

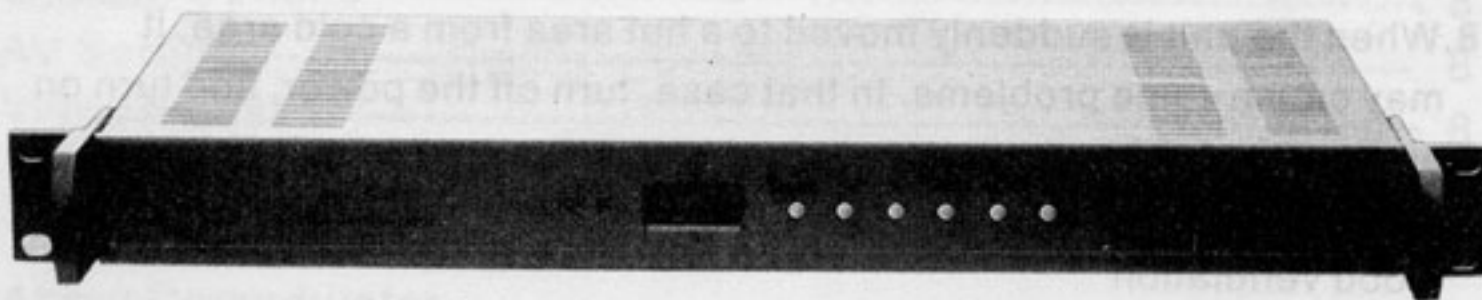
IMPORTANT SAFETY INSTRUCTIONS

Thank you for choosing our product. Before installation, we would like to remind you of some notes, which is very important for

1. General Information
- 1.1 Main Features
- 1.2 For Your Safety
- 1.3 From the user manual before starting operation
- 1.4 Read the inside of the unit due to possible electric shock

DSR-2021

Digital Demodulator



User's Manual

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IMPORTANT SAFETY INSTRUCTIONS

Thank you for choosing our product. Before installation, we would like to remind you of some notes, which is very important for operating safely and properly, as follows:

1. Be sure to read this user manual before starting your operation.
2. Never open the cover. It is very dangerous to touch the inside stuff of the unit due to possible electric shock.
3. If you don't use this unit for long time, please pull the power plug out from the outlet. Do not use a damaged power cord.
4. Do not touch the power with wet hands. If there is liquid flow into the unit, pull out the power cord immediately because it may cause fire or electric shock.
5. Place the unit in a well ventilated and no heat environment.
6. You must install the dish with correct direction and angle. If the dish is not working properly, contact your local dealer.
7. Install the unit horizontally. Unbalanced installation may cause the unit to be damaged by itself
8. When the unit is suddenly moved to a hot area from a cold area, it may cause some problems. In that case, turn off the power, and turn on again after 1-2 hours.
9. Install the unit in a place with:
 - good ventilation
 - suitable temperature
 - no direct sunrays
 - low humidity
 - low vibration influence
10. Do not put heavy objects on the unit.

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1. General Information

The Digital Demodulator allows you to view digital satellite programmes. This User's Manual covers the installation of the Demodulator and the necessary steps to operate various features. It also explains special features available only in this Demodulator in details, which will help you to take full advantage of these features.

1.1 Main Features

- Fully MPEG-2, DVB compliant
- Digital Audio with AC-3 support by SPDIF (Optional)
- PIG (Picture In Graphic) support
DiSEqC1.2 positioner for multi-satellites (63 satellites)
- C/Ku band control for each antenna
- User programmable various satellite & transponder information
- Automatic search for newly added transponder (Network Auto Search), stores up to 5000 channels
- Easy and fast software upgrade through RS-232 port
- Timer function, automatically turns On/Off by setting function (daily, weekly, monthly, one time)
- Automatic reserved channel moving system
- OSD Teletext (DVB ETS 300 706) and Subtitle function support
- VBI teletext support
- Antenna positioning help feature
- Various switch types, LNB types and NTSC/PAL/SECAM monitor type
- SCPC/MCPC receivable from C/Ku band satellite
- Multi LNB controlled by DiSEqC 1.0/1.1/1.2 and 22KHz switching
- 256 color On-Screen-Display
- Automatic PAL/NTSC/SECAM conversion
- Automatic last channel saving

1.2 For Your Safety

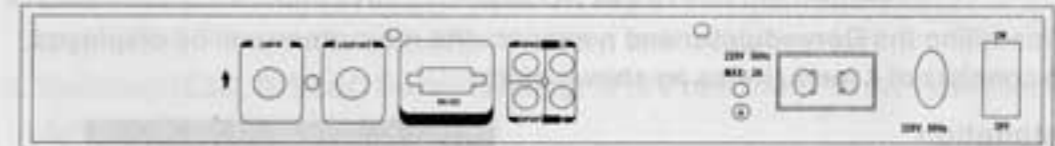
- Keep Demodulator placed in clean space with sufficient ventilation
- Do not cover the Demodulator with or place it on a unit that emits heat
- Clean the case by a soft cloth with a little washing liquid
- Do not connect or modify cables when the Demodulator is plugged on
- Do not remove the cover
- Do not let the unit exposed to extreme heat, cold or humid conditions
- No liquids or any other materials to come inside of the unit

1.4 Front Panel



Item	FUNCTION
LOCK	Signal locked indicator
MENU	Shows the main menu and back to previous menu
OK	Confirm the selection, or jump back to last menu
▲ ▼	Channel change (up/down)
◀ ▶	Volume control(up/down)

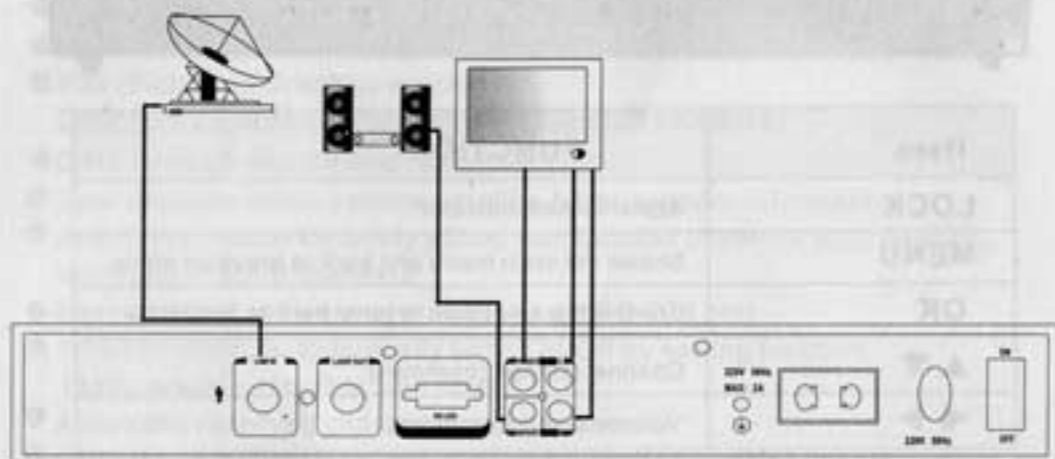
1.5 Rear Panel



CONNECTOR	FUNCTION
ANT IN	Connect to satellite antenna cable
LOOP OUT	Signal input from local CATV network or outdoor TV antenna
RS-232	Connect to PC for software upgrade
VIDEO	Connect to the TV'S video port
AUDIO R/L	Connect to TV'S audio ports
S/PDIF	Connect to TV for digital audio output (Optional)
POWER ON/OFF	Power on off the Demodulator

2. Installation of Demodulator

Please find relevant reference of installation described as below. When connecting new equipment to the Demodulator, be sure checking first related instructions for the proper way of installation.



3. Menu Information

After installing the Demodulator and power on, the main menu will be displayed, which consists of 4 menu items as shown below.

- Installation
- Preferences
- Audio Setting
- Channel Type



During the installation the **OK** Key Confirms A selection and **▲▼** key shows the list Box.

Use the **▲▼** keys to move up or down from one line to another line. Use the **▲▼** keys to move the cursor up or down in the sub-menu. To escape the menu system at anytime, press menu key.

4. System Installation

This menu consists of 5 sub-menus as shown below.

- Antenna Setting
- Automatic Search
- Manual Search
- Motor Setting
- Factory Default

Press **▲▼** key to move focus and **OK** key to confirm selection.



Note: The hot key with "red, green, yellow, blue" color on the bottom of OSD are not used in this mode.

4.1 Antenna Settings

1. Satellite Name: Choose the satellite you want to view
 2. Transponder: Choose the TP to search
 3. LNB Type: Choose the type of your LNB. If you have universal LNB, select Universal.
 4. LNB Freq (Low /High Freq.) : Press **OK** key to edit the frequency. Use **◀▶** key to move the cursor and **▲▼** key to choose the number.
 5. Switches (22K, DiSeqC Switch Setting, 0/12V optoinal): To configure the Antenna with those switches
- After fix the above settings, you can press the **MENU** key to back main menu.



4.2 Automatic Search

Automatic Search function is convenient tool to search multi-Satellite in one time. Press **▲▼** key move to the wanted satellite, press **OK** This satellite will be chosen if you see a tickle appears in the end of the line. Press **◀▶** key move the cursor to transponder list, then press **OK** key to automatic search the channel. This Demodulator allows to choose and scan several satellites one time, in one page's operation. After all wanted satellites has been chosen, Press **◀▶** key move the cursor to transponder list, then press **OK** key to automatic search the channel.



4.3 Manual Search

Satellite Name: Press ◀▶ key or press OK key to active satellite list, choose the satellite you want to see.



Transponder: Use ◀▶ key to view different Tp details and Select the desired transponder. Press OK key to active TP list. Press ◀▶ to choose the transponder you want to see.

Frequency & Symbol Rate: Press OK key to edit the frequency and symbol rate ,use ◀▶ key to move the cursor and ▲▼ key to choose the number.

Polarization: Press ◀▶ key to Select HOR or VER, the right Polarization of the transponder Search Type.

1. Search FTA: only search free to air channels
2. Search CAS: only search conditional access channels.
3. Search All: search all FTA and CAS channels.

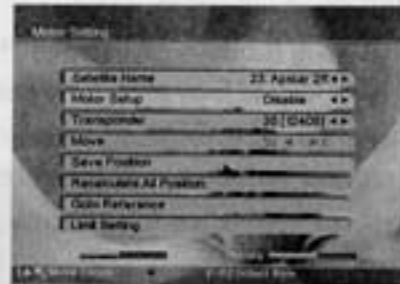
NIT Search: Choose On or Off.
Press OK to start channel scan.

4.4. Motor Setting

Satellite Name: Press ◀▶ key to choose the wanted satellite first.

Motor Setup: choose between

Disable or **Enable** using ◀▶ key. Move: W ◀ E ▶ stands for the West and East limitation point for motor. After Setting, goes down to Limit Setting and change correspond item to **Set Save Position**:



4.5 Factory Default

If you want to bring Demodulator back to the factory default condition, select Factory Default and press the OK key. Then a warning message will be displayed. To confirm, select **YES**.

Warning: On selecting factory default you will lose all of data and information, which was previously installed.



5. Preferences

Preferences consists of 7 sub-menus, as follows:



5.1 System Options

Press OK to enter

5.1.1. OSD Language

To Choose language with ◀▶ key, or Press OK key to active the audio language list and choose the one you need.



5.1.2 OSD transparency

To Choose transparency with ◀▶ key, or Press OK key to active the OSD transparency list and choose the one you need.

5.1.3 OSD Timeout

To choose the duration of OSD will stay in screen. Same operations as above.

5.1.4 Audio language

To choose the audio language with ◀▶ key.

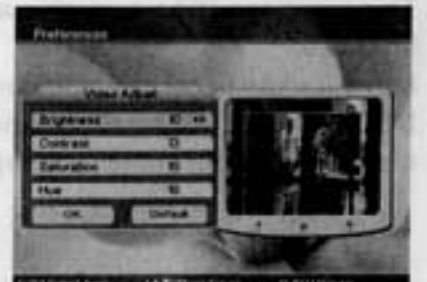
5.2 AV Setting

- Screen Ratio: 4:3 or 16:9
- Screen Mode: PanScan or Letter Box
- Monitor Type: Auto/PAL/NTSC/SECAM
- Video Output CVBS/YC/RGB
- RF Type: PAL B/G, PAL I, PAL D/K, NTSCM
- RF Channel: Fix the number of RF channel



5.3 Video Adjust

To adjust Brightness, Contrast, Saturation and Hue, then move to OK in the dialogue box, press **YES** to confirm.



5.4 Time Setting

Use◀▶key to choose GMT of your local area, and press **OK** key to fix other items like **Year, Month, Date**, the Demodulator will get time information automatically from the satellite.



5.5 Timer

Timer : Use◀▶ key to choose timer number,
Channel type : Use▲▼key to choose channel type,
Channel : Use◀▶key to choose channel or press **OK** key to active channel list and choose the one that you need.

Date : Press **OK** key to fix other items like **year, Month,Date ,Hour** .

Hour and Duration Time : Press **OK** key to enter the proper number,use◀▶key to move cursor and ▲▼ keys to enter the number.

Status : Use◀▶ key to select the status:**Off, Once, Daily,Weekly**.



5.6 About Demodulator

You can find Demodulator information like software and hardware information under this menu.



6. Audio Setting

This function will be available after channel installed.

Move◀▶key to choose audio mode among **STEREO /Left /Righe /Swap**,move ▲▼key to choosed efferent audio language.



7. Channel Type

This function will be available after channel installed.

Move cursor to "Channel Type" in main menu , press **OK** key to change working channel from TV to Radio or from Radio to TV.



8. General Viewing Function

The following describes the basic functions of your Demodulator while watching satellite TV or listening to satellite radio.

8.1 Channel List

In channel display condition, press **OK** key to view the channel list. List of existing channels will be shown.



8.2 Select Channel

If you want to select channel, use▲▼key on the front panel to move cursor to choose.

In addition to the above normal function, Demodulator provides more convenient channel change function.

While watching, press **OK** key . A channel list will be displayed on the left side of the screen. Press **OK** key again or press **Manu** key, the channel list will disappear.

To select a channel, go up or down this channel list and place the cursor on a desired channel. Then, press **OK** key to watch the selected channel.

8.3 Channel Information

Every time you change channels, you will receive program information for a few seconds.

Note: Channel information will be displayed for 6 seconds by default and will disappear. You can adjust the display time interval from 2 to 12 seconds. .

8.4 Volume/addional Control

Volume Control : To increase or decrease volume, use ◀▶ Key on the front panel.

Note: Demodulator has 18 volume levels and this can be controlled from the Volume level of your TV.

9. Technical Specification

TRANSMISSION STANDARDS	
DVB, MPEG-2	
INPUT/ DEMODULATION	
Connector Type	2X F Type, 3/8-32UNEF-2A (1 input/1 loop through)
Input Frequency	950 to 2150 MHz
Signal Input level	-65 to -25 dBm
Band Switch control	22 KHz
LNB Supply	13.0 + 0.5 V / 18V + 0.7 V, max 400 mA
Demodulation Type	QPSK / FEC Coding (DVB prETS 300 421)
Symbol Rate	2 < Rs < 45 M baud (SCPC/MCPC)
Video input	CVBS/75 unbalanced/5MHz
Audio output	"Left, Right"/600 unbalanced
Level	1.0V rms±2dB into 10k
Audio input	"Left, Right"/10k unbalanced
Level	1.0V rms± 2dB into 10k
AUDIO/ VIDEO PROCESSING	
Audio Decompression	MPEG-1 layer I and II / Musicam
Audio Outputs	Stereo Channel/Dual Mono/Joint Stereo/ Mono
Video Decompression	MPEG-2 Main Profile @ Main Levels With Letter
Video buffer	64 Mbits of SDRAM is provided
Data rate	up to 15Mbits/s (Max. burst rate: 228 Mbits/s)
Video output	PAL-25 frame @720 x 576 NTSC-30 frame @720 x 480

DATA SERVICE PORT	
Connector	9-pin D-sub female
Data protocol	RS232C interface. The DVB-DSR is seen as the Data Communication Equipment (DCE) and the PC (or other terminal) is seen as the Data Terminal Equipment (DTE).
POWER SUPPLY	
Type	Switching mode
Main input voltage	90 - 240V AC @ 50Hz/60Hz±5%
Maximum powerconsumption	30W
SAFETY	
Insulation resistance	more than 10MΩ at 500Vdc Ambient conditions of 28±2% & 70%RH
Withstand Voltage (Hi-Pot)	I/p To O/p:3kV(1 Min)
Temperature Rise	<75 on winding & core; <50 on casting At 264Vac @ 50Hz
Safety Standard	Designed to meet IEC 9
MICROPROCESSOR	
Microprocessor	CONEXANT
Clock frequency	130MHz
SDRAM Memory	8Mbyte
Flash memory	1Mbyte
PHYSICAL CHARACTERSTICS	
Front Panel Keys	6 Keys
Indicators	Lock
Remote control input	Infra-red receiver(option)
Display	4Digit (7Segment)
Rear Panel	
Connectors	1 LNB Input / 1 Loop through output (2F-type) 2 x Audio L/R(RCA) 1 x Video SIGNAL (RCA) 1 x RS-232 (9-pin D-sub male) 1 x S/P DIF or 0/12V (Optional)

10. Trouble Shooting

Problem	Possible Causes	CausesWhat To Do
No display light up on front panel	Power cord is not well plugged	Check to make sure power cord is plugged properly into power socket.
No sound or picture, but the front panel light is ON.	The unit is in standby mode.	Press the standby button.
No sound or picture.	The satellite dish is not pointing at the satellite	Adjust the dish.Check the Signal Level in the Antenna Setup menu.
	No signal or weak signal.	Check the cable connections, LNB and other equipment connected between the LNB and the receiver, and/or adjust the dish.
Bad picture/Blocking error.	The satellite dish is not pointing at the satellite	Adjust the dish.
	Signal is too strong.	Connect a signal attenuator to the LNB input.
	Satellite dish is too small.	Change to a larger dish.
	LNB noise factor too high.	Change to an LNB with lower noise factor.
No picture (Video)	The LNB is faulty.	Change the LNB.
	TV is not in AV/EXIT mode.	Check the UHF channel fixed in your system and tune the UHF channel properly.
There is interference on your digital satellite channel.	The system is connected using RF cable and the output channel of the receiver interferes with an existing terrestrial channel or Video signal.	Change the receiver output channel to a more suitable channel.

Note: If you still cannot resolve the problem with above reference, please contact the local dealer or their after-sales service center.