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GENERAL

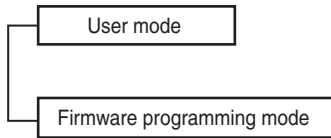
Service Manual parts numbers for equipment relative to the KTI-3

Model	Parts Number	Remarks
NXR-710 K	B51-8901-00	VHF DIGITAL BASE-REPEATER
NXR-710 E	B51-8919-00	VHF DIGITAL BASE-REPEATER
NXR-710 C	B51-8923-00	VHF DIGITAL BASE-REPEATER
NXR-810 K, K2	B51-8902-10	UHF DIGITAL BASE-REPEATER
NXR-810 E	B51-8920-00	UHF DIGITAL BASE-REPEATER
NXR-810 C	B51-8924-00	UHF DIGITAL BASE-REPEATER

REALIGNMENT

1. Modes

● Transceiver (NXR-710/810) + KTI-3



Mode	Function
User mode	Use this mode for normal operation.
Firmware programming mode	Use when changing the firmware program of the flash memory.

2. How to Enter Each Mode

Mode	Operation
User mode	Power ON (NXR-710/810)
Firmware programming mode	- (Refer to "3-3. Programming")

3-3. Programming

The firmware of the KTI-3 is stored in the NXR-710/810, and installed in the KTI-3 as necessary.

Conditions of the NXR-710/810 installing the firmware in the KTI-3.

- When the firmware besides the firmware of the KTI-3 that the NXR-710/810 stores is installed in the KTI-3 or no firmware is written in the KTI-3.
- When an Intersite Call has been permitted by the FPU. (When the FPU data is not written ("E1" display), the firmware is not written.)

Note:

- The NXR-710/810 power switch will become disabled, to prevent writing from failing while rewriting the firmware ("--" is displayed).

When turning the power switch off during writing, the power will switch off only after rewriting has ended.

If the DC cable is removed, power will no longer be supplied to the NXR-710/810 and KTI-3, thus writing of the firmware will fail.

When the power supply is turned On, the PWR LED lights orange and the Firmware Loader mode begins.

3. Firmware Programming Mode

3-1. Preface

The KTI-3 is programmed using the NXR-710/810.

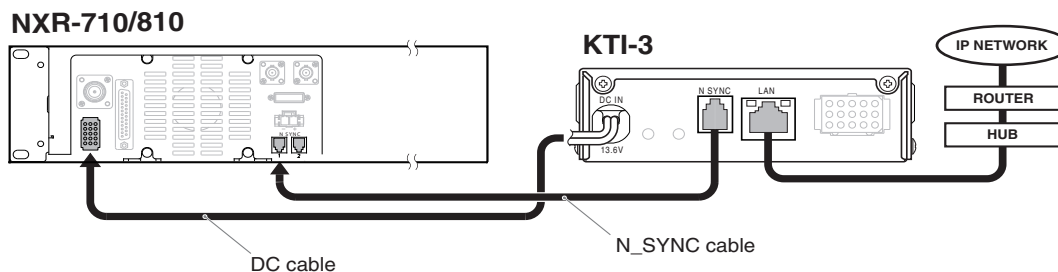
3-2. Connection procedure

The figure below shows the connection method with the NXR-710/810.

Connect the KTI-3 to the NXR-710/810 using the N_SYNC cable and the DC cable.

Note:

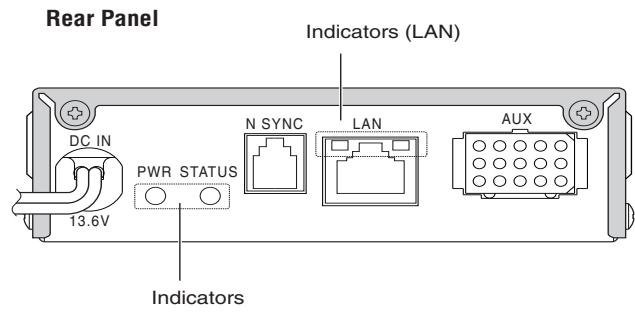
- Refer to the NXR-710 service manual or NXR-810 service manual for connecting the PC and NXR-710/810.



OPERATING FEATURES

1. Indicators (PWR STATUS)

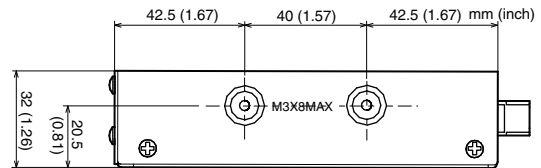
Mode	Indicator	Color	Meaning
User mode	PWR	Green	Lights while the power is ON.
	STATUS	Orange	Lights when used as a Host repeater.
Firmware programming mode	PWR	Orange	Lights when Firmware programming mode.
	STATUS	Red	Lights when firmware is successfully written.
		Green	Blinks when writing the firmware has failed.



2. Indicators (LAN)

Indicator	Color	Meaning
Full Duplex (LAN : Right)	Green	Lights when in Full Duplex mode. Blinks when a collision status is detected in half Duplex mode.
100Mbps (LAN : Left)	Green	Lights when in 100Base-TX mode.

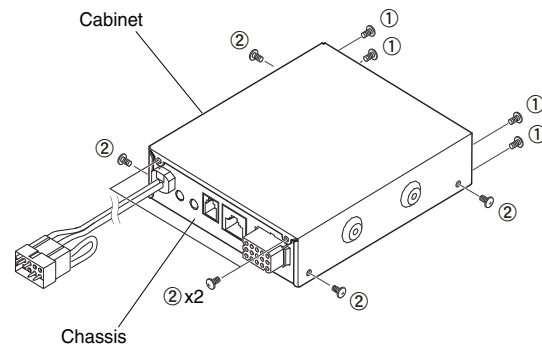
■ Reference drawing for mounting hardware



DISASSEMBLY FOR REPAIR

1. Remove the cabinet from the chassis

1. Remove 4 screws ① and 6 screws ②.
2. Remove the cabinet from the chassis.



CIRCUIT DESCRIPTION

1. MCU circuit

The MCU (IC10) 32bit microcontroller includes a 98kbit chip SRAM.

2. Memory circuit

The flash memory has a capacity of 8Mbit (IC11) and 32Mbit (IC12).

3. Power supply circuit

The Power supply circuit consists of IC3 and IC7.
IC3 is a DC/DC converter and supplies 3.3V.
IC7 supplies 5.0V.

4. LAN interface circuit

This circuit consists of IC6 and J20.
This interface circuit corresponds to 100Base-TX and 10Base-T.

COMPONENTS DESCRIPTION

Interface unit (X46-3370-20)

Ref No.	Part Name	Description
IC1,2	IC	RS-485 transceiver
IC3	IC	DC/DC converter
IC4	IC	Tri-state buffer
IC5	IC	RS-232C driver/receiver
IC6	IC	Ethernet transceiver
IC7	IC	Voltage regulator
IC8	IC	Voltage detector
IC10	IC	MCU
IC11	IC	Flash memory
IC12	IC	Flash memory
Q1,3	Transistor	DC switch (25M shift)
Q2	Transistor	DC switch (SQ_OUT)
Q4,5	Transistor	DC switch (12M shift)
Q6~9	Transistor	DC switch (LED)
D1	Varistor	Over current protection
D2	Zener diode	Protection of reverse connection
D4	Schottky diode	Catch diode (DC/DC converter)
D8	Diode	Reverse current protection
D9	Zener diode	Over voltage protection
D10	Schottky diode	Over voltage protection
D11,12	LED	Power/Status Indicator
D13~18	Diode	Surge protection
D19~22	Varistor	Surge protection

PARTS LIST

* New Parts. Δ indicates safety critical components.

Parts without **Parts No.** are not supplied.

Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

L : Scandinavia

Y : PX (Far East, Hawaii)

C : China

K : USA

T : England

X : Australia

P : Canada

E : Europe

M : Other Areas

KTI-3

INTERFACE UNIT (X46-3370-20)

Ref. No.	Address	New parts	Parts No.	Description	Destination
KTI-3					
1	1B	*	A01-2229-02	METALLIC CABINET (TOP)	
2	3B	*	A10-4145-02	CHASSIS	
3	3A	*	B11-1889-04	FILTER (LED)	
5	1B	*	B43-1652-04	BADGE	
6	2C	*	B62-2283-10	INSTRUCTION MANUAL	
7	3B	*	B72-2696-04	MODEL NAME-PLATE	
8	2C	*	E30-7717-05	MODULAR CABLE ACCESSORY	
9	3A	*	E37-1526-15	LEAD WIRE WITH CONNECTOR (DC)	
10	3A	*	E37-1527-05	LEAD WIRE WITH CONNECTOR (AUX)	
11	2B	*	G11-4548-04	SHEET (CLAMP FILTER)	
12	3B	*	G13-2337-04	CUSHION (LED)	
13	2C	*	G13-2338-04	CUSHION (BOTTOM) ACCESSORY	
14	2C	*	G13-2339-04	CUSHION ACCESSORY	
15	2B	*	G13-2349-04	CUSHION (CLAMP FILTER)	
16	2B		L92-0471-05	CLAMP FILTER	
A	1A,1B		N35-2605-43	BINDING HEAD MACHINE SCREW	
B	1B		N35-3005-43	BINDING HEAD MACHINE SCREW	
C	2B		N87-2606-48	BRAZIER HEAD TAPTITE SCREW	

INTERFACE UNIT (X46-3370-20)

D11 ,12	2A		B30-2151-05	LED(RED/GREEN)	
C1 ,2			CC73HCH1H101J	CHIP C 100PF J	
C3			CK73HB1H102K	CHIP C 1000PF K	
C4			CC73HCH1H101J	CHIP C 100PF J	
C5			CK73HB1H102K	CHIP C 1000PF K	
C6 -10			CC73HCH1H101J	CHIP C 100PF J	
C11 ,12			CK73HB1H102K	CHIP C 1000PF K	
C14			CC73HCH1H101J	CHIP C 100PF J	
C15			CK73HB1H102K	CHIP C 1000PF K	
C17 -21			CC73HCH1H101J	CHIP C 100PF J	
C22			CK73HB1A104K	CHIP C 0.10UF K	
C23			C92-0905-05	OS-CON 47UF 35WV	
C24			CC73HCH1H220J	CHIP C 22PF J	
C25			CK73GB1C104K	CHIP C 0.10UF K	
C26			C92-0905-05	OS-CON 47UF 35WV	
C27			CK73HB1A104K	CHIP C 0.10UF K	
C28			CK73HB1H102K	CHIP C 1000PF K	
C29			CK73GB1C104K	CHIP C 0.10UF K	
C30			CC73HCH1H220J	CHIP C 22PF J	
C31 ,32			CK73HB1H102K	CHIP C 1000PF K	
C33			C93-1810-05	CHIP C 4.7UF K	
C34			CC73HCH1H101J	CHIP C 100PF J	
C35			C93-1810-05	CHIP C 4.7UF K	
C36			CK73HB1H102K	CHIP C 1000PF K	

Ref. No.	Address	New parts	Parts No.	Description	Destination
C37 ,38			CC73HCH1H101J	CHIP C 100PF J	
C39			CK73HB1H102K	CHIP C 1000PF K	
C40 ,41			CC73HCH1H101J	CHIP C 100PF J	
C42			CK73HB1H681K	CHIP C 680PF K	
C43			CK73FB0J106K	CHIP C 10UF K	
C44			CK73EB1H474K	CHIP C 0.47UF K	
C45			CK73HB1A104K	CHIP C 0.10UF K	
C46			CC73HCH1H470J	CHIP C 47PF J	
C47			CK73HB1A104K	CHIP C 0.10UF K	
C48			CC73HCH1H470J	CHIP C 47PF J	
C49			CK73HB1A104K	CHIP C 0.10UF K	
C50			CC73HCH1H470J	CHIP C 47PF J	
C51			CK73HB1A104K	CHIP C 0.10UF K	
C52 ,53			CC73HCH1H470J	CHIP C 47PF J	
C54			CK73HB1A104K	CHIP C 0.10UF K	
C55			CK73FB0J106K	CHIP C 10UF K	
C57			CK73HB1H102K	CHIP C 1000PF K	
C58			CK73GB1C104K	CHIP C 0.10UF K	
C59			CK73HB1E103K	CHIP C 0.010UF K	
C60 ,61			C93-1827-05	CHIP C 22UF K	
C62 -64			CK73GB1C104K	CHIP C 0.10UF K	
C65			CC73HCH1H020B	CHIP C 2.0PF B	
C66			CC73HCH1H050B	CHIP C 5.0PF B	
C67			CE32BM1E470M	CHIP EL 47UF 25WV	
C68			CK73HB1E103K	CHIP C 0.010UF K	
C69			CK73HB1H102K	CHIP C 1000PF K	
C70			CK73HB1A104K	CHIP C 0.10UF K	
C71			CC73HCH1H050B	CHIP C 5.0PF B	
C72			CC73HCH1H020B	CHIP C 2.0PF B	
C73			CC73HCH1H470J	CHIP C 47PF J	
C74			CK73HB1E103K	CHIP C 0.010UF K	
C75			CK73HB1H102K	CHIP C 1000PF K	
C76 ,77			CK73HB1A104K	CHIP C 0.10UF K	
C78			CC73HCH1H470J	CHIP C 47PF J	
C79			CE32BM1E470M	CHIP EL 47UF 25WV	
C80			CK73HB1H102K	CHIP C 1000PF K	
C81			CC73HCH1H470J	CHIP C 47PF J	
C83			C93-1827-05	CHIP C 22UF K	
C84			CK73HB1A104K	CHIP C 0.10UF K	
C85 ,86			CC73HCH1H470J	CHIP C 47PF J	
C87			C93-1827-05	CHIP C 22UF K	
C90			CC73HCH1H470J	CHIP C 47PF J	
C91 ,92			CK73HB1A104K	CHIP C 0.10UF K	
C93			CC73HCH1H470J	CHIP C 47PF J	
C94			CK73HB1A104K	CHIP C 0.10UF K	
C95			CK73FB0J106K	CHIP C 10UF K	
C96			CK73HB1A104K	CHIP C 0.10UF K	
C97 ,98			CC73HCH1H470J	CHIP C 47PF J	
C99			CK73HB1A104K	CHIP C 0.10UF K	
C102			CC73HCH1H470J	CHIP C 47PF J	
C103			CK73HB1A104K	CHIP C 0.10UF K	
C104			CC73HCH1H470J	CHIP C 47PF J	
C105,106			CK73HB1A104K	CHIP C 0.10UF K	
C107			CK73FB0J106K	CHIP C 10UF K	
C108			CC73HCH1H470J	CHIP C 47PF J	

PARTS LIST

INTERFACE UNIT (X46-3370-20)

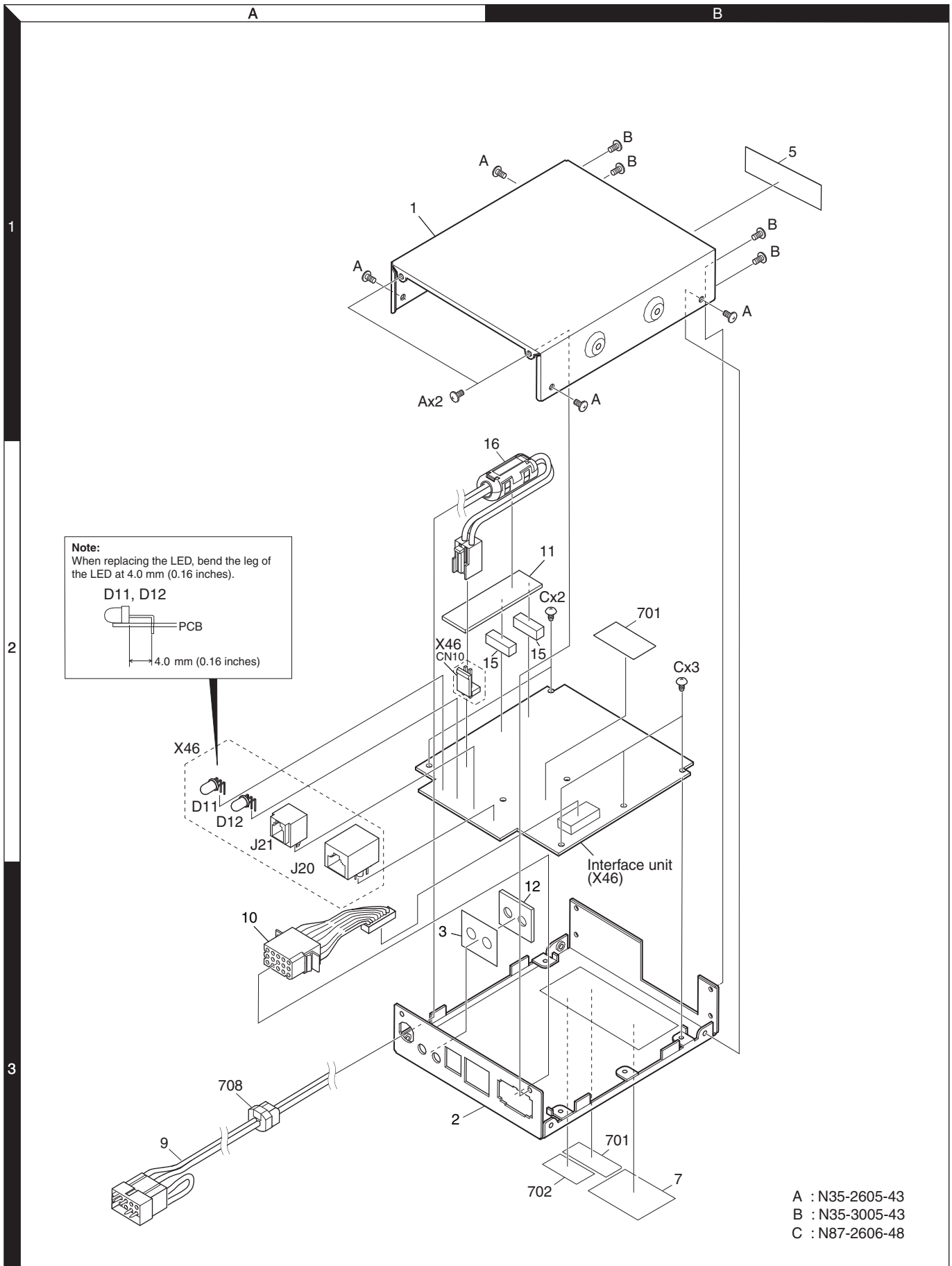
Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C109			CK73HB1A104K	CHIP C 0.10UF K		L13			L92-0639-05	CHIP FERRITE	
C110			CC73HCH1H470J	CHIP C 47PF J		L15 -17			L92-0467-05	CHIP FERRITE	
C112			CK73HB1H102K	CHIP C 1000PF K		L19 -22			L92-0467-05	CHIP FERRITE	
C114			CC73HCH1H470J	CHIP C 47PF J		L23 ,24			L92-0639-05	CHIP FERRITE	
C115			CK73HB1A104K	CHIP C 0.10UF K		L31			L92-0639-05	CHIP FERRITE	
C116			CK73HB1E103K	CHIP C 0.010UF K		L33 -35			L92-0467-05	CHIP FERRITE	
C117			CK73HB1A104K	CHIP C 0.10UF K		X2		*	L77-3067-05	CRYSTAL RESONATOR(25MHZ)	
C118			CC73HCH1H220J	CHIP C 22PF J		X4			L77-2951-05	CRYSTAL RESONATOR(12MHZ)	
C119			CC73HCH1H470J	CHIP C 47PF J		CP1		*	RK74HB1J330J	CHIP-COM 33 J 1/16W	
C120,121			CC73HCH1H100D	CHIP C 10PF D		CP3 -5		*	RK74HB1J330J	CHIP-COM 33 J 1/16W	
C122			CC73HCH1H220J	CHIP C 22PF J		CP12-15			RK74HB1J000J	CHIP-COM 0 J 1/16W	
C123			CK73HB1E103K	CHIP C 0.010UF K		CP16			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
C124-126			CC73HCH1H470J	CHIP C 47PF J		CP22		*	RK74HA1J000J	CHIP-COM 0 J 1/16W	
C127-129			CK73HB1A104K	CHIP C 0.10UF K		CP24		*	RK74HA1J000J	CHIP-COM 0 J 1/16W	
C132			CK73HB1A104K	CHIP C 0.10UF K		CP25,26		*	RK74HA1J220J	CHIP-COM 22 J 1/16W	
C133			CC73HCH1H470J	CHIP C 47PF J		CP27		*	RK74HA1J330J	CHIP-COM 33 J 1/16W	
C134			CK73HB1A105K	CHIP C 1.0UF K		R1 ,2			RK73HB1J103J	CHIP R 10K J 1/16W	
C135			CK73HB1H102K	CHIP C 1000PF K		R3			RK73HB1J000J	CHIP R 0 J 1/16W	
C137-139			CK73HB1H102K	CHIP C 1000PF K		R5 -7			RK73HB1J000J	CHIP R 0 J 1/16W	
C141			CK73HB1H102K	CHIP C 1000PF K		R8 -11			RK73EB2E101J	CHIP R 100 J 1/4W	
C142			CC73HCH1H101J	CHIP C 100PF J		R13			RK73HB1J271J	CHIP R 270 J 1/16W	
C143-150			CK73HB1H102K	CHIP C 1000PF K		R14 ,15			RK73HB1J102J	CHIP R 1.0K J 1/16W	
C153-157			CK73HB1H102K	CHIP C 1000PF K		R16			RK73HB1J101J	CHIP R 100 J 1/16W	
C158			CC73HCH1H101J	CHIP C 100PF J		R17			RK73HB1J102J	CHIP R 1.0K J 1/16W	
C159			CK73HB1H102K	CHIP C 1000PF K		R18			RK73HB1J101J	CHIP R 100 J 1/16W	
C160			CC73HCH1H101J	CHIP C 100PF J		R19			RK73HB1J102J	CHIP R 1.0K J 1/16W	
C161,162			CK73HB1H102K	CHIP C 1000PF K		R20 ,21			RK73HB1J101J	CHIP R 100 J 1/16W	
C164			CK73HB1H102K	CHIP C 1000PF K		R22			RK73HB1J473J	CHIP R 47K J 1/16W	
C166,167			CK73HB1H102K	CHIP C 1000PF K		R23			RK73GH2A49R9D	CHIP R 49.9 D 1/10W	
C168,169			CC73HCH1H101J	CHIP C 100PF J		R24			RK73HB1J473J	CHIP R 47K J 1/16W	
C172			CK73HB1H102K	CHIP C 1000PF K		R25			RK73HB1J000J	CHIP R 0 J 1/16W	
C180-183			CK73HB1H102K	CHIP C 1000PF K		R26			RK73GH2A49R9D	CHIP R 49.9 D 1/10W	
C185			CC73HCH1H470J	CHIP C 47PF J		R27 ,28			RK73HB1J473J	CHIP R 47K J 1/16W	
C186			CK73HB1A104K	CHIP C 0.10UF K		R29			RK73GH2A101D	CHIP R 100 D 1/10W	
C187			CC73HCH1H470J	CHIP C 47PF J		R30			RK73HB1J684J	CHIP R 680K J 1/16W	
C188			CK73HB1A104K	CHIP C 0.10UF K		R31			RK73HB1J183J	CHIP R 18K J 1/16W	
C189			CC73HCH1H470J	CHIP C 47PF J		R32 ,33			RK73HB1J473J	CHIP R 47K J 1/16W	
C190			CK73HB1A104K	CHIP C 0.10UF K		R34 ,35			RK73HB1J103J	CHIP R 10K J 1/16W	
C199,200			CK73HB1E103K	CHIP C 0.010UF K		R36			RK73HB1J563J	CHIP R 56K J 1/16W	
C203,204			CK73HB1H102K	CHIP C 1000PF K		R37 ,38			RK73HB1J473J	CHIP R 47K J 1/16W	
C206-211			CC73HCH1H101J	CHIP C 100PF J		R39		*	RK73HH1J4991D	CHIP R 4.99K D 1/16W	
C216,217			CC73HCH1H101J	CHIP C 100PF J		R40			RK73HB1J103J	CHIP R 10K J 1/16W	
C218-220			CK73HB1H102K	CHIP C 1000PF K		R41			RK73HB1J473J	CHIP R 47K J 1/16W	
C221,222			CC73HCH1H180J	CHIP C 18PF J		R42			RK73HB1J472J	CHIP R 4.7K J 1/16W	
C223-225			CC73HCH1H101J	CHIP C 100PF J		R43			RK73HB1J271J	CHIP R 270 J 1/16W	
C227			CK73HB1H682K	CHIP C 6800PF K		R44			RK73HH1J224D	CHIP R 220K D 1/16W	
CN10	2A	*	E41-1732-05	PIN ASSY		R45			RK73HH1J683D	CHIP R 68K D 1/16W	
CN11	2A	*	E40-6102-05	PIN ASSY		R46			RK73HB1J472J	CHIP R 4.7K J 1/16W	
J20	2A	*	E58-0544-05	MODULAR JACK		R47			RK73HB1J103J	CHIP R 10K J 1/16W	
J21	2A	*	E58-0533-05	MODULAR JACK		R48 -54			RK73HB1J000J	CHIP R 0 J 1/16W	
L2 ,3			L33-1500-05	CHOKE COIL		R55			RK73HB1J102J	CHIP R 1.0K J 1/16W	
L4			L92-0639-05	CHIP FERRITE		R56 -58			RK73HB1J473J	CHIP R 47K J 1/16W	
L5 ,6			L33-1500-05	CHOKE COIL		R59 -61			RK73HB1J000J	CHIP R 0 J 1/16W	
L7			L92-0639-05	CHIP FERRITE		R62 ,63			RK73HB1J472J	CHIP R 4.7K J 1/16W	
L9			L92-0639-05	CHIP FERRITE		R64			RK73HB1J105J	CHIP R 1.0M J 1/16W	
L10			L33-1532-05	SMALL FIXED INDUCTOR (4.7UH)		R65			RK73HB1J000J	CHIP R 0 J 1/16W	
L11			L92-0639-05	CHIP FERRITE		R66			RK73HB1J103J	CHIP R 10K J 1/16W	
L12			L92-0467-05	CHIP FERRITE		R70			RK73HB1J472J	CHIP R 4.7K J 1/16W	

PARTS LIST

INTERFACE UNIT (X46-3370-20)

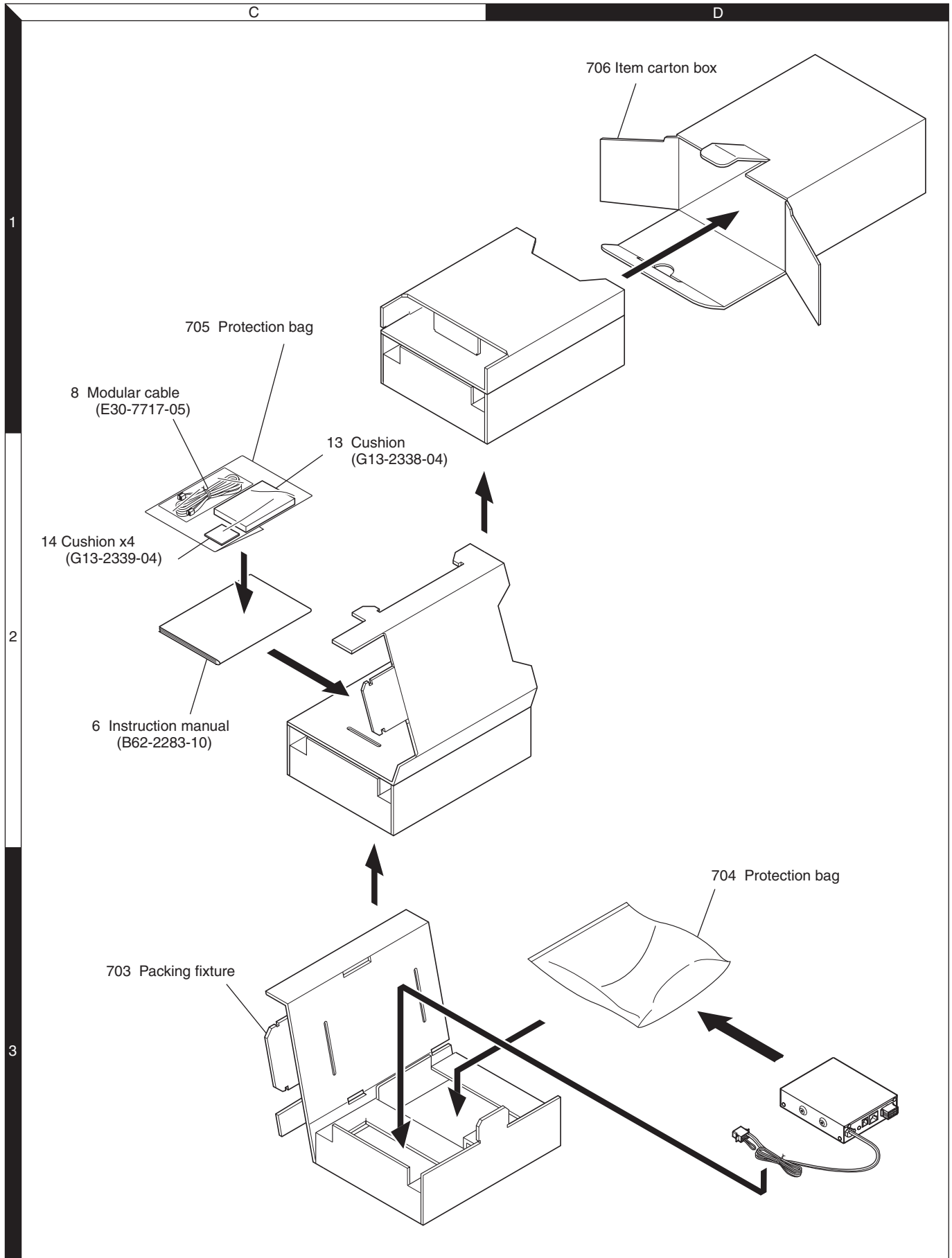
Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R72			RK73HB1J103J	CHIP R 10K J 1/16W		IC3			LT3685EMSE	ANALOGUE IC	
R73			RK73HB1J473J	CHIP R 47K J 1/16W		IC4			TC7WT125FUF	MOS-IC	
R74			RK73HB1J103J	CHIP R 10K J 1/16W		IC5			ADM101EARMZ	MOS-IC	
R76			RK73HB1J000J	CHIP R 0 J 1/16W		IC6	*		E-STE100P	MOS-IC	
R79			RK73HB1J000J	CHIP R 0 J 1/16W		IC7			NJM78M05DL1AZB	ANALOGUE IC	
						IC8			XC6108N31BM-G	ANALOGUE IC	
R80 -83			RK73HB1J473J	CHIP R 47K J 1/16W		IC10	*		LPC2460FBD208	MICROPROCESSOR IC	
R84			RK73HB1J000J	CHIP R 0 J 1/16W		IC11	*		W05-1635-00	ROM IC	
R85 -90			RK73HB1J473J	CHIP R 47K J 1/16W		IC12			Note 1	ROM IC	
R91 -93			RK73HB1J000J	CHIP R 0 J 1/16W		Q1			2SC4738F	TRANSISTOR	
R94 ,95			RK73HB1J473J	CHIP R 47K J 1/16W		Q2			2SD2114K(W)	TRANSISTOR	
						Q3 -5			2SC4738F	TRANSISTOR	
R96			RK73HB1J102J	CHIP R 1.0K J 1/16W		Q6 -9			RT1P141M-T111	TRANSISTOR	
R97			RK73HB1J000J	CHIP R 0 J 1/16W							
R98			RK73HB1J473J	CHIP R 47K J 1/16W							
R99 -101			RK73HB1J000J	CHIP R 0 J 1/16W							
R103			RK73HB1J103J	CHIP R 10K J 1/16W							
R104			RK73HB1J472J	CHIP R 4.7K J 1/16W							
R105			RK73HB1J473J	CHIP R 47K J 1/16W							
R106,107			RK73HB1J000J	CHIP R 0 J 1/16W							
R108			RK73HB1J472J	CHIP R 4.7K J 1/16W							
R109			RK73HB1J103J	CHIP R 10K J 1/16W							
R110-115			RK73HB1J473J	CHIP R 47K J 1/16W							
R118-120			RK73HB1J101J	CHIP R 100 J 1/16W							
R121			RK73HB1J473J	CHIP R 47K J 1/16W							
R122			RK73HB1J121J	CHIP R 120 J 1/16W							
R123,124			RK73HB1J473J	CHIP R 47K J 1/16W							
R125-128			RK73HB1J102J	CHIP R 1.0K J 1/16W							
R130,131			RK73HB1J102J	CHIP R 1.0K J 1/16W							
R132			RK73HB1J101J	CHIP R 100 J 1/16W							
R133			RK73HB1J102J	CHIP R 1.0K J 1/16W							
R134			RK73HB1J101J	CHIP R 100 J 1/16W							
R135,136			RK73HB1J102J	CHIP R 1.0K J 1/16W							
R139			RK73HB1J101J	CHIP R 100 J 1/16W							
R140			RK73HB1J121J	CHIP R 120 J 1/16W							
R141-144			RK73HB1J000J	CHIP R 0 J 1/16W							
R146,147			RK73HB1J000J	CHIP R 0 J 1/16W							
R148,149			RK73HB1J473J	CHIP R 47K J 1/16W							
R151,152			RK73HB1J101J	CHIP R 100 J 1/16W							
R157,158			RK73HB1J101J	CHIP R 100 J 1/16W							
R159-162			RK73HB1J473J	CHIP R 47K J 1/16W							
R164-166			RK73HB1J000J	CHIP R 0 J 1/16W							
R186-188			RK73HB1J473J	CHIP R 47K J 1/16W							
R200			RK73HB1J473J	CHIP R 47K J 1/16W							
R201-214			RK73HB1J000J	CHIP R 0 J 1/16W							
R215,216			RK73HB1J330J	CHIP R 33 J 1/16W							
R217			RK73HB1J000J	CHIP R 0 J 1/16W							
R218			RK73HB1J472J	CHIP R 4.7K J 1/16W							
R219			RK73HB1J473J	CHIP R 47K J 1/16W							
R220			RK73HB1J000J	CHIP R 0 J 1/16W							
R221			RK73GB2A000J	CHIP R 0 J 1/10W							
R222,223			RK73HB1J000J	CHIP R 0 J 1/16W							
D1		*	SMD030F	VARISTOR							
D2			KDZ36B	ZENER DIODE							
D4			RSX301L-30	DIODE							
D8			1SS355	DIODE							
D9		*	RKZ18B2KG	ZENER DIODE							
D10			1SS388F	DIODE							
D13 -18			DA204U	DIODE							
D19 -22		*	LXES15AAA1017	VARISTOR							
IC1 ,2			ISL8485EIBZ	MOS-IC							

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PACKING



Parts with the exploded numbers larger than 700 are not supplied.

TERMINAL FUNCTION

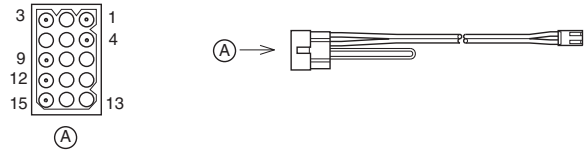
Interface unit (X46-3370-20)

Pin No.	Name	I/O	Function
CN10 (To DC power supply connector cable)			
1	GND	-	Ground
2	+B	I	Power supply input (+B)
CN11 (To AUX connector)			
1	TA	I	Not used
2	AUX_O2	O	Not used
3	AGND	-	Ground (analog)
4	NC	-	No connection
5	RA	O	Not used
6	AUX_I2	I	Not used
7	AGND	-	Ground (analog)
8	NC	-	No connection
9	TXD0	O	UART TXD #0 (MCU to AUX)
10	AUX_O1	O	Not used
11	GND	-	Ground
12	NC	-	No connection
13	SQ_OUT	O	Not used
14	AUX_I1	I	Not used
15	LD_MOD	I	Loader mode selection
16	NC	-	No connection
17	GND	-	Ground
18	PTT_IN	I	Not used
19	RXD0	I	UART RXD #0 (AUX to MCU)
20	NC	-	No connection
J20 (LAN connector - PCB side)			
1	TXP	O	TX signal + for Ethernet
2	TCT	-	TX signal center tap
3	TXN	O	TX signal - for Ethernet
4	RXP	I	RX signal + for Ethernet
5	RCT	-	RX signal center tap
6	RXN	I	RX signal - for Ethernet
7	NC	-	No connection
8	GND	-	Ground
9	LEDC_C	-	Full duplex mode LED (cathode)
10	LEDC_A	-	Full duplex mode LED (anode)
11	LEDS_C	-	100BaseTX mode LED (cathode)
12	LEDS_A	-	100BaseTX mode LED (anode)
13	CGND	-	Ground (chassis)
14	CGND	-	Ground (chassis)
J21 (N_SYNC connector - PCB side)			
1	N_SYNC2_A	I/O	N_SYNC signal #2 (noninverting)
2	N_SYNC2_B	I/O	N_SYNC signal #2 (inverting)
3	N_SYNC1_A	I/O	N_SYNC signal #1 (noninverting)
4	N_SYNC1_B	I/O	N_SYNC signal #1 (inverting)

TERMINAL FUNCTION

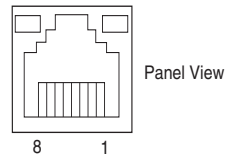
DC power supply connector

Pin No.	Pin Name	I/O	Signal Type	Modification	Description / port Type	Specification	Min	Typ	Max	Unit	Remarks
1	+B	I	Power	No	Power Supply	-	10.8	13.6	15.6	V	-
							-	-	200	mA	
2	NC	-	-	No	-	-	-	-	-	-	-
3	NC	-	-	No	-	-	-	-	-	-	-
4	GND	-	GND	No	GND	-	-	-	-	-	-
5	NC	-	-	No	-	-	-	-	-	-	-
6	NC	-	-	No	-	-	-	-	-	-	-
7	NC	-	-	No	-	-	-	-	-	-	-
8	NC	-	-	No	-	-	-	-	-	-	-
9	Jumper	-	-	No	Jumper Short to 12pin	This pin is connected to SPI (NXR-710/810).	-	-	-	-	-
10	NC	-	-	No	-	-	-	-	-	-	-
11	NC	-	-	No	-	-	-	-	-	-	-
12	Jumper	-	-	No	Jumper Short to 9pin	This pin is connected to SPO(NXR-710/810)	-	-	-	-	-
13	NC	-	-	No	-	-	-	-	-	-	-
14	NC	-	-	No	-	-	-	-	-	-	-
15	NC	-	-	No	-	-	-	-	-	-	-



LAN (RJ-45)

Pin No.	Pin Name	I/O	Signal Type	Modification	Description / port Type	Specification	Min	Typ	Max	Unit	Remarks
1	TD+	O	Analog	No	TX Signal +	-	0.95	-	1.05	V	conform to IEEE802.3
2	TD-	O	Analog	No	TX Signal -	-	0.95	-	1.05	V	conform to IEEE802.3
3	RD+	I	Analog	No	RX Signal +	-	-	-	-	-	conform to IEEE802.3
4	NC	-	-	No	-	-	-	-	-	-	-
5	NC	-	-	No	-	-	-	-	-	-	-
6	RD-	I	Analog	No	RX Signal -	-	-	-	-	-	conform to IEEE802.3
7	NC	-	-	No	-	-	-	-	-	-	-
8	NC	-	-	No	-	-	-	-	-	-	-



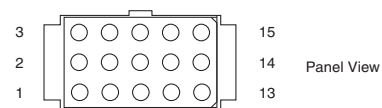
TERMINAL FUNCTION

N_SYNC

Pin No.	Pin Name	I/O	Signal Type	Modification	Description / port Type	Specification	Min	Typ	Max	Unit	Remarks
1	N_SYNC2_A	I/O	Digital	No	RS-485 Differential Signal #2 A	[Input]					conform to RS-485
						VID=VA-VB	-7		12	V	Vcc=5±4%
						VTH	-0.2		0.2	V	
						[Output](No load)			VCC	V	
						VOD=IVA-VBI					
2	N_SYNC2_B	I/O	Digital	No	RS-485 Differential Signal #2 B	[Input]					conform to RS-485
						VID=VA-VB	-7		12	V	Vcc=5±4%
						VTH	-0.2		0.2	V	
						[Output](No load)			VCC	V	
						VOD=IVA-VBI					
3	N_SYNC1_A	I/O	Digital	No	RS-485 Differential Signal #1 A	[Input]					conform to RS-485
						VID=VA-VB	-7		12	V	Vcc=5±4%
						VTH	-0.2		0.2	V	
						[Output](No load)			VCC	V	
						VOD=IVA-VBI					
4	N_SYNC1_B	I/O	Digital	No	RS-485 Differential Signal #1 B	[Input]					conform to RS-485
						VID=VA-VB	-7		12	V	Vcc=5±4%
						VTH	-0.2		0.2	V	
						[Output](No load)			VCC	V	
						VOD=IVA-VBI					

AUX connector (for production)

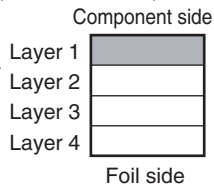
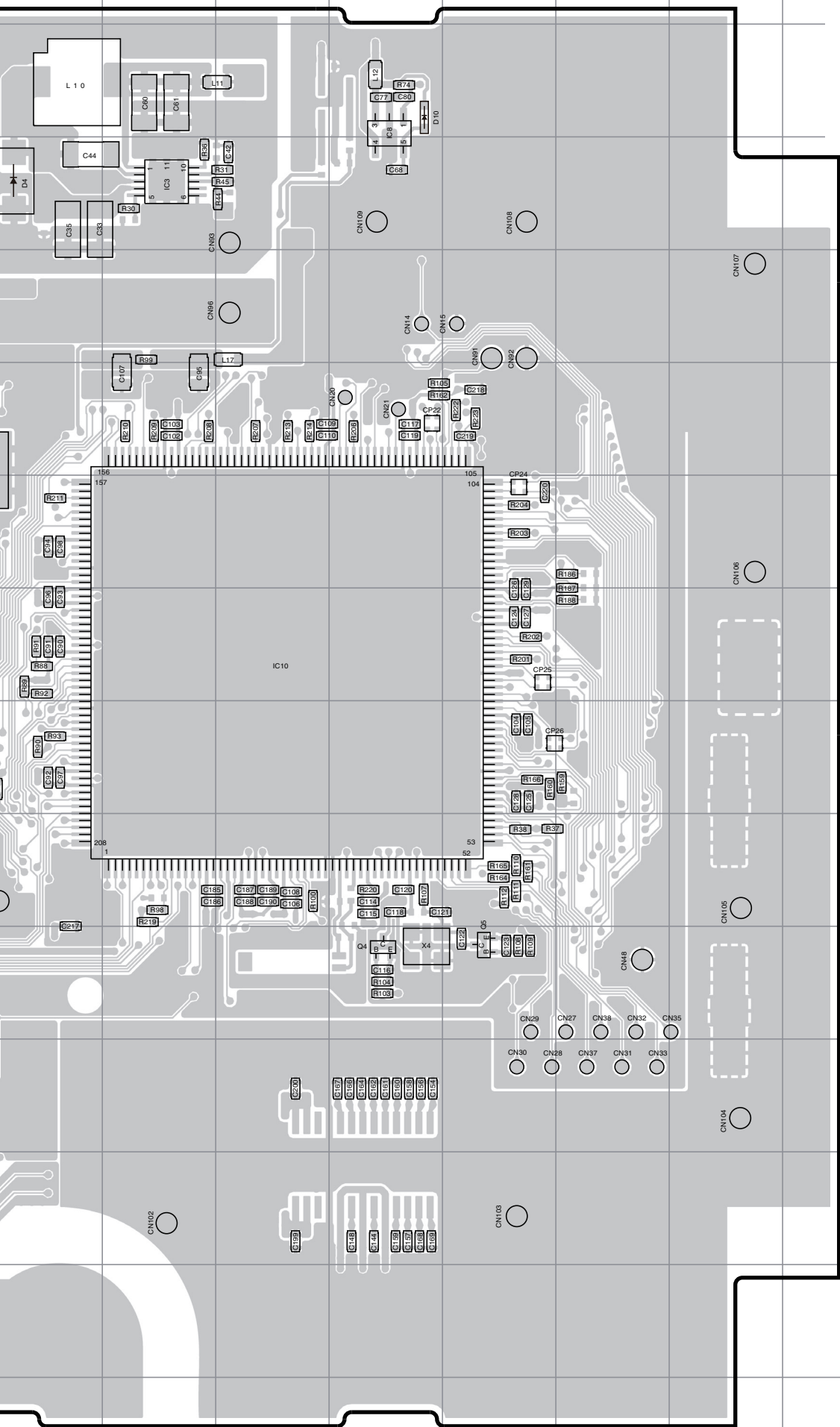
Pin No.	Name	I/O	Signal Type	Modification	Description / Port Type
1	AUX_O2	O	Digital	No	Not used
2	TA	I	Analog	No	Not used
3	AGND	-	AGND	No	Analog GND
4	AUX_I2	I	Digital	No	Not used
5	RA	O	Analog	No	Not used
6	AGND	-	AGND	No	Analog GND
7	AUX_O1	O	Digital	No	Not used
8	TXD0	O	Digital	No	Asynchronous send data #0
9	GND	-	GND	No	Digital GND
10	AUX_I1	I	Digital	No	Not used
11	SQ_OUT	O	Digital	No	Not used
12	LD_MOD	I	Digital	No	Loader mode selection L: loader mode Hi-Z: normal mode
13	PTT_IN	I	Digital	No	Not used
14	GND	-	GND	No	Digital GND
15	RXD0	I	Digital	No	Asynchronous receive data #0



PC BOARD

KTI-3

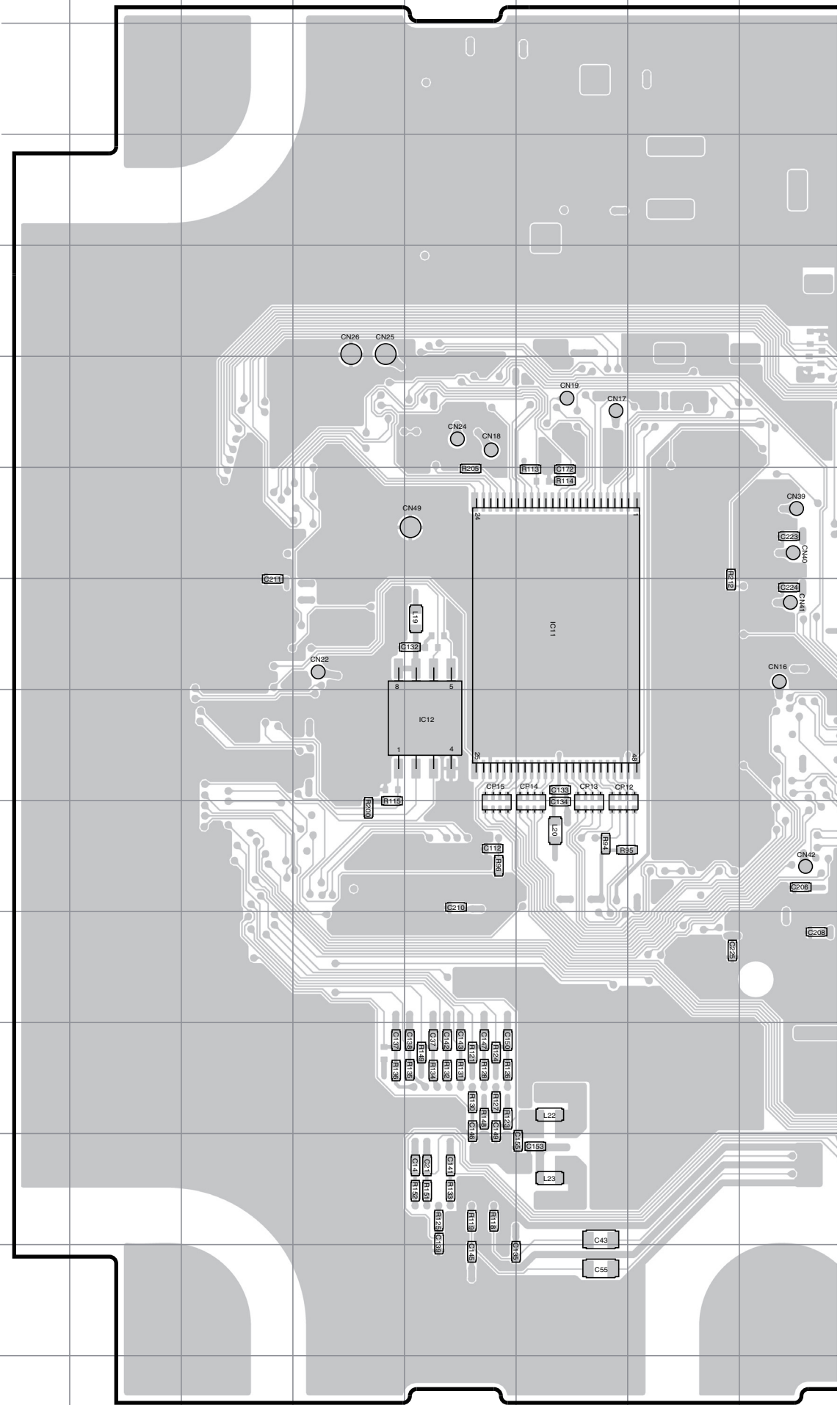
INTERFACE UNIT
(X46-3370-20)
Component side view
(J79-0298-09)



KTI-3 PC BOARD

INTERFACE UNIT
(X46-3370-20)

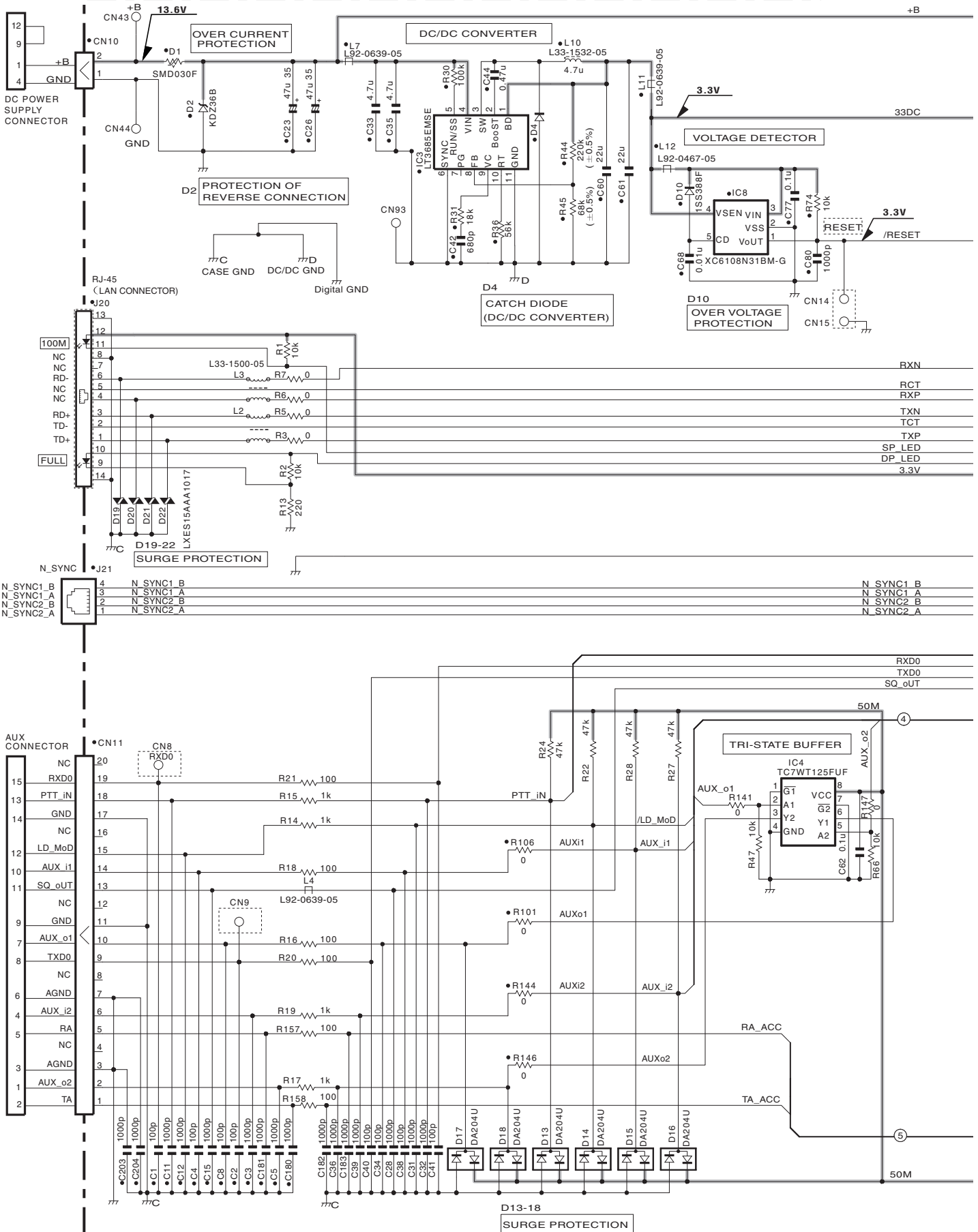
Foil side view
(J79-0298-09)



Ref. No.	Address
IC1	7M
IC2	6M
IC4	11L
IC5	11M
IC6	9L
IC11	7H
IC12	8G
D8	11N
D9	11N
D13	13M
D14	13M
D15	13L
D16	13L
D17	13M
D18	13N
D19	10O
D20	10O
D21	8O
D22	9O

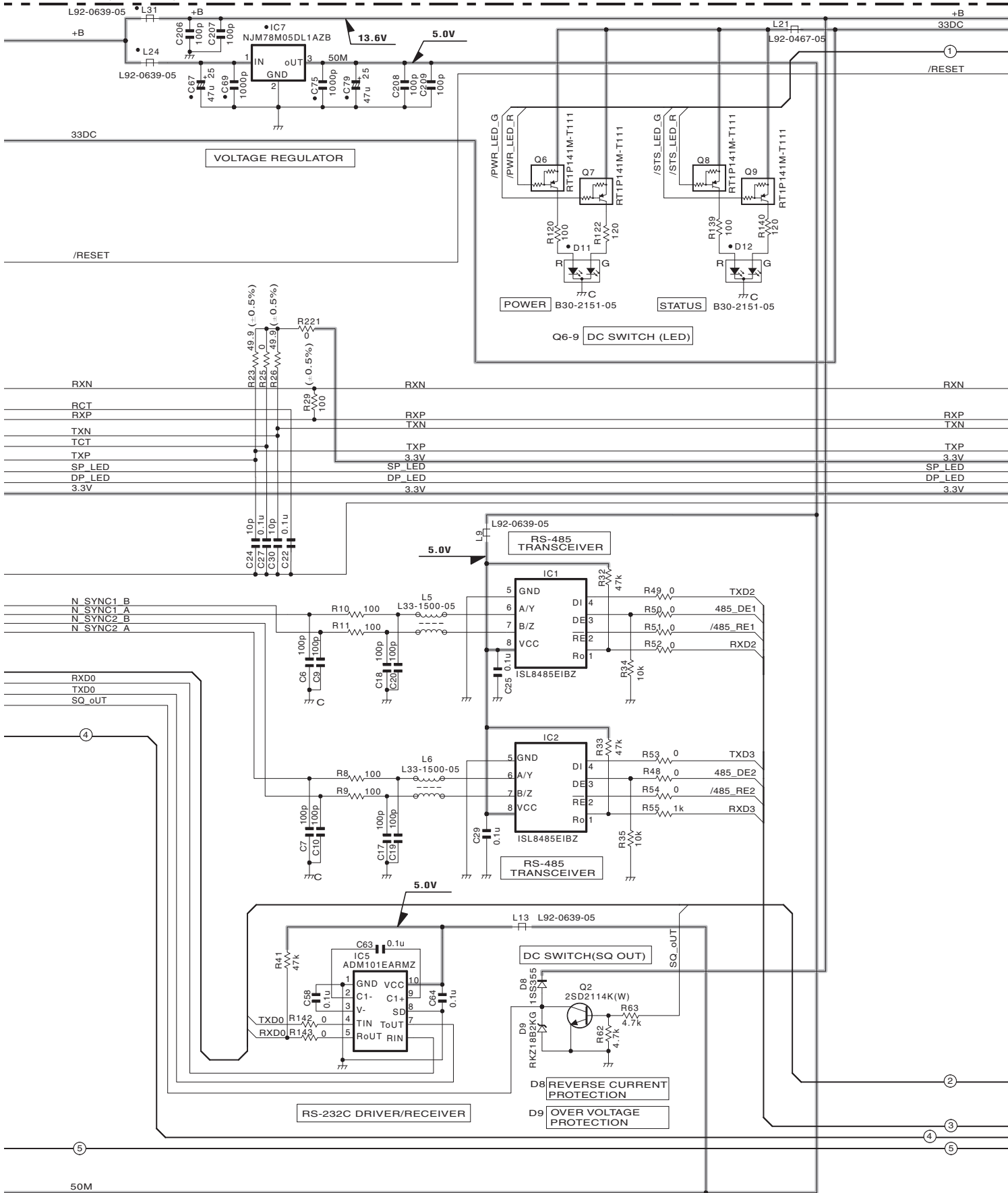
KTI-3 SCHEMATIC DIAGRAM

INTERFACE UNIT (X46-3370-20)



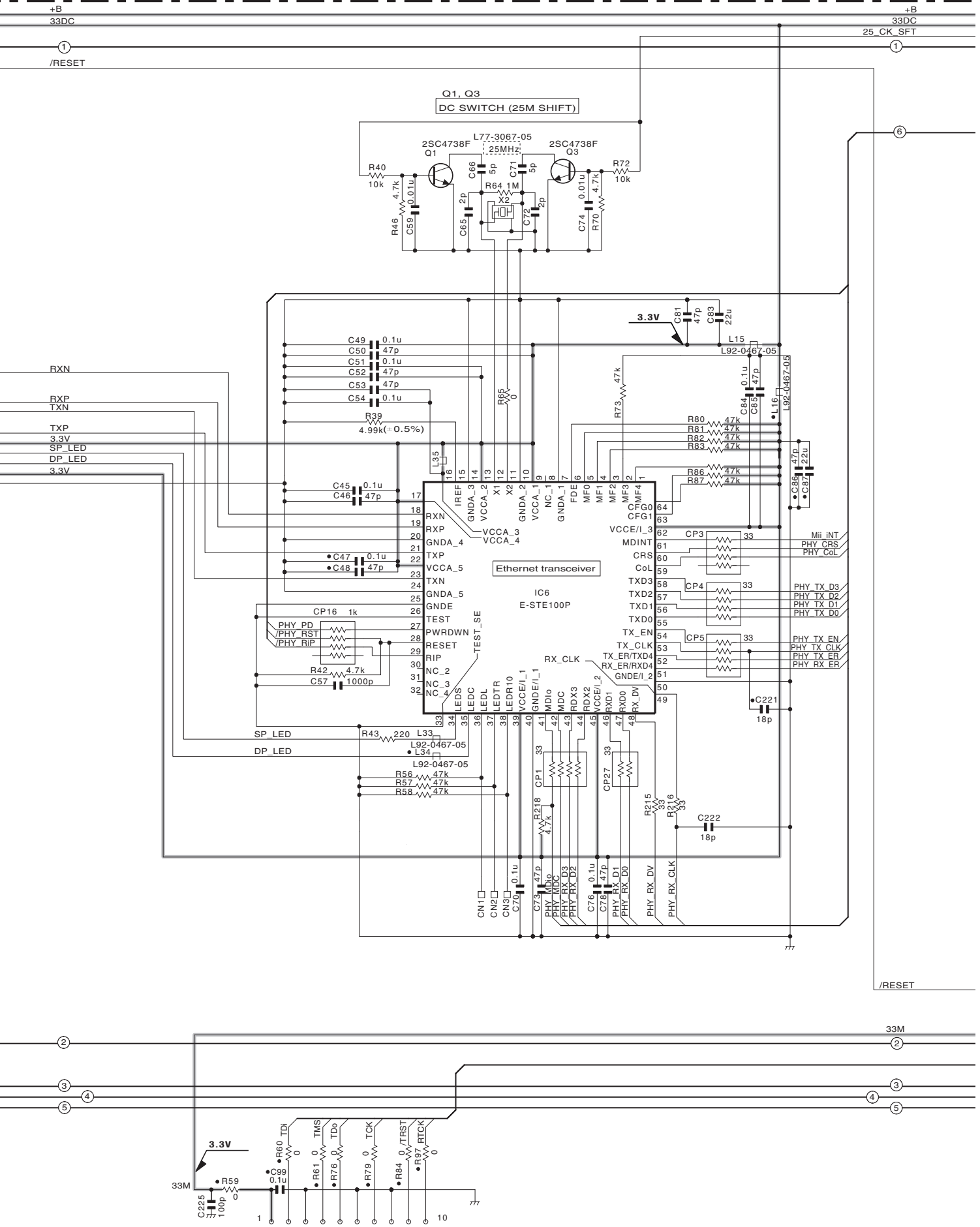
SCHEMATIC DIAGRAM KTI-3

INTERFACE UNIT (X46-3370-20)



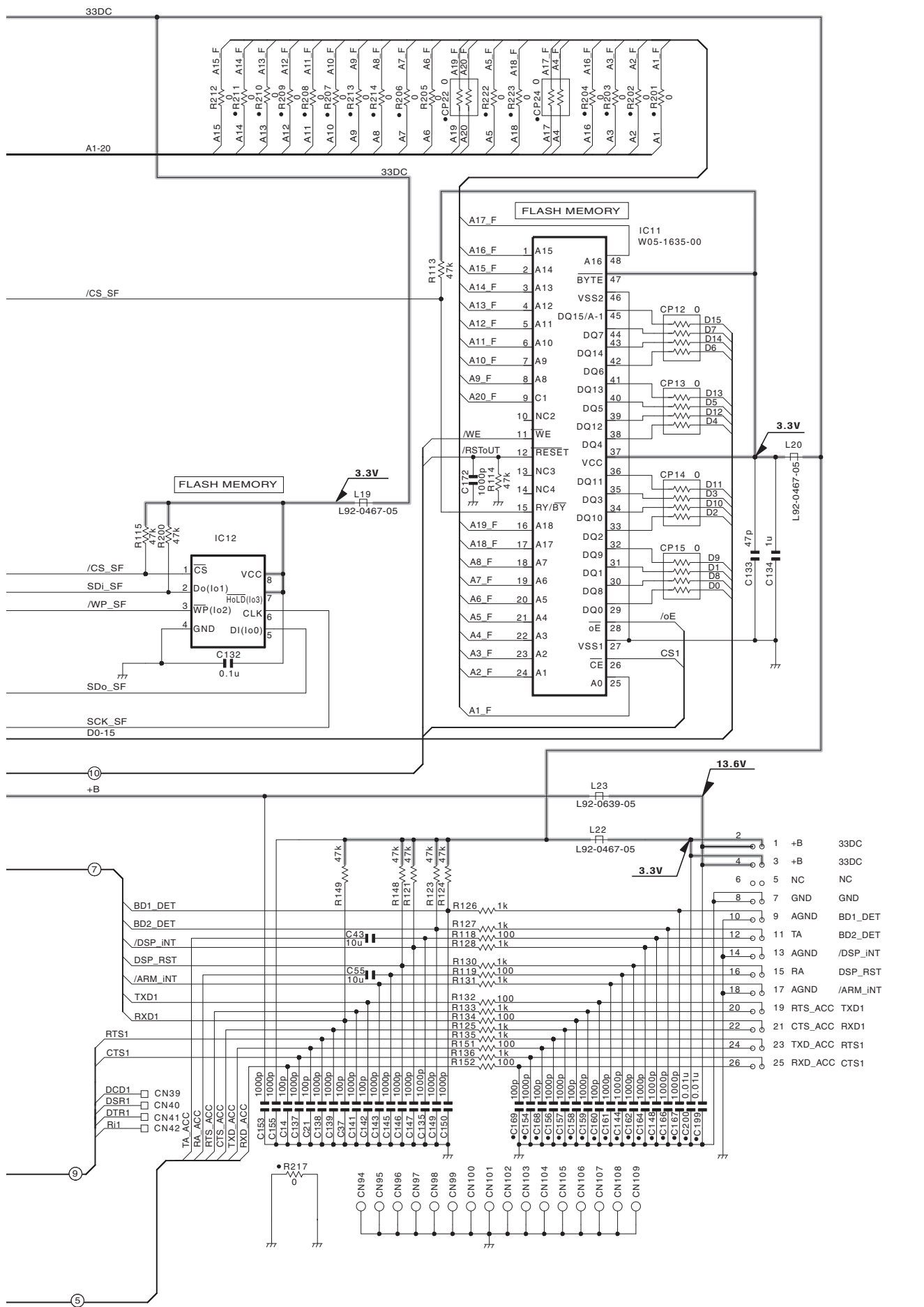
KTI-3 SCHEMATIC DIAGRAM

INTERFACE UNIT (X46-3370-20)



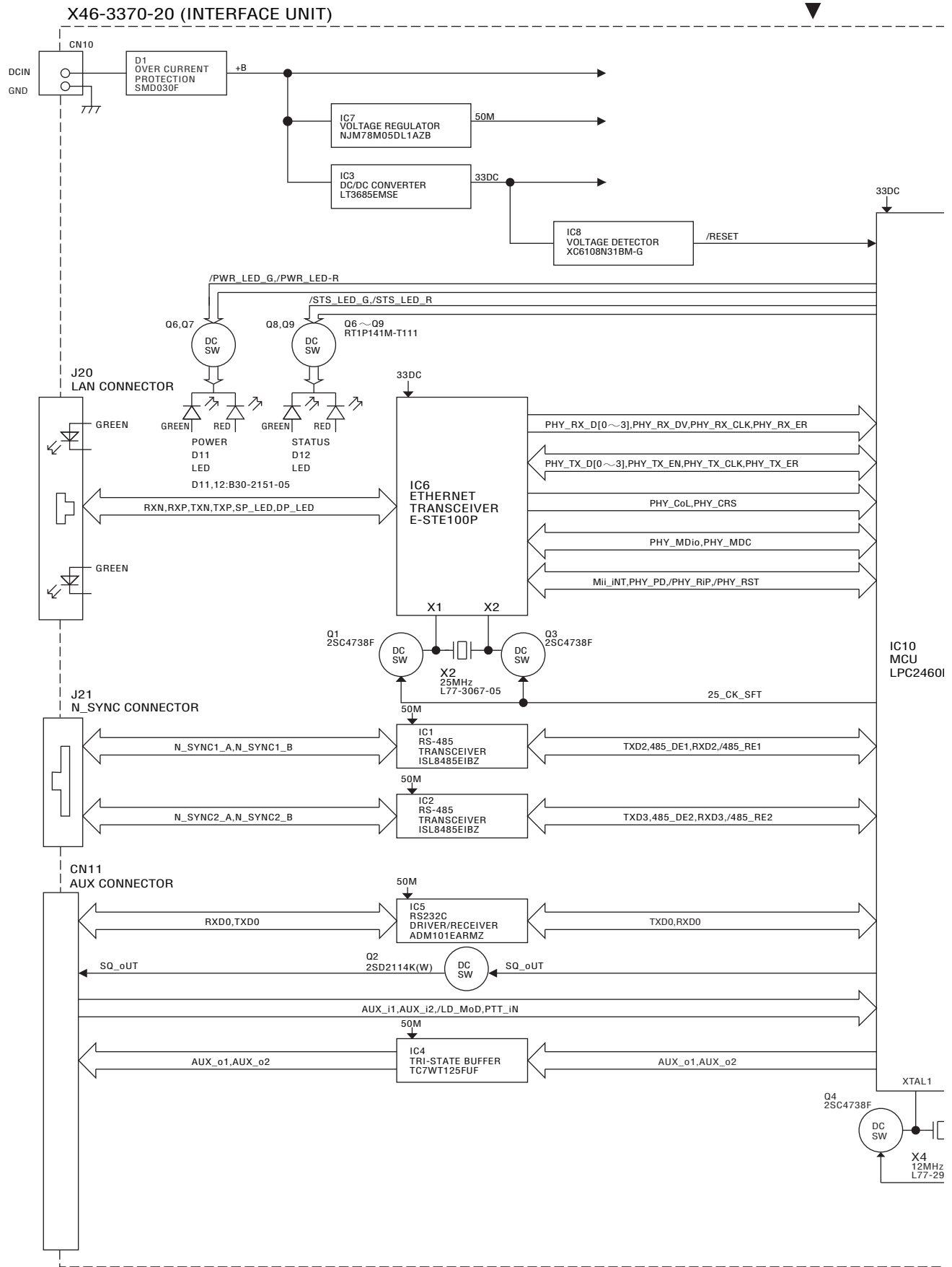
SCHEMATIC DIAGRAM KTI-3

INTERFACE UNIT (X46-3370-20)

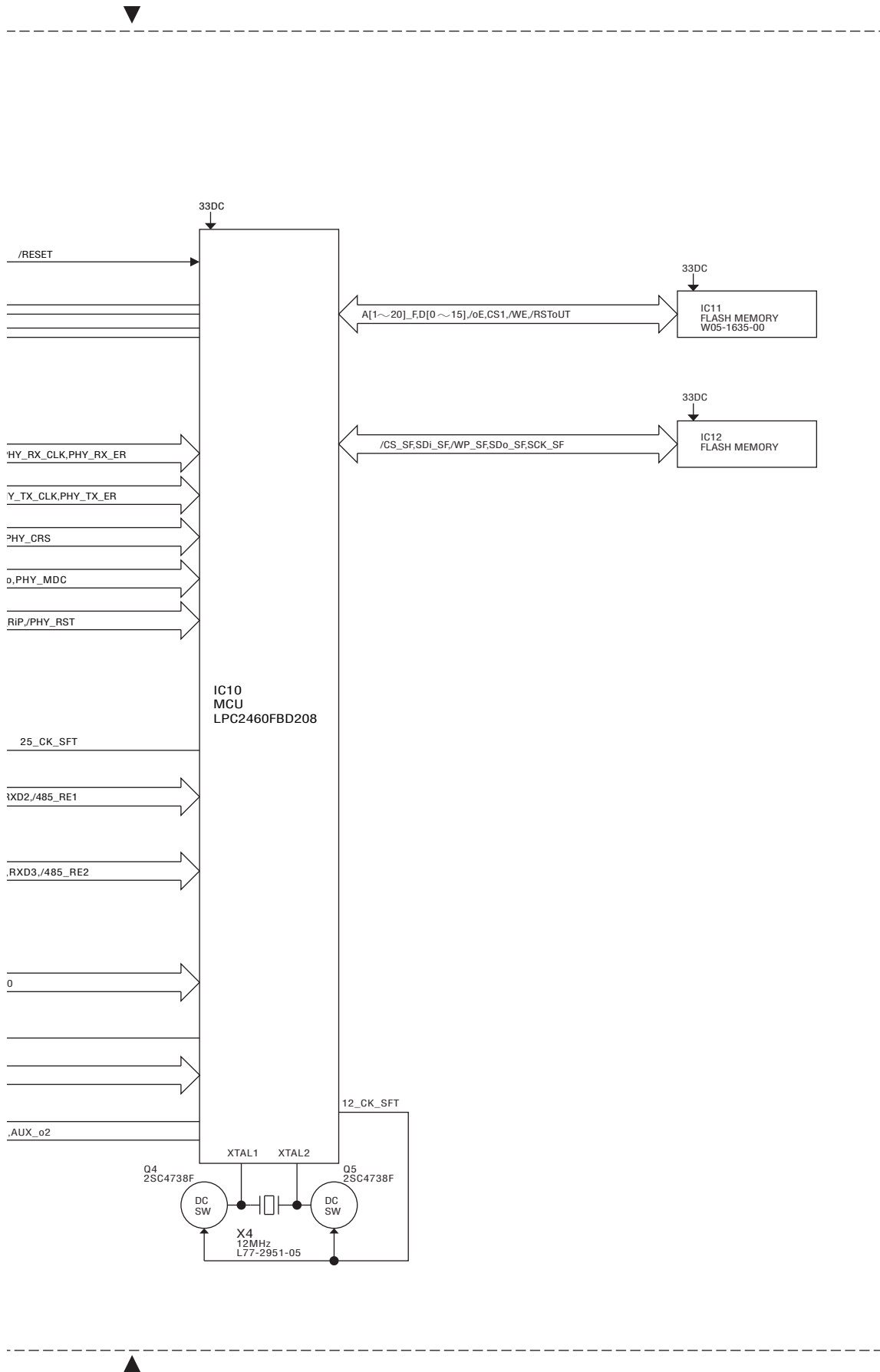


Note : The components marked with a dot (•) are parts of layer 1.

BLOCK DIAGRAM



BLOCK DIAGRAM



SPECIFICATIONS

General

Standard Input Voltage	13.6V DC negative ground
(Supplied from NXR-710/810)	
Current Drain	200mA Max
Temperature Range	-30°C ~ +60°C (-22°F ~ +140°F)
Dimensions (W x H x D, Dimensions not including protrusions)	106 (4.17) x 32 (1.26) x 125 (4.92) mm (inch)
Weight	Approx. 490g (17.3oz)

MEMO

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KTI-3 PC BOARD

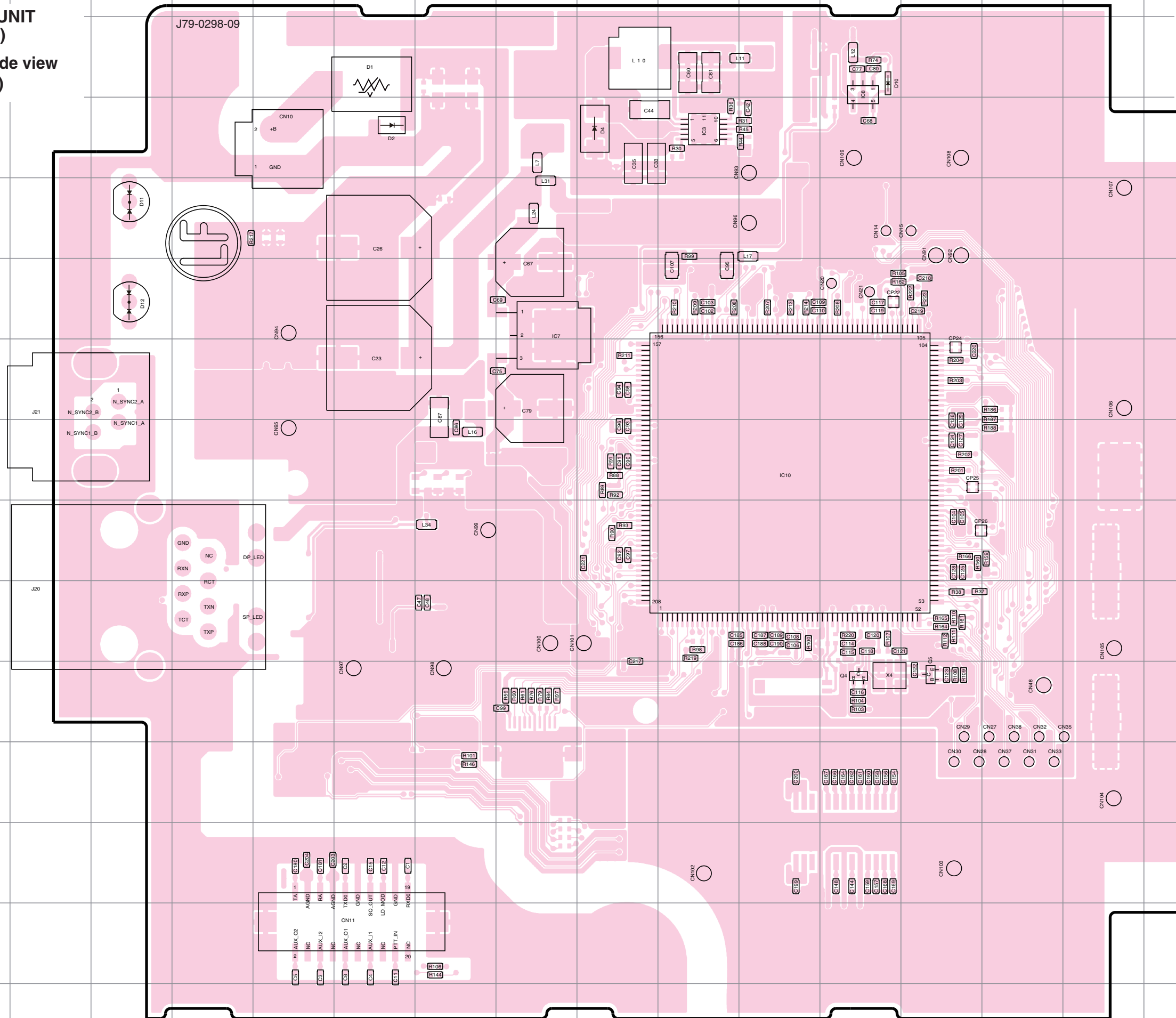
INTERFACE UNIT
(X46-3370-20)

Component side view
(J79-0298-09)

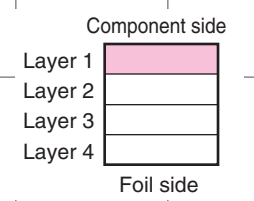
PC BOARD KTI-3

INTERFACE UNIT
(X46-3370-20)

Component side view
(J79-0298-09)



Ref. No.	Address
IC3	3K
IC 7	5I
IC 8	2M
IC10	7L
D1	2G
D2	3G
D4	3J
D10	2M
D11	4D
D12	5D



KTI-3 PC BOARD

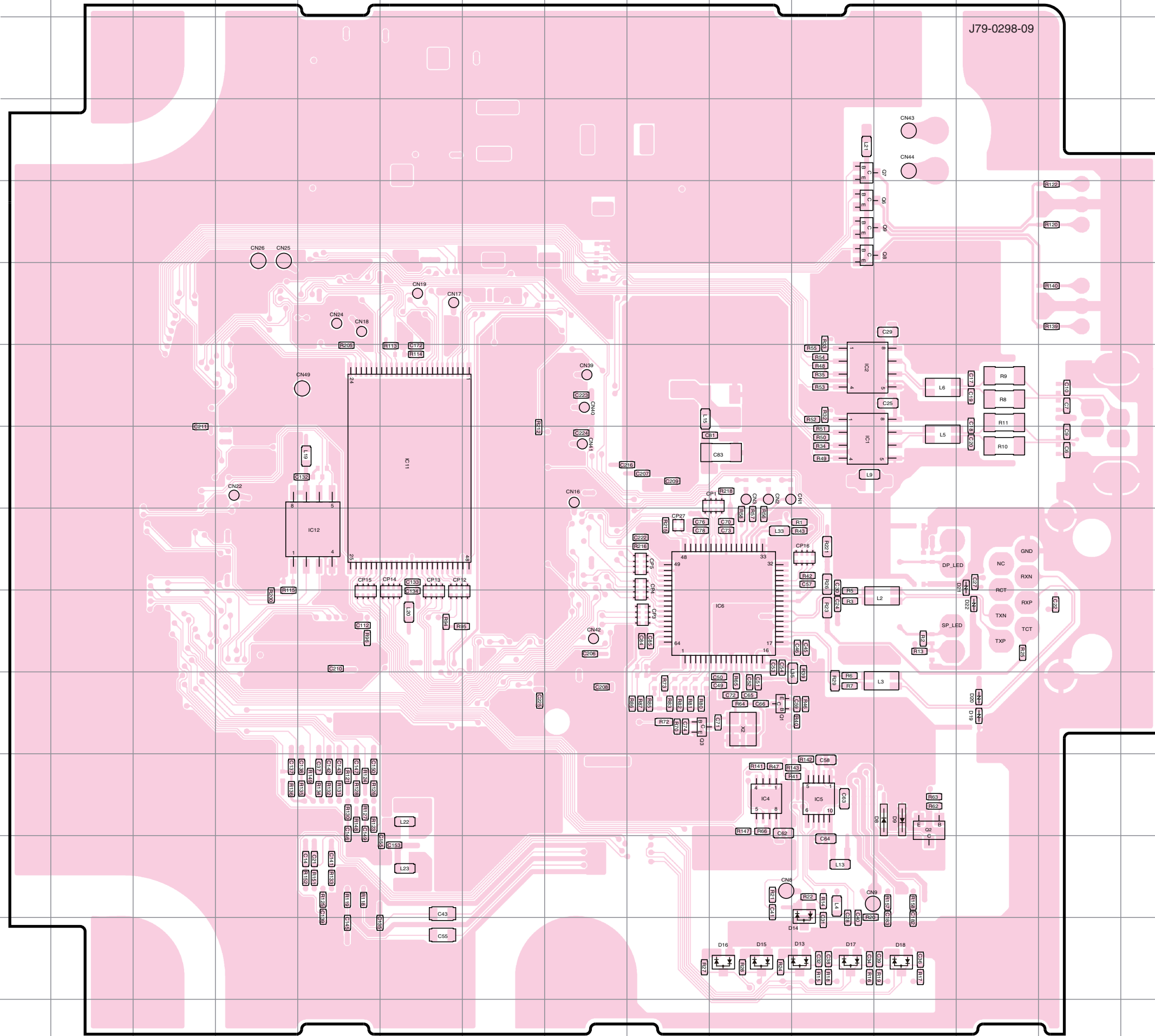
INTERFACE UNIT
(X46-3370-20)

Foil side view
(J79-0298-09)

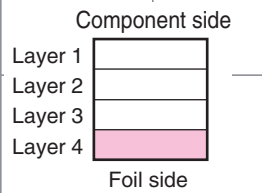
PC BOARD KTI-3

INTERFACE UNIT
(X46-3370-20)

Foil side view
(J79-0298-09)



Ref. No.	Address
IC1	7M
IC2	6M
IC4	11L
IC5	11M
IC6	9L
IC11	7H
IC12	8G
D8	11N
D9	11N
D13	13M
D14	13M
D15	13L
D16	13L
D17	13M
D18	13N
D19	10O
D20	10O
D21	8O
D22	9O



X46-3370-20 (INTERFACE UNIT)

