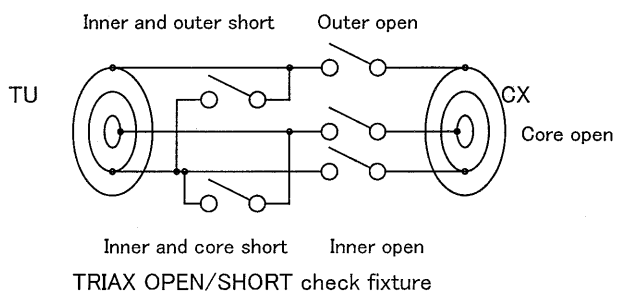


7. 2 Cable short/open protector

No.	Item	Device	Test point	Description	Specification	Note
(1)	Cable open	Use check fixture	Cable check indicators (front panel)	Standby power (camera power off) Disconnect triax cable between TU-Z3 and CX-Z3. Open LED lights. Reconnect triax cable. OK LED lights.	Open LED lights.	If normal, OK LED lights.
(2)	Core conductor open			Standby power (camera power off) Insert the check fixture in the triax cable between the TU-Z3 and CX-Z3. Set core switch to open. NG LED lights. Return switch to normal. OK LED lights.	NG LED lights.	
(3)	Inner sheath open			Standby power (camera power off) Set check fixture inner sheath switch to open. NG LED lights. Return switch to normal. OK LED lights.	NG LED lights.	
(4)	Outer sheath open			Set check fixture outer sheath switch to open. NG LED lights. Return switch to normal. OK LED lights.	NG LED lights.	
(5)	Inner and outer sheaths open			Set check fixture inner and outer sheath switch to open. NG LED lights. Return switch to normal. OK LED lights.	NG LED lights.	
(6)	Inner and outer sheaths shorted			Set check fixture inner sheath switch to outer. NG LED lights. Return switch to normal. OK LED lights.	NG LED lights.	



No.	Item	Device	Test point	Description	Specification	Note
(7)	Cable open	Use check fixture	Cable check indicators (front panel)	Camera power on. Disconnect triax cable between TU-Z3 and CX-Z3. Open LED lights. Reconnect triax cable. OK LED lights. Confirm that camera power is supplied automatically after cable check.	Open LED lights.	If normal, OK LED lights.
(8)	Core open			Camera power on. Insert the check fixture in the triax cable between the TU-Z3 and CX-Z3. Set core switch to open. NG LED lights. Return switch to normal. OK LED lights. Set the camera power switch to on and confirm that power is supplied.	NG LED lights. (camera power off)	
(9)	Inner sheath open			Camera power on. Set check fixture inner sheath switch to open. NG LED lights. Return switch to normal. OK LED lights. Set the camera power switch to on and confirm that power is supplied.	NG LED lights. (camera power off)	
(10)	Outer sheath open			Set check fixture outer sheath switch to open. NG LED lights. Return switch to normal. OK LED lights. Set the camera power switch to on and confirm that power is supplied.	NG LED lights. (camera power off)	
(11)	Inner and outer sheaths open			Set check fixture inner sheath switch to outer. NG LED lights. Return switch to inner. OK LED lights. Set the camera power switch to on and confirm that power is supplied.	NG LED lights. (camera power off)	
(12)	Core and inner sheath shorted			Set check fixture inner sheath switch to core. NG LED lights. Return switch to inner. OK LED lights. Set the camera power switch to on and confirm that power is supplied.	NG LED and OVER CURRENT lights. (camera power off)	

### 7. 3 Video and sync systems

No.	Item	Device	Test point	Description	Specification	Note
(1)	GL operation	B.BST IN	TU-Z3 rear CN9	When a black burst signal is connected to B.BST IN, synchronization goes to external and the front panel GL ON LED lights. At the function menu, adjust the H Phase to align the phase of the input and ENC out signals. Use SC Coarse to shift the SC phase in 90° increments and SC Fine for precise adjustment.		
(2)	RET video switching		VF OUT	At the function menu, set AUX SEL to Analog. Press RET 1 of the CX-Z3 rear and confirm the viewfinder image changes to the TU-Z3 RET 1 input signal. (RET 2 also same.)		

### 7. 4 Audio system

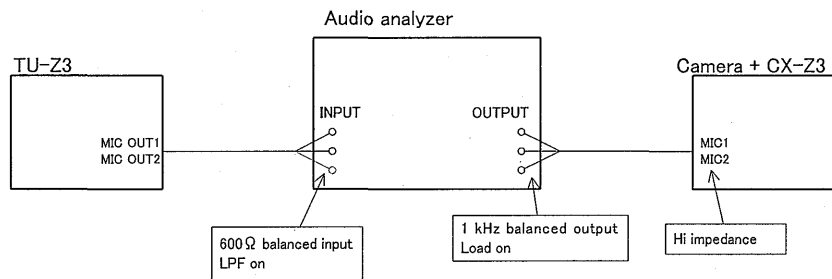


Fig. 6-1

No.	Item	Test point	Description	Specification	Note
(1)	MIC1	TU-Z3 rear MIC 1 out	At the camera menu, set the following. Connect as shown in Fig. 6-1. Set the audio analyzer output level to -60 dBm and check the output level at MIC 1 out.	$0 \pm 3\text{dBm}$	
(2)	MIC2	TU-Z3 rear MIC 2 out	Set the MIC switch of the CX-Z3 rear to off. Connect as shown in Fig. 6-1. Set the audio analyzer output level to +4, 0, -10, -20, -30, -40, -50, -60 and -70 dBm (set the MIC 2 CONT of the TU-Z3 menu to the same level). Check the output level at MIC 2 out.	$0 \pm 3\text{dBm}$	

## 7. 5 Incom system

### 7. 5. 1 TU→CX(4Wire)

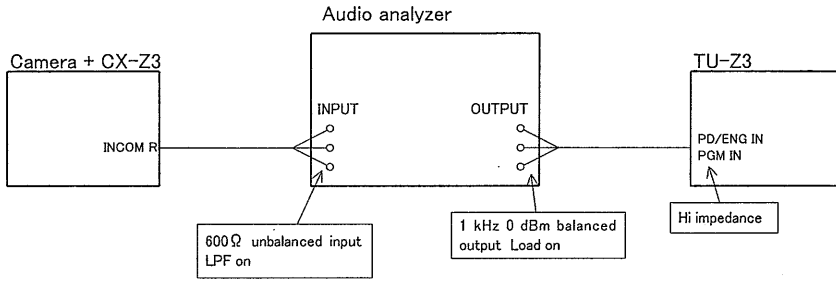


Fig. 6-2

No.	Item	Test point	Description	Specification	Note
(1)	PGM IN → CX INCOM R	CX-Z3 INCOM R	Set as follows. PRIV/COMM = COMM (TU-Z3 front) PGM Level = Max (CX-Z3) Connect as indicated in Fig. 6-2 and check the CX-Z3 incom receiver output level.	$0 \pm 6\text{dBm}$	
(2)	PD IN → CX INCOM R	CX-Z3 INCOM R	Set as follows. PRIV/COMM = COMM (TU-Z3 front) 4W/2W = 4W (TU-PWR, INCOM unit, 4 locations) RTS/CTL = RTS (TU-PWR, Incom unit, 2 locations) Incom level = Max (CX-Z3) PD/ENG = PD (CX-Z3) Connect as indicated in Fig. 6-2 and check the CX-Z3 incom receiver output level.	$0 \pm 6\text{dBm}$	
(3)	ENG IN → CX INCOM R	CX-Z3 INCOM R	Set as follows. PRIV/COMM = COMM (TU-Z3 front) 4W/2W = 4W (TU-PWR, INCOM unit, 4 locations) RTS/CTL = RTS (TU-PWR, Incom unit, 2 locations) Incom level = Max (CX-Z3) PD/ENG = PD (CX-Z3) Connect as indicated in Fig. 6-2 and check the CX-Z3 incom receiver output level.	$0 \pm 6\text{dBm}$	

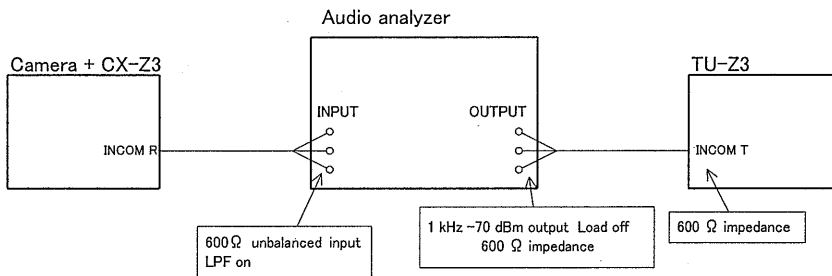


Fig. 6-3

No.	Item	Test point	Description	Specification	Note
(4)	TU INCOM T → CX INCOM R	CX-Z3 INCOM R	Set as follows. Talk on/off = on (TU-Z3 front) Incom level = Max (CX-Z3) (TU-PWR, INCOM unit, 4 locations) RTS/CTL = RTS (TU-PWR, Incom unit, 2 locations) CX-Z3 incom receiver output level.	$0 \pm 6\text{dBm}$	

7. 5. 2. CX→TU(4Wire)

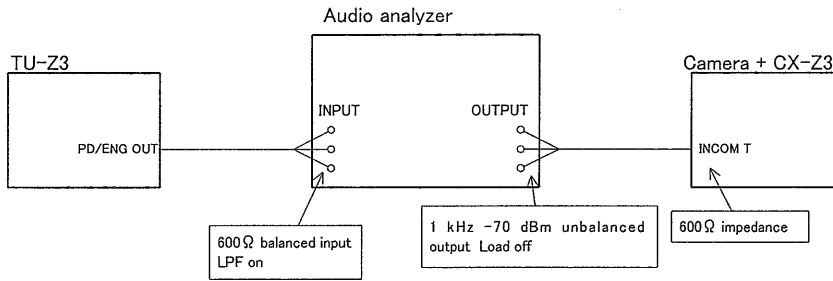


Fig. 6-4

No.	Item	Test point	Description	Specification	Note
(1)	CX INCOM T→ PD OUT	TU-Z3 rear Communications connector PD out	Set as follows. Talk on/off = on (CX-Z3) PD/ENG = PD (CX-Z3) PRIV/COMM = COMM (TU-Z3 front) 4W/2W = 4W (TU-PWR, INCOM unit, 4 locations) RTS/CTL = RTS (TU-PWR, Incom unit, 2 locations) Connect as shown in Fig. 6-4 and check the output level at PD out of the TU-Z3 communications connector.	0±3dBm	
(2)	CX INCOM T→ ENG OUT	TU-Z3 rear communications connector ENG out	Set as follows. Talk on/off = on (CX-Z3) PD/ENG = ENG (CX-Z3) PRIV/COMM = COMM (TU-Z3 front) 4W/2W = 4W (TU-PWR, INCOM unit, 4 locations) RTS/CTL = RTS (TU-PWR, Incom unit, 2 locations) Connect as shown in Fig. 6-4 and check the output level at ENG out of the TU-Z3 communications connector.	0±3dBm	

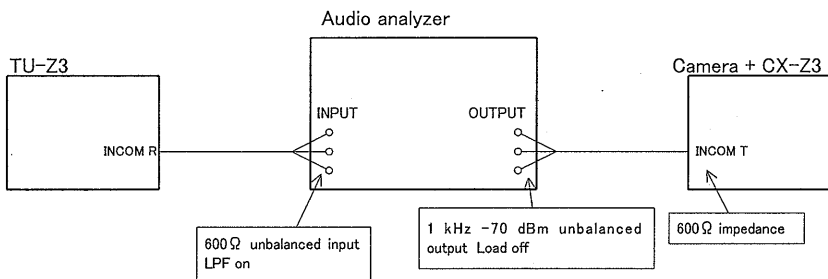


Fig. 6-5

No.	Item	Test point	Description	Specification	Note
(3)	CX INCOM T→ TU INCOM R	TU-Z3 front INCOM R	Set as follows. Talk on/off = on (CX-Z3) Incom level = Max (TU-Z3) Connect as indicated in Fig. 6-5 and check the TU-Z3 incom receiver output level.	0±6dBm	

### 7. 5. 3 TU→TU (4Wire)

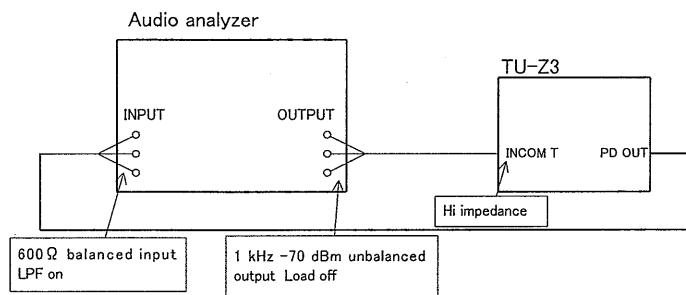


Fig. 6-6

No.	Item	Test point	Description	Specification	Note
(1)	CX INCOM T→ PD OUT	TU-Z3 rear communications connector PD out	Set as follows. Talk on/off = on (TU-Z3) PRIV/COMM = COMM (TU-Z3 front) 4W/2W = 4W (TU-PWR, INCOM unit, 4 locations) RTS/GTL = RTS (TU-PWR, Incom unit, 2 locations) Connect as shown in Fig. 6-6 and check the output level at PD out of the TU-Z3 communications connector.	$0 \pm 3\text{dBm}$	

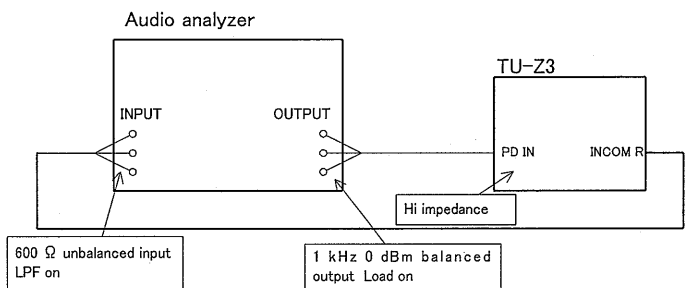


Fig. 6-7

No.	Item	Test point	Description	Specification	Note
(1)	PD IN→ TU INCOM R	TU-Z3 front INCOM R	Set as follows. Incom level = Max (TU-Z3 front) PRIV/COMM = COMM (TU-Z3 front) 4W/2W = 4W (TU-PWR, INCOM unit, 4 locations) RTS/GTL = RTS (TU-PWR, Incom unit, 2 locations) Connect as shown in Fig. 6-7 and check the TU-Z3 incom receiver output level.	$0 \pm 6\text{dBm}$	

### 7. 5. 4. CX→TU(2Wire)

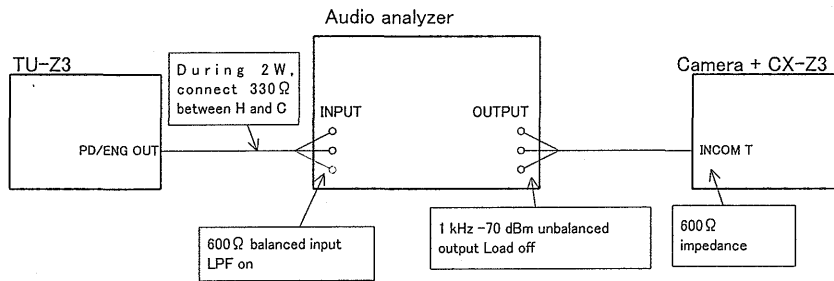
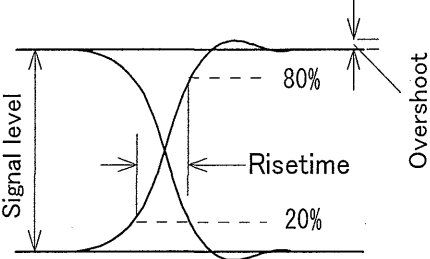


Fig. 6-8

No.	Item	Test point	Description	Specification	Note
(1)	CX INCOM T→ PD OUT	TU-Z3 rear communications connector PD out	Set as follows. Talk on/off = on (CX-Z3) PD/ENG = PD (CX-Z3) PRIV/COMM = COMM (TU-Z3 front) 4W/2W = 2W (TU-PWR, Incom unit 4 locations) RTS/CL = RTS (TU-PWR, Incom unit 2 locations) Connect as shown in Fig. 6-8 and check the output level at PD out of the TU-Z3 communications connector. Set RTS/CL = CL and check the output level at PD out.	0±3dBu        -15±3dBu	
(2)	CX INCOM T→ ENG OUT	TU-Z3 rear communications connector ENG out	Set as follows. Talk on/off = on (CX-Z3) PD/ENG = ENG (CX-Z3) PRIV/COMM = COMM (TU-Z3 front) 4W/2W = 2W (TU-PWR, Incom unit 4 locations) RTS/CL = RTS (TU-PWR, Incom unit 2 locations) Connect as shown in Fig. 6-8 and check the output level at ENG out of the TU-Z3 communications connector. Set RTS/CL = CL and check the output level at PD out.	0±3dBu        -15±3dBu	

8. DI-Z3 operation check

No.	Item	Designation	Test point	Description	Specification	Note
(1)	D1 output waveform		D1 OUT	<p>At Adjust Mode 3, set 3. Test (bar) to on. Use waveform monitor and check for normal Y, R-Y and B-Y waveforms. Check eye pattern.</p> 		
(2)	RET video switching		VF OUT	<p>At the function menu, set AUX SEL to digital. At the CX-Z3 rear, press RET 1. Confirm the TU-Z3 RET 1 input appears on the viewfinder. (RET 2 same)</p>		



## 9. Function and adjust menu switch setting

### 9. 1 FUNCTION MENU

FUNCTION1	
H. PHASE	: 55
SC COARSE	: 0°
SC FINE	: 0
TRIAx/COAX?	: TRIAX MODE
BUZZER	: ENABLE
AUX SEL	: ANALOG
COMB FILT	: OFF
MIC2 GAIN	: -60dB
CCU ID	: 001
FILTER DISP	: ON(TYPE1)

FUNCTION2	
DNR	: OFF

### 9. 2. ADJUST MENU

■ADJUST MODE3 (ON/OFF)	
1. ATT SEL	: AUTO
2. TEST (SAW)	: OFF
3. TEST (BAR)	: OFF
4. GTALLY SEL	: R BLINK
ROM VER.	: ****
CHECK SUM	: ****

Adjust modes 1 and 2, and Check mode are according to settings during adjustment.

### 9. 3 Switch setting

No.	Board	Switch no.	Name	Initial setting	Note	
1	TU outer rear side	CHASSIS SW2	AC/DC	AC	AC: AC input via chassis CN17 DC: DC input via chassis CN17	
2		TU-BNC SW201	RGB/YPBPR	RGB		
3		TU-BNC SW202	RS232C/Remote	Remote (lower)		
4	TU-Z3 TU-VIDEO	SW202	TALLY 24V/0V	Contact supply	Right (0 V) as viewed from front panel, contact supply Left (24 V) as viewed from front panel, voltage supply	
5		SW203	ADJUST	OFF	On during adjustment	
6		SW205	TRUNK/PROMPT	PRONPT	Prompt ↔ Trunk Switch also changes CX	
7	TU-Z3 TU-PWR/INCON	SW1	Incom PD/ENG	PD	Fixed at PD	
8		SW2	Incom 2W/4W	4Wire	2Wire for RTS and Clearcom	
9		SW3	Incom 2W/4W	4Wire	2Wire for RTS and Clearcom	
10		SW4	Incom 2W/4W	4Wire	2Wire for RTS and Clearcom	
11		SW5	Incom 2W/4W	4Wire	2Wire for RTS and Clearcom	
12		SW6	1	Noise mute off	ON	Fixed
13			2	Noise level	OFF	Fixed
14			3	Mute time	OFF	Fixed
15			4	Test off	ON	Fixed
16		SW7	RTS/Clearcom	RTS	CL during Clearcom	
17	SW8	RTS/Clearcom	RTS	CL during Clearcom		
18	TU-Z3 TU-INCOM	SW3	CAR/DYN	DYN	CAR: Carbon headset DYN: Dynamic headset	
19	CX outer left side	PWR SW SW1	EXT/CCU	CCU		
20	CX-Z3 MU-DIGITAL	SW201	1	MUTE OFF	ON	Fixed
21			2	TEST OFF	ON	Fixed
22		SW202	1	1 mm dia.	ON	Fixed
23			2	2 mm dia.	ON	Fixed
24	CX-Z3 CX-INT	SW1	MIC GAIN	6	When SW1 is at Manual, adjusts CX rear MIC 2 input signal gain	
25		SW2	CPU/MANUAL	CPU CTL	MIC 2 gain control select CPU CTL: Gain controlled from TU Manual CTL: Gain controlled by MIC gain (SW1)	
26		SW451	CAR/DYN	DYN	CAR: Carbon headset DYN: Dynamic headset	

## 5. BLOCK DIAGRAMS

### 1. VIDEO system

CX-Z3A VIDEO .....	5-1-1
TU-Z3A VIDEO MOD/DEM .....	5-1-3
TU-Z3A DIGITAL ENCR .....	5-1-5

### 2. POWER system

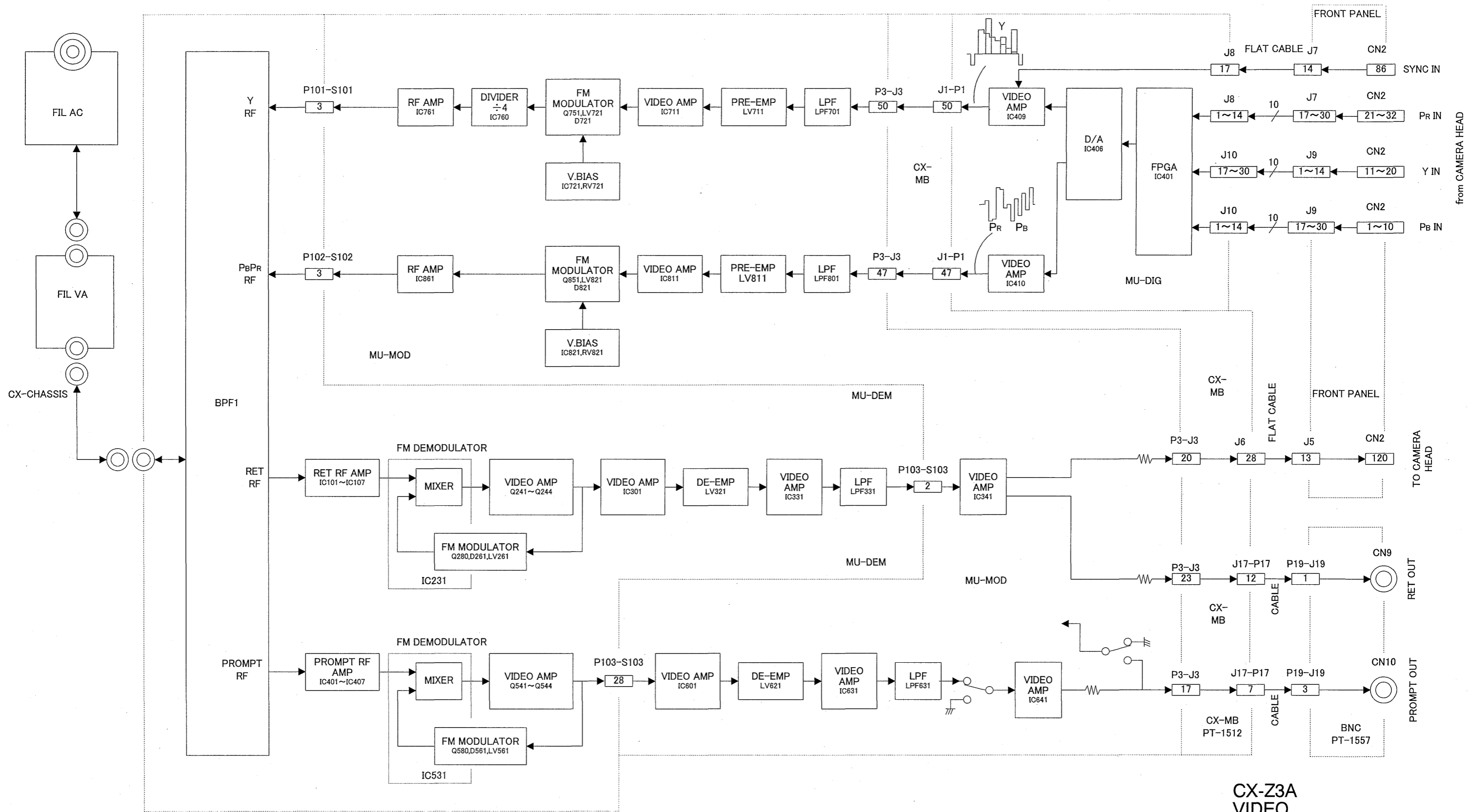
TU-Z3A POWER .....	5-2-1
CX-Z3A POWER .....	5-2-2

### 3. DIGITAL transmission

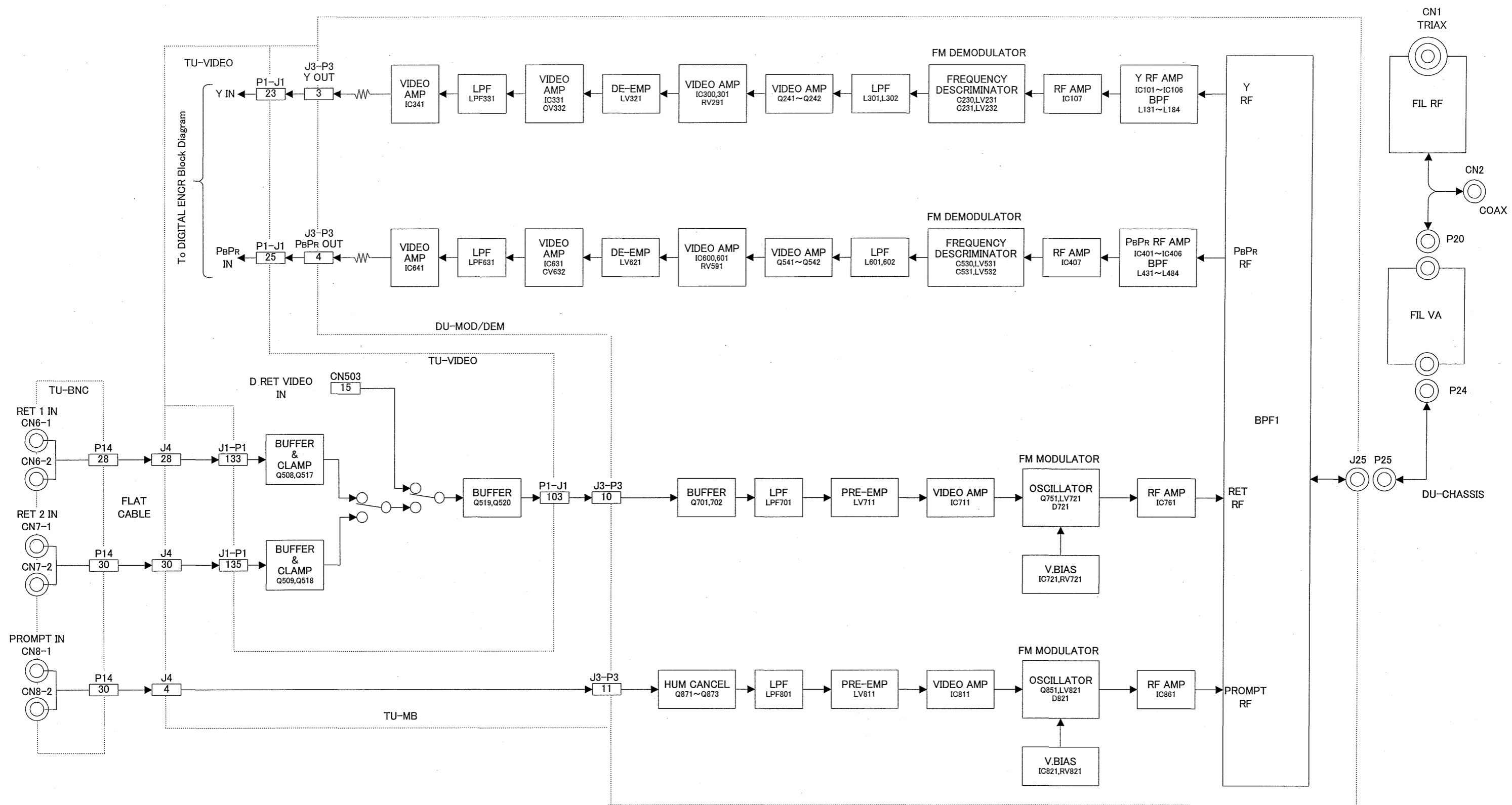
TU-Z3A DIGITAL .....	5-3-1
CX-Z3A DIGITAL .....	5-3-3

### 4. INTERCOM system

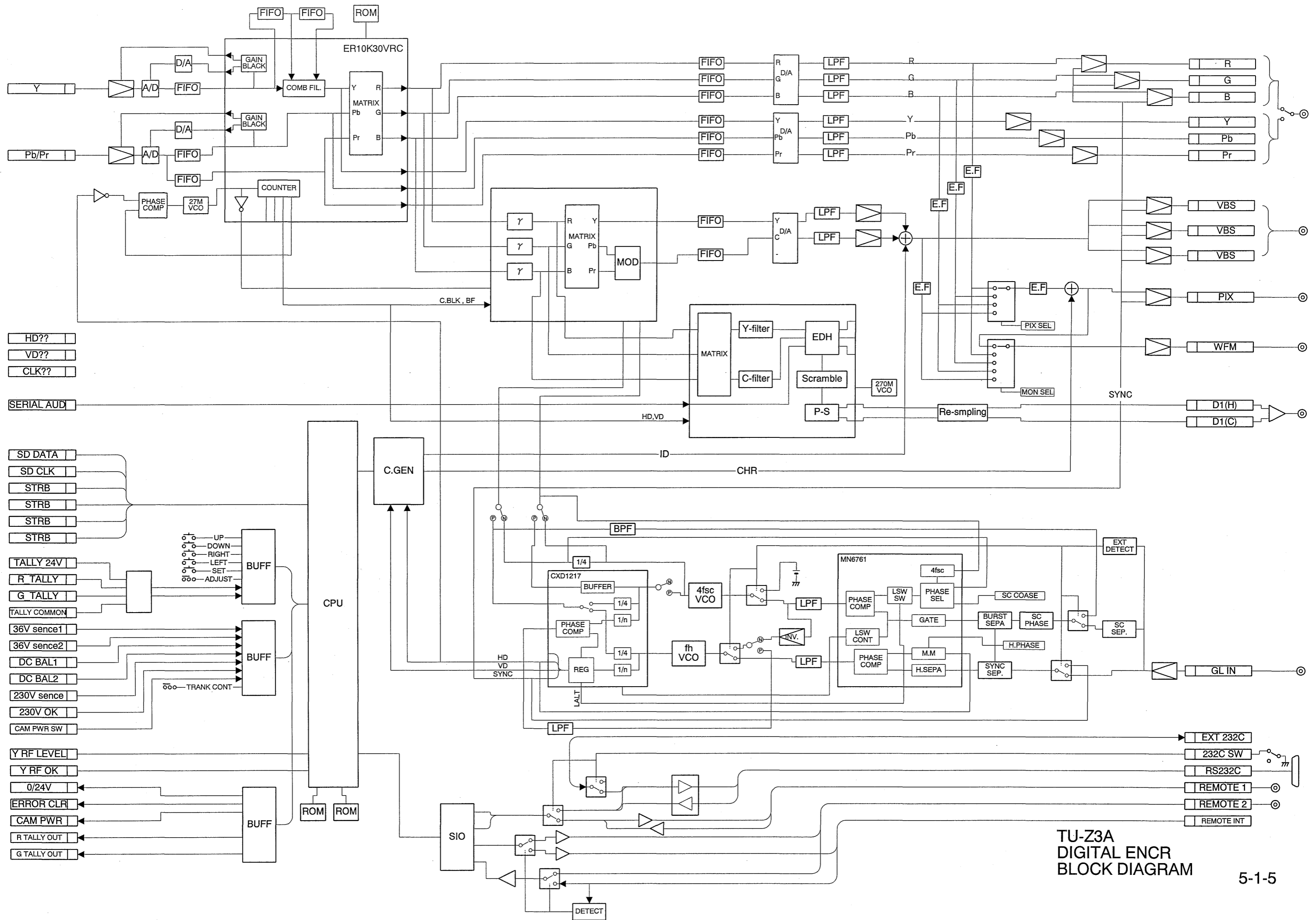
TU-Z3A/CX-Z3A INTERCOM .....	5-4-1
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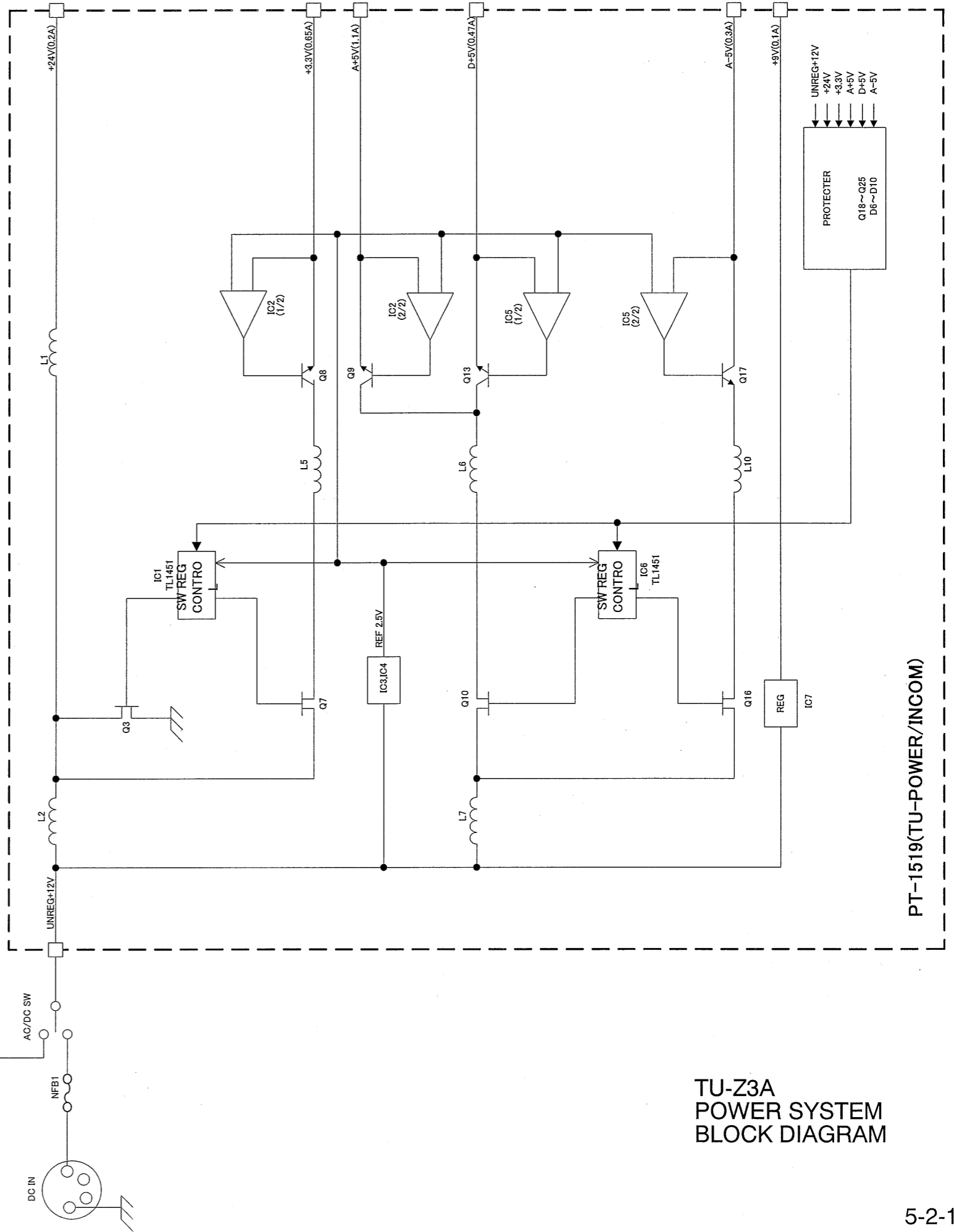
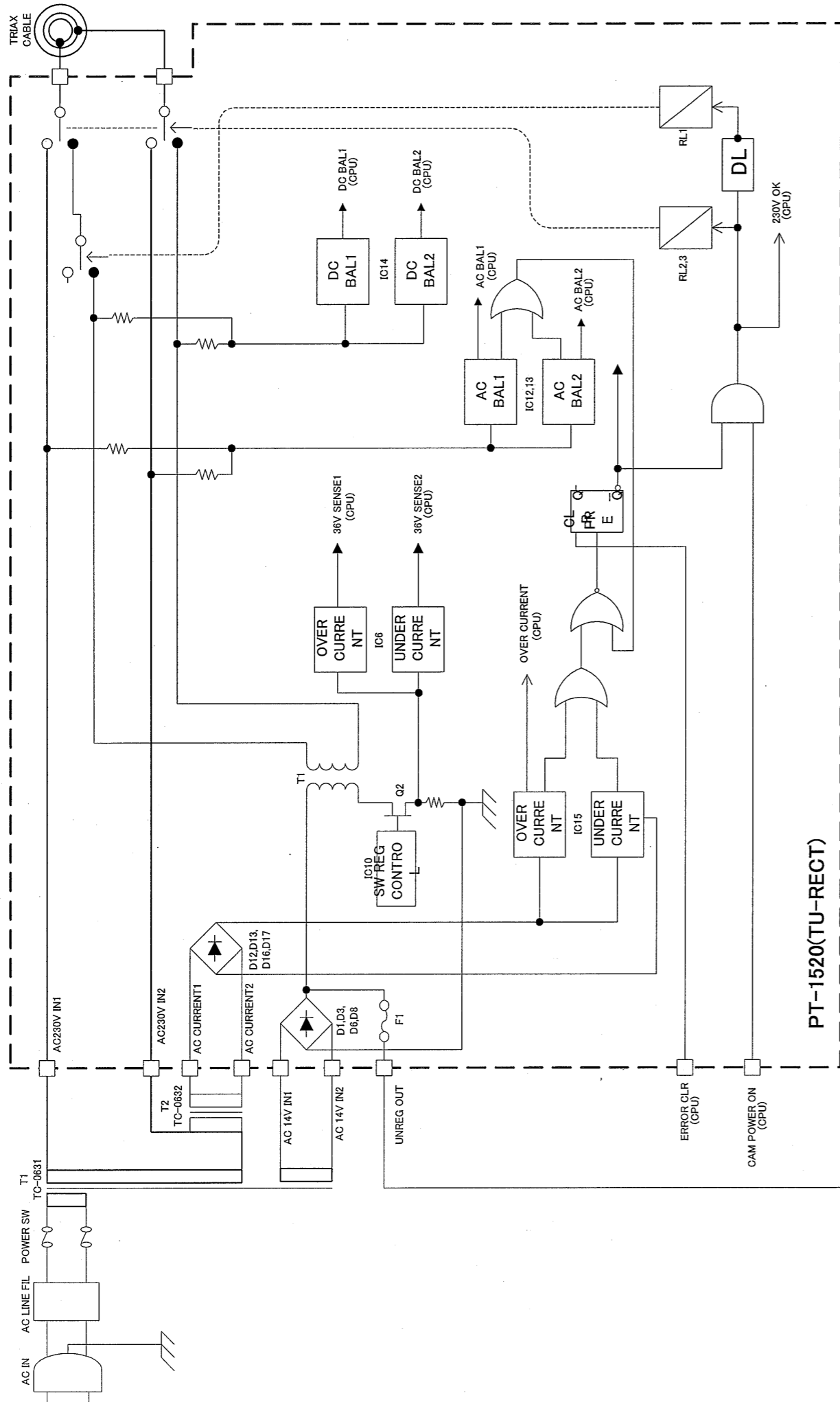
CX-Z3A  
VIDEO  
BLOCK DIAGRAM



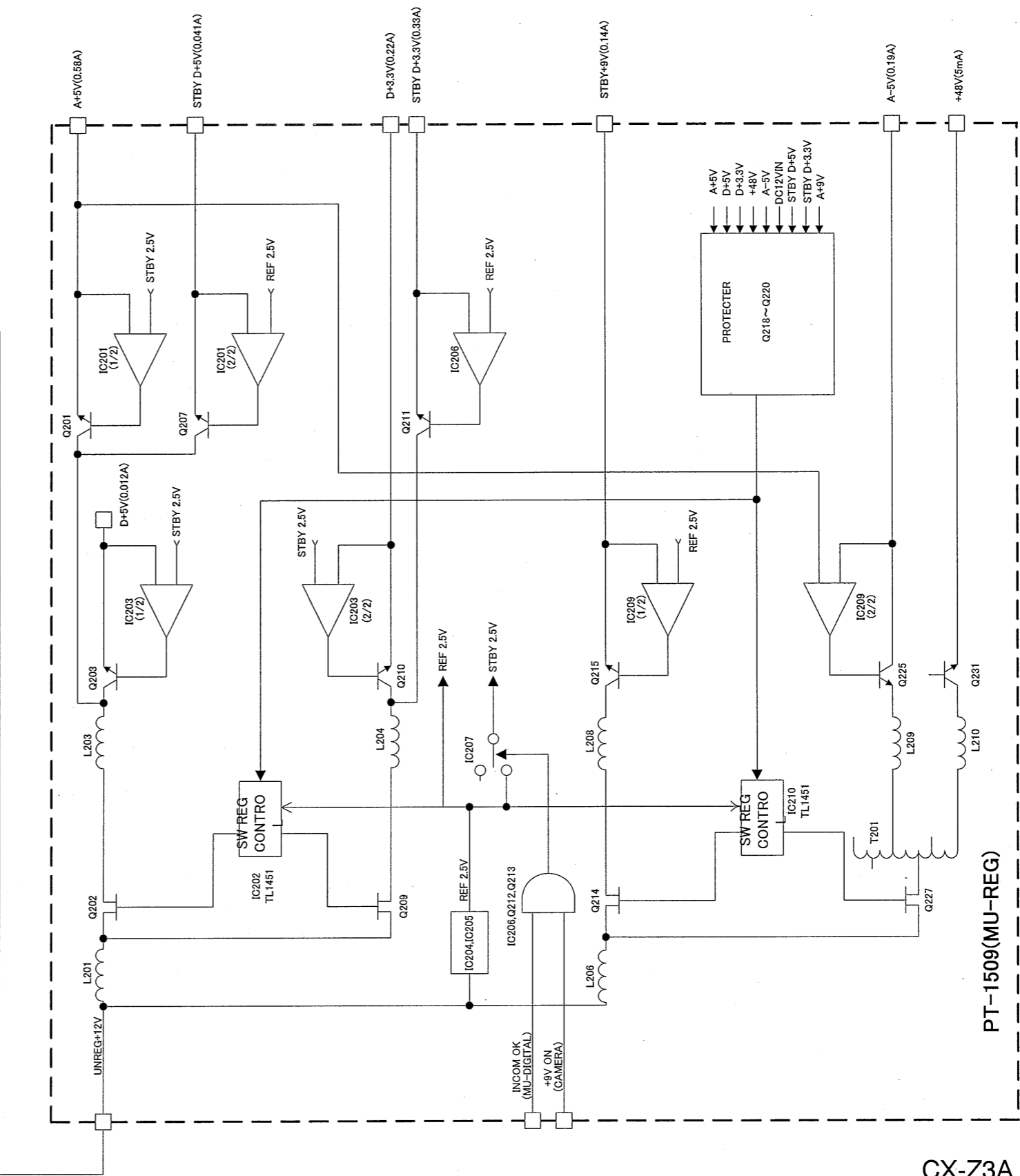
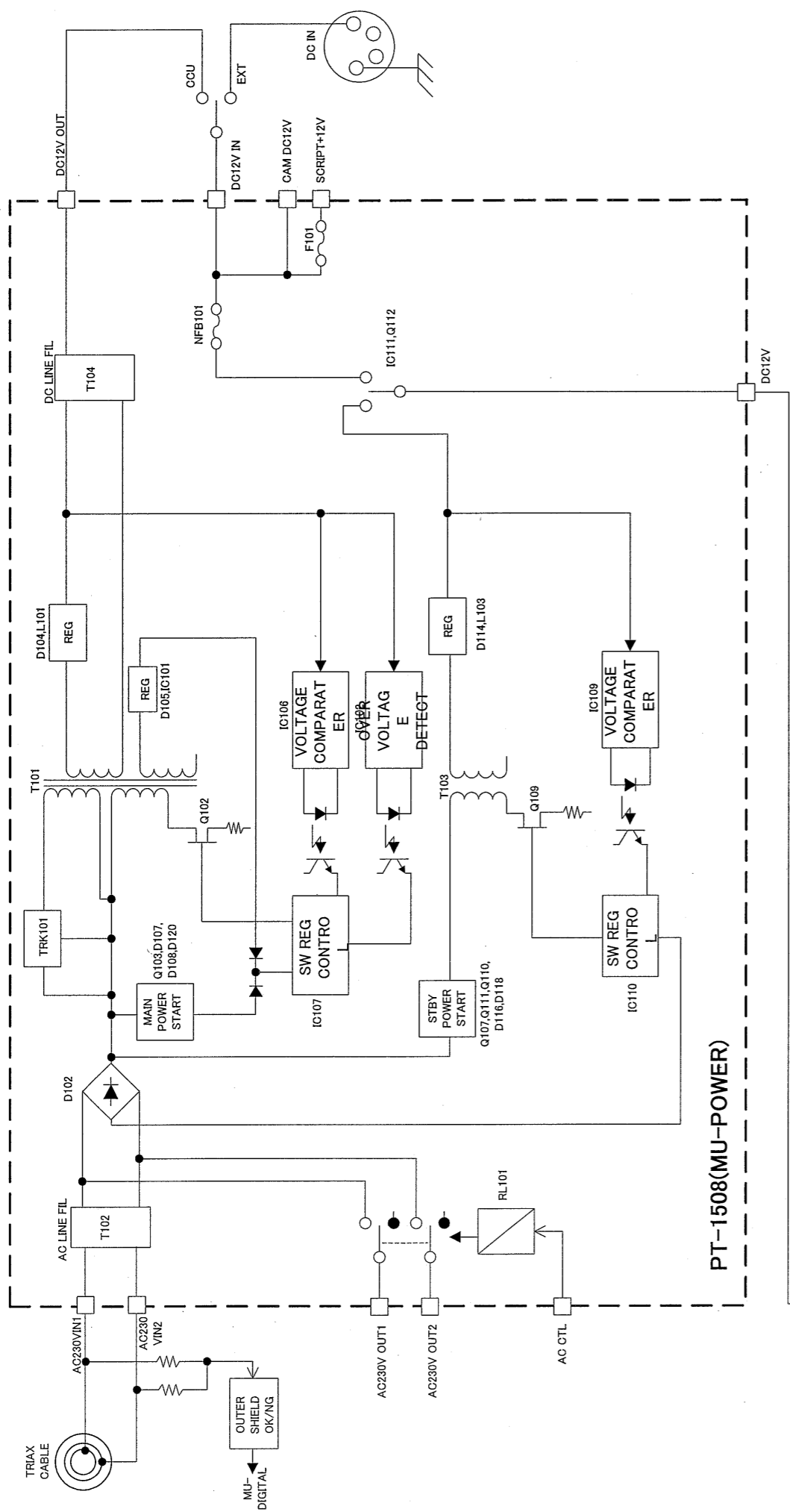
TU-Z3A  
VIDEO MOD/DEM  
BLOCK DIAGRAM



TU-Z3A  
DIGITAL ENCR  
BLOCK DIAGRAM

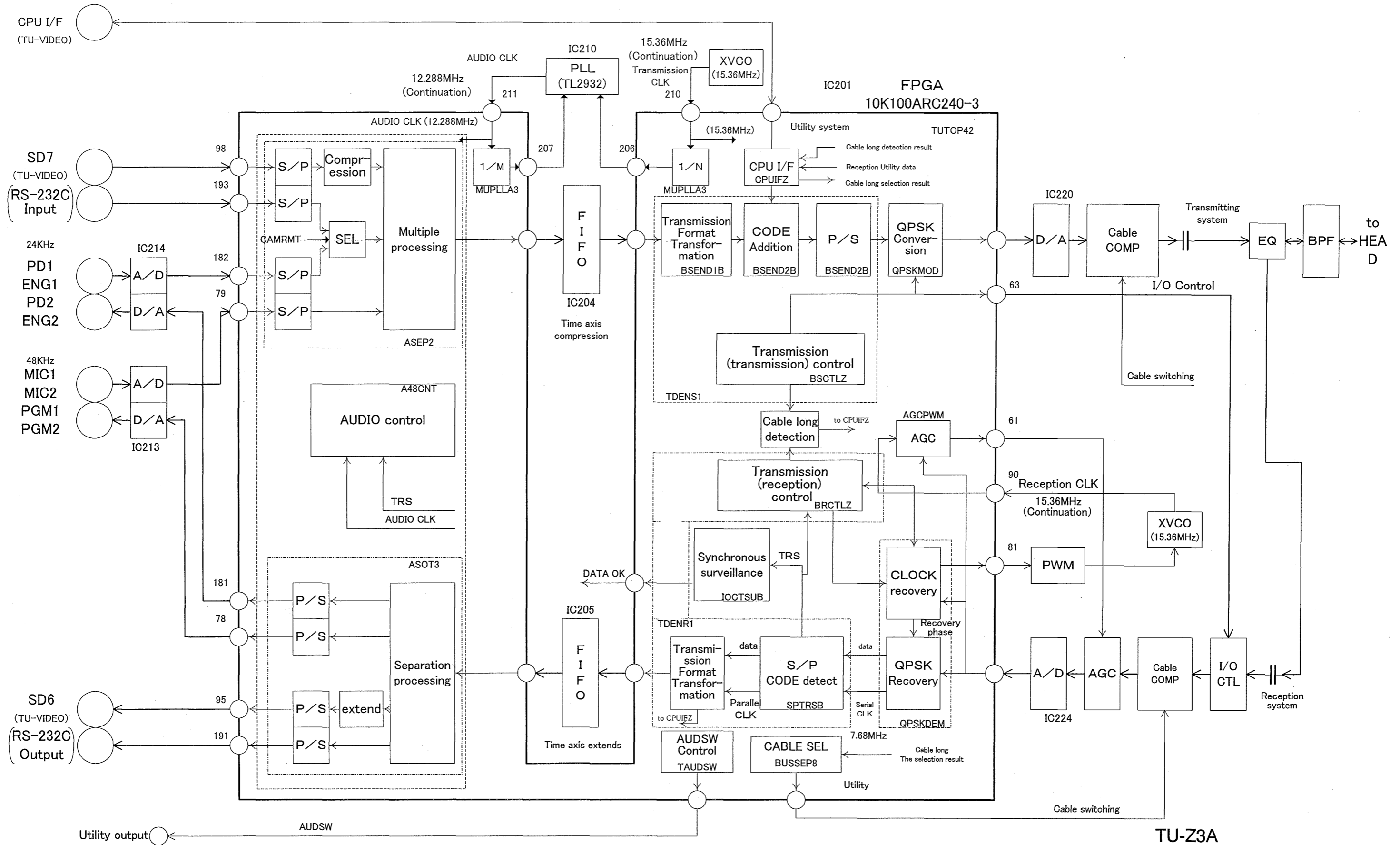


TU-Z3A  
POWER SYSTEM  
BLOCK DIAGRAM



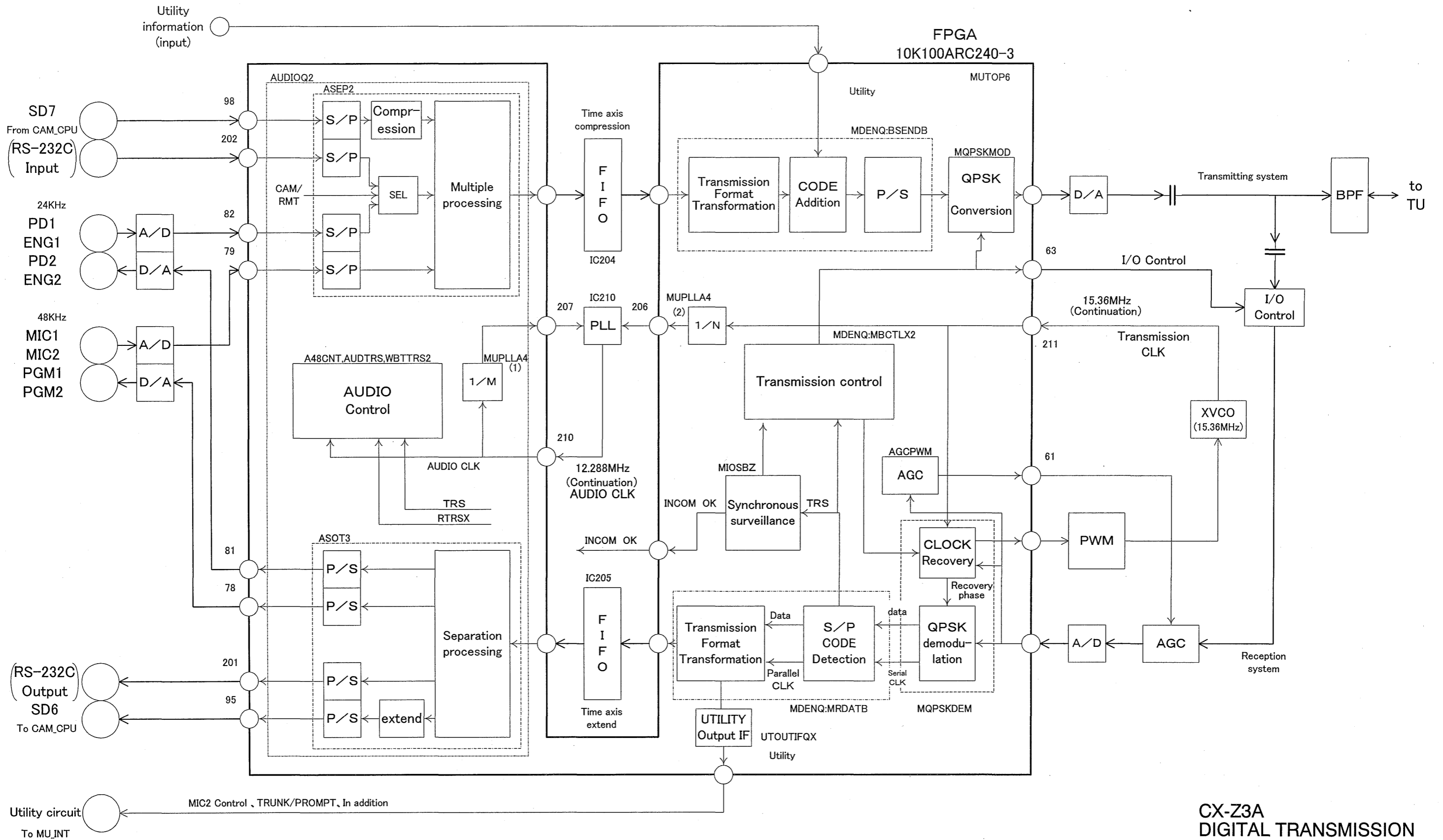
CX-Z3A  
POWER SYSTEM  
BLOCK DIAGRAM





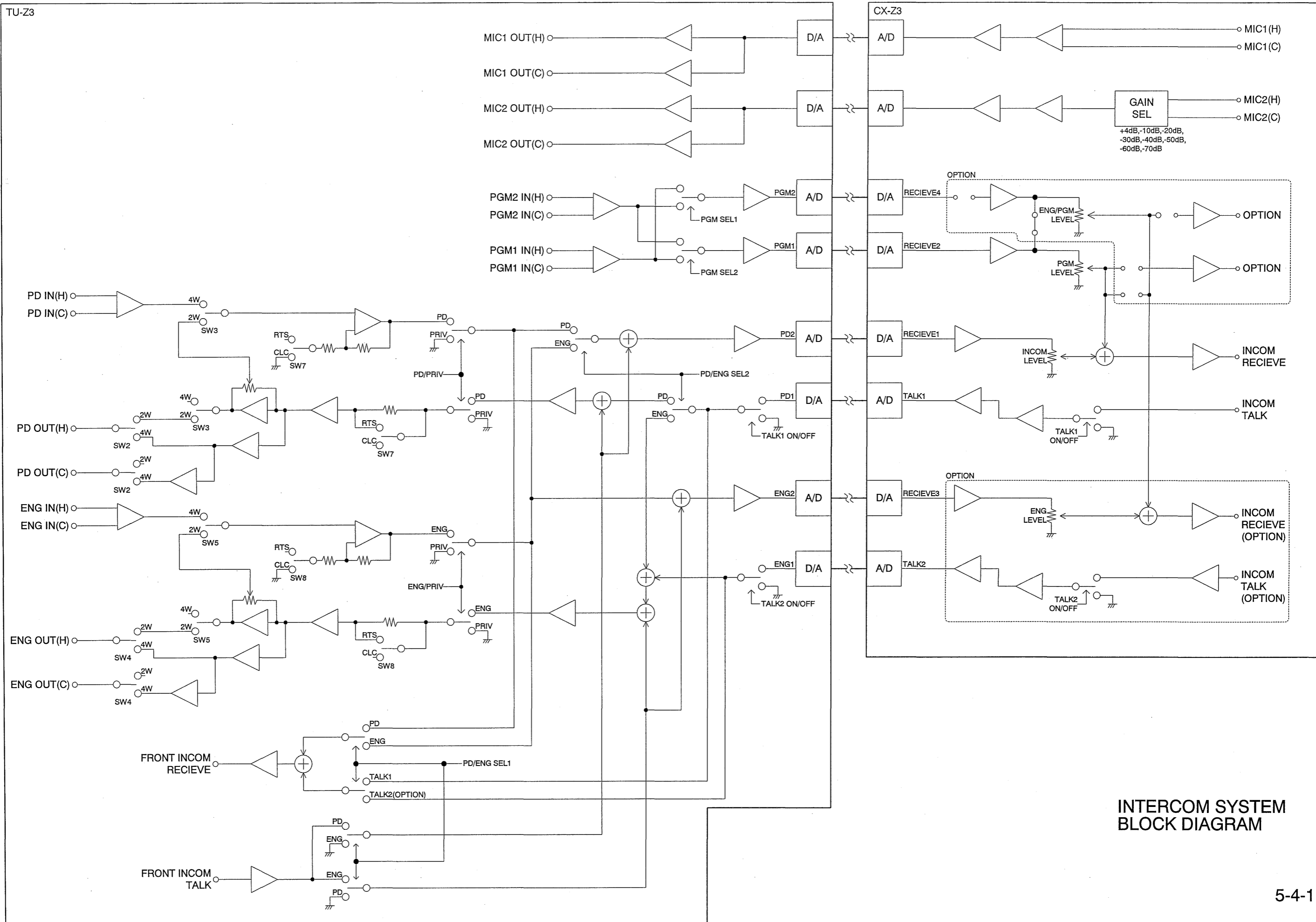
(Unit inside)

TU-Z3A  
DIGITAL TRANSMISSION  
BLOCK DIAGRAM



CX-Z3A  
DIGITAL TRANSMISSION  
BLOCK DIAGRAM

TU-Z3



INTERCOM SYSTEM  
BLOCK DIAGRAM