

# APPLICATION NOTE

## Measurement Cable Selection Guide

# MD6430A

## Network Data Analyzer



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# 1 Measurement Cables (Optional accessories)

Model/ Order No.	Name	Remark	Ref. page
A0006	Headset		25
J0654A	Serial I/F cable (Crossover cable D-Sub 9-pin (female)↔D-Sub 9-pin (male)), 2 m	For remote control of main frame	23
J0920B	Crossover cable (D-Sub 9-pin (female)↔D-Sub 25-pin (male)), 3 m	For remote control of main frame	23
J0661A	RS-232C Cable (Straight cable D-Sub 9-pin (female)↔D-Sub 25-pin (male)), 2 m	For remote control of main frame	23
J0913A	Measurement cable (D-Sub 25-pin(male)↔half pitch 36-pin), 2 m	For V.24/28	5, 6, 13
J0914A	Measurement cable (V.35 34-pin connector(male)↔half pitch 36-pin), 2 m	For V.35	5, 6, 13
J0915A	Measurement cable (D-Sub 37-pin(male)↔half pitch 36-pin), 2 m	For V.36, RS449	5, 6, 14
J0916A	Measurement cable (D-Sub 15-pin(male)↔half pitch 36-pin), 2 m	For X.20/X.21 (Using X.21-B connector as ST1 output type)	5, 14, 15
J0945	Measurement cable (D-Sub 15-pin(male)↔half pitch 36-pin), 2 m	For X.20/X.21 (Using X.21-B connector as ST2 input type)	5, 14, 15
J0929	Crossover cable (D-Sub 15-pin(male)↔half pitch 36-pin), 2 m	For X.20/X.21, MUX/DEMUX	6, 17
J0923A	Measurement cable (half-pitch 36-pin both ends), 1 m	For TTL/CMOS	5, 10
J0917A	TTL/CMOS Connection BOX	For TTL/CMOS	5, 10, 15
J0127B	Coaxial cable (BNC↔BNC), 2 m	For 2M unbalanced, 6M	7, 10, 11
J0844A	ISO10173 Cable (8-pin modular↔8-pin modular), 2 m	For 1.5M, 2M balanced	7, 19
J0921B	Measurement cable (M-IPS↔ISO10173 8-pin modular), 2 m	For 1.5M, 2M balanced	7, 11, 20
J0946A	Measurement cable (M-3912↔ISO10173 8-pin modular), 1 m	For 1.5M, 2M balanced	7, 20
J0946B	Measurement cable (M-3912↔ISO10173 8-pin modular), 2 m	For 1.5M, 2M balanced	7, 20
J0950	Measurement cable (mini-alligator clip↔ISO10173 8-pin modular), 2 m	For 1.5M, 2M balanced	7, 21
J0951	Measurement cable (RJ45 8-pin modular↔ISO10173 8-pin modular), 2 m	For 1.5M, 2M balanced	7, 19
J0463C	Measurement cord (RJ45 8-pin modular both ends, shielded), 2 m	For 192k	7, 11, 18
J0922B	Measurement cable (M-IPS↔mini-bantam), 2 m	For 64k, 2M CMI	8, 12
J0930	Measurement cable (M-3912↔mini-bantam), 2 m	For 64k (Siemens connector)	8
J0924B	Balanced cable (I-214APS↔mini-bantam), 2 m	For 64k+8k timing clock	8
J0925B	Y-cable (D-Sub 25-pin(male)↔half pitch 36-pin/D-Sub 25-pin(male)), 2 m	For V.24/V.28	9
J0926B	Y-cable (V.35 34-pin connector(male)↔half-pitch 36-pin/V.35 34-pin connector(male)), 2 m	For V.35	9
J0927B	Y-cable (D-Sub 37-pin(male)↔half-pitch/D-Sub 37-pin(male)), 2 m	For V.36/RS449	9
J0928B	Y-cable (D-Sub15-pin(male)↔half-pitch/D-Sub15-pin(male)), 2 m	For X.20/X.21	9

1. Measurement Cable (Optional accessories)

J0388B	25-pin DCE-DTE Adapter	For V.24/V.28	16
J0390	34-pin DCE-DTE Adapter	For V.35	6, 17
J0392B	37-pin DCE-DTE Adapter	For V.36, RS-449	16

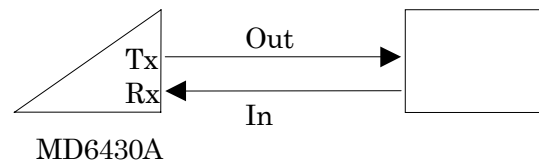
## 2 I/O Form

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The MD6430A provides three I/O connections according to the application. Some typical connection examples are shown below:

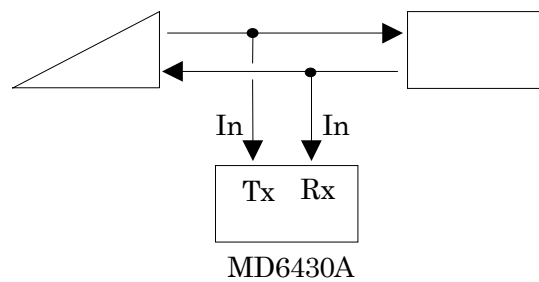
### ■ 1Out/1In

Tx output and Rx input



### ■ 2In

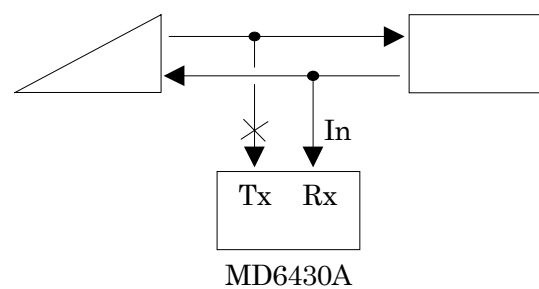
Both Tx and RX input.



### ■ 1In

Rx input.

Tx does not output.



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### 3 Connecting Measurement Cables

#### 3.1 1 Out/1 In Connection

■ V/X/TTL/CMOS Interface (connection to DCE)

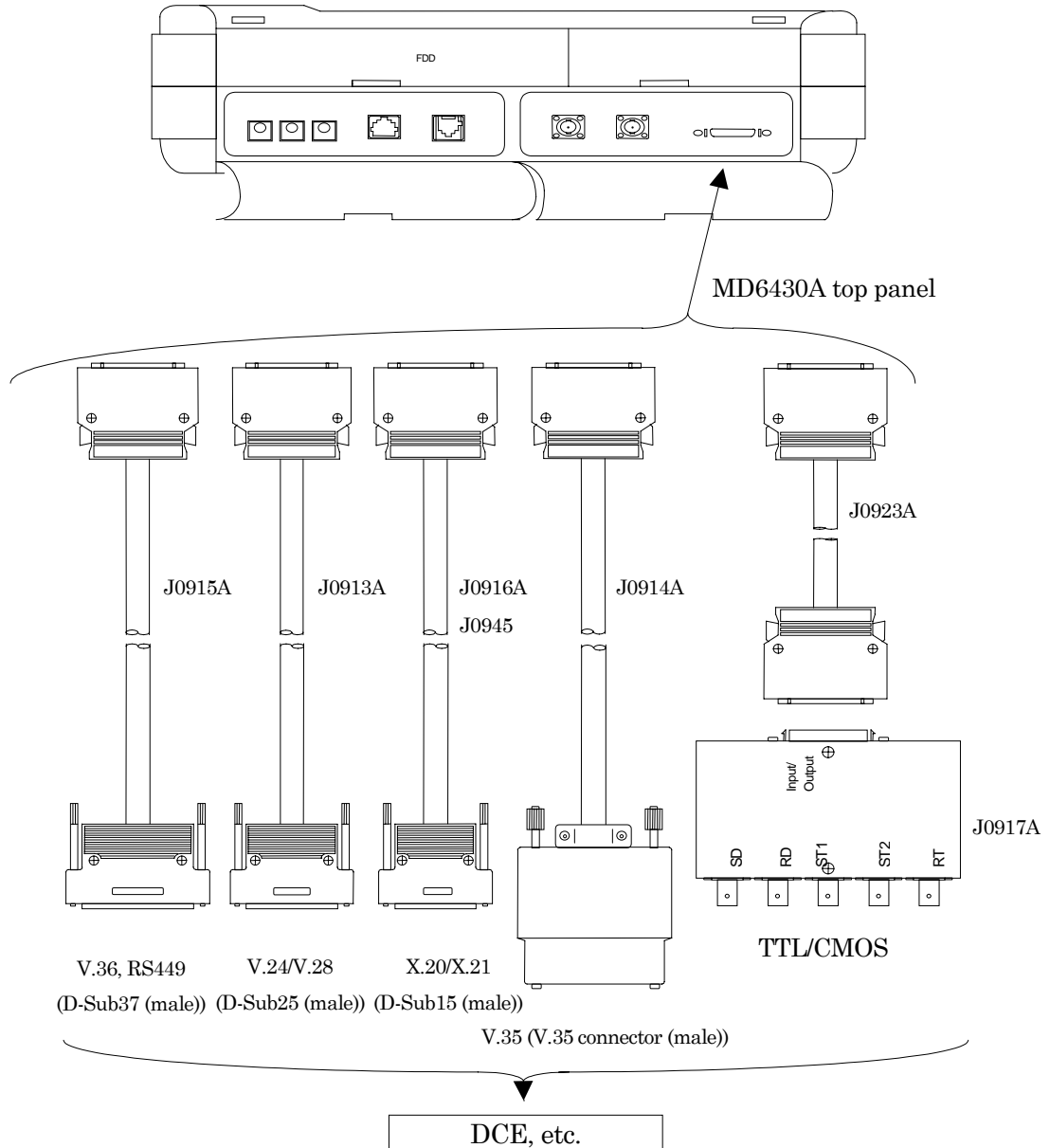


Fig. 1 Connection to V/X/TTL/CMOS Interface (DCE)

The connector(36-pin Amphenol, half-pitch) for the V/X/TTL/CMOS interface described above adopts several different voltage specifications. Do not connect DUTs to different setting interface, which may cause damage on DUT and/or equipment.

Disconnect the cables when change interface setting, and make sure proper interface setting before connecting DUTs.

3. Connecting Measurement Cables

■ V/X Interface (at connection to DTE)

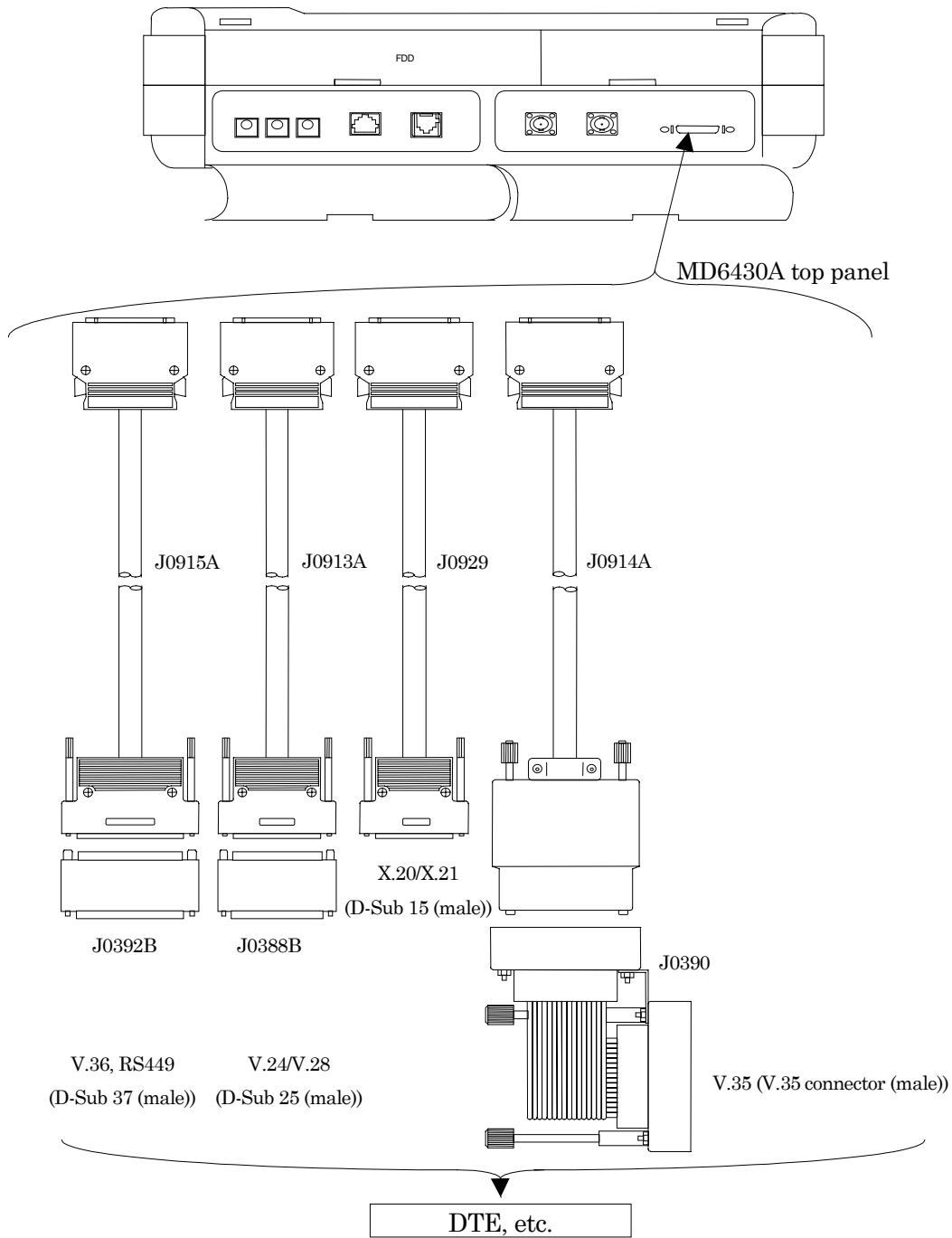


Fig. 2 Connection to V/X Interface (DTE)

■ G.703/704/I.431 1.544M/2.048M, G.703/704 6.312M, I.430/I430-a 192k Interfaces

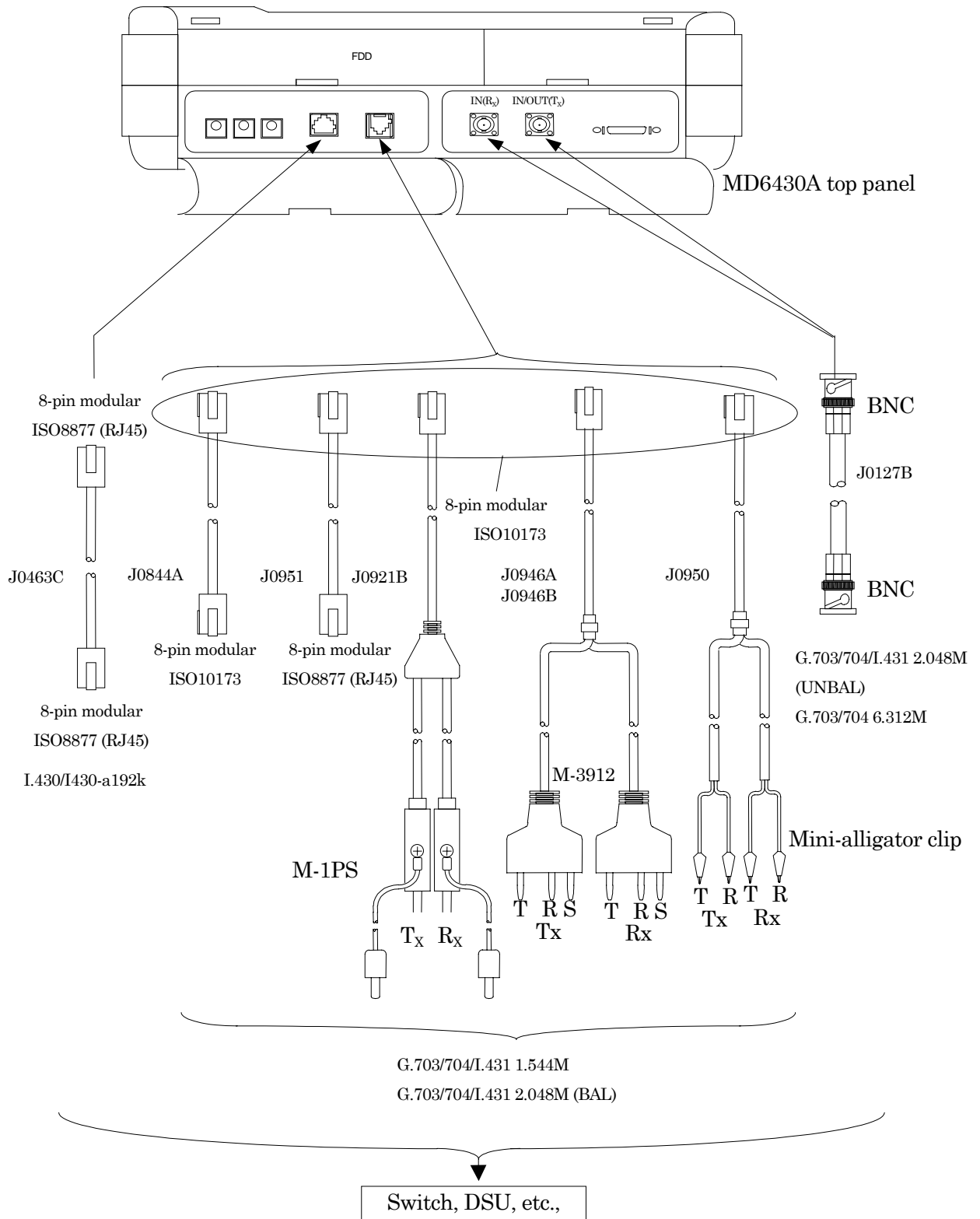


Fig. 3 Connection to G.703/704/I.431 1.544M/2.048M, G.703/704 6.312M, I.430/I430-a 192k Interfaces

3. Connecting Measurement Cables

■ G.703 64k, 2M CMI Interface, 64k+8k timing clock

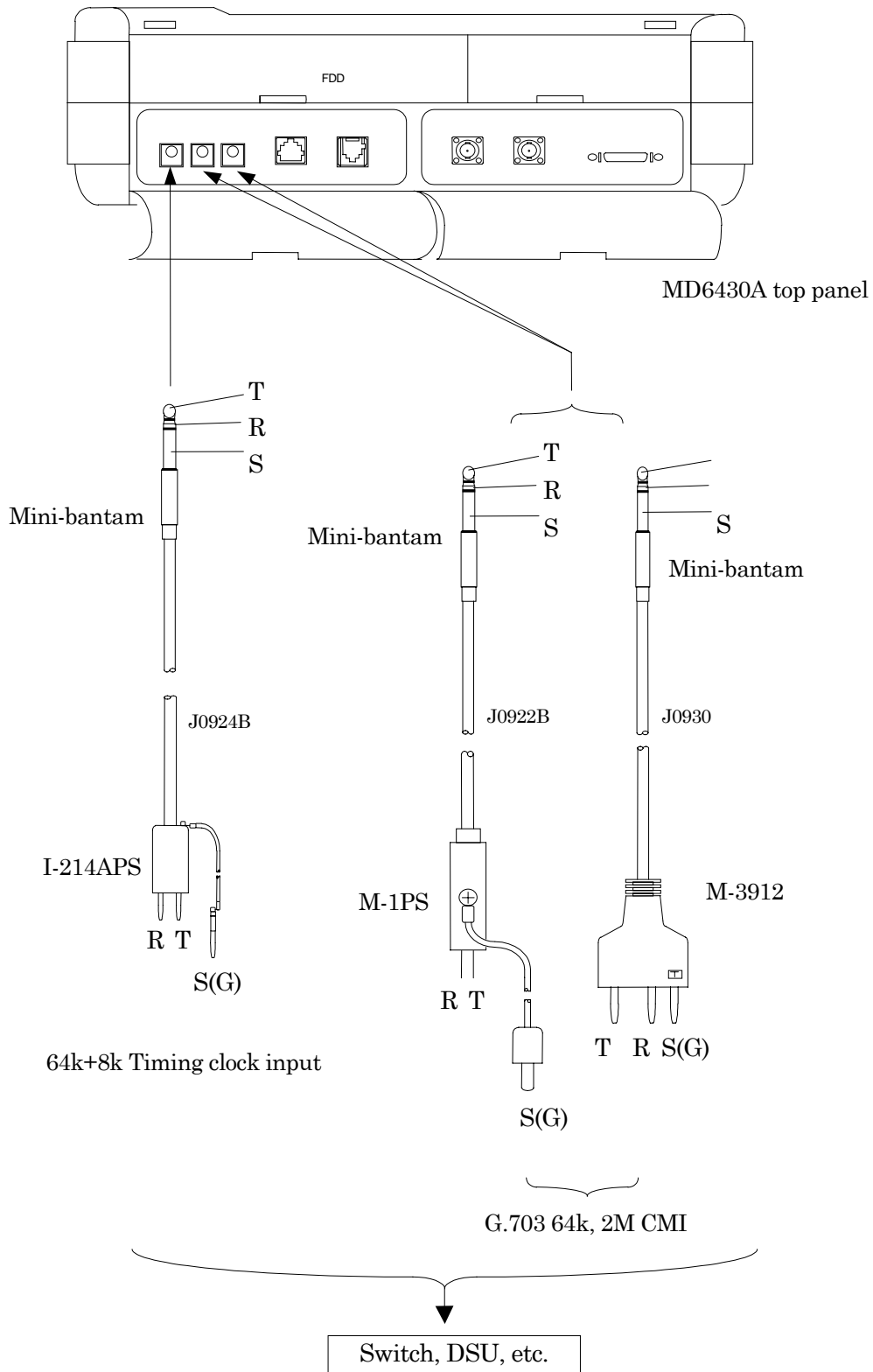


Fig. 4 Connection to G.703 64k, 2M CMI Interface, 64k+8k timing clock

### 3.2 2 In or 1 In Connection (Line Monitor)

■ V/X Interface

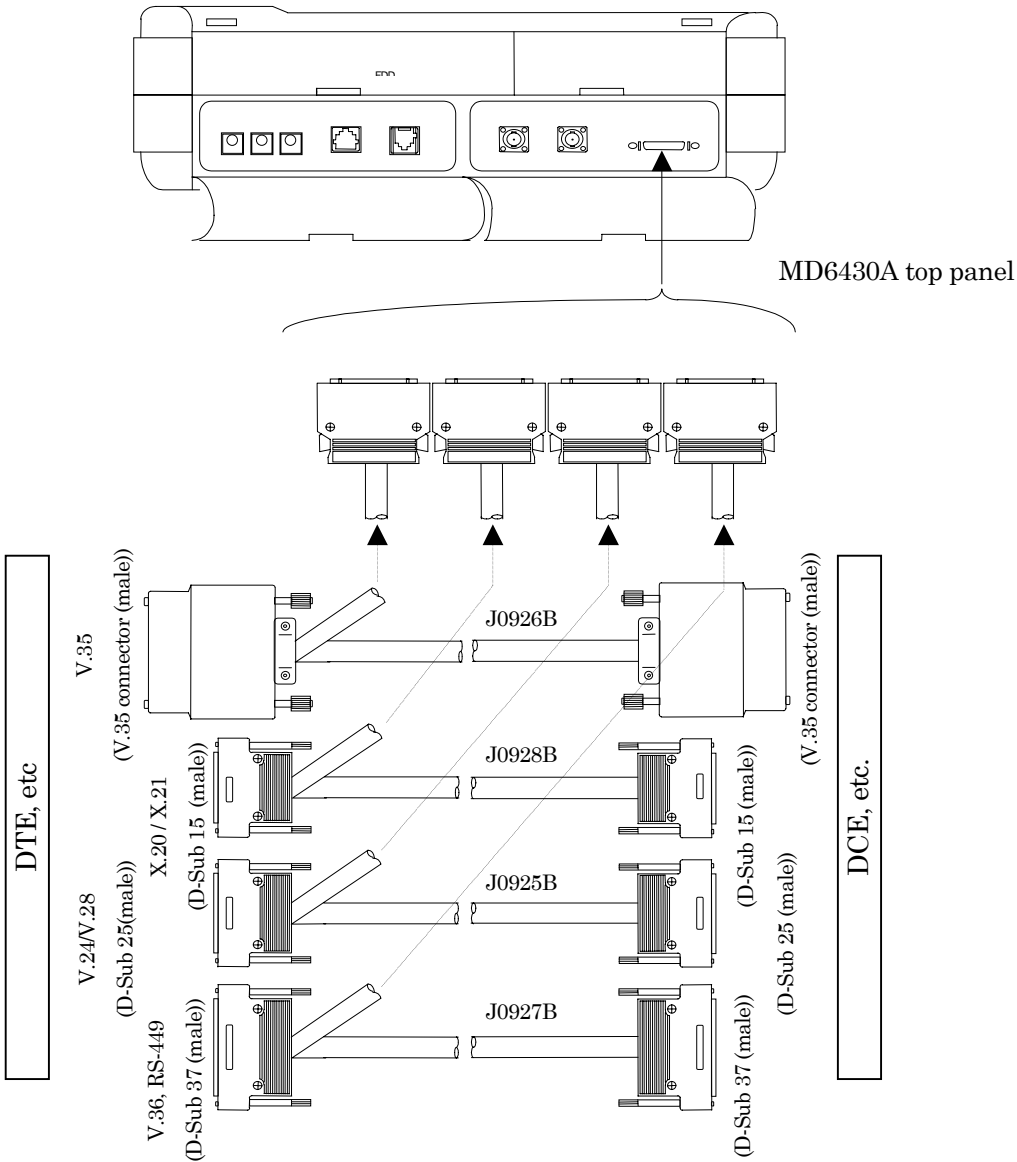
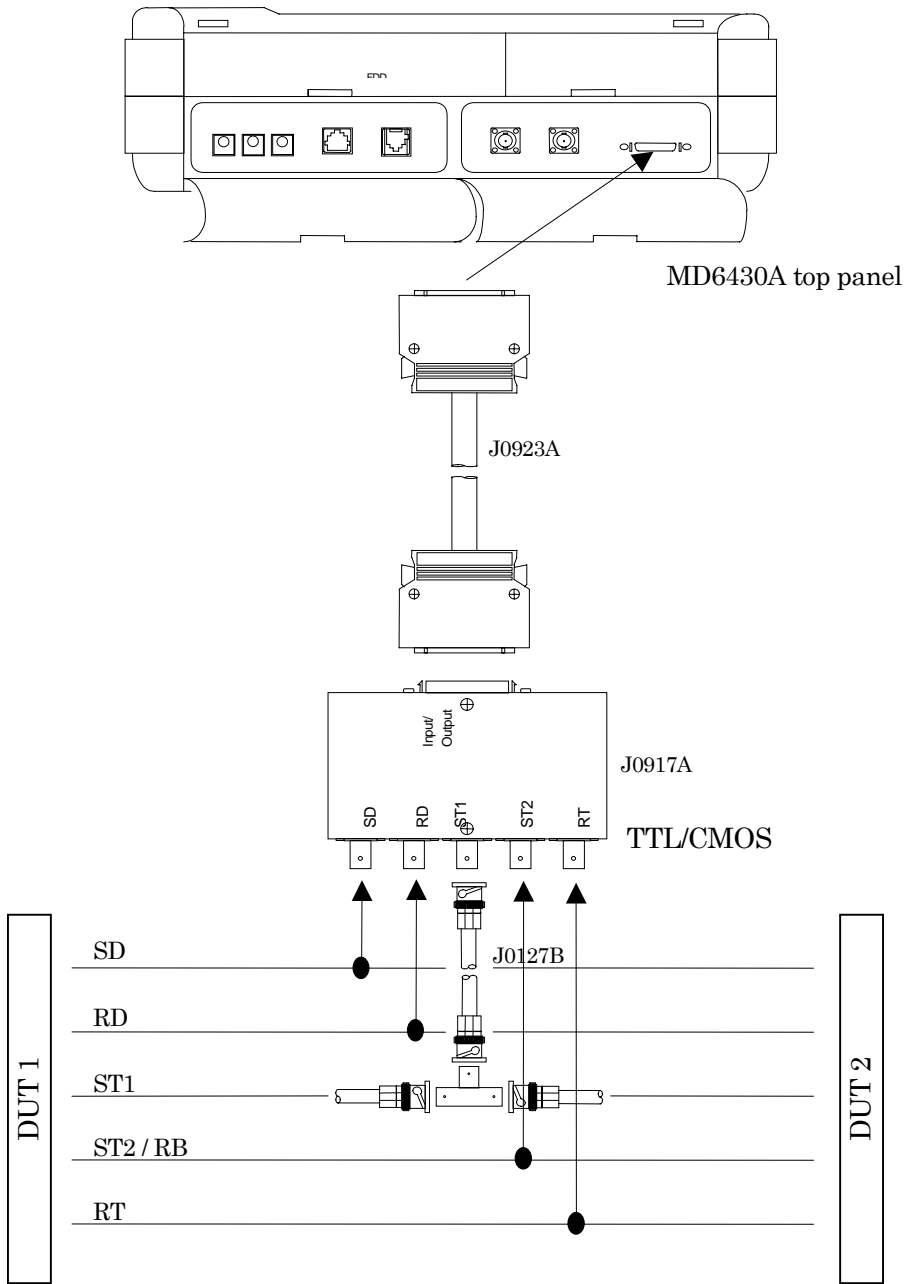


Fig. 5 Connection to V/X Interface

### 3. Connecting Measurement Cables

#### ■ TTL/CMOS Interface



**Fig. 6 Connection to TTL/CMOS Interface**

■ I.430/I430-a 192k, G.703/704/I.431 1.544M/2.048M, G.703/704 6.312M Interfaces

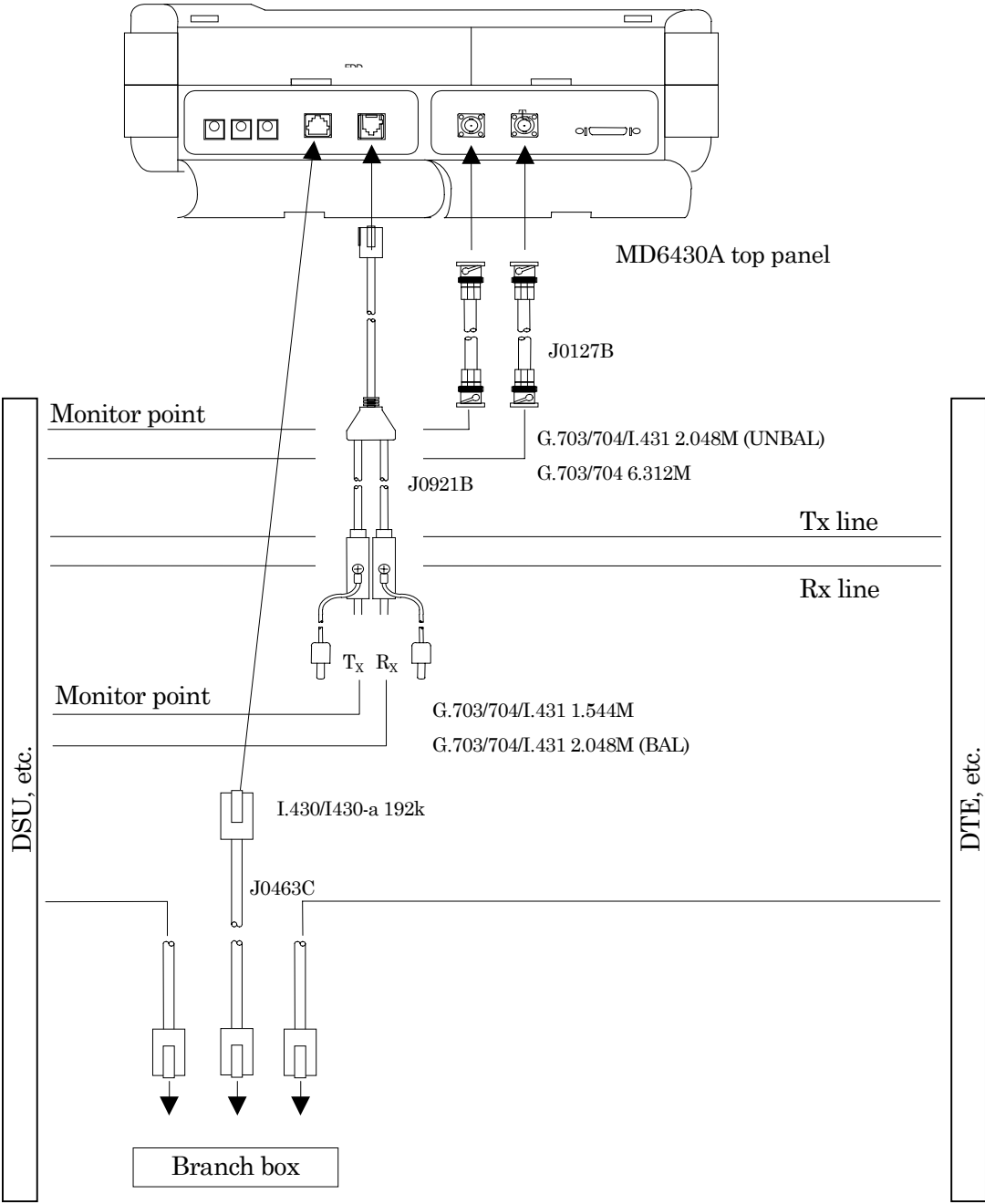


Fig. 7 Connection to I.430/I430-a 192k, G.703/704/I.431 1.544M/2.048M, G.703/704 6.312M Interfaces

■ G.703 64k, 2M CMI Interface

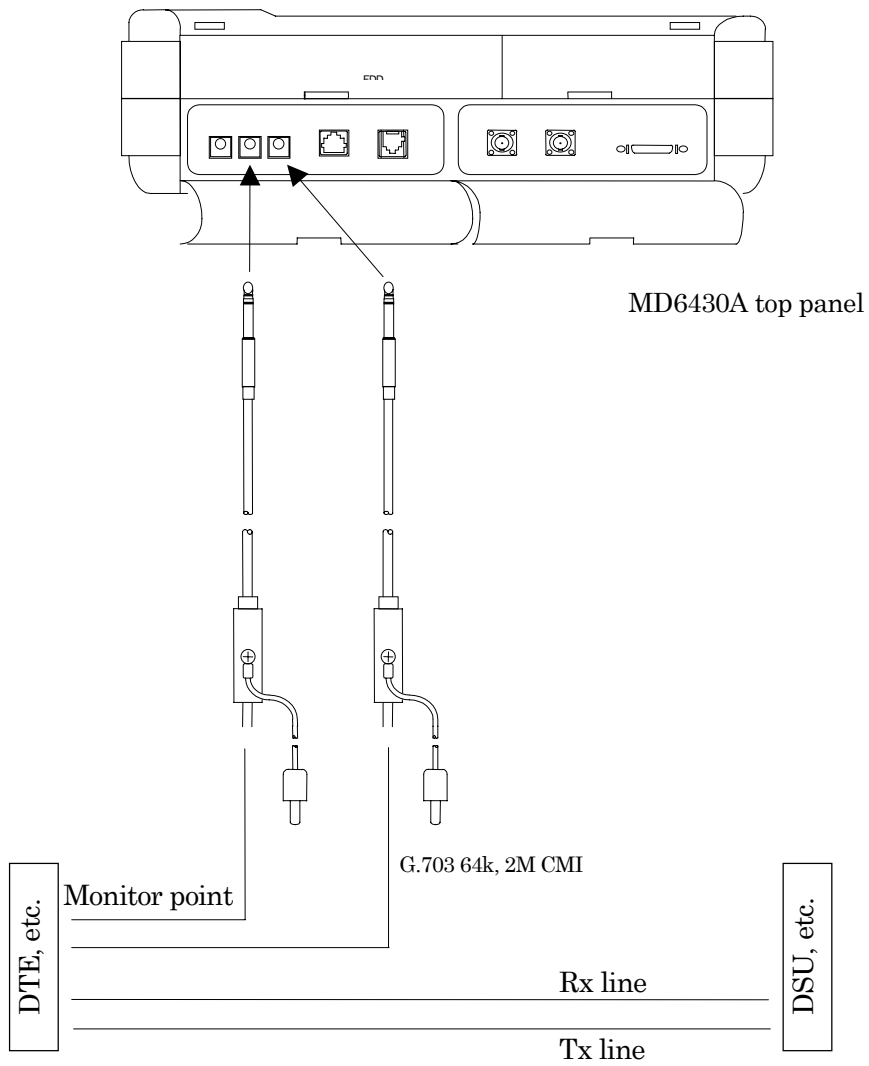


Fig. 8 Connection to G.703 64k, 2M CMI Interface

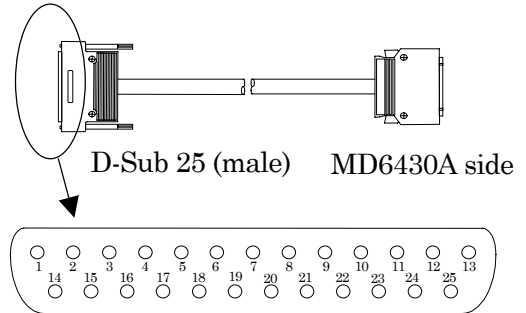


### 3.3 Pin Alignment and Cable Correspondence

■ **Cable for V.24/V.28 (J0913A)**

The left number in the table means D-sub 25 pin number and the right means MD6430A pin number.

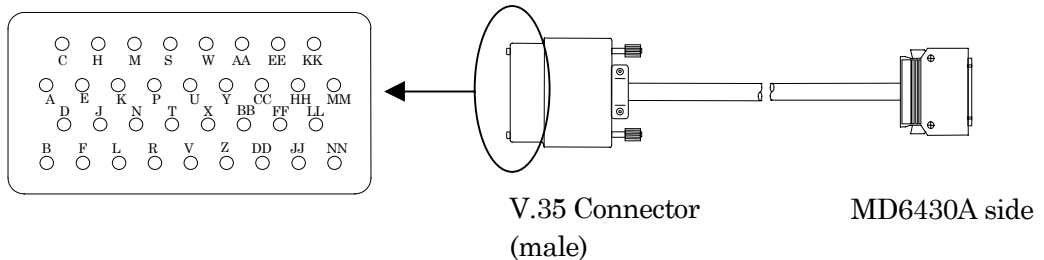
No.	Name	No.	Name	No.	Name
1-1	FG	10	-	19	-
2-3	SD	11	-	20-11	ER
3-5	RD	12	-	21-13	RLB
4-6	RS	13	-	22-14	CI
5-8	CS	14	-	23	-
6-10	DR	15-4	ST2	24-15	ST1
7-36	SG	16	-	25-16	TI
8-12	CD	17-7	RT		
9	-	18-9	LLB		



■ **Cable for V.35 (J0914A)**

The left number in the table means D-sub 25 pin number and the right means MD6430A pin number.

No.	Name	No.	Name	No.	Name	No.	Name
A-1	FG	L-9	LLB	W-33	ST1B	FF	-
B-36	SG	M	-	X-25	RTB	HH	-
C-6	RS	N-13	RLB	Y-4	ST2A	JJ	-
D-8	CS	P-3	SDA	Z	-	KK	-
E-10	DR	R-5	RDA	AA-22	ST2B	LL	-
F-12	CD	S-21	SDB	BB	-	MM	-
H-11	ER	T-23	RDB	CC	-	NN-16	TI
J-14	CI	U-15	ST1A	DD	-		
K	-	V-7	RTA	EE	-		

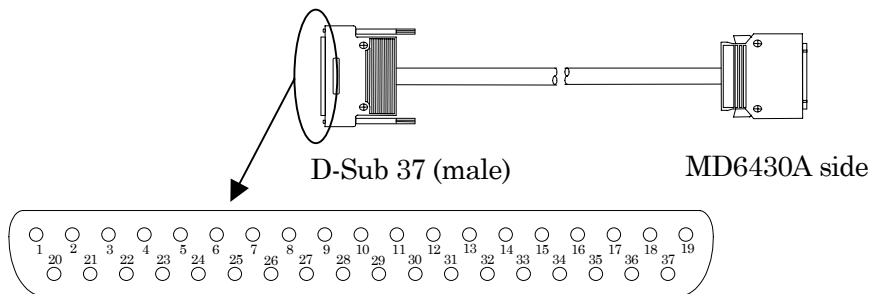


### 3. Connecting Measurement Cables

#### ■ Cable for V.36/RS-449 (J0915A)

The left number in the table means D-sub 25 pin number and the right means MD6430A pin number.

No.	Main	No.	Name	No.	Name	No.	Name
1-1	FG	11-10	DR	21	-	31	-
2	-	12-11	ER	22-21	SDB	32	-
3	-	13-12	CD	23-22	ST2B	33	-
4-3	SDA	14-13	RLB	24-23	RDA	34	-
5-4	ST2A	15-14	CI	25	-	35	ST1B
6-5	RDA	16	-	26	RTB	36	-
7-6	RS	17-15	ST1A	27	-	37	-
8-7	RTA	18-16	TI	28	-		
9-8	CS	19-36	SG	29	-		
10-9	LLB	20		30	-		

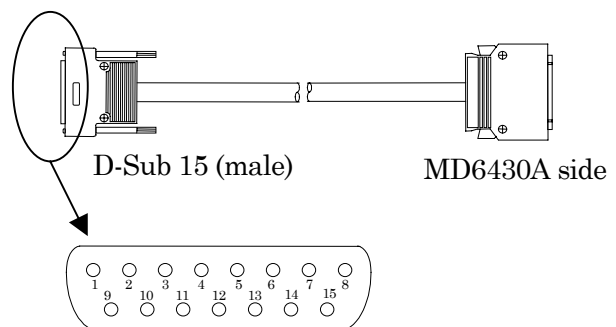


#### ■ Cable for X.20 (RS-423) (J0916A/J0945)

The left number in the table means D-sub 25 pin number and the right means MD6430A pin number.

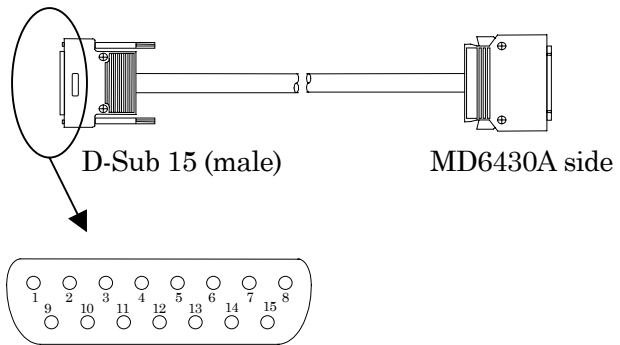
J0916A, J0945

No.	Name	No.	Name
1-1	FG	9-21	GA
2-3	T	10	-
3	-	11-23	GB
4-5	R	12	-
5	-	13	-
6	-	14	-
7	-	15	-
8-36	SG		



■ **Cable for X.21 (RS-422) (J0916A/J0945)**

The left number in the table means D-sub 25 pin number and the right means MD6430A pin number.



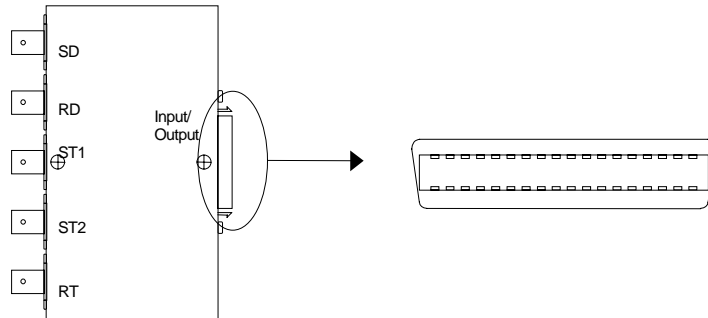
J0916A (Using B connector as ST1 output type)

No.	Name	No.	Name
1-1	FG	9-21	TB
2-3	TA	10-24	CB
3-6	CA	11-23	RB
4-5	RA	12-26	IB
5-8	IA	13-25	SB
6-7	SA	14-33	BB
7-15	BA	15	-
8-36	SG		

J0945 (Using B connector as ST2 input type)

No.	Name	No.	Name
1-1	FG	9-21	TB
2-3	TA	10-24	CB
3-6	CA	11-23	RB
4-5	RA	12-26	IB
5-8	IA	13-25	SB
6-7	SA	14-22	BB
7-4	BA	15	-
8-36	SG		

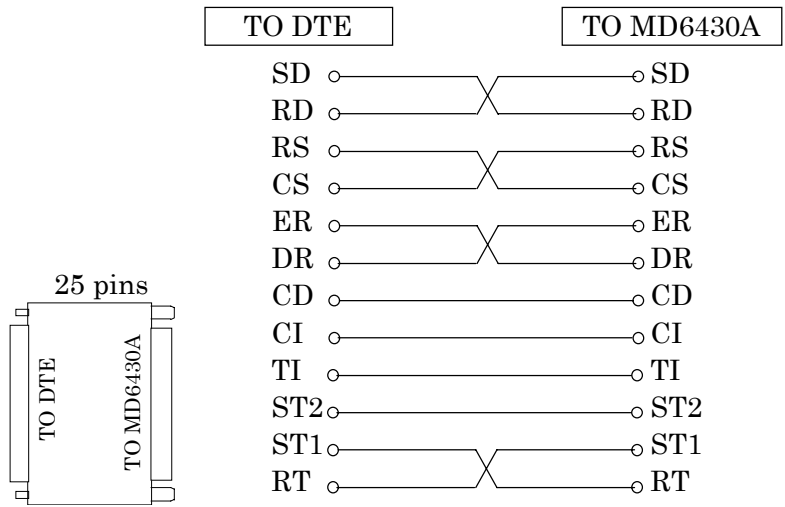
■ **TTL/CMOS Connection BOX (J0917A)**



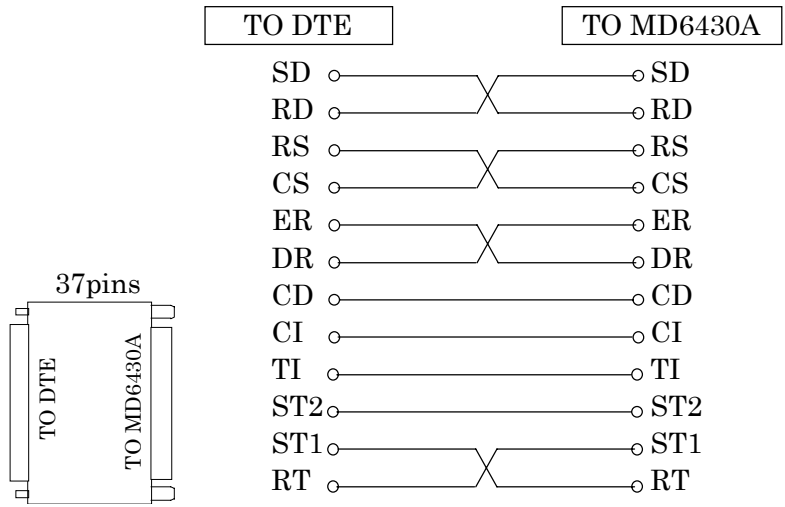
No.	Name	No.	Name	No.	Name	No.	Name	No.	Name	No.	Name
1	FG	7	-	14	-	20	ST1	26	-	32	ST2
2	-	8	-	15	-	21	-	27	-	33	-
3	-	9	-	16	-	22	-	28	-	34	RT
4	-	10	-	17	-	23	-	29	-	35	-
5	-	11	-	18	-	24	-	30	-	36	SG
6	-	12	-	19	SD	25	-	31	RD		

3. Connecting Measurement Cables

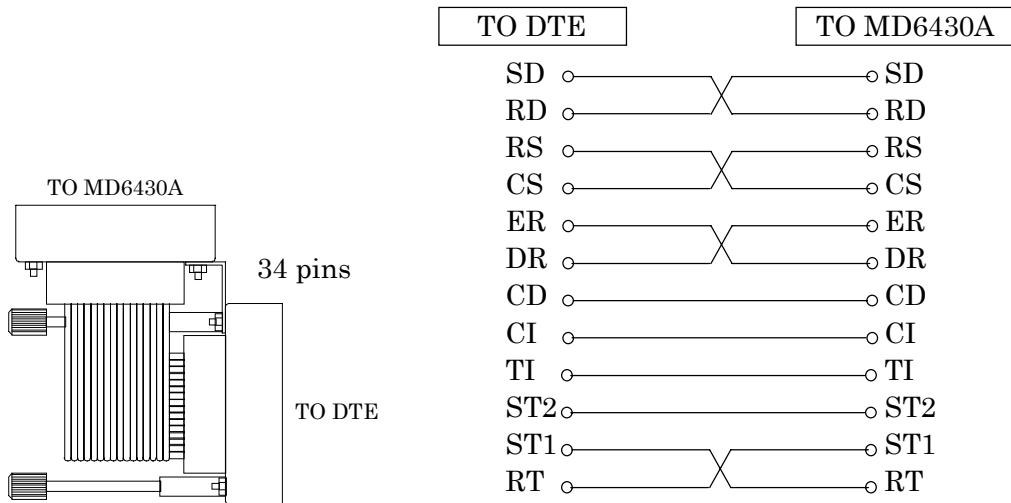
■ Adapter for V.24/V.28 (J0388B)



■ Adapter for V.36/RS-449 (J0392B)



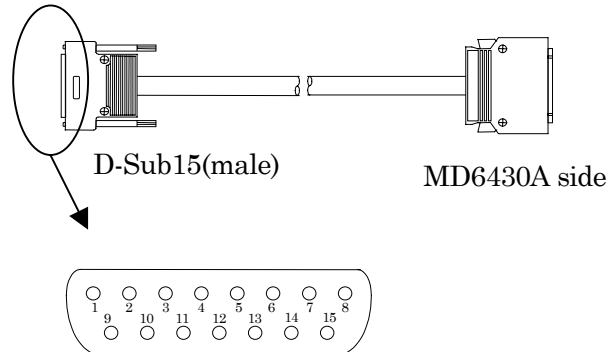
■ Adapter for V.35 (J0390)



■ Crossover cable for X.20/X.21 (J0929)

The left number in the table means D-sub 25 pin number and the right means MD6430A pin number.

No.	Name	No.	Name
1-1	FG	9-23	GB, RB
2-5	R, RA	10-24	CB
3-6	CA	11-21	GA, TB
4-3	T, TA	12-26	IB
5-8	IA	13-33	BB
6-15	BA	14-25	SB
7-7	SA	15	-
8-36	SG		

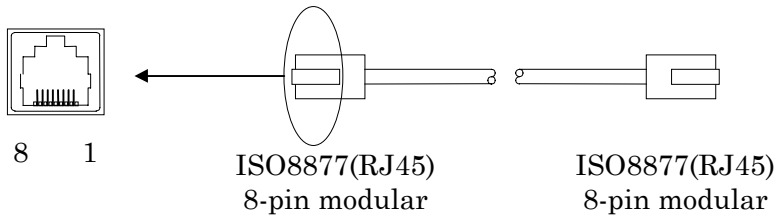


3. Connecting Measurement Cables

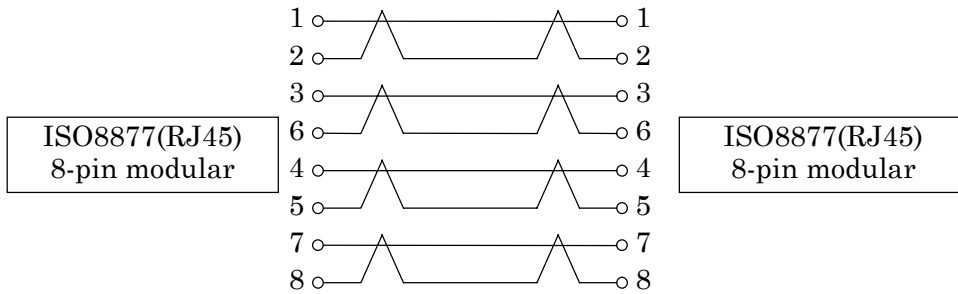
■ Cable for I.430/I430-a 192k (J0463C)

**Table 1 Connector Pin Alignment (MD6430A side)**

No.	Function	Polarity	No.	Function	Polarity	No.	Function	Polarity
1	-	-	4	Receive T	+	7	-	-
2	-	-	5	Receive R	-	8	-	-
3	Send T	+	6	Send R	-			



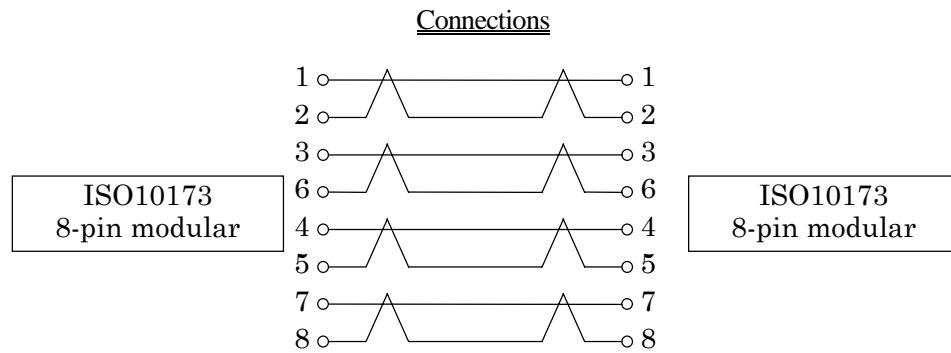
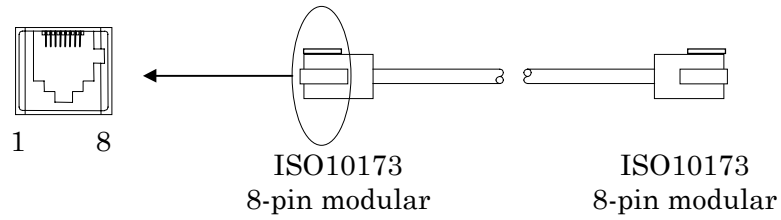
Connections



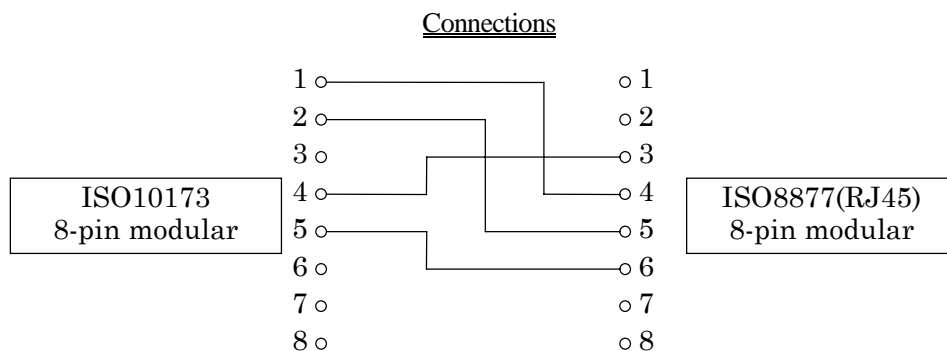
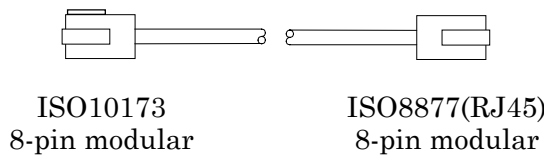
■ Cable for G.703/704/I.431 1.544M, G.703/704/I.431 2.048M (BAL) (J0844A)

Table 2 Connector Pin Alignment (MD6430A side)

No.	Function	Polarity	No.	Function	Polarity	No.	Function	Polarity
1	Receive T	+	4	Send T	+	7	-	-
2	Receive R	-	5	Send R	-	8	-	-
3	-	-	6	-	-			

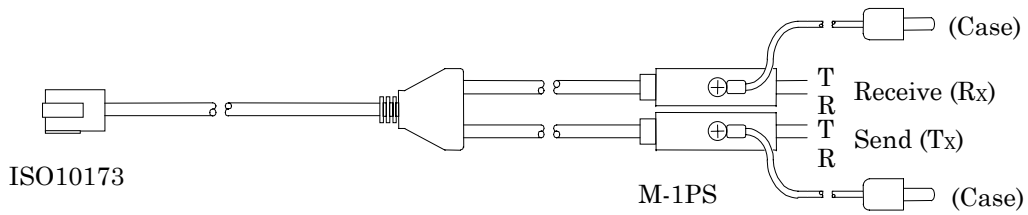


■ Cable for G.703/704/I.431 1.544M, G.703/704/I.431 2.048M (BAL)

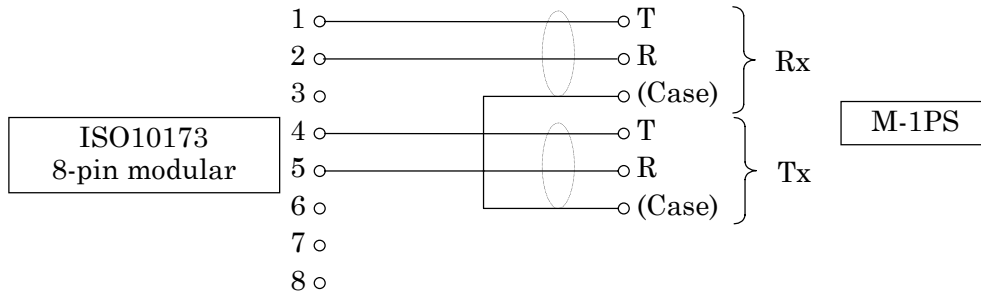


3. Connecting Measurement Cables

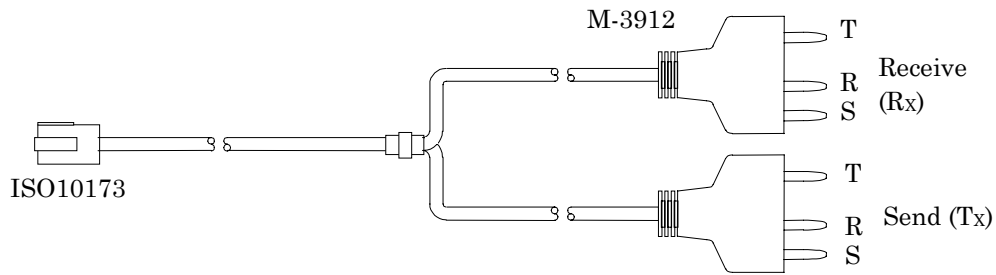
■ Cable for G.703/704/L.431 1.544M, G.703/704/L.431 2.048M (BAL) (J0921B)



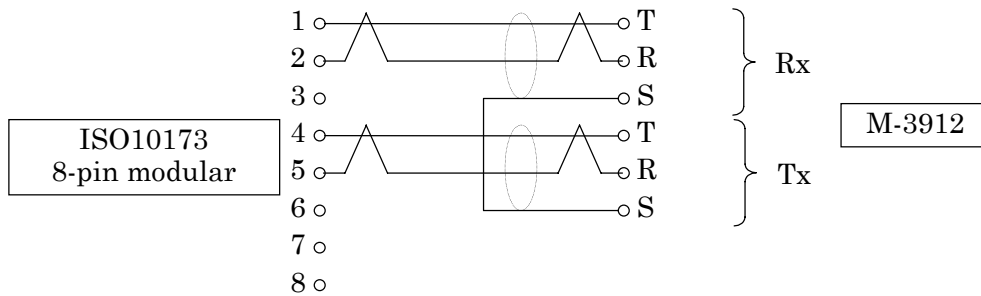
Connections



■ Cable for G.703/704/L.431 1.544M, G.703/704/L.431 2.048M (BAL) (J0946A, J0946B)

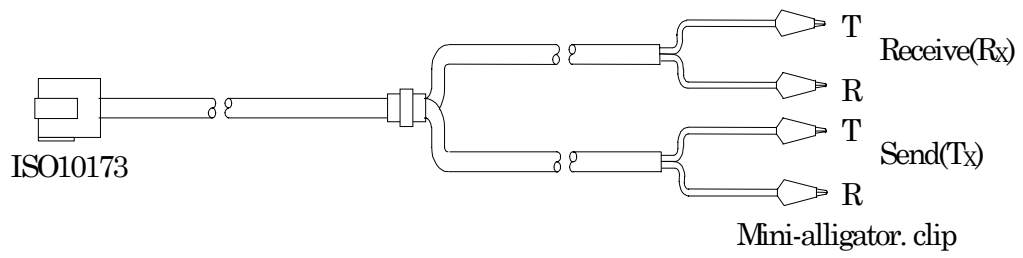


Connections

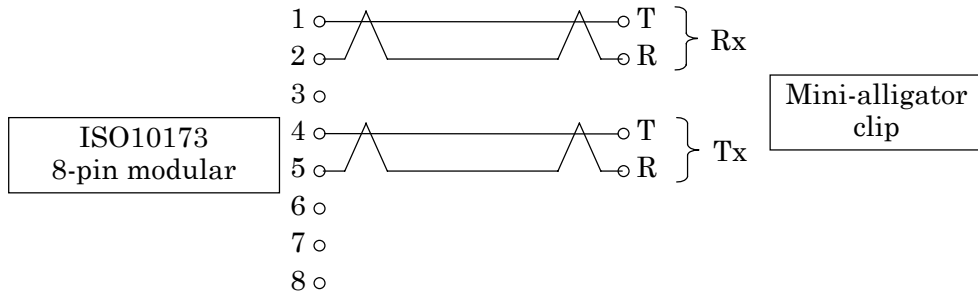




■ Cable for G.703/704/L.431 1.544M, G.703/704/L.431 2.048M (BAL) (J0950)



Connections



### 3. Connecting Measurement Cables

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## 4 Connecting Peripherals

### ■ RS-232C Connection

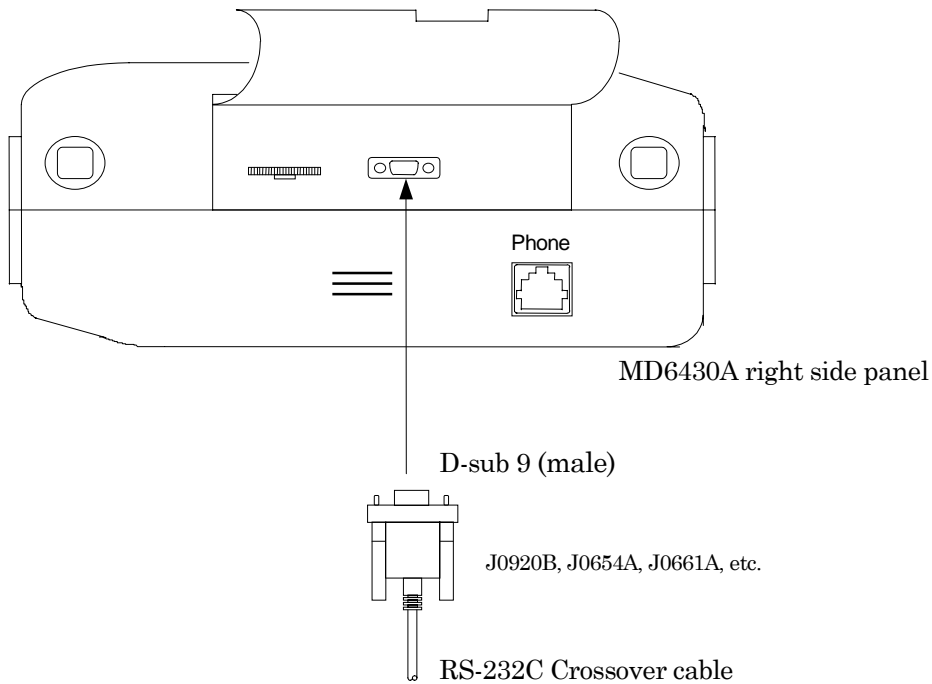
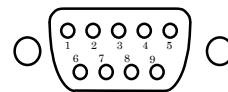


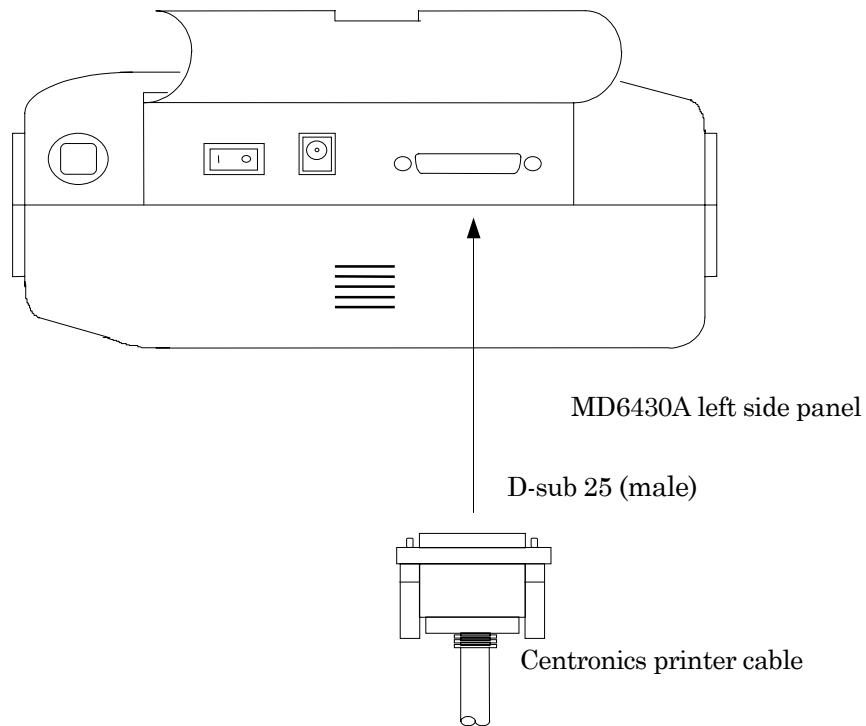
Fig. 9 RS-232C Connection

Table 3 RS-232C Pin Alignment

No	I / O	Name	
1	I	DCD(CD)	Carrier Detect
2	I	RXD(RD)	Receive Data
3	O	TXD(SD)	Send Data
4	O	DTR(ER)	Equipment Ready
5	-	SG	Signal Ground
6	I	DSR(DR)	Data Set Ready
7	O	RTS(RS)	Request to Send
8	I	CTS(CS)	Clear to Send
9	-	-	-



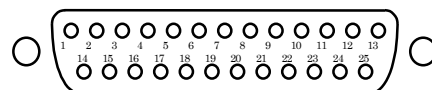
■ **Printer Connection**



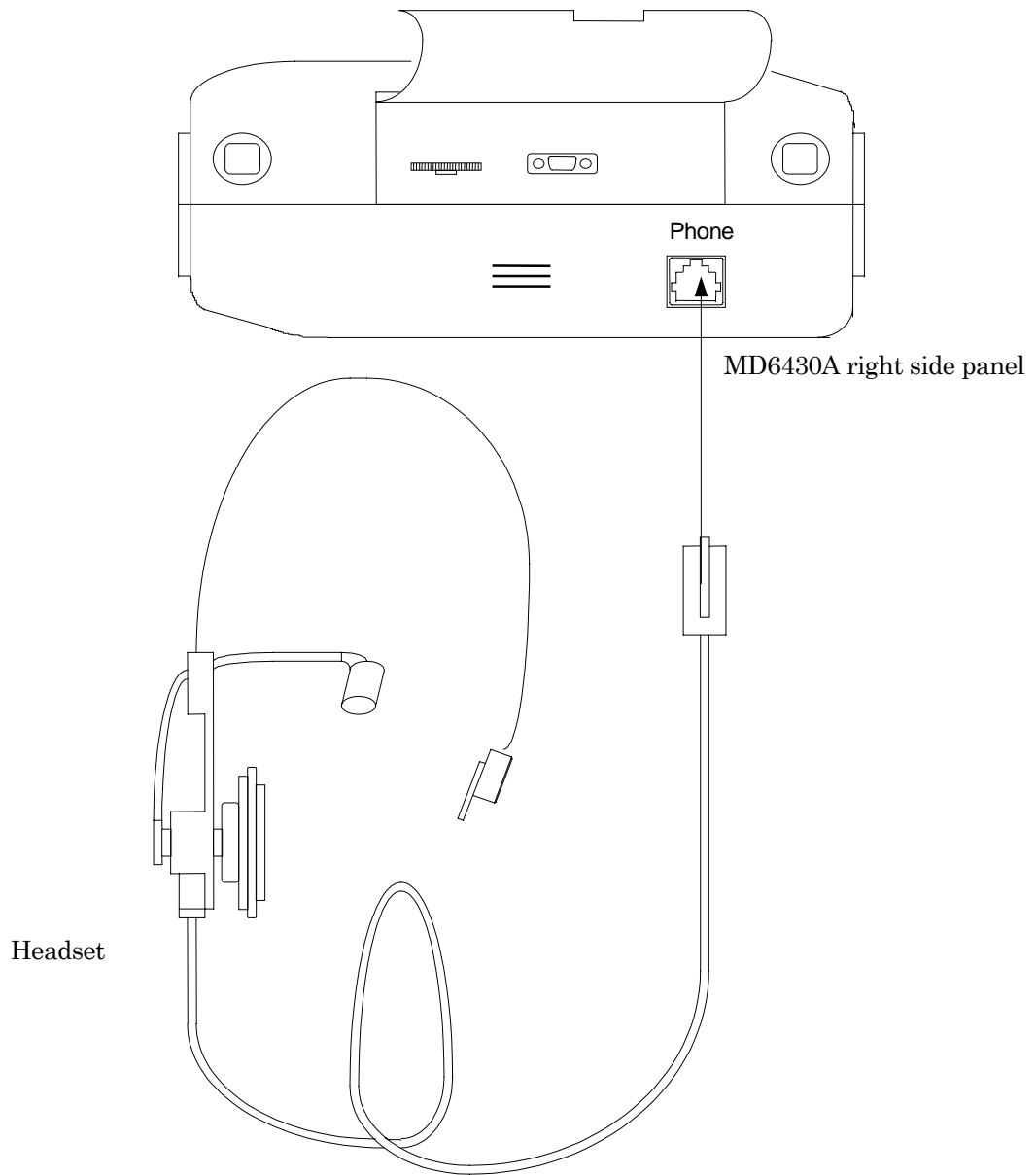
**Fig. 110 Connecting Printer Cable**

**Table 4 Printer Cable Pin Alignment**

No	I / O	Name	
1	O	STB	Data Strobe
2	O	D0	Parallel Data
3	O	D1	Parallel Data
4	O	D2	Parallel Data
5	O	D3	Parallel Data
6	O	D4	Parallel Data
7	O	D5	Parallel Data
8	O	D6	Parallel Data
9	O	D7	Parallel Data
11	I	BUSY	Busy
12	I	PE	Paper End
15	I	ERROR	Error
18-25	-	SG	Signal Ground
else	-	-	-



■ **Headset Connection**



**Fig. 11 Connecting Headset**

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# Anritsu

Specifications are subject to change without notice.

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