

DIGITAL VOICE RECEIVER

AR-DV3

取扱説明書

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Introduction

Thank you very much for purchasing the AR-DV3.

Please read this manual carefully before use to ensure safe and comfortable operation.

This document is divided into three parts: "Preparation Before Use," "Function Section," and "Reception Section," with reference page numbers indicated for each item.

Additionally, there is an "Index" at the end of the document, allowing you to quickly search for keywords.

Main Features

Wide frequency range

The frequency range of 100 kHz to 3000 MHz can be received in 10 Hz increments.

For frequencies above 18 MHz, a two-stage superheterodyne method is used to convert the signal to a final intermediate frequency (IF) of 31 MHz for reception. By appropriately switching the first IF, spurious signals are minimized, achieving gapless wideband reception.

Digital Signal Processing

In the full reception frequency band, the received signal is digitized by high-speed sampling at approximately 40 MHz and is decoded using a digital signal processor (DSP).

High Precision Reference Frequency

The internal reference oscillator of the receiver is a temperature-compensated type with a frequency of 10 MHz and an accuracy of ± 1 ppm, ensuring stable reception.

Supports analog all modes

Supports CW / SSB / AM / SAM / FM. In each mode, the IF bandwidth can be set.

デジタル無線を復調できるデジタルモードを搭載

Equipped with a digital mode of Demodulating digital radio. Supports various digital methods such as amateur radio, digital simple radio, and business radio including DMR / XDN / TETRA. It features a digital auto^{※1} that automatically identifies digital radio.

※1 TETRA (T-TC, T-DM) is not supported

USB-PD compatible

The external power supply can use a power source that complies with the USB PD standard (15V) in addition to the included AC adapter. (This does not guarantee compatibility with all USB PD products.)

SD card compatible

You can record received audio and save memory data.

Included items confirmation

AR-DV3 main unit	1
AC adapter	1
Rod antenna	1
Instruction manual	1
Guarantee Certificate	1

If there are any defects, please promptly report them to the retailer where you purchased the item.

Please read this before use for safety precautions.

To use this device safely, please be sure to read the following information.

This contains important information to prevent harm to users and those around them, as well as damage to property, ensuring safe and correct use.

Before use, please fully understand these precautions and adhere to the instructions provided.

About pictograms



Danger This indicates content where improper handling may result in imminent risk of death or serious injury.

Warning This indicates content where improper handling may result in a potential risk of death or serious injury.

Caution This indicates content where improper handling may result in the possibility of injury and only material damage is anticipated.

About symbols

	This is a notification that it is a prohibited act.		This is a directive to unplug the power plug.
	This is a general instruction indicating a certain behavior.		This is a notification that disassembly is prohibited.
	This is a notification that usage in water areas is prohibited.		

Regarding the received content.

According to Article 59 of the Radio Law, "It is prohibited to intercept radio communications conducted with a specific counterpart and to disclose their existence or content, or to use them for unauthorized purposes."

This is an important provision to protect the secrecy of communications.

It is prohibited by law for customers to disclose the content or existence of the communications they have received to third parties or to take any action based on that information.

When using this device, please ensure that you fully understand these laws and regulations and use it within appropriate limits.

Please read this before use for safety precautions.

Danger

	Please do not modify or disassemble. It may cause overheating, fire, or damage.
	Please turn off the power in prohibited areas such as on aircraft. It may affect electronic devices and medical equipment.
	Please do not use in areas where there is a risk of fire or explosion. Using it in places where flammable gases may be present can cause ignition.
	When installing in vehicles, do not place it near airbag devices or in locations that may interfere with driving. This may lead to unexpected accidents or injuries.

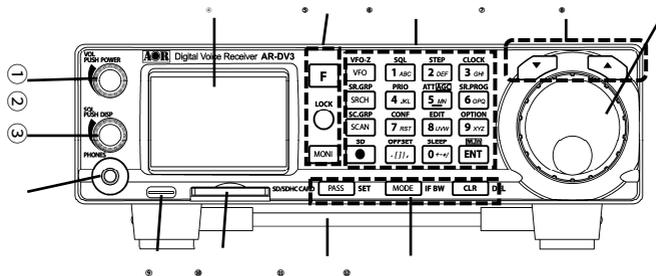
Warning

	If there are any abnormalities such as smoke or strange odors, immediately unplug the power and contact our service department or retailer.
	Please do not use in areas where water may splash. It may cause malfunction.
	Please set the volume appropriately. During operation, surrounding sounds may become difficult to hear, leading to unexpected accidents. Additionally, using headphones may cause hearing impairment.

Attention

	Please keep it out of reach of small children. It may cause injuries.
	Please do not place this device in damp or dusty areas. It may cause fire or malfunction.
	Please do not place this device in direct sunlight or near heating appliances. It may cause deformation or malfunction.
	Please do not wipe this device with thinner or gasoline. It may cause deterioration or peeling of the paint. If it gets dirty, please wipe it with a dry, soft cloth.

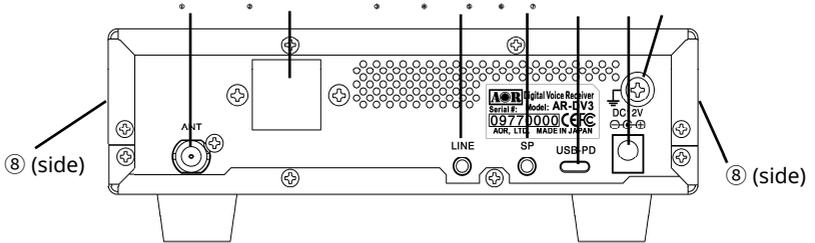
Front part



①	[VOL][POWER] Knob	Press: Power ON, Long press: Power OFF, Rotate: Volume adjustment □ P15, 19
②	SQL/MONI	Rotate: Squelch level adjustment, RFGAIN (AGC OFF) adjustment □ P20, 29 Press: Display current volume and squelch level Long press: Switch squelch operation (VSQ/LSQ/AUTO) □ P20
③	PHONES (φ3.5 Stereo)	Used when using earphones. □ P12 The stereo jack outputs sound from both left and right.
④	Display	Indicates the operating status of the device. □ P8 You can change the display color and brightness. □ P18
⑤	[F] Key	Used when utilizing the functions indicated on the top of each key. Pressing [F] first will activate function mode. Example of operating ATT = [F] [5] in that order AGC = [F] [5] by long pressing [5]
	[LOCK] Key	Disables operations other than volume and squelch. □ P15
	[MONI] Key	While pressed, it releases the squelch and monitors the audio.
⑥	[Numeric Keypad]& Function Key ①	Used for inputting various functions and frequencies. Press [F] first for the functions listed on the upper row of each key.
		[VFO]VFO Mode [●] Record Key
		[SRCH]Search Mode [ENT] MHz or Entry
		[SCAN]Scan Mode
⑦	[UP/DOWN] key	Used for cursor movement within each menu and for changing frequencies.
⑧	[Dial]	Turning: Used for changing frequencies and various settings, changing memory channels, advancing the search/scan direction, and making selections within each menu. Pressing: Setting the digital mode
⑨	USB terminal	Command control, digital audio output, 12kHz offset IF output □ P13
⑩	SD CARD slot	Insert a standard size SDHC card. You can save audio data and memory data, etc. □ P37~P41
⑪	Stand	Used to adjust the angle of the main unit.
⑫	Function Key ②	[PASS]Pass Key [MODE] Mode Key [CLR]Clear Key (Cancel operation)

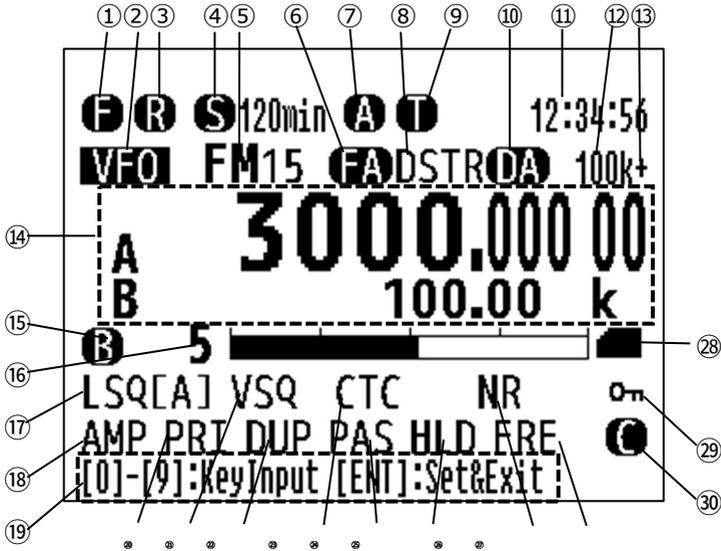
Names of each part

Back Panel



①	ANT	Antenna Terminal BNC Connector 50Ω □ P11
②	Optional Terminal	IF Signal Output Terminal BNC Connector 50Ω □ P14
		Digital IQ Data Output Terminal USB TypeC □ P14
③	LINE	Line Output Terminal □ P13
④	SP	Audio output terminal for external speakers ϕ 3.5mm stereo mini jack Mono output □ P12
⑤	USB PD	Power input terminal USB PD 15V compatible □ P10
⑥	DC12V	Power input terminal DC12V ϕ 5.5-2.1 □ P10
⑦	Ground terminal (M4)	Please connect the ground wire to prevent electric shock accidents and radio interference.
⑧	Mounting screw hole (side)	M4×maximum 10mm

Display

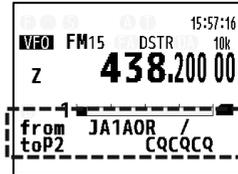
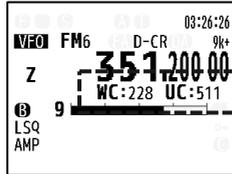


①	Function Mode	☐ P6
②	Receiving Mode Display	☐ P49
③	ⓇRecording, ⓅPlaying	☐ P38
④	Remaining time for sleep timer	☐ P45
⑤	Recovery mode, IF bandwidth	☐ P23
⑥	FA Auto Mode	☐ P22
⑦	Alarm	☐ P42
⑧	Digital Recovery Mode	☐ P23
⑨	Timer Recording	☐ P44
⑩	DA Digital Auto	☐ P22
⑪	Time Display	☐ P16
⑫	Step Frequency	☐ P24
⑬	Step Adjust	☐ P25
⑭	Receiving Frequency Indication, Title	☐ P50
⑮	Busy/Squelch Release	☐ P20
⑯	S-Meter Signal Strength Display -	-

⑰	Schlurch NSQ, LSQ, AUTO	☐ P20
⑱	Attenuator, Amplifier	☐ P28
⑲	Operation Navigation	-
⑳	Priority	☐ P32
㉑	Voice squelch	☐ P30
㉒	DUP Offset Reception	☐ P33
㉓	CTC, DCS, VI, RTN (during FM)	☐ P30
	AGC (AM, SSB, CW)	☐ P29
㉔	Pass Frequency	☐ P34, 35
㉕	DELAY HOLD	☐ P53, 57, 67
㉖	Noise Reduction	☐ P27
㉗	Free Search	☐ P57
㉘	SD Card	☐ P37
㉙	Key Lock	☐ P15
㉚	Remote State	☐ P13

Digital Radio Information Display

Code, Slot Display

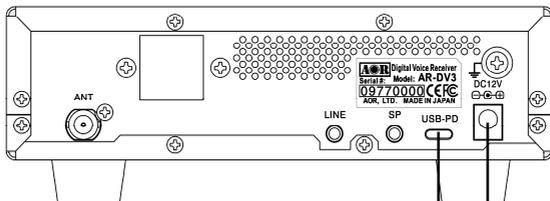


Display	Digital Mode	Content
WC UC	DCR/NXDN	<ul style="list-style-type: none"> • Whitening Code 3 digits • User Code 3 digits
RAN	NXDN	<ul style="list-style-type: none"> • Radio Access Number 2 digits
COL SLOT	DMR	<ul style="list-style-type: none"> • Color Code 2 digits • Slot Number
NAC	P25	<ul style="list-style-type: none"> • Network Access Code 3 digits
SLOT	T-TC	<ul style="list-style-type: none"> • TETRA Slot Number 1~4
CAL RPT	D-STAR	<ul style="list-style-type: none"> • Call Sign • Repeater / DIRECT (Direct Communication) <p>💡 You can set the display/hide option in the "DIG, DECODE" menu. 📖 P27</p>

Preparation Before Use

Basic Connection

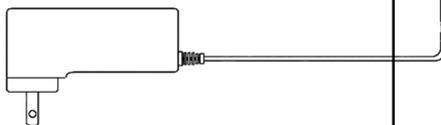
Connection of AC Adapter



Connection of the included AC adapter

(The shape of the AC adapter may change)

Power Rating ☒☒ P69



Use a commercially available USB PD power supply

This device supports the USB PD specification.

■ USB PD DC15V 30W or higher



Connect to a household outlet (AC100V 50/60Hz)

If the included AC adapter and USB PD power supply are connected simultaneously, the higher voltage will be used as the power source.

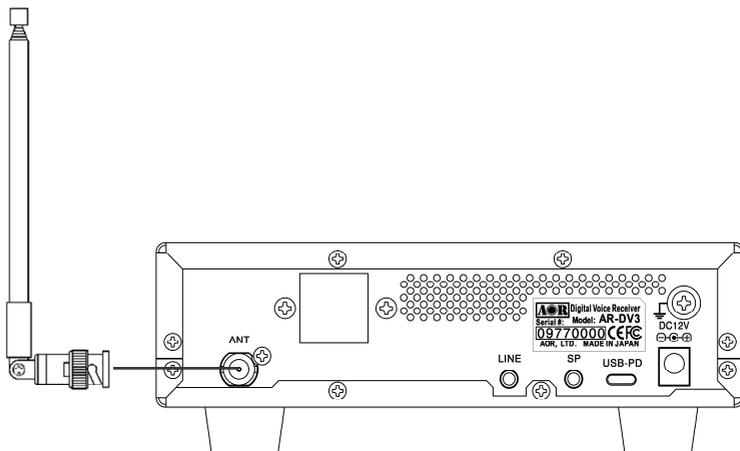
- 💡 If not using for an extended period, please unplug the AC adapter from the outlet.
- 💡 When using an external power supply, be sure to use a stabilized power source.
Directly connecting to the power supply of vehicles or vessels may cause malfunctions.
- 💡 We have not confirmed the operation of all commercially available USB PD power products.

Preparation Before Use

Antenna connection

■ The corresponding connector is of BNC type and connects to the ANT terminal.

Please connect the supplied rod antenna or an outdoor antenna.



Note: Precautions when connecting the antenna

The antenna terminal of the receiver is very delicate.

Please pay attention to the following points.

- The input tolerance of this device is up to +30dBm (1W). Signals exceeding this may cause damage.
 - Be cautious of static electricity and high voltages such as lightning.
- If there is a risk of lightning, please disconnect the antenna and AC adapter.
- If there is a transmitting antenna nearby, please install the receiver's antenna sufficiently away from it.

Preparation Before Use

■ Application Connection

Connection of external speakers (SP)

By connecting an external speaker to the SP terminal on the back, you can output the received sound from the external speaker.

Please adjust the volume using the [VOL] knob on the front panel.

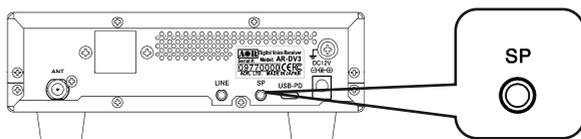
When an external speaker is connected, the audio output from the built-in speaker will stop.

Additionally, if you connect headphones or similar devices to the PHONES terminal on the front panel, the audio output from both the built-in speaker and the external speaker will stop.

- Priority of each terminal: PHONES > External SP > Built-in speaker

■ Compatible plug: ϕ 3.5 stereo (Mono audio output from the left side only)

■ Rating \square P69



Connecting headphones (PHONES)

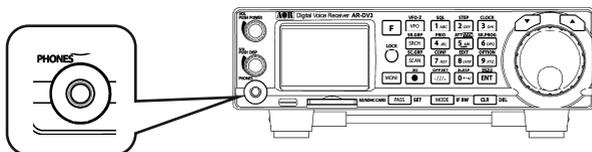
You can connect headphones to the PHONES terminal on the front panel.

Please adjust the volume using the [VOL] knob.

When headphones are connected to the PHONES terminal, the audio output from both the built-in speaker and the external speaker will stop.

Priority of each endpoint: PHONES > External SP > Built-in Speaker

■ Compatible plug ϕ 3.5 stereo (LR output mono audio)

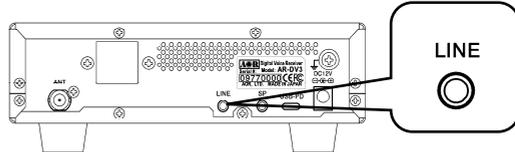


Preparation Before Use

Line output (LINE)

Outputs the demodulated audio signal or a 12kHz offset IF signal.

- Compatible plug $\phi 3.5$ stereo plug mono output
- Rating -10dBm 600 Ω load
AF GAIN not linked

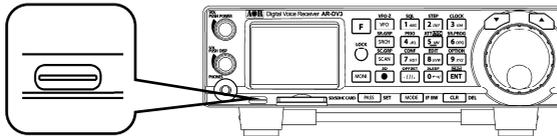


- Output selection is possible in the "LINE OUT" of the config menu. P18
AUDIO (demodulated audio) \Leftrightarrow IF 12k (12kHz offset IF output)
- Gain settings for IF12k can be configured in the "IF 12k AGC" of the config menu. P18

USB terminal

- Outputs digital audio signals compliant with the "USB Audio Class" standard.
Output signal selection is possible in the "LINE OUT" settings of the config menu.
AUDIO \Leftrightarrow 12kHz Offset IF Output P18
- You can connect this device to a computer for command operation.

- Supported Connector: USB Type-C



By connecting with a USB cable to a computer, you can operate this device via commands.
During remote control, a C mark will be displayed on the screen.

During remote control, operations other than volume and squelch will be disabled.

To release remote control, press [ENT].

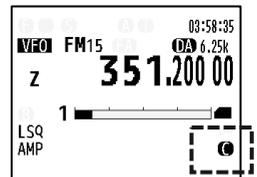
There are no conditions for the output of the 12k Offset IF signal.

However, if the IFBW is set above 30kHz, the signal may become distorted.

The 12k Offset IF signal is used with commercially available software.

When connected to a computer, noise may occur in the received audio.

Remote Control Status



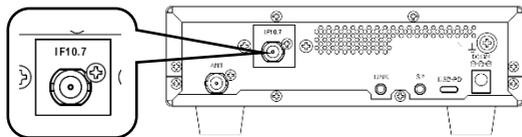
Preparation Before Use

IF Output (Option)

You can output the intermediate frequency (IF) signal of the received signal from this device to external equipment. Please use it for connection with devices that require IF signals, such as spectrum analyzers and external demodulators.

There are no settings on this device side. It will output simply by connecting.

■ Compatible Connector: BNC-P

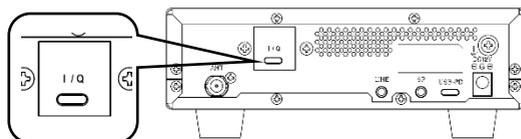


IQ OUT Output (Option)

You can output digital IQ data that can be used with commercially available SDR software.

The IQ signal is a digital representation of the received radio signal, divided into I (in-phase) and Q (quadrature) components, and is used for demodulation and analysis by external software.

■ Compatible Connector: USB 2.0 Type C



※ The specifications and descriptions of the terminal are subject to change.

Preparation Before Use

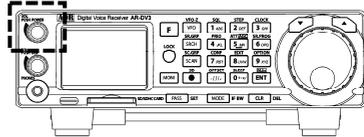
■ Basic Operations

Turning on the power

Operation Steps

- 1 Press the [POWER] knob.

The start screen will be displayed and the system will boot up.



Turning off the power

Operation Steps

- 1 Press and hold the [POWER] knob.

The current state will be saved and the system will shut down.

☒☒ If the "PROTECT" function is ON, the current state will not be saved. ☒☒ P18, P48

☒☒ If you disconnect the external power without shutting down, the current state will not be saved.

💡 Do not disconnect the external power supply during startup and shutdown.

Key Lock

Disables operations other than volume and squelch.

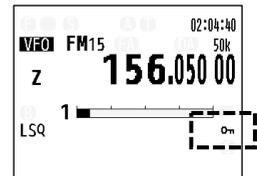
Operation Steps

- 1 Press and hold [LOCK].
The key lock icon will be displayed.

Unlocking the Key Lock

Press and hold [LOCK].

The key lock icon will disappear.



💡 During key lock, power operations are not possible.

If you want to turn off the power, please unlock the key lock first.

Preparation Before Use

■ Initial Settings

Setting the Time and Date (CLOCK)

Operation Steps

- 1 Press [F] followed by [3] to display "CLOCK".
- 2 Press [DOWN] to move the cursor to "CLOCK".

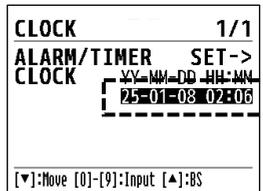
● Input in the order of year → month → day → hour → minute using the numeric keypad.

For example, for February 15, 2026, at 18:00,

input in the order of [2][0][2][6][1][5][1][8][0][0].

- 4 Press [ENT] to confirm.

The clock will start running.



📍 The clock function is used not only for time display but also for alarm and timer functions.

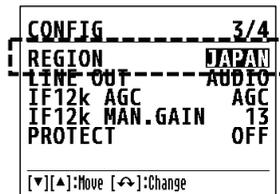
Regional Settings (REGION)

Set the region to be used.

- USA, JAPAN, EURO

It will affect the band plan of Auto Mode (F-AU).

Please make sure to check for proper settings to receive.



Operation Steps

- 1 Press [F] followed by [7] to display "CONFIG".
- 2 Press [UP/DOWN] to highlight "REGION".
- 3 Turn the dial to select the region.
- 4 Press [ENT] to confirm.

◆ ◆ Function Section

(Reception section is   P49)

Basic Functions

- Configuration Menu
- Change Volume
- Check Current Volume and Squelch Value
- Adjust Squelch
- Select Squelch Type
- Setting the reception frequency
- Auto Mode
- Digital Auto Mode
- Selection of Demodulation Mode
- Selection of IF Bandwidth
- Selection of Step Frequency
- Step Adjust
- Setting and Releasing Step Adjust
- Selection Receiving Function of Digital Radio
- Options
- Attenuator and RF Amplifier
- AGC
- RF GAIN

Application Functions

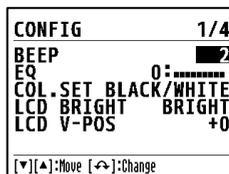
-  P18 ■ Extended Squelch Function  P30
-  P19 ■ Priority Reception  P32
-  P19 ■ Offset Reception  P33
-  P20 ■ Search Path  P34
-  Memory Channel Path  P35
-  P21 ■ Audio Equalizer  P36
-  P22 ■ About SD Card  P37
-  P22 ■ SD Card Recording  P38
-  P23 ■ Backup of Memory Data  P39
-  P23 ■ Loading Backup Data  P40
-  P24 ■ Delete Data on SD Card  P41
-  P25 ■ Alarm and Timer  P42
-  P25 ■ How to Set the Alarm  P43
-  P26 ■ How to Set Timer Recording  P44
-  P27 ■ Sleep  P45
-  P28 ■ Firmware Update  P46
-  P29 ■ Reset and Recovery  P47
-  P29 ■ Last One Memory Function  P48

Configuration Menu (CONFIG)

You can mainly set the basic functions of this device.

Operation Steps

- ① Press [F] followed by [7] to display "CONFIG".
- ② Press [UP/DOWN] to select an item.
- ③ Change the value with the [DIAL].
- ④ Press [ENT] to confirm.



BEEP	Setting the beep volume during operation OFF, 1~7
EQ	Audio Equalizer Function [] P36
COL. SET	Display Color Settings
LCD BRIGHT	Display Brightness Setting BRIGHT/DARK
LCD V-POS	Display Vertical Position Adjustment -3~+2
KEY LIGHT	Key Lighting Setting OFF/CONT (Always On)/AUTO (Lights up when operated or when the squelch is open. Turns off after about 7 seconds)
KEY COLOR	Key Lighting Color Setting OFF/Select from 6 Colors
KEY DIMMER	Key Lighting Dimming Setting OFF/ON (Dimming)
SQL. SKP	Squelch Skip Setting [] P38
ID	Receiver ID Setting for Remote Control 00~99
RES. CODE	Result code addition setting during remote control ON, OFF
REGION	Region setting Frequency auto mode for USA, JAPAN, EURO. [] P16
LINE OUT	Output setting for LINE terminal and USB terminal [] P13 Output selection AUDIO↔12kHz offset IF output
IF12k AGC	Gain setting for IF 12kHz offset output [] P13 AGC=Auto Gain, MAN.=Manual Gain
IF12kMAN.GAIN	Gain value setting when MAN.AGC is selected in IF12k AGC 00~25 [] P13
PROTECT	Last Once function setting OFF=Enabled, ON=Disabled [] P48
TETRA ACTIV.	Activation of TETRA GSSI selection function
SER	Display the serial number of this device
FIRM VER	Display the firmware version of this device
SYS. UPDATE	Firmware update [] P46

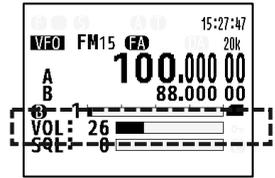
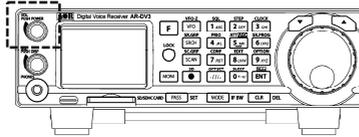
Change volume (AF GAIN)

■ Volume value 0–99

Operation Steps

① [VOL] Turn the knob.

The volume value will be displayed on the screen.



💡 Volume adjustment applies to the built-in speaker, earphone jack, and external speaker jack.

The output and recording levels of the LINE jack do not change.

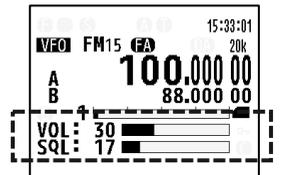
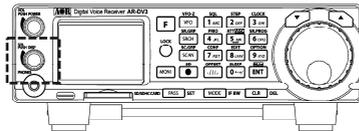
Check the current volume and the squelch value (DISP)

Operation Steps

① Press the [SQL] knob.

The current value and bar will be displayed on the screen.

The display will disappear after a few seconds.



Adjust the squelch (SQL)

This function eliminates noise that occurs when there is no signal.

It can be used commonly in "VFO mode," "Search mode," and "Scan mode."

The phenomenon where the sound disappears due to the effect of the squelch is referred to as "the squelch closes," while the occurrence of sound is referred to as "the squelch opens."

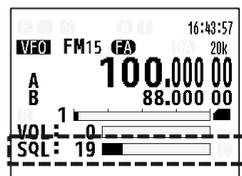
In scan mode and search mode, when a radio wave stronger than the squelch value is received, it determines that there is a radio wave and outputs sound.

■ Squelch value 0~99

Operation procedure

- 1 Turn the [SQL] knob clockwise until the noise sound disappears.

The squelch value will be displayed on the screen.



Select the type of squelch

Select the type of squelch.

LSQ level squelch

This method cuts the sound when the strength of the radio wave falls below the set value.

Since it is based on the strength of the signal, stable operation is possible.

NSQ Noise Squelch

It judges the amount of noise and cuts off the audio.

It is effective in FM mode and automatically mutes the audio when there is a lot of noise.

AUTO Automatic

In FM mode, NSQ is selected, while in CW, SSB, and AM modes, LSQ is selected.

The digital mode operates in FM, so it will use NSQ.

Operation procedure

- 1 [SQL] Long-pressing the knob will reverse the SQL display.

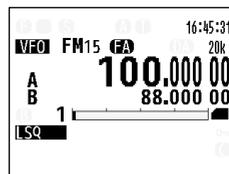
- 2 [SQL] Select by turning the knob or dial.

[LSQ], [NSQ], [AUTO]

AUTO will automatically select NSQ when the

demodulation mode is FM, and LSQ for analog modes other than FM and for digital modes.

Press the knob to confirm.



Function Edit Basic Function

Receiving frequency settings

In VFO mode, it changes in step frequency units. Step frequency \square P24

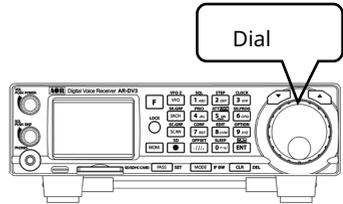
Change with the dial

Operation Steps

Turning the dial clockwise increases the frequency.

Turning it counterclockwise decreases the frequency.

Pressing [F] and then turning the [dial] changes it by $\times 10$.



Change using the UP/DOWN keys.

Operation Steps

Pressing [UP] increases the frequency.

Pressing [DOWN] decreases the frequency.

[F] Pressing [UP/DOWN] will change by $\times 10$.

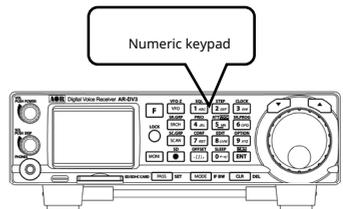


Input the frequency from the numeric keypad.

Operation Steps

For example, to input 82.500MHz,
press in the order of [8][2][.][5][ENT].

For example, to input 594kHz,
press in the order of [0][.][5][9][4][ENT]. (The leading 0 can be omitted.)



 By pressing [UP] during frequency input, you can delete one digit of the entered number.

Auto Mode (F-AU)

The following items will be automatically set according to the received frequency.

Only the analog demodulation mode is applicable.

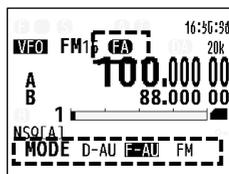
■ Auto mode setting items

- Demodulation mode
- IF bandwidth
- Step frequency
- Step adjust
- Offset reception

Operation Steps

- 1 Press [MODE] to display the "MODE" selection menu.
- 2 Turn the [DIAL] to select "F-AU".
- 3 Press [ENT] to confirm.

The "FA" icon will be displayed.



💡 The results of the automatic setting will vary depending on the regional settings. □ P16

💡 Changing the IF bandwidth, step frequency, demodulation mode, etc., will disable the auto mode.

Digital auto mode (D-AU)

This is a mode that automatically selects digital radio.

When receiving digital radio, it will switch to the demodulation mode that matches the radio method.

Please use this when you are unsure of the digital method.

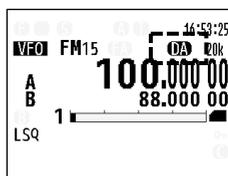
💡 It does not support TETRA method (T-DM, T-TC).

Operation Steps

- 1 Press and hold [MODE].

Alternatively, select "D-AU" from the "MODE" selection menu.

The "DA" icon will be displayed.



💡 There may be cases where the digital method cannot be identified due to reception conditions or noise.

In that case, please set the demodulation mode manually.

💡 Digital methods that are not supported by this device cannot be identified.

Select Recovery Mode (MODE)

Please set the modulation method correctly according to the band you are receiving.

In analog mode, there are methods for manual selection and an automatic selection mode called "F-AU".

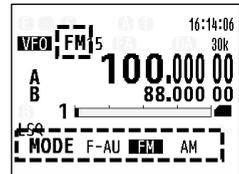
In digital mode, there are methods for manual selection and an automatic digital identification mode called "D-AU".

Types of demodulation modes

- Analog mode: CW, LSB, USB, AM, SAH, SAL, FM, F-AU
- Digital mode: DSTAR, YAES, DMR, D-CR, dPMR, P25, ALIN, T-DM, T-TC, D-AU

Operation Steps

- ① Press [MODE] to display the "MODE" selection menu.
- ② Turn the [DIAL] to select the demodulation mode.
- ③ Press [ENT] to confirm.



Selecting IF bandwidth (IF BW)

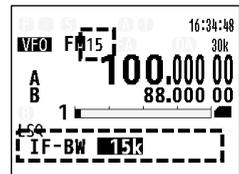
Select the width of the intermediate frequency band filter.

Depending on the band you are receiving and the demodulation mode, please select the optimal bandwidth to avoid interference and audio distortion. If sound quality is a priority, selecting a wider bandwidth will yield more natural audio.

Operation Steps

Press the buttons in the order of **[F]** → [MODE] to display the "IFBW" selection menu.

- ② Rotate the [Dial] to select the IF bandwidth.
- ③ Press [ENT] to confirm.
 - 💡 In Auto Mode (F-AU), it is set automatically.
 - 💡 Changing the settings will disable Auto Mode (F-AU).



■ List of combinations of demodulation modes and IF bandwidths

Demodulation Mode (MODE)	IF Bandwidth (IFBW)
CW	200Hz, 500Hz
SSB (LSB, USB)	1.8kHz, 2.6kHz
AM	3.8kHz, 5.6kHz, 8kHz, 15kHz
SAH, SAL	3.8kHz, 5.6kHz
FM	6kHz, 15kHz, 30kHz, 100kHz, 200kHz
Digital Mode	Automatic

Selection of step frequency

The amount of change when the frequency is varied is called a step.

The frequency band is allocated in predetermined steps. If the appropriate step is not used, the correct frequency cannot be received when the frequency is changed continuously.

In VFO mode, it is the amount of change when the [Dial] is turned or when the **[UP/DOWN]** button is pressed.

The step setting for search mode is done through search bank registration.  P55



The step must be divisible by the receiving frequency.

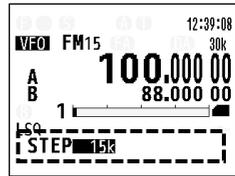
If it is not divisible, step adjustment settings are required.  P25

Example: 433.200MHz/20kHz is divisible.

148.010MHz/20kHz is not divisible. → Step adjustment is required.

Operation Steps

- 1 Press in the order of [F] → [2] to display the "STEP" selection menu.
- 2 Turn the [dial] to select the step frequency.
- 3 Press [ENT] to confirm.



- 💡 The step frequency is selected from presets. You cannot input numbers from the numeric keypad.
- 💡 In auto mode "F-AU," there are bands that are set automatically.

Step Adjustment (STEP ADJ)

The frequencies used in radio communication are allocated at regular intervals.

However, there are occasionally special allocation bands that cannot be divided at this step.

When receiving frequencies with such special assignments, step adjustment settings are required.

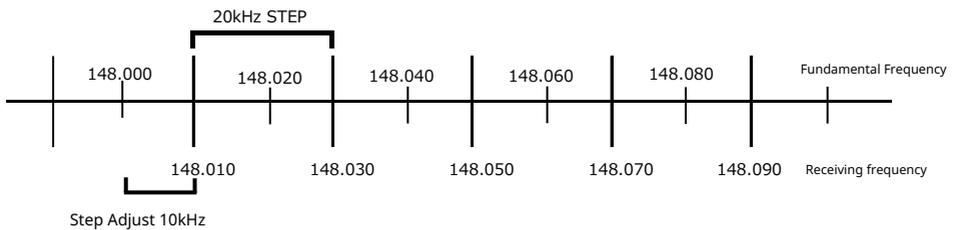
💡 The step adjustment function of this device can only be set to 1/2 or less of the step frequency.

Therefore, there may be cases where it cannot be accommodated even when using the adjustment function.

Example: For 145.210MHz, a 20kHz STEP is possible, but a 15kHz STEP is not.



To receive at STEP20kHz, such as 148.010MHz→148.030MHz→148.050 MHz→148.070MHz→148.090 MHz, a 10kHz step adjustment is necessary.

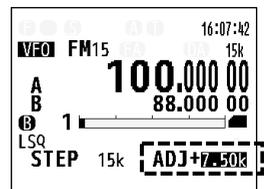


Step Adjustment Settings and Release

How to Set

Operation Steps

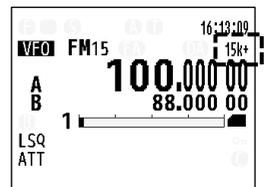
- 1 Press in the order of [F] → [2] to display the "STEP" selection menu.
 - 2 Press [PASS] to display "ADJ".
- (The adjustment value of 1/2 of the step frequency will be displayed first.)
- 3 Rotate the [Dial] to select the adjustment value.
 - 4 Press [ENT] to confirm.



How to Release

Operation Steps

- 1 Press in the order of [F] → [2] to display the "STEP" selection menu.
 - 2 Press [PASS] to display "ADJ".
- Turn the dial to set the adjustment value to zero.
- 4 Press [ENT] to confirm.



The + display indicates that the step adjustment is being set.

Function Edit Basic Function

Digital Radio Selection Reception Function

In the digital radio demodulation mode, the following selection reception functions can be used.

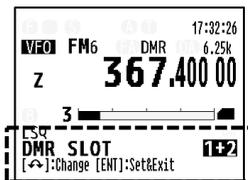
Operation Steps

Select the digital demodulation mode to receive.

- Press the [Dial] to display the selection reception functions at the bottom of the screen.

Each time you press the [Dial], the selection reception function will switch.

Press the [UP/DOWN] button to select the digit of the number, then enter the code using the numeric keypad. Alternatively, you can select it by turning the dial.



- Press [ENT] to confirm.

Demodulation Mode	Selected Reception Function	Description, Operation
DC-R	ENC. CODE	Select the secret code for digital simple radio from 00000 to 32768. <ul style="list-style-type: none"> Enter the code Normal audio will be output when the codes match.
	WC	Select from whitening code 000~511. <ul style="list-style-type: none"> Enter the code Audio will be output when the code matches. <ul style="list-style-type: none"> 000=Automatically identifies.
	NXDN RAN	Select the radio access number. <ul style="list-style-type: none"> OFF=No selection ON=Select from 00~64 Audio will be output only when the code matches.
DMR	SLOT	Select the time slot. Audio will be output only when the slot matches. <ul style="list-style-type: none"> 1=Only SLOT1 2=Only SLOT2 1+2=Prioritize SLOT1 2+1=Prioritize SLOT2
	COLOR	Select a color code. <ul style="list-style-type: none"> OFF = No selection ON = Select from 0 to 15 A sound will be output if the codes match.
P25	NAC	Select a network access code. <ul style="list-style-type: none"> OFF = No selection ON = Select from 000 to FFF A sound will be output only if the codes match.
T-TC	SLOT	Select the time slot. Audio will be output only when the slot matches. <ul style="list-style-type: none"> AUT = Automatically selected. Slot designation 1 to 4

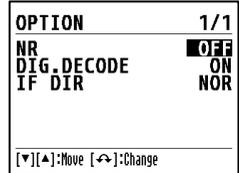
Options (OPTION)

Set optional features as needed.

This setting can be configured for each VFO mode, search bank, and memory channel.

Operation Steps

- ❶ Press [F] followed by [9] to display the options menu screen.
- ❷ Press [UP/DOWN] to select an item.
Turn the dial to change the settings.
- ❸ Press [ENT] to confirm.



Item	Description
NR	Noise Reduction: A function to eliminate random noise. Setting Range: OFF/LOW/MID/HIGH
DIG. DECODE	Whether to display amateur radio (D-STAR) information during digital mode reception Setting Range: ON/OFF ※ You can also toggle ON/OFF by long-pressing the [Dial] on the reception screen.
IF DIR	Specification of the IF direction for this device Setting Range NOR/REV Settings for digital decoding when inputting the IF signal received by another receiver into this unit's antenna terminal. If decoding is not successful, please try changing the settings.

Attenuator and RF Amplifier (ATT, AMP)

The attenuator and RF amplifier are functions that are used according to the strength of the received signal.

■ Can be set in each VFO mode and each memory channel.

💡 In search mode, settings are made by registering in the search bank. 📄 P55

Attenuator (ATT)

This function weakens signals that are too strong to prevent distortion and interference.

Using it can effectively improve the reception condition.

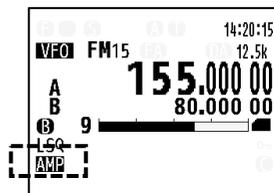
RF Amplifier (AMP)

It has the effect of amplifying the signal level.

Please use it when the reception level is low.

Operation Steps

- ➊ Press in the order of [F] → [5] to invert the lower left part of the screen.
- ➋ Turn the [dial] to select.
- ➌ Press [ENT] to confirm.



💡 The strength of the signal decreases in the order of "AMP (amplification) > OFF > ATT (attenuation)."

Please switch according to the reception environment.

Selection items	
"AMP"	Approximately 14dB amplification Usable at a reception frequency of 18MHz or higher
" " Off	
"ATT"	Approximately 20dB attenuation

AGC (Automatic Gain Control)

AGC is a function that maintains a constant volume by controlling the gain in response to the strength of the input signal.

■ Setting Conditions

- AM mode, SSB (LSB, USB) mode, CW mode

The AGC setting adjusts the release time of the AGC (the time it takes to return the reduced gain). If the time is set too short, the gain will increase during silent moments in SSB or when not transmitting in CW, resulting in an increase in noise. Additionally, if set too long, the gain may not recover quickly enough, which can lead to missing the next incoming signal.

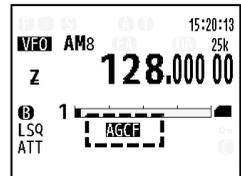
💡 In Auto Mode "F-AU," it is set automatically.

Selection items
AGCF = Fast
AGCM = Middle
AGCS = Slow
RF-G=Manual RF Gain Adjustment (AGC OFF)

Operation Steps

Press the **[F]** button, then long press [5] to invert the AGC display.

- Turn the [dial] to select.
- Press [ENT] to confirm.



RF GAIN

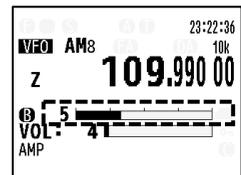
It can be used when "RF-G" is selected in the above AGC settings.

The S meter will switch to display the RF gain.

Operating Procedure

- Turn the [Squelch] knob.

The value of the RF gain will change.



💡 In "CW" or "SSB," reducing the gain may result in less noise and make it easier to hear. Please use it according to the reception conditions.

Extended Squelch Function

In addition to the normally used squelch, there are special squelch functions.

■ Usage Conditions: • FM Mode • IF Bandwidth (IFBW) 6kHz or 15kHz

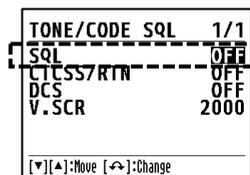
Type	Description
CTCSS (Tone Squelch)	Outputs audio when the tone is consistent. Equipped with a search function to detect the tone.
RTN (Reverse Tone Squelch)	While detecting the tone, the sound will be muted.
DCS (Digital Code Squelch)	Individual calling function used in amateur radio and other applications.
V. SCR (Voice Scrambler)	The inverted audio signal is restored to normal audio.

Operation Steps

Press in the order of **1**[F]→[1] to display TONE/CODE SQL.

In the "SQL" item, select the skelch to be used by turning the [dial].

(Refer to the table above)



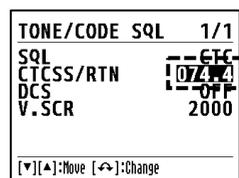
Press **3**[DOWN] to position the cursor over the selected sketch.

Turn the [dial] to change the tone or code values.

4 Press [ENT] to confirm.

💡 Only one type of skelch selected with "SQL" will operate.

You cannot use multiple skelch functions simultaneously.



Voice Skelch (VOICE SQL)

This is a skelch that responds to voice.

When there is voice, the skelch opens, and when there is no voice, the skelch closes.

■ LEVEL 0~7

Operation Steps

1 Press [F], then long press [1] to display the VOICE SQL screen.

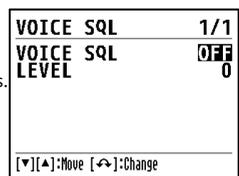
2 In VOICE SQL, turn the [dial] to turn it ON.

3 Press [DOWN] to position the cursor on LEVEL.

Set the audio level value at LEVEL **4**.

The larger the value, the larger the sound must be for the squelch to open.

Press **5**[ENT] to confirm.



Extended squelch function (supplement)

CTCSS/RTN tone frequency list (Hz)

60.0	67.0	69.3	71.9	74.4	77.0	79.7
82.5	85.4	88.5	91.5	94.8	97.4	100.0
103.5	107.2	110.9	114.8	118.8	120.0	123.0
127.3	131.8	136.5	141.3	146.2	151.4	156.7
159.8	162.2	165.5	167.9	171.3	173.8	177.3
179.9	183.5	186.2	189.9	192.8	196.6	199.5
203.5	206.5	210.7	218.1	225.7	229.1	233.6
241.8	250.3	254.1	SRCH			

SRCH searches for the tone frequency. It is used when the tone frequency is unknown.

DCS Code List

017	023	025	026	031	032	036	043	047	050
051	053	054	065	071	072	073	074	114	115
116	122	125	131	132	134	143	145	152	155
156	162	165	172	174	205	212	223	225	226
243	244	245	246	251	252	255	261	263	265
266	271	274	306	311	315	325	331	332	343
346	351	356	364	365	371	411	412	413	423
431	432	445	446	452	454	455	462	464	465
466	503	506	516	523	526	532	546	565	606
612	624	627	631	632	654	662	664	703	712
723	731	732	734	743	754	SRCH			

Searches for the DCS code. Used when the code is unknown.

V. SCR frequency

Setting range 2000~7000Hz (in 10Hz units)

Priority Reception (PRIO)

This function performs reception checks for the priority channel at specified intervals, even when receiving other frequencies. When a signal is present on the priority channel, it continues to receive it preferentially, and when the signal is lost, it returns to the interval operation.

The priority channel is selected from one of the memory channels.

💡 Registering Memory Channels  P63

Registering the Priority Channel

■ Number of Registrable Channels: 1 ■ Interval: 1~99 seconds ■ Delay: OFF, 0.1 seconds~9.9 seconds

Operation Steps

❶ Press [F], then long press [4] to display the priority setting screen.

❷ Press [UP/DOWN] to select an item.

• **00-00**

Select the memory channel you want to use as the priority channel.

- **DELAY** Sets the time to return after the signal of the priority channel is lost.
- **INTERVAL** Specifies the interval in hours for checking the priority channel.

❸ Press [ENT] to confirm.

PRIORITY	1/1
02-02	0131.87500
DELAY	OFF
INTERVAL	05
[▼][▲]:Move [0]-[9]:Input	

Start priority reception

■ Operates in all VFOs, VFO search, search mode, and scan mode.

Operation Steps

❶ Press in the order of [F] → [4].

- "PRIO" will be displayed, and priority reception will begin.
- Pressing [F] → [4] again will cancel it.

VFO	AM8	16:21:56
Z	128.000 00	25k
LSQ	AGCF	
PRIO		

💡 If the squelch is not set properly, priority reception will not function correctly.

💡 There may be noise when the frequency switches during priority reception, but this is not a malfunction.

Offset reception (OFFSET)

This is a function that allows for quick switching and checking of the receiving frequency when receiving communications using different frequencies, such as duplex (DUPLEX) between base stations and mobile stations, or when using repeaters.

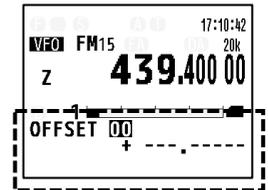
Pressing [MONI] will receive the offset side.

Offset reception settings

- Maximum offset $\pm 500\text{MHz}$

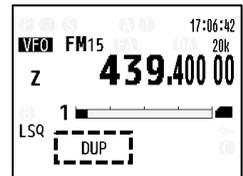
Operation Steps

- ① Press [F] → [.] in order to display the offset menu at the bottom of the screen.
 - ② Rotate the [DIAL] to select the offset number.
 - OFFSET 00 is off
 - OFFSET 01~19 can be changed freely.
 - Input the offset frequency from the [NUMERIC KEYPAD].
 - OFFSET 20~39 are preset and cannot be changed.
 - ③ Press [PASS] to change the offset direction (+-).



- ④ Press [ENT] to confirm.

When offset reception is enabled, "DUP" will be displayed on the screen.



Perform offset reception

Operation Steps

- ① Press and hold [MONI].

It will receive the offset frequency.
- ② Releasing [MONI] will return to normal reception.

💡 While [MONI] is pressed, the squelch will be open.

💡 In the frequency auto mode "F-AU", the offset reception is automatically set for the frequency band and changing the offset reception settings will not affect it.

If you want to change it, please select a mode other than frequency auto mode.

Search path

(Search / VFO Search)

By registering a pass for frequencies that you do not want to stop at due to external noise or unintended signals while performing search or VFO search, the device will not stop at those frequencies in the future.

This enables more efficient searching.

■ Number of search path registrations possible

- Maximum 50 for each bank in search
- Maximum 50 for VFO search

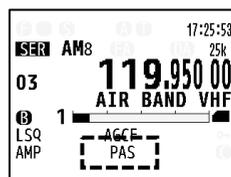
Register a search path

Operation Steps

- 1 Press [PASS] while stopped on an unwanted frequency.

From now on, the registered frequencies will not stop.

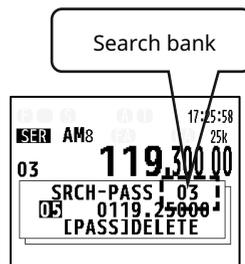
💡 In search or VFO search, if at least one pass frequency is registered, "PAS" will be displayed on the screen.



Delete a search path

Operation Steps

- 1 In search or VFO search mode, long press [PASS] to display the DELETE menu.
- 2 (For search only) Rotate the [Dial] to select the search bank.
- 3 Press [DOWN].
- 4 Rotate the [Dial] to select the pass frequency you want to delete. Press the [PASS] button to delete.



Delete search path (by bank).

Operation Steps

In search or VFO search mode, long press [PASS] to display the delete menu.
 (For search only) Rotate the [DIAL] to select the search bank.
 Press [F] followed by [PASS] to delete.

Memory channel path

(Scan - Memory channel)

During scanning, you can register frequencies that you do not want to stop on due to noise or unintended signals.

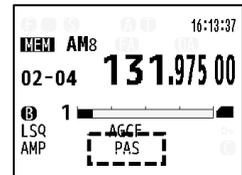
Memory channels registered in the path will be passed (skipped) from the next time onward and will not stop.

Registration of memory channel path

Operation Steps

Press **1**[SCAN] to enter memory channel read mode or scan mode.

2 Select the channel you want to register in the pass channel.



3 Press [PASS].

💡 In memory channel read mode "MEM", the channels registered in the pass will also be displayed.

In scan mode (SCN), the channels registered in the pass will not be displayed.

💡 Each time you press [SCAN], the mode will switch: "VFO" → "MEM" → "SCN".

Delete memory channel pass.

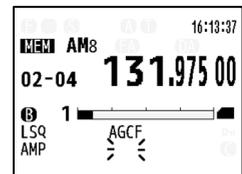
Operation Steps

1 Press [SCAN] to enter memory channel read mode.

2 Select the memory channel for which you want to remove the pass.

3 Press [PASS].

The pass will be removed, and the "PAS" display will disappear.



💡 The pass registration for memory channels is done for each channel individually.

You cannot release the bank unit.

Audio Equalizer (EQ)

You can adjust the audio characteristics of the received sound in analog demodulation mode.

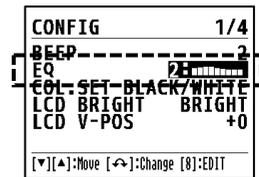
It can be customized for each frequency range, and up to five presets can be registered.

■ This is a common function for "VFO," "Search," and "Memory Channel."

Select audio characteristics

Operation Steps

- 1 [Press]→ [7] in order to display the config menu.
- 2 [Press DOWN] to select "EQ"
- 3 [Turn the dial] to choose your preferred audio characteristics.
- 4 Press [ENT] to confirm.



Customize audio characteristics

Operation Steps

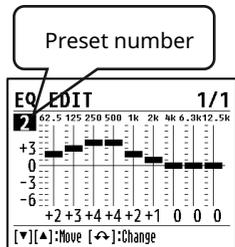
- 1 [Press]→ [7] in order to display the config menu.
- 2 [Press DOWN] to select "EQ"
- 3 [Press 8] to display the equalizer editing screen.

Turn the dial to select the preset number you want to edit.

Use the cursor to move up/down and select the desired sound range.

Rotate the [Dial] to adjust the volume.

Press [ENT] to save.



💡 Digital demodulation mode is not supported.

💡 In communications with narrow voice bandwidths such as SSB and AM, the effect of the equalizer may be less noticeable.

About the SD card

This device uses an SD card to provide the following functions.

Function	File extension
Recording	.WAV
Received log	.WAV (included in the recording file)
Memory data backup	.CSV
Firmware update	.DV3

■ Supported media

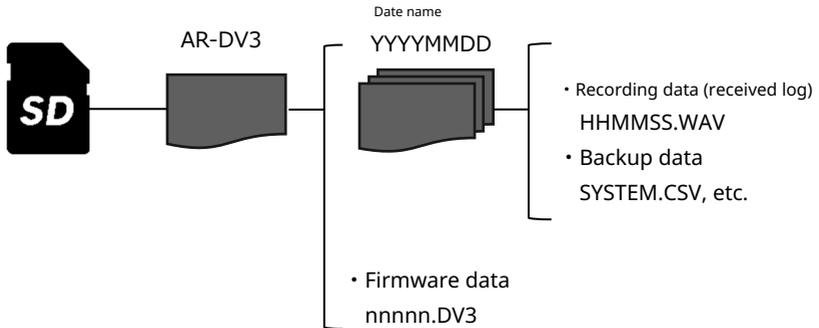
- SDHC card (up to 32GB)
- File system FAT32

File structure of SD card

When you insert the SD card into this device, the AR-DV3 directory (folder) will be created automatically.

When recording or backing up, a directory named with the date will be automatically created within the AR-DV3 directory, and the data will be saved inside it.

Please copy the firmware into the AR-DV3 directory.



Check the data saved on the SD card

Operation Steps

- 1 Press [F] followed by [●] to display the SD card menu.
- 2 Press [ENT] on "VIEW" to display the data on the SD card.
- 3 Press [ENT] in the directory to display the contents of the directory.
Press [PASS] to return to the previous screen.

SD CARD	1/1
LIST	VIEW->
BACKUP	SET->
FREE	07534MB/07536MB
[▼][▲]:Move [↔]:Change [ENT]:Set	

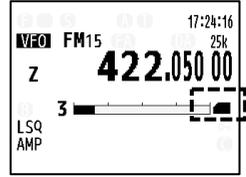
- Playback of recorded data ☒☒ P38
- Loading backup data ☒☒ P40

SD card recording

You can record the received audio onto the SD card.

The recorded files can be played back not only on this device but also on a computer.

Insert the SD card into the SD card slot of this device, and when it is recognized, the SD card icon will be displayed.

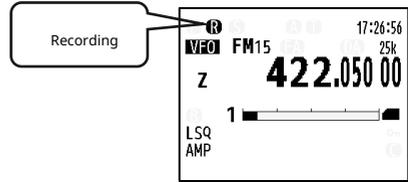


Recording

Operation Steps

1 Press [●] to start recording.

Pressing [●] again will stop the recording.



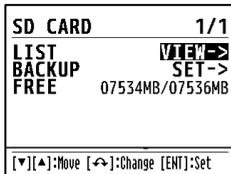
💡 By using the Skelch Skip function, recording linked to Skelch is possible. □ P18

Play the recorded file (.WAV)

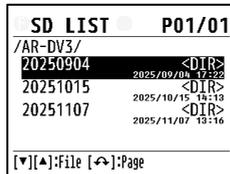
Operation Steps

- 1 Press [F] followed by [●] to display the SD card menu.
- 2 Press [UP/DOWN] to select "LIST-VIEW".
- 3 Press [ENT] to display the SD LIST (directory).
- 4 Press [UP/DOWN] to select the desired directory (displaying the creation date).
- 5 Press [ENT] to display the files in the directory.
- 6 Press [UP/DOWN] to select "Recording File.WAV".
- 7 Press [ENT] to play.
Press [CLR] to stop playback.

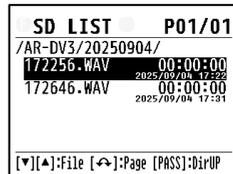
•••



•••



•••



[PASS] Return to directory selection

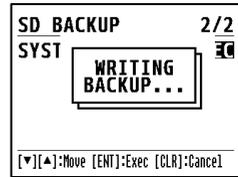
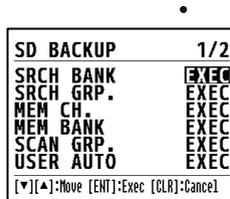
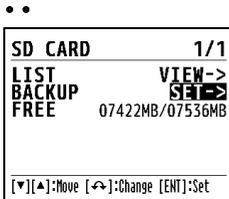
💡 The SD card list will also display backup data (.CSV). □ P40

Backup (save) memory data

You can save data such as the search bank and memory channels registered in this device to the SD card.

Operation Steps

- ① Press [F] followed by [●] to display the SD CARD.
- ② Press [UP/DOWN] to select "BACK UP-SET".
- ③ Press [ENT] to display "SD BACKUP".
- ④ Press [UP/DOWN] to select the desired backup. (Refer to the table below)
- ⑤ Press [ENT] to start the backup.



Types of Backup (.CSV)	Description
SRCH BANK	All Search Bank Data
SRCH GRP.	All Search Group Settings
MEM CH.	All Memory Channel Data
MEM BANK	All Memory Bank Data
SCAN GRP	All Scan Group Settings
USER AUTO	User data for frequency auto (F-AU)
SYSTEM(ALL)	All data of this device (including memory data)

- 💡 Please be careful not to turn off the power during backup.
- 💡 It is recommended to perform regular backups in case of data corruption.

Loading backup data

You can load backup data saved on the SD card and restore various settings and memory data.

Please insert the SD card that contains the backup data into the SD card slot of this device.

Operation Steps

① Press [F] followed by [●] to display the SD card menu.

② Press [UP/DOWN] to select "LIST-VIEW".

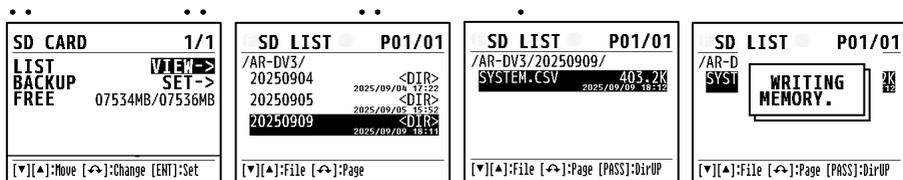
Press the [ENT] button to display the "SD LIST".

Press [UP/DOWN] to select the directory of saved dates.

Press [ENT] to display the data in the directory.

Press [UP/DOWN] to select the backup data (.CSV).

Press [ENT] to start the restore process.



💡 Please do not turn off the power while loading.

💡 Loading will overwrite the data on this device.

Delete data on the SD card

You can delete files (.CSV/.WAV) and directories recorded on the SD card.

Operation Steps

Press [F] followed by [●] in that order to display "SD CARD".

② Press [UP/DOWN] to select "LIST-VIEW".

Press the [ENT] button to display the "SD LIST".

Press [UP/DOWN] to select the directory containing the file you want to delete.

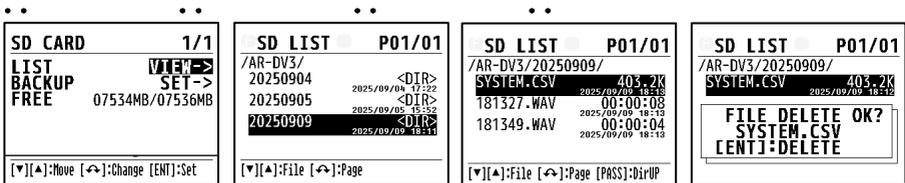
Press [ENT] to display the list of data in the directory.

Press [UP/DOWN] to select the data (.CSV/.WAV) you want to delete.

Press [F] followed by [CLR] to display the deletion confirmation message.

Press [ENT] to execute the deletion.

If you want to exit, press [CLR] to return to the original screen.



💡 Press [PASS] to return to the previous level during file operations.

💡 You can only delete one piece of data at a time with a single operation.

If you want to delete multiple pieces of data, please follow the steps starting from ④.

💡 To delete a directory, you must first delete all the data inside it.

💡 Deleted data cannot be restored.

Please copy the necessary data to your computer or other devices.

Alarm/Timer

The "Alarm function" and "Timer function" operate at the specified date and time. Each can be set to "SINGLE (once only)" or "WEEKLY (repeating on specified days)." Up to 3 settings can be saved.

Alarm Function

Automatically activates at the specified date and time to receive notifications.

It is possible to specify the operation mode (such as VFO or search) and adjust the volume settings.

The power will automatically turn off at the specified end time.

If any operation is performed while the alarm is activated, the alarm function will be canceled and normal operation will resume.

Mode	Description
SINGLE	Receive operation at the specified date and time only once
WEEKLY	Specify the day of the week and time for repetition

Timer function

Automatically activates during the specified time period to start and stop recording.

It is convenient for recording regular broadcasts.

The power will automatically turn off at the specified end time.

Pressing [CLR] during timer activation will stop the recording.

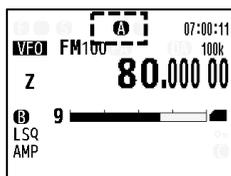
Mode	Description
SINGLE	Record audio at a specified date and time only once
WEEKLY	Specify the day of the week and time zone for repeated recording

Settings for each function

- How to set the alarm (SINGLE/WEEKLY)  P43
- How to set the timer recording (SINGLE/WEEKLY)  P44

About icon display

During the operation or standby of the alarm or timer recording, the following icons will be displayed at the top of the screen.



	Alarm standby		Timer standby
	Alarm in operation (blinking)		Timer in operation (blinking)
	Recording in operation		

How to set the alarm (SINGLE/WEEKLY)

By using the alarm function, you can automatically start receiving at the specified date and time.

You can choose "SINGLE" (once) or "WEEKLY" (on a specified day of the week) according to your needs.

Operation Steps

- ① Press [F] followed by [3] in order to display the CLOCK.
- ② Press [ENT] on "ALARM/TIMER" to display "ALARM/TIMER".
- ③ Select an item with [DOWN] → change it by turning the [dial].

Item	Content
NUMBER	Setting number 1 to 3
TYPE	Select "ALARM"
REPERTS	Choose "SINGLE" or "WEEKLY"

ALARM/TIMER	1/3
NUMBER	1
TYPE	ALARM
REPEATS	SINGLE
[CLR]:Cancel [ENT]:Set	

Date and Time Settings 2/3

Press[**DOWN**] to move to the next page "2/3".

Input the date and time from the [keypad].

ALARM/TIMER	2/3
#2	[HH:MM]
START	18:00
END	19:00
Sun	Mon Tue Wed Thu Fri Sat
[PASS]:Set/Reset	

Item	Content
START	Start Date and Time (SINGLE) or Start Time (WEEKLY only) 【MM-DD HH:MM】
END	End Date and Time (SINGLE) or Start Time (WEEKLY only) 【MM-DD HH:MM】
Day of the Week	Select the day of the week with [dial], and set/unset with [PASS]. = Active <input type="checkbox"/> Inactive <input type="checkbox"/>

Startup Settings 3/3

Press the [DOWN] button to move to the next page "3/3".

Press the [DOWN] button to select each item → turn the [DIAL] to change.

Long press the [POWER] knob to turn off the power.

ALARM/TIMER	3/3
#1 SRC	VFO
VFO-A	
ALARM VOL	05
SQL OPEN	OFF
[CLR]:Cancel [ENT]:Set	

Item	Content
SRC	Select the reception mode at startup: "VFO", "VSR", "SER", "MEM", "SCN", "CYB" *SER/MEM/SCN/CYB will continue to set the bank/channel.
ALARM VOL	Volume setting at startup (pre-check recommended)
SQL OPEN	If SER or SCN is selected with ON/OFF SRC, please set it to "OFF".

💡 If any operation is performed during the alarm operation, the alarm will be canceled and return to normal operation.

How to Set Timer Recording (SINGLE/WEEKLY)

Using the timer recording function, you can automatically start and stop recording at the specified time.

You can choose either "SINGLE (once only)" or "WEEKLY (on specified days of the week)" depending on your needs.

Operation Steps

- ① **[F]**→**[3]** in order to display "CLOCK".
- ② Press **[ENT]** on "ALARM/TIMER" to display "ALARM/TIMER".
- ③ Select an item with **[DOWN]** → change it by turning the [dial].

Item	Content
NUMBER Setting	number 1 to 3
TYPE	Select " TIM.REC ".
REPERS	Choose " SINGLE " or " WEEKLY ".

ALARM/TIMER	1/3
NUMBER	1
TYPE	TIM.REC
REPEATS	SINGLE
[CLR]:Cancel [ENT]:Set	

Date and Time Settings 2/3

Press **[DOWN]** to move to the next page "2/3".

Input the date and time from the [keypad].

ALARM/TIMER	2/3
#2	[HH:MM]
START	18:00
END	19:00
Sun	Mon Tue Wed Thu Fri Sat
[PASS]:Set/Reset	

Item	Content
START	Start Date and Time (SINGLE) or Start Time (WEEKLY only) 【MM-DD HH:MM】
END	End Date and Time (SINGLE) or Start Time (WEEKLY only) 【MM-DD HH:MM】
Day of the Week	Select the day of the week with [dial], and set/unset with [PASS] . = Active = Inactive

Startup Settings 3/3

Press the **[DOWN]** button to move to the next page "3/3".

Press the **[DOWN]** button to select each item → turn the [DIAL] to change.

Long press the **[POWER]** knob to turn off the power.

ALARM/TIMER	3/3
#1 SRC	VFO
VFO-A	
ALARM VOL	05
SQL OPEN	OFF
[CLR]:Cancel [ENT]:Set	

Item	Content
SRC	Select the reception mode at startup: "VFO", "SER", "MEM", "SCN" *SER/MEM/SCN allows you to set the bank and channel consecutively.
ALARM VOL	Volume setting at startup (pre-check recommended)
SQL OPEN	If SER or SCN is selected with ON/OFF SRC, please set it to "OFF".

☞ Pressing **[CLR]** during timer recording will stop the recording and return to normal operation.

☞ It will activate 30 seconds before the set time.

Sleep

Using the sleep function, the power of this device will automatically turn off after the set time has elapsed. It is convenient to set it before going to bed, for example.

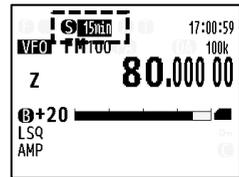
■ You can select the sleep time from the following options.

15min, 30min, 60min, 90min, 120min, 00min (OFF)

Operation Steps

- 1 Press in the order of [F] → [D], and "min" will be displayed in the upper left corner of the screen.
- 2 Rotate the [Dial] to select the time (in minutes) until sleep.
- 3 Press [ENT] to confirm.

The remaining time will be displayed, and when the set time elapses, the power of this device will turn off.



- 💡 When the power is turned back on after sleep ends, the sleep function will be turned off.
- 💡 If the alarm or timer function's start time occurs while the sleep function is active, the sleep function will be disabled.

Firmware update

For the improvement of this device's operation, regular firmware updates are recommended.

Preparation

1. Download the latest firmware from AOR's website. (Refer to the separate document)
2. Please save the downloaded firmware to the SD card.

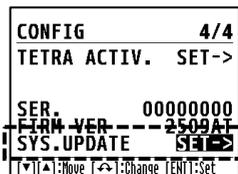
When an SD card is inserted into this device, the AR-DV3 directory will be created automatically.

Firmware data is saved in the AR-DV3 directory)  P37

3. Insert the SD card into the device.
4. Please perform the update operation.

Operation Steps

- 1 Press [F] followed by [7] to display the config menu.
- 2 Press [UP/DOWN] to select "SYS.UPDATE-SET".



- 3 Press [ENT] to display the firmware update menu.

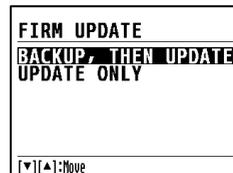
- 4 Press [UP/DOWN] to make a selection.

- "BACKUP, THEN UPDATE"

Update the firmware after backing up.

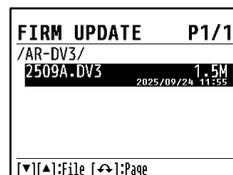
- "UPDATE ONLY"

Only update the firmware.



- 5 Press [ENT] to display the firmware data selection screen.

If "BACKUP, THEN UPDATE" is selected, the firmware data selection screen will be displayed after the backup.



Press [UP/DOWN] to select the firmware data.

Press [ENT] to start the firmware update.

(All key tops will blink, and the progress will be displayed in a bar format)

After the update is complete, the device will automatically restart.

 Please back up important data before the update.

 Do not turn off the power during the update.

  If the firmware update fails and the device cannot boot, please try the "Recovery Function"

  P47

Reset and Recovery

Reset

This operation is performed in case of malfunction or when initialization is necessary.

There are two types of resets.

System Reset (Sys Reset)	Initialize settings other than memory data
Full Reset	Initialize all data including memory data

System Reset

Operation Steps

- 1 With the power off, press and hold the [CLR] button while pressing the [POWER] knob.
When "Sys. Reset" appears on the screen, release the keys.
- 2 After the reset operation, press the [POWER] knob to restart.

Full Reset

Operation Steps

- 1 With the power off, press and hold the [CLR] and [SQL] knobs while pressing the [POWER] knob.
When "Full Reset" appears on the screen, release the keys.
- 2 After the reset operation, press the [POWER] knob to restart.

💡 Please back up important data before performing the reset operation.

Recovery

This is an emergency recovery function used when the firmware update fails and the device cannot start normally.

You can read the firmware recorded in the device and temporarily start it.

After recovery, be sure to update to the latest firmware.

Operation Steps

- 1 With the power off, press and hold [9] and [CLR] while pressing the [POWER] knob.
- 2 When the key top starts to blink, release the keys.

About 30 seconds later, when the key top lighting goes out and the clock is displayed, the process is successful.

💡 Please be careful not to turn off the power during recovery.

- 3 Press the [POWER] knob to start.

(The startup screen displays "Recovery")

- 4 Please update to the latest firmware.  P46

Last Once Memory Function

The current reception settings can be remembered, allowing the device to start in the same state the next time it is powered on.

The Last Once Memory Function has two types of operation methods that can be used according to the situation.

Description	Operation Methods
Shut down and save	Press the [POWER] knob to turn off the power.
Forced save	While pressing [F], press the [POWER] knob once. (WRITING MEMORY) will be displayed

💡 Both methods will save the state, but forced save is convenient when you want to intentionally save.

☒☒ If the "PROTECT" function in the configuration menu is enabled, the last-wance function will be disabled.

☒☒ P18

◆◆ Credit Edition

(Function edition is )

This machine has three reception modes that can be selected according to the purpose.

■ VFO Mode • •

This is a mode for receiving with a continuously variable frequency.

It is used when you want to receive immediately without prior registration.

■ Search Mode • •

Register the frequency range in advance to the bank, and it will automatically receive continuously within the registered bank.

It is used when you want to check the presence of radio waves within a specific band.

In addition to the normal search mode, there is also a faster cyber search function.

■ Memory Channel and Scan Mode • •

When the frequency you want to receive is known, it is registered in the memory channel in advance.

There is a scan mode that sequentially receives the registered memory channels.

Receiving Edit VFO Mode

VFO Mode

This is a mode that continuously varies the frequency for reception.

There are two types of VFO modes.

VFO Mode	Description	Operation
VFO-Z	Receive a single frequency	[F]→[VFO]
2VFO (VFO-A, VFO-B)	Switching between two VFOs for reception	Each time you press [VFO], it toggles between A and B

💡 When in search or scan mode, pressing [ENT] will copy the settings to VFO-Z.

Basic functions available in VFO mode

Function	Operation	Reference
Receiving frequency	<ul style="list-style-type: none"> Enter the frequency using the [numeric keypad] and press [ENT]. Adjust using the [dial]. Press [UP/DOWN]. 	📖 P21
Restoration Mode (MODE)	[MODE] Press.	📖 P23
IF Bandwidth (IFBW)	[F] → Press[MODE] in order.	📖 P23
Step Frequency (STEP)	[F]→ Press[2] in order.	📖 P24
Step Adjust (S-ADJ) On the Step	Input Screen, press [PASS].	📖 P25
Attenuator, RF Amplifier	[F]→ Press[5] in order.	📖 P28
AGC	[F] Press and hold [5].	📖 P29
Optional Features	[F]→[9]Press in order, then select with[UP/DOWN] Change with[Dial]and press[ENT].	📖 P27

Application Functions Available in VFO Mode

Functions	Operation	Reference
VFO Search	[VFO] or [UP/DOWN] Press and hold.	📖 P52
SD card recording	Press the record button [●]. Press the stop button [●].	📖 P38
Priority Reception	Press [F] followed by [4]. To set, long press [4].	📖 P32
Offset Reception	Press [F] followed by [.]	📖 P33
Voice Squelch	Press [F] and then long press [1].	📖 P30
Extended Skelch Function (CTC, DCS, VSCR)	[F]→[1] in order. (FM mode, IFBW 6kHz, 15kHz only)	📖 P30

Receiving Edit VFO Mode

VFO Copy

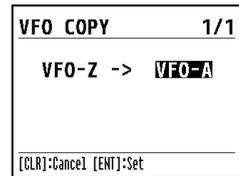
You can copy the current VFO settings to another VFO.

Example: VFO-Z→VFO-A

- VFO-A→VFO-B

Operation Steps

- 1 Select the VFO you want to copy.
- 2 Press [F]→[PASS] in order to display "VFO COPY".
- 3 Turn the [Dial] to select the destination for the copy.
- 4 Press [ENT] to confirm.



Receiving Edit VFO Mode

VFO Search (VSR)

It is a search function that operates in VFO mode.

It searches the frequency range of VFO-A ↔ VFO-B.

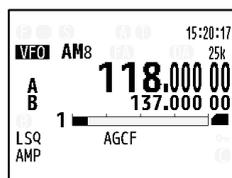
This is a function that allows for simple searching without registering in the search bank.

The settings for IF bandwidth, demodulation mode, step frequency, etc., are applied from the starting side of the search (VFO-A or VFO-B).

Start VFO search

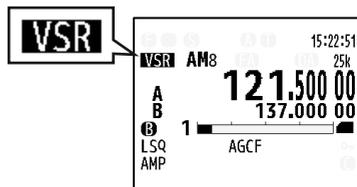
Operation Steps

❶ Press [VFO] to switch between VFO-A and VFO-B, and set the frequency for each.



❷ Long press [VFO] or [UP/DOWN] to start the VFO search.

Please adjust the squelch appropriately.



Operations during VFO

search	Description
Press [Dial] or [UP/DOWN]	Change Search Direction
Press [VFO]	End VFO Search
Press [ENT] while search is stopped	Copy content to VFO-Z
Press [PASS] while search is stopped	Register to Frequency Pass <input checked="" type="checkbox"/> P34

"Search stopped" means that the search has stopped while receiving a signal.

💡 Even when operated with VFO-Z, VFO search will be conducted between the two VFOs.

Receiving Edit VFO Mode

VFO Search Settings

You can configure the VFO search function.

Please use it according to your needs.

Operation Steps

Press the **[F]** button, then long press the **[VFO]** to display "VFO EARCH".

VFO SEARCH	1/1
DELAY	2.0
FREE	OFF
STORE	OFF
DEL.BK39	DELETE
[▼][▲]:Move [↔]:Change	

After selecting an item with **[UP/DOWN]** , turn the [dial] to make changes.

3 Press **[ENT]** to confirm.

Settings

Function	Description
DELAY (Delay)	Set the delay time (in seconds) from when the signal disappears until the search resumes during search stop. Initial value 2.0 seconds OFF: No delay, HOLD: No resume, Range 0.1~9.9 seconds
FREE (Free)	This function forces the search to resume after the set time even when receiving a signal after the search has stopped. OFF Disabled, 01~60 seconds Initial value OFF
STORE (Store)	This function automatically registers the frequency information of the signal received during VFO search into memory bank 39. Initial value OFF OFF Not Registered ON Registered
DEL.BK39	All registration data in memory bank 39 will be deleted. Press [ENT] to confirm DELETE, and then press [ENT] again on the confirmation screen.

 Memory bank 39 is the storage destination for VFO search and search registrations.

The search storage is set in the search group.  P57

Receiving Section Program Search Mode

Search Mode (SRCH)

You can automatically search for radio waves within the specified frequency range.

Pre-register the frequency range, demodulation mode, step frequency, etc., in the search bank, and search the frequencies in the search bank in step units.

When receiving a radio wave, the search stops and outputs sound.

There is a link function that allows you to continue searching multiple search banks.  P57

You can perform a search.

Specify the search bank to conduct the search.

When the squelch opens (when there is a signal), the search stops and outputs a sound.

When the squelch closes (when there is no signal), the search resumes.

Operation Steps

- 1 Press [SRCH] to enter "search mode."
- 2 Turn the [SQL] knob to close the squelch, and the search will start.

- Input the two-digit bank number using the [ten-key], or press [F] → [UP/DOWN] to change the bank. (After changing, press [F].)
- You can change the search direction by pressing [UP/DOWN] or turning the [dial].

End search mode

Operation Steps

- 1 Press [VFO].
Return to VFO mode.
- While searching, pressing [SRCH] or [ENT] allows you to copy the content to "VFO-Z".
 - While the search is stopped, pressing [ENT] allows you to copy the content to "VFO-Z".

Register a search path

By registering frequencies that you do not want to stop on during the search, they will not stop next time.

Operation Steps

- 1 Press [PASS] while stopped on an unwanted frequency.  P34

Receiving Section Program Search Mode

Search bank

To perform a search, you need to register the search bank in advance.

Register the search bank (SR.PROG)

Maximum registration number 40 (00~39)

Search bank program items

Bank number 00~39	IFBW
L. FREQ lower frequency	TITLE Bank Title
U. FREQ Upper Limit Frequency	AMP/ATT
STEP	PROTECT
MODE	-

Operation Steps

Press in the order of **1**[F]→ [6] to display "SRCH BANK".

2BANK [Dial] to turn, or enter the bank number using [Numeric Keypad]

.

[UP/DOWN] to move the cursor.

3Enter the lower frequency limit for the L. FREQ search using the [Numeric Keypad].

4Enter the upper frequency limit for the U. FREQ search using the [Numeric Keypad].

5Turn the STEP [Dial] to set the step frequency.

6Turn the MODE [Dial] to select the demodulation mode.

7Turn the IFBW [Dial] to select the IF bandwidth.

💡 If you select digital mode or "D-AU" in MODE, you cannot select IFBW.

8You can register a name in the search bank for TITLE.

• Turn the dial to move the cursor

• Press the [Numeric Keypad] to enter characters

• Press [UP] to delete one character.

Turn the **9**AMP/ATT [dial] to select the RF amplifier and attenuator.

AMP→OFF (blank) →ATT

Turn the **10**PROTECT [dial] to select ON/OFF.

If ON, settings will not be saved even if changed in search mode.

However, changes can be made in the search program menu and are not protected.

Press **11**[ENT] to confirm.

SRCH BANK	1/2
BANK	05
L. FREQ.	-----
U. FREQ.	-----
STEP	10k
MODE	D-AU
IFBW	15k
[▼][▲]:Move [↔]:Change	

SRCH BANK	2/2
TITLE	██████████
AMP/ATT	AMP
PROTECT	OFF
[▼][▲]:Move [↔]:Change	

Receiving Section Program Search Mode

Change of Search Bank Content

The following functions, which cannot be set in the search program of the previous section, are set in search mode.

Functions set in search mode

CTCSS	P30	P30 N R	P27
DCS	P30	DIG. DECODE	P27
SCR	P30	P30 IF D1 R	P27
RTN	P30	OFFSET(DUP)	P33
VOICE SQL	P30	PRI0	P32

If the PROTECT function of the search bank is ON, temporary changes to the above functions are possible but will not be saved.

If you want to save, please turn PROTECT OFF in advance. P55

Settings such as demodulation mode and IF bandwidth can also be changed in search mode.

Delete search bank

You can delete the search bank one bank at a time.

To delete multiple banks, repeat this operation.

Operation Steps

- 1 Press [SRCH] to enter search mode.
- 2 Press [F] → [UP/DOWN] or the [numeric keypad] to select the search bank you want to delete.
Press in the order of [F] → [CLR] to display "DEL. SRCH. BANK".

```

DEL. SRCH BANK  1/1
BANK            08
L.FREQ         0118.00000
U.FREQ         0142.00000
TITLE          AIR BAND VHF
  
```

[CLR]:Cancel [ENT]:Delete

After confirming the search bank content, pressing [ENT] will delete it.

Search path

If there are unnecessary signals in search mode, registering the path will prevent it from stopping from the next time onwards.

Operation Steps

Press [PASS]. P34

Receiving Section Program Search Mode

Search Group

In the search group, you can register search conditions such as link functions that allow you to search multiple search banks consecutively and pause times.

By creating search groups for specific purposes, you can operate with search conditions that match the situation at that time.

Set up the search group (SR. GRP)

Number of registrations: 10 (0-9)

Search group registration items	Default value
Bank link	None
Delay	2.0
Free	OFF
Store	OFF
DEL, BK39	-

Operation Steps

Press **[F]** followed by **[SRCH]** to display the SRCH GROUP.

➊ **GROUP NO** [Dial] to select the group number.

➋ **[DOWN]** to move to the BANK LINK item.

[Dial] to select the bank you want to link.

➌ **[PASS]** each time you press, the link will toggle ON/OFF (inverted display)

💡 Bank link is not mandatory.

SRCH GROUP	1/2
GROUP NO	0
BANK LINK	(03:AIR BAND UHF)
00 01 02 03 04 05 06 07 08 09	
10 11 12 13 14 15 16 17 18 19	
20 21 22 23 24 25 26 27 28 29	
30 31 32 33 34 35 36 37 38 39	
[↩]:BankMove [PASS]:Link	

➍ **[DOWN]** to move to 2/2

SRCH GROUP	2/2
DELAY	2.0
FREE	01
STORE	OFF
DEL.BK39	DELETE
[▼][▲]:Move [↔]:Change	

2/2

Item	Operation Procedure	Description
[DELAY] Delay	[UP/DOWN] Select an item using.	The time from when the signal is lost until the search resumes. OFF: No delay, HOLD: No resume, Range 0.1~9.9 seconds
[FREE] Free	Turn the [dial] to set the value.	A function that forcibly resumes the search after the set time, even if there is a signal after the search has stopped. Setting range OFF, 01~60 seconds
[STORE] Auto Store		Automatically registers the frequencies detected during the search, demodulation mode, etc., to memory bank 39. ON/OFF
[DEL, BK39] Delete bank 39		All memory channels in memory bank 39 will be deleted.

➎ **[ENT]** to confirm.

Receiving Section Program Search Mode

Select a search group

We will conduct a search based on the conditions registered in the search group.

Operation Steps

Press the buttons in the order of **1**[F] → [SRCH] to display the "SRCH GROUP".

2GROUP NO [Dial] to select the group number.

Press **3** [ENT] to exit the menu.

Press **4** [SRCH] to enter search mode.

Turn the knob on **5** [SQL] to close the sketch, and the search will begin.

SRCH GROUP										1/2
GROUP NO										0
BANK LINK										(03-11) BANK LINK
00	01	02	03	04	05	06	07	08	09	
10	11	12	13	14	15	16	17	18	19	
20	21	22	23	24	25	26	27	28	29	
30	31	32	33	34	35	36	37	38	39	
[↩]:BankMove [PASS]:Link										

Input the two-digit bank number using the[ten-key],

or press[F]→[UP/DOWN] to change the bank.

(After changing, press[F].)

Press[UP/DOWN] to change the search direction.

💡 If you specify a bank that is not designated as a bank link, it will not be linked and will search one bank as in a normal search.

Receiving Section Program Search Mode

Cyber Search (CYB)

Equipped with "Cyber Search," which allows for high-speed processing.

Unlike the normal search that operates in step units, it uses FFT (Fast Fourier Transform) to analyze in bulk at a bandwidth of 500 kHz. The wider the search range and the smaller the step frequency, the more effective the Cyber Search becomes.

Search speed performance

- Normal search = 100ch/second
- Cyber search = approximately 67 milliseconds at 500kHz

Comparison of search time (Example FM mode: Search range 100MHz 6.25kHz step)

- Normal search $100\text{MHz}/6.25\text{kHz}/100\text{ch}=\text{approximately } 160 \text{ seconds}$

Cyber Search $0.067\times 100\text{MHz}/0.5=\text{approximately } 13.4 \text{ seconds}$ ← about 12 times faster

💡 In SSB and AM modes, the influence of AGC may cause delays, and in digital mode, the signal decision processing may add further delays, resulting in a longer time than mentioned above.

Operation Steps

Press and hold **[SRCH]** to start the cyber search.

Please adjust the squelch appropriately.

② Bank Selection

Enter the 2-digit bank number using the [numeric

keypad], or press [F] → [UP/DOWN]. (After making changes, press [F])

the search direction

- **Press[UP/DOWN]**
- **OrRotate[Dial].**

💡 With each round of searching, the "0" display moves one position.

You can tell whether the search is moving up or down in the direction of "0".

💡 Long-pressing **[SRCH]** will copy the content to VFO-Z.

④ End the cyber search.

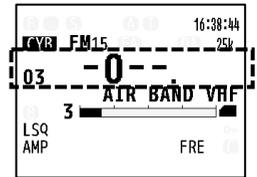
Press any of the keys [VFO] [SRCH] [SCAN] to exit.

Functions available in the cyber search

- Search group **[P57]**

(Even when bank link is enabled, one "0" display will move for each bank)

- Search path **[P34]**



Receiving section memory channel

What you can do by registering a memory channel

You can receive in memory channel read mode (MEM) or scan mode.

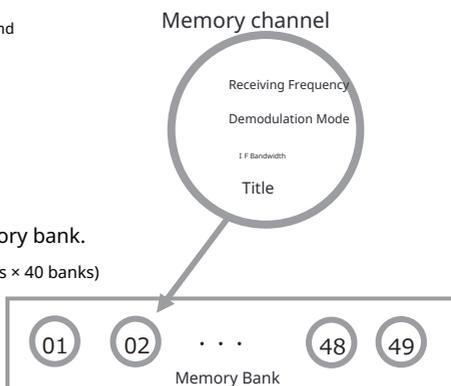
Memory channel

In addition to the receiving frequency, demodulation mode, and IF bandwidth can be registered as memory channels.

It can be read and received in memory channel readout mode (MEM).

Memory channels are registered in the memory bank.

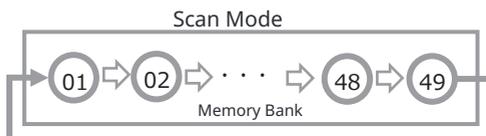
- Maximum number of registrations: 2000 (50 channels × 40 banks)



Scan mode (SCAN)

Automatically checks for the presence of radio waves in multiple memory channels registered in the memory bank.

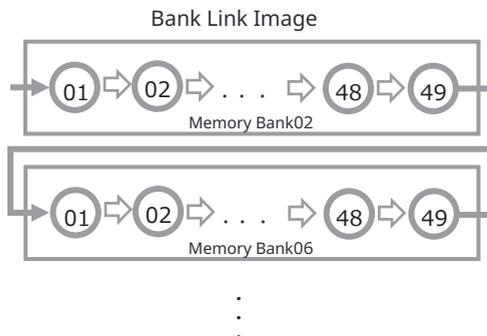
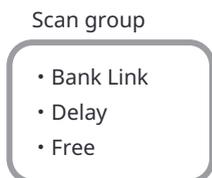
When radio waves are detected, the squelch opens, the scan stops, and audio is output.



Scan group

In addition to bank linking, which allows for continuous scanning of multiple banks, scan conditions such as delay can be set.

- Maximum number of registrations: 10 (groups 0–9)



Receiving section memory channel

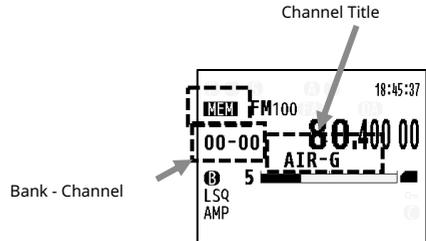
Memory Channel (MEM/SCN)

Memory Channel Read Mode (MEM)

You can read and receive from the memory channel.

Operation Steps

- Pressing [SCAN] will switch to MEM mode.



MEM mode operation

Target of operation	Operating Procedure	Example • Supplement
Specify the bank and channel.	Input 4 digits from the [numeric keypad].	For example, when selecting bank 05 and channel 12, input [0][5][1][2].
Only change the bank number.	Press [F] → [UP/DOWN]. (After changing, press [F] to release the function state.)	
Only change the channel.	Turn the [dial]. • Press [UP/DOWN].	
Copy to VFO-Z.	Press [MHz].	

💡 If no memory channels are registered, pressing [SCAN] will cause a beep sound, and the readout screen will not be displayed.

Receiving Section Memory Channel and Scan Mode

Scan Mode (SCN)

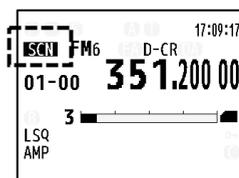
Scans the memory channels registered in the memory bank.

When a signal is detected (when the squelch opens), the scan will stop and output audio.

When the signal is lost, the scan will resume.

Operation Steps

- ❶ Press [SCAN] to select SCAN.
- ❷ Turn the squelch knob to close the squelch, and the scan will start.



❸ Scanning Operations

Target of Operation	Operating Procedure	Supplement
Change bank	[F] → Press [UP/DOWN]. (After changing, press [F] to release the function state)	
	Input 2 digits from the numeric keypad	
Change scan direction	Turn the [dial].	Clockwise = ascending Counterclockwise = descending
Copy to VFO-Z	Press [MHz].	Only while scanning is stopped
Register pass	[PASS] Press	Only while scanning is stopped

💡 If no memory channels are registered, pressing [SCAN] will cause a beep sound, and the readout screen will not be displayed.

💡 The scan group function is available.

Please specify the scan group number before scanning. P57

Receiving Section Memory Channel and Scan Mode

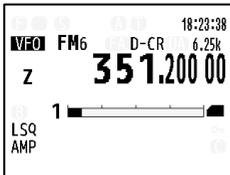
Registering Memory Channels

In the memory channels, you can register the receiving frequency, demodulation mode, IF bandwidth, and more.

The registered memory channels can be used in scan mode.

Operation Steps

- ① Press [VFO] to enter VFO mode.
(VFO-Z, VFOA, VFOB)
- ② Set the content you want to register in the memory channel.



Registerable settings	Reference
Receiving frequency	☐ P21
Demodulation Mode	☐ P23
IF bandwidth	☐ P23
Step frequency	☐ P24
Step Adjust	☐ P25
AMP/ATT	☐ P28
AGC	☐ P29
Optional Features	☐ P27
Extended Squelch Function	☐ P30
Digital selection receiving function	☐ P26

📌 The content of the memory channel can be edited even after registration.

☐ P64

Long press on **③** [MHz] to display "MEM. REG."
Specify which bank or channel to register for.

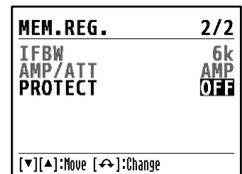
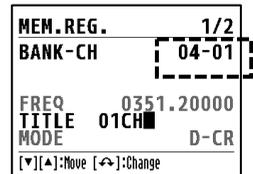
- Enter the bank-channel using 4 digits from the [numeric keypad]
or select by turning the [dial]

Press [DOWN] to enter the TITLE. (Optional)

- [Dial] Cursor movement
 - [Numeric Keypad] Select Alphanumeric (Refer to Key Top)
 - [UP] Delete 1 Character

After entering the title, press [DOWN] .

- ⑤ Selection of PROTECT ☐ P64
- ⑥ Pressing [ENT] will complete the registration.



Receiving Section Memory Channel and Scan Mode

Change the contents of the memory channel

Change various settings while reading out the memory channel or when the scan is stopped.

Operation Steps

Select the memory channel you want to change in

① MEM mode.

Alternatively, scanning is stopped in scan mode.

When various settings are changed, "WRITING MEMORY" will be displayed and overwritten in the memory channel.

💡 The memory channel's PROTECT is ON

You cannot overwrite in this case.

To turn off PROTECT, the memory described next
Please change it in Edit.

Configurable settings	Reference
Demodulation Mode	☞ P23
IF bandwidth	☞ P23
Step frequency	☞ P24
Step Adjust	☞ P25
AMP/ATT	☞ P28
AGC	☞ P29
Optional Features	☞ P27
Extended Squelch Function	☞ P30
Digital selection receiving function	☞ P26

Change in Memory Edit (MEM. EDIT)

Change the registration details of the memory channel using the memory edit.

Even if the PROTECT of the memory channel is ON, changes are

It is possible.

Operation Steps

Press in the order of ①[F]→[8] to display MEM. EDIT.

Input the bank-channel using 4 digits from the [numeric keypad], or select by turning the [dial].

Press ③ [DOWN] to select the item you want to change.

FREQ (received frequency) is input from the numeric keypad.

Other items can be changed by turning the [Dial].

Pressing ④ [ENT] will display "WRITING MEMORY" and overwrite the memory channel.

💡 Changes made in the memory edit will not be reflected on the MEM screen immediately.

They will be reflected by performing operations such as changing channels.

Configurable settings
Receiving frequency (FREQ)
Title (TITLE)
Restoration Mode (MODE)
IF Bandwidth (IFBW)
AMP/ATT
PROTECT

Receiving Section Memory Channel and Scan Mode

Memory bank settings (MEM BANK)

You can set the title of the memory bank and PROTECT.

The title of the memory bank will be displayed in the PC software "AR-DV3 Data Utility."

It will not be displayed on this device.

Operation Steps

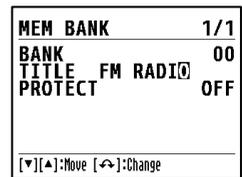
Press and hold **[F]** to display "MEM BANK".

- ❶ **BANK** [Dial] to select the bank number.
- ❷ **[DOWN]** to input the bank title. (Optional)
 - [Dial] to move the cursor.
 - [Numeric Keypad]Select Alphanumeric (Refer to Key Top)
 - **[UP]**Delete 1 Character

After entering the title, press **[DOWN]** .

- ❸ Select PROTECT
- ❹ **[ENT]** to complete the registration.

💡 When PROTECT is turned ON, changes to bank contents cannot be made in MEM mode or SCAN mode.



Delete Memory Channel (DEL. MEM. CH)

You can specify and delete a memory channel.

Operation Steps

- ❶ **[SCAN]** to enter MEM mode.
- ❷ Select the channel you want to delete.
- ❸ **[F]**→**[CLR]** in that order to display "DEL, MEM, CH".
- ❹ After confirming the content of the channel to be deleted, press **[ENT]** to display "DELETE?".

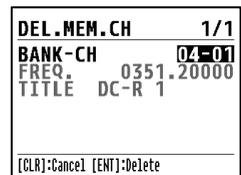
To delete, press **[ENT]**.

"WRITING MEMORY" will be displayed and deletion will be executed.

💡 If you want to delete multiple channels, please repeat the above steps.

It is not possible to delete on a bank basis.

By resetting, you can erase all registrations of this device. P47 💡 If the PROTECT for memory channels or memory banks is set to ON, deletion cannot be performed. Please set PROTECT to OFF and try again.



Receiving Section Memory Channel and Scan Mode

Data Editor (EDIT)

You can copy or move search banks, memory banks, and memory channels.

Operation Steps

- ❶ Press and hold **[F]** → **[8]** to display "DATA EDITOR".
- ❷ Press **[UP/DOWN]** to move the cursor.
- ❸ Turn the [DIAL], or enter the bank number or channel number from the [N MERIC KEYPAD].

By pressing [ENT] on the item you want to execute, that function will be carried out.

DATA EDITOR	1/3
COPY SRCH BANK	01 => 02
MOVE SRCH BANK	01 => 02
[▼][▲]:Move [↔]:Change [ENT]:Copy	

Item	Description
COPY SRCH BANK	Copy of Search Bank
MOVE SRCH BANK	Move Search Bank
COPY MEM BANK	Copy of Memory Bank
MOVE MEM BANK	Move Memory Bank
COPY MEM CH	Copy of Memory Channel
MOVE MEM CH	Move Memory Channel



Press [ENT] while the cursor is in position

Source Data Destination Data

- 💡 When you execute the move, the original data will be deleted.
- When you execute the copy, the original data will not be deleted.
- 💡 Banks or channels with unregistered memory data will not be displayed in the original data.

Receiving Section Memory Channel and Scan Mode

Scan group

In the scan group, you can set scan operations such as bank link functions.

Initially, group number 0 is selected.

Scan Group 0~9

Operation Steps

Press in the order of **1**[F] → [SCAN] to display the "SCAN GROUP".

To select the group number, turn the [Dial] on GROUP NO.

Press [DOWN] to move to the bank link settings.

The bank link function is optional. (Initially, there is no bank link)

SCAN GROUP	1/2
GROUP NO	0
BANK LINK	
00 01 02 03 04 05 06 07 08 09	
10 11 12 13 14 15 16 17 18 19	
20 21 22 23 24 25 26 27 28 29	
30 31 32 33 34 35 36 37 38 39	
[▼][▲]: Move [↔]: Change	

Press [DOWN] to move to the next item.

Item	Description
BANK LINK	<ul style="list-style-type: none"> • Turn the [Dial] to move the cursor. • Press [PASS] on the bank number you want to link. <p>Example: If you want to scan banks 3 and 5 consecutively, press [PASS] on 3 and 5 to toggle them.</p>
DELAY	<p>Set the waiting time from when the scan stops until it resumes after the signal is lost. (Initial value: 2.0 seconds)</p> <ul style="list-style-type: none"> • OFF: Resumes immediately without waiting. <p>0.1~9.9 seconds: The time until scanning resumes.</p> <p>HOLD: Hold (do not resume scanning)</p>
FREE	<p>A function that forcibly resumes scanning even when there is a signal after scanning has stopped. (Default value OFF)</p> <p>OFF: Disabled.</p> <p>01~60 seconds: The time until resumption.</p>

Press **5**[ENT] to confirm.

MEM AM8	14:50:26
02-01	119.100 00
3	
LSQ	AGCM
AMP	FRE

Display when FREE is enabled

Before it is suspected to be a malfunction

Please check before contacting us or requesting repairs.

The power does not turn on.	Is the AC adapter properly connected?	<input type="checkbox"/> P10
	Is it a USB-PD compatible power supply with a DC 15V output? (When using the USB PD terminal)	<input type="checkbox"/> P10
No sound	Is the AF GAIN (volume) set to minimum?	<input type="checkbox"/> P19
	Is the squelch closed?	<input type="checkbox"/> P20
	Are the voice squelch and tone squelch not functioning?	<input type="checkbox"/> P30
Not receiving	Is the antenna properly connected?	<input type="checkbox"/> P11
	Is the receiving frequency correctly set?	<input type="checkbox"/> P21
The sensitivity of the reception is poor	• Is the attenuator turned ON?	<input type="checkbox"/> P28
	• Is the RF GAIN enabled?	<input type="checkbox"/> P29
The reception sound is strange	• Are the demodulation mode and IF bandwidth set correctly? Please try auto mode as well.	<input type="checkbox"/> P23
	• Is the voice scrambler enabled?	<input type="checkbox"/> P30
	• Is the digital radio's secret code correct?	<input type="checkbox"/> P26
Not accepting operations	• Is the key lock not functioning?	<input type="checkbox"/> P15
	• Is it in remote mode?	<input type="checkbox"/> P13
The squelch knob is not functioning	• Is the RF GAIN enabled?	<input type="checkbox"/> P29
Auto mode (F-AU) has been disabled	Changing the demodulation mode, IF bandwidth, or step will disable the auto mode.	<input type="checkbox"/> P22
Cannot search or scan	Is the squelch adjustment appropriate?	<input type="checkbox"/> P20
Even though there is a signal in search and scan, it does not start	Is the squelch too deep?	<input type="checkbox"/> P20
	Is it not registered in the pass?	<input type="checkbox"/> P3 4
	Are tone squelch and DSC, etc., not set?	<input type="checkbox"/> P30
The search and scan restart automatically. Is the free function not enabled?		<input type="checkbox"/> P57
Cannot change the contents of the memory channel. Is the PROTECT for the memory channel turned ON?		<input type="checkbox"/> P64
The frequency is off	If the receiving frequency cannot be divided by the step frequency, step adjustment is necessary.	<input type="checkbox"/> P25
The frequency display changes automatically.	Is the priority function not working?	<input type="checkbox"/> P32
There are unreliable digital radios.	• Not all digital formats are supported.	<input type="checkbox"/> P23
The time display has become misaligned.	• It does not have the accuracy of a clock. Please reset it.	<input type="checkbox"/> P16
It does not start after the firmware update.	• Please try the recovery function.	<input type="checkbox"/> P47

For inquiries, please use the "Contact Form."

<https://www.aor.co.jp/contact/>



Rated

Receiving Frequency	100kHz-3000MHz minimum step 10Hz
Digital demodulation mode	Limited to DV mode
ALINCO	Limited to EJ-47U
YAESU	Supports C4FM V/D, Voice FR mode
D-CR/NXDN	RALCWI method and enhanced secret conversation not supported
DMR	Limited to TIER1/TIER2
T-DM/T-TC	T-DM Direct Mode, T-TC Traffic Channel (GSSI selection reception is optional)
P25	Limited to Phase 1
dPMR	Limited to dPMR446 Tier 1
Information Display	DCR WC/UC, NXDN RAN, DMR SLOT/COLOR, P25 NAC, TETRA SLOT, DSTC/R/RPT
Selected Reception	DCR ENC/WC, NXDN RAN, DMR SLOT/COLOR, P25 NAC, TETRA SLOT
Analog Demodulation Mode	6kHz/15kHz/30kHz/100kHz/200kHz
AM	3.8kHz/5.6kHz/8kHz/15kHz
SAH/SAL	3.8kHz/5.6kHz
SSB(USB/LSB)	1.8kHz/2.6kHz
CW	200Hz/500Hz (CW pitch fixed at 600Hz)
FM Squelch	CTCSS, RTN, SCR, DCS
Auto Mode	Auto mode (analog)/Digital auto mode (excluding T-DM, T-TC)
Receiving Configuration	100kHz-18MHz direct sampling 18MHz-3000MHz double superheterodyne
Frequency Stability	±1ppm (0°C to 50°C, after 5 minutes of power on)
Receiving Sensitivity (Typical)	SSB (10dB S/N) <0.3µV AM (10dB S/N) <1.0µV FM (12dB SINAD) 0.1MHz-18MHz <0.5µV 18MHz-1500MHz <0.3µV 1500MHz-3000MHz <0.5µV WFM (12dB SINAD) 60MHz-108MHz <1.0µV
Number of Memories	VFO 3 (A/B/Z) MEMORY CH 2000 (50CH×40BANK) SERCH BANK 40 PASS FREQ 50 per BANK or VFO
Attenuator	0dB / 20dB
RF Preamp	Approximately 14dB (usable only above 18MHz)
Power Supply	DC12V (10.7-16V) external power plug φ5.5-2.1 or USB PD 15V (30W or more) USB Type-C
Current Consumption	Approximately 1A
Dimensions	178(W), 50(H), 180(D)
Weight	Approximately 1.5 kg
Operating Temperature Range	0°C - 50°C
I/O Terminal	BNC-j antenna terminal PHONES φ3.5 stereo mini jack (mono) SP OUT φ3.5 stereo mini jack (mono) LINE OUT φ3.5 stereo mini jack (mono) 600Ω load Audio signal or 12kHz OFFSET IF signal (switchable in config) Power input DC12V 5.5-2.1mm Rear USB Type-C power input USB PD DC15V Front USB Type-C · Command control · Digital audio signal compliant with "USB Audio Class 1" or 12kHz OFFSET IF signal (switchable in config)
Accessories	AC adapter, rod antenna, instruction manual

※1 Sensitivity Measurement Conditions

- FM :1kHz TONE, Dev. 3kHz, IFBW 15kHz. • WFM:1kHz TONE, Dev. 50kHz, IFBW 100kHz
- AM :1kHz TONE Mod. 60%, IFBW 8kHz, AGC=ON. • SSB :1kHz TONE Mod. 60%, IFBW 2.6kHz, AGC=OFF

☞ The specifications and values listed are representative values and are not guaranteed.

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MEMO



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