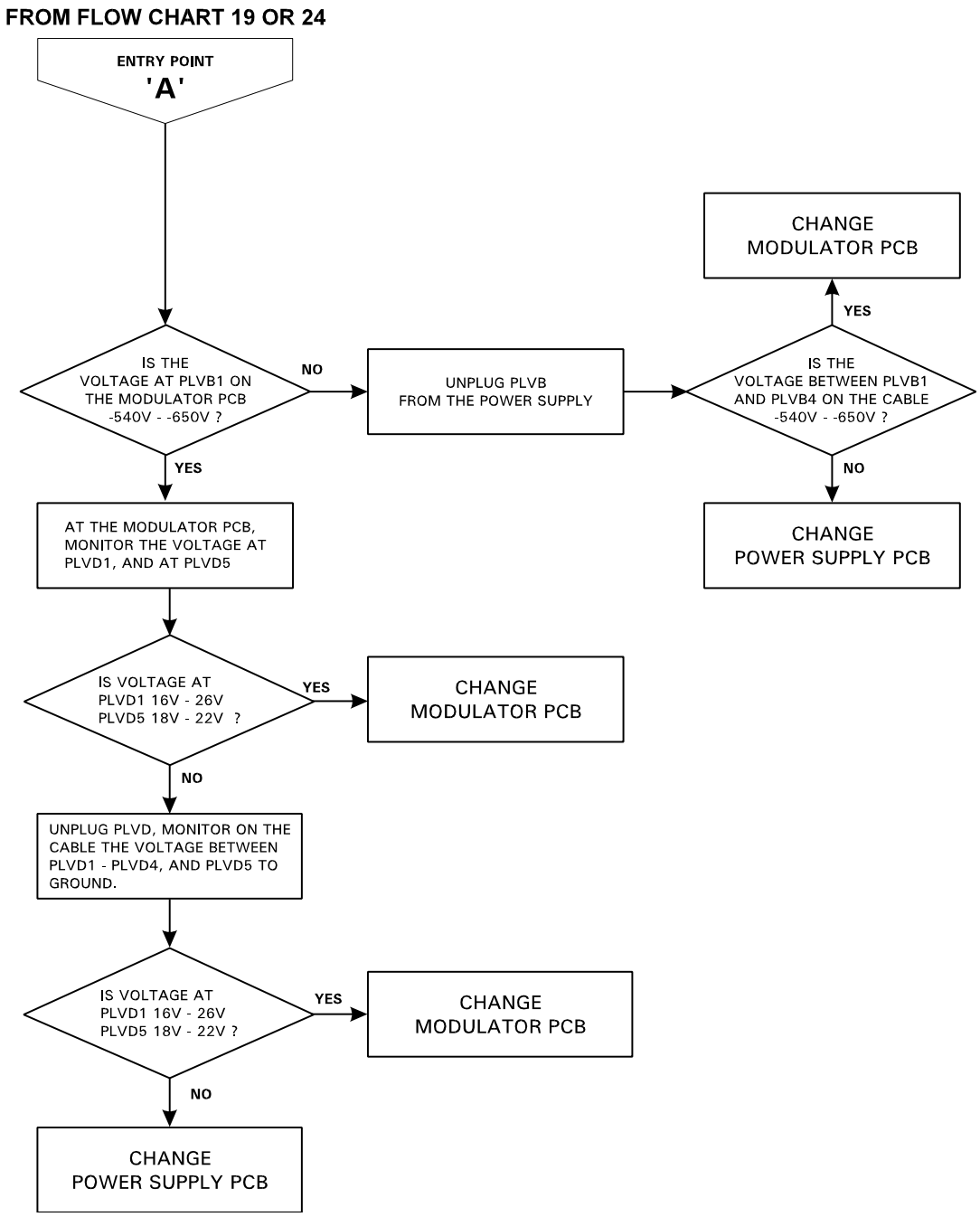
FLOW CHART 18 - X-BAND SCANNER FAULTS



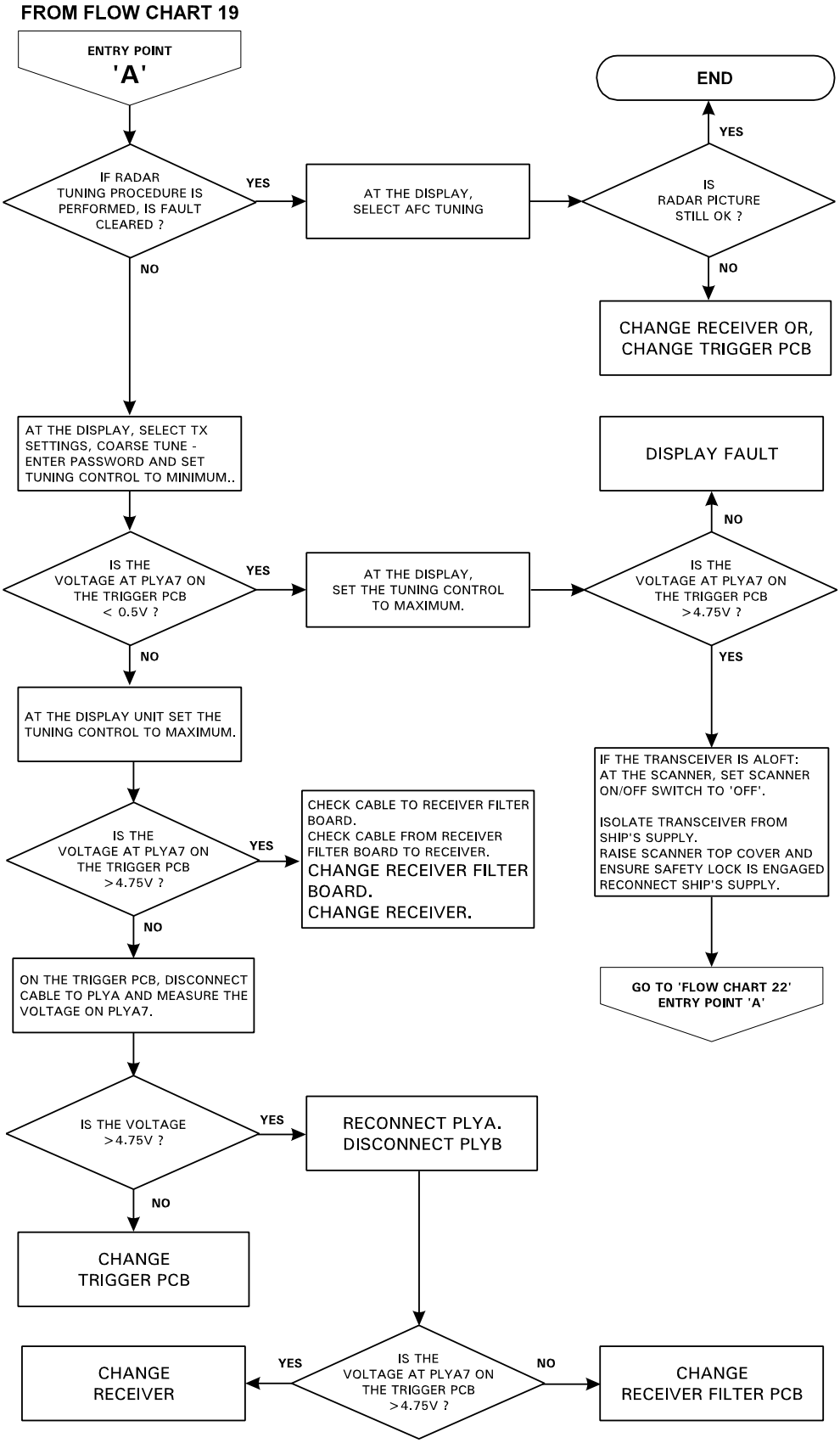
FLOW CHART 19 - X-BAND SCANNER FAULTS
('LOW VIDEO ERROR' Displayed)



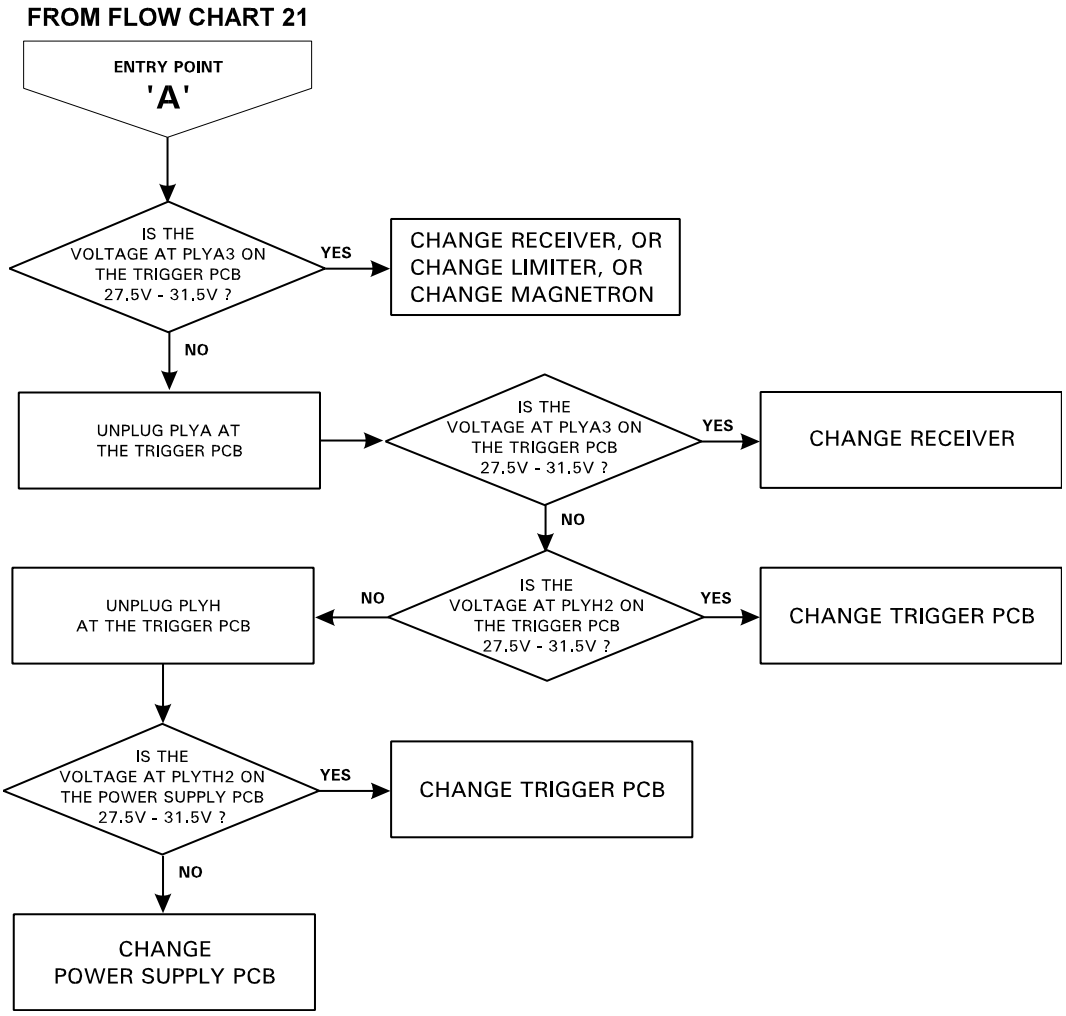
FLOW CHART 20 - X-BAND SCANNER FAULTS



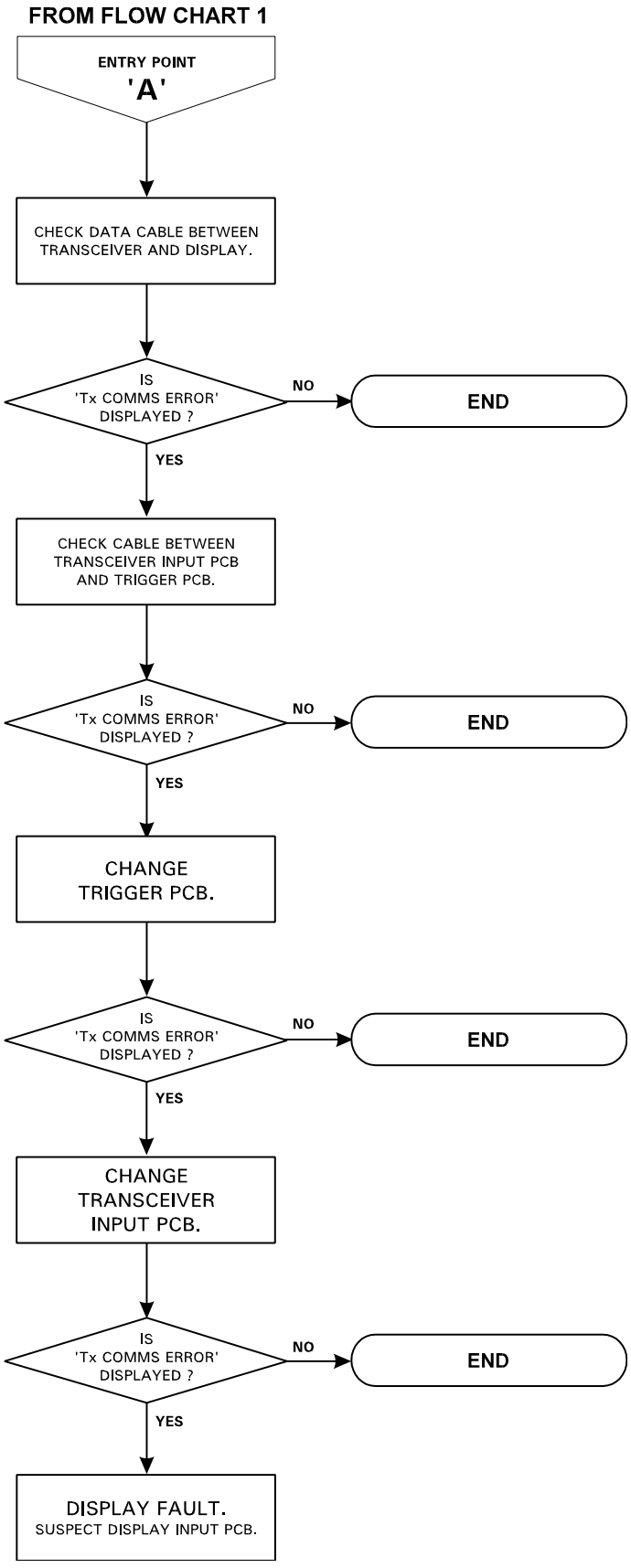
FLOW CHART 21 - X-BAND SCANNER FAULTS



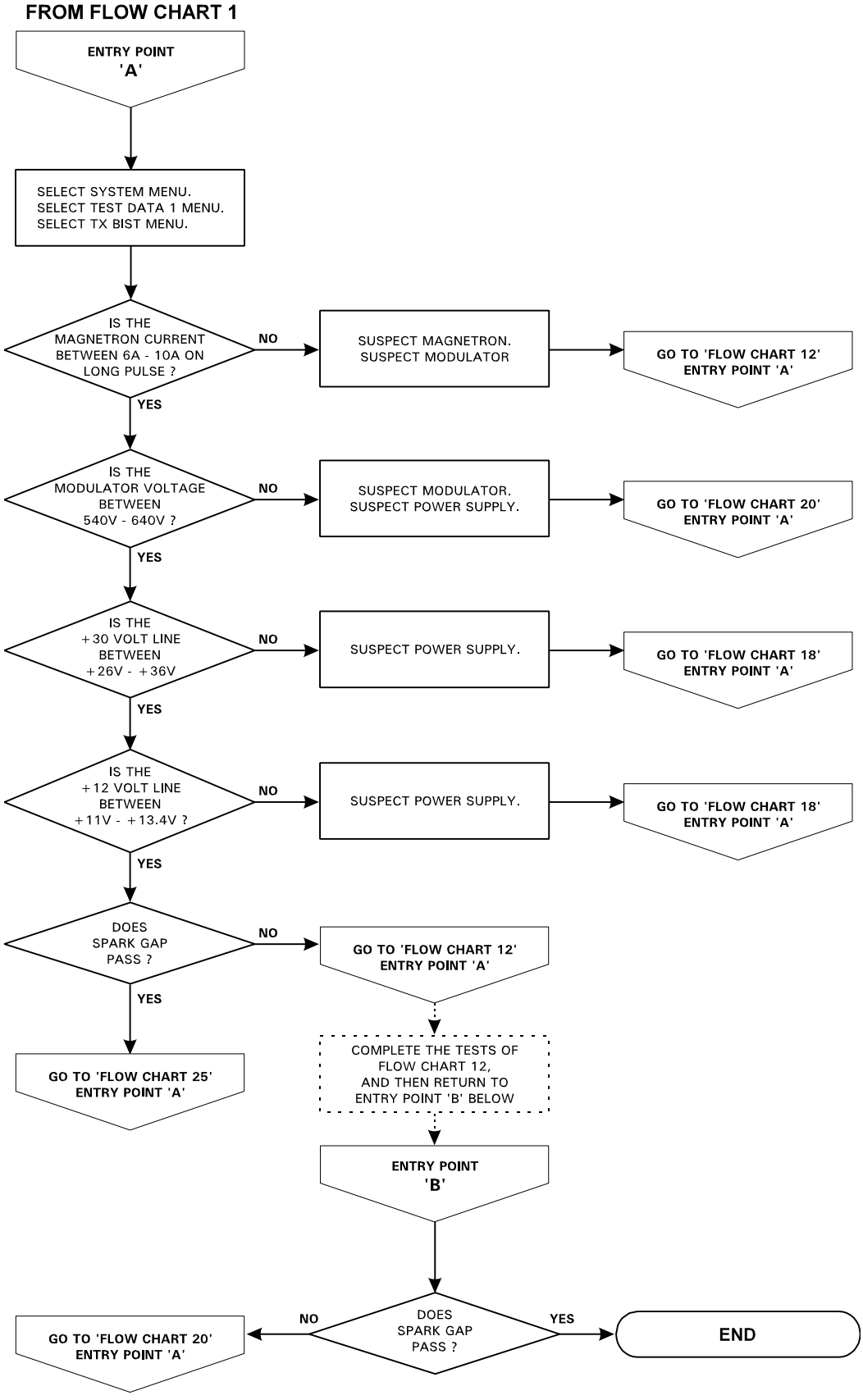
FLOW CHART 22 - X-BAND SCANNER FAULTS



FLOW CHART 23 - X-BAND SCANNER FAULTS
('TX COMMS ERROR' Displayed)



FLOW CHART 24 - X-BAND SCANNER FAULTS ('TX BIST ERROR' Displayed)



FLOW CHART 25 - X-BAND SCANNER FAULTS