

Automatic Identification System
Model JHS-180

Operation Manual
(Field Maintenance)

JRC *Japan Radio Co., Ltd.*

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1.Field Maintenance Mode

1.1 Turning On the power for Field Maintenance mode

JHS-180 can operate “Field Maintenance Mode” for installation and maintenance.
To operate “Field Maintenance Mode”, JHS-180 needs special operation in turning the power on.
The special operation is;

When turn the power on, pressing and holding [PWR] and [MENU] until starting display
“AIS CONTROLLER NOW LOADING ---” appears.

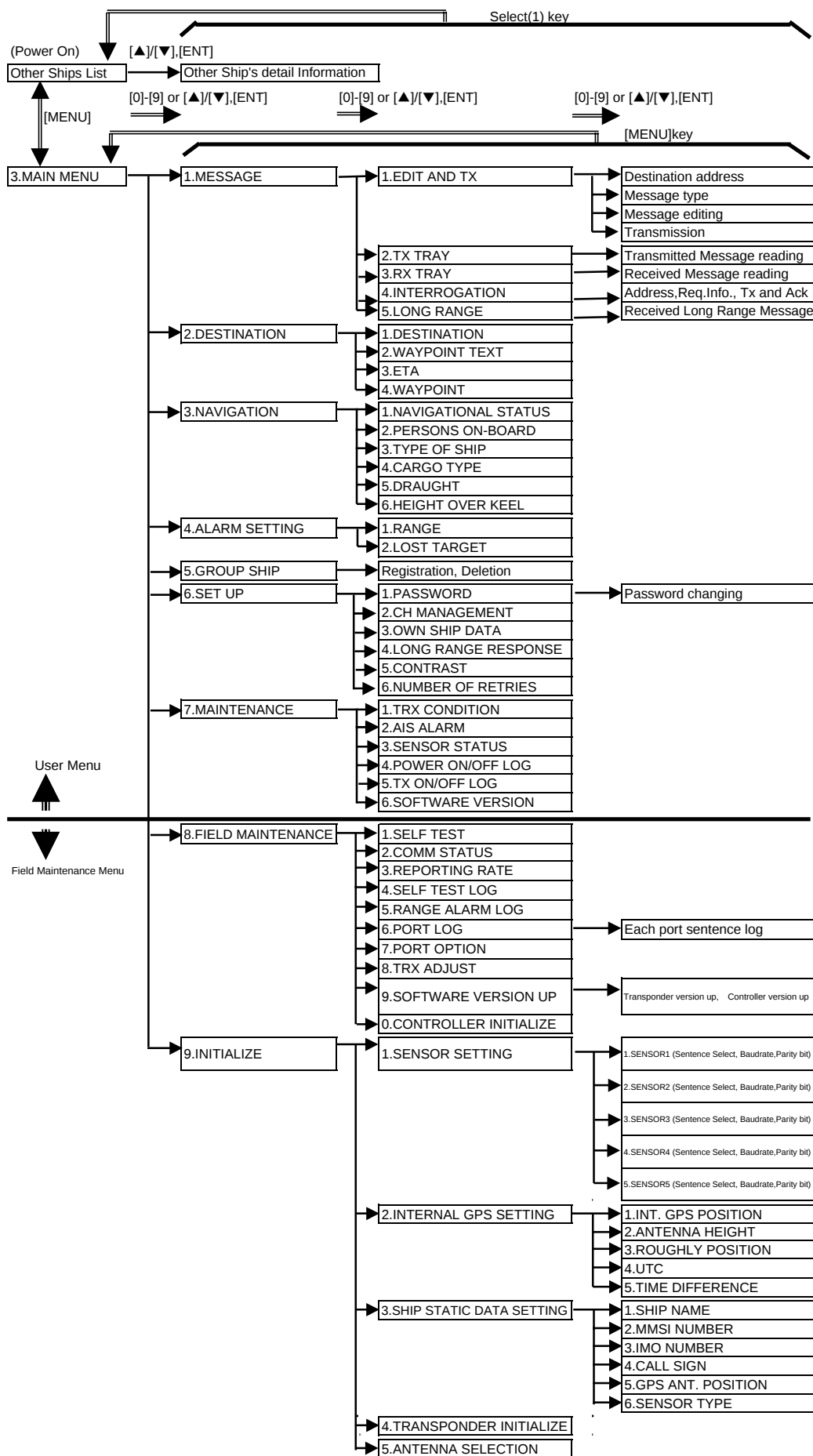
In “Field Maintenance Mode” operation,

- The transponder doesn't operate automatically TDMA transmission.
- Two menu item are added to the “Main Menu”.

MAIN MENU		UTC11:43	
MAINTENANCE MODE		MAINTENANCE MODE	
270° : 0.18NM		TITANIC	
35° : 0.29NM		ELIZABETH2	
22° : 0.92NM		HIKAWAMARU	
1. MESSAGE			
2. DESTINATION			
3. NAVIGATION			
4. ALARM SETTING			
5. GROUP SHIP			
6. SET UP			
7. MAINTENANCE			
8. FIELD MAINTENANCE			
9. INITIALIZE			

“Main Menu” in Field Maintenance Mode operation

1.2 Menu Tree of Field Maintenance mode (Power On:[MENU]+[PWR])



2. FIELD MAINTENANCE

“FIELD MAINTENANCE” menu is displayed by pressing 8 key in the “Main Menu”.

FIELD MAINTENANCE UTC11:43		
BEARING: RANGE		NAME
270° :	0.18NM	TITANIC
35° :	0.29NM	ELIZABETH2
22° :	0.92NM	HIKAWAMARU
1. SELF TEST 2. COMM STATUS 3. REPORTING RATE 4. SELF TEST LOG 5. RANGE ALARM LOG 6. PORT LOG 7. PORT OPTION 8. TRX CHECK ↓ 9. SOFTWARE VERSION UP ↑ 0. INITIALIZE		

Display of “FIELD MAINTENACE”

2.1 SELF TEST

“SELF TEST” menu is displayed by pressing 1 key in the “FIELD MAINTENANCE” menu.

SELF TEST		UTC11:43	
BEARING : RANGE		NAME	
270° : 0.18NM		TITANIC	
35° : 0.29NM		ELIZABETH2	
22° : 0.92NM		HIKAWAMARU	
1. TRANSPONDER		TEST TX	
CONT :OK			
MODEM:OK			
TRX :OK			
NULOCK D000 U000 I000			
LOOP BACK D000 U000 I000			
2. CONTROLLER			
FROM:OK SIO:OK LCD:DONE			

Display of “SELF TEST” (All result is OK)

SELF TEST		UTC11:43	
BEARING: RANGE		NAME	
270° : 0.18NM		TITANIC	
35° : 0.29NM		ELIZABETH2	
22° : 0.92NM		HIKAWAMARU	
1. TRANSPONDER		TEST TX	
CONT :NG FROM SRAM EFROM			
SCA SIO DUC GPS GPS-INFO			
MODEM:NG			
TRX :NG PA TEMP VF VR			
UNLOCK D111 U111 I111			
LOOP BACK D111 U111 I111			
2. CONTROLLER			
FROM:NG SIO:NG LCD:NG			

Display of “SELF TEST” (All result is fault)

SELF TEST		UTC11:43
BEARING: RANGE	NAME	
270° : 0.18NM	TITANIC	
35° : 0.29NM	ELIZABETH2	
22° : 0.92NM	HIKAWAMARU	
1. TRANSPONDER	TEST TX	
CONT : TIMEOUT		
MODEM: TIMEOUT		
TRX : TIMEOUT		
2. CONTROLLER		
TIMEOUT		

Display of “SELF TEST” (Time out)

Indication of failures in NTE-180 AIS Transponder

Control unit	Indication	TRX unit	Indication
CPU(FLASH ROM)	FROM	PA	PA
CPU(SRAM)	SRAM	Temperature	TEMP
Ext. FLASH ROM	EFROM	Forward power	VF
Serial Communication Access	SCA	Reverse power	VR
Serial I/O	SIO		
Digital Up Converter	DUC		
GPS receiver	GPS		
GPS Information	GPS-INFO		

2.2 COMM STATUS

“COMM STATUS” menu is displayed by pressing 2 key in the “FIELD MAINTENANCE” menu.

COMM STATUS		UTC11:43	
BEARING: RANGE		NAME/MMSI	
270° : 0. 18NM		TITANIC	
35° : 0. 29NM		ELIZABETH2	
22° : 0. 92NM		HIKAWAMARU	
RX STATION:		50	
SYNC STATE:		UTC DIRECT	

Display of “COMM STAUS”

2.3 REPORTING RATE

“REPORTING RATE” menu is displayed by pressing 3 key in the “FIELD MAINTENANCE” menu.

REPORTING RATE		UTC11:43
BEARING : RANGE	NAME/MMSI	
270° : 0.18NM	TITANIC	
35° : 0.29NM	ELIZABETH2	
22° : 0.92NM	HIKAWAMARU	

REPORTING RATE :	60
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Display of “REPORTING RATE”

2.4 SELF TEST LOG

“SELF TEST LOG” menu is displayed by pressing 4 key in the “FIELD MAINTENANCE” menu.

SELF TEST LOG		UTC11:43	
BEARING:RANGE		NAME	
270° : 0.18NM		TITANIC	
35° : 0.29NM		ELIZABETH2	
22° : 0.92NM		HIKAWAMARU	
1. 2001/02/02		10:00:59	
TEST TX:OK		OK OK OK OK	
2. 2001/02/02		09:00:59	
COTROLLER:OK		OK OK	
3. 2001/02/02		08:00:59	
TEST2:OK			
4. 2001/02/02		08:00:59	
↓TEST6:OK			

Display of “SELF TEST LOG”

2.5 RANGE ALARM LOG

“RANGE ALARM LOG” menu is displayed by pressing 5 key in the “FIELD MAINTENANCE” menu.

RANGE ALARM LOG		UTC11:43
BEARING: RANGE		NAME
270° : 0.18NM		TITANIC
35° : 0.29NM		ELIZABETH2
22° : 0.92NM		HIKAWAMARU
1. 2001/12/13 10:00:59		
LOST :NIHONMARU		
2. 2001/12/13 09:55:59		
RANGE:123456789		

Display of “RANGE ALARM LOG”

2.6 PORT LOG

“PORT LOG” menu is displayed by pressing 6 key in the “FIELD MAINTENANCE” menu.

PORT LOG		UTC11:43
BEARING : RANGE		NAME
270° : 0.18NM		TITANIC
35° : 0.29NM		ELIZABETH2
22° : 0.92NM		HIKAWAMARU
01. TRANSPONDER		
02. CONTROLLER		
03. SENSOR1		
04. SENSOR2		
05. SENSOR3		
06. SENSOR4		
07. SENSOR5		
↓ 08. DGNSS		
↑ 09. LONG RANGE		
10. AUX1		
11. AUX2		

Display of “PORT LOG”

Details of each port is displayed by pressing from 1 to 1 1 key in the “PORT LOG” menu.

SENSOR1 LOG		UTC11:43
BEARING: RANGE		NAME
270° : 0.18NM	TITANIC	
35° : 0.29NM	ELIZABETH2	
22° : 0.92NM	HIKAWAMARU	
\$——GLL, A, A, x. x, N, ABCD		
\$——RMC, x. x, T, x. x, M, ABCD		

Display of “SENSOR1 LOG”

2.7 PORT OPTION

“PORT OPTION” menu is displayed by pressing 7 key in the “FIELD MAINTENANCE” menu.

PORT OPTION		UTC11:43
BEARING: RANGE	NAME	
270° : 0.18NM	TITANIC	
35° : 0.29NM	ELIZABETH2	
22° : 0.92NM	HIKAWAMARU	
OPTION		START> ○
		END> ○

Display of “PORT OPTION”

2.8 TRX CHECK

“TRX CHECK” menu is displayed by pressing 8 key in the “FIELD MAINTENANCE” menu.

TRX CHECK		UTC11:43
BEARING:RANGE		NAME
270° : 0.18NM		TITANIC
35° : 0.29NM		ELIZABETH2
22° : 0.92NM		HIKAWAMARU
1. RX CHANNEL CHECK		
2. TX POWER CHECK		
3. TX POWER ADJUST		

Display of “TRX CHECK”

“RX CHANNEL CHECK” menu is displayed by pressing 1 key in the “TRX CHECK” menu.

RX CHANNEL CHECK		UTC11:43
BEARING:RANGE		NAME
270° : 0.18NM		TITANIC
35° : 0.29NM		ELIZABETH2
22° : 0.92NM		HIKAWAMARU

1.

CH A:2087 NARROW

2. CH B:2088 WIDE

3. SET

Display of “RX CHANNEL CHECK”

“TX POWER CHECK” menu is displayed by pressing **[2]** key in the “TRX CHECK” menu.

TX POWER CHECK		UTC11:43
BEARING : RANGE	NAME	
270° : 0.18NM	TITANIC	
35° : 0.29NM	ELIZABETH2	
22° : 0.92NM	HIKAWAMARU	
1. CH	2087	
2. BANDWIDTH	NARROW	
3. TX TYPE	DSC (SPACE)	
4. TX POWER	HIGH	
5. INDEX	DEF:123	
	SET:	
6. POWER INDICATOR	12.0W	
	TX ON>	○

Display of “TX POWER CHECK”

“TX POWER ADJUST” menu is displayed by pressing **[3]** key in the “TRX CHECK” menu.

TX POWER ADJUST		UTC11:43
BEARING : RANGE	NAME	
270° : 0.18NM	TITANIC	
35° : 0.29NM	ELIZABETH2	
22° : 0.92NM	HIKAWAMARU	
1. CH	2087	
2. BANDWIDTH	NARROW	
3. TX TYPE	DSC (SPACE)	
4. TX POWER	HIGH	
5. INDEX	DEF:123	WRITE> ○
	SET:123	
6. POWER INDICATOR	12.0W	
	TX ON>	○
7. COPY CH GROUP 1		
↑		
7. COPY CH GROUP 1		
1:156.0250-156.4875MHz		

Display of “TX POWER ADJUST”

2.9 SOFTWARE VER UP

“SOFTWARE VER UP” menu is displayed by pressing 9 key in the “FIELD MAINTENANCE” menu.

SOFTWARE VER UP		UTC11:43
BEARING: RANGE	NAME/MMSI	
270° : 0.18NM	TITANIC	
35° : 0.29NM	ELIZABETH2	
22° : 0.92NM	HIKAWAMARU	
TRANSPONDER		VERSION UP ○
VER 1.00		START
CONTROLLER		VERSION UP ○
VER 1.00		START

Display of “SOFTWARE VER UP”

SOFTWARE VER UP		UTC11:43
BEARING : RANGE	NAME	
270° : 0.18NM	TITANIC	
35° : 0.29NM	ELIZABETH2	
22° : 0.92NM	HIKAWAMARU	
READY FOR		
TRANSPONDER VERSION UP.		
RESTART CONTROLLER		
AFTER VERSION UP.		
PRESS AND HOLD [PWR] + [OFF]		

Display of transponder version up in “SOFTWARE VERSION UP”

SOFTWARE VER UP UTC11:43	
BEARING: RANGE	NAME
270° : 0.18NM	TITANIC
35° : 0.29NM	ELIZABETH2
22° : 0.92NM	HIKAWAMARU
READY FOR CONTROLLER VERSION UP. RESTART CONTROLLER AFTER VERSION UP. PRESS AND HOLD [PWR] + [OFF]	

Display of controller version up in “SOFTWARE VERSION UP”

2.10 STATE INITIALIZE

“STATE INITIALIZE” is displayed by pressing 0 key in the “FIELD MAINTENANCE” menu.

STATE INITIALIZE UTC11:43	
BEARING: RANGE	NAME/MMSI
270° : 0.18NM	TITANIC
35° : 0.29NM	ELIZABETH2
22° : 0.92NM	HIKAWAMARU
CONTROLLER INITIALIZE	
OFF CHANGE>	

Display of “STATE INITIALIZE”(OFF)

STATE INITIALIZE UTC11:43	
BEARING: RANGE	NAME/MMSI
270° : 0.18NM	TITANIC
35° : 0.29NM	ELIZABETH2
22° : 0.92NM	HIKAWAMARU
CONTROLLER INITIALIZE	
ON CHANGE>	

PLEASE RESTART CONTROLLER

Display of “STATE INITIALIZE”(ON)

3. INITIALIZE

“INITIALIZE” menu is displayed by pressing 9 key in the “Main Menu”.

INITIALIZE		UTC11:43
BEARING:RANGE		NAME
270° :	0.18NM	TITANIC
35° :	0.29NM	ELIZABETH2
22° :	0.92NM	HIKAWAMARU
1. SENSOR SETTING 2. INTERNAL GPS SETTING 3. SHIP STATIC DATA SETTING 4. TRANSPONDER INITIALIZE 5. ANTENNA SELECTION		

Display of “INITIALIZE”

3.1 SENSOR SETTING

“SENSOR SETTING” menu is displayed by pressing 1 key in the “INITIALIZE” menu.

SENSOR SETTING		UTC 11:43
BEARING : RANGE		NAME
270° : 0.18NM		TITANIC
35° : 0.29NM		ELIZABETH2
22° : 0.92NM		HIKAWAMARU
1. SENSOR1 2. SENSOR2 3. SENSOR3 4. SENSOR4 5. SENSOR5		

Display of “SENSOR SETTING”

Each sensor filter menu is displayed by pressing from 1 to 5 key in the “SENSOR SETTING” menu.

SENSOR1 SETTING		UTC11:43	
BEARING : RANGE		NAME	
270° : 0.18NM		TITANIC	
35° : 0.29NM		ELIZABETH2	
22° : 0.92NM		HIKAWAMARU	
1. SENTENCE SELECT			
*DTM	*GBS	*GGA	*GLL *GNS
HDG	HDT	OSD	ROT *RMC
RTE	*VBW	*VTG	WPL
PJRC ATT			
2. BAUDRATE		4800BPS	
3. PARITY		NONE	
PLEASE RESTART CONTROLLE			

Display of each sensor filter setting in “SENSOR SETTING”

3.2 INT. GPS SETTING

“INT. GPS SETTING” menu is displayed by pressing 2 key in the “INITIALIZE” menu.

INT. GPS SETTING		UTC11:43
BEARING : RANGE		NAME
270° : 0.18NM		TITANIC
35° : 0.29NM		ELIZABETH2
22° : 0.92NM		HIKAWAMARU
1. INT. GPS BOW100m STR130m POSITION POR 80m STA 20m		
2. ANNTENA HIGHT 10.0m		
3. ROUGHLY N 77° 77.77 ' POSITION E111° 22.33 '		
4. UTC 2000/07/07 11:43		
5. TIME DIFFERENCE 9:00		

Display of “INT. GPS SETTING”

3.3 SHIP STATIC DATA

“SHIP STATIC DATA” menu is displayed by pressing 3 key in the “INITIALIZE” menu.

SHIP STATIC DATA		UTC11:43
BEARING : RANGE		NAME
270° : 0.18NM		TITANIC
35° : 0.29NM		ELIZABETH2
* 22° : 0.92NM		HIKAWAMARU

1.

SHIP NAME
NIHONNMARU

2.

MMSI NUMBER431000001

3.

IMO NUMBER123456789

4.

CALL SIGNJRCSHIP

5.

GPS ANT BOW150mSTR100m
POSITION POR65mSTA50m

6.

SENSOR TYPEGPS

Display of “SHIP STATIC DATA”

3.4 TRANSPONDER INIT

“TRANSPONDER INIT” menu is displayed by pressing 4 key in the “INITIALIZE” menu.

TRANSPONDER INIT UTC11:43	
BEARING: RANGE	NAME
270° : 0.18NM	TITANIC
35° : 0.29NM	ELIZABETH2
22° : 0.92NM	HIKAWAMARU
TRANSPONDER INITIALIZE > ○	

Display of “TRANSPONDER INIT”

3.5 ANTENNA SELECTION

“ANTENNA SELECTION” menu is displayed by pressing 5 key in the “INITIALIZE” menu.

ANTENNA SELECTION UTC11:43	
BEARING: RANGE	NAME
270° : 0.18NM	TITANIC
35° : 0.29NM	ELIZABETH2
22° : 0.92NM	HIKAWAMARU
ANTENNA SELECTION	
EXTERNAL> ○	

Display of “ANTENNA SELECTION”