MD6420A Data Transmission Analyzer Operation Manual _{Vol. 2}

(REFERENCE)

Third Edition

- Read this manual before using the equipment.
- To ensure that the equipment is used safely, read the "For Safety" in the MD6420A Vol1 or MD6420A5 Vol.1 Operation Manual first.
- Keep this manual with the equipment.

ANRITSU CORPORATION

Safety Symbols

To prevent the risk of personal injury or loss related to equipment malfunction, Anritsu Corporation uses the following safety symbols to indicate safety-related information. Insure that you clearly understand the meanings of the symbols BEFORE using the equipment. Some or all of the following five symbols may not be used on all Anritsu equipment. In addition, there may be other labels attached to products which are not shown in the diagrams in this manual.

Symbols used in manual



This indicates a very dangerous procedure that could result in serious injury or death if not performed properly.



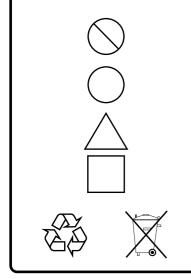
WARNING A This indicates a hazardous procedure that could result in serious injury or death if not performed properly.



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The following safety symbols are used inside or on the equipment near operation locations to provide information about safety items and operation precautions. Insure that you clearly understand the meanings of the symbols and take the necessary precautions BEFORE using the equipment.



This indicates a prohibited operation. The prohibited operation is indicated symbolically in or near the barred circle.

This indicates an obligatory safety precaution. The obligatory operation is indicated symbolically in or near the circle.

This indicates warning or caution. The contents are indicated symbolically in or near the triangle.

This indicates a note. The contents are described in the box.

These indicate that the marked part should be recycled.

MD6420A Data Transmission Analyzer

Operation Manual Vol.2 (Reference)

- 1 August 1990 (First Edition)
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About This Manual

Operation Manual Composition:

The MD6420A operation manual is divided into VOLUME 1 and VOLUME 2. VOLUME 1 contains the information necessary to operate and make measurements with the MD6420A.

VOLUME 2 explains the menus and remote control commands in detail. Refer to it as required.

Both volumes are for the MD6420A main frame. For detailed information regarding the plug-in units, refer to the manual for each unit.

VOLUME 1 and VOLUME 2 consist of the following sections:

- VOLUME 1 (OPERATION)
- SECTION 1 GENERAL
- SECTION 2 OPERATION
- SECTION 3 MEASUREMENT
- SECTION 4 APPLICATION
- SECTION 5 REMOTE CONTROL
- SECTION 6 PRINCIPLE OF OPERATION
- SECTION 7 SIMPLE OPERATION CHECKS
- SECTION 8 STORAGE AND TRANSPORTATION
- APPENDIX A ABBREVIATIONS
- APPENDIX B TABLE FOR DATA CODE
- VOLUME 2 (REFERENCE)

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- SECTION 2 RESPONSE DATA REFERENCE
- SECTION 3 MENU REFERENCE
- APPENDIX A ABBREVIATIONS

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– VIII. –

SECTION 1

REMOTE CONTROL

(Blank)

.

1.1 Comments on Command Reference Explanation

<Example>

CUN	CONDITION OF COLLECT ② Screen				Enabled only when MD0633A Error Analyze ③ Units are inserted
Settin	g for MD0633A	Error	r Analyze Unit No.		4
Forma	t CUN n	(5 Parameter range	1~5	6
Set Wh Wh		error	analyze units are i		⑦ creen is used to select the object error analyze unit. comatically selected.
D Con	mand name	Pro	ogram message con	nmand issued	from controller
2 Mod	e :	Ind	licates mode of the	command scre	en
3 Not	e :	Des	scribes notes and re	estrictions for	the command
	lanation :		scribes basic mean	•	

- (5) Command format : Describes setting method and parameter types n, m, and ℓ indicate first to third parameters, respectively.
- (6) Parameter range : The range of each parameter is indicated. When there are no parameters, "none" is indicated.
- ⑦ Details
 : Explains details of command setting method, conditions, and meaning of each parameter.

1.2 Command Reference

1.2.1 IEEE488.2 common commands

Commands in this paragraph can be used at any time regardless of the screen state.

* CLS		Common to IEE	E 488.2	
Clears a	ll summary-displ	lay event registers v	ria STB registe	r
Format	* CLS	Parmaeter range	None	
<deta< td=""><td>nils></td><td><u></u></td><th></th><th></th></deta<>	nils>	<u></u>		
 State ED ET: Where ES ES The or 	andard event status on event status re- ror event status re- presponding sum R summary mess AR summary me BR summary me utput queue is ne 6 MSS 5 ESR summ 4 MAV 3 ESBR sum	aus register (ESR) egister (ESAR) register (ESBR) bits of the STB byte mary-message bit for sage (STB bit-5) essage (STB bit-2) essage (STB bit-2) ever cleared. Conseq mary message	are set, these or each event s	event status registers are cleared to 0. In addition, tatus register in STB is set to OFF. .V bit (STB bit-4) is never set to OFF.

* ESE		Common to IEEE 488.2			
Sets ESE	register				
Format	* ESE n		Parameter range	$0\sim 255$ (decin	mal number)
Summary Message Event Summary Bis to Operation Complete					
* ESE 7			mmon to IEEI	E 488.2	
Requests	s current value of	ESE	E register		
Format	* ESE ?		Parameter range	None	
bit of t	ils > the *ESE? comm the standard even read with a decis	nt sta	atus enable regi	ister (ESE) Su	ESE register contents

* ESR ?		Cor	Common to IEEE 488.2				
Requests	Requests current ESR register						
Format	* ESR ?		Parameter range	None			
<deta< td=""><td colspan="7"><details></details></td></deta<>	<details></details>						
	the *ESR? comm vith a decimal va		is sent, the val	ue of each bit o	of the standard event status register (ESR) can be		
After	the standard eve	nt sta	atus register is	read, it is clear	red.		
	7 Power on						
	\mathbf{X}						
	5 Command I	Error					
	4 Execution I	Error					
	\mathbf{X}						
	2 Query Erro	r					
	\overline{X}						
	0 Operation (Comp	lete				
ES	SR register						
	-						

* SRE		Common to IEEE 488.2				
Sets SRE	Sets SRE register					
Format	* SRE n		Parameter range	0 to 63 , 128 to	o 191 (decimal numeral)	
SRE register contents 7 7 8-bit binary numerical of the service request enable register (SRE) is set to the specified parameter value with a decimal value. By setting the SRE register, when the corresponding bit of the status byte register (STB) is ON, STB bit-6 (master summary message bit) is set to ON. 5 8 4 9 1 0 0						
* SRE '	?	Co	mmon to IEEI	E 488.2		
Requests	current SRE reg	iste	r			
Format	* SRE ?		Parameter range	None		
SRE register contents 7 7 7 7 8-bit binary numerical of the service request enable register (SRE) is set to the specified parameter value with a decimal value. By setting the SRE register, when the corresponding bit of the status byte register (STB) is ON, STB bit-6 (master summary message bit) is set to ON. 5 8 4 MAV 1 0 0						

* STB ?		Common to IEEE 488.2							
Request	s current STB reg	gister							
Format * STB? Parameter range None									
<deta< td=""><td colspan="9"><details></details></td></deta<>	<details></details>								
After decim	After the *STB? command is sent, the value of each bit of the status byte register (STB) can be read with a decimal numeral.								
	 6 MSS master 5 ESR summer 4 MAV 3 ESBR summer 	er contents er summary message ary message mary message mary message	e						

* IDN ? Common to IEEE 488.2								
Requests	Requests device ID							
Format	* IDN ?		Parameter None range					
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td><td></td></deta<>	ils>							
After the *IDN? command is sent, the device ID can be read.								
	2			- 400 0				
* RST	?	Co	mmon to IEEI	- 488.2				
Resets N	ID6420A							
Format	* RST		Parameter range	None	None			
<details> When the *RST? command is sent, the instrument is reset as shown below:</details>								
			Item		Reset condition	7		
		Screen			MODE screen	7		
		SRE reg	gister		bits 4 and 5 \rightarrow ON			
		Other e	nabled registers		All OFF			
		Event c	ondition register	`S	All OFF			
		Items to	be monitored		Unchanged			
		When n	neasurement is i	n progress	Measurement aborts			

* TST 7	?	Сог	mmon to IEEI	E 488.2				
Resuests	Resuests self test and current conditions							
Format	mat * TST ? Parameter range None							
<deta< td=""><td colspan="8"><details></details></td></deta<>	<details></details>							
	D6420A does not		_		"			
When	this command is	rece	lived, "0" is outp	out, which mea	ns "operation in progress".			
T								
				- 400 0				
* SAV		Со	mmon to IEEI	E 488.2	Only measurement function screens can be saved.			
	rrent interface a	I						
	rrent interface a * SAV n	I	easurement cor Parameter					
Saves cu	*SAV n	I	easurement cor	nditions in pres				
Saves cu Format <deta< td=""><td>* SAV n</td><td>nd m</td><td>easurement cor Parameter range</td><td>nditions in pres 1 ~ 10</td><td>set memory</td></deta<>	* SAV n	nd m	easurement cor Parameter range	nditions in pres 1 ~ 10	set memory			
Saves cu Format <deta When</deta 	* SAV n ils> the *SAV comm	nd m	Parameter range is sent, the cur	nditions in pres $1 \sim 10$ rrent setting c	-			
Saves cu Format < Deta When Saved This o	* SAV n ils > the *SAV comm setting condition command is vali	nd m nand ns in id for	Parameter range is sent, the cur the preset mem r the measuren	nditions in pres $1 \sim 10$ rrent setting c ory can be recannent function	onditions for that measurement screen are saved. alled via the *RCL command. screens. Also, saving can be performed during			
Saves cu Format < Deta When Saved This o	* SAV n ils > the *SAV comm setting condition command is vali	nd m nand ns in id for	Parameter range is sent, the cur the preset mem r the measuren	nditions in pres $1 \sim 10$ rrent setting c ory can be recannent function	onditions for that measurement screen are saved. alled via the *RCL command.			
Saves cu Format < Deta When Saved This o	* SAV n ils > the *SAV comm setting condition command is vali	nd m nand ns in id for	Parameter range is sent, the cur the preset mem r the measuren	nditions in pres $1 \sim 10$ rrent setting c ory can be recannent function	onditions for that measurement screen are saved. alled via the *RCL command. screens. Also, saving can be performed during			
Saves cu Format < Deta When Saved This o	* SAV n ils > the *SAV comm setting condition command is vali	nd m nand ns in id for	Parameter range is sent, the cur the preset mem r the measuren	nditions in pres $1 \sim 10$ rrent setting c ory can be recannent function	onditions for that measurement screen are saved. alled via the *RCL command. screens. Also, saving can be performed during			
Saves cu Format < Deta When Saved This o	* SAV n ils > the *SAV comm setting condition command is vali	nd m nand ns in id for	Parameter range is sent, the cur the preset mem r the measuren	nditions in pres $1 \sim 10$ rrent setting c ory can be recannent function	onditions for that measurement screen are saved. alled via the *RCL command. screens. Also, saving can be performed during			

* RCL		Common to IEEE 488.2		488.2	Valid for all screen modes			
Recalls saved contents from preset memory								
Format	*RCL n		Parameter range	1 to 10				
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>							
If not	When the *RCL command is sent, the previous contents of the specified preset memory are recalled and set. If nothing is saved in the specified memory location, an error occurs. This command is valid for all screen modes.							
*WA		Co	mmon to IEEI	E 488.2				
WAIT co	ommand (IEEE 4	88.2	specification)					
Format	* WAI		Parameter range	None				
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>							
The N	The MD6420A does not execute any operation.							
1								

* OPC		Common to IEEE 488.2		E 488.2				
Waits for	Waits for end of program message processing (method by ESR)							
Sets bit (Sets bit 0 (Operation Complete) of the standard event status register to ON							
Format	* OPC		Parameter range	None				
<deta< td=""><td colspan="8"><details></details></td></deta<>	<details></details>							
When	the *OPC comm	and i	is executed, bit () of the standar	d event status register (ESR) is set to ON.			
Howe	ver, after the star	ndar	d event status r	egister is read,	it is cleared.			
	Q is generated b er and bit 5 (ESR				C command processing by setting bit 0 of the ESE ister.			
	7 Power on							
	X							
	5 Command	Erro	or					
	4 Execution	Erro	r					
	\square							
	2 Query Erro	or						
	\square							
	0 Operation	Com	plete					
Е	SR register conte	ents						

* OPC ? Common to IEEE 488.2				E 488.2					
Waits for	Waits for end of program message processing (method by response data)								
Format	* OPC ?		Parameter range	None					
<deta< td=""><td colspan="9"><details></details></td></deta<>	<details></details>								
When the *OPC? command is executed, "1" is output to the OUTPUT QUEUE thereby causing the MAV summary message to be generated. (This program message (command) is used to confirm whether or not processing of the previous command has been completed.)									

1.2.2 MD6420A commom commands

Commands in this paragraph can be used at any time regardless of the screen state.

RAL	L (Common to MD6420A		MD6401A compatible command			
Resets er	Resets error bit							
Format	ormat RAL Parameter None							
< Deta	< Details >							
This is	This is a compatible command to the MD6401A.							
Ουτ		Со	mmon to MD	6420A	MD6401A compatible command			
Specifies	s output destinati	ion						
Format	OUT		Parameter range	None				
< Deta	ails >							
	s a compatible co ng executed.	mmŧ	and to the MD64	01A.				
PRT		Co	Common to MD6420A					
Switches	s printer output ()N/C)FF					
Format	PRT n		Parameter range	0 to 1				
< Deta When		inte	r output is enabl	ed; when PRT	0 is sent, it is disabled.			
Note:	When PRT1 is sent, printer output is enabled; when PRT0 is sent, it is disabled. Note: When there is no paper in the printer, it cannot be set to ON.							

The 16-bit binary numeral of the END-ERS enable register (ESAE register) is set with a decimal numeral. If the corresponding bit of the END-ERS register (ESAR register) is set to ON while setting the ESAE register, bit 2 (ESAR summary message bit) of the status byte regiser (STB register) is also set. Error analysis end Output generation of interval data Output generation of other than interval data 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 ESAE register contents						
Contact ange range range Contact ange range After the ESAE? command is sent, the value of each bit of the END-ERS enable register (ESAE register) can be read with a decimal numeral.						
Error analysis end Output generation of interval data Output generation of other than interval data 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 ESAE register contents						

ESAR ?	?	Со	mmon to MD	6420A				
Requests	Requests current ESAR register							
Format	ESAR?		Parameter None None					
< Deta	nils >							
decim	After the ESAR? command is sent, the value of the END-ERS register (ESAR register) can be read with a decimal numeral.							
After	the value of the I	ESAF	R register has be	en read, it is c	leared.	- End of error-analysis		
					[- Interval data generated and output - Non-interval data generated and output		
	15 14 13	3 12	11 10 9 8 7	7 6 5 4 3	2 1	0 ESAR register contents		
						Measurement end		
ESAC	?	Со	mmon to MD	6420A				
Request	s current ESAC 1	egis	ter					
Format	ESAC?		Parameter range	None				
< Deta	ails >							
After the ESAC? command is sent, the value of each bit of the END-CONDITION register (ESAC register) can be read with a decimal numerals. Error analysis (ON: during analysis, Off: when no analysis is being performed) Interval data (ON: when present, OFF: when none) Automatic generation of non-interval data (ON: YES, OFF: NO)								
	15 14 13 12	11 1	09876	5 4 3 2	1 0	ESAC register contents		
					Statı prog	us of measurement (ON: measurement in ress, OFF: measurement not in progress)		

ESBE Common to MD6420A			nmon to MD						
Sets ESB	Sets ESBE register								
Format ESBE n Parameter range 0 to 65535									
< Deta	< Details >								
The 16	The 16-bit binary value of the error-ERS enable register (ESBE register) is set with a decimal value.								
					ts of the error-ERS register (ESBR register) is ON, ster (STB register) is set.				
	15 14 13 1	2 11	10 9 8 7	6 5 4 3 2	1 0 ESBE register contents				
					Set when there is no paper in the built-in printer				
					Interval data buffer overflow generated				
ESBE ?		Cor	nmon to MD	6420A					
Requests	Requests current ESBE register								
Format ESBE ? Parameter									
Format	ESBE ?		Parameter range	None					
Format < Deta				None					
< Deta When	ils $>$ the ESBE? com	mand	range is sent, the va	Lue of each bit	of the error-ERS enable register (ESBE register) er is read, it is cleared.				
< Deta When	ils $>$ the ESBE? com	mand mal v	range is sent, the va value. After the	Lue of each bit	er is read, it is cleared.				
< Deta When	ils > the ESBE? comp read with a deci	mand mal v	range is sent, the va value. After the	lue of each bit ESBE regiiste	er is read, it is cleared.				

ESBR ? Common to MD6420A							
Requests	Requests current ESBR register						
Format	Format ESBR? Parameter range None						
< Deta	< Details >						
decim	After the ESBR? command is sent, the value of the error-ERS register (ESBR register) can be read with a decimal value. After the ESBR register is read, it is cleared.						
	15 14 13 1	2 11	10 9 8 7	65432	2 1 0 ESBR register contents		
					Set when there is no paper in built-in printer		
					Interval data buffer overflow generated		
ESBC ?	>	Co	mmon to MD	6420A			
Requests	s current ESBE r	egist	ter				
Format	ESBC?		Parameter range	None			
< Deta	ils >						
After ESBC? is sent, the value of each bit of the error-CONDITION register (ESBC register) can be read with a decimal value.							
	15 14 13 12	2 11	10 9 8 7 6	3 5 4 3 2	1 0 ESBC register contents		
					Set when there is no paper in built-in printer		

DIC		Common to MD6420A					
Clears in	Clears interval supervisory print data buffer						
Format	mat DIC Parameter range			None			
< Deta							
	the DIC comman er is set to OFF.	nd is	sent, the interv	'al supervisory	y print data buffer is cleared and bit 3 of the ESAC		
DAC		Co	mmon to MD	96420A			
Clears bi	uffer for automat	icall	ly-generated dat	ta other than in	nterval supervisory data		
Format	DAC		Parameter range	None			
					omatically-generated data, other than interval r is set to OFF.		
TRM		Со	ommon to MD)6420A			
Specifies	s the terminater o	of re:	sponse data				
Format	TRM		Parameter range	0, 1			
< Deta	ails >						
The te	erminater of resp	onse	e data is specifie	d, as follows:			
	0: LF + EOI						
	1: $CR + LF + F$,				
Theu	The default is 0: $LF + EOI$.						

1.2.3 Screen switching commands

Commands in this paragraph switch the screens on the front panel of the MD6420A.

Each command described in the paragraphs from 1.2.4 to 1.2.12 can be used in a state displaying a respective screen.

To use these commands, it is necessary to move the screen to an appropriate screen in advance using each command in the paragraph.

MD		For switch measurer	ning nent m	odes						
Switches	to MODE screen									
Format	MD	Parame range	eter	None						
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td><th></th><th></th><th></th><th></th></deta<>	ils>									
Selects	the MODE scree	n.								
AL For me		For switcl measurer	or switching easurement modes							
Switches	to ERROR ANA	LYSIS scree	en							
Format	AL	Param range	eter	None	None					
<deta Select</deta 	ils> s the ERROR AN	IALYSIS scr	een.							
UV Fo		For switc measure	For switching measurement modes							
Switches	s to TABLE OF U	INITS scree	n							
Format	UV	Param range	Parameter range							
<deta< td=""><td>ils> s the TABLE OF</td><td></td><td>een.</td><td></td><td></td><th></th><th></th><th></th><th></th></deta<>	il s> s the TABLE OF		een.							

PL		Fo me	r switching easurement m	nodes					
Switches to PRESET MEMORIES screen									
Format	PL Parameter range			None					
<deta< td=""><td colspan="9"><details></details></td></deta<>	<details></details>								
Sets the PRESET MEMORIES screen.									
IF		For switching measurement modes							
Switches to INTERFACE screen									
Format	IF Parameter range			None					
<details> Selects the INTERFACE screen.</details>									
ED		For switching measurement modes							
Switches to ERROR screen									
Format	ED Parameter range			None					
<details> Selects the ERROR screen.</details>									

VF		Fo me	r switching easurement m	nodes	
Switches	to VOLT/FREQ	UEN	ICY screen		
Format	VF		Parameter range	None	
<deta< td=""><td>ils></td><td></td><td></td><td></td></deta<>	ils>				
Selects	the VOLT/FREG	QUE:	NCY screen.		
DL		Fo me	r switching easurement m	nodes	
Switches	to DELAY TIMI	E scr	een		
Format	DL		Parameter range	None	
<deta< td=""><td>ils></td><td></td><td></td><td></td></deta<>	ils>				
Select	s the DELAY TII	ME s	creen.		
WТ		Fo me	r switching asurement m	odes	
Switches to WORD TRACE screen					
Format WT Parameter range		Parameter range	None		
<deta< td=""><td colspan="5"><details></details></td></deta<>	<details></details>				
Select	s the WORD TRA	ACE	screen.		

WE		For me	switching asurement m	nodes		
Switches	to EDIT PATTE	RN	DATA screen			
Format	WE		Parameter range	None		
<detai< td=""><td>ls></td><td></td><td></td><td></td></detai<>	ls>					
Selects	the EDIT PATTE	ERN	DATA screen.			
TD		Foi me	r switching asurement m	nodes		
Switches	to DISPALY PA	TTE	RN TRACE scr	een		
Format	TD		Parameter range	None		
	<details> Selects the DISPLAY PATTERN TRACE screen.</details>					
BP		Fo me	r switching easurement m	nodes		
Switches to the previous screen in the hierarchy						
Format BP Parameter range		Parameter range	None			
	<pre>> The previous screen in the screen hierarchy is displayed.</pre>					

NP		For switching measurement modes		nodes	Measurement continues even if the screen is switched while a measurement is in progress	
Switches	Switches to the next higher screen in the hierarchy					
Format	NP		Parameter range	None		
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>					
If the can be	BP command ha	s bee e ori	en used to displa ginal (slave) scr	ay the next hi een.	gher screen in the screen hierarchy, this command	
	BP command has a, this function is			v executed, th	is command has no function. Also, at the final mode	

1.2.4 MODE screen (initial screen immediately after power-on)

Commands in this paragraph are effective for the MODE screen.

To use these commands, it is necessary to move the screen to the MODE screen in advance using "MD" command.

тм		M	ODE screen				
Sets time	e and date						
Format	ТМ Ү,М,D,Н,М	[, S	Parameter range	Y:00 to 99 M:0	1 to 12 D:01 to 31 H:00 to 23 M:00 to 59 S:00 to 59		
<deta< td=""><td>ails></td><td></td><td></td><td></td><td></td></deta<>	ails>						
Used to Y = Ye M = Me D = De H = He	onth ay		e of the MD64204	A internal cloc	:k.		
$M = M_{\pi}^{2}$ $S = Se$		year	is set according	to the Gregori	an calendar.)		
LTS		М	ODE screen				
Tests LE	Ds				· · · · · · · · · · · · · · · · · · ·		
Format	LTS		Parameter range	None	······································		
	<details> Causes all MD6420A LEDs and the EL display to light.</details>						
PTS		м	ODE screen		Valid while PRINTER is ON		
Tests pri	Tests printer						
Format PTS Parameter range		None					
	ails > to test the printe tput a test patter		characters and (figuros			

INI		MODE screen		Executed immmediately after command is sent (not confirmed)			
Initializes the MD642	Initializes the MD6420A settings						
Format INI		Parameter range	None				
values. Also, the MODE The contents of a The default inter Refer to the follo Confirm manual IB operations.	nand is screen i ll the pr face cor wing tal ly whet	executed, the in is displayed. reset memories a nditions vary with bles for the defau her or not param	nterface and r are cleared. th the plug-in r ult values of ea neters have be	neasurement conditions are reset to their default unit. Refer to the operation manual of each unit. ach measurement condition. en initialized correctly, this cannot be done for GP- t will also be deleted.			

<in< th=""><th colspan="5"><interface> Items</interface></th></in<>	<interface> Items</interface>				
No.	ltem	Item label	Default value set by INI command		
1	Sending interface unit conditions	INTERFACE	Interface unit mounted in lowest numbered slot		
2	Send electrical signal code type	CODE	B8ZS		
3	Send frame format	FRAME	24MPF (CCITT)		
4	Send signal clock type	CLOCK	INT		
5	Internal-clock slave signal type for sending	INT FREQ SOURCE	SELF		
6	External-clock input interface type for sending	EXTERNAL INTERFACE	TTL		
7	Parity of send short frame pattern	PARITY	NON		
8	Send time slot	TIME SLOT	CHAN1		
9	Send data bit rate	DATA BIT RATE	64 kb / s		
10	Send data frame	DATA FRAME	X.50		
	Send X.50 data channel number	DATA CHANNEL	1		
12	Send 1st bit	1st BIT	0		
13	Send 8th bit	8th BIT	0		
(l)	Send signaling bit enabled/ disabled	BIT STEAL	OFF		
15	Receive interface unit conditions	INTERFACE	Same as send interface unit $\textcircled{1}$		
16	Receive input level	INPUT LEVEL	MAIN		
17	Receive electrical signal code type	CODE	B8ZS		
18	Receive frame format	FRAME	24MPF (CCITT)		
19	Parity of receive short frame pattern	PARITY	NON		
20	Receive time slot	TIME SLOT	CH1		
2	Receive data bit rate	DATA BIT RATE	64 kb/s		
1	Receive signaling bit enabled/ disabled	BIT STEAL	OFF		
23	Receive data frame	DATA FRAME	X.50		
Q.	Receive X.50 data channel number	DATA CHANNEL	1		

о.	ltem	Default value set by INI command
1	Measurement display item	① ERROR, ② ERR - RATIO, ③ ES, ④ SES, ⑤ CLOCK SLIP
2	Display data mode	ELAPS
3	Single error insertion start/stop	STOP
4	Cyclic error insertion start/stop	STOP
5	Measurement start/stop	STOP
6	Buzzer ON/OFF	OFF
7	Send data pattern Receive data pattern	$2^6 - 1$
8	8-bit set pattern	ALL 0
9	Normal/inverted & reversed	NORMAL
10	Zero suppression enabled/ disabled	NO - SUP
	No. of pattern sync-loss protection stages	AUTO
12	Cyclie error insertion rate	1.0E - 1
13	Single error insertion method	SINGLE
4	Insertion error type	BIT
15	Error detection count item	BIT
16	Block-error-detection block length	1.0E - 1
1)	Measurement type	MANUAL
18	No. of measurement bits	1.0E - 2
19	Measurement time, Repeat measurement time	000 : 01 : 00 (denotes 1 minute)

<v0< th=""><th colspan="5"><voltage frequency="" measurement=""> Items</voltage></th></v0<>	<voltage frequency="" measurement=""> Items</voltage>				
No.	ltem	Default value set by INI command			
1	Frequency count measurement start/stop	STOP			
2	Voltage measurement line name	Line name for signal represented by LED on leftmost side of display monitor.			
3	Send data pattern	$2^{6} - 1$			
4	8-bit set pattern	ALL 0			
5	Normal/inverted & reversed	NORMAL			
6	Zero suppression enabled/disabled	NO - SUP			
1	Frequency-measurement line name/count signal name	Line name for signal represented by LED on leftmost side of display monitor.			
8	Frequency-measurement gate time	100 ms			
9	Frequency-measurement interval time	0.5 s			

<Delay time measurement > Items

No.	ltem	Default value set by INI command
1	Measurement start/stop	STOP
2	Repeat measurement start/stop	STOP
3	Delay time measurement mode	L - INTERVAL
4	Send/Receive	RECV
5	Measurement-start trigger signal line name	Line name for signal represented by LED on leftmost side of display monitor.
6	Measurement-start trigger signal condition	OFF → ON
1	Measurement-stop trigger signal line name	Line name for signal represented by LED on leftmost side of display monitor.
8	Measurement-stop trigger signal condition	$ON \rightarrow OFF$
9	Loop-back measurement repetition interval	0.5 s

	/ord Tracing/Pattern Sending > Item	
No.	Item	Default value set by INI command
1	Measurement start/stop	STOP
2	Trace start/stop	STOP
3	Send idle pattern	ALL 0
4	Send pattern data type	PRGM
5	Bit-pattern address setting	0
6	Set bit pattern	(Not changed)
7	Send data top address	0
8	Send data last address	1
9	Send pattern	MANUAL
0	Trace sync pattern	$\times \times \sim \times \times$
	Trace-stop conditions	MANUAL
12	Trace-stop conditions code	ALL 0
13	Trace-stop delay byte	0
14	Send/Receive	RECV
15	Trace-stop trigger line	Varies with Interface Unit
16	Trace-stop trigger conditions	$OFF \rightarrow ON$
\mathbb{O}	No. of trace bytes	10
18	Trigger condition for each trigger line	$L \rightarrow H$

< W	<word pattern="" setting=""> Items</word>				
No.	ltem	Default value set by INI command			
1	Edit address	0			
2	Display mode	ВУТЕ			
3	Display character code	HEX			
4	Display boundary	8 bits			
5	Trace data copy top address	0			
6	Trace data copy top bit	8			

<Trace Display > Items

No.	ltem	Default value set by INI command
1	Display address	0
2	Display mode	BYTE
3	Display character code	HEX
4	Display boundary	8 bits
5	Shift location	0
6	Inverse/reverse	NORMAL
7	Comparison indication for the send data	OFF
8	Send-data comparison top address	0

1.2.5 PRESET MEMORIES screen

Commands in this paragraph are effective for PRESET MEMORY screen.

To use these commands, it is necessary to move the screen to PRESET MEMORIES screen in advance using "PL" command.

DO ? Preset memory											
Used to r	Used to request specific output from plug-in units										
Format	DO ?		Parameter range	None							
< Deta	ils >										
	When the DO? command is sent, the specified contents of the plug-in unit are output. Also, refer to the response data reference in Section 2 for the output contents.										
PRI		Pre	eset memory		Disabled when preset memory has already been cleared						
Clears p	reset memory										
Format	PRI n		Parameter range	1 to 10							
< Deta	ils >										
The specified preset memory contents are cleared. n : Memory number • If the specified memory contents have already been cleared, a parameter error occurs.											

1.2.6 TABLE OF UNITS screen

Commands in this paragraph are effective for the TABLE OF UNITS screen.

To use these commands, it is necessary to move the screen to the TABLE OF UNITS screen in advance using "UV" command.

DO ?		ТА	BLE OF UNITS	screen			
Requests	s contents of spec	ified	table of units so	creen			
Format	DO ?		Parameter range	None			
< Deta	nils >						
	the DO? comman to the response d					nts.	

1.2.7 ERROR screen

Commands in this paragraph are effective for the ERROR screen.

To use these command, it is necessary to move the screen to the ERROR screen in advance using "ED" command.

SCT	SCT ERROR screen								
Sets sign	al line to be mon	itore	:d						
Format	SCT n,m		Parameter range	n:0to12 1	m : 0 to 2				
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>								
Chang	ges the control-si	gnal	condition to be :	monitored.					
*The s Inter	signal-line conte face Unit and to	nts v the c	vary with the Ir command refere	nterface Unit. nce.	For details, refer to the operation manual for the				
n : Si	gnal line number	•							
m :	5								
C	0 = OFF, 1 = OP	√,2:	= open or throu	gh					
	tches state of sigr								
MSL		ER	ROR screen						
Selects 1	ine to be monitor	ed							
Format	MSL n		Parameter range	0 to 4					
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>								
	ays the signal lin		_	onitored.					
	Condition of line		-						
	0 = Send signal c								
	1 = Receive signal condition								
	2 = Receive data								
	3 = Send alarm condition								
4	4 = Receive aları	n cor	idition						

SA		ERROR screen							
Starts er	ror meausremen	t							
Format	SA		Parameter range	None					
<detai< td=""><td>ils></td><td></td><td></td><td></td><td></td></detai<>	ils>								
Starts	serror measurem	ient.							
SO		ER	ROR screen						
Stops err	ror measurement	;							
Format	SO		Parameter range	None					
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>								
Stops	error measurem	ent.							
EA		ER	ROR screen						
Starts cy	yclic error inserti	lon							
Format	EA		Parameter range	None					
<deta< td=""><td colspan="8"><details></details></td></deta<>	<details></details>								
1	Starts insertion of cyclic error in the send signal.								
con	nmand.				dance with the cyclic error rate specified by the EC				
	 Cyclic error insertion continues until an EO command is executed or the mode is changed to a mode other than the error measurement mode. 								

EO	EO ERROR screen							
Stops cyc	clic error insertic	n						
Format	EO		Parameter range	None				
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>							
1	cyclic error inser ommand is ignor			errors are not l	being inserted.			
EI		ER	ROR screen					
Channel	error insertion (s	start	s insertion)					
Format	EI		Parameter range	None				
• When inserved second	nel errors are inse en the channel e erted into the ser	error nd si mod	r insertion mode ignal for every le, error insertio	EI command. on stops when	ith EIM command) is SINGLE, only one error is When it is REPEAT, one error is inserted each the EIO command is executed or when the mode is node.			
EIO		ERF	ROR screen					
Stops cha	Stops channel error insertion							
Format	EIO		Parameter range	None				
<detai • W</detai 		erro	or insertion mod	e is REPEAT,	insertion is stopped.			

С		ERROR scre	en								
pecifies cyclic error insertion rate											
ormat I	EC n , m	Paramete range	er n : S	pecify value	between 10 a	and 90, m: 1 (to 7				
Detail	s>										
The cyc	lic error inserti eter list	on rate is spec	ified by n, m	(n×10 ^{−m}).							
. n	10	11	13	15	17	20	25				
Manti	issa 1.0	1.1	1.3	1.5	1.7	2.0	2.5				
n	30	40	50	60	70	80	90				
Manti	issa 3.0	4.0	5.0	6.0	7.0	8.0	9.0				
1	1	2	3	4	5	6	7				
m											

EIM		ER	ROR screen		
Sets cha	nnel error inserti	ion n	node		
Format	EIM n		Parameter range	0,1	
<deta< td=""><td>ils></td><td></td><td></td><td></td><th></th></deta<>	ils>				
n : In 0 = 1 =	nannel error inse sertion mode SINGLE (1-bit e REPEAT (1-bit the channel erro	error erro:	· inserted) r inserted each		EPEAT to SINGLE, channel error insertion stops.
EIC		ERF	ROR screen		
Sets char	nel error inserti	on co	ode		
Format	EIC n		Parameter range	0,1	
<detai< td=""><td>ls></td><td></td><td></td><td></td><th></th></detai<>	ls>				
n : Co 0	e channel error i de type = BIT, = BIT+CODE	nser	tion code.		

CSA	CSA ERROR screen				Valid only when the I Analyze Unit is inserted	MD0633A	Error
Starts co	llection of error a	analy	vsis data				
Format	CSA		Parameter range	None			
<detai< td=""><td>ils></td><td></td><td></td><td></td><td></td><td></td><td></td></detai<>	ils>						
	collection of erro			or analysis col	lection conditions.		
					Valid only when the N	MD0633A	Error
CSO		ERI	ROR screen		Analyze Unit is inserted		
					Analyze officts inserted		
	lection of error a		sis data		Analyze officts inserted		
	lection of error a CSO		sis data Parameter range	None	Analyze offices inserted		
Stops col	CSO		Parameter	None	Analyze offices inserted		

S		ERRO	DR so	creen							
elects n	neasuremen	t results to	be dis	splayed							
ormat	DSn m		aram ange	eter	0 to 34	4					<u> </u>
Detai	ils>										
	ies the items				ror me	asure	ment resu	ılts	screen.		
	ecifies locat	Т	displa T								
<u> </u>	mmand	DSA		DSI	3	I	DSC		DSD	DSE	
Display position Upper-left Up				Upper-	right	Mid	dle-left	Μ	iddle-right	Lower-left	b.
m : Display contents											
	m	0		1	2	2	3		4	5	6
Displ	ay contents	ERROR COUNT	1	RROR RATIO	BLK-ER COUNT		BLK-ER RATIC		ES	% ES	DM
	m	7		8	g)	10		11	12	13
Displa	ay contents	% DM		SES	% S	ES	US		% US	АТ	% AT
	m	14	<u> </u>	15	1	c	17		10	10	20
Displa	m ay contents	SLIP-SEC		EFS	% E		17 CLOCK SLIP	5	18 PSL COUNT	19 Alarm 0	20 Alarm 1
	m	21		22	23	3	24		25	26	27
Displa	ay contents	Alarm 2	A	larm 3	Alar	m 4	Alarm 8	5	Alarm 6	Alarm 7	Alarm 8
	m	28		29	3()	31		32	33	34
Displa	ay contents	Alarm 9	Al	arm 10	Alarr	n 11	Alarm 1	2	Alarm 13	BBE	BBER

DN	⁄IS			ERI	ROR scree	n					
Spee	cifies	measu	rement re	esult	s display m	ode					
Forr	nat	DMS 1	ı		Parameter range		0,1				
<d< td=""><td>Detai</td><td>ls></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></d<>	Detai	ls>									
n	: Mo 0 = 1 =	ode = Displ = Displ	ays resul ays data	ts fro ever:	n display m om start of 1 y period tput for the	meas			mman	l.	
ME	Ξ			ER	ROR scree	n					
Spe	cifies	the err	or to be d	etect	zed						
Forr	mat	ME n			Parameter range	•	0,1,2	,3,4			
s		ies the o	error to b e detected		ected.						
[0	1		2		3		1		
	В	IT	CODE		PARITY	(CRC	F -	NG		
мі	M			ER	ROR scree	en					
Set	s erro	r meas	urement	mode	e to MANU.	ALN	IEASUI	REME	NT		
For	mat	MM			Parameter range	•	None				
<[<details></details>										
s	Sets tl	ne error	· measure	emen	t mode to m	nanu	al.				

MB			ER	ROR sc	reen						.
Sets erro	Sets error measurement mode for bit-length measurements										
Format	MB n			Parame range	eter	2 to 10					
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td><td>·</td><td></td><td></td><td></td><td></td><td>1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-</td></deta<>	ils>					·					1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
n : Bi	it length										
	n 2 3 4					5	6	7	8	9	10
DIU	length	10 ²		10 ³	10 ⁴	105	10 ⁶	10 7	10 8	10 ⁹	2500
МТ			ERF	ROR sci	reen						
Sets erro	or measur	rement r	node	for time	ed meas	urement	L				
Format	MT ℓ,n	n,n		Parame range	eter	$\ell:0$ to 999,	m : 0 to 5'	9,n:0to	59		
ℓ: н	med error Hour Minute	r measu:	reme	ent mode	e and me	easurement tir	me are set	<i>i.</i>			
MRT			ERF	ROR scr	reen						
Sets perio	iodic meas	suremer	ıt err	or meas	suremer	ıt mode					
FormatMRT ℓ , m, nParameter range ℓ : 0 to 999, m: 0 to 59, n: 0 to 59											
The pe: ℓ : H m : M	<pre></pre>										

P١	N		ERRO	R screen		
Se	ts send	l/receive pattern	type to	PRBS patter	n	
Fo	rmat	PN n	Pa ra	rameter nge	6,7,9,11,1	15,19,20,23
<	Detai	ls>				
	revers	are three setting ed type, and zero ommand is used	o suppre	ession type.		m pattern): PRBS pattern type, normal/inverted & shown below:
	Pa	arameter n	PRBS	oattern type	1	
		6	2 ⁶ -	- 1 (63)		
		7	27-	-1 (127)		
		9	2 ⁹ -	- 1 (511)		
		11	$2^{11}-$	1 (2047)		
		15	$2^{15}-$	1 (32767)		
		19	2	$2^{19}-1$		
		20	2	$2^{20}-1$		
		23	2	$2^{23}-1$		

PNI		ER	ROR screen		
Sets sen	d pattern to PRB	S pat	ttern (invert)		
Format	PNI n		Parameter range	6, 7, 9, 11, 18	5, 19, 20, 23
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
n : Sa	he send pattern t ume as that of "PI s command perfo	N" co	ommand	· -	ifies the pattern to be sent. IV1".
INV					Enabled only when send/receive pattern
		EK	ROR screen		type is PRBS pattern
Sets nori	nal/inverted & re	ever	sed type		
Format	INV n		Parameter range	0 to 3	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
There and th	e zero suppressio	gs fo on ty	r PRBS pattern pe.	a: the PRBS pa	ttern type, the normal/inverted & reversed type, sed type. The relationship between the parameter
n and	the normal/inver	ted &	& reversed type	is shown below	
Pa		Nori	nal/inverted & 1	× 1	
	0		NORMA	L	
			INIVEDO	0	
	1 2		INVER N - RVR		

ZS	5P		ER	ROR screen		Enabled only when send/receive pattern is PRBS type
Set	ts zero	suppression				
Foi	rmat	ZSP n		Parameter range	0 to 2	
<	Detai	ls>				
'	There	es zero suppress are three settin e zero suppressi	ngs fo	or PRBS patterr pe. This comma	n: the PRBS pa nd is used to se	attern type, the normal/inverted & reversed type, elect zero suppression type as shown below:
	P	arameter n	Zero	suppression typ	be	
		0		NO - SUP		
		1		ZERO - 7		
		2		ZERO - 14]	
PF	R or F	PRB	ER	ROR screen		
Se	ts send	/receive pattern	i to pi	rogrammable bi	nary pattern t	уре
Foi	rmat	PR or PRB n		Parameter range	00 000 000 to	11 111 111
<	Detai	ls>				
	Sets th	ie programmabl	e pat	tern.		
	n : Pa	ttern (8-bit bina	ıry)			
L						

PRD		ERI	ROR screen		
Sets send	/receive pattern	to pr	ogrammable de	cimal pattern	type
Format	PRD n		Parameter range	0 to 255	
<detai< td=""><td> s></td><td></td><td></td><td></td><th></th></detai<>	s>				
	ne decimal progra ttern (integer)	amm	able pattern.		
PA		ER	ROR screen		
Sets send	l/receive pattern	to A	LL 0s.		
Format	РА		Parameter range	None	
<deta< td=""><td>ils></td><td></td><td></td><td></td><th></th></deta<>	ils>				
Sets a	ll bits of the send	/rece	eive pattern to 0		
ΡZ		ER	ROR screen		
Sets send	d/receive pattern	to A	LL 1s.		
Format	PZ		Parameter range	None	
<deta< td=""><td>ils></td><td></td><td></td><td></td><th></th></deta<>	ils>				
Sets a	ll bits of the send	l/rec	eive patterns to	1.	

PC				ERROR screen							
Sets	prog	grammable	e patte	rn cod	e						
Forn	nat	PC n			Parameter range	0 to 6					
<d< td=""><td>etai</td><td>ils></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></d<>	etai	ils>									
	-	ogramma : b) patte	-	tern i	s coded and se	et.					
		n	0		1	2	(3) *	(4) *	5	6	
	a:b	pattern	1:	1	3:1	1:3	(1:1)	(1:1)	7:1	1:7	
	(-/) (0		01A compatik						
SYI	N			ERR	OR screen						
Sets	S PRE	3S pattern	patter	n-syn	c-loss detection	on conditions	5				
Forr	nat	SYN n,	m		Parameter range	n : 10 to 1	.00000 m :	100 to 3000	00		
< [Deta	ils>									
			-sync-l	oss de	etection condi	tions for PRI	3S send/rece	ive patterns.			
					m as shown b						
] [n,m	10,	100	20,100	25,100	100,300	100,1000	200,1000		
		etection nditions	10/	100	20/100	25 / 100	100/300	100/1000	200/1000		
[n,m	250,	1 000	1 000, 3 000	1 000, 10 000	2 000, 10 000	2 500, 10 000	10 000, 30 000	10 000 , 100 000	
		etection nditions	250/	1 000	1E3/3 000	1 000 /1E4	2000/1E4	2500/1E4	1E4/3E4	1E4/1E5	
		n,m	20 000	,1000	00 100 000 , 300	000					
		etection nditions	2E4	/1E5	100 000/3I	25					

SYND ERROR screen															
Se	Sets PRBS pattern pattern-sync-loss detection conditions														
Format SYND n Parameter 0 to 16															
<details></details>															
	Sets th		-sync-l				ions f	or PRBS s		ive pa					
	Detect	n tion condit	tion	0 AU'		1 10/10	0	2 20 / 100	3 25/10	20	4 100/3	00 100	5 0/1000	6 200/1	000
	Dettett	n		7		8		9	10		10073		12	13	000
	Detect	tion condition	tion	250/1		1E3/30	00 1	000/1E4	2 000 /1	E4	2 500 /1	E4 1E	12 E4/1E5	2E4/1	E5
		n		1{	5	16				l.		I			
	Detect	ion condit	tion 2	5 000/1	00 000	100 000/3	E5								
				T											
В	L			ERF	ROR s	screen									
		measurei	ment b												
Sp		measuren BL n	ment b			neter	0 to	17							
Sp Fc	pecifies	BL n	ment b		length Paran	neter	0 to	17							
Sp Fc	ormat Detai The m	BL n	ent bloc	lock l	ength Paran range	neter	1	17 n block err	ors are to	o be d	etected				
Sp Fc	ormat Detai The m n : Blo	BL n Is> easureme ock length n	ent bloc 1 0	lock l	Paran range gth is	neter specified	l wher 2	n block err	3	4	L I	5		6	
Sp Fc	ormat Detai The m n : Blo	BL n Is > easureme ock length n c length	ent bloc 1 0 1(lock l	Paran range gth is	neter specified	l wher 2 1 00	n block err	3 0 000	4	l 000	5 1 000 00	00 3	32	
Sp Fc	ormat Detai The m n : Blo Block	BL n Is > easureme ock length n c length n	ent bloc 1 0 1(7	lock l	Paran range gth is	neter specified 1 00 8	l when 2 1 00 9	n block err 00 10	3 0 000 10	4	4 000 1	5 1 000 00 12	00 3	32 13	
Sp Fc	ormat Detai The m n : Blo Block	BL n Is> easureme ock length n c length n c length	ent bloc 1 0 1(7 64	lock l	Paran range gth is	neter specified 1 00 8 28	l when 2 1 00 9 256	n block err 00 10 6	3 0 000 10 512	4	4 000 1	5 1 000 00	00 3	32	
Sp Fc	ormat Detai The m n : Blo Block	BL n Is > easureme ock length n c length n	ent bloc 1 0 1(7	lock l lock l k len	Paran range gth is	neter specified 1 00 8	l when 2 1 00 9	h block err	3 0 000 10	4	4 000 1	5 1 000 00 12	00 3	32 13	

ΒZ		ER	ROR screen					
Specifies	buzzer ON/OFF							
Format	BZ n		Parameter range	0,1			 	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></deta<>	ils>							
n : OI 0 =	uzzer is specified N/OFF specificat = OFF = ON		DN/OFF.					
ΙΟΤ		ER	ROR screen					
Specifies	interval data ou	tput	timing					
Format	IOT n		Parameter range	0,1				
<deta< td=""><td>ls></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></deta<>	ls>							
	utput timing is s _l Itput timing	pecif	ied for interval	data (read out	by DRI?)			
	= Outputs at eacl	h int	erval period					
1 =	= Outputs only a	t the	period over the	check thresho	ld value.			

OFP		ERRO	R screen						
Specifies error performance output data format									
ormat	OFP m, m … m	(Total 18) Pa rar	rameter nge	0 to 18 , 33 t	o 34				
AnyDat this	ror performs parameter a output by command.	from 1 to 18	can be specif and "DRP?'	output data/o ied (Max. 18) ' commands :	-	-		ce specified k	
	m	0	1	2	3	4	5	6	
Displ	ay contents	ERROR COUNT	ERROR RATIO	BLK-ERR COUNT	BLK-ERR RATIO	\mathbf{ES}	%ES	DM	
	m	7	8	9	10	11	12	13	
Displa	ay contents	% DM	SES	% SES	US	% US	АТ	% AT	
	m	14	15	16	17	18	33	34	
Displa	ay contents	SLIP-SEC	EFS	% EFS	CLOCK SLIP	PSL COUNT	BBE	BBER	

OFA			ERF	RROR screen											
Specifies	Specifies alarm output data format														
Format	OFA n,	n , n … (Tots	al 14)	Parameter range	-	0 to 13									
<detai< td=""><td>ls></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></detai<>	ls>														
• Any • Dat	, paran	neters from at by the	n 1 t	lata format o 14 can be A?" and "D	spec	ified.				e fo	rmat a	nd seq	uence	specified	ł by
• n: 0	utput o	contents	(Co	ontents o	of 2 to 1	13 var	y with the					ıble show BPL Uni	
	0	1		2		3	4		5	Ì					
	WER DSS	P - SYN - LOSS		INPUT LOSS		SYNC OSS	Al	S	XL						
Note:				ts vary wit ACE UNIT						ail	s, refer	to the	opera	tion man	nual
DRI ?			ER	ROR scree	en										
Requests	s read-o	out of star	t of n	neasureme	nt da	ita and ir	nterva	l data							
Format	DRI ?			Paramete range	r	None									
1. Re co 2. W	sts star equests mmano hen the	read-out l is sent, t ere are no	of s he aj data	nent and in tart of erro propriate , "ED9" is o ata referen	or-mo data outpu	easurem can be ro ut.	ead.					l data	ι (ED1). After t	this

DRP?		ERROR screen				
Request	s read-out of the e	end-o	of-period data a	nd end-of-meas	urement data (error performance data)	
Format	DRP ?		Parameter range	None		
<deta< td=""><td>ils></td><td></td><td></td><td></td><th></th></deta<>	ils>					
Reque	ests a read-out of	the e	end-of-period a	nd end-of-measu	rement error performance data.	
	Requests period-e s sent, the output				rror performance data (ED6). After this command	
	When there are n					
3. I	Refer to the respo	nse o	data reference :	in Section 2 for	the data output format.	
DRA ?		ER	ROR screen			
Requests	s read-out of end-	of-pe	eriod and end-o	f-measurement	alarm data.	
Format	DRA ?		Parameter range	None	1998 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1	
<deta< td=""><td>ils></td><td></td><td><u></u></td><td></td><th></th></deta<>	ils>		<u></u>			
Reque	sts a read-out of t	the e	nd-of-period ar	nd end-of-measu	irement alarm data.	
1. I		tofp	eriod-end (ED3		nent-end alarm data (ED7). After this command is	
	When there are no			put.		
3. I	Refer to the respo	nse o	lata reference i	in Section 2 for	the output data format.	
		-				

DOP ?		ERROR screen									
Requests	Requests a read-out of intermediate or final error performance data										
Format	rmat DOP? Parameter range None										
 Contract BOT: range Requests a read-out of the intermediate or final error performance data. 1. Requests a read-out of the following data according to whether or not error measurement is in progress. (a) When a measurement is in progress If the ERROR screen results display mode is PERIOD, error performance data from the previous period (ED2) are output. On the other hand, if the results display mode is ELAPSED, the intermediate cumulative error performance results (ED4) are output. (b) When measurement is not in progress If the results display mode is PERIOD, error performance data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement error performance data (ED6) are output. 2. After sending this command, the output data should be read. 3. Refer to the response data reference in Section 2 for the format of data output by this command. 4. If there are no measured data, the response data (ED9) are output. 											
DOA ?	,	ER	ROR screen								
Requests	s a read-out of int	erm	ediate or final al	larm data							
Format	DOA?		Parameter range	None							
 < Details > Requests a read-out of the intermediate or final error performance data. Requests a read-out of the following data according to whether or not error measurement is in progress. (a) When a measurement is in progress If the ERROR screen results display mode is PERIOD, alarm data from the previous period (ED3) are output. On the other hand, if the results display mode is ELAPSED, the intermediate cumulative alarm results (ED5) are output. (b) When measurement is not in progress If the results display mode is PERIOD, alarm data (ED3) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 3. If there are no measured data, the response data (ED9) are output. 											

PIC		ER						
Switches	Switches to CONDITION OF PRINT (INTERVAL) screen							
Format	PIC		Parameter range	None				
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>							
Cause	s the CONDITIO	N O	F PRINT (INTE	RVAL) screen	to be displayed.			
РРС		ER	ROR screen					
Switches	s to CONDITION	OF	PRINT (PERIO)	DIC) screen				
Format	PPC		Parameter range	None				
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>							
Cause	s the CONDITIO	N O	F PRINT (PERI	ODIC) screen	to be displayed.			
сс		ERI	ROR screen		Enabled only when the MD0633A Error Analyze Unit is inserted			
Switches	to CONDITION	OF (COLLECT scree	en				
Format	CC	Parameter None None						
<deta< td=""><td colspan="8"><details></details></td></deta<>	<details></details>							
Cause	Causes the CONDITION OF COLLECT screen to be displayed.							

DPR		ER	ROR screen					
Switches	Switches to DISPLAY OF RESULTS screen							
Format	DPR		Parameter range	None				
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>							
Cause	s the DISPLAY (OF R	ESULTS screer	n to be displaye	ed.			
MSL			PLAY OF RES	ULTS				
Selects li	ne to be monitor	ed						
Format	MSL n		Parameter range	0 to 4				
n : Si 0 1 2 3	ils > ays the signal line gnal condition st = Send signal co = Receive signal = Receive data c = Send alarm co = Receive alarm	atus nditi cond ondi nditi	on lition tion on					
SCT			SPLAY OF RES	ULTS				
Sets sign	Sets signal line while monitoring is in progress							
Format	mat SCT n, m Parameter n: 0 to 12 m: 0 to 2							
Switch n : S m : 0 * 7	<pre><details> Switches the control signal condition while monitoring is in progress. n : Signal line number to be switched m : 0 = OFF, 1 = ON, 2 = open or through</details></pre>							

SA DISPLAY OF RESULTS screen										
Starts er	ror measuremen	t								
Format	Format SA Parameter range None									
<deta< td=""><td>ils></td><td></td><td></td><td></td></deta<>	ils>									
Starts	error measurem	ent.								
SO			SPLAY OF RES een	SULTS						
Stops err	or measurement	5								
Format	SO		Parameter range	None						
<deta< td=""><td>ils></td><td></td><td></td><td>· ·</td></deta<>	ils>			· ·						
Stops	error measurem	ent.								
EA			SPLAY OF RES	SULTS						
Starts cy	clic error inserti	on								
Format	ormat EA Parameter None									
• Cyc EC	cyclic error inse clic errors are ins command.	serte	d into the send s	signal according to the cyclic error insertion rate specified by the						
 Cyclic error insertion is stopped by the EO command or when the mode is changed to a mode other than the error measurement mode. 										

EO			SPLAY OF RES een	ULTS			
Stops ins	sertion of cyclic er	rrors	3				
Format	EO		Parameter range	None			
<detai< td=""><td>ils></td><td></td><td></td><td></td><td></td></detai<>	ils>						
Stopsi	insertion of cyclic	c err	ors.				
EI		1	SPLAY OF RES	ULTS			
Starts ch	nannel error inser	rtion	1				
Format	EI		Parameter range	None			
Starts • Wh sing Wh	<details> Starts insertion of channel errors. • When the channel error insertion mode specified by EIM command is SINGLE, this command causes a single error to be inserted into the send signal. When it is REPEAT, one error is inserted every second. When it is REPEAT, error insertion is stopped by the EIO command or when the mode is changed to a mode other than the error insertion mode.</details>						
EIO			SPLAY OF RES	ULTS			
Stops cha	annel error inser	tion					
Format	EIO		Parameter range	None			
Stops	<pre><details> Stops the insertion of channel errors. • Stops REPEAT insertion of channel errors only.</details></pre>						

CSA		DISPLAY OF F screen	RESULTS	Enabled only when the MD0633A Error Analyze Unit is inserted						
Starts er	Starts error analysis of collected data									
Format	Format CSA Parameter nange None									
<deta< td=""><td colspan="10"><details></details></td></deta<>	<details></details>									
Starts	collection of erro	or analysis data.								
CSO		DISPLAY OF F screen	RESULTS	Enabled only when the MD0633A Error Analyze Unit is inserted						
Stops err	or-analysis data	collection								
Format	CSO	Parameter range	None							
<deta< td=""><td>ils > collection of error</td><td>r analysis data.</td><td></td><td></td></deta<>	ils > collection of error	r analysis data.								
DMS		DISPLAY OF R screen	ESULTS							
Enables	Enables the measurement results display mode									
Format	Format DMS n Parameter 0,1									
Enabl n : Di 0 : 1 :	<details> Enables the ERROR screen display mode. n : Display mode 0 = Displays results from start of measurement 1 = Displays data for each period</details>									

ARC			SPLAY OF RES een	ULTS						
Switches	Switches alarm results display									
Format	Format ARC n Parameter 0,1									
Cause This co n : 0 = 1 = The si	<pre><details> Causes the alarm results display to be switched. This command causes the alarm number to be switched to 1 to 8 or 9 to 13. n : 0 = Alarm number 1 to 18 1 = Alarm number 9 to 13 The significance of each alarm number dipends on the plug-in unit. For further details, refer to the operation manual of each unit.</details></pre>									
DRI ?			SPLAY OF RES een	ULTS						
Requests	s read-out of start	t of n	neasurement an	d interval dat:	a					
Format	DRI ?		Parameter range	None						
1. Re th 2. W	ests a read-out of equests a read-ou is command, outj 'hen there are no	ut of [.] put d data	the error-measu lata should be re a, ED9 is output.	irement start ead.	al data. data (ED0) and interval data (ED1). After sending at by this command.					
DRP?			SPLAY OF RES een	ULTS						
Requests	s read-out of end-	of-p€	riod and end-of-	measurement	t data (error perfomrance data)					
Format	DRP ?		Parameter range	None						
1. Re sei 2. W	ests a read-out of f equests a read-ou ending this comm Then there are no	it of t and, data	the period-end (I output data sho	ED2) and mea ould be read.	urement error performance data. surement-end (ED6) error performance data. After					

DRA ? DISPLAY OF RESULTS screen									
Request	Requests read-out of end-of-period or end-of-meaurement data								
Format	ormat DRA? Parameter nange None								
<deta< td=""><td>ils></td><td></td><td></td><th></th></deta<>	ils>								
Reque	ests a read-out of t	he end-of-period (E	D3) or end-of-n	neasurement (ED7) data.					
		t of the end-of-perio out data must be rea		l-of-measurement (ED7) alrm data. After sending					
2. W	hen there are no o	lata, ED9 is output							
3. R	efer to the respond	e data reference in S	Section 2 for the	format of data output by this command.					
	10								
DOP ?		DISPLAY OF RES	SULTS						
Requests	s a read-out of inte	ermediate or final e	rror performan	ce data					
Format	DOP ?	Parameter range	None						
<deta< td=""><td>ils></td><td></td><td></td><th></th></deta<>	ils>								
<details> Requests a read-out of the intermediate or final error performance data. 1. Requests a read-out of the following data according to whether or not error measurement is in progress. (a) When a measurement is in progress If the ERROR screen results display mode is PERIOD, error performance data from the previous period (ED2) are output. On the other hand, if the results display mode is ELAPSED, the intermediate cumulative error performance results (ED4) are output. (b) When measurement is not in progress If the results display mode is PERIOD, error performance data (ED2) for the most recent period are output. (b) When measurement is not in progress If the results display mode is PERIOD, error performance data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement error performance data (ED6) are output. 2. After sending this command, the output data should be read. 3. Refer to the response data reference in Section 2 for the format of data output by this command.</details>									

Requests read-out of measurement results or intermediate or final alarm data Format DOA ? Parameter range None Octails > Requests a read-out of the intermediate or final measurement results alarm data. 1. The following data are output in accordance with whether or not an error measurement is in progress. (a) When a measurement is in progress (f) When a measurement is in progress (f) When a measurement is not in progress (f) The results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 3. Refer to the response data reference in Section 2 for the format of the data output by this command. 3. Refer to the response data reference in Section 2 for the format of the data output by this command.	DOA ?)	DISPLAY OF RE screen	SULTS	
 Requests a read-out of the intermediate or final measurement results alarm data. The following data are output in accordance with whether or not an error measurement is in progress. (a) When a measurement is in progress If the ERROR screen results display mode is PERIOD, the alarm data (ED3) for the previous period are output. On the other hand, if the results display mode id ELAPSED, the cumulative intermediate alarm data (ED5) are output. (b) When a measurement is not in progress If the results display mode is PERIOD, the alarm data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 	Request	s read-out of meas	surement results o	r intermediate (or final alarm data
 Requests a read-out of the intermediate or final measurement results alarm data. 1. The following data are output in accordance with whether or not an error measurement is in progress. (a) When a measurement is in progress If the ERROR screen results display mode is PERIOD, the alarm data (ED3) for the previous period are output. On the other hand, if the results display mode id ELAPSED, the cumulative intermediate alarm data (ED5) are output. (b) When a measurement is not in progress If the results display mode is PERIOD, the alarm data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 	Format	DOA ?		None	
 The following data are output in accordance with whether or not an error measurement is in progress. (a) When a measurement is in progress If the ERROR screen results display mode is PERIOD, the alarm data (ED3) for the previous period are output. On the other hand, if the results display mode id ELAPSED, the cumulative intermediate alarm data (ED5) are output. (b) When a measurement is not in progress If the results display mode is PERIOD, the alarm data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 	<deta< td=""><td>ils></td><td></td><td></td><th></th></deta<>	ils>			
 (a) When a measurement is in progress If the ERROR screen results display mode is PERIOD, the alarm data (ED3) for the previous period are output. On the other hand, if the results display mode id ELAPSED, the cumulative intermediate alarm data (ED5) are output. (b) When a measurement is not in progress If the results display mode is PERIOD, the alarm data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 	Reque	ests a read-out of t	the intermediate or	final measure	ment results alarm data.
 If the ERROR screen results display mode is PERIOD, the alarm data (ED3) for the previous period are output. On the other hand, if the results display mode id ELAPSED, the cumulative intermediate alarm data (ED5) are output. (b) When a measurement is not in progress If the results display mode is PERIOD, the alarm data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 	1. Tł	ne following data	are output in accor	dance with whe	ther or not an error measurement is in progress.
 data (ED5) are output. (b) When a measurement is not in progress If the results display mode is PERIOD, the alarm data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 	(a	If the ERROR s			CIOD, the alarm data (ED3) for the previous period
 If the results display mode is PERIOD, the alarm data (ED2) for the most recent period are output. On the other hand, if the results display mode is ELAPSED, the end-of-measurement alarm data (ED7) are output. 2. After sending this command, the output data should be read. 				display mode i	d ELAPSED, the cumulative intermediate alarm
(ED7) are output. 2. After sending this command, the output data should be read.	(b				data (ED2) for the most recent period are output.
				display mode i	s ELAPSED, the end-of-measurement alarm data
3. Refer to the response data reference in Section 2 for the format of the data output by this command.	2. Af	ter sending this d	command, the outp	ut data should k	be read.
	3. Re	efer to the respons	se data reference ir	Section 2 for tl	ne format of the data output by this command.

IDP				CONDITION OF PRINT (INTERVAL) screen										
Specifi	Specifies whether of not interval-data are printed when an error is detected													
Format	Format IDP n Parameter 0,1													
<det< td=""><td colspan="10"><details></details></td></det<>	<details></details>													
1	Print interval data when an error is detected. n : 0 = No 1 = Yes													
IPT				NDITION TERVAL)										
Sets pr	int inter	rval time												
Format	IPT 1	1		Paramete range	r () to 6								
<det< td=""><td>ails></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></det<>	ails>													
n : I	n : Interval time													
	n	0		1	2		3		4		5	6	3	
In	Interval 1 second 10 seconds 30 seconds 1 minute 2 minutes 5 minutes 10 minutes													

ICP		CONDITION OF PRINT (INTERVAL) screen							
Used to e	Used to enable continuous printing								
Format	ICP n		Parameter range	0,1					
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>								
n : 0= 1=	ols continuous pr = Enable continu = Disable continu tervals.)	ous p	printing	rmediate data	are not printed for more than 10 consecutive				
IAP			NDITION OF TERVAL) scre						
Specifies	s whether or not a	ılarn	n data will be pr	inted					
Format	IAP m,n		Parameter range	m = 0 to 12 (V	Varies with plug-in unit), $n = 0$, 1				
Specif m : Al re n : 0=	<details> Specifies whether or not the alarm data will be printed. m : Alarm item number (0~12) - vary with the plug-in unit (For further details, refer to the command reference for each unit) n : 0=Alarm data not printed 1= Alarm data printed</details>								
IES			NDITION OF TERVAL) scre		Enabled only when interval data are detected				
Sets erro	Sets error count threshold for printing								
Format	Format IES n Parameter range 0 to 999								
n : S	<details></details>								

EDP	EDP CONDITION OF PRINT (PERIOD) screen						
Specifies	whether or not e	rror	data will be prin	nted			
Format	EDP n		Parameter range	0,1			
<detai< td=""><td>ls> ies whether or no</td><td>ot err</td><td>or data will be p</td><td>printed.</td></detai<>	ls> ies whether or no	ot err	or data will be p	printed.			
n : 0=	=Error data not p	orint					
1=	= Error data prir	nted					
BDP			NDITION OF RIOD) screen				
Specifies	whether or not k	olock	data will be pri	nted			
Format	BDP n		Parameter range	0,1			
n : 0=	ils > ies whether or no = Block data not = Block data prin	prin		printed.			
BBP			NDITION OF RIOD) screen				
Specifies	Specifies whether or not BBE, BBER data will be printed						
Format	BBP n		Parameter range	0,1			
<details> Specifies whether or not BBE, BBER data will be printed. n : 0= BBE, BBER data not printed</details>							
1:	1 = BBE, BBER data printed						

ESP CONDITION OF P (PERIOD) screen						
Specifies	whether or not H	ES ai	nd %ES data wil	l be printed		
Format	ESP n		Parameter range	0,1		
<detai< td=""><td></td><td>4 17 0</td><td>and of EC data</td><td>-:</td><td></td><td></td></detai<>		4 17 0	and of EC data	-:		
n : 0 :	ies whether or no = ES and %ES d = ES and %ES d	ata	not printed	will be printed.		
USP			NDITION OF RIOD) screen			
Specifies	s whether or not l	US a	nd %US data wi	ill be printed		
Format	USP n		Parameter range	0,1		
n : 0 =	ils> ies whether or no = US and %US o = US and %US o	lata	not printed	will be printed.		
SEP			NDITION OF I RIOD) screen			
Specifies whether or not SES and %SES data will be printed						
Format	SEP n		Parameter range	0,1		
<details> Specifies whether or not SES and %SES data will be printed. n: 0 = SES and %SES data not printed 1 = SES and %SES data printed</details>						

DMP			NDITION OF RIOD) screen	
Specifies	whether or ot DI	M an	d %DM data wi	ll be printed
Format	DMP n		Parameter range	0,1
-	ils> ies whether or no = DM and %DM			a will be printed.
1 :	= DM and %DM	dat	a printed	
EFP			NDITION OF I RIOD) screen	
Specifies	whether or ot EI	FSa	nd %EFS data w	rill be printed
Format	EFP n		Parameter range	0,1
n : 0 :		S da	ta not printed	ta will be printed.
РСР			NDITION OF I RIOD) screen	
Specifies	whether or not F	PSL	COUNT data wi	ll be printed
Format	PCP n		Parameter range	0,1
n: 0 1	ils > ies whether or no = PSL COUNT = PSL COUNT PSL denotes Pat	data data	not printed printed	will be printed.

CSP			NDITION OF RIOD) screen	
Specifies	whether or not c	lock	slip data will be	be printed
Format	CSP n		Parameter range	0,1
<deta< td=""><td>ils></td><td></td><td></td><td></td></deta<>	ils>			
n: 0	ies whether or no = Clock slip dat = Clock slip dat	a not	t printed	ll be printed.
DDP			NDITION OF RIOD) screen	
Specifies	whether or not d	listo	rtion data will b	ce printed
Format	DDP n		Parameter range	0,1
n : 0=	il s > ies whether or no = Distortion data = Distortion data	not	printed	ll be printed.
PAP			NDITION OF I RIOD) screen	
Specifies	whether or not a	larn	n data will be pr	rinted
Format	PAP m , n		Parameter range	$m\!=\!0$ to 12 (Varies with plug-in unit), $n\!=\!0$, 1
m : A r n : 0	ies whether or no	oer (unit ot pri	0 to 12) — varie) inted	e printed. ies with plug-in unit (For further details, refer to the command

ATP			NDITION OF I RIOD) screen				
Specifies	whether or not A	AT, 9	6 AT data will b	e printed			
Format	ATP n		Parameter range	0,1	 		
<detai< td=""><td>ils></td><td></td><td></td><td></td><td></td><td></td><td></td></detai<>	ils>						
n : 0=	ies whether or no = AT, % AT dat = AT, % AT dat	a not	t printed	l be printed.			
SSP			NDITION OF RIOD) screen				
	whether or not S	(PE	RIOD) screen				
	whether or not S	(PE	RIOD) screen			 	
Specifies	SSP	(PE	RIOD) screen -SEC data will k Parameter	pe printed			

CUN			NDITION OF (COLLECT	Enabled only when the MD0633A Error Analyze Unit is inserted
Sets Erro	or Analyze Unit 1	num	per		
Format	CUN n		Parameter range	1 to 5	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
This c When	ies the error ana ommand is used there is only one nit No. (1 to 5)	to se	lect one of sever	al Error Anal	yze Units.
CAN			NDITION OF een	COLLECT	Enabled only when the MD0633A Error Analyze Unit is inserted
Sets the	location number	for d	ata collection		
Format	CAN n		Parameter range	1 to 8	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
into w	ies the number o hich data has no umber of locatior	t yet	been collected.	used for data	collection. The number can be set for any location
CED			NDITION OF	COLLECT	Enabled only when the MD0633A Error Analyze Unit is inserted
Specifies	s whetther or not	erro	r in the interval	data will be c	ollected
Format	CED n		Parameter range	0,1	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
0 = I	ies whether or no Error data not col Error data collect	lect		collected.	

СІТ			NDITION een	l OF	COLLE	ECT	Ena Ana	ibled only alyze Unit i	when the	e MD0633	A Error
Sets coll	ection interval ti	me									
Format	CIT n		Paramete range	er	0 to 6						1994.
withir	ils > to set the collec a the specified int terval time	tion terva	interval ti al time or v	ime. I vhen t	Interva the alar	l data rm conc	are c litions	ollected whe s are changed	mever more d.	than 1 error	r occurs
I	n 0 rval 1 second	1	1		2	3		4	5	6	
	rval 1 second	1	0 seconds	30 Se	econds	1 mir	nute	2 minutes	5 minutes	10 minutes	
CPD			NDITION een	IOF	COLLE	CT	Ena Ana	bled only alyze Unit i	when the sinserted	MD06334	A Error
Specifies	whether or not p	erio	dic data wi	ll be	collecte	d					
Format	CPD n		Paramete range	r	0,1						
n : 0=	ils > ies whether or no = Periodic data no = Periodic data co	ot col	llected	will b	be colled	cted.					
CAD		CO scre	NDITION een	OF	COLLE	СТ		bled only lyze Unit is		MD0633A	A Error
Specifies	whether or not a	larn	n generatio	n/rec	overy d	ata wil	ll be co	ollected with	the interval	data	
Format	CAD m , n		Paramete range	r	m = 0 t	o 12 (V	aries	with each plu	ug-in unit) , ı	n=0,1	
m: A n: 0	ls > es whether or no larm item numb = Alarm generat = Alarm generat	er (0 ion/1	to 12) vary recovery er	y with ror d	n each p ata not	lug-in collect	unit	e collected.			

1.2.8 VOLT/FREQUENCY screen

Commands in this paragraph are effective for the VOLT/FREQUENCY screen.

To use these commands, it is necessary to move the screen to the VOLT/FREQUENCY screen in advance using "VF" command.

PN		VOLT/FREQUEN	CY screen	
Sets PRI	3S pattern type	-		
Format	PN n	Parameter	6.7.9.11.1	.5, 19, 20, 23
< Deta	L .	range	-,,,,-,,-	
The H Norm The P	PRBS pattern v al/Inverted & Re N command is u	be of a PRBS pattern. which is actually of eversed type, and zero sed to set the PRBS p ween n and the PRBS	o suppression t attern type.	
	n	PRBS pattern		
	6	26-1		
	7	27-1		
	9	28-1		
	11	211-1		

15

19

20

23

215-1

219-1

220-1

 $2^{23}-1$

INV			vo	LT/FREQUEN	CY screen	
Selects N	lormal/I	Inverted	& Re	eversed type PR	BS patterns	
Format	INV n			Parameter range	0 to 3	
	to set No			d & Reversed t		erns. ting type: PRBS pattern type, Normal/Inverted &
				suppression ty		
				to select a Norm and the pattern		Reversed type PRBS pattern.
Inere	n	-		eted & Reverse		i below.
	0			NORMAL		
	1			INVERT		
	2]	N – RVRS		
	3			I – RVRS		
ZSP			vo	LT/FREQUEN	ICY screen	
Sets Zer	o suppre	ession				
Format	ZSP n			Parameter range	0 to 2	
<deta< td=""><td>ails></td><td></td><td></td><td></td><td></td><td></td></deta<>	ails>					
The P	'RBS pa	ttern act	ually	ssion type. y output depend suppression ty		ting type: PRBS pattern type, Normal/Inverted &
The Z	SP com	mand is u	ised t	to specify the ze	ro suppression	setting.
The r	ange of v	valid sett	ings	change in accor	dance with the	setting conditions.
The r	elations	hip betw	een n	and the zero su	ppression sett	ing is shown below:
	n		Z	ero suppressior	type	
	0			NO-SUP)	
	1 2			$\frac{\text{ZERO} - 7}{\text{ZERO} - 14}$		

SCS		vo	LT/FREQUEN	CY screen	
Identifie	s the sending-sid	e sig	nal and alarm l	ines	
Format	SCS m,n		Parameter range	m = 0 to 12 (scondition)	Signal line, alarm line), $n=0$ to 2 (Setting
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
Identi	fies the sending-	side	signal and alarr	n lines.	
	e signal lines var 1mand reference				her details, refer to the operation manual and the
FN					
FM		VC	LT/FREQUEN	CY screen	
	requency measur			CY screen	
	requency measur FM n				6,7,9,11,12,13
Selects fi	FM n		nt line Parameter		6,7,9,11,12,13
Selects fi Format <deta< td=""><td>FM n nils></td><td>reme</td><td>nt line Parameter range</td><td>0,1,2,3,4,</td><td>6,7,9,11,12,13</td></deta<>	FM n nils>	reme	nt line Parameter range	0,1,2,3,4,	6,7,9,11,12,13
Selects fr Format < Deta Specif Paran	FM n nils> Ties the line whos neter n and the	e fre	nt line Parameter range quency is to be r whose frequence	0,1,2,3,4, neasured. cy is to be mea	asured depend on the Interface Unit. For further
Selects fr Format < Deta Specif Paran	FM n nils> Ties the line whos neter n and the	e fre	nt line Parameter range quency is to be r whose frequence	0,1,2,3,4, neasured. cy is to be mea	
Selects fr Format < Deta Specif Paran	FM n nils> Ties the line whos neter n and the	e fre	nt line Parameter range quency is to be r whose frequence	0,1,2,3,4, neasured. cy is to be mea	asured depend on the Interface Unit. For further
Selects fr Format < Deta Specif Paran	FM n nils> Ties the line whos neter n and the	e fre	nt line Parameter range quency is to be r whose frequence	0,1,2,3,4, neasured. cy is to be mea	asured depend on the Interface Unit. For further
Selects fr Format < Deta Specif Paran	FM n nils> Ties the line whos neter n and the	e fre	nt line Parameter range quency is to be r whose frequence	0,1,2,3,4, neasured. cy is to be mea	asured depend on the Interface Unit. For further

GT		vo	LT/FREQUEN	CY screen	
Sets freq	uency-measuren	nent	gate time		
Format	GT n		Parameter range	0 to 3	
	ne gate time over				
i ne re		en n	Gate time	Cy-measurem	ent gate time is shown in the table below:
	n 0		100 ms	-	
	1		100 ms 1 s	-	
	2		10 s	-	
	3		MANUAL	-	
		l		4	
IT		vo	LT/FREQUEN	CY screen	
Sets freq	uency-measuren	nent	interval time		
Format	IT n		Parameter range	0 to 3	
<deta< td=""><td>nils></td><td></td><td></td><td></td><td></td></deta<>	nils>				
					quency is measured. ent interval time is shown in the table below:
	n	Iı	nterval time]	
	0		0.5 s		
	1		1 s	1	
	2		5 s		
	3		MANUAL]	

PNI		VOLT/FREQUEN	CY screen		
Sets the	type of an inver	rted PRBS pattern		.	
Format	PNI n	Parameter range	6,7,9,11,1	15,19,20,23	
<deta< td=""><td>ails></td><td></td><td></td><td></td><td></td></deta<>	ails>				
				l/Inverted & Reversed t attern type, is shown be	
					-
	n	PRBS pattern type	Normal/Inv	verted & Reversed type]
	n6	PRBS pattern type PRBS 2 ⁶ -1	Normal/Inv	verted & Reversed type INVERT	
			Normal/Inv		
	6	PRBS 26-1	Normal/Inv	INVERT	
	6 7	PRBS 2 ⁶ -1 PRBS 2 ⁷ -1	Normal/Inv	INVERT INVERT	
	6 7 9	PRBS 2 ⁶ -1 PRBS 2 ⁷ -1 PRBS 2 ⁹ -1	Normal/Inv	INVERT INVERT INVERT	
	6 7 9 11	PRBS 26-1 PRBS 27-1 PRBS 29-1 PRBS 211-1	Normal/Inv	INVERT INVERT INVERT INVERT	
	6 7 9 11 15	PRBS 26-1 PRBS 27-1 PRBS 29-1 PRBS 211-1 PRBS 215-1	Normal/Inv	INVERT INVERT INVERT INVERT INVERT	

PR		VOLT/FREQUEN	ICY screen
Sets p	rogram pattern (Bi	nary)	
Forma	ot PR n	Parameter range	00000000 to 1111111
<de< td=""><td>etails></td><td></td><td></td></de<>	etails>		
-	cifies the program ; Pattern	pattern as a sequen	ce of 8-bit binary values.
	n	Program Pattern	
	00000000	00000000	
	11111111	11111111	
PRB		VOLT/FREQUE	JCY screen
Sets p	rogram pattern (Bi	nary)	
Forma	at PRB n	Parameter range	00000000 to 1111111
<de< td=""><td>etails></td><td></td><td></td></de<>	etails>		
	ecifies the program Pattern	pattern as a sequen	ce of 8-bit binary values.
	n	Program Pattern	
	00000000	00000000	
	11111111	11111111	

PRD		VOLT/FREQUEN	NCY screen			
Sets pro	gram pattern (De	ecimal)		L	 	
Format	PRD n	Parameter range	0 to 255		 	
< Deta	ails >					
n : Pa	ttern (integer)					
	n	Program	7			
	n	pattern	_			
	n 0	11				
		pattern				
	0	pattern 00000000				
	0	pattern 00000000 00000001				
	0	pattern 00000000 00000001				

РА		VOLT/FREQUENCY screen					
Specifies	s all 0 pattern						
Format	РА		Parameter range	None		 	
< Deta	ails >						
Sets tl	he fixed pattern t	o Al]	l 0s.				
ΡZ		vo	LT/FREQUEN	CY screen			
Specifies	5 All 1 pattern						
Format	PZ		Parameter range	None	 		
< Deta	ils >						
Specif	ïes all 1 pattern.						

PC	PC VOLT/			LT/FREQUEN	CY screen		
Sets	Sets alternating pattern of m 1s and n 0s						
Forr	mat	PC n		Parameter range	0 to 6		
< [Deta	ils >					
s	ets a	n alternating pat	tern	of m 1s and n 0			
<u>ן</u> ן		n		ed (min) pattern			
		0		0101010 (1:1)	=		
		1		101110 (3:1)	-		
		2	1(0001000 (1:3)	-		
		3	10	0101010 (1:1)			
		4	10	101010 (1:1)			
		5	11	111110 (7:1)			
		6	10	000000 (1:7)			
MS	SL.		vo	LT/FREQUEN	CY screen		
Sele	ect lin	e to be monitore	d			· · · · · · · · · · · · · · · · · · ·	
Forn	nat	MSL n		Parameter range	1,2,4		
< [Deta	ils >					
		o select the line t		monitored.			
n F	: Mor	nitor type numbe	-				
		n		Line to be moni			
				lays condition o ve signal and a			
				lays receive dat llel data	a as 8-bit		

SCT VOLT/FREQUENC				CY screen				
Switches	Switches signal line to be monitored while monitoring is in progress							
Format	SCT n,m		Parameter range	n = 0 to 12,	m = 0 to 2			
< Deta	ails >							
Chang	ges the status of t	he co	ontrol signal wh	ile monitoring	g is in progress.			
*] r	The identify of the nanual and the co	e sig omm	nal-line depend and reference fo	s on the Interf or each Interfa	ace Unit. For further details, refer to the operation ce Unit.			
n: S	Signal line numbe	er						
m: 0	0 = OFF							
1	= ON							
2	$\mathbf{c} = \mathbf{Open} \text{ or through }$	ıgh						
• (Change the status	s of t	he signal line cı	irrently being	displayed.			
VM VOLT/FREQUENCY screen								
VM		vo	LT/FREQUEN	CY screen				
	oltage measuren			CY screen				
	oltage measuren VM n			CY screen 0 to 12				
Selects v	VM n		line Parameter	······				
Selects v Format	VM n		line Parameter	······				
Selects v Format < Deta	VM n	nent	line Parameter range	0 to 12				
Selects v Format < Deta Selects	VM n ils >	volta	line Parameter range ge is to be meau	0 to 12				
Selects v Format < Deta Selects n: T • T	VM n ils > s the line whose w 'ype of line to be n 'he type of line	volta neau to be	line Parameter range ge is to be meau ured e measured var	0 to 12 ured.	Interface Unit. For further details, refer to the ch Interface Unit.			
Selects v Format < Deta Selects n: T • T	VM n ils > s the line whose w 'ype of line to be n 'he type of line	volta neau to be	line Parameter range ge is to be meau ured e measured var	0 to 12 ured.	Interface Unit. For further details, refer to the ch Interface Unit.			
Selects v Format < Deta Selects n: T • T	VM n ils > s the line whose w 'ype of line to be n 'he type of line	volta neau to be	line Parameter range ge is to be meau ured e measured var	0 to 12 ured.	Interface Unit. For further details, refer to the ch Interface Unit.			
Selects v Format < Deta Selects n: T • T	VM n ils > s the line whose w 'ype of line to be n 'he type of line	volta neau to be	line Parameter range ge is to be meau ured e measured var	0 to 12 ured.	Interface Unit. For further details, refer to the ch Interface Unit.			
Selects v Format < Deta Selects n: T • T	VM n ils > s the line whose w 'ype of line to be n 'he type of line	volta neau to be	line Parameter range ge is to be meau ured e measured var	0 to 12 ured.	Interface Unit. For further details, refer to the ch Interface Unit.			

SA		VOLT/FREQUENCY screen				
Starts fr	equency measure	emen	ıt			
Format	SA		Parameter range	None		
< Deta	ails >					
Initiat	tes frequency me	asur	ement.			
	SO VOLT/FREQUENCY screen					
SO		vo	LT/FREQUEN	CY screen		
	quency measure		·	CY screen		
	quency measure SO		·	CY screen None		
Stops fre	SO		Parameter			
Stops fre Format < Deta	SO ils >	ment	Parameter range			
Stops fre Format < Deta	SO	ment	Parameter range			
Stops fre Format < Deta	SO ils >	ment	Parameter range	None		
Stops fre Format < Deta	SO ils >	ment	Parameter range	None		
Stops fre Format < Deta	SO ils >	ment	Parameter range	None		

DO?		vc	LT/FREQUEN	NCY screen			
Outputs data							
Format	DO?		Parameter range	None			
< Deta	ils >						
Reque	sts output of volt	/freq	luency measure	ement data.			
Note:	Refer to the re	spon	se data referenc	ce in Section 2 for the format of output data.			

1.2.9 DELAY TIME screen

 $Commands \ in \ this \ paragraph \ are \ effective \ for \ the \ DELAY \ TIME \ screen.$

To use these commands, it is necessary to move the screen to the DELAY TIME screen in advance using "DL" command.

DN	M DELAY TIME screen						
Sets	; mea	surement mode					
Forr	nat	DM n		Parameter range	0,1		
<d< td=""><td>Detai</td><td>ils></td><td></td><td></td><td></td><td></td><td></td></d<>	Detai	ils>					
	_						
		to set the measur					
n	: Mea	asurement mode	spec				
		n		Measureme			
		0		E INTERVAL 1			
		1	TRA	ANSMIT DELA	Y measureme	nt	
							·
LSI	-		DE	LAY TIME scre	een		
		he send/receive a					
		he send/receive a					
	ects th	he send/receive a		e start/stop signa Parameter	al		
Sele Forr	ects th mat	LSL n		e start/stop signa			
Sele Forr	ects th	LSL n		e start/stop signa Parameter	al		
Sele Forr	ects th mat Detai	LSL n ils>	as the	e start/stop signa Parameter range	al 0 , 1, 3, 4		
Sele Forr <d< td=""><td>ects th mat Detai</td><td>LSL n ils > s the send/receiv</td><td>as the</td><td>e start/stop signa Parameter range mal as the start/s</td><td>al 0 , 1, 3, 4 Stop signal.</td><td>er the send or receive signal</td><td>line can be designated</td></d<>	ects th mat Detai	LSL n il s > s the send/receiv	as the	e start/stop signa Parameter range mal as the start/s	al 0 , 1, 3, 4 Stop signal.	er the send or receive signal	line can be designated
Sele Forr < D S W	mat Detai elects	LSL n il s > s the send/receiv	as the	e start/stop signa Parameter range mal as the start/s	al 0 , 1, 3, 4 Stop signal.	er the send or receive signal	line can be designated
Sele Forr < D S W as	mat Detai Selects Vhen s the	LSL n ils > s the send/receiv the measuremen	as the	e start/stop signa Parameter range mal as the start/s	al 0 , 1, 3, 4 Stop signal.	er the send or receive signal	line can be designated
Sele Forr < D S W as	mat Detai Selects Vhen s the	LSL n il s > s the send/receiv the measuremen start/stop signal	as the	e start/stop signa Parameter range gnal as the start/s ode is LINE INT	al 0 , 1, 3, 4 Stop signal.		line can be designated
Sele Forr < D S W as	mat Detai Selects Vhen s the	LSL n ils > s the send/receiv the measuremen start/stop signal the type	ve sig nt mo	e start/stop signa Parameter range gnal as the start/s ode is LINE INT	al 0 , 1, 3, 4 Stop signal. ERVAL, eithe art/stop-signal	designation	line can be designated
Sele Forr < D S W as	mat Detai Selects Vhen s the	LSL n ils > s the send/receiv the measuremen start/stop signal ne type n	ve sig nt mo l. Sets	e start/stop signa Parameter range anal as the start/s ode is LINE INT	al 0 , 1, 3, 4 Stop signal. ERVAL, eithe art/stop-signal	l designation signal	line can be designated
Sele Forr < D S W as	mat Detai Selects Vhen s the	LSL n ils > s the send/receiv the measuremen start/stop signal the type n 0	ve sig nt mo l. Sets	e start/stop signa Parameter range gnal as the start/s ode is LINE INT Sta	al 0, 1, 3, 4 Stop signal. ERVAL, eithe art/stop-signal the start/stop s as the start/stop	l designation signal op signal	line can be designated

SAL		DELAY TIME sc	reen				
Sets the start signal line and trigger conditions							
Format	SAL m,n	Parameter range	m=0 to 13	n = 0 , 1			
m : (he start signal li	ines within each Int		INE INTERVAL measurement mode.			
	n Trigger condition						
		$1 \rightarrow 0$					

The identity of the signal-lines depends on the Interface Unit.

 \rightarrow OFF

→ L

 $\rightarrow 0$

→ H

 $OFF \rightarrow ON$

ON

Н

1

L

0

1

For further details, refer to the operation manual and command reference for each plug-in unit.

SOL		DELAY TIME scr	een					
Sets stoj	Sets stop signal line and trigger conditions							
Format	SOL m,n	Parameter range	m = 0 to 13	n=0,1				
<deta< td=""><td>ils></td><td></td><td></td><th></th></deta<>	ils>							
	_			TERVAL measurement mode.				
	m : 0 to 12 = Signal lines within each Interface Unit 13= External input signal line							
	n	Trigger condition	n					

The identify of the signal lines depends on the Interface Unit.

For further details, refer to the operation manual and command reference for each unit.

.

MSL		DE	LAY TIME scr	een				
Selects n	Selects monitor line							
Format	MSL n		Parameter range	0 to 4				
<detai< td=""><td>ils></td><td></td><td></td><td>······</td><td></td></detai<>	ils>			······				
	iys the identity of			g monitored.				
	dentity of line be	ing r	nonitored					
	= Send signal							
	= Receive signation $=$ Receive signation $=$ Receive signation $=$ Receive signation $=$ Receives $=$ Rec	1						
	R = Receive data							
	= Send alarm							
4	= Receive alarm	n						
SCT		DE	LAY TIME scre	een				
Switches	signal line while	; moi	nitoring is in pro)gress				
Format	SCT n,m		Parameter range	n:0to12 n	n : 0 to 2			
<detai< td=""><td>ls></td><td></td><td></td><td></td><td></td></detai<>	ls>							
Used t	o change the stat	e of f	the control signa	al while monite	oring is in progress.			
* T 0]	'he identity of th peration manual	ie si and	ignal-lines depe command refere	ends on the In ence for each I	nterface Unit. For further details, refer to the nterface Unit.			
n : Sig	gnal line number							
m : 0	= OFF							
1	= ON							
2	= open or throug	gh						
• The	condition of the s	signa	al line being dist	played is switc	hed.			

IT		DELAY TIME screen			
Sets inte	rval time				
Format	IT n		Parameter range	0 to 3	······································
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
1	ne interval time f erval time	`or tł	ne TRANSMIT I	DELAY measu	rement mode.
	n		Interval time	7	
	0		0.5 s		
	1		1 s		
	2		5 s		
	3		MANUAL		
RSA		DE	LAY TIME scr	een	
Starts re	peated delay-tim	e me	easurements		
Format	RSA		Parameter range	None	
<detai< td=""><td>ls></td><td></td><td></td><td></td><td></td></detai<>	ls>				
Used t	o initiate repeate	ed de	lay-time measu	rements in the	e LINE INTERVAL measurement mode.

RSO DELAY TIME scr			LAY TIME scr	een	
Terminates repeated delay-time measuremen			ne measuremen	ıts	
Format	RSO		Parameter range	None	
<detai< td=""><td>ils></td><td></td><td></td><td></td><th></th></detai<>	ils>				
Termi	nates repeated de	elay-	time measurem	ients in the LII	NE INTERVAL measurement mode.
1					
SA		DEI	LAY TIME scre	een	
	lay-time measure			een	
Starts de	lay-time measure SA	emer	nts	een None	
Starts de	SA	emer	nts Parameter		

SO		DE	LAY TIME scr	een	· ·	
Stops del	Stops delay-time measurements					
Format	SO		Parameter range	None		
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>					
Termi	nates delay time	mea	surements.			
				e terminated i	n the LINE INTERVAL measurement mode.	
DO?		DE	LAY TIME scr	een		
Requests	output of delay-	time	measurement r	esults		
Format	DO?		Parameter range	None		
<detai< td=""><td>ls></td><td></td><td></td><td></td><td></td></detai<>	ls>					
~						
Cause	s the measureme	nt-re	esults in the DE	LAY TIME scr	een to be output.	
Note:	Note: Refer to the response data reference in Section 2 for the output format.					

1.2.10 WORD TRACE screen

Commands in this paragraph are effective for the WORD TRACE screen.

To use these commands, it is necessary to move the screen to the WORD TRACE screen in advance using "WT" command.

SA			W	ORD TRACE so				
Starts	tarts sending of word-pattern data							
Forma	at SA	A		Parameter range	None			
<de< td=""><td>tails</td><td>></td><td></td><td></td><td></td><td></td><td></td></de<>	tails	>						
Ini	tiates	data trans	mission					
so			W	ORD TRACE s	creen	· · · ·		
Term	inates	sending of	f word-p	attern data				
Forma	at SC)		Parameter range	None			
<de< td=""><td>etails:</td><td>></td><td></td><td></td><td></td><td></td><td></td></de<>	etails:	>						
Te	rmina	tes data tr	ansmiss	ion.				
SS			w	ORD TRACE s	creen			
Sets s	sendin	g method						
Form	rmat SS n Parameter 0,1							
<de< td=""><td>etails</td><td>></td><td></td><td></td><td></td><td></td><td></td></de<>	etails	>						
Sn	ecifies	the metho	od for se	nding data.				
1 ^		sending m		U				
		ameter		S	ending method	1		
		0	MANU	AL (The output	pattern is sent	continuously.)		
		1	1 SHOT	ſ (Only a single	output pattern	is sent by 1 pattern)]	

IP , IPB		WORD TRACE screen		screen	
Sets idle code (Binary)					
Format	IP n , IPB n		Parameter range	00000000 to :	1111111
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
Sets t	he value of the 8-	bit b	inary idle code	. When word pa	ttern data are not being sent, the idle code is sent.
			Idle code	7	
	n			_	
	00000000		00000000)		
	(11111111		(11111111		
L	1111111				
		1			
IPD		W	ORD TRACE	screen	
Sets idle	code (Decimal)				
Format	IPD n		Parameter range	0 to 255	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
Set th	e idle code with a	a dec	imal value.		
	n		Idle code		
	0		0	=	
	2		2		
	255		255		
	******	<u>u</u>		1	

WPA		WORD TRACE screen				
Sets ser	nd-data address					
Format	WPA n		Parameter range	0 to 8191		
<deta< td=""><td>ails></td><td></td><td></td><td></td><td></td></deta<>	ails>					
	Sets the send-data address with a decimal value. n : Address (0 to 8191)					
WP,	WPB	w	WORD TRACE screen			
Sets ser	nd-data pattern (B	inar	y)			
Format	WP n,WPB n		Parameter range			
<deta< td=""><td>ails></td><td></td><td></td><td></td><td></td></deta<>	ails>					
Sets	Sets the send-data pattern as a sequence of 8-bit binary data.					
	n		Pattern			
0000000			00000000			
	2		2			
	11111111		11111111]		

WPD WORD TRACE sci			screen					
	l-data pattern (D		I					
Format	WPD n	Parameter range	0 to 255					
<deta< td=""><td colspan="8"><details></details></td></deta<>	<details></details>							
Sets tl	ne send-data patt	ern with a decimal	value.					
	n	Pattern						
	0	00000000						
	2	2						
	255	11111111						
WPF		WORD TRACE	screen					
Sets send	l-data pattern to	FOX pattern						
Format	WPF	Parameter range	None					
<deta< td=""><td>ils></td><td></td><td></td></deta<>	ils>							
Sets tl	ne send-data patt	ern to FOX pattern						
	×	1						

WPM WORD		ORD TF	ORD TRACE screen		Enabled when the MD0610D Word Memory Unit is inserted	
Copies word-pattern from the memory board			board			
Format	WPM n		Parame range	eter	0 to 7	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td><td></td></deta<>	ils>					
Copie	s the pattern from	n the	e memory	y board	as the word p	attern.
		n		ROM	l number	
		0 1			OM 0 OM 1	
		2 3		R	OM 2 OM 3	
		4		R	OM 4	
		5 6		ROM 5 ROM 6		
		7		R	DM 7	
WTD		W	ORD TF	RACE s	creen	
Sets wor	d-pattern send-d	ata t	op addre	SS		
Format	WTD n		Parame range	ter	0 to 32766	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td><td></td></deta<>	ils>					
n:top • Wh	ne top address of address (0 to 327 en the word patt is not Option 02	766) ern is	s a FOX j	pattern	, the top addro	ess cannot be set.

WL WORD TRACE scr			ORD TRACE so	creen			
Sets wor	d-pattern send-da	ata la	ast address				
Format	WL n		Parameter range	1 to 32767			
Sets th n : las las	<details> Sets the last address of the word-pattern send-data. n : last address (1 to 32767) last address ≥ top address + 1 • When the word pattern is a FOX pattern, the last address cannot be set. • If it is not Option 02, it can be only set from 0 to 8191.</details>						
SYCX		W	ORD TRACE s	creen			
No sync	code						
Format	SYCX		Parameter range	None			
<deta Indica</deta 	ils > .tes that synchron	nizat	ion pattern is no	one.			
SYC,S	бүсв	W	ORD TRACE se	creen			
SYNC co	SYNC code (Binary)						
Format SYC n ,SYCB n Parameter range			Parameter range	00000000 to 1	1111111		
1	<details> Sets the 8-bit binary value of the trace sync pattern.</details>						
	n 00000000 2 11111111	118	ce sync pattern 00000000 2 11111111	=			

SYCD		W	ORD TRACE	screen	
SYNC code (Decimal)					
Format	SYCD n		Parameter range	0 to 255	
<deta< td=""><td>ils></td><td></td><td></td><td></td><td></td></deta<>	ils>				
Sets tl	he trace sync bi	nary j	pattern with a d	ecimal value.	
	ParameterTrace sync pattern0 00000000 \langle \langle 255 11111111				
ТА		w	ORD TRACE S	screen	
Starts tr	ace				
Format	ТА		Parameter range	None	
< Deta		d is s	ent, the trace is	started subject	t to the trace-start conditions.
то		w	ORD TRACE s	screen	
Stops tra	lce				
Format	ormat TO Parameter nange None				
<detai< td=""><td>ils></td><td></td><td></td><td></td><td></td></detai<>	ils>				
	he trace. uted irrespectiv	e of tr	ace-stop conditi	ions)	

SM	<u> </u>	WORD TRACE screen						
TRACE STOP=MANUAL Sets manual trace-stop condition								
Format	SM		Parameter range	None				
<detai< td=""><td>ils></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></detai<>	ils>							
Enabl	Enables manual setting of trace stop condition.							
SC ,SC	В	w	ORD TRACE s	creen				
			is stopped when trace stop byte.	a value equa	al to the	trace stop byt	e is received or not r	eceived.
Format	SC m, n, ℓ SCB m, n, ℓ		Parameter range	m = 0, 1; n = 00000000 to 11111111; ℓ = 00000000 to 11111111				
receiv	mines whether ed. Also specifi	es bin	race is stopped ary value of trac 8-bit binary val	ce stop byte.	_		stop byte is received pelow:	or not
	m	Tra	ace stop conditio	n		n	Trace-stop byte value	
		Halt trace when a value of the trace stop byte is received				00000000	00000000	
			when a value r e stop byte is reco			کر 11111111	کر 11111111	
Note:	To specify a	'Don'	t care" bit (X) va	llue, set the s	pecified	bit in byteℓto	1.	

Example: When SC0 (m), 00001111 (n) and 01010101 (\ell) are used, the trace will be stopped for any value equal to 0X0X1X1X.

SCD		WORD TRACE s	creen			
	Specifies stop trace byte with a decimal value and determines whether a trace is stopped when this value is received or not received.					
Format	SCD m, n, ℓ	Parameter $m=0, 1$ $n=0$ to 255				
<deta< td=""><td colspan="6"><details></details></td></deta<>	<details></details>					
	fies stop trace byt ved or not received		lue and detern	nines whether a trace is stopped when this value is		

m	Trace stop condition
0	Halt trace when data equal to trace stop byte are received.
1	Halt trace when data not equal to trace stop byte are received.

n	Trace-stop-byte value
0	00000000
2	2
255	11111111

Note: To specify a "Don't care" bit (X) value, set the specified bit in byte ℓ to 1.

Example: When SC0 (m), 00001111 (n) and 01010101 (ℓ) are used, the trace will be stopped for any value equal to 0X0X1X1X.

SL		WORD TRACE	screen	
Stops tra	ace when specifi	ed signal line change	es in indicated	manner
Format	SL m,n	Parameter range	m = 0 to 12,	n=0,1
<deta< th=""><td>ails></td><td></td><td></td><th></th></deta<>	ails>			
m: U ~	n n	signal line whose tran Trace-stop-	trigger	I me u ace.
		conditi	on	
	0	$\begin{array}{ccc} 1 & \rightarrow & 0 \\ \\ ON & \rightarrow & OFF \\ H & \rightarrow & L \end{array}$		

The identities of the signal lines varies with the Interface Unit.

For further details, refer to the appropriate operation manual and command reference.

SB		WOR	RD TRACE so	creen			· · · · · · · · · · · · · · · · · · ·
Sets the number of bytes to be received before the trace halts.							
Format	SB n		arameter inge	0 to 32764			
termi	he number of tr	-		eived from th	e start of	measurement unt	il measurement is
SE		WOR	RD TRACE so	reen			
Stops tra	ice when externa	l input s	signal line ch	anges in speci	fied manne	er.	
Format	SE n		arameter inge	0,1			
• Wh	ne stop-trigger co			stop trigger, th	ne trigger c n 0 1	ondition must also by Trigger condition $H \rightarrow L$ $L \rightarrow H$	e set.
SD		WOR	RD TRACE so	reen		when the trace-stop trig an externally input signa	
Sets num	iber of bytes to be	e traced	after a trace	stop trigger od	curs.		
Format	SD n		nameter nge	0 to 8000			
trace s		is used				coccurs. When the N	IANUAL or BYTE

LSL		WORD TRACE screen						
Sets ser	Sets send/receive signal as trace-stop signal							
Format	LSL n	Parameter 0,1 range						
<deta< td=""><td>nils></td><td></td><td></td><td></td><td></td><td></td></deta<>	nils>							
Sota	Sets the send/receive line as the trace-stop trigger.							
			-		the trace-stop trigger.			
					nmands should be used: LSL $n \rightarrow SL$	m n		
	nd/Receive type	uset	, the following s	sequence of con	$\frac{1}{1}$	111 , 11.		
	Parameter	1		S	etting			
==	0	Th	e send signal lin		e trace stop trigger.			
	1	11			the trace stop trigger.			
	3	#			the trace stop trigger.			
	4	11			as the trace stop trigger.			
DO ?		W	ORD TRACE s	creen				
Outputs	setting value dat	a						
Format	DO ?		Parameter range	None				
<deta< td=""><td>nils></td><td></td><td></td><td></td><td></td><td></td></deta<>	nils>							
Requ	Requests output of the WORD TRACE screen settings.							
Note	Refer to the re	espoi	nse data referen	ce in Section 2	for the format of the output data.			

DRQ?	DRQ?		ORD TRACE s	creen					
Requests	Requests data at end of trace								
Format	DRQ?		Parameter range	None					
<deta< td=""><td colspan="9"><details></details></td></deta<>	<details></details>								
Reque	sts output of end	oftr	ace data. This c	ommand is use	ed to output data a	after a trace h	as been completed.		
Note:	Refer to the re	espor	nse data referen	ce in Section 2	for the format at	the output da	ta.		

MSL		W	ORD TRACE s	creen			······································		
Indicates	Indicates line being monitored								
Format	MSL n		Parameter range	0 to 4					
<detai< td=""><td colspan="9"><details></details></td></detai<>	<details></details>								
n : Li 0 : 1 = 3 :	Displays the signal-line condition. n : Line condition being monitored 0 = Send signal condition 1 = Receive signal condition 3 = Send alarm condition 4 = Receive alarm condition								
L									
sct		w	ORD TRACE s	creen					
	le of signal line w		<u></u>		<u></u>				
	e of signal line w SCT n , m		<u></u>		n : 0 to 2				
Sets valu Format <deta< td=""><td>SCT n,m</td><td>vhile</td><th>monitoring is in Parameter range</th><td>n progress n : 0 to 12 n</td><th></th><th></th><th></th></deta<>	SCT n,m	vhile	monitoring is in Parameter range	n progress n : 0 to 12 n					
Sets valu Format <deta Switch</deta 	SCT n, m ils >	of th	monitoring is in Parameter range ne control signal	n progress n : 0 to 12 n while monitor	ing is in progress.				
Sets valu Format < Deta Switch * The	SCT n, m ils > nes the condition e identities of the	vhile of th sign	monitoring is in Parameter range ne control signal nal lines vary wi	n progress n : 0 to 12 while monitor th the Interfac	ing is in progress.				
Sets valu Format < Deta Switch * The For	SCT n, m ils > nes the condition e identities of the	of th sign refer	monitoring is in Parameter range ne control signal nal lines vary wi	n progress n : 0 to 12 while monitor th the Interfac	ing is in progress. 9 Unit.				
Sets valu Format < Deta Switch * The For n : Sig m : 0	SCT n, m ils > identities of the further details, ; gnal-line number = OFF	of th sign refer	monitoring is in Parameter range ne control signal nal lines vary wi	n progress n : 0 to 12 while monitor th the Interfac	ing is in progress. 9 Unit.				
Sets valu Format < Deta Switch * The For n : Sig m : 0 1	SCT n, m	of th sign refer r	monitoring is in Parameter range ne control signal nal lines vary wi	n progress n : 0 to 12 while monitor th the Interfac	ing is in progress. 9 Unit.				

1.2.11 EDIT PATTERN DATA screen

Commands in this paragraph are effective for the EDIT PATTERN DATA screen.

To use these commands, it is necessary to move the screen to the EDIT PATTERN DATA screen in advance using "WE" command.

WPA EDIT PATTERN DATA screen				DATA			
Sets edit	address						
Format	WPA n	,	Parameter range	0 to 32767			
< Deta	ils >						
n : Top	 Sets the displayed top address of edit data. n : Top address (0 to 32767) If it is not Option 02, it can be only set from 0 to 8192. 						
DSP			IT PATTERN D een	DATA			
Specifies	the display mode	е					
Format	DSP n		Parameter range	0,1			
Format < Deta				0,1			

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CD		EDIT P. screen	EDIT PATTERN DATA screen							
Specifies	Specifies the display character code									
Format	CD n	Para ran	ameter ge	0 to 6						
< Deta	< Details >									
	Specifies the display character code of edit data.									
n: iyj	pe of code		n		Type of cade	Г				
			0		HEX	=				
			1		ASCII	1				
			2		EBCDIC	-				
			3		EBCDIK					
			4		JIS8					
			5		EBCD					
			6		Baudot					
BDR		EDIT PA screen	ATTERN D	ΑΤΑ						
Specifies	the display boun	dary								
Format	BDR n	Para rang	imeter je	4 to 8						
< Deta	ils >									
	ies the bit bounda boundary	ary when	the edit dat	a are displ	ayed.					
			n		Bit boundary	7				
			4		4 bits					
			5		5 bits	1				
			6		6 bits					
			7		7 bits	1				
			8		8 bits					

SH										
EDIT F	EDIT FUNCTION-Indicates execution of shift									
Format	ormat SH n, m Parameter n:0to7,m:0,1									
< Deta	< Details >									
	EDIT FUNCTION-Indicates execution of shift. n : Indication of direction and bit to be shifted									
			n		Bit shift					
			0		+ 4					
			1		+ 3					
			2		+ 2					
			3		+ 1					
			4		- 1					
			5		- 2					
			6		- 3					
			7		- 4					
	ange of data to be = Displayed data									

INV	EDIT PATTERN DATA screen								
EDIT FU	EDIT FUNCTION-Indicates execution of inverse								
Format	Format INV n Parameter 0,1								
<deta< td=""><td>ils></td><td>·</td><td></td><td></td></deta<>	ils>	·							
n : Rai	EDIT FUNCTION-Indicates execution of inverse. n : Range of data to be inversed 0 = Displayed data, 1 = All data								
REV		l I	IT PATTERN [een						
EDIT FU	UNCTION-Indic	ates	execution of rev	verse					
Format	REV n		Parameter range	0,1					
n : Ra	ils > FUNCTION-Ind nge of data to be a = Displayed data	revei	sed	reverse.					
MSV			IT PATTERN I een	ΟΑΤΑ					
Indicate	s saving to word-	mem	ory unit						
Format	MSV n		Parameter range	0 to 7					
Perfor	Format MSV n range 0 to 7 <details> Performs an indication to save the pattern data to E² PROM of the word-memory unit. n: E² PROM ROM No. to be saved (0 to 7)</details>								

MRC			EDIT PATTERN DATA screen					
Indicates	Indicates read-out from the word-memory unit							
Format	MRC n		Parameter ange	0 to 7				
< Deta	nils >							
	Performs an indication to read out the pattern data from PROM/E ² PROM of the word-memory unit. n : ROM No. (0 to 7) of PROM/E ² PROM from which pattern data is read.							
СРҮ		EDIT scree	TPATTERN D en	ράτα				
Indicate	s traced data cop	y						
Format	CPY n,m		Parameter					
< Details >								
< Deta	ails >	r	ange	n:0 to 32767	7, m : 1 to 8			
Perfor n : To ※ If	ails > rms an indication op address of trac it is not Option 0 op bit of traced da	n to cop ed dat: 2, it ca	ange by the traced da a to be copied (an be only set fi	ata to the word (0 to 32767) rom 0 to 8191.	-pattern data.			

.

1.2.12 DISPLAY PATTERN TRACE screen

Commands in this paragraph are effective for the DISPLAY PATTERN TRACE screen.

To use these commands, it is necessary to move the screen to the DISPLAY PATTERN TRACE screen in advance using "TD" command.

CD			DISPLAY PATTERN TRACE							
Selects t	Selects the type of code to be used for tracing data									
Format	CD n		Parameter range	0 to 6						
< Deta	< Details >									
C. ((
1	he type of code to	be u								
n : Tyj	pe of code		n	Type of code						
			0	HEX						
			1	ASCII						
			2	EBCDIC						
			3	EBCDIK						
			4	JIS8						
			5	EBCD						
			6	Baudot						
DA			SPLAY PATT een	ERN TRACE						
Sets disp	olay address									
Format	DA n		Parameter range	0 to 32767						
< Deta	ails >									
	ata of the addres art address for da				yed on the MD6420A display.					

SH		DISPLAY PATTERN TRACE screen					
Sets the	number of bits to	be s	hifted				
Format SH n Param range		Paramete range	or 0 to 7				
< Deta	< Details >						
This c		he bi	nary value	s of tl	he displayed co	ode by the number of sp	ecified bits.
n : Nu	mber of bits to be	e snii	tea	1	n No). of bits to be shifted	
				()	+ 4	
			1	-	1	+ 3	
				2		+ 2	
				3		+ 1	
				4		0	
				5		- 1	
				6		- 2	_
			L	,	7	- 3	
DO ? DISPLAY			TTE	RN TRACE			
Request	s output of trace	resul	ts				
Format DO? n Parame		Paramete range	er 0 to 32768				
< Details >							
Howe time.	-	gnific	ant digit (the specified start add utput data is truncated	ress in HEX format. d. 40 data are output at one
Note: Refer to the response data reference in Section 2 for the format of the output data.							

INV			DISPLAY PATTERN TRACE screen			
Specifies inverse/reverse display						
Format INV n Parameter range			Parameter range	0 to 3		
< Deta	ails >					
, î		-	-	n the trace data are displayed.		
n : Ty	pe of inver					
			Гуре			
	0		ORMAL			
	$\frac{1}{2}$		VERT L-REVERSE			
	3		I-REVERSE			
	0					
СМР			SPLAY PATT reen	ERN TRACE		
Specifie	s comparis	on process	ing for the send	d data		
Format	CMP n,	m	Parameter range	n:0 to 1, m:0 to 32767		
< Details >						
<pre>< Details > Specifies comparison processing for the send data when the trace data are displayed. n : Whether or not comparison processing is specified 0 = Not specified, 1 = Specified m : Top address of the send data to be compared (0 to 32767) m is not required for n = 0.</pre>						

· · ·					
Sets display mode					
0,1					
Sets the display mode of trace data. n : Type of display mode 0 = BYTE mode 1 = BIT mode					
TERN TRACE					
Specifies display boundary					
4 to 8					
< Details > Specifies the bit boundary when the trace data are displayed. n : Bit boundary					
-					
-					

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(Blank)

SECTION 2

RESPONSE DATA REFERENCE

(Blank)

2.1 IEEE488.2 Common Commands

Output contents	Command name	Explanation
ESE register request	*ESE?	The contents of the ESE register are output as a decimal number whose value is 0 to 255. (Note)
ESR register request	*ESR?	The contents of the ESR register are output as a decimal number whose value is 0 to 255. (Note)
SRE register request	*SRE?	The contents of the SRE register are output as a decimal number whose value is either 0 to 255. (Note)
STB register request	*STB?	The contents of the STB register are output as a decimal number whose value is 0 to 255. (Note)
Device ID request	*IDN?	Refer to page 2-3.
Device test and status request	*TST?	0 is output when the device test and status contents are requested. (Note)
Operation status request	*OPC?	1 is output when the operation status is requested. (Note)

MD6420A Common Commands

Output contents	Command name	Explanation
END-ERS enable register request	ESAE?	The contents of the END-ESR enable register contents are output as a decimal number whose value is 0 to 65535. (Note)
END-ERS request	ESAR?	The contents of the END-ESR register are output as a decimal number whose value is 0 to 65535. (Note)
END-CONDITION register request	ESAC?	The contents of the END-CONDITION register are output as a decimal number whose value is 0 to 65535. (Note)
error-ERS enable register request	ESBE?	The contents of the error-ERS enable register are output as a decimal number whose value is 0 to 65535. (Note)
error-ERS request	ESBR?	The contents of the error-ERS are output as a decimal number whose value is 0 to 65535. (Note)
error-CONDITION register request	ESBC?	The contents of the error-CONDITION register are output as a decimal number whose value is 0 to 65535. (Note)

Note: These response data are sent with 5-digit character string (ASCII) without the header. They are sent placing the lowest digit to right-justify and replacing 0 at the upper digits by a space.

<Example> When output data are 0 ____0 When output data are 128 ___128 __: Space

Scree	en								
Comn name		*IDN Explanation			Requests d	Requests device ID			
		and explanation I, <u>MD 6 4 2 0</u> 2	<u>A</u> Δ, <u>(</u>	<u>), 01</u> 3 4	00				
No		Output		Column	Number of columns	Range	Remarks		
1	Anritsu (manufacturer)		1 to 7	7	Constant (No range)			
2	Model No).		9 to 16	8	Constant (No range)			
3	(Spare)			18	1	Constant (No range)			
4	Version No. (main frame)			20 to 23	4	0000 to 9999			

2.2 PRESET MEMORIES Screen

Screen	en PRESET MEMORY					L				
Comma name	ommand ame DO? Expla			anation	Requests d	ata output				
Output	format a	and expl	anation							
$\frac{P R 0}{1 2 3} \stackrel{\triangle}{=} \frac{8 8}{4}, \frac{0 6}{5}, \frac{1 9}{6}, \frac{1 1}{7}, \frac{2 2}{7}$					<u>2</u> , <u>33</u> , 8	<u>01</u> , <u>02</u> 9 10	2, <u>03</u> , <u>880610</u> , <u>11</u> 12 Contents of memory	<u>11</u> y1	<u>2233</u> , 13 251	
					~	L 0 1 , 0 Continue to	2, 03, 880610, output contents up to con	11 tents c	2 2 3 3	 10
No.	Output		Column	Number of columns	Range		Rema	ırks		
1	Screer	Screen symbol		1,2	2	Constant (No range)				
2	Data t	Data type		3	1	Constant (No range)				
3 to 5	output	Year, month, and day of data output		5 to 12	8	00,01,01 to 99,12,31				
6 to 8	Hours, of data	Tours, minutes, and seconds of data output		14 to 21	8	00,00,00 to 23,59,59				
9		Sending Interface Unit type		23,24	2	Varies with type of Inter Unit (See List for No. of Type at the end of this Se 2.)	Unit	'99' when preset	not	
10	Receiv Type N	ving Inter No.	rface Uni	it	26,27	2	Varies with type of Inter Unit (See List for No. of Type at the end of this Se 2.)	ist for No. of Unit		not
11	Measu	Measurement type No.		29,30	2	Varies with measurement type (See the following ta	nt able)	'99' when preset		
12	Year, which	month, a data wer	nd day or e preset	n	32 to 37	6	000101 to 991231 '9999999' w not preset		t	
13	Hours, minutes, and seconds at which data were preset		39 to 44	6	000000 to 235959 '999999' not prese		'9999999' not prese			
					Tal	ole of Measu	rement Type			
			Measu	remen	, Mea	surement ype No.	Measurement		urement pe No.	
			rror mea		ent	48	Distortion measurement		55	

type No.
48
49
50
51
53
54

Measurement	Measurement type No.
Distortion measurement	55
64 kb/s Jitter measurement	80
1.544 Mb/s Jitter measuremnet	81
2.048 Mb/s Jitter measurement	82

2.3 TABLE OF UNITS Screen

Screer	ı	TABLE OF U	NITS screen						
Comma name	and DO ? Exp		Explanation	anation Requests data output					
Output	format a	and explanation							
<u>UV0</u> 12	△ <u>90</u> , <u>3</u>	$\frac{0}{4}, \frac{0}{5}, \frac{1}{6}$	<u>6, 48, 56</u> 7 8	<u>, 255</u> , 9	MD 6 4 2 0 A△, MA I N∠ 10 11 Name of Plug-in Unit 1	<u>\\\\</u> ,			
			~		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$				
No.	Output		Column	Number of columns	Range	Remarks			
1	Screen symbol		1,2	2	Constant (No range)				
2	Data type		3	1	Constant (No range)				
3 to 5	Year, r output	nonth, and day of	data 5 to 12	8	00,01,01 to 99,12,13				
6 to 8	Hours, minutes, and seconds of data output		onds 14 to 21	8	00,00,00 to 23,59,59				
9	Unit type No.		23 to 25	3	Varies with unit (See List for No. of Unit Type at the end of this Section 2.)	'999' when unit is not inserted			
10	Unit model number		27 to 34	8	Displayed as 8 characers (See List for No. of Unit Type at the end of this Section 2.)	Blank when no unit are inserted			
11	Unit name		36 to 43	8	Displayed as 8 characters (See List for No. of Unit Type at the end of this Section 2.)	Blank when no unit is inserted			

2.4 INTERFACE Screen

Screen	INTERFACE scree			en					
Comma name	ommand ame DO ? Expla			anation	Requests data output				
Output	Output format and explanation								
$ \frac{\mathbf{I} \mathbf{F} 0}{1 2} $	$\frac{90}{3},$ $\frac{4000}{3}$	$\begin{array}{c} \underline{0\ 1}, \ \underline{0\ 5}, \ \underline{1}\\ 4 & 5 & 6\\ \underline{0}, \ \Delta, \ 0, \ \Delta 1 \end{array}$	<u>1, 4</u> 7	<u>8</u> , <u>13</u> , 7 8 1, 111	$\begin{array}{c} \underline{1} , \ \underline{\triangle} \ \underline{5} , \\ 9 \ 10 \\ \underline{1} \ 1 \ \underline{1} , \ 0 \ 1 \end{array}$		$, 1, \Delta 1, \\ \Delta \Delta \Delta \Delta \Delta \Delta$		
$\Delta\Delta$, ,	$\triangle \triangle 6 4$	000, △, 1	, 🛆 1	, 0, △∠		$\frac{255}{12}, \frac{1}{13}, \frac{255}{14}, \frac{255}$			
No.	Output		Column	Number of columns	Range	Remarks			
1	Screen	symbol		1,2	2	Constant (No range)			
2	Data ty	vpe		3	1	Constant (No range)			
3 to 5	Year, n output	ar, month, and day of data tput		5 to 12	8	00,01,01 to 99,12,31			
6 to 8		ours, minutes, and seconds data output		14 to 21	8	00,00,00 to 23,59,59			
9	Send in	nterface slot No.		23	1	1 to 5	100 bytes of free		
10	Send in	nterface-unit type No.		25,26	2	Varies with send interface unit (See List for No. of Unit Type at the end of this Section 2.)	area are re- quired for data from each send interface		
11	Send co	onditions		28 to 122	95	Refer to operation manual for each interface unit.			
12	Receiv	e inteface slot No	•	124	1	1 to 5			
13	Receiv No.	eive interface unit type		126,127	2	Varies with receive interface unit (See List for No. of Unit Type at the end of this Section 2.)	100 bytes of free area are re- quired for data from each		
14	Receiv	e conditions		129 to 223	95	Refer to operation manual for each interface unit.	receive interface		

2.5 ERROR Screen

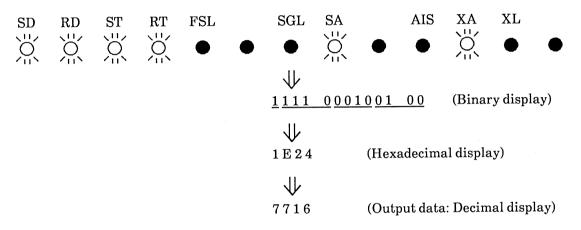
Screen	ERROR scre	en						
Command name	DRI ?	Expla	anation	Requests o	utput of interv	valdata		
	$\begin{array}{c} \begin{array}{c} \text{nat and explanation} \\ \hline 9, & 0 & 6, & 1 & 1, & 1 \\ \hline 6 & 4 & 5 & 6 \\ \hline E & - & 0 & 2, & 0, & \triangle \\ \hline 15 & & 16 & 9 \\ \hline 0 & 9 & 9 & 9 \end{array}$	<u>. A A A</u> 17	<u>0</u> , <u>0</u> 0 8 123,	$, \frac{1}{9}, \frac{81}{10}$	$\frac{9 1}{0}, \frac{0}{11}, \frac{0}{12}, \frac{0}{12}, \frac{3 E - 0 1}{19}, \frac{0}{2}$	$ \frac{\triangle \triangle \triangle \triangle 1 2 3}{13} \frac{0}{1}, \frac{1}{21}, \frac{0}{22}, \frac{9}{23} $	$\frac{4}{14}, \frac{1}{14}, \frac{9}{24}, \frac{0}{25}, \frac{1}{26}$	5
No.	0 9 9 9 9 3 0 30 31 32 33 Output	34	Column	Number of columns		ange	Rema	rks
2 Da 3 to 5 Ye	een symbol ta type ar, month, and day ur, minute, and second		$ \begin{array}{r} 1,2 \\ 3 \\ \overline{5 \text{ to } 12} \\ 14 \text{ to } 21 \\ \end{array} $	2 1 8 8	Constant (No ram 0: Measurement 1: Interval data 00,01,01 to 99,12 00,00,00 to 23,59	,31	Count start time -is 0. Interval star item-2 is 1	when item-2 t time when
9 Ite	m to be monitored		23 25 to 28	1 1 4	0: Send 1: Receive (or se 2: Data 0 to 8191		See Note 1 b	
11 PS	L during occurance/recove	ry data	<u>30</u> <u>32</u>	1 1 1	0: Rcovery data 1: PSL during oc	ccurance		
14 Da 15 Err 16 Da 17 Blo 18 Da	ror count value ta type ror rate ta type ock count value ta type cok rate		$ \begin{array}{r} 34 \text{ to} 41 \\ 43 \\ 45 \text{ to} 53 \\ 55 \\ 57 \text{ to} 64 \\ 66 \\ 68 \text{ to} 75 \\ \end{array} $	8 1 8 1 8 1 8 8	Refer to table of formats, below.	f numerical data	Data not de for item-2 o 0.	
20 Ala 21 Ala 22 Ala 23 Ala 24 Ala 25 Ala 26 Ala 27 Ala 28 Ala	arm 0 arm 1 arm 2 arm 3 arm 4 arm 5 arm 6 arm 6 arm 7 arm 8		77 79 81 83 85 87 89 91 93	1 1 1 1 1 1 1 1 1 1 1 1	or when sup set 1: Output whe generated 2: Output on re	ecovery from alarm	Not used wh 2 is 0.	en item-
30 Ala 31 Ala 32 Ala 33 Ala	arm 9 arm 10 arm 11 arm 12 arm 13 milas cramaining interv	al data	95 97 99 101 103 105	$ \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 2 \\ \end{array} $	3: Output whe continuously 9: Not used	n alarms are being y generated	No remainin	adata
34 Nu	mber of remaining interv	aruata		erical Data F			in interval d buffer for 0.	ata
[Data format	Da	ta type		ormat nerical values	Example	9	
Res	ary ating solution of 0.1 solution of 0.01		0 1 2 3	0.00E+00 -99999.91	to 99999999 to 99.9E + 00 to 999999.9 to 99999.99	$\begin{array}{c} 0, \ \triangle \triangle \ 1 \ 2 \ 3 \\ \hline 1 , \ 1 . \ 2 \ 3 \ E \\ 2 , \ \triangle \triangle \triangle - 1 \\ \hline 3 , \ \triangle \triangle \triangle 5 \ 2 \end{array}$	$\frac{2}{0.5}$	
Ove	erflow data		3 8 9	9999	099999.99 99999 99999	$\begin{array}{c} 3, \ \triangle \triangle \triangle 5 \ 2. \ 8 \ 3 \\ \hline 8, \ 9 \ 9 \ 9 \ 9 \ 9 \ 9 \ 9 \\ \hline 9, \ 9 \ 9 \ 9 \ 9 \ 9 \ 9 \ 9 \ 9 \ 9 $		

Note 1 Monitor contents

• Monitor LED display contents are indicated at each state of the error measurement. The LED display contents are the line state which has been currently displayed with selection of the monitor line.

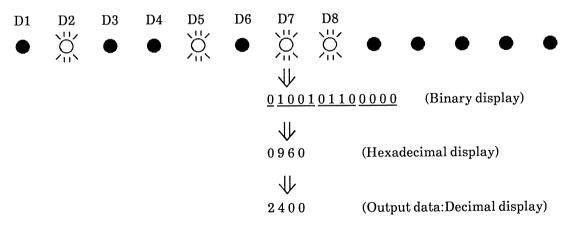
<Example 1>

When the monitor line selection is "SIGNAL " and displays are as follows:



<Example 2>

When the monitor line selection is "DATA" and displays are as follows:



- The monitor LED displays a current state at a real time. Since these data are displayed as the monitor contents after reading, it may be different from visual display contents.
- Reads the monitor LED contents of each data with the following timing and outputs them as the monitor contents.

Data type	Data name	Timing
ED 0	Counting start data	Counting-start time
ED 1	Interval data	Interval-period completion time
ED2	Performance data (period completion)	Period-completion time
ED3	Alarm data (period completion)	Period-completion time
ED4	Performance data (ELAPSED indication output)	Data-output request time
ED5	Alarm data (ELAPSED indication output)	Data-output request time
ED6	Performance data (TOTAL output)	Measurement-completion time
ED7	Alarm data (TOTAL output)	Measurement-completion time

Screen		ERROR scr	een						
Commano name	and DRP ? Explai			nation	tion Request output of performance data (In PERIODIC mod				
Output for	rmat a	nd explanation	_						
$ \begin{array}{c} \underline{0}, & \underline{0}, \\ 17, & 18 \\ \underline{0}, & \underline{1} & 2 \\ 26 \\ \underline{3}, & \underline{\triangle \triangle} \\ 34 \\ \underline{1}, & \underline{1} \\ 42 \\ \end{array} $	<u>1 2 3</u> <u>3 4 5</u> 27 <u>5 6 7</u> <u>35</u> <u>2 3 E</u> <u>43</u>	$\begin{array}{c} 4 5 6 7 8, \\ 19 & 28 \\ \hline & 23, 9, \\ 36 \end{array}$	$\begin{array}{c} 1, & 1. & 2\\ 20 \\ 1. & 2 & 3 \\ \hline & 29 \\ 9 & 9 & 9 & 9 \\ \hline & & 37 \\ \hline & & 1 & 2 & 3 \\ \hline & & 45 \end{array}$	$\begin{array}{c} 2 3 \vec{E} - 0 \\ 21 \\ \vec{E} - 0 5 \\ 9 9 9 9 \\ 4 5 6 7 \\ \end{array}$	$\begin{array}{c} \underline{0} \ \underline{5}, \ \underline{0}, \ \underline{22} \\ \underline{0}, \ \underline{\Delta 1 2} \\ \underline{30} \\ \underline{9}, \ \underline{9 9 9 9} \\ \underline{38} \end{array}$	$\begin{array}{c} \underline{2\ 0}, \ \underline{1\ 2}, \ \underline{0\ 2}, \ \underline{0\ 0}, \\ 11 \ 12 \ 13 \ 14 \ 14 \ 12 \ 13 \ 14 \ 14 \ 14 \ 14 \ 12 \ 13 \ 14 \ 14 \ 14 \ 14 \ 14 \ 14 \ 14$	$\begin{array}{c} 9 & E + 0 \\ \hline 9 & E + 0 \\ \hline 25 \\ \hline 4 \\ \hline 5 \\ \hline 6 \\ 7 \\ 8 \\ \end{array}$		
No.		Output		Column	Number of columns	Range	Remarks		
1	Scree	n symbol		1,2	2	Constant (No range)			
2	Data	type		3	1	 Performance data (Output in PERIODIC mode) Performance data			
3 to 5	· ·	nonth, and day of s rement	tart of	5 to 12	8	00,01,01 to 99,12,31			
6 to 8	í í	minute, and second rement	of start of	14 to 21	8	00,00,00 to 23,59,59			
9 to 11	Year, r was ou	nonth, and day on t tput	which data	23 to 30	8	00,01,01 to 99,12,31			
12 to 14		ninute, and second as output	at which	32 to 39	8	00,00,00 to 23,59,59			
15		to be monitored		41	1	0: Send 1: Receive (or send/receive) 2: Data			
16	Conte	ents of monitor	ed item	43 to 46	4	0 to 8191	See Note 1 on the previous page.		
17	PSL during occurrence/recovery data		covery	48	1	0: Recovery data 1: PSL during occurrance			
18	Data	type		50	1				
19	Sppec	ified data 0		52 to 59	8				
20	Data			61	1	Refer to table of numerical			
21		fied data1		63 to 70		data formats, below.			
22	Data	The second s		72	1	auta IVI IIIato, Deluw.			
23		fied data 2		74 to 81		4			
24	Data	type		83	1	l			

No. Output Column Number of columns Range Rem 25 Specified data 3 85 to 92 8	rks
26 Data type 94 1 27 Specified data 4 96 to 103 8 28 Data type 105 1 29 Specified data 5 107 to 114 8 30 Data type 116 1 31 Specified data 6 118 to 125 8 32 Data type 127 1 33 Specified data 7 129 to 136 8 34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
27 Specified data 4 96 to 103 8 28 Data type 105 1 29 Specified data 5 107 to 114 8 30 Data type 116 1 31 Specified data 6 118 to 125 8 32 Data type 127 1 33 Specified data 7 129 to 136 8 34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
28 Data type 105 1 29 Specified data 5 107 to 114 8 30 Data type 116 1 31 Specified data 6 118 to 125 8 32 Data type 127 1 33 Specified data 7 129 to 136 8 34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
29 Specified data 5 107 to 114 8 30 Data type 116 1 31 Specified data 6 118 to 125 8 32 Data type 127 1 33 Specified data 7 129 to 136 8 34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
30 Data type 116 1 31 Specified data 6 118 to 125 8 32 Data type 127 1 33 Specified data 7 129 to 136 8 34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
31 Specified data 6 118 to 125 8 32 Data type 127 1 33 Specified data 7 129 to 136 8 34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
32 Data type 127 1 33 Specified data 7 129 to 136 8 34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
33 Specified data 7 129 to 136 8 34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
34 Data type 138 1 35 Specified data 8 140 to 147 8 36 Data type 149 1	
35 Specified data 8 140 to 147 8 36 Data type 149 1	
36 Data type 149 1	
37 Specified data 9 151 to 158 8	
38 Data type 160 1 Refer to table of numerical	
39 Specified data 10 162 to 169 8 data formats, below.	
40 Data type 171 1	
41 Specified data 11 173 to 180 8	
42 Data type 182 1	
43 Specified data 12 184 to 191 8	
44 Data type 193 1	
45 Specified data 13 195 to 202 8	
46 Data type 204 1	
47 Specified data 14 206 to 213 8	
48 Data type 215 1	
49 Specified data 15 217 to 224 8	
50 Data type 226 1	
51 Specified data 16 228 to 235 8	
52 Data type 237 1	
53 Specified data 17 239 to 246 8	

Numerical data formats

Data type	Range of numerical values	Example
0	-99999999 to 99999999	0, △△123456
1	0.00E + 00 to 99.9E + 00	1, 1. 23E-01
2	-99999.9 to 999999.9	2, $\triangle \triangle \triangle - 10.5$
3	-9999.99 to 99999.99	3, △△△52.83
8	99999999	8, 99999999
9	99999999	9, 99999999
	0 1 2 3 8	0 -9999999 to 9999999 1 0.00E + 00 to 99.9E + 00 2 -999999.9 to 999999.9 3 -9999.99 to 999999.99 8 99999999

Screen		ERROR scree	n						
Commano name	DRA 2 Evolar			nation	on Requests output of alarm data (In PERIODIC mode)				
Output for	·mat a	nd explanation							
Output format and explanation $ \frac{E D 3}{1 2 3} \stackrel{\land}{3} \stackrel{\land}{4} \stackrel{?}{5} \stackrel{?}{6} \stackrel{?}{7} \stackrel{?}{8} \stackrel{?}{9} \stackrel{?}{10} \stackrel{?}{11} \stackrel{?}{12} \stackrel{?}{12} \stackrel{?}{13} \stackrel{?}{14} \stackrel{?}{15} \stackrel{?}{16} \stackrel{?}{7} \stackrel{?}{8} \stackrel{?}{9} \stackrel{?}{10} \stackrel{?}{11} \stackrel{?}{12} \stackrel{?}{12} \stackrel{?}{13} \stackrel{?}{14} \stackrel{?}{15} \stackrel{?}{16} \stackrel{?}{16} \stackrel{?}{7} \stackrel{?}{8} \stackrel{?}{9} \stackrel{?}{10} \stackrel{?}{11} \stackrel{?}{12} \stackrel{?}{12} \stackrel{?}{13} \stackrel{?}{14} \stackrel{?}{15} \stackrel{?}{16} \stackrel{?}{16} \stackrel{?}{7} \stackrel{?}{8} \stackrel{?}{9} \stackrel{?}{10} \stackrel{?}{11} \stackrel{?}{12} \stackrel{?}{12} \stackrel{?}{13} \stackrel{?}{14} \stackrel{?}{15} \stackrel{?}{16} \stackrel{?}{16} \stackrel{?}{7} \stackrel{?}{8} \stackrel{?}{9} \stackrel{?}{9} \stackrel{?}{10} \stackrel{?}{11} \stackrel{?}{12} \stackrel{?}{12} \stackrel{?}{13} \stackrel{?}{14} \stackrel{?}{15} \stackrel{?}{15} \stackrel{?}{16} \stackrel{?}{16} \stackrel{?}{7} \stackrel{?}{8} \stackrel{?}{9} \stackrel{?}{9} \stackrel{?}{9} \stackrel{?}{9} \stackrel{?}{10} \stackrel{?}{11} \stackrel{?}{12} \stackrel{?}{23} \stackrel{?}{45} \stackrel{?}{6} \stackrel{?}{7} \stackrel{.}{1} \stackrel{.}{1} \stackrel{?}{12} \stackrel{?}{2} \stackrel$									
50 No.	51	52 Output	53	Column	Number of	Range	Remarks		
					columns	i i i i i i i i i i i i i i i i i i i			
1	1 Screen symbol		1,2	2	Constant (No range)				
2	Data type		3	1	3: Alarm data (Output in PERIODIC mode) 7: Alarm data (Output in TOTAL mode)				
3 to 5	Year, month, and day of start of measurement		5 to 12	8	00,01,01 to 99,12,31				
6 to 8	-	minute, and second of rement	fstart of	14 to 21	8	00,00,00 to 23,59,59			
9 to 11	Year, month, and day on which data were output		ich data	23 to 30		00,01,01 to 99,12,31			
12 to 14	data w	minute, and second a vere output	t which	32 to 39	8	00,00,00 to 23,59,59			
15	Item	to be monitored		41	1	0: Send 1: Receive (or send/receive) 2: Data			
16	Conte	ents of monitored	item	43 to 46	4	0 to 8191	See Note 1 on the page 2-8		
17	PSL during occurrence/recovery data		48	1	0: Recovery data 1: PSL during occurrance				
18	Data	type		50	1				
19	Sppecified data 0		52 to 59	8]				
20	Data			61	1				
21		fied data1		63 to 70		Refer to table of numerical			
22	Data			72	1	data formats, below.			
23		fied data 2		74 to 81	8	4			
24	Data	type		83	1	L			

No.	Output	Calum		D	
110.		Column	Number of columns	Range	Remarks
25	Specified data 3	85 to 92	8		
26	Data type	94	1	1	
27	Specified data 4	96 to 103	8		
28	Data type	105	1	1	
29	Specified data 5	107 to 114	8	1	
30	Data type	116	1	1	
31	Specified data 6	118 to 125	8		
32	Data type	127	1	1	
33	Specified data 7	129 to 136	8		
34	Data type	138	1		
35	Specified data 8	140 to 147	8		
36	Data type	149	1		
37	Specified data 9	151 to 158	8		
38	Data type	160	1		
39	Specified data 10	162 to 169	8	Refer to table of numerical	
40	Data type	171	1	data formats, below.	
41	Specified data 11	173 to 180	8		
42	Data type	182	1		
43	Specified data 12	184 to 191	8		
44	Data type	193	1		
45	Specified data 13	195 to 202	8		
46	Data type	204	1		
47	Specified data 14	206 to 213	8		
48	Data type	215	1		
49	Specified data 15	217 to 224	8		
50	Data type	226	1		
51	Specified data 16	228 to 235	8		
52	Data type	237	1		
53	Specified data 17	239 to 246	8		

Numerical Data Formats

Data format	Data type	Range of numerical values	Example
Binary	0	-99999999 to 99999999	$0, \ \triangle \triangle 1 \ 2 \ 3 \ 4 \ 5 \ 6$
Floating	1	0.00E + 00 to $99.9E + 00$	1, 1. 23E-01
Resolution of 0.1	2	-99999.9 to 999999.9	2, $\triangle \triangle \triangle - 10.5$
Resolution of 0.01	3	-9999.99 to 99999.99	3, 🛆 🛆 52.83
Overflow	8	99999999	8, 99999999
No data	9	99999999	9, 99999999

Screen		ERROR screen								
Comman name	d	DOP ?	Explar	nation	Request output of performance data					
Output fo	rmat a	nd explanation								
$\begin{array}{c} \underline{0}, & \underline{0}, \\ 17, & 18 \\ \underline{0}, & \underline{1}, \\ 26 \\ \hline \\ \underline{3}, & \underline{\triangle} \underline{\triangle} \\ 34 \\ \underline{1}, & \underline{1}. \\ 42 \end{array}$	1 2 3 3 4 5 27 5 6 7 35 2 3 E 43	$\begin{array}{cccccccccccccccccccccccccccccccccccc$, <u>1.</u> 23 <u>1</u> 29 9 9 9 9 37 <u>1 2 3 4</u> 45	$\begin{array}{c} 2 3 E - 6 \\ \hline 21 \\ E - 0 5 \\ \hline 9 9 9 9 \\ 4 5 6 7 \\ \hline \end{array}$	$\begin{array}{c} \underline{0} \ \underline{5} \ \underline{0} \ \underline{0} \ \underline{0} \ \underline{22} \ \underline{0} \ \underline$	$\begin{array}{c} 2 \ 0 \\ 11 \\ 12 \\ 13 \\ 12 \\ 13 \\ 14 \\ 12 \\ 13 \\ 14 \\ 14 \\ 14 \\ 14 \\ 14 \\ 14 \\ 14$	9 E + 0. 1, 25 4. 5, 6 7 8,			
No.		Output		Column	Number of columns	Range	Remarks			
1	Screet	n symbol		1,2 3	2	Constant (No range)				
2	Data (type		3	1	 Performance data (Output in PERIODIC mode) Performance data 				
3 to 5	Year, m measur	nonth, and day of star rement	tof	5 to 12	8	00,01,01 to 99,12,31				
6 to 8	Hour, n measur	ninute, and second of ement	start of	14 to 21	8	00,00,00 to 23,59,59				
9 to 11	were ou			23 to 30	8	00,01,01 to 99,12,31				
	data we	ninute, and second at ere output	which	32 to 39	8	00,00,00 to 23,59,59				
15		o be monitored		41	1	0: Send 1: Receiver (or send/receive) 2: Data				
16	Conte	nts of monitored :	item	43 to 46	4	0 to 8191	See Note 1 on the page 2-8			
17	PSL dur data	ring occurrence/recov	ery	48	1	0 : Recovery data 1 : PSL during occurrance				
18	Data t	уре		50	1					
19	Sppeci	ified data 0		52 to 59	8					
20	Data t			61	1	Refer to table of numerical				
21		ied data1		63 to 70	8	data formats, below.				
22	Data t	уре	T	72	1					

							(C01
No.	Output	Colum	n Number of columns		Range	Remai	rks
23	Specified data 2	74 to 8	1 8				
24	Data type	83	1	1			
25	Specified data 3	85 to 9	2 8	1			
26	Data type	94	1				
27	Specified data 4	96 to 10)3 8				
28	Data type	105	1				
29	Specified data 5	107 to 1	14 8				
30	Data type	116	1				
31	Specified data 6	118 to 12	25 8				
32	Data type	127	1				
33	Specified data 7	129 to 13	36 8				
34	Data type	138	1				
35	Specified data 8	140 to 14	47 8				
36	Data type	149	1	Refer to ta	ble of numerical		
37	Specified data 9	151 to 1	58 8	data forma	ats, below.		
38	Data type	160	1				
39	Specified data 10	162 to 10					
40	Data type	171	1				
41	Specified data 11	173 to 18					
42	Data type	182	1				
43	Specified data 12	184 to 19					
44	Data type	193	1				
45	Specified data 13	195 to 20					
46	Data type	204	1				
47	Specified data 14	206 to 21					
48	Data type	215	1				
49	Specified data 15	217 to 22					
50	Data type	226	1				
51	Specified data 16	228 to 23					
52	Data type	237	1				
53	Specified data 17	239 to 24	46 8				
		Nume	rical data form	ats			
	Data format	Data type F	Range of numer	ical values	Example		
	Binary	0	-99999999 to 9	99999999	0, △△123	456	
	Floating	1	0.00E + 00 to 9	99.9E+00	1, 1. 23E	- 0 1	
	Resolution of 0.1	2	-999999.9 to 9	99999.9	2, $\triangle \triangle \triangle - 1$	0.5	
	Resolution of 0.01	3	-9999.99 to 9	9999.99	3, △△△ 5 2	. 83	

99999999

99999999

8, 99999999

9, 99999999

8

9

Overflow

No data

Screen		ERROR screen						
Comman name	d	DOA ? Expla			Request outp	out of alarm data		
Output fo:	rmat a	nd explanation						
							$\begin{array}{c} 10 \\ 9 \\ \underline{B} \\ \underline{E} \\ 1 \\ \underline{25} \\ \underline{4} \\ \underline{5} \\ \underline{5} \\ \underline{5} \\ \underline{5} \\ \underline{6} \\ \underline{7} \\ \underline{8} \\ $	
No.		Output		Column	Number of columns	Range	Remarks	
1	Scree	n symbol		1,2	2	Constant (No range)		
2	Data	type		3	1	 3: Alarm data (Output in PERIODIC mode) 5: Alarm (Output when specified data are output) 7: Alarm data (Output in TOTAL mode) 		
3 to 5	Year, month, and day of start of measurement			5 to 12	8	00,01,01 to 99,12,31		
6 to 8	Hour, n measur	ninute, and second of rement	start of	14 to 21	8	00,00,00 to23,59,59		
9 to 11	Year, n were ou	nonth, and day on whi Itput	ch data	23 to 30	8	00,01,01 to 99,12,31		
12 to 14	data we	ninute, and second at ere output	which	32 to 39	8	00,00,00 to 23,59,59		
15	Item t	o be monitored		41	1	0: Send 1: Receive (or send/receive) 2: Data		
16	Conte	nts of monitored	item	43 to 46	4	0 to 8191	See Note 1 on the page 2-8	
17	PSL dui data	ring occurrence/recov	ery	48	1	0 : Recovery data 1 : PSL during occurrance		
18	Data t	sype		50	1			
19		ified data 0		52 to 59	8			
20	Data t			61	1	Refer to table of numerical		
		ied data1		63 to 70	8	data formats, below.		
22	Data t	уре		72	1			

No.	Output	Colu	ımn	Number of columns	F	lange	Remarks
23	Specified data 2	74 t	o 81	8			
24	Data type	8	3	1			
25	Specified data 3	85 t		8			
26	Data type	9		1			
27	Specified data 4	96 to		8			
28 29	Data type Specified data 5		05 o 114	1 8			
30			114 16	8 1			
30	Data type Specified data 6		o 125	8			
31			27				
	Data type		o 136	8			
33	Specified data 7						
34	Data type		38	1			
35	Specified data 8		o 147	8	Refer to the	table of	
36	Data type		150	1		data formats,	
37	Specified data 9		o 158	8	below.		
38	Data type		30	1			
39	Specified data 10		o 169	8			
40	Data type	17		1			
41	Specified data 11		o 180	8			
42	Data type		32	1			
43	Specified data 12		o 191	8			
44	Data type		93	1			
45	Specified data 13		o 202	8			
46	Data type		04	1			
47	Specified data 14		o 213	8			
48	Data type		15	1			
49	Specified data 15	217 t		8			
50	Data type		26	1			
51	Specified data 16		o 235	8			
52	Data type		37	1			
53	Specified data 17	239 t	o 246	8			
_				al Data Forr			
	Data format	Data type		ge of numer		Example	
	Binary	0		99999999 to 9 00E + 00 to 9		$ \begin{array}{c} 0, \ \triangle \triangle 1 2 3 \\ 1, \ 1. \ 2 3 F \end{array} $	
	Floating Reslution of 0.1	<u>1</u> 2		1000000000000000000000000000000000000		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
	Resolution of 0.01	3		9999.99 to 9		$3, \Delta \Delta 5 2$	the second s
	Dverflow	8		999999		8, 99999	
	No data	9		999999		9, 99999	

2.6 VOLT/FREQUENCY Screen

Screer	n	VOLTAGE/F	REQUE	NCY s	scree	en			
Comma name	ind	DO ?	Explana	tion	Requ	ıest data	output		
Output	format a	nd explanation							
$\frac{VF0}{1}$	△ <u>88</u> , 3	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\frac{7}{7}, \frac{1}{7}, \frac{1}{7}, \frac{2}{7}, \frac{3}{7}, \frac{3}{18}$	<u>30</u> , 8 10.5	$\frac{1}{9}, \frac{5}{12}, \frac{2}{12}$	<u>819</u> 10 2, △△/ 9	$\frac{1}{1}, \frac{0}{11}, \frac{1}{12}, \frac{1}{12}, \frac{1}{12}, \frac{1}{12}, \frac{1}{20}, \frac{1}{20}, \frac{1}{12}, \frac{1}{$	$\begin{array}{c} \underline{3} \ \underline{0} \ , \ \underline{3} \ , \\ 13 \ 14 \ \underline{2} \ , \ \underline{\Delta \triangle \triangle} \ - \\ 21 \ 22 \end{array}$	<u>- 5.5</u> 2
No.		Output		Colum		lumber of columns	Ra	inge	Remarks
1	Screen	symbol		1,2		2	Constant (No	range)	
2	Data ty	ре		3		1	Constant (No	range)	
3 to 5	Year, mo measurer	- nth, and day of start c nent	f	5 to 12	2	8	00,01,01 to 99	,12,31	
6 to 8	Hour, min measurer	nute, and second of st nent	artof	14 to 2	1	8	00,00,00 to 23	,59,59	
9	Item to	be monitored		23		1	0: Send 1: Reeive (or sen 2: Data	d/receive)	
10	Conten	ts of monitored it	em	25 to 2	8	4	0 to 8191		
11	GATE '	TIME		30		1		1sec MANUAL	
12	Measurer	nent line to be switch	ed	32		1	1: Signal line 2	: Alarm line	
13	Line who	ne whose frequency is being measured.		34,35		2	0 to 12 : Line Nur	nber 13: EXT	
14	Data ty	ре		37		1	Refer to the table	of numerical data	
15	Results of	f frequency measuren	nent	39 to 4	6	8	formats below.		
16	Line who:	he whose voltage is being measured		48,49		2	voltage i		'99' when no voltage is being measured
17	Data ty	ре		51		1	Refer to the table	of numerical data	When the voltage is not
18	Results	of voltage measu	rement	53 to 6	0	8			being measured, there are no data.
19	Data ty			62		1	Potento the table of numerical data When t		When the welter-
20	Results of Line A	f voltage measuremen	nt for	64 to 7	1	8	formats below. of nei or B r		When the voltage of neither line A or B not any other
21	Data ty	ре		73		1			line are being measured, there
22	Results of Line B	f voltage measuremen	nt for	75 to 8	2	8	Refer to the table formats below.	of numerical data	are no data.
]	Numeri	cal D	ata Forn	nats		
]	Data format	Data t				erical values	Examp	ole
	Binary		0		-99	999999 to	99999999	0, $\triangle \triangle 1 2$	3 4 5 6
	Floatin		1				99.9E + 00	1, 1. 23	E - 0 1
		tion of 0.1	2				999999.9	$2, \Delta \Delta \Delta -$	
		tion of 0.01	3		-99		99999.99	$3, \Delta \Delta \Delta 5$	
	Overflo		8			99999			9999
	No data	1	9			99999	9999	9, 9999	9999

2.7 DELAY TIME Screen

Screen	l	DELAY TIM	E scree	n						
Comma name	nd	DO ?	Explar	nation	R	equest data	output			
Output	format a	and explanation								
	△ <u>90</u> , <u>3</u> △0. 1 17		<u>6</u> , <u>5</u> 7	<u>1, 5</u> 8	<u>6</u> , _	<u>0, 7168</u> 9 10	$\frac{3}{11}, \frac{0}{12}, \frac{\Delta 1}{12}, \frac{1}{12}$	$ \frac{1}{13}, \frac{\triangle 1}{14}, \frac{0}{15}, $	<u>3</u> , 16	
No.		Output		Colu	mn	Number of columns	R	ange	Remarks	
1	Scree	en symbol		1,		2	Constant (No			
2	Data			3		1	0: LINE INT 1: TRANSMI	T DELAY		
3 to 5	Year, of me	, month, and day a surement	of start	5 to	12	8	00,01,01 to 99	9,12,31		
6 to 8	Hour start	, minute, and second of measurement	ond of	14 to	21	8	00,00,00 to 23	3,59,59		
9	Item	to be monitored		23	}	1	0: Send 、 1: Receive (or 2: Data	r send/receive)		
10	Conte	ents of monitored	item	25 to	28	4	0 to 8191			
11	LINE	E SELECT		30)	1	0: Send side 1: Receive sid		In TRANSMIT DELAY mode: 9	9
12	STAF	RT LINE		32,	33	2	0 to 12: Line 13: EXT		In TRANSMIT DELAY mode: 9	99
13	STAI	RT EVENT		3	5	1	0: →0/OFF/L 1: →1/ON/H		In TRANSMIT DELAY mode: 9	9
14	STOP	P LINE		37,	38	2	0 to 12: Line 13: EXT		In TRANSMIT DELAY mode: 9	99
15	STOP	P EVENT		40)	1			In TRANSMIT DELAY mode: 9	9
16	Data	·····		4		1	Refer to the table of numerical data			
17	Meas	surement result		44 to		8	formats			
-				Nun		al Data Forr		I		
		Data format		ı type			rical values	Exampl		
	Binary		(0	•	-99999999 to	99999999	$0, \ \triangle \triangle 1 2$	3 4 5 6	
	Floating			1	0	.00E + 00 to		1, 1. 23		
		ion of 0.1		2		-99999.9 to		$2, \triangle \triangle -$		
		ion of 0.01		3		-9999.99 to		$3, \triangle \triangle 5$		
	Overflo			8	1	99999		8,9999		
	No data	L		9		99999	999	9, 9999	9999	

2.8 WORD TRACE Screen

Screen		WORD TRACE screen							
Comma name	nd	DO ? Explana		ation R	equest outpu	ut of settings			
Jutput f	ormat a	nd explanation							
$\frac{WT0}{1}$	∆ <u>88</u> , 3	-				$\frac{1}{11}, \ \frac{0}{11}, \ \frac{\triangle \triangle 1}{12}, \ \frac{3 \ 0 \ 0 \ 0}{13}, \ \frac{1}{13}$	<u>5, 255</u> , 14 15		
No.		Output		Column	Number of	Range	Remarks		
110.		Output			columns				
1	Screen symbol		1,2	2	Constant (No range)				
2	Data type		3	1	Constant (No range)				
3 to 5	Year, month, and day on which data were output		5 to 12	8	00,01,01 to 99,12,31				
6 to 8	Hour, r which c	Hour, minute, and second of which data were output		14 to 21	8	00,00,00 to 23,59,59			
9	Item to be monitored		23	1	0: Send 1: Receive (or send/receive) 2: Data				
10	Conten	ts of monitored i	tem	25 to 28	4	0 to 8191			
11	SEND METHOD		30	1	0: MANUAL 1 : 1SHOT				
12	IDLE (CODE		32 to 34	3	0 to 255			
13	WORD	LENGTH		36 to 40	5	2 to 32768			
14	TRACE STOP		42	1	0: MANUAL 1 : CODE 2: NOT CODE 3 : LINE 4: BYTE 5: EXTERNAL				
15	SYNC	CODE		44 to 46	3	0 to 255	DONT CARE 999		
16	STOP DELAY		48 to 51	4	0 to 8000	9999 when item- 14 is not 1, 2, 3, or 5			
17	STOP CODE		53 to 60	8	Number where digits are all 0, 1 or 9	9 indicates a DON'T CARE condition. 99999999 is output when item 14 is not 1 or 2.			
18	STOP	LINE SELECT		62	1	0: Send 1: Receive	9 when item-14 is not 3.		
19	STOP	LINE		64,65	2	0 to 12: Line Number 13: EXT	99 when item-14 is not 3 or 5.		
20	STOP	EVENT		67	1	0: 0,0FF,L 1: 1,0N,H	9 when item-14 is not 3 or 5.		
21	TRACI	Ε ΒΥΤΕ	angeneration of the second	69 to 73	5	0 to 32768	99999 when item- 14 is not 4.		

4 5, 12345, 10 of ss Range Remarks Constant (No range) Constant (No range) 00,01,01 to 99,12,31 00,00,00 to 23,59,59
of ISRangeRemarksConstant (No range)Constant (No range)00,01,01 to 99,12,31Constant (No range)
of ISRangeRemarksConstant (No range)Constant (No range)00,01,01 to 99,12,31Constant (No range)
Is Range Constant (No range) Constant (No range) 00,01,01 to 99,12,31
Is Range Constant (No range) Constant (No range) 00,01,01 to 99,12,31
Is Range Constant (No range) Constant (No range) 00,01,01 to 99,12,31
Constant (No range) 00,01,01 to 99,12,31
00,01,01 to 99,12,31
00,00,00 to 23,59,59
0 to 32767
0 to 32767
0 to 32767

Screen	DIS	SPLAY PA	ATTER	N TRA	CE screen					
C o m m name	nand DO	?	Expla	nation	Requests data output					
$\frac{T D 0}{1 2}$ $\frac{4 1}{4 6}$	42,43,	$\begin{array}{c} , \ \underline{2 \ 5} , \ \underline{1} \\ 5 & 6 \\ \underline{4 \ 4} , \ 4 \ 5 \\ \underline{3 \ 0} , \ 3 \ 0 \end{array}$	<u>, 46,</u> , 41,	47, 3 42, 4	<u>30,31,</u> 13 43,44, 13	$\begin{array}{c} 5, \ \underline{1\ 2\ 3\ 4\ 5}, \ \underline{4\ ,} \ \underline{3\ 2\ '} \\ \hline 10 & 11 & 1 \\ \underline{3\ 3\ ,} \ 4\ 1\ , \ 4\ 2\ , \ 4\ 3\ , \\ \underline{4\ 5\ ,} \ 4\ 6\ , \ 4\ 7\ , \ 3\ 0\ , \\ \hline \\ \hline \underline{161} \end{array}$	44,45,			
No.		Output		Column	Number of columns	Range	Remarks			
1	Screen sym	bol		1, 2	2	Constant (No range)				
2	Data type		3	1	0: HEX Constant (No range)					
3 to 5	Year, month, and day on which trace was stopped.			5 to12	8	00,01,01 to 99,12,31				
6 to 8	Hour, minute, and second at which trace was stopped.		14 to 21	8	00,00,00 to 23,59,59					
9	Address of which trigger was detected.		23 to 27	5	0 to 32767					
10	Address at which trace was stopped.			29 to 33	5	0 to 32767				
11	Number of bits by which the display pattern will be shifted.			35	1	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$				
12	Shift addre	SS		37 to 41	5	0 to 32760	Specify with DO command			
13	Trace data			43 to161	119	Data is output as 2 (HEX) digits whose values range from 00 to FF	40 data words are output			

List for No. of Unit Type

.

No.	Model No.	Unit name
1	MD0621A	V. 24/V. 28 Interface Unit
2	MD0621B	V. 35 Interface Unit
3	MD0621C	V. 36 Interface Unit
4	MD0621D	X. 20/X. 21 Interface Unit
5	MD0622B	1.5 M BPL Interface Unit
6	MD0622D	6.3 M BPL Interface Unit
7	MD0622E	64 k G. 703 Interface Unit
8	MD0623A	2 M BPL Interface Unit
9	MD0623B	8 M BPL Interface Unit
10	MD0626A	TTL Interface Unit
11	MD0625B	I. 431 1.5 M Interface Unit
12	MD0625C	I. 431 2 M Interface Unit
13	MD0628B	DS1 Interface Unit
14	MD0628C	DS1C Interface Unit
15	MD0629A	1.5 M ST Interface Unit
16	MD0629B	6.3 M ST Interface Unit
17	MD0624A	80 k CMI Interface Unit
18	MD0624B	1.5 M CMI Interface Unit
19	MD0624C	2 M CMI Interface Unit
20	MD0624D	6.3 M CMI Interface Unit
21	MD0625A	I. 430 192 k Interface Unit
22	MD0623C	2 M CEPT Interface Unit
101	MD0630A	Distortion Measurement Unit
102	MD0633A	Error Analyze Unit
103	MD0627A	Analog Unit
104	MD0630B	CODEC Unit
109	MD0632A	64 k Jitter Unit
110	MD0632B	1.5 M Jitter Unit
111	MD0632C	2 M Jitter Unit
119	MD0610D	Word Memory Unit

(Blank)

SECTION 3

MENU REFERENCE

(Blank)

3.1 MODE Screen

The MODE screen is displayed immmediately after power-on.

 If a cursor is not displayed	1
MODE	
∕inritsu DATA TRANSMISSION ANALYZER MD6420A	
ANRITSU CORP. SET TIME 90-04-23 12:49:54	→Refer to paragraph 3.1.2.
(MORE) M01 INTER- FACE PRESET MEM1 EMORIES 2.0MBPL X20/X21 2.0MBPL	

Cursor position	Cursor not displayed	Label	None
Outline	Function select menu displayed on MODE screen		
Function key labe	l and explanations:		
BEFORE PWR-OFF	When pressed, the screen that was displayed immediately is recalled. However, MODE screen is displayed at power o displayed prior to turning the power off or if the unit config	n if it is the la	ast screen that was
INTER- FACE	• When pressed, the INTERFACE screen is fetched.		
PRESET MEMORIES	• When pressed, the PRESET MEMORIES screen is fetched.		
MEM1 xxxxxxxx	 When pressed, the measurement screen and measurement memory are recalled and set. 		
5	The lower part of menu displays the name of the receive in	terface unit u	sed at that time.
MEM10 xxxxxxx			
TABLE OF UNITS	• When pressed, the TABLE OF UNITS screen is fetched.		
PRINTER TEST	• When pressed, the front-panel built-in printer is tested.		
LAMP TEST	• When pressed ,the front-panel LEDs and electroluminesce	ent (EL) displ	ay are tested.
INITIA- LIZE	• When pressed, the current settings are reinitialized.		
YES	• When pressed, initialization commences.		
NO	• Initialization is aborted.		

Cursor position	Clock setting fields (Year, month, day, hour, minute, and second)	Label	SET TIME
Outline	Menu for setting time		·
unction key label	and explanations:		
° SET	Move the cursor and use the MODIFY keys to set the correct tin accept this setting.	ne and da	ate. Press [F]6 to

3.2 PRESET MEMORIES Screen

Up to 10 sets of interface conditions and measurement conditions can be stored in preset memories. The contents of these 10 memories can also be viewed on this screen.

						aragraph 5.	2.1.
			PRESET M	EMORIES			
	MEM -NO	SEND	RECV	MEAS MODE	RE- CALL	PRESET	TIME
Refer to 🖌 paragraph 3.2.2.	01 02 03 04 05 06 07 08 09 10	X20/X21 X20/X21 X20/X21 X20/X21 2.0MBPL 2.0MBPL 2.0MBPL 2.0MBPL	X20/X21 X20/X21 X20/X21 X20/X21 2.0MBPL 2.0MBPL 2.0MBPL 2.0MBPL	ERROR VOLT/FREQE DELAYTIME WORDTRACE ERROR VOLT/FREQE DELAYTIME WORDTRACE	ОК ОК ОК ОК ОК ОК	90-04-2390-04-2390-04-2390-04-2390-04-2390-04-2390-04-2390-04-2390-04-23	12:53:5712:54:0712:54:1312:54:1812:54:2912:54:3512:54:4012:54:45
						90-04	4-23 12:54:57 PRINT OUT

• If no cursor is displayed \longrightarrow Refer to paragraph 3.2.1.

3.2.1 Print-out								
Cursor position	No cursor displayed	Label	None					
Outline	Printout selection menu							
Function key label and explanations:								
PRINT ° OUT	The current contents of the preset memories are printed.							
3.2.2 Recall/Init	ial							
Cursor position	Memory area No.	Label	MEM - NO					
Outline	Function selection menu for memory area No. indicated by curs	sor						
	and explanation: The memory area No. indicated by the cursor can be recalled ar data exist. The contents of memory area No. indicated by the cursor is init		yed provided that					

3.3 INTERFACE Screen

This screen is used to set the interface send and receive conditions.

• If no cursor is displayed -----> Refer to paragraph 3.3.1.

SD RD	ST	RT	F	SL	SGL	SA	AIS	XA	XL
	-	- INTE	RFA	CE					
S	/R	SA :	t /	AIS :↓					
	INT FAC		COL	DE	FRAME	CLOCK	INT FREQ SOURC	EXT INTEF FACE	P1 }-
SEND	UNI 2.01 BPL		HDE	33	16MFP 30CHAN	INT	SELF		
RECEIVE	UNI 2.0 BPL	M	HDE	33	16MFP 30CHAN				
ERROR		VOLT/ FREQEI				WORD TRACE	9	0-04-23 (MC	12:55:52 DRE) MO1

Note: When setting the signal line and interface items, refer to the appropriate interface unit operation manual.

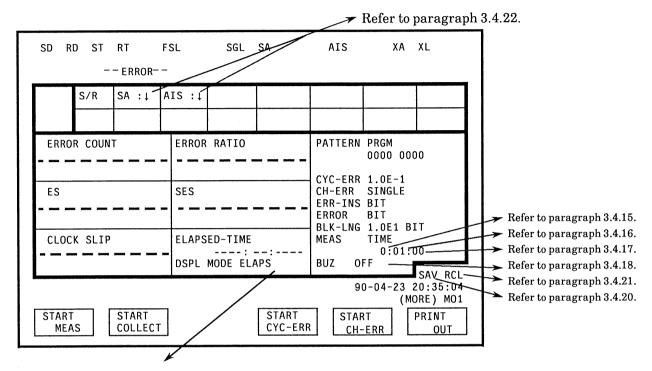
3.3.1 Menu for	function selection		
Cursor position	Cursor not displayed	Label	None
Outline	Function selection menu on INTERFACE screen		
Function key labels	and explanations:		
ERROR °	When pressed, the ERROR screen is fetched. Error measurement is performed via the ERROR screen.		
VOLT/ FREQENCY	When pressed, the VOLT/FREQUENCY screen is fetched. The voltage and frequency of each signal line on the receive s VOLT/ FREQUENCY screen.	side are	measured via the
DELAY TIME	When pressed, the DELAY TIME screen is fetched. The time difference between transitions in the levels of 2 signa delay time can be measured via the DELAY TIME screen.	l lines or	the transmission
WORD ° TRACE	When pressed, the WORD TRACE screen is fetched. The send pattern is set and receive data are traced via the WOR	D TRAC	E screen.
°	When pressed, the screen scrolls to the left (previous page).		
°	When pressed, the screen scrolls to the right (next page).		
PRINT ° OUT °	When pressed, the INTERFACE screen settings are printed.		
Note: When setti: manual.	ng the signal line and interface items, refer to the appropriat	e interfa	ce unit operation

3.4 ERROR screen

Error measurement is performed via the ERROR screen.

• If no cursor is displayed \rightarrow Refer to paragraph 3.4.1.

	SD F	RD ST		FSL	SGL	SA	AIS	XA	XL	
		S/R	-ERROR- SA :↓	- AIS :↓						Refer to paragraph 3.4.3.
Refer to paragraph 3.4.2.	ES		START	SES ELAPS DSPL	RATIO	:	MEAS BUZ O 9 STAF	NO-SUP- AUTO	SAV RCL 20:32:35 IORE) M01 PRINT OUT	Refer to paragraph 3.4.4.
	SD	RD ST _	RT - ERROR-	FSL -	SGL	SA	AIS	XA	XL	
		S/R	SA :↓	AIS :↓						
	E R R	OR COUN	T T		RATIO		PATTERN	PRGM 0000 00	000	Refer to paragraph 3.4.6.
	ES 			SES			CYC-ERR CH-ERR ERR-INS ERROR BLK-LNG	SINGLE		 Refer to paragraph 3.4.8. Refer to paragraph 3.4.9. Refer to paragraph 3.4.10. Refer to paragraph 3.4.11.
	CL0	CK SLIP		_	ED-TIME : MODE EL	:	MEAS BUZ O	BIT	SAV RCL	Refer to paragraph 3.4.12 Refer to paragraph 3.4.13 Refer to paragraph 3.4.14
	STAR ME	T AS				START CYC-ER	STA	()	20:34:36 MORE) MO1 PRINT OUT	



Refer to 3.4.19.

Cursor position	Cursor not displayed	Labe	None				
Outline Function selection menu on ERROR screen							
Function key labe	els and explanations:						
	${f 1}$ This label is displayed while measurement is not in prog						
MEAS ①	When pressed, the results are cleared, measurement sta	rts and the la	bel changes to ②.				
STOP MEAS	② This lebel is displayed during measurement or duri pressed, measurement stops and the label changed to ①.		ment WAIT. When				
START COLLECT	③ When the MD0633A Error Analyze Unit is inserted and this key is pressed, data is collected. When pressed, the label changes to ④.						
STOP COLLECT	④ This label is displayed during data collection. Press the pressed, the label changes to ③.	key to stop d	ata collection; when				
START CYC-ERR 介	(5) When pressed, cyclic error insertion is started at the sp to (6).	ecified rate a	nd the label changes				
STOP CYC-ERR	⑥ When pressed, error insertion is stopped and the label ch	anges to ⑤.					
START CH-ERR	⑦ If the channel error insertion condition is SINGLE which inserted. If the channel error insertion condition is REP, bit error is inserted every second and the label changes to be a second and the second and the label changes to	EAT when th					
STOP CH-ERR	[®] When pressed, error insertion is stopped and the label cl	anges to \bigcirc .					
PRINT OUT	(9) When pressed, all the displayed measurement results is	printed.					
DSPL OF RESULTS	${f }$ When pressed, the DISPLAY OF RESULT screen is disp	layed.					

Function key labels an	unction selection menu on ERROR screen nd explanations:					
COND.OF W	nd explanations:					
	hen pressed, the CONDITION OF PRINT (INTERVAL) scree	en is fetcl	ned.			
COND.OF ⁽¹⁾ W PRINT-P	hen pressed, the CONDITION OF PRINT (PERIOD) screen i	s fetched				
COLLECT H	hen pressed, the CONDITION OF COLLECT screen is fetched. owever, when an MD0633A Error Analyze Unit is not inserted, this label is not splayed.					
ON/OFF W	XX indicates the control signal line name Then the send and receive interfaces are different, this key is Then pressed, ON and OFF are alternately selected.	displaye	d for the send side			
ON/OFF W	XX indicates the control signal line name Then the send and receive interfaces are different, this key is o de. Then pressed, ON and OFF are alternately selected.	lisplayed	for the receive			
XXX [®] X ON/OFF W	XX indicates the control signal line name Then the same send and receive interface is used, this label is Then pressed, ON and OFF are alternately selected.	displayed	d.			

Cursor position	Measurement result item display	Label	None
Outline	Displays measurement item result		
Function key label	s and explanations:		
ERROR ° COUNT	When pressed, the error count result is displayed.		
ERROR ° RATIO	When pressed, the error ratio is displayed.		
BLK-ERR COUNT	When pressed, the block error count is displayed.		
BBE COUNT	When pressed, the number of BBE counts, is displayed.		
BBER °	When pressed, the BBER result is displayed.		
AT °	When pressed, the AT measurement result is displayed.		
×AT	When pressed, the %AT measurement result is displayed.		
BLK-ERR RATIO	When pressed, the block error ratio is displayed.		
US	When pressed, the US measurement result is displayed.		
%US	When pressed, the %US measurement result is displayed.		· ·
SES	When pressed, the SES measurement result is displayed.		
%SES	When pressed, the %SES measurement result is displayed.		

Cursor position	Measurement result item display	Label	None
Outline	Displays measurement result item		
Function key labe	ls and explanations:		
DM	When pressed, the DM measurement result is displayed.		
%DM	When pressed, the %DM measurement result is displayed.		
ES	When pressed, the ES measurement result is displayed.		
%ES	$^\circ$ When pressed, the %ES measurement result is displayed.		
EFS	• When pressed, the EFS measurement result is displayed.		
%EFS	$^\circ$ When pressed, the %EFS measurement result is displayed.		
CLOCK SLIP	• When pressed, the CLOCK SLIP count is displayed.		
SLIP SEC	• When pressed, the SLIP-SEC measurement result is displayed.		
PSL COUNT	• When pressed, the PSL COUNT is displayed.		
xxx(sec)	• When pressed, the xxx (sec) measurement result is displayed. The alarm item (xxx) varies with the interface unit.		

Cursor position	Set send and bit-error-detection patterns	Label	PATTERN
Outline	Sets the send and bit-error-detection patterns		
Function key labe	ls and explanations:		
2↑6-1	When pressed, the 26-1 bit PRBS pattern is set.		
2↑7-1	When pressed, the 2 ⁷ -1 bit PRBS pattern is set.		
2 ↑ 9 - 1	When pressed, the 2 ⁹ -1 bit PRBS pattern is set.		
	When pressed, the 2 ¹¹ -1 bit PRBS pattern is set.		
	When pressed, the 2^{15} -1 bit PRBS pattern is set.		
	When pressed, the 2 ¹⁹ -1 bit PRBS pattern is set.		
	When pressed, the 2^{20} -1 bit PRBS pattern is set.		
[]	When pressed, the 2^{23} -1 bit PRBS pattern is set.		
· ‹	When pressed, the programmable pattern is set.		
	When pressed, the all 0s pattern is set.		
	When pressed, the all 1s pattern is set.		
Z(1)	• When pressed, the 10101010 pattern is set.		

3.4.3 Menu fo	r setting the send and bit-error-detection pattern (cor	ntinued)
Cursor position	Set send and bit-error-detection patterns	Label	PATTERN
Outline	Sets the send and bit-error-detection patterns		
Function key label	s and explanations:		
°	When pressed, the 11101110 pattern is set.		
°	When pressed, the 10001000 pattern is set.		
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	When pressed, the 11111110 pattern is set.		
1:7 °	When pressed, the 10000000 pattern is set.		
3.4.4 Menu for	setting the PRBS pattern		
Cursor position	Set output mode of PRBS send pattern identified in paragraph 3.4.3 and move cursor to lower left of the item	Label	None
Outline	Sets output mode for PRBS patterns		
Function key labe	s and explanations:		
NORMAL	A normal CCITT PRBS pattern is sent.		
° INVERT	An inverted CCITT PRBS pattern is sent.		
N-RVRS °	A reversed normal CCITT PRBS pattern is sent.		
I-RVRS	An inverted reversed CCITT PRBS pattern is sent.		

3.4.5 Menu for	setting the zero suppression for PRBS patterns		· · · · · · · · · · · · · · · · · · ·		
Cursor position	Set zero suppression forPRBS send pattern specified in paragraph 3.4.3 and move cursor to lower right of the item	Label	None		
Outline	Sets zero suppression for PRBS patterns				
Function key labels	and explanations:				
<ul> <li>Zero suppression disabled.</li> <li>NO-SUP</li> </ul>					
• A maximum of 7 consecutive zeros are output. ZERO-7					
• A maximum of 14 consecutive zeros are output. ZERO-14					
3.4.6 Menu for	setting the PROGRAM pattern				
Cursor position	Set programmable (PRGM) pattern specified in paragraph 3.4.3 and moves cursor to the bottom of the item	Label	None		
Outline	Sets programmable pattern				
Function key labels	and explanations:				
°	Sets the bit highlighted by the cursor to 0.				
°	• Sets the bit highlighted by the cursor to 1.				
ALL ° BIT					
• •	The cursor moves to the left.				
→ °	The cursor moves to the right.				

irsor position	Set the PRBS-pattern sync-loss detection conditons	Label	PSL - THR
outline	Sets the PRBS-pattern sync-loss detection conditions		
unction key labe	ls and explanations:		
AUTO	• When pressed, the PRBS-pattern sync-loss detection condition	on is autom	atically set.
10/100	$\circ$ When pressed, the PRBS-pattern sync-loss detection condition	on is set to 1	0/100.
20/100	• When pressed, the PRBS-pattern sync-loss detection condition	on is set to 2	20/100.
25/100	• When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 2	25/100.
100/300	• When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 1	.00/300.
	• When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 1	.00/1000.
	$\circ$ $$ When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 2	200/1000.
	$\circ$ When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 2	250/1000.
	$\circ$ When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 1	000/3000.
	$\circ$ When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 1	000/1E4.
	$\circ$ When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 2	2000/IE4.
	• When pressed, the PRBS-pattern sync-loss detection conditi	on is set to 2	2500/1E4.

3.4.7 Menu for	setting the PRBS-pattern sync-loss detection condition	ons (coi	ntinued)	
Cursor position	Set the PRBS-pattern sync-loss detection conditons	Label	PSL - THR	
Outline	Sets the PRBS-pattern sync-loss detection conditions			
Function key labels	and explanations:			
10000 ° /30000	When pressed, the PRBS-pattern sync-loss detection condition i	is set to 1	.0000/3E4.	
10000 ° /100000	When pressed, the PRBS-pattern sync-loss detection condition i	is set to 1	.0000/1E5.	
20000 ° /100000 °	$\circ$ When pressed, the PRBS-pattern sync-loss detection condition is set to 20000/1E5.			
25000 ° /100000	When pressed, the PRBS-pattern sync-loss detection condition is set to $25000/1  ext{E5}$ .			
100000 ° /300000	When pressed, the PRBS-pattern sync-loss detection condition i	is set to 1	E5/3E5.	

3.4.8 Menu for setting the cyclic-error insertion rate					
Cursor position	Set the cyclic-error insertion rate	Label	CYC - ERR		
Outline	Sets the cyclic-error insertion-rate				
Function key labels	s and explanations:				
°	When pressed, the cyclic-error insertion rate is set to 1.0E-1.				
°	When pressed, the cyclic-error insertion rate is set to 1.0E-2.				
°	When pressed, the cyclic-error insertion rate is set to 1.0E-3.				
°	When pressed, the cyclic-error insertion rate is set to 1.0E-4.				
°	When pressed, the cyclic-error insertion rate is set to 1.0E-5.				
°	When pressed, the cyclic-error insertion rate is set to 1.0E-6.				
L	ror insertion rate can be set from 2.5 $ imes$ 10 ⁻¹ to 1.7 $ imes$ 10 ⁻⁷ via the da	ata MOD	IFY keys.		
3.4.9 Menu for	setting the channel-error insertion conditions				
Cursor position	Set the conditions for inserting channel errors	Label	CH-ERR		
Outline	Sets the channel error insertion conditions				
Function key labels and explanations:					
° SINGLE	• When selected, a single bit error is inserted when the [CH-ERR] key is pressed.				
• REPEAT	When selected, bit errors are inserted once every second from th key is pressed.	e time th	at the [CH-ERR]		

Cursor position	Set the error insertion conditions	Label	ERR - INS	
Outline	Sets the error insertion conditions			
Function key labe	ls and explanations:			
• When pressed, only BIT error insertion is enabled.				
BIT+ CODE • When pressed, both BIT and CODE errors may be inserted depending on the interface unit.				
◎ The availab	e settings depend on the interface unit.			
3.4.11 Menu for setting the error detection items				
5.4.11 Wenut	or setting the error detection items			
Cursor position	Set the error item to be detected	Label	ERROR	
		Label	ERROR	
Cursor position Outline	Set the error item to be detected	Label	ERROR	
Cursor position Outline Function key labe	Set the error item to be detected Sets the error detection items	Label	ERROR	
Cursor position Outline Function key labe	Set the error item to be detected Sets the error detection items s and explanations:	Label	ERROR	
Cursor position Outline Function key labe	Set the error item to be detected Sets the error detection items s and explanations: When pressed, the error detection item is set to BIT. When pressed, the error detection item is set to CODE.	Label	ERROR	
Cursor position Outline Function key labe	Set the error item to be detected Sets the error detection items s and explanations: When pressed, the error detection item is set to BIT. When pressed, the error detection item is set to CODE. When pressed, the error detection item is set to PARITY.	Label	ERROR	

Cursor position	Set the block length	Label	BLK - LNG
Dutline	Sets the block length		
Function key label	s and explanations:		
1.0E1 ° BIT °	When pressed, the block length is set to 1.0E1 BITs.		
1.0E2 ° BIT	When pressed, the block length is set to 1.0E2 BITs.		
1.0E3 ° BIT °	When pressed, the block length is set to 1.0E3 BITs.		
1.0E4 ° BIT °	When pressed, the block length is set to 1.0E4 BITs.		
1.0E5 ° BIT °	When pressed, the block length is set to 1.0E5 BITs.		
1.0E6 ° BIT °	When pressed, the block length is set to 1.0E6 BITs.		
32 ° BIT	When pressed, the block length is set to 32 BITs.		
64 ° BIT	When pressed, the block length is set to 64 BITs.		
128 ° BIT °	When pressed, the block length is set to 128 BITs.		
256 ° BIT °	When pressed, the block length is set to 256 BITs.		
512 ° BIT °	When pressed, the block length is set to 512 BITs.		
1024 ° BIT	When pressed, the block length is set to 1024 BITs.		

3.4.12 Menu fo	or setting the block length used for block error detect	ion (cor	ntinued)
Cursor position	Set the block length	Label	BLK - LNG
Outline	Sets the block length		
Function key label	s and explanations:		
2048 ° BIT	When pressed, the block length is set to 2048 BITs.		
4096 ° BIT	When pressed, the block length is set to 4096 BITs.		
8192 ° BIT	When pressed, the block length is set to 8192 BITs.		
16384 ° BIT	When pressed, the block length is set to 16384 BITs.		
32768 ° BIT	When pressed, the block length is set to 32768 BITs.		
65536 ° BIT	When pressed, the block length is set to 65536 BITs.		

Cursor position	Specify type of measurement	Label	MEAS
Dutliner	Specifies the measurement type		
unction key label	s and explanations:		
MANUAL	When pressed, the measurement type is set to MANUAL.		
	When pressed, the measurement type is set to BIT.		
(	When pressed, the measurement type is set to TIME.		
TIME REPEAT	When pressed, the measurement type is set to REPEAT.		

3.4.14 Menu fo	or setting the bit length		
Cursor position	Specify BIT measurement (para. 3.4.13) and move cursor to the lower of the item	Label	None
Outline	Sets the BIT length		
Function key label	s and explanations:		
100 ° BIT °	When pressed, the BIT length is set to 100 BITs.		
1000 ° BIT	When pressed, the BIT length is set to 1000 BITs.		
2500 ° BIT	When pressed, the BIT length is set to 2500 BITs.		
10000 ° BIT	When pressed, the BIT length is set to 10000 BITs.		
1.0E5 ° BIT	When pressed, the BIT length is set to 1.0E5 BITs.		
1.0E6 ° BIT	When pressed, the BIT length is set to 1.0E6 BITs.		х •
1.0E7 ° BIT	When pressed, the BIT length is set to 1.0E7 BITs.		
1.0E8 ° BIT	When pressed, the BIT length is set to 1.0E8 BITs.		
1.0E9 ° BIT	When pressed, the BIT length is set to 1.0E9 BITs.		

sor position Set MEAS in paragraph 3.4.13 to REPEAT or TIME and move the cursor to the hour portion of the measurement time setting Label None				
ıtline	Sets the number of hours over which the measurement is to be co	onducted	1	
nction key labels	and explanations:			
) ° hour	When pressed, the number of hours over which meaurement is p	erforme	d is set to 0 hours	
l0 ° hour	When pressed, the number of hours over which meaurement hours.	is perfor	med is set to 10	
50 ° hour	When pressed, the number of hours over which meaurement hours.	is perfor	med is set to 50	
l00 ° hour	When pressed, the number of hours over which meaurement is hours.	s perfori	ned is set to 100	
200 ° hour	When pressed, the number of hours over which meaurement is hours.	s perfori	ned is set to 200	
ó00 ° hour	When pressed, the number of hours over which meaurement is hours.	s perfori	ned is set to 500	
	f hours can be set from 0 to 999 via the MODIFY keys.			

Cursor positio	n	Set MEAS in paragraph 3.4.13 to REPEAT or TIME and move the cursor to the minute portion of the measurement time setting	Label	None			
Outline		Sets the number of minutes over which the measurement is to be conducted					
Function key la	abels	s and explanations:					
0 min	<b>)</b> °	When pressed, the number of minutes over which measureme minutes.	ent is per	formed is set to (			
10 min	0	When pressed, the number of minutes over which measurement is performed is set to 10 minutes.					
20 min	0	When pressed, the number of minutes over which measurement is performed is set to 20 minutes.					
30 min	0	When pressed, the number of minutes over which measurement is performed is set to 30 minutes.					
40 min	°	When pressed, the number of minutes over which measurement is performed is set to 40 minutes.					
50 min	0	• When pressed, the number of minutes over which measurement is performed is set to 50 minutes.					

Cursor position	Sets MEAS in paragraph 3.4.13 to REPEAT or TIME and move cursor to the lower of the item	Label	None			
Dutline	Sets the number of seconds over which the measurement is to be	the number of seconds over which the measurement is to be performed				
Function key label	s and explanations:					
0° sec	When pressed, the number of seconds over which measureme seconds.	nt is per	formed is set to (			
10 ° sec	When pressed, the number of seconds over which measurement is performed is set to 10 seconds.					
20 ° sec	When pressed, the number of seconds over which measurement is performed is set to 20 seconds.					
30 ° sec	When pressed, the number of seconds over which measuremen seconds.	nt is perf	formed is set to 30			
40 ° sec	When pressed, the number of seconds over which measurement is performed is set to 40 seconds.					
50 ° sec °	When pressed, the number of seconds over which measurement is performed is set to 50 seconds.					

## 3.4.18 Menu for enabling/disabling the buzzer

Cursor position Set the buzzer Label BUZ					
Outline	ine Turns the buzzer ON/OFF				
Function key labels BUZZER OFF BUZZER ON	When pressed, the buzzer is set to OFF.				

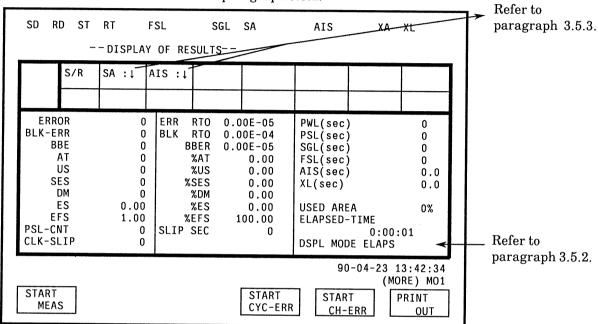
3.4.19 Menu fo	or switching display modes						
Cursor position	Set measurement type in paragraph 3.4.13 to REPEAT and move cursor to the DSPL MODE setting	Label	DSPL MODE				
Outline	Switches the display mode						
Function key labels	and explanations:						
° ELAPS	When pressed, the intermediate measurement results and the time are displayed.	ne elapse	ed meaasurement				
• PERIOD	When REPEAT measurements (para. 3.4.13) are being performer results from each period are displayed with the elapsed measure						

3.4.20 Menu fo	or invoking the SAVE operation					
Cuursor position	Set SAVE	Label	SAV			
Outline	Causes the SAVE operation to be executed					
Function key labels and explanations:         MEM1         XXXXXXXXX         Causes the interface and measurement conditions to be saved to the preset memor         XXXXXXXXX         XXXXXXXXX						
S MEM10 xxxxxxxx	were saved.					
3.4.21 Menu fo	or invoking RECALL operation					
Cursor position	Set RECALL operation	Label	RCL			
Outline	Causes the RECALL operation to be executed	x				
Function key labels	and explanations: Recalls the saved conditions from preset memory and fetche screen. (XXXXXXX) indicates the name of the receive inter conditions have been recalled.					

3.4.22 Menu for setting the value of the signal-line						
Cursor position	Label	Each signal-line				
Outline Sets the value of the signal-line						
Function key labels	and explanations:					
↑ (ON) °	When pressed, the signal-line value is set to ON.					
↓ (OFF) °	When pressed, the signal-line value is set to OFF.					
(THROU) °	When pressed, the signal-line value is set to THROUGH.					
(OPEN) °	When pressed, the signal-line value is set to OPEN.					
© The names a	nd allowable values of the signal-lines depend on the interface un	it.				

## 3.5 DISPLAY OF RESULTS Screen

When this screen is selected, all the measurement results are displayed on a single screen.



• If no cursor is displayed — Refer to paragraph 3.5.1.

3.5.1 Menu fo	function selection	r					
Cursor position Cursor not displayed Label None							
Outline	Function selection menu on DISPLAY OF RESULT screen						
Function key labe	s and explanations:						
START MEAS ①	This label is displayed when measurement is not in progress. W results are cleared, measurement starts and the label changes		key is pressed; the				
U STOP MEAS ②	This label is displayed during measurement or during measure key is pressed, measurement stops and the label changes to $\mathbb O$ .	ment W	AIT. When this				
START COLLECT 3	If the MD0633A Error Analyze Unit is inserted when this key i collected and the label changes to $\textcircled{4}$ .	If the MD0633A Error Analyze Unit is inserted when this key is pressed, data are collected and the label changes to $\textcircled{4}$ .					
STOP COLLECT	This label is displayed during data collection. When this key is pressed, data collection stops and the label changes to $\Im$ .						
START CYC-ERR 5	When this key is pressed, errors are cyclically inserted at the se changes to ⑥.	et rate ar	nd the label				
STOP CYC-ERR 6	When this key is pressed, error insertion is stopped at the label	changes	to (5).				
START CH-ERR	If the channel error insertion condition is SINGLE when this ${f k}$ bit error is inserted.	ey is pre	ssed , only a single				
	If the channel error insertion condition is REPEAT when this key is pressed, bit errors are inserted once every seconds and the label changes to $\circledast$ .						
STOP CH-ERR 8	When this key is pressed, error insertion is stopped and the lab	el chango	es to ⑦.				

3.5.1 Menu for function selection (continued)							
Cursor position	Cursor not displayed	Label	None				
Outline Funtion selection menu on ERROR screen							
Function key labels	and explanations:						
PRINT ° OUT 9	When this key is pressed, all displayed measurement results ar	e printed					
SEND-XXX °	XXX indicates the control signal line name						
ON/OFF D	When the send and receive interfaces are different, this key is d When pressed, ON and OFF are alternately selected.	isplayed	for the send side.				
RECV-XXX D	XXX indicates the control signal line name						
ON/OFF When the send and receive interfaces are different, this key is displayed for the receive side.							
	When pressed, ON and OFF are alternately selected.						
XXX ⁽²⁾	XXX indicates the control signal line name						
ON/OFF	When the send and receive intrfaces are the same, this key is dis	splayed.					
L	When pressed, ON and OFF are alternately selected.	5F)					
3.5.2 Menu for	switching display mode						
Cursor position	Set measurement type in paragraph 3.4.13 to REPEAT and move the cursor to the DSPL MODE setting	Label	DSPL MODE				
Outline Switches the display modes							
Function key labels a	and explanations:						
° ELAPS	Displays the intermediate measurement results and the elapsed	lmeasure	ement time.				
PERIOD °	When the REPEAT measurement mode described in paragraph measurement results from each period are displayed with the ela	3.4.13 is apsed me	being used, the asurement time.				

	Cursor position Set the value of the signal line Lab						
Outline Sets the value of the signal line							
Function key label	s and explanations:						
↑ (ON) °	When pressed, the signal-line value is set to ON.						
↓ (OFF) °	When pressed, the signal-line value is set to OFF.						
(THROU) °	When pressed, the signal-line value is set to THROUGH.						
(OPEN) °	When pressed, the signal-line value is set to OPEN.						
© The names a	nd allowable values of the signal lines vary with each interface v	init.					

## 3.6 CONDITION OF PRINT Screen

Sets the printing conditions.  $\bigcirc$  INTERVAL mode

INTERVAL DATA	CONDITION OF PRINT (INTERVAL)	➤ Refer to paragraph 3.6.2.
	ERROR DATA PRINT NO THRESHOLD 0	<ul> <li>Refer to paragraph 3.6.3.</li> <li>Refer to paragraph 3.6.4.</li> <li>Refer to paragraph 3.6.5.</li> </ul>
ALARM DATA PSL(sec) FSL(sec) XL(sec)	PRINT NO SGL(sec) PRINT NO PRINT NO AIS(sec) PRINT NO PRINT NO	Refer to paragraph 3.6.6.
PERIOD	90-04-23 13:34:43	

- © PERIODIC mode

PERIODIC / TO			RINT (PERIOD)-	-		
ERROR DATA BBER DATA US %US DM %DM EFS %EFS CLK-SLIP	PRINT PRINT PRINT PRINT PRINT PRINT PRINT	NO NO NO NO NO NO	BLOCK DATA AT %AT SES %SES ES %ES PSL COUNT SLIP SEC	PRINT PRINT PRINT PRINT PRINT PRINT	NO NO NO NO NO	
ALARM DATA PWL(sec) SGL(sec) AIS(sec)	PRINT PRINT PRINT	NO NO NO	PSL(sec) FSL(sec) XL(sec)	PRINT PRINT PRINT	NO NO NO	➤ Refer to paragraph 3.6.7.
INTERVAL				90-04-23	13:34:22	

Cursor position	Cursor not displayed	Label	None
Outline	Function selection menu for CONDITION OF PRINT screen	<u> </u>	<b>.</b>
Function key label	s and explanations:		
INTERVAL D		VAL) scr	ren is fetched and
PERIOD 2	When this key is pressed, the CONDTION OF PRINT (PERIOD label ${f 1}$ is displayed.	)) screen	is fetched and
<u></u>			
262 Monufo	e printing error data		
	printing error data Error data print	Label	ERROR DATA PRUNT
Cursor position		Label	ERROR DATA PRIINT
Cursor position Outline	Error data print	Label	
Cursor position Outline Function key label	Error data print Enables/disables error data printing	Label	
Cursor position Outline Function key label PRINT °	Error data print Enables/disables error data printing s and explanations: When pressed, error data are periodically printed.	Label	
Cursor position Outline Function key label PRINT ° YES °	Error data print Enables/disables error data printing s and explanations: When pressed, error data are periodically printed.	Label	

3.6.3 Menu for setting the error printing threshold			
Cursor position	Error printing threshold	Label	THRESHOLD
Outline	Sets the value of the error printing threshold		
Function key labels	and explanations:		
0 ° BIT	When pressed, the error printing threshold is set to 0 BITs.		
10 ° BIT	When pressed, the error printing threshold is set to 10 BITs.		
50 ° BIT	When pressed, the error printing threshold is set to 50 BITs.		
100 ° BIT	When pressed, the error printing threshold is set to 100 BITs.		
200 ° BIT	When pressed, the error printing threshold is set to 200 BITs.		
500 ° BIT	When pressed, the error printing threshold is set to 500 BITs.		
$\bigcirc$ The error thr	eshold can be set from 0 to 999 bits via the MODIFY keys.		

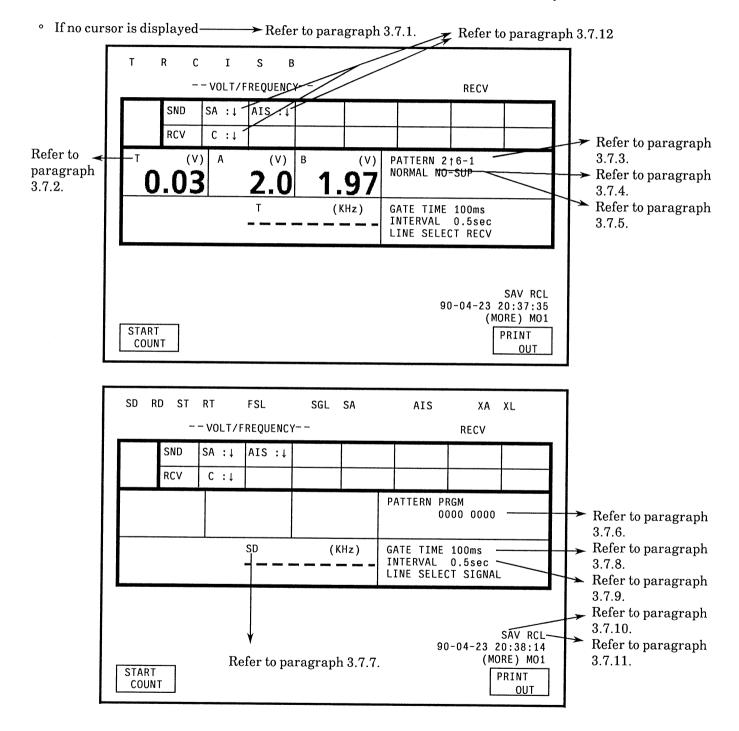
ursor position	Print interval	Label	PRINT INTERVAL
utline	Sets the print interval		
unction key label	s and explanations:		
1 sec °	When pressed, the print interval is set to 1 second.		
10 ° sec	When pressed, the print interval is set to 10 seconds.		
30 ° sec	When pressed, the print interval is set to 30 seconds.		
1 ° min	When pressed, the print interval is set to 1 minute.		
2 ° min	When pressed, the print interval is set to 2 minutes.		
5 ° min	When pressed, the print interval is set to 5 minutes.		
10 ° min	When pressed, the print interval is set to 10 minutes.		

3.6.5 Menu for controlling continuous printing				
Cursor position	Continuous printing control	Label	CONTROL CONTINUOUS PRINT	
Outline	Enables/disalbes continuous printing			
Function key labels	and explanations:			
YES	Enables continuous printing.			
NO	Disables continuous printing.			
$\bigcirc$ In the continu	ious printing mode, only the first 10 consecutive interval print is	perform	ed.	
3.6.6 Menu for printing alarm items				
3.6.6 Menu for	printing alarm items			
<b>3.6.6 Menu for</b> Cursor position	printing alarm items Alarm item	Label	Alarm name PRINT	
		Label		
Cursor position	Alarm item Enables/disables interval printing of alarm data	Label		
Cursor position Outline Function key labels	Alarm item Enables/disables interval printing of alarm data	Label		
Cursor position Outline Function key labels PRINT °	Alarm item Enables/disables interval printing of alarm data and explanations:	Label		
Cursor position Outline Function key labels PRINT ° YES °	Alarm item Enables/disables interval printing of alarm data and explanations: Enables interval printing of alarm data. Disalbes interval printing of alarm data.	Label		
Cursor position Outline Function key labels PRINT ° YES °	Alarm item Enables/disables interval printing of alarm data and explanations: Enables interval printing of alarm data. Disalbes interval printing of alarm data.	Label		

Cursor position	Output item	Label	Output name PRINT
Outline	This screen specifies the items to be output by the pr	rinter during error 1	neasurement
Function key label	s and explanations:		
PRINT YES	Enables printing of each output item.		
PRINT ° NO	Disables printing of each output item.		

## 3.7 Voltage/Frequency Measurement

The voltage and frequency of a receive signal line can be measured via the VOLT/FREQUENCY screen.



3.7.1 Menu for function selection				
Cursor position	Cursor not displayed	Label	None	
Outline	Function selection menu for VOLT/FREQUENCY screen			
Function key label	s and explanations:			
START COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COUNT COU				
STOP COUNT 2	STOP			
PRINT ° OUT	When this key is pressed, the measurement results are printed	out.		
SEND-XXX ON/OFF	XXX indicates the control signal line name When the send and receive interfaces are different, this key is d When pressed, ON and OFF are alternately selected.	lisplayed	for the send side.	
RECV-XXX ON/OFF	XXX indicates the control signal line name When the send and receive interfaces are different, this key is d side. When pressed, ON and OFF are alternately selected.	lisplayed	for the receive	
XXX ON/OFF	XXX indicates the control signal line name When the send and receive interfaces are the same, this key is o When this key is pressed, ON and OFF are alternately selected		l.	

3.7.2 Menu for	3.7.2 Menu for selecting voltage-measurement signal lines			
Cursor position	Select voltage-measurement signal line	Label	None	
Outline	Selects the signal line whose voltage is to be measured			
Function key labels	and explanations:			
×××	Selects the signal line whose voltage is to be measured. xxx changes according to the interface unit.			

Cursor position	Set the send pattern	Label	PATTERN
Outline	Sets the send pattern		
- unction key labe	ls and explanations:		
2↑6-1	When pressed, the 2 ⁶ -1 bit PRBS pattern is set.		
2 ↑ 7-1	When pressed, the $2^7$ -1 bit PRBS pattern is set.		
	When pressed, the $2^9$ -1 bit PRBS pattern is set.		
	When pressed, the 2 ¹¹ -1 bit PRBS pattern is set.		
	$^\circ$ When pressed, the 2 ¹⁵ -1 bit PRBS pattern is set.		
	• When pressed, the 2 ¹⁹ -1 bit PRBS pattern is set.		
	$^\circ$ When pressed, the 2 ²⁰ -1 bit PRBS pattern is set.		
	$^\circ$ When pressed, the 2 ²³ -1 bit PRBS pattern is set.		
	• When pressed, the programmable pattern is set.		
	• When pressed, the ALL 0s pattern is set.		
	• When pressed, the ALL 1s pattern is set.		
Z(1)	• When pressed, the 10101010 pattern is set.		

3.7.3 Menu for setting the send pattern (continued)			
Cursor position	Set the send pattern	Label	PATTERN
Outline	Sets the send pattern		
unction key labels	and explanations:		
° 3:1	When pressed, the 11101110 pattern is set.		
° 1:3	When pressed, the 10001000 pattern is set.		
	When pressed, the 11111110 pattern is set.		
	When pressed, the 10000000 pattern is set.		

3.7.4 Menu for	setting the PRBS pattern		
Cursor position	Set send pattern of paragraph 3.7.3 to PRBS and move the cursor to lower left of the item	Label	None
Outline	Sets the PRBS send pattern		
Function key labels	and explanations:		
• NORMAL	Sends a normal CCITT PRBS pattern.		
• INVERT	Sends an inverted CCITT PRBS pattern.		
• N-RVRS	Sends a reversed-normal CCITT PRBS pattern.		
° I-RVRS	Sends an inverted reversed CCITT PRBS pattern.		
3.7.5 Menu for	setting zero suppression for PRBS patterns		
<b>3.7.5 Menu for</b> Cursor position	setting zero suppression for PRBS patterns Set send pattern of paragraph 3.7.3 to PRBS and move cursor to lower right of the item	Label	None
	Set send pattern of paragraph 3.7.3 to PRBS and move cursor	Label	None
Cursor position	Set send pattern of paragraph 3.7.3 to PRBS and move cursor to lower right of the item Sets zero suppression for PRBS send patterns	Label	None
Cursor position Outline Function key labels	Set send pattern of paragraph 3.7.3 to PRBS and move cursor to lower right of the item Sets zero suppression for PRBS send patterns	Label	None
Cursor position Outline Function key labels NO-SUP	Set send pattern of paragraph 3.7.3 to PRBS and move cursor to lower right of the item Sets zero suppression for PRBS send patterns and explanations:	Label	None
Cursor position Outline Function key labels NO-SUP ZERO-7	Set send pattern of paragraph 3.7.3 to PRBS and move cursor to lower right of the item Sets zero suppression for PRBS send patterns and explanations: When pressed, zero suppression is disabled.	Label	None

3.7.6 Menu for	setting programmable (PROGRAM) patterns		
Cursor positionSet send pattern of paragraph 3.7.3 to PROGRAM and move cursor to lower of the itemLabelNone			
Outline Sets programmable patterns			
Function key labels	and explanations:		
°	When pressed, the bit highlighted by the cursor is set to 0.		
°	When pressed, the bit highlighted by the cursor is set to 1.		
ALL ° BIT	When [ALL BIT] is pressed while [0] or [1] is held, all the bits as	r set to 0	or 1, respectively.
° ← °	When pressed, the cursor moves to the left.		
°	When pressed, the cursor moves to the right.		
l			
3.7.7 Menu for	selecting the signal line whose frequency is to be me	easured	
Cursor position	Select the signal line whose frequency is to be measured	Label	None
Outline	Selects the signal line whose frequency is to be measured		
Function key label	s and explanations:		
° xxx	Selects the signal line whose frequency is to be measured. xxx indicates the name of the signal line and depends on the int	erface un	iit.
EXT INPUT • Selects an external input signal line for frequency measurement.			

3.7.8 Menu for setting the GATE TIME				
Cursor position	Set the GATE TIME	Label	GATE TIME	
Outline	Sets the gate time over which the frequency is measured			
Function key labels	s and explanations:			
° 100 ms	When pressed, the GATE TIME is set to 100 ms.			
° 1 sec	When pressed, the GATE TIME is set to 1 second.			
° 10 sec	When pressed, the GATE TIME is set to 10 seconds.			
MANUAL	When pressed, the GATE TIME is set manually.			
3.7.9 Menu foi	r setting the INTERVAL time			
Cursor position	Set GATE TIME to MANUAL and move the cursor to INTERVAL setting	Label	INTERVAL	
Outline	Sets the interval at which frequency is periodially measured			
Function key label	ls and explanations:			
°	When pressed, INTERVAL is set to 0.5 seconds.			
° 1 sec	When pressed, INTERVAL is set to 1 second.			
5 sec	When pressed, INTERVAL is set to 5 seconds.			
°	INTERVAL is set to MANUAL.			
MANUAL	In MANUAL mode, the end of measurement results are saved upressed.	ntil [CO	UNT START] is	

3.7.10 Menu for invoking the SAVE operation									
Cursor position	Set the SAVE operation	Label	SAV						
Outline	Causes the SAVE operation to be executed								
	Function key labels and explanations:								
<ul> <li>MEM1 XXXXXXXXX</li> <li>S</li> <li>MEM10</li> <li>* When pressed, the interface and measurement conditions etc. are saved in the pressed memories. XXXXXXXX indicates the name of the receive interface unit whose interface conditions are saved.</li> </ul>									
XXXXXXXX									
3.7.11 Menu fo	r invoking the RECALL operation								
Cursor position	Set the RECALL operation	Label	RCL						
Outline	Causes the RECALL operation to be executed								
Function key labels	and explanations:								
xxxxxxxx s	When pressed, the saved conditions are recalled from the pres measurement screen is fetched. XXXXXXXX indicates the nat unit whose interface conditions have been recalled.								
MEM10 xxxxxxxx			× ·						

3.7.12 Menu fo	or setting the value of the signal line		
Cursor position	Set the value of the signal line	Label	Signal line
Outline	Sets the value of the signal line		
Function key labels	and explanations:		
↑ (ON) °	When pressed, the signal-line value is set to ON.		
↓ (OFF) °	When pressed, the signal-line value is set to OFF.		
(THROU) °	When pressed, the signal-line value is set to THROUGH.		
(OPEN) °	When pressed, the signal-line value is set to OPEN.		
© The names ar	nd values of the signal lines depend on the interface unit.		

## 3.8 DELAY TIME Screen

START COUNT

The time differences between transitions of signal lines and transmission delay times can be measured via the DELAY TIME screen.

- XA XL SGL SD RD ST RT FSL SA AIŞ SEND --DELAY TIME SA : AIS SND RCV C :↓ ► Refer to paragraph 3.8.2. LINE INTERVAL Refer to paragraph 3.8.3. (ms) Refer to paragraph 3.8.4. LINE SELECT SEND START SD  $-0 \rightarrow 1$ Refer to paragraph 3.8.5. > STOP  $\rightarrow$  Refer to paragraph 3.8.7. SD <u>1</u>→0 Refer to paragraph 3.8.6. SAV RCL 90-04-24 14:34:32 (MORE) MO1 PRINT START START COUNT REPEAT OUT AIS XA XL SGL SA SD RD ST RT FSL --DELAY TIME--SEND AIS :↓ SND SA :↓ RCV C :↓  $\rightarrow$  Refer to paragraph 3.8.2. TRANSMIT DELAY (ms) INTERVAL 0.5sec -→ Refer to paragraph 3.8.8. → Refer to paragraph 3.8.9. SAV RCL. → Refer to paragraph 3.8.10. 90-04-23 20:40:18 (MORE) M01

PRINT

OUT

Cursor position	Cursor not displayed	Label	None					
Outline	Function selection menu on DELAY TIME screen							
Function key label	s and explanations:							
COUNT START D	When pressed, measurement is started and the label changes	to that sho	own in ②.					
COUNT ° STOP 2	When pressed, measurement stops and the label changes to th	at shown	in ①.					
REPEAT START 3	When pressed, repeat measurement is started and the label changes to that shown in							
REPEAT ° STOP 4	When pressed, repeat measurement is stopped and the label c	hanges to	that shown in ③.					
PRINT ° OUT	When pressed, the measurement results are printed out.							
SEND-XXX °	XXX indicates the control signal line name							
ON/OFF	When the send and receive interfaces are different, this key i When pressed, ON and OFF are alternately selected.	s displayee	l for the send side					
RECV-XXX °	XXX indicates the control signal line name							
ON/OFF	When the send and receive interfaces are different, this key is side.	displayed	for the receive					
	When pressed, ON and OFF are alternately selected.							
XXX	XXX indicates the control signal line name							
ON/OFF	When the send and receive interfaces are the same, this key is	displayed	l					
have not a second s	When pressed, ON and OFF are alternately selected.							

292 Manufar	sotting the delay time measurement items									
3.8.2 Menu for	setting the delay time measurement items									
Cursor position	Set the delay-time measurement items	Label	None							
Outline	utline Sets the delay-time measurement items									
Function key labels and explanations:										
<ul> <li>CONTROL INTERVAL</li> <li>When pressed, the delay-time measurement item is set to LINE INTERVAL. In this mode, the time difference between transitions in signal lines is measured.</li> <li>When pressed, the delay-time measurement item is set to TRANSMIT DELAY. In this mode, after the data is sent, the time until the data returns (transmission delay time) is measured.</li> </ul>										
3.8.3 Menu for	setting a send/receive line as a start/stop trigger									
Cursor position	Select a send/reeive line as a start/stop trigger	Label	LINE SELECT							
Outline	Selects either the send or receive signal line as the start/stop tri	gger								
Function key labels	and explanations:									
° SEND	Selects the send signal line as the start/stop trigger.									
• RECV	Selects the receive signal line as the start/stop trigger.									

Cursor position	Select the signal line to be used as the start-point when measuring the time difference between signal transitions	Label	START
Outline	Selects the signal line to be used as the start-point trigger difference between signal transitions	when m	easuring the time
Function key label	s and explanations:		
×××	Used to select the start-point when measuring the time d transitions. xxx indicates the set signal-line name and varies with the inter		
EXT ° INPUT	Selects an external input signal-line for use as the start trigger.		

3.8.5 Menu for defining the transition to be used as the start trigger in line transition delay measurements

	Specifies the transition in the selected signal line which will be used as the start trigger	Label	START
Outline	Specifies the transition in the selected signal line which will be	used as t	he start trigger

Function key labels and explanations:
$$1 \rightarrow 0$$
•This is displayed when the selected signal line is SD or RD (T or R for X.20/X.21).  
The transition designated as the start trigger for delay time measurements may be set as  
either  $1 \rightarrow 0$  or  $0 \rightarrow 1$ . $H \rightarrow L$ •This is displayed when the selected signal line is an EXT INPUT.  
In this case, the transition designted as the start trigger for delay time measurements  
may be set as either  $H \rightarrow L$  or  $L \rightarrow H$ . $ON \rightarrow OFF$ •This is displayed when the selected signal line is neither of the above.  
In this case, the transition designated as the start trigger for delay time measurements  
may be set as either  $ON \rightarrow OFF$  or  $OFF \rightarrow ON$ .

	identifying the signal line to be used as the stop tri asurements	igger in	line transition							
Cursor position	Select the signal line to be used as the stop trigger in signal line transition measurements									
Outline	tline Selects the signal line to be used as the stop trigger when measuring the time difference between signal transitions									
Function key labels	and explanations:									
° xxx	Selects the signal line to be used as the stop trigger when mean between signal transitions.		ne time difference							
EXT °	xxx indicates the signal-line name and depends on the interface Selects an external input signal line as the stop trigger.	e unit.								
INPUT										
3.8.7 Menu for measurer	defining the trasition to be used as the stop trigger ments	in line t	ransition delay							
Cursor position	Specifies the transition in the selected signal line which will be used as the stop trigger	Label	STOP							
Outline	Specifies the transition in the selected signal line which will be	used as t	the stop trigger							
Function key labels	and explanations:									
$ \boxed{\begin{array}{c} 1 \rightarrow 0 \\ \hline 0 \rightarrow 1 \end{array}} \right\}^{\circ} $	This is displayed when the selected signal line is SD or RD (T or The transition designated as the stop trigger for delay time more either $1 \rightarrow 0$ or $0 \rightarrow 1$ .									
H→L L→H	This is displayed when the selected signal line is an EXT INPU The transition designated as the stop trigger for delay time me either $H \rightarrow L$ or $L \rightarrow H$ .		ents may be set as							
ON→OFF OFF→ON	This is displayed when the selected signal line is neither of the The transition designated as the stop trigger for delay time meither $ON \rightarrow OFF$ or $OFF \rightarrow ON$ .		ents may be set as							

3.8.8 Menu for INTERVAL setting										
Cursor position	SetINTERVAL	Label	INTERVAL							
Outline	Sets the INTERVAL time	ets the INTERVAL time								
© In the TRAN 0.5sec	Γ	until [C	OUNT START] is							

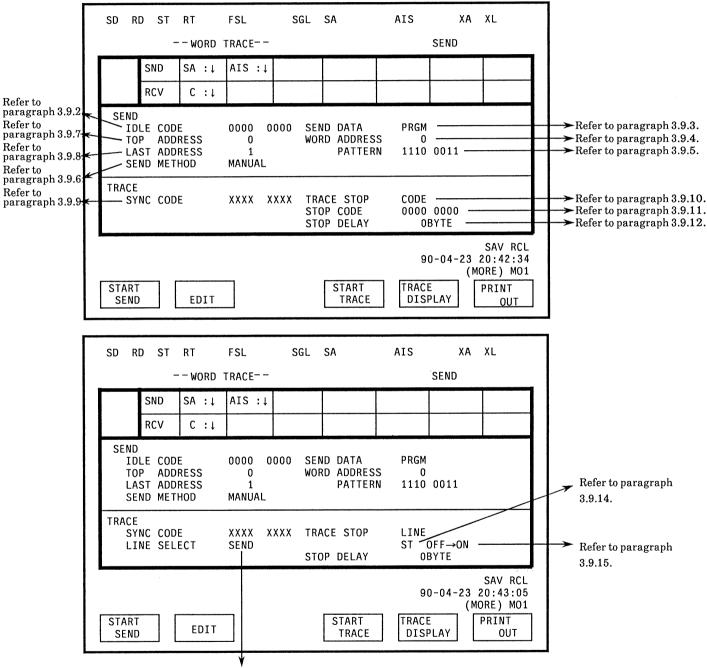
3.8.9 Menu for invoking SAVE operation									
Cursor position	Set the SAVE operation	Label	SAV						
Outline	causes the SAVE operation to be executed								
Function key labels	Function key labels and explanations:								
MEM1 XXXXXXXX \$ MEM10 xXXXXXXX	MEM1 XXXXXXXX source of the receive interface unit whose interface conditions are saved. MEM10								
3.8.10 Menu fo	or invoking the RECALL operation								
Cursor position	Set the RECALL operation	Label	RCL						
Outline	Causes the RECALL operation to be executed								
Function key labels MEM1 XXXXXXXX	and explanations: When pressed, the saved conditions are recalled from the pre- measurement screen is fetched. XXXXXXX indicates the na- unit whose interface conditions have been recalled.								

3.8.11 Menu fo	or setting the value of the signal line		
Cursor position	Set the value of the signal line	Label	Signal line
Outline	Sets the value of the signal line		
Function key labels	and explanations:		
(ON) °	When pressed, the signal-line value is set to ON.		
↓ (OFF) °	When pressed, the signal-line value is set to OFF.		
(THROU) °	When pressed, the signal-line value is set to THROUGH.		
(OPEN) °	When pressed, the signal-line value is set to OPEN.		
© The names ar	nd allowable values of the signal lines vary with each interface ur	nit.	

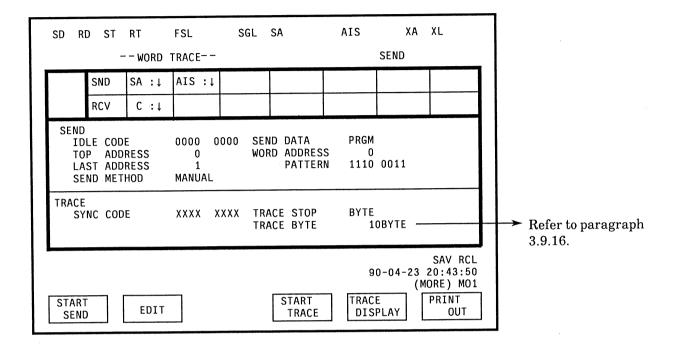
## 3.9 WORD TRACE Screen

Send patterns can be set and receive data can be traced via the WORD TRACE screen.

• If no cursor is displayed  $\rightarrow$  Refer to paragraph 3.9.1.



Refer to paragraph 3.9.13.



							/1	Refer t	o para	graph	. 3.9.: -	20.
SD RI	) ST	RT	FSL	so	GL SA		AIS	ХА	XL			
	-	WORD	TRACE					SEND				
	SND	SA :↓	AIS :1	1								
	RCV	C :↓										
TO LA	LE COD P ADD ST ADD ND MET	RESS RESS	0000 0 1 MANUAL	0000	SEND WORD	DATA ADDRESS PATTERN		0011				
TRACE SY	NC COD	E	XXXX	XXXX	STOP	STOP CODE DELAY	EXTEI L→H 0I					Refer to paragrap 3.9.17.
START SEND		EDIT			[	START TRACE	TRACI		SAV 20:44 MORE) PRINT OU	:14 MO1		Refer to paragrap 3.9.18. Refer to paragrap 3.9.19.

3.9.1 Menu for	r function selection
Cursor position	Cursor not displayed Label None
Outline	Function selection menu for WORD TRACE screen
Function key label	s and explanations:
START SEND D	When pressed, sending of the word pattern is started and the label changes to that shown in $\textcircled{D}$ .
↓ STOP ° SEND ②	When pressed, transmission of the word pattern is stopped and the label changes to that shown in $\textcircled{1}$ .
START TRACE 3	When pressed, the trace is started and the label changes to that shown in $(\Phi)$ .
STOP TRACE	When pressed, the trace is stopped and the label changes to that shown in $\Im$ .
• EDIT	When pressed, the word-pattern setting screen (EDIT PATTERN DATA) is fetched.
TRACE ° DISPLAY	When pressed, the trace display screen is fetched.
PRINT ° OUT	When pressed, the screen settings are printed out.
SEND-XXX °	XXX indicates the control signal line name
ON/OFF	When the send and receive interfaces are different, this key is displayed for the send side. When pressed, ON and OFF are alternately selected.
RECV-XXX °	XXX indicates the control signal line name
ON/OFF	When the send and receive interfaces are different, this key is displayed for the receive side. When pressed, ON and OFF are alternately selected.
XXX °	XXX indicates the control signal line name
ON/OFF	When the send and receive intrfaces are the same, this key is displayed. When pressed, ON and OFF are alternately selected.

3.9.2 Menu for setting the IDLE CODE					
Cursor position	Set the IDLE CODE	Label	IDLE CODE		
Outline	Sets the data which is sent as the idle code				
Function key labels and explanations:          0       • When pressed, the bit highlighted by the cursur is set to 0.         1       • When pressed, the bit highlighted by the cursur is set to 1.         1       • When [ALL BIT] is pressed while [0] or [1] is held, all the bit are set to 0 or 1, respectively         ALL BIT       • When pressed, the cursor moves to the left. <ul> <li>• When pressed, the cursor moves to the right.</li> </ul>					
3.9.3 Menu for	r setting the type of data pattern to be sent				
Cursor position	Set send data pattern type	Label	SEND DATA		
Outline	Sets the type of data pattern to be sent				
FOX	and explanations: A FOX data pattern is sent. A programmable [PRGM] data pattern is sent.				

3.9.4 Menu for setting WORD ADDRESSes				
Cursor position	Set WORD ADDRESS	Label	WORD ADDRESS	
Outline	Itline Sets the buffer address of the pattern data to be sent			
Function key lab	els and explanations:			
MEMORY DUMP	<ul> <li>This key is displayed when the MD0610D WORD MEM uni</li> <li>When pressed, the bit pattern written into the ROM of the</li> </ul>			
	<ul><li>the buffer address.</li><li>When pressed, the buffer address of the pattern data to be s</li></ul>	ent is set to (	).	
0	• When pressed, the buffer address of the pattern data to be s	ent is set to 1	00.	
100				
200	• When pressed, the buffer address of the pattern data to be sent is set to 200.			
300	• When pressed, the buffer address of the pattern data to be sent is set to 300.			
400	• When pressed, the buffer address of the pattern data to be so			
500	• When pressed, the buffer address of the pattern data to be se	ent is set to 5	00.	
600	• When pressed, the buffer address of the pattern data to be se	ent is set to 6	00.	
700	• When pressed, the buffer address of the pattern data to be se	nt is set to 7	00.	
800	When pressed, the buffer address of the pattern data to be sent is set to 800.			
900	• When pressed, the buffer address of the pattern data to be se	nt is set to 9	00.	
1000	When pressed, the buffer address of the pattern data to be se	nt is set to 1	000.	
1000				

3.9.4 Menu for setting WORD ADDRESSes (continued)				
Cursor position	Set WORD ADDRESS	Label	WORD ADDRESS	
Outline	Sets the buffer address of the pattern data to be sent			
Function key label	s and explanations:			
°	When pressed, the buffer address of the pattern data to be sent i	s set to 1	200.	
°	When pressed, the buffer address of the pattern data to be sent i	s set to 1	400.	
°	• When pressed, the buffer address of the pattern data to be sent is set to 1600.			
° 1800	• When pressed, the buffer address of the pattern data to be sent is set to 1800.			
2000 °	When pressed, the buffer address of the pattern data to be sent i	s set to 2.	000.	
3000 °	When pressed, the buffer address of the pattern data to be sent i	s set to 3.	000.	
4000 °	When pressed, the buffer address of the pattern data to be sent i	s set to 4.	000.	
	When pressed, the buffer address of the pattern data to be sent i	s set to 5.	000.	
6000 °	When pressed, the buffer address of the pattern data to be sent i	s set to 6.	000.	
7000	When pressed, the buffer address of the pattern data to be sent i	s set to 7.	000.	
8000	When pressed, the buffer address of the pattern data to be sent i	s set to 8.	000.	
© The buffer add	ress can be set from 0 to 8191 via the MODIFY keys.			

3.9.5 Menu for setting WORD PATTERNs					
Cursor position	Set WORD PATTERNs	Label	WORD PATTERN		
Outline Sets the send pattern					
Outline       Sets the send pattern         Function key labels and explanations:         ENTER       • When pressed, the displayed data are entered and the next ADDRESS WORD is displayed.         0       • The bit highlighted by the cursor is set to 0.         1       • The bit highlighted by the cursor is set to 1.         1       • The bit highlighted by the cursor is set to 1.         ALL BIT       • When [ALL BIT] is pressed while [0] or [1] is held, ALL 0s or ALL 1s, respectively, are set to 1.         →       • When pressed, the cursor moves to the right.					
RECALL 3.9.6 Menu for	setting the SEND METHOD				
Cursor position	Set END METHOD	Label	SEND METHOD		
Outline	Sets the pattern-send ending method	-			
<ul> <li>Function key labels and explanations:</li> <li>• When pressed, the set pattern is repeatedly sent until [SEND STOP] is pressed.</li> <li>• When pressed, the set pattern is sent only once.</li> <li>1 SHOT</li> </ul>					

3.9.7 Menu for setting the TOP ADDRESS					
Cursor position	Set TOP ADDRESS	Label	TOP ADDRESS		
Outline	Outline Sets the top address of the data pattern to be sent				
Function key labels	and explanations:				
°	When pressed, the top address of the data pattern to be sent is se	et to 0 by	tes.		
°	When pressed, the top address of the data pattern to be sent is so	et to 50 b	ytes.		
° 100	$\circ~$ When pressed, the top address of the data pattern to be sent is set to 100 bytes.				
° 200	• When pressed, the top address of the data pattern to be sent is set to 200 bytes.				
° 300 °	$\circ~$ When pressed, the top address of the data pattern to be sent is set to 300 bytes.				
°	• When pressed, the top address of the data pattern to be sent is set to 400 bytes.				
°	• When pressed, the top address of the data pattern to be sent is set to 500 bytes.				
° 600	When pressed, the top address of the data pattern to be sent is se	et to 600 l	bytes.		
°	When pressed, the top address of the data pattern to be sent is se	et to 700	bytes.		
	$\circ$ When pressed, the top address of the data pattern to be sent is set to 800 bytes.				
900 °	When pressed, the top address of the data pattern to be sent is se	et to 900 l	bytes.		
° 1000	When pressed, the top address of the data pattern to be sent is se	et to 1000	) bytes.		
L]					

Cursor position	Set TOP ADDRESS	Label	TOP ADDRESS	
Outline Sets the top address of the data pattern to be sent				
Function key label	s and explanations:			
1200	When pressed, the top address of the data pattern to be sent is s	et to 1200	) bytes.	
1400	When pressed, the top address of the data pattern to be sent is s	et to 140(	) bytes.	
1600	• When presssed, the top address of the data pattern to be sent is set to 1600 bytes.			
1800	• When presssed, the top address of the data pattern to be sent is set to 1800 bytes.			
2000	When presssed, the top address of the data pattern to be sent is	set to 200	00 bytes.	
3000	When presssed, the top address of the data pattern to be sent is	set to 300	00 bytes.	
4000	• When presssed, the top address of the data pattern to be sent is a	set to 400	00 bytes.	
5000	• When presssed, the top address of the data pattern to be sent is a	set to 500	00 bytes.	
6000	• When presssed, the top address of the data pattern to be sent is	set to 600	00 bytes.	
7000	When presssed, the top address of the data pattern to be sent is a	set to 700	00 bytes.	
8000	When presssed, the top address of the data pattern to be sent is a	set to 800	00 bytes.	
9000	When presssed, the top address of the data pattern to be sent is a	set to 900	00 bytes.	

Cursor position	Set TOP ADDRESS	Label	TOP ADDRESS
Outline	Sets the top address of the data pattern to be sent		
Function key label	s and explanations:		
10000	When presssed, the top address of the data pattern to be set	nt is set to 10	000 bytes.
15000	• When presssed, the top address of the data pattern to be se	nt is set to 15	000 bytes.
20000	• When presssed, the top address of the data pattern to be se	nt is set to 20	000 bytes.
25000	• When presssed, the top address of the data pattern to be se	nt is set to 25	000 bytes.
30000	• When presssed, the top address of the data pattern to be se	nt is set to 30	000 bytes.
32766	• When presssed, the top address of the data pattern to be se	nt is set to 32	766 bytes.
◎ The address o	f the data pattern to be sent can be set from 0 to 32766 bytes v	via the MODI	FY keys.

3.9.8 Menu for setting the LAST ADDRESS					
Cursor position	Set LAST ADDRESS	Label	LAST ADDRESS		
Outline	Dutline Sets the last address of the data pattern to be sent				
Function key labels	and explanations:				
۰ 50	When pressed, the last address of the data pattern to be sent is s	set to 50 k	oytes.		
° 100 °	When pressed, the last address of the data pattern to be sent is s	set to 100	bytes.		
° 200	When pressed, the last address of the data pattern to be sent is s	set to 200	bytes.		
° 300 °	• When pressed, the last address of the data pattern to be sent is set to 300 bytes.				
° 400 °	• When pressed, the last address of the data pattern to be sent is set to 400 bytes.				
° 500 °	When pressed, the last address of the data pattern to be sent is s	set to 500	bytes.		
° 600	When pressed, the last address of the data pattern to be sent is s	set to 600	bytes.		
° 700 °	When pressed, the last address of the data pattern to be sent is s	set to 700	bytes.		
° 800 °	When pressed, the last address of the data pattern to be sent is s	set to 800	bytes.		
900 °	When pressed, the last address of the data pattern to be sent is s	set to 900	bytes.		
° 1000	When pressed, the last address of the data pattern to be sent is s	set to 100	0 bytes.		
° 1200	When pressed, the last address of the data pattern to be sent is s	set to 120	0 bytes.		
L					

Cursor position	Set LAST ADDRESS	Label	LAST ADDRESS	
Outline	Itline Sets the last address of the data pattern to be sent			
Function key label	s and explanations:			
1400	When pressed, the last address of the data pattern to be sent is s	et to 140	0 bytes.	
1600	When presssed, the last address of the data pattern to be sent is	set to 16	00 bytes.	
1800	> When presssed, the last address of the data pattern to be sent is	set to 18	00 bytes.	
2000	• When presssed, the last address of the data pattern to be sent is	set to 20	00 bytes.	
3000	• When presssed, the last address of the data pattern to be sent is	set to 30	00 bytes.	
5000	• When presssed, the last address of the data pattern to be sent is	set to 50	00 bytes.	
6000	• When presssed, the last address of the data pattern to be sent is	set to 60	00 bytes.	
7000	• When presssed, the last address of the data pattern to be sent is	set to 70	00 bytes.	
8000	• When presssed, the last address of the data pattern to be sent is	set to 80	00 bytes.	
8191	• When presssed, the last address to be sent is set to 8191 bytes.			
9000	• When presssed, the last address to be sent is set to 9000 bytes.			
10000	• When presssed, the last address to be sent is set to 10000 bytes.			

Cursor position	Set LAST ADDRESS	Label	LAST ADDRESS
Outline	Sets the last address of the data pattern to be sent		
unction key label	s and explanations:		
°	When presssed, the last address to be sent is set to 15000 bytes.		
°	When presssed, the last address to be sent is set to 20000 bytes.		
	When presssed, the last address to be sent is set to 25000 bytes.		
	When presssed, the last address to be sent is set to 30000 bytes.		
	When presssed, the last address to be sent is set to 32766 bytes.		
The address of	the data pattern to be sent can be set from 0 to 32766 bytes via th	e MODIF	'Y keys.

3.9.9 Menu for setting the SYNC CODE					
Cursor position	1	Set SYNC CODE	Label	SYNC CODE	
Outline		Sets the pattern by which tracing is synchronized			
Function key lal	bels	and explanations:			
ALL x	o	When pressed, no sync patter code is set.			
0	0	When pressed, the bit highlighted by the cursor is set to 0.			
	0	When pressed, the bit highlighted by the cursor is set to 1.			
ALL • When [ALL BIT] is pressed while [0] or [1] is held, ALL 0s or ALL 1 BIT				spectively, are set.	
←	o	When pressed, the cursor moves to the left.			
$\rightarrow$	o	When pressed, the cursor moves to the right.			

3.9.10 Menu for setting the TRACE STOP byte					
Cursor position	Set TRACE STOP	Label	TRACE STOP		
Outline Sets the method whereby the trace will be ended					
MANUAL ° CODE ° NOT CODE °	when pressed, the trace is stopped manually by pressing the [T] When pressed, the trace is stopped when the received data mate When pressed, the trace is stopped when the received data differ When pressed, the trace is stopped when the specified signal-lin	hes the S	STOP CODE. he STOP CODE.		
BYTE	When pressed, the trace is stopped when the specified number of When pressed, the trace is stopped when the specified EXT INP				

3.9.11 Menu for setting the STOP CODE											
Cursor position	Set STOP CODE	Label	Label STOP CODE								
Outline	Sets the end-of-trace-bit-pattern trigger code										
Function key labels	and explanations:										
×°	x indicates a Don't care condition. When pressed, x is set for the	specified	l bit.								
°	When pressed, the bit highlighted by cursor is set to 0.										
	When pressed, the bit highlighted by cursor is set to 1.										
	When [ALL BIT] is pressed while [0] or [1] is held, ALL 0s or ALL 1s, respectively, are s When pressed, the cursor moves to the left.										
°	When pressed, the cursor moves to the right.										

ursor position	Set number of STOP DELAY bytes	Label	STOP DELAY					
Dutline	line Sets the number of DELAY bytes to be traced after the TRACE STOP trigger is received							
unction key labe	els and explanations:							
0 BYTE	• When pressed, the number of DELAY bytes is set to 0 bytes.							
50 BYTE	• When pressed, the number of DELAY bytes is set to 50 bytes.							
100 BYTE	• When pressed, the number of DELAY bytes is set to 100 bytes.							
200 BYTE	• When pressed, the number of DELAY bytes is set to 200 bytes.							
300 BYTE	• When pressed, the number of DELAY bytes is set to 300 bytes.							
400 BYTE	• When pressed, the number of DELAY bytes is set to 400 bytes.							
500 BYTE	• When pressed, the number of DELAY bytes is set to 500 bytes.							
600 BYTE	• When pressed, the number of DELAY bytes is set to 600 bytes.							
700 BYTE	• When pressed, the number of DELAY bytes is set to 700 bytes.							
800 BYTE	• When pressed, the number of DELAY bytes is set to 800 bytes.							
900 BYTE	• When pressed, the number of DELAY bytes is set to 900 bytes.							
1000 BYTE	• When pressed, the number of DELAY bytes is set to 1000 bytes.							

3.9.12 Menu f	or setting the number of STOP DELAY bytes (continue	d)								
Cursor position	Set the number of STOP DELAY bytes	Label	STOP DELAY							
Outline	Sets the number of DELAY bytes to be traced after the TRACE STOP trigger is received									
Function key labe	s and explanations:									
<ul> <li>When pressed, the number of DELAY bytes is set to 2000 bytes.</li> <li>BYTE</li> </ul>										
3000 BYTE	When pressed, the number of DELAY bytes is set to 3000 bytes.									
4000 BYTE	When pressed, the number of DELAY bytes is set to 4000 bytes.									
5000 ° BYTE										
6000 G BYTE	When pressed, the number of DELAY bytes is set to 6000 bytes									
7000 BYTE	When pressed, the number of DELAY bytes is set to 7000 bytes									

 $\odot~$  The number of DELAY bytes can be set from 0 to 8000 bytes via the MODIFY keys.

3.9.13 Menu for selecting the send/receive line as the stop trigger									
Cursor position	Select send/receive as stop trigger	Label	LINE SELECT						
Oueline	Used to set either the send or receive signal as the end of trace s	signal							
Function key labels	and explanations:								
° SEND	Sets the send signal as the end of trace trigger.								
• Sets the receive signal as the end of trace trigger.									
3.9.14 Menu for selecting an arbitrary signal line as the end of trace signal									
Cursor position	Set the TRACE STOP as in paragraph 3.9.9 to LINE and move the cursor to lower of the item	Label	None						
Outline Used to identify the signal line to be used as the end of trace signal									
Function key labels	and explanations:								
۰ XXX •	<ul> <li>When pressed, the xxx signal line is selected as the end of trace trigger.</li> <li>The identities of the signal lines xxx change with the interface unit.</li> </ul>								

Cursor position	Set the TRACE STOP as in paragraph 3.9.9 to LINE and move cursor to the lower right of the item	Label	None
Outline	Used to set the edge of the specified signal line to be used as the	stop trig	ger
Function key labels	and explanations:		
$   \begin{bmatrix}     1 \rightarrow 0 \\     0 \rightarrow 1   \end{bmatrix}^{\circ} $	This is displayed when the selected signal line is set to SD or RI The transition designated as the start trigger for delay-time meether $1 \rightarrow 0$ or $0 \rightarrow 1$ .		
ON→OFF OFF→ON	This is displayed when the selected signal line is neither SD or The transition designated as the start trigger for delay-time m either ON→OFF or OFF→ON.		ents may be set as

ł

3.9.16 Menu for setting the number of TRACE BYTEs											
Cursor positior	า	Set the number of TRACE BYTEs	Label	TRACE BYTE							
Outline		Sets the number of bytes to be traced		· · · · · · · · · · · · · · · · · · ·							
Function key la	abels	and explanations:									
10 BYTE											
50 BYTE	• When pressed, the number of bytes to be traced is set to 50 bytes.										
100 BYTE	• When pressed, the number of bytes to be traced is set to 100 bytes.										
200 BYTE	• When pressed, the number of bytes to be traced is set to 200 bytes. E										
300 BYTE	• When pressed, the number of bytes to be traced is set to 300 bytes.										
400 BYTE											
500 BYTE	• When pressed, the number of bytes to be traced is set to 500 bytes.										
600 BYTE	• When pressed, the number of bytes to be traced is set to 600 bytes.										
700 BYTE	o	When pressed, the number of bytes to be traced is set to 700 byte	s.								
800 BYTE	o	When pressed, the number of bytes to be traced is set to 800 byte	s.								
900 BYTE	o	When pressed, the number of bytes to be traced is set to 900 byte	s.								
1000 BYTE	o	When pressed, the number of bytes to be traced is set to 1000 byt	es.								

Cursor position	Set the number of TRACE BYTEs	Label	TRACE BYTE							
Dutline	Sets the number of bytes to be traced									
unction key labe	ls and explanations:									
1200 BYTE	When pressed, the number of bytes to be traced is set to 1200 by	vtes.								
1400 BYTE• When pressed, the number of bytes to be traced is set to 1400 bytes.										
<ul> <li>When pressed, the number of bytes to be traced is set to 1600 bytes.</li> <li>BYTE</li> </ul>										
<ul> <li>When pressed, the number of bytes to be traced is set to 1800 bytes.</li> <li>BYTE</li> </ul>										
2000 BYTE	• When pressed, the number of bytes to be traced is set to 2000 bytes.									
2500 BYTE	• When pressed, the number of bytes to be traced is set to 2500 by	ytes.								
3000 BYTE										
4000 • When pressed, the number of bytes to be traced is set to 4000 bytes. BYTE										
5000 BYTE	• When pressed, the number of bytes to be traced is set to 5000 b	ytes.								
6000 BYTE	• When pressed, the number of bytes to be traced is set to 6000 b	ytes.								
7000 BYTE	• When pressed, the number of bytes to be traced is set to 7000 b	ytes.								
8000 BYTE	$\circ$ When pressed, the number of bytes to be traced is set to 8000 by	ytes.								

Dutline       Sets the number of bytes to be traced         unction key labels and explanations:       9000         BYTE       • When pressed, the number of bytes to be traced is set to 9000 bytes.         10000       • When pressed, the number of bytes to be traced is set to 10000 bytes.         BYTE       • When pressed, the number of bytes to be traced is set to 10000 bytes.         15000       BYTE         0       When pressed, the number of bytes to be traced is set to 15000 bytes.         20000       BYTE         20000       • When pressed, the number of bytes to be traced is set to 20000 bytes.         25000       BYTE         32764       • When pressed, the number of bytes to be traced is set to 32764 bytes.         © The number of bytes to be traced can be set from 0 to 32764 via the MODIFY keys.	Cursor position	Set the number of TRACE BYTEs	Label	TRACE BYTE							
9000 BYTE• When pressed, the number of bytes to be traced is set to 9000 bytes.10000 BYTE• When pressed, the number of bytes to be traced is set to 10000 bytes.15000 BYTE• When pressed, the number of bytes to be traced is set to 15000 bytes.20000 BYTE• When pressed, the number of bytes to be traced is set to 20000 bytes.25000 BYTE• When pressed, the number of bytes to be traced is set to 25000 bytes.32764 BYTE• When pressed, the number of bytes to be traced is set to 32764 bytes.	Dutline	Sets the number of bytes to be traced		·							
BYTE10000 BYTE10000 BYTE15000 BYTE0When pressed, the number of bytes to be traced is set to 15000 bytes.20000 BYTE0When pressed, the number of bytes to be traced is set to 20000 bytes.20000 BYTE0When pressed, the number of bytes to be traced is set to 20000 bytes.25000 BYTE0When pressed, the number of bytes to be traced is set to 25000 bytes.32764 BYTE0When pressed, the number of bytes to be traced is set to 32764 bytes.	Function key labe	s and explanations:									
BYTE15000 BYTE0When pressed, the number of bytes to be traced is set to 15000 bytes.20000 BYTE0When pressed, the number of bytes to be traced is set to 20000 bytes.25000 BYTE0When pressed, the number of bytes to be traced is set to 25000 bytes.32764 BYTE0When pressed, the number of bytes to be traced is set to 32764 bytes.		When pressed, the number of bytes to be traced is set to 9000	bytes.								
BYTE20000 BYTE25000 BYTE25000 BYTE32764 BYTE32764 BYTEWhen pressed, the number of bytes to be traced is set to 32764 bytes.		When pressed, the number of bytes to be traced is set to 1000	0 bytes.								
BYTE         25000         BYTE         32764         BYTE         Owner with the second of t											
BYTE 32764 BYTE O When pressed, the number of bytes to be traced is set to 32764 bytes. BYTE											
BYTE											
$\odot$ The number of bytes to be traced can be set from 0 to 32764 via the MODIFY keys.	1	When pressed, the number of bytes to be traced is set to 3276	54 bytes.								
	© The number	of bytes to be traced can be set from 0 to 32764 via the MODIF	Y keys.								

3.9.17 Menu for setting the EXT INPUT trigger									
Cursor position	Set the EXT INPUT	Label	EXT INPUT						
Outline	Sets the transition in the EXT INPUT which will be used as the	e externa	l trigger						
	s and explanations: When pressed, the $[L \rightarrow H]$ transition is selected as the external	l trigger.							
° H→L	When pressed, the [ $H \rightarrow L$ ] transition is selected as the externa	l trigger							
3.9.18 Menu fo	r invoking the SAVE operation								
Cursor position	Set the SAVE operation	Label	SAV						
Outline	Causes the SAVE operation to be executed								
Function key labels	and explanations:								
MEM1 XXXXXXXX S MEM10 XXXXXXXX	When pressed, the interface and measurement conditions etc memories. XXXXXXX indicates the name of the receive inter conditions are save.	: are sav	ved to the preset t whose interface						

3.9.19 Menu fo	r invoking the RECALL operation								
Cursor position	Set the RECALL operation	Label	RCL						
Outline	Causes the RECALL operation to be executed								
	and explanations: Then pressed, the saved conditions are recalled from the pres leasurement screen is fetched. XXXXXXXX indicates the nam nit whose interface conditions have been recalled.								
3.9.20 Menu fo	3.9.20 Menu for setting the value of the single-line								
Cursor positionSet the value of the signal-lineLabelSignal line									
Outline Sets the value of the signal-line									
Function key labels and explanations:									
↑ (ON) ° ↓ (OFF) °									
(THROU) ° (OPEN) °	When pressed, the signal-line value is set to THROUGH. When pressed, the signal-line value is set to OPEN.								
O The names ar	nd allowable values of the signal line vary with each interface un	it.							

## 3.10 EDIT PATTERN DATA Screen

The EDIT PATTERN DATA screen is used to create and change the send-data word pattern.

• If no cursor	is displayed -		->	Refe	r to	para	graj	ph 3.	10.1	•		
					- ED	IT P	ATTE	RN D	ATA-	-		
	ADDRESS	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	EDIT Refer to paragraph 3.10.2.
	0	E3	88	C5	40	D8	A4	89	83	D2	40	DISPLAY Refer to paragraph 3.10.3.
	10	C2	99	96	A6	D5	40	C6	96	Ε7	40	BYTE Refer to paragraph 3.10.4.
	20	D1	A4	94	97	E2	40	D6	Α5	85	D9	HEX BOUNDARY Refer to paragraph 3.10.5.
	30	40	Ε3	88	C5	40	D3	81	A9	E8	40	8BIT SHIFT Refer to paragraph 3.10.6.
Refer to 🖌	40	C 4	96	C 7	40	F 1	F 2	F 3	40	F 4	F5	Refer to paragraph 3.10.7.
paragraph 3.10.13	50	F6	40	F 7	F8	F9	FO	40	4E	60	5C	WORD MEM SAV RCL Refer to paragraph 3.10.8.
	60	7A	7E	5B	6C	4D	5D	0D	25	FF	FF	COPY TOP 0 BYTE Refer to paragraph 3.10.9.
	70	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	7 BIT Refer to paragraph 3.10.10.
												<pre>Kefer to paragraph 3.10.11.</pre>
	MODIFY DATA	SC	ROLL ↓		SCR	IOLL	] [	SCR	OLL NEXT	] [	SCRO BA	LL PRINT Refer to paragraph

			EDIT PATT	ERN DATA	
	ADDRESS	+0	+1		EDIT ADDRESS
	0	11100011 E3	10001000 88		0 DISPLAY
Refer to paragraph 3.10.14		- 11000101 C5 11011000	$01000000 \\ 40 \\ 10100100$		BIT CODE HEX
		D8 10001001	A4 10000011		BOUNDARY 8BIT
	8	89 11010010	83 01000000		SHIFT INVERT
		D2 11000010 C2	40 10011001 99		REVERSE WORD MEM SAV RCL
		10010110 96	10100110 A6		COPY TOP 0 BYTE
		11010101 D5	01000000 40		7 BIT
	MODIFY DATA	SCROLL ↓	SCROLL	SCROLL S	<more> M01       SCROLL     PRINT       BACK     OUT</more>

Cursor position	Cursor not displayed	Label	None
Outline	Function selection used to scroll through trace data and prin EDIT PATTERN DATA screen	nt measu	rement results in
Function key labe	ls and explanations:		
MODIFY DATA	• When pressed, the cursor is displayed in the data edit area.		
SCROLL ↓	• When pressed, the address is scrolled by 1 line.		
SCROLL ↑	• When pressed, the address is scrolled by 1 line.		
SCROLL NEXT	When pressed, the address is scrolled by 1 page.		
SCROLL BACK	When pressed, the address is scrolled by 1 page.		
PRINT OUT	When pressed, the measurement results are printed out.		
COPY FROM TRC	• When pressed, the trace data are copied in the word pattern data	a area.	

Cursor position	Set EDIT ADDRESS	Label	EDIT ADDRESS
Dutline	Sets the address to be displayed at the top of screen		•••••••••••••••••••••••••••••••••••••••
Function key labe	ls and explanations:		
0	When pressed, address 0 is displayed at the top of screen.		
100	When pressed, address 100 is displayed at the top of screen.		
200	When pressed, address 200 is displayed at the top of screen.		
300	When pressed, address 300 is displayed at the top of screen.		
	When pressed, address 400 is displayed at the top of screen.		
°	When pressed, address 500 is displayed at the top of screen.		
۰ 600 °	When pressed, address 600 is displayed at the top of screen.		
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	When pressed, address 700 is displayed at the top of screen.		
800	When pressed, address 800 is displayed at the top of screen.		
900 °	When pressed, address 900 is displayed at the top of screen.		
°	When pressed, address 1000 is displayed at the top of screen.		
1200 °	When pressed, address 1200 is displayed at the top of screen.		

3.10.2 Menu fo	or setting the EDIT ADDRESS (continued)		
Cursor position	Set EDIT ADDRESS	Label	EDIT ADDRESS
Outline	Sets the address to be displayed at the top of screen		
Function key labels	s and explanations:		
° 1400	When pressed, address 1400 is displayed at the top of screen.		
° 1600	When pressed, address 1600 is displayed at the top of screen.		
° 1800	When pressed, address 1800 is displayed at the top of screen.		
°	When pressed, address 2000 is displayed at the top of screen.		
°	When pressed, address 3000 is displayed at the top of screen.		
°	When pressed, address 5000 is displayed at the top of screen.		
6000 °	When pressed, address 6000 is displayed at the top of screen.		
°	When pressed, address 7000 is displayed at the top of screen.		
8000 °	When pressed, address 8000 is displayed at the top of screen.		
9000 °	When pressed, address 9000 is displayed at the top of screen.		
° 10000	When pressed, address 10000 is displayed at the top of screen.		
° 15000	When pressed, address 15000 is displayed at the top of screen.		

3.10.2 Menu fo	or setting the EDIT ADDRESS (continued)		
Cursor position	Set EDIT ADDRESS	Label	EDIT ADDRESS
Outline	Sets the address to be displayed at the top of screen		
20000 ° 25000 ° 30000 ° 32760 °	When pressed, address 25000 is displayed at the top of screen. When pressed, address 30000 is displayed at the top of screen.	ODIFY k	eys.
3.10.3 Menu fo	or setting the display mode		
Cursor position	Set type of mode to be used when displaying data	Label	DISPLAY
Outline	Sets the type of mode to be used when editing data.		
Function key label	s and explanations: When pressed, display mode is BYTE. When pressed, display mode is BIT.		

Cursor position	Set type of mode to be used when displaying data	Label	CODE
Outline	Sets the type of code to be used when displaying edit data.		
Function key label	s and explanations:		
• HEX	When pressed, trace data are displayed in HEX.		
ASCII	When pressed, trace data are displayed in ASCII.		
EBCDIC °	When pressed, trace data are displayed in EBCDIC.		
ebcdik °	When pressed, trace data are displayed in EBCDIK.		
	When pressed, trace data are displayed in JIS8.		
EBCD	When pressed, trace data are displayed in EBCD.		
	When pressed, trace data are displayed in Baudot.		

Cursor position	Set display boundary	Label	BOUNDARY
Dutline	Sets the bit boundary when displaying edit data.		
unction key labe	ls and explanations:		
4BIT	When pressed, the bit boundary is set in 4-BIT.		
5BIT	When pressed, the bit boundary is set in 5-BIT.		
6BIT	When pressed, the bit boundary is set in 6-BIT.		
, 7BIT	When pressed, the bit boundary is set in 7-BIT.		
	When pressed, the bit boundary is set in 8-BIT.		

Cursor position		3.10.6 EDIT FUNCTION-Menu for indication shift execution			
	Indicate shift execution	Label	SHIFT		
Dutline	Indicates shift processing for the edit data.				
-unction key la	pels and explanations:				
+4	• When pressed, +4 bit shift (4 bit shifts to the left) processing is executed to data for 1 page under displaying.				
+3	• When pressed, +3 bit shift (3 bit shifts to the left) processing is executed to data for 1 page under displaying.				
+2	• When pressed, +2 bit shift (2 bit shifts to the left) processing is executed to data for 1 page under displaying.				
+1	• When pressed, +1 bit shift (1 bit shifts to the left) processing is executed to data for 1 page under displaying.				
-1	• When pressed, -1 bit shift (1 bit shifts to the right) processing is executed to data for 1 page under displaying.				
-2	• When pressed, -2 bit shift (2 bit shifts to the right) processing is executed to data for 1 page under displaying.				
-3	• When pressed, -3 bit shift (3 bit shifts to the right) processing is executed to data for 1 page under displaying.				
-4	• When pressed, -4 bit shift (4 bit shifts to the right) processing is executed to data for 1 page under displaying.				
ALL DATA	• When pressed, shift processing is executed to all the data (327 menu simultaneously with any one of the menus from the " +				

3.10.7 EDIT FU	NCTION-Menu for indicating inverse execution		
Cursor position	Indicate inverse execution	Label	INVERT
Outline	Indicates an inverse processing (1 \Leftrightarrow 0) for the edit data.		
Function key labels	and explanations:		
DISPLAY DATA • When pressed, an inverse processing (bit 0/1 inverse processing) is executed to data for 1 page under displaying. ALL DATA • When pressed, an inverse processing (bit 0/1 inverse processing) is executed to all data (32768 bytes).			
3.10.8 EDIT FU	NCTION-Menu for indicating reverse execution	. <u></u> .	
Cursor position	Indicate reverse execution	Label	REVERSE
Outline	Indicates a reverse execution for the edit data.		
Function key labels	and explanations:		
DISPLAY ° DATA °	When pressed, a reverse processing (processing to reverse the u bits) is executed to data for 1 page under displaying. When pressed, the reverse processing (processing to reverse the		
DATA	bits) is executed to all the data (32768 bytes).		

Cursor position	Indicate saving to word-memory unit	Label	SAV
Dutline	Indicates to save the pattern data to E^2 PROM of the word-mem	ory unit	
Function key labe	els and explanations:		
ROMO	\circ When pressed, the pattern data are saved in ROM 0 of the word-	memory	unit.
ROM1	• When pressed, the pattern data are saved in ROM 1 of the word-	memory	unit.
ROM2	\circ When pressed, the pattern data are saved in ROM 2 of the word-	memory	unit.
ROM3	\circ When pressed, the pattern data are saved in ROM 3 of the word-	memory	unit.
ROM4	• When pressed, the pattern data are saved in ROM 4 of the word-r	memory	unit.
ROM5	When pressed, the pattern data are saved in ROM 5 of the word-r	nemory	unit.
ROM6	When pressed, the pattern data are saved in ROM 6 of the word-r	nemory	unit.
ROM7	When pressed, the pattern data are saved in ROM 7 of the word-r	nemory	unit.

Cursor position	Indicate read out from word-memory unit	Label	RCL
Outline	Indicates to read out the pattern data from ROM of the word-me	emory un	it.
-unction key label	and explanations:		
° ROMO	When pressed, the pattern data is read out from ROM 0 of the w	ord-men	iory unit.
«ROM1	When pressed, the pattern data is read out from ROM 1 of the w	ord-mem	ory unit.
° ROM2	When pressed, the pattern data is read out from ROM 2 of the w	ord-men	ory unit.
° ROM3	When pressed, the pattern data is read out from ROM 3 of the wa	ord-men	ory unit.
° ROM4	When pressed, the pattern data is read out from ROM 4 of the wa	ord-men	ory unit.
° ROM5	When pressed, the pattern data is read out from ROM 5 of the wa	ord-mem	ory unit.
ROM6 °	When pressed, the pattern data is read out from ROM 6 of the w	ord-men	ory unit.
° ROM7	When pressed, the pattern data is read out from ROM 7 of the w	ord-mem	ory unit.

Cursor position	Set the TRACE DATA COPY TOP ADDRESS	Label	СОРҮ ТОР
Dutline	Sets the top address for copying the trace data.		
unction key labe	ls and explanations:		
0	When pressed, the copy top address is set to 0.		
100	When pressed, the copy top address is set to 100.		
200	When pressed, the copy top address is set to 200.		
300	When pressed, the copy top address is set to 300.		
400	When pressed, the copy top address is set to 400.		
500 °	When pressed, the copy top address is set to 500.		
600 °	When pressed, the copy top address is set to 600.		
°700	When pressed, the copy top address is set to 700.		
°800	When pressed, the copy top address is set to 800.		
°	When pressed, the copy top address is set to 1000.		
° 1200	When pressed, the copy top address is set to 1200.		
° 1400	When pressed, the copy top address is set to 1400.		

Cursor position	Set the TRACE DATA COPY TOP ADDRESS	Label	СОРҮ ТОР
Outline	Sets the top address for copying the trace data.		<u></u>
Function key labe	ls and explanations:	·	
1600	• When pressed, the copy top address is set to 1600.		
1800	• When pressed, the copy top address is set to 1800.		
2000	• When pressed, the copy top address is set to 2000.		
3000	• When pressed, the copy top address is set to 3000.		
5000	• When pressed, the copy top address is set to 5000.		
10000	• When pressed, the copy top address is set to 10000.		
15000	• When pressed, the copy top address is set to 15000.		
20000	• When pressed, the copy top address is set to 20000.		
25000	• When pressed, the copy top address is set to 25000.		
30000	• When pressed, the copy top address is set to 30000.		

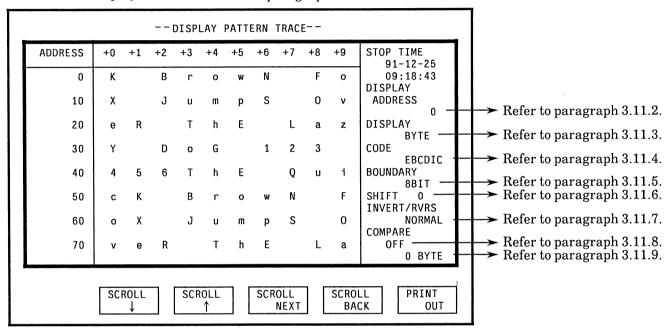
3-96

	- [· · · · · · · · · · · · · · · · · ·	<u> </u>	1
Cursor position	Set the TRACE DATA COPY TOP BIT	Label	СОРҮ ТОР
Outline	Sets the TOP BIT for copying the trace data.		
Function key labe	els and explanations:		
© The COPY	TOP BIT can be set in the range from 0 to 7 using the MC	DDIFY keys.	
3.10.13 Menu	for setting the DISPLAY DATA in BYTE		
Cursor position	Set DISPLAY DATA in BYTE	Label	None
	Set DISPLAY DATA in BYTE Sets the data displayed in the byte display mode.	Label	None
Outline		Label	None
Outline Function key labe	Sets the data displayed in the byte display mode.		
Outline Function key labe	Sets the data displayed in the byte display mode. els and explanations:	. are confirmed fo	or setting.
Outline Function key labe ENTER RECALL	Sets the data displayed in the byte display mode. els and explanations: • When pressed, the data input by the MODIFY keys etc. • When pressed, the data entered previously are read out	. are confirmed fo t and the data are	or setting. e input to data
ENTER RECALL INVERT	 Sets the data displayed in the byte display mode. els and explanations: When pressed, the data input by the MODIFY keys etc. When pressed, the data entered previously are read out where the cursor has been currently positioned. When pressed, the data where the cursor has been curr 	. are confirmed for t and the data are rently positioned a	or setting. e input to data are invertedly

3.10.14 Menu	for setting the DISPLAY DATA in BIT		
Cursor position	Set DISPLAY DATA in BIT	Label	None
Outline	Sets the data displayed in the bit display mode.		
Function key lab	els and explanations:		
ENTER	• When pressed, the data input with the "0" or "1" key are c	onfirmed for	setting.
0	• When pressed, 0 is input in the bit where the cursor is curre	ntly positior	ned.
1	• When pressed, 1 is input in the bit where the cursor is curre	ntly positior	ned.
ALL BIT	• When pressed, 0 or 1 is input in all the data bits of the data f currently positioned using this menu and "0" or "1" key ak		
\rightarrow	• When pressed, the cursor is moved to the left for 1 bit.		
RECALL	• When pressed, the data entered previously are recalled and data field where the cursor is currently positioned.	its data is in	put to the data of
INVERT	• When pressed, the data of data field where the cursor is curr invertedly processed. (0 \Leftrightarrow 1).	ently positio	oned are
REVERSE	• When pressed, the data of data field where the cursor is curr processed (upper bits ⇔ lower bits).	ently positio	oned are reversely
UNDO	• When pressed, the data currently entered are returned to the	e previous d	ata.

3.11 DISPLAY PATTERN TRACE Screen

The WORD TRACE screen is used to display trace data.



• If no cursor is displayed \longrightarrow Refer to paragraph 3.11.1.

Cursor position	Cursor not displayed	Label	None
Outline	Function selection used to scroll through trace data and prin PATTERN TRACE screen		
Function key label	s and explanations:		
SCROLL	When pressed, the address is scrolled by 1 line.		
SCROLL °	When pressed, the address is scrolled by 1 line.		
SCROLL SCROLL	When pressed, the address is scrolled by 1 page.		
	When pressed, the address is scrolled by 1 page.		
PRINT OUT	When pressed, the measurement results are printed out.		

Cursor position	Set DISPLAY ADDRESS	Label	DISPLAY ADDRESS
Outline	Sets the address to be displayed at the top of screen		
Function key lab	els and explanations:		
TRG	• When pressed, the line which contains the trigger code is page (screen).	displayed at th	e bottom of the
STOP	• When pressed, the last line is displayed at the bottom of t	he page (screer	1).
0	• When pressed, address 0 is displayed at the top of screen.		
100	• When pressed, address 100 is displayed at the top of scree	en.	
200	• When pressed, address 200 is displayed at the top of scree	en.	
300	• When pressed, address 300 is displayed at the top of scree	en.	
400	• When pressed, address 400 is displayed at the top of scree	en.	
500	$\circ~$ When pressed, address 500 is displayed at the top of scree	n.	
600	• When pressed, address 600 is displayed at the top of scree	n.	
700	• When pressed, address 700 is displayed at the top of scree	n.	
800	• When pressed, address 800 is displayed at the top of scree	n.	
900	• When pressed, address 900 is displayed at the top of scree	n.	

Cursor position	Set DISPLAY ADDRESS	Label	DISPLAY ADDRESS
Outline	Sets the address to be displayed at the top of screen		
Function key labe	ls and explanations:	<u>.</u>	
1000	When pressed, address 1000 is displayed at the top of screen.		
1200	When pressed, address 1200 is displayed at the top of screen.		
1400	When pressed, address 1400 is displayed at the top of screen.	۰.	
1600	When pressed, address 1600 is displayed at the top of screen.		
1800	When pressed, address 1800 is displayed at the top of screen.		
2000	When pressed, address 2000 is displayed at the top of screen.		
3000	When pressed, address 3000 is displayed at the top of screen.		
5000	When pressed, address 5000 is displayed at the top of screen.		
10000	When pressed, address 10000 is displayed at the top of screen.		
15000	When pressed, address 15000 is displayed at the top of screen.		
	When pressed, address 20000 is displayed at the top of screen.		
	When pressed, address 25000 is displayed at the top of screen.		

3.11.2 Menu fo	r setting the EDIT ADDRESS (continued)		
Cursor position	Set EDIT ADDRESS	Label	EDIT ADDRESS
Outline	Sets the address to be displayed at the top of screen		
Function key labels	and explanations:		
° 30000	When pressed, address 30000 is displayed at the top of screen.		
\bigcirc The address v	whose data is to be displayed can be set from 0 to 32767 via the M	ODIFY k	eys.
3.11.3 Menu fo	r setting the display mode		
Cursor position	Set type of mode to be used for displaying data	Label	DISPLAY
Outline	Sets the type of mode to be used for displaying trace data.		
Function key label			
i uncuon key label	and explanations:		
o	and explanations: When pressed, trace data are displayed in BYTE.		
BYTE			
BYTE °	When pressed, trace data are displayed in BYTE.		
BYTE °	When pressed, trace data are displayed in BYTE.		

Dutline Sets the type of code to be used when displaying trace data. Function key labels and explanations: When pressed, trace data are displayed in HEX. When pressed, trace data are displayed in ASCII. ASCII When pressed, trace data are displayed in EBCDIC. EBCDIC When pressed, trace data are displayed in EBCDIC. EBCDIK When pressed, trace data are displayed in EBCDIK. EBCDIK When pressed, trace data are displayed in JIS8. JIS8 When pressed, trace data are displayed in EBCD. EBCD When pressed, trace data are displayed in EBCD. Baudot When pressed, trace data are displayed in Baudot.	Function key labels and explanations: iunction key labels and explanation key labels and explanations: iunction key labels and explanations: iunction key labels and explanation: iunctiunction key labels and explanation:	Cursor position	Set type of code to be used when displaying data	Label	CODE
HEX• When pressed, trace data are displayed in HEX.ASCII• When pressed, trace data are displayed in ASCII.ASCII• When pressed, trace data are displayed in EBCDIC.EBCDIC• When pressed, trace data are displayed in EBCDIK.EBCDIK• When pressed, trace data are displayed in JIS8.JIS8• When pressed, trace data are displayed in EBCD.EBCD• When pressed, trace data are displayed in EBCD.Output• When pressed, trace data are displayed in EBCD.EBCD• When pressed, trace data are displayed in EBCD.	HEX• When pressed, trace data are displayed in HEX.ASCII• When pressed, trace data are displayed in ASCII.EBCDIC• When pressed, trace data are displayed in EBCDIC.EBCDIK• When pressed, trace data are displayed in EBCDIK.JIS8• When pressed, trace data are displayed in JIS8.EBCD• When pressed, trace data are displayed in EBCDI.EBCD• When pressed, trace data are displayed in Baudot.	Dutline	Sets the type of code to be used when displaying trace data.		
HEX• When pressed, trace data are displayed in ASCII.ASCII• When pressed, trace data are displayed in EBCDIC.EBCDIC• When pressed, trace data are displayed in EBCDIK.EBCDIK• When pressed, trace data are displayed in JIS8.JIS8• When pressed, trace data are displayed in EBCD.EBCD• When pressed, trace data are displayed in EBCD.Output• When pressed, trace data are displayed in EBCD.EBCD• When pressed, trace data are displayed in EBCD.	HEX•ASCII•When pressed, trace data are displayed in ASCII.EBCDIC•When pressed, trace data are displayed in EBCDIC.EBCDIK•When pressed, trace data are displayed in EBCDIK.JIS8•When pressed, trace data are displayed in JIS8.EBCD•When pressed, trace data are displayed in EBCD.EBCD•When pressed, trace data are displayed in EBCD.EBCD•When pressed, trace data are displayed in Baudot.	unction key la	bels and explanations:		
ASCII• When pressed, trace data are displayed in ASCII.EBCDIC• When pressed, trace data are displayed in EBCDIC.EBCDIK• When pressed, trace data are displayed in EBCDIK.JIS8• When pressed, trace data are displayed in JIS8.EBCD• When pressed, trace data are displayed in EBCD.• When pressed, trace data are displayed in EBCD.• When pressed, trace data are displayed in EBCD.• When pressed, trace data are displayed in Baudot.	ASCII• When pressed, trace data are displayed in ASCII.EBCDIC• When pressed, trace data are displayed in EBCDIC.EBCDIK• When pressed, trace data are displayed in EBCDIK.JIS8• When pressed, trace data are displayed in JIS8.EBCD• When pressed, trace data are displayed in EBCD.• When pressed, trace data are displayed in Baudot.	НЕХ	\circ When pressed, trace data are displayed in HEX.		
EBCDIC• When pressed, trace data are displayed in EBCDIC.EBCDIK• When pressed, trace data are displayed in EBCDIK.JIS8• When pressed, trace data are displayed in JIS8.EBCD• When pressed, trace data are displayed in EBCD.• When pressed, trace data are displayed in Baudot.	EBCDIC • When pressed, trace data are displayed in EBCDIC. EBCDIK • When pressed, trace data are displayed in EBCDIK. JIS8 • When pressed, trace data are displayed in JIS8. EBCD • When pressed, trace data are displayed in EBCD. EBCD • When pressed, trace data are displayed in EBCD. • When pressed, trace data are displayed in EBCD. • When pressed, trace data are displayed in EBCD. • When pressed, trace data are displayed in EBCD.		• When pressed, trace data are displayed in ASCII.		
EBCDIK • When pressed, trace data are displayed in EBCDIK. JIS8 • When pressed, trace data are displayed in JIS8. EBCD • When pressed, trace data are displayed in EBCD. EBCD • When pressed, trace data are displayed in EBCD. • When pressed, trace data are displayed in Baudot.	e When pressed, trace data are displayed in EBCDIK. EBCDIK • JIS8 • BECD • When pressed, trace data are displayed in JIS8. EBCD • When pressed, trace data are displayed in EBCD. EBCD • When pressed, trace data are displayed in Baudot.		• When pressed, trace data are displayed in EBCDIC.		
JIS8 • When pressed, trace data are displayed in JIS8. EBCD • When pressed, trace data are displayed in EBCD. • When pressed, trace data are displayed in Baudot.	 When pressed, trace data are displayed in JIS8. When pressed, trace data are displayed in EBCD. When pressed, trace data are displayed in Baudot. 		• When pressed, trace data are displayed in EBCDIK.		
EBCD • When pressed, trace data are displayed in EBCD. • When pressed, trace data are displayed in Baudot.	 When pressed, trace data are displayed in EBCD. EBCD When pressed, trace data are displayed in Baudot. 	EBCDIK	• When pressed, trace data are displayed in JIS8.		
EBCD • When pressed, trace data are displayed in Baudot.	• When pressed, trace data are displayed in Baudot.	JIS8	• When pressed trace data are displayed in EBCD.		
		EBCD			
		Baudot	• When pressed, trace data are displayed in Baudot.		

Cursor position	Set display boundary	Label	BOUNDARY
Dutline	Sets the bit boundary for displaying the trace data.		
-unction key labe	s and explanations:		
4BIT	When pressed, the bit boundary is set in 4BIT.		
5BIT	When pressed, the bit boundary is set in 5BIT.		
6BIT	When pressed, the bit boundary is set in 6BIT.		
	When pressed, the bit boundary is set in 7BIT.		
	When pressed, the bit boundary is set in 8EIT.		

Cursor position	Set number of bits by which displayed data are shifted	Label	SHIFT
Outline	Sets the number of bits and the direction in which the display da	ata are s	hifted
Function key label	s and explanations:		
+3 °	When pressed, the displayed trace data are shifted 3 bits to the l	left.	
+2 °	When pressed, the displayed trace data are shifted 2 bits to the 1	left.	
	When pressed, the displayed trace data are shifted 1 bit to the le	eft.	
	When pressed, the displayed trace data are not shifted.		
	When pressed, the displayed trace data are shifted 1 bit to the r	ight	
	When pressed, the displayed trace data are shifted 2 bits to the	right.	
	When pressed, the displayed trace data are shifted 4 bits to the	left.	
	When pressed, the displayed trace data are shifted 3 bits to the	right.	
-3			

3.11.7 Menu fo	r setting INVERSE/REVERSE		
Cursor position	Set INVERSE/REVERSE	Label	INVERT/RVRS
Outline	Sets whether or not the inverse/reverse processing is existed for	displayi	ing the trace data.
Function key labels NORMAL NORMAL	and explanations: When pressed, both the inverse and reverse processings are not When pressed, the inverse processing is performed. When pressed, the reverse processing is performed. When pressed, both the inverse and reverse processings are per	-	ed.
3.11.8 Menu fc	or setting the existence of comparison processing for	send da	ita
Cursor position	Set the existence of comparison processing for send data	Label	COMPARE
Outline	Sets whether or not comparison processing for the send data is p	erforme	d.
Function key labels ON OFF	and explanations: Comparison processing is performed. Comparison processing is not performed.		

Cursor position	Set TOP ADDRESS for send-data comparison	Label	COMPARE
Dutline	Sets the TOP ADDRESS for comparison processing for the s	send data.	
unction key labe	ls and explanations:		
0	When pressed, 0 is set in the TOP ADDRESS.		
100	When pressed, 100 is set in the TOP ADDRESS.		
200	• When pressed, 200 is set in the TOP ADDRESS.		
300	• When pressed, 300 is set in the TOP ADDRESS.		
400	• When pressed, 400 is set in the TOP ADDRESS.		
500	• When pressed, 500 is set in the TOP ADDRESS.		
600	• When pressed, 600 is set in the TOP ADDRESS.		
700	• When pressed, 700 is set in the TOP ADDRESS.		
	• When pressed, 800 is set in the TOP ADDRESS.		
	• When pressed, 900 is set in the TOP ADDRESS.		
	• When pressed, 1000 is set in the TOP ADDRESS.		
	• When pressed, 1200 is set in the TOP ADDRESS.		

Cursor position	Set TOP ADDRESS for send-data comparison	Label	COMPARE
Dutline	Sets the TOP ADDRESS for comparison processing for th	e send data.	
unction key labe	els and explanations:		
1400	• When pressed, 1400 is set in the TOP ADDRESS.		
1600	• When pressed, 1600 is set in the TOP ADDRESS.		
1800	• When pressed, 1800 is set in the TOP ADDRESS.		
2000	• When pressed, 2000 is set in the TOP ADDRESS.		
3000	• When pressed, 3000 is set in the TOP ADDRESS.		
5000	• When pressed, 5000 is set in the TOP ADDRESS.		
6000	• When pressed, 6000 is set in the TOP ADDRESS.		
7000	• When pressed, 7000 is set in the TOP ADDRESS.		
	• When pressed, 8000 is set in the TOP ADDRESS.		
	• When pressed, 9000 is set in the TOP ADDRESS.		
	• When pressed, 10000 is set in the TOP ADDRESS.		
	• When pressed, 15000 is set in the TOP ADDRESS.		

3.11.9 Menu for setting the TOP ADDRESS for send-data comparison (continued)			
Cursor position	Set TOP ADDRESS for send-data comparison	Label	COMPARE
Outline	Sets the TOP ADDRESS for comparison processing for the send	data.	
Function key label	s and explanations:		
° 20000	When pressed, 20000 is set in the TOP ADDRESS.		
°	When pressed, 25000 is set in the TOP ADDRESS.		
30000 °	When pressed, 30000 is set in the TOP ADDRESS.		

APPENDIX A

ABBREVIATIONS

(Blank)

1.5M BPL	1.544Mb/s Bipolar G. 703 Interface
1 : 1 (m : n)	Repeating pattern of "10" (repeating pattern of m ones (1s) followed by n zeros (0s))
12MFP (G.704)	12 multiframe pattern (G.704)
16MFP 30CHAN	16 multiframe pattern 30 channel
16MFP 31CHAN	16 multiframe pattern 31 channel
2.0M BPL	2.048Mb/s Bipolar G.703 Interface
2 † 6-1 (2 † n-1)	PRBS 2 ⁶ -1 bit pattern (2 ⁿ -1)
24MFP (G.704)	24 multiframe pattern (G.704)
24MFP (NTT)	24 multiframe pattern (NTT)
2MFP 30CHAN	2 multiframe pattern 30 channel
2MFP 31CHAN	2 multiframe pattern 31 channel
A (0)	All zero pattern
AIS	alarm indicator signal
AIS (sec)	AIS (alarm indicator signal) seconds
AMI	Alternate mark inversion
ASYNC	Asynchronous
AT	Available Time
В	Byte timing
B6ZS	Bipolar with six-zero substitution
B8ZS	Bipolar with eight-zero substitution
BBE	Background Bit Error
BBER	Background Bit Error Ratio
BEFORE PWR-OFF	Before power off
BLK RTO	Block error ratio
BLK - ERR	Block Error
BLK - LNG	Block Length
BSL	Byte sync loss

BUZ	Buzzer
BV (NTT)	Bipolar violation (NTT)
BYTE SYNC	Byte synchronization
С	Control
C - ON	C-line ON
CENTRA CLOCK	Centralized clock
CH - ERR	Channel error
CLK - SLIP	Clock slip count
CODIR	Co-directional
COND	Condition
CONTRA - DIR	Contra-directional
CRC	CRC (cyclic redundency check) code
CYC - ERR	Cyclic error
D1 ~ D8	Data 1~8
DL - BIT	Data link Bit
DM	Degraded Minutes
DSPL	Display
DSPL MODE	Display mode
EFS	Error free seconds
ELAPS	elapsed results
ERR RTO	Error ratio
ERR - INS	Error insert
ES	Errored seconds
EXT INPUT	External input
EXT	External
EXT	External clock
	•

EXT INTERFACE	External clock interface
EXT1 8k	External clock 8kHz
EXT2 $64k+8k$	External clock 64kHz+8kHz
F - NG	Frame bit not good
FOX	FOX pattern
FREQ	Frequency
FREQE	Frequency
FSL	Frame sync loss
FSL (sec)	Frame sync loss sesconds
$\mathrm{H}{\rightarrow}\mathrm{L}\left(\mathrm{L}{\rightarrow}\mathrm{H}\right)$	$\operatorname{High} \rightarrow \operatorname{Low} (\operatorname{Low} \rightarrow \operatorname{High})$
HDB3	High density bipolar with three zero substitution
Ι	Indication
I - RVRS	Invert reverse
INT	Internal clock
INT FREQ SOURCE	Internal frequency source
MEAS	Measure / Measurement
$MEM1 \sim MEM10$	Preset Memory No. 1 \sim No. 10
N - RVRS	Normal reverse
No - sup	No suppression
PERIOD	Periodic results
PRBS	Pseudo-random bit sequence
PRGM	Program pattern
PRINT - I	Print (interval)

PRINT - P	Print (periodic)
PSL count	PRBS pattern sync loss count
PSL (sec)	PRBS pattern sync loss seconds
PSL CNT	PRBS pattern sync loss count
PSL - THR	PRBS pattern sync loss threshold
PWL (sec)	Power loss seconds

R	Receive
R - clock	Receive clock
RCL	Recall
RCL	Receive clock loss
RD ·	Receive data
RD 8k	Receive data - 8k
RECV	Receive
RT	Receive timing
S	Signal element timing
S SA	Signal element timing Send alarm
-	
SA	Send alarm
SA SAV	Send alarm Save
SA SAV SD	Send alarm Save Send data
SA SAV SD SES	Send alarm Save Send data Severely Errored Seconds
SA SAV SD SES SFP (G.734 - 1)	Send alarm Save Send data Severely Errored Seconds Short frame pattern (G.734 - 1)

SLIP-SECClock Slip SecondSP BITSpare Bits

STSend timingST / SPStart / stop

Т	Transmit
THROU	Through
TS16 FRAME0. xyxx	Time slot 16 channel frame 0 xyxx pattern
TYPE OF - INT - F	Type of interface
US	Unavailable seconds
XA	X. 50 send alarm
XL	X.50 frame sync loss
XL (sec)	X.50 frame sync loss seconds
Z (1)	all '1s' pattern
ZERO - 14	14 zero - suppression
ZERO - 7	7 zero - suppression

(Blank)